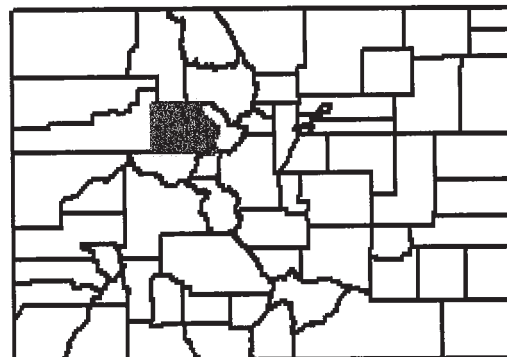


FLOOD INSURANCE STUDY



EAGLE COUNTY, COLORADO AND INCORPORATED AREAS

Community Name	Community Number
AVON, TOWN OF	080308
BASALT, TOWN OF	080052
EAGLE, TOWN OF	080238
GYPSUM, TOWN OF	080295
MINTURN, TOWN OF	080053
RED CLIFF, TOWN OF	080260
VAIL, TOWN OF	080054
EAGLE COUNTY UNINCORPORATED AREAS	080051



EFFECTIVE:
DECEMBER 4, 2007



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER

08037CV000A

**NOTICE TO
FLOOD INSURANCE STUDY USERS**

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this Flood Insurance Study may be revised and republished at any time. In addition, part of this Flood Insurance Study may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the Flood Insurance Study. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current Flood Insurance Study components.

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PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index
Flood Insurance Rate Map

**FLOOD INSURANCE STUDY
EAGLE COUNTY, COLORADO AND INCORPORATED AREAS**

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information on the existence and severity of flood hazards in the geographic area of Eagle County, including the Towns of Avon, Basalt, Eagle, Gypsum, Minturn, Red Cliff, and Vail and the unincorporated areas of Eagle County (referred to collectively herein as Eagle County) and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the communities that will be used to establish actuarial flood insurance rates and to assist the communities in their efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, Section 60.3.

Please note that the Town of Basalt is geographically located in both Eagle and Pitkin Counties. The Town of Basalt is included in its entirety in this FIS report.

In some States or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

Hydrologic and hydraulic analyses for the Eagle River between the confluences of Gypsum and Brush Creeks, and Gore Creek and its tributaries, were performed by J.F. Sato and Associates (Sato) for the Federal Emergency Management Agency (FEMA) under Contract Nos. EMD-96-CO-0029 and EMD-96-CO-0020. This work was completed in March 1999 and August 1999, respectively. However, their work was superseded by the August 22, 2003, study of Matrix Design Group, Inc. (Matrix), which was done at the request of Eagle County in cooperation with the Colorado Water Conservation Board (CWCB) (Reference 1). The Matrix study included a portion of the Colorado River, but was subsequently revised, based on data supplied with Letter of Map Revision (LOMR) No. 04-08-0165P.

The hydraulic analysis for the main channel of Gore Creek was revised in June 2003 by Sato to incorporate comments submitted by the Town of Vail to FEMA in letters dated December 2002 and March 2003. These letters expressed concern about cross-section data used in the original modeling. The June 2003 hydraulic analysis was revised by FEMA in July 2003 to incorporate additional bridge information along Gore Creek provided by the Town of Vail.

For the Roaring Fork River in Basalt, FEMA realized many changes had occurred along the river since the previous studies, and a new study was needed. From 1997 through 1999, Sato contracted with FEMA, under Contract No. EMD-96-CO-0029, to redefine

the 100-year floodplain and floodway, beginning at the Garfield/Eagle County boundary and extending upstream through the Wingo Bridge. A HEC-RAS model was developed, and floodplain mapping was prepared for submittal to FEMA.

The Town of Basalt contracted with McLaughlin Water Engineers, Ltd. (MWE), to review and modify the HEC-RAS model in the reach between the Lower and Upper Basalt Bypass Bridges as part of a river master plan for the town. The Town of Basalt also contracted with Matrix to review and modify the HEC-RAS model in the reach between Willits Lane and the Lower Basalt Bypass Bridge, including the River Oaks subdivision. The reach between the Wingo Bridge and the Upper Basalt Bypass Bridge was modeled by the Roaring Fork Club for its river restoration project, and a LOMR was accepted by the CWCB and issued by FEMA in 1998. In 2000, Pitkin County contracted with Matrix to model the reach from the Wingo Bridge upstream to the confluence with Snowmass Creek. The Town of Basalt then contracted with Matrix in 2000 to coordinate and finalize the four floodplain studies into one complete Floodplain Information Report for all the reaches and to model the 10-, 50-, and 500-year floodplains. This report was dated July 24, 2000.

This Floodplain Information Report was republished on November 14, 2001, to include detailed floodplain mapping with Base (1-percent-annual-chance, or 100-year) Flood Elevations (BFEs) in the area south of the Town of Basalt, known as South Side, where floodwater splits at the Upper Basalt Bypass Bridge and flows overland. The report also included new topographic mapping for the Basalt area that was obtained in January 2001 from Aero-Metric, Inc. The new report also includes a floodway delineation that was not in the earlier edition.

The Brush Creek original detailed study, Contract No. H-4549, was completed by Gingery and Associates Inc. in October 1978 and was revised based on a LOMR, Case No. 04-08-0145P. The hydraulic analyses were performed by Icon Engineering Inc. for the Town of Eagle, and were completed in August 2003 (Reference 2).

Previous hydrologic and hydraulic analyses affecting Eagle County and the incorporated communities are listed in the following chart.

Previous Hydrologic and Hydraulic Analyses for Eagle County

<u>Study Contractor</u>	<u>Contract No.</u>	<u>Study Area</u>	<u>Flooding Source</u>	<u>Date Completed</u>
Denver Engineering Corporation.	EMN-C1184	Town of Basalt	Roaring Fork River	April 1985
Gingery Associates, Inc	H-4549	Town of Vail	Red Sandstone Creek/Pitkin Creek Middle Creek/Bighorn Creek Spraddle Creek/Black Gore Creek West Mill Creek/Gore Creek Buffehr Creek/East Mill Creek/Upper Gore Creek Booth Creek/Lower Gore Creek	August 1980
Gingery Associates, Inc.	H-4549	Town of Minturn	Eagle River Grouse Creek	January 1979
Gingery Associates, Inc	H-4549	Unincorporated areas of Eagle County	Roaring Fork River	January 1979
Gingery Associates, Inc.	H-4017	Town of Basalt	Fryingpan River	October 1978
Gingery Associates, Inc.	H-4549	Town of Eagle	Brush Creek Eagle River Eby Creek	October 1978
Gingery Associates, Inc.	H-4549	Town of Gypsum	Gypsum Creek Eagle River Unnamed Tributary to Gypsum Creek	October 1978
Gingery Associates, Inc	H-4549	Town of Red Cliff	Eagle River Turkey Creek	December 1978 December 1978

1.3 Coordination

Eagle County authorized Matrix to begin the floodplain delineation of the Eagle and Colorado Rivers on May 7, 2002. Numerous coordination meetings were conducted throughout the duration of this project with Eagle County and the CWCB. Draft reports were released to the Towns of Gypsum, Eagle, Avon, and Minturn at the meeting with FEMA on June 19, 2003. The results of this floodplain study have been reviewed and supported by the CWCB.

For work on Gore Creek and its tributaries covered under Contract No. EMD-96-CO-0020, the initial Consultation Coordination Officer (CCO) meeting was held on December 17, 1996, at the Department of Community Development in the Town of Vail. Representatives attended from the Town of Vail, the FEMA Region VIII Office, the CWCB, and Sato. The Gore Creek main channel revised model was prepared in coordination with the Study Contractor (SC) and representatives of the Town of Vail. The Town of Vail submitted updated bridge information dated April 28, 2003, that was incorporated in this study.

For the Roaring Fork River in the Town of Basalt, the results of the Floodplain Information Report dated July 24, 2000, were reviewed by the CWCB and adopted at its board meeting in Gunnison, Colorado, on July 24 and July 25, 2000. The Town of Basalt Board of Trustees held a final community meeting on July 25, 2000, to adopt the 2000 Floodplain Information Report. The meeting was attended by representatives of the CWCB, Matrix, MWE, the Town of Basalt, and Pitkin County. No significant problems were raised at the meeting. Meetings were held on September 25, 2001, with both the Pitkin County Board of Commissioners and the Town of Basalt Board of Trustees to present the revised (2001) Floodplain Information Report for acceptance of the more stringent "zero rise" floodway delineation for the studied portions of the Roaring Fork River within their respective jurisdictions. A similar workshop meeting was held with the Eagle County Board of Commissioners on November 13, 2001, to review the "zero rise" floodway delineation.

The results of the study were reviewed at the final CCO meeting held on June 19, 2003, and attended by representatives of the Towns of Vail, Gypsum, Basalt, Eagle, Minturn, Red Cliff, and Avon; Eagle County; FEMA; GWCB; Matrix; and Michael Baker Jr., Inc. All problems raised at that meeting have been addressed in this FIS.

Previous community meetings and coordination are listed below for each community.

Town of Basalt

For the Town of Basalt, the original community base map was selected, and streams requiring detailed study were identified in a meeting attended by representatives of FEMA, the CWCB, the Town of Basalt, and the SC on June 8, 1977.

The results of the original study for The Town of Basalt were reviewed at a final community coordination meeting held on February 7, 1979, and attended by representatives of FEMA, the SC, and the community. No significant problems were raised at the meeting.

The final community coordination meeting for the revised study for the Town of Basalt was held on June 9, 1986, and was attended by representatives of FEMA, the CWCB,

DEC, the City of Aspen, the Towns of Basalt and Snowmass Village, and Pitkin County. As a result of that meeting, it was decided that flood hazard information for all of Pitkin County, including the incorporated communities, would be shown on one Flood Insurance Rate Map (FIRM). Therefore, flood hazard information for areas outside the corporate limits of Basalt has also been presented on the FIRM for informational purposes only.

Town of Eagle

The original community base map selection and the identification of streams requiring detailed study for the Town of Eagle occurred in a meeting with representatives from the Federal Insurance Administration (FIA), the CWCB, the SC, and Eagle County on June 3, 1977.

During the course of work performed by the SC, the study was reviewed with community officials and with officials of the FIA.

The results of that study were reviewed at a final community coordination meeting held on February 13, 1979. Attending the meeting were representatives of the FIA, the SC, and the town. No problems were raised at that meeting.

Town of Gypsum

Town of Gypsum streams requiring detailed study were identified at a meeting attended by representatives of the SC, the FIA, the CWCB, and Eagle County on June 9, 1977. Results of the hydrologic analyses were coordinated with the CWCB and the FIA.

The results of that study were reviewed at a final community coordination meeting held on February 13, 1979. Attending that meeting were representatives of the FIA, the SC, and the town.

Town of Minturn

Town of Minturn streams requiring detailed and approximate study were identified at a meeting attended by representatives of the SC, the FIA, and the Town of Minturn on June 8, 1977. Results of the hydrologic analyses were presented to the CWCB, which is the State NFIP Coordinator for Colorado.

The results of that study were reviewed at a final community coordination meeting held on September 19, 1979. Attending that meeting were representatives of the FIA, the SC, and the town. No problems were raised at the meeting.

Town of Red Cliff

Streams within the Town of Red Cliff that required detailed study were identified at a meeting attended by representatives of the SC, the FIA, the CWCB, and Eagle County on June 9, 1977. Results of the hydrologic analyses were coordinated with the CWCB and the FIA.

The results of that study were reviewed at a final community coordination meeting held on April 2, 1979. Attending the meeting were representatives of the FIA, the SC, the CWCB, and the town.

Town of Vail

Streams in the Town of Vail selected for detailed study were identified at a meeting attended by representatives of the SC, FEMA, the CWCB, Eagle County, and the Town of Vail on June 10, 1977. Results of the hydrologic analyses were coordinated with the CWCB and FEMA.

The final coordination meeting was held on July 21, 1981, and was attended by representatives of FEMA, the SC, and the town. All problems raised at that meeting were resolved.

Unincorporated Areas of Eagle County

Selection of the original community base map and identification of streams requiring detailed study within the unincorporated areas of Eagle County occurred at a meeting attended by representatives of the SC, FEMA, the CWCB, and Eagle County on June 3, 1977.

During the course of the work performed by the SC, flood information was reviewed with officials of the CWCB and of FEMA.

The results of this study were reviewed at a final community coordination meeting held on September 10, 1977. Attending the meeting were representatives of FEMA, the SC, the CWCB, and the county. No problems were raised at the meeting.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Eagle County, Colorado, including the incorporated communities listed in Section 1.1. The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development.

This study contains revised detailed flood hazard information for the Roaring Fork River, the Eagle River, Brush Creek, and Gore Creek and its tributaries. The downstream end of the restudy on the Roaring Fork River is at the Eagle/Garfield County boundary and the upstream end is in Pitkin County at the confluence of Snowmass Creek, approximately 9.6 miles upstream. The Eagle River was restudied from the confluence with the Colorado River to just upstream of Northern Minturn Bridge in the Town of Minturn, a distance of approximately 46 miles. The Colorado River was studied by detailed methods from the Eagle/Garfield County line to the Interstate Highway 70 (I-70) Bridge, which is approximately 4 miles.

The Brush Creek LOMR covers an area approximately 1,800 feet upstream of the confluence with the Eagle River to 8,000 feet upstream of the Allen Tract Access Road.

Gore Creek and its tributaries have limits of detailed study as follows:

- Gore Creek, from the confluence with the Eagle River upstream to just past Main Gore Drive (approximately 7.9 miles);
- Bighorn Creek, from the confluence with Gore Creek to approximately 1,900 feet upstream, to just past Columbine Drive;
- Black Gore Creek, from the confluence with Gore Creek to approximately 1,200 feet upstream;

- Booth Creek, from the confluence with Gore Creek to approximately 1,800 feet upstream;
- Buffehr Creek, from the confluence with Gore Creek to approximately 2,600 feet upstream;
- East Mill Creek, from the confluence with Gore Creek to approximately 1,600 feet upstream;
- Lower Gore Creek, from the confluence with Gore Creek to approximately 700 feet upstream;
- Middle Creek, from the confluence with Gore Creek to approximately 1,700 feet upstream;
- Pitkin Creek, from the confluence with Gore Creek to approximately 1,000 feet upstream, past Fall Line Drive;
- Red Sandstone Creek, from the confluence with Gore Creek to approximately 2,900 feet upstream, just past Potato Patch Drive;
- Spraddle Creek, from the confluence with Gore Creek upstream to approximately 1,900 feet upstream;
- Upper Gore Creek, from the confluence with Gore Creek to approximately 2,400 feet upstream; and
- West Mill Creek, from the confluence with Gore Creek to approximately 1,800 feet upstream.

The detailed study limits of the FIS for the unincorporated areas of Eagle County, Colorado, dated January 25, 1983, were as follows:

- Eagle River (at Minturn), from the Town of Minturn corporate limit to approximately 5,420 feet upstream;
- Fryingpan River, from its mouth to approximately 55,270 feet upstream;
- Taylor Creek, from approximately 70 feet upstream to approximately 2,570 feet upstream of its confluence with the Fryingpan River;
- Brush Creek, from the confluence with the Eagle River upstream to the Town of Eagle corporate limit and from approximately 500 feet upstream of Allen Tract Access Road to approximately 11,845 feet upstream of Brush Creek Road;
- Roaring Fork River, from the lower limit of detailed study near the Town of Basalt upstream to the Eagle-Pitkin County boundary;

- Eagle River (at Red Cliff), from approximately 30 feet downstream of the downstream Town of Red Cliff corporate limit to approximately 770 feet upstream of the upstream corporate limit; and
- Turkey Creek, from approximately 33 feet downstream of the Town of Red Cliff corporate limit to approximately 95 feet upstream of Shrine Pass Road.

The FIS for the Town of Basalt, Eagle, and Pitkin Counties, Colorado, dated June 4, 1987, included the Fryingpan River from the confluence with the Roaring Fork River to approximately 0.75 mile upstream and the Roaring Fork River from the Eagle-Pitkin County boundary to Tagerts Lake.

The FIS for the Town of Eagle, Eagle County, Colorado, dated September 1979, included detailed study of floods caused by overflows from Brush Creek and approximate studies of the Eagle River and Eby Creek within the corporate limits of the Town of Eagle.

The FIS for the Town of Gypsum, Eagle County, Colorado, dated March 16, 1984, included detailed studies of Gypsum Creek within the the Town of Gypsum corporate limit, and of the Eagle River from U.S. Highway 24 (US24) to the western corporate limit. The remaining portion of the Eagle River within the corporate limits of Gypsum and the unnamed tributary to Gypsum Creek were studied by approximate methods.

The FIS for the Town of Minturn, Eagle County, Colorado, dated March 1980, included detailed information on floods caused by the overflow of the Eagle River through Minturn. That report also covered approximate methods used to evaluate the flood hazards along Grouse Creek.

The FIS for the Town of Red Cliff, dated December 1979, included detailed flooding caused by overflows from the Eagle River and Turkey Creek.

The FIS for the Town of Vail, dated November 2, 1982, included detailed study of floods caused by overflows of Red Sandstone Creek, Middle Creek, Spraddle Creek, West Mill Creek, East Mill Creek, Booth Creek, Pitkin Creek, Bighorn Creek, Black Gore Creek, Gore Creek, Upper Gore Creek, Lower Gore Creek, and Buffehr Creek.

2.2 Community Description

Eagle County, which is almost entirely rural, is located in west-central Colorado. It has an area of 1,686 square miles (sq. mi.). Eagle County is bordered by the Gore Range and Summit County on the east, Garfield County on the west, Routt and Grand Counties on the north, and Pitkin and Lake Counties on the south. The terrain is mostly mountainous, with broad valleys along the Eagle River. Elevations range from 6,150 feet in the Colorado River Valley to over 13,000 feet on some mountain peaks (Reference 3). In the western part of the county, the economy is mainly agricultural, with farming and ranching being the dominant land uses. In eastern Eagle County, mining, especially along the Eagle River at the Town of Gillman, and recreation-related activities in the Town of Vail area are the major sources of income.

The population of Eagle County grew 445 percent from 1970 to 2000, to a total of 41,659 (Reference 4). This growth has resulted from increased job opportunities primarily in the service and professional industries (Reference 4).

Mean winter temperatures in the upper portion of the basins range from 3°F to 31°F, and summer temperatures range from 35°F to 74°F. At lower elevations, such as the Town of Eagle (6,500 feet), the winter variation is from 3°F to 35°F, and summer temperatures range from 44°F to 85°F (Reference 5).

Total precipitation ranges from 40 inches to 50 inches per year on the higher peaks to less than 12 inches per year near the Town of Gypsum. From 20 inches to 30 inches per year is normal for areas at elevations of 8,000 feet to 10,000 feet. At lower elevations, such as at the Town of Gypsum (6,300 feet), and at higher elevations between the Eagle and Colorado Rivers, 50 percent or less of the total annual precipitation occurs from October to April. In the higher mountainous areas in the eastern and southern portions of the county, only 7 percent of the total annual precipitation occurs in that same time period. Major portions of the Eagle River and Fryingpan River basins are at these higher elevations (Reference 5).

The Eagle River basin covers 57 percent, or 990 sq. mi., of Eagle County and all but 14 sq. mi. is contained entirely within the county. It drains in a northwesterly and westerly direction through the center of the county to the Town of Dotsero, where it joins the Colorado River.

The lower Eagle River is separated from the Colorado River by Castle Peak on the north, and from the Fryingpan River basin by Red Table Mountain on the south. The topography is characterized by rolling hills and a wide valley floor. Vegetation in the basin is less dense in the lower reaches than in the upper reaches. Slopes in the lower Eagle River basin range from 65 feet per mile near the Town of Avon to 40 feet per mile near the Town of Gypsum. The basin averages approximately 22 miles wide, is 27 miles long, and has a drainage area of 584 sq. mi. Elevations vary from 11,785 feet at Red Table Mountain to 6,120 feet at the mouth of the river.

The upper Eagle River basin, which runs from just above Gore Creek to the Continental Divide, is oriented toward the northwest and is bounded on the west by the Sawatch Range. The southern Gore Range separates it from the Gore Creek basin on the east. The high point in the basin is Mount of the Holy Cross with an elevation of 14,005 feet. The upper portion is open, rolling terrain; in the lower reach, near the Town of Minturn, there are steep mountain walls. The basin is approximately 11 miles wide and 19 miles long and has a drainage area of 260 sq. mi. just below Minturn. Slopes range from 500 feet per mile on some smaller streams at higher elevations to 65 feet per mile in the study area near the Town of Minturn.

The Fryingpan River flows west from the Sawatch Range to its confluence with the Roaring Fork River at the Town of Basalt. Through the study reach, it has a moderately steep, shallow, and wide channel. The channel slope is approximately 50 feet per mile, while its depth and width are approximately 2 feet to 3 feet and approximately 60 feet, respectively. Ordinarily, the floodplain is approximately 100 feet wide because the river usually follows a narrow canyon, but the floodplain is as wide as 400 feet in some places. The vegetation along the floodplain consists of cottonwood trees and grass in the

lower reaches and conifer forests mixed with grass in the upper reaches. The channel is generally rough with many cobbles. The principal damage from flooding would be to some ranches and scattered cabins.

The tributaries to the Fryingpan River—Taylor Creek, Downey Creek, Seven Castles Creek, Otto Creek, and Frenchman Creek—are all approximately 0.5 mile long. They all have steep, narrow channels approximately 2 feet deep and a slope of approximately 120 feet per mile. The floodplains are approximately 10 feet to 50 feet wide, and virtually no development has occurred in the floodplains.

The exception is Taylor Creek, which has a floodplain width of 40 feet to 100 feet and a few residential dwellings in the floodplain. The vegetation along all these tributaries is similar to that of the Fryingpan River.

Brush Creek flows north to northwest from the mountains of the northern Sawatch Range into the Eagle River near the western end of the Town of Eagle. At Eagle, it has a steep, shallow channel with a slope of approximately 90 feet per mile. The width of the channel is approximately 30 feet, and its depth is approximately 1 foot to 2 feet. The streambed is steep and narrow downstream of the Denver and Rio Grande Western Railroad, with a width of approximately 70 feet; in the upper reaches, it ranges in width from approximately 200 feet to 400 feet. The floodplain is generally covered with natural grasses, willow bushes, and cottonwood trees. A trailer park and several other dwellings are in the floodplain in the area of study near the Town of Eagle.

The Roaring Fork River originates in the Sawatch Range at an elevation above 14,000 feet, travels approximately 37 miles to the Town of Basalt, and flows along the west side of the town. At the confluence of the Roaring Fork and Fryingpan Rivers, 53 percent of the total drainage of the Fryingpan and Roaring Fork River basins collect.

The Roaring Fork River restudy was prepared for 9.6 river miles, beginning at the Garfield/Eagle County boundary and continuing upstream through Eagle County, the Town of Basalt, and Pitkin County to the confluence with Snowmass Creek.

The Roaring Fork River is a major tributary to the Colorado River. The headwaters of the Roaring Fork River emerge above the City of Aspen and continue approximately 60 miles downstream to the confluence with the Colorado River at the City of Glenwood Springs. At the confluence, the Roaring Fork River has a 1,460-sq.-mi. drainage basin. Major tributaries to the Roaring Fork River are the Crystal River, the Fryingpan River, Maroon Creek, Castle Creek, and Hunter Creek.

The Roaring Fork River bank-full channel in the study area is approximately 90 feet to 120 feet wide as it flows through an alluvial valley. The average channel grade is 0.0127 foot per foot upstream of the Town of Basalt, transitioning to 0.0087 foot per foot west of the town. The lower study reach has an average grade of approximately 0.007 foot per foot. The stream channel is braided, with a bed composed mostly of gravel, cobbles, and small round boulders ranging from 6 inches to 15 inches in diameter. There are many riffles, rapids, and shallow pools along its course. Several irrigation ditches divert from the Roaring Fork along this reach. In most areas, the riverbanks are low with steep slopes (often over 45 degrees), and are composed mostly of sand, gravel, and cobbles, with little or no vegetation below the mean annual

high-water mark. The steep slopes and lack of vegetation reduce the banks' resistance to scour (Reference 6).

The Eagle River near Red Cliff flows north and then west through the Town of Red Cliff. The channel is steep, narrow, and deep, with a slope of approximately 90 feet per mile, a width ranging from approximately 20 feet to 50 feet, and a depth ranging from 3 feet to 20 feet. The streambed is cobbled and fairly straight. The floodplain is generally confined to the channel, but it becomes as wide as 100 feet in some places. The only vegetation along the Eagle River consists of willows and grasses along the banks, with conifer forests in the very upper and lower limits of the study area. Only a few residential dwellings are in the floodplain, scattered throughout the study reaches.

Turkey Creek flows east from Shrine Pass into the Town of Red Cliff and joins the Eagle River in the center of town. Like the Eagle River, Turkey Creek channel is steep and narrow but, unlike the Eagle River, it is not very deep. It has a slope of 125 feet per mile and a width ranging from approximately 10 feet to 20 feet. The channel depth is only 2 feet to 4 feet. The streambed is very rough, with many boulders. The floodplain narrows to 20 feet near the mouth and widens to approximately 600 feet at Eagle Street. The floodplain has little vegetation, being mostly residential; a major portion of the Town of Red Cliff is in the Turkey Creek floodplain.

The major soil types in the Eagle River basin are of the Haploborolls-Argiborolls-Eutroborafls association. These cool, well-drained soils range from deep to shallow and moderate to steep, and occur on benches and mountain slopes (Reference 7).

In the Eagle River basin, commencing at approximately 8,500 feet, mixed aspen-pine forests are prevalent up to the timberline at 11,500 feet, where alpine vegetation begins. Below 8,500 feet, sage and other types of scrub bushes provide a less dense cover, with cottonwood trees growing in the floodplain along many streams. Above 8,500 feet, willow bushes are found along the floodplain.

The Town of Basalt is located in southwestern Eagle County and north-central Pitkin County, approximately 20 miles southeast of Glenwood Springs. The economy of Basalt primarily depends on farming, government, and local business, with recreation accounting for about 30 percent of the local economy (Reference 8). Population and development have increased steadily over the past 50 years, particularly in those areas affected by the ski industry. According to the U.S. Census Bureau, the population of Basalt was 2,681 in 2000 (Reference 4).

The Town of Eagle, the county seat, is in western Eagle County. Located on the Eagle River at the mouth of Brush Creek, the town lies 7 miles east of the Town of Gypsum and 10 miles west of the Town of Wolcott and occupies an area of approximately 380 acres. According to the 2000 Census, the town population is 3,032 (Reference 4), with some increase in population during the winter season. Most of the town's commerce is centered around the county government and the surrounding farmlands, with the timber industry the main occupation for residents (Reference 8).

The Town of Gypsum is located in western Eagle County, along the Eagle River at the mouth of Gypsum Creek. The town lies 7 miles west of the Town of Eagle and 6 miles east of the confluence of the Eagle and Colorado Rivers. Although it experienced a

somewhat slow growth in the past, by the year 2000, the Town of Gypsum had a population of 3,645—10 times that of 1970 (Reference 4). The corporate limits of Gypsum encompass an area of approximately 350 acres. Gypsum is a residential area; most of the labor force works at various power/energy industries outside the town or on nearby farms.

The Town of Minturn is located in eastern Eagle County and is completely surrounded by unincorporated areas of the county. The town is a small mountain community situated approximately 5 miles southwest of the Town of Vail. The 2000 population was 1,068 (Reference 4). Minturn is principally a residential community for persons who work in the mines in the surrounding area.

The Town of Red Cliff is in southeastern Eagle County, approximately 9 miles south of the Town of Minturn and 21 miles north of the City of Leadville along US24. It is located along the upper Eagle River and is surrounded by steep mountains. The Sawatch Mountain range is to the west, and the southern Gore range is to the east. The Town of Red Cliff is completely surrounded by unincorporated areas of Eagle County. A small community, the town population was 289 in 2000 (Reference 4).

The Town of Vail is located in eastern Eagle County along I-70, approximately 100 miles west of the City of Denver. The Town of Vail is between the rugged Gore Range to the north and the southern Gore Range to the south and is bordered completely by unincorporated areas of Eagle County. The Town of Vail has a population of approximately 4,500 permanent residents. Because the Town of Vail is an internationally recognized ski resort area, the Town of Vail's population can swell to 24,000 during the winter months. Because of the seasonal population increase, many townspeople are employed by private businesses that accommodate tourists. The Town of Vail and Vail Associates, Inc., also employ many people in the town and surrounding area.

2.3 Principal Flood Problems

Flooding in Eagle County usually occurs during the months of May through August, with the most frequent flooding occurring in June (Reference 9). Floods may be caused by rainfall or snowmelt, alone or in combination (Reference 9). Analysis of the records (Reference 9) indicates that snowmelt is the primary cause of most annual flood peaks. However, for smaller drainage basins, rainfall-induced flood peaks are likely to be higher than the snowmelt flood peaks (Reference 10). Damage has occurred in many forms, including bridges, railroad tracks, and roads washed out; mudslides and other debris covering roads; farmlands damaged; water systems fouled; buildings sustaining water damage; and power outages (Reference 11).

For the Roaring Fork and Fryingpan Rivers, major floods result from rapid melting of mountain snowpack from late May through early July. These snowmelt floods are characterized by moderate peak flows, large volumes, long durations, and marked diurnal fluctuations in flow. Rainfall on melting snow may accelerate the rate of the snowmelt, thus augmenting floodflows.

On the Roaring Fork River, the largest discharge recorded was in July 1957 with a peak of 19,000 cubic feet per second (cfs). A U.S. Army Corps of Engineers (USACE) letter report (Reference 12) described the 1957 flood as follows:

Floods on the Roaring Fork result from snowmelt and occur principally during the month of June. The flood of July 1, 1957, had an instantaneous peak discharge of 18,700 cfs at the Glenwood Springs gage. This flood was the maximum of 49 years of record, and its magnitude has an estimated frequency of occurrence of once in approximately 60 years.

The river in the problem area is characterized by low banks, braided channels, and a considerable amount of gravel, cobbles, and snags deposited on gravel bars.

The river carries a large bedload of gravel and cobbles, some of the latter being more than 6 inches in diameter. The capacity of the channel has been reduced by this sediment. In some instances, where channel changes took place during the flood, the original channels were so filled with sediment that nearly all of the present flows are discharging through the new channels. Generally, however, the new channels are old watercourses abandoned by the river in previous years. The littered condition of the channels, and the increased danger of bank erosion, inundation, and resultant channel changes constitute the present flood problem.

The principal items damaged caused by the 1957 flood were the agricultural lands and roads and bridges adjacent to, or over the river. A few farm buildings were flooded. The total known damages in all categories along this reach amounted to slightly more than \$45,000.

A common type of damage from the 1957 flood was bank erosion. The slope of the stream ranges from 65 feet per mile above Basalt to 40 feet per mile below Basalt. Velocities probably in excess of 10 feet per second occurred during the 1957 flood. The banks are composed largely of sand, gravel, and cobbles overlain by a comparatively thin mantle of soil, and are quite erodible. Spoil-type dikes, constructed by local interests with material bulldozed in the process of channel clearing, proved to be very erodible.

A substantial percentage of the total damages were due to overtopping of the low banks and the inundation of pasture and croplands. The banks in most instances range from only 2 feet to 5 feet in height. In two locations, where old channel areas have been reclaimed, considerable volumes of overflow and widespread flooding resulted from bank overtopping at the upper ends of the areas.

More than one-half of the known damages in the 1957 flood were caused to roads and bridges in the area, with nearly \$24,000 of damages being caused to 3 bridges and their abutments. Two of these were public bridges that have since been restored. A third bridge, which was private, was completely destroyed and has not been replaced.

On the Roaring Fork River Basin, precipitation varies widely above the Town of Basalt. On the Continental Divide, near Independence Pass, the average annual precipitation is

26.3 inches, with 17.5 inches occurring during the winter months (November-April). Near Basalt, the average annual precipitation is approximately 17.2 inches, with 8.7 inches occurring during the winter months. Data on precipitation from the National Oceanic and Atmospheric Administration indicate that in the Aspen area, the 100-year, 24-hour storm would produce 2.6 inches of precipitation (Reference 6).

Temperature and precipitation vary greatly from location to location and season to season within the drainage basin and are important variables in flooding conditions. Above-normal spring temperatures can cause early and heavy flows on the Roaring Fork River. Records from the Aspen weather station indicate that the month of July has the highest normal total precipitation for the year at 2.06 inches. The month of March follows closely with 1.98 inches of total precipitation. The first month with a normal spring temperature above the freezing point is April, with a mean monthly temperature of 38.6°F (Reference 6).

Floodflows on the Roaring Fork River typically result from rapid melting of the mountain snowpack during the period from May to early July. Snowmelt runoff may occasionally be augmented by rain. The snowmelt runoff is characterized by sustained periods of high flow and marked diurnal fluctuation. Examination of meteorological and climatological conditions and precipitation and stream flow records show that summer cloudbursts are not a great flood threat on these streams (Reference 6).

Along the Eagle River, Brush Creek, and Eby Creek in the Town of Eagle, flooding normally occurs from May through September. Floods can occur from runoff, snowmelt, intense rainstorms and cloudbursts, or rainstorms augmented by snowmelt. Past floods in the Town of Eagle along both the Eagle River and Brush Creek occurred in June 1947, June 1957, June 1959, August 1965, August 1968, and May 1970. All these floods caused minor damage and erosion problems. There were no recorded or estimated discharges for the town (Reference 13).

Along the Eagle River and Gypsum Creek in the Town of Gypsum, flooding usually occurs from May through September. Floodwater can occur as a result of snowmelt, intense rainstorms and cloudbursts, or rainstorms augmented by snowmelt. Past floods in Gypsum, along the Eagle River and Gypsum Creek, occurred in August-September 1963 and in June 1965. Both these floods caused minor damage (Reference 13). No recorded discharges are available for these floods.

On June 7, 1957, the Eagle River flooded from a combination of snowmelt and rainfall runoff. The 1957 flood had a discharge of 1,500 cfs, which is approximately equivalent to an 8-year flood event (Reference 13). From June 5 to June 26, 1969, flooding occurred along the Eagle River. The 1969 flood had a discharge of 800 cfs, which is approximately equivalent to a 2-year flood event. Power outages were caused by walls of water flowing down the Eagle River. Six inches of snow fell at the Town of Vail (Reference 13). On May 21, 1970, excessive snowmelt runoff caused water seepage under the foundation of the domestic water storage tank in the Town of Minturn. Efforts were made to save the foundation from washing out (Reference 13).

Along the Eagle River and Turkey Creek in the Town of Red Cliff, flooding normally occurs from May through July, and is usually the result of snowmelt. No floods have been documented in the Town of Red Cliff along Turkey Creek or the Eagle River. However, when snowmelt flooding occurred elsewhere along the Eagle River, as it did in

May 1970 and June 1969 in Minturn and Dowd, high water may have also occurred in Red Cliff (Reference 13).

Flooding along the streams in the Town of Vail usually occurs from May through August. Floods may be caused by rainfall or snowmelt either alone or in combination. Few definitive data regarding past flooding are available for the Town of Vail since its development in the early 1960s. However, on June 25, 1978, some minor damage occurred at the Racquet Club near Bighorn Creek as a result of mud and debris flow.

2.4 Flood Protection Measures

The Ruedi Dam affects the flow of the Roaring Fork River. Located on the Fryingpan River approximately 17 miles east of Basalt within Eagle County, the Ruedi Dam is part of the Fryingpan-Arkansas Project to divert water from the Colorado River Basin to the Arkansas River Basin. The Ruedi Reservoir was constructed by the U.S. Bureau of Reclamation and made operational in May 1968.

The dam was designed for an inflow design flood of 17,500 cfs at a 15-day volume of 100,000 acre-feet. The probable maximum discharge is 5,540 cfs from the spillway and 1,810 cfs from the outlet structure. The total probable maximum discharge from the outlet structure and spillway is 7,350 cfs, which approximates the 500-year flood in the Town of Basalt.

Ruedi Reservoir has a total capacity of 102,373 acre-feet at the spillway and provides replacement water for out-of-priority depletions to the Colorado River by the Fryingpan-Arkansas Project, as well as water for West Slope agricultural, municipal, and industrial uses on a contractual basis. The reservoir is also operated for recreation and wildlife habitat, and indirectly for flood control.

Permanently assigned flood-control storage in Ruedi Reservoir could not be economically justified at the time of construction. However, annual storage of snowmelt runoff indirectly provides the objective of flood control and can appreciably reduce the downstream flood menace in the Fryingpan, Roaring Fork, and Colorado Rivers. If the reservoir is operated carefully for flood control by evacuation of storage before forecast heavy inflow, complete control of most snowmelt floods in the reservoir can be attained. A possibility still exists of rare extreme floods that exceed the Ruedi Reservoir's capacity to control. With the exception of these extreme events, the operation of Ruedi Reservoir reduces and stabilizes flows downstream of the dam. By providing more uniform flows, fish habitat can be established to provide better fishing conditions in the early months of the fishing season.

According to the Annual Operation Plans of the Fryingpan-Arkansas Project for Water Year 1995-96 (Reference 6), the following describes the operation of Ruedi Reservoir during the 1995 flood event:

Releases were increased throughout June to delay the filling of the Reservoir beyond the customary date of July 1 to avoid a spill of the reservoir caused by continuing precipitation on an unusually late occurring snowpack. The peak average daily inflow of 1,796 cfs occurred on June 17, 1995. The Reservoir filled to the crest of the spillway on July 11, 1995. Outlet works releases were reduced, forcing [the water level to rise above the overflow spillway], and the flow below the Reservoir was maintained below the maximum safe channel

capacity. The maximum average daily release of 933 cfs was made on July 13, 1995, and the maximum storage of 103,927 acre-feet occurred on July 14, 1995. Releases were then reduced until they were below the recommended maximum fishery flow (250 cfs) by the middle of August.

The total April through September inflow was 154,235 acre-feet, which was 130 percent of average and greater than the reasonable maximum forecast inflow. The high inflows were due, in part, to waters left in the Fryingpan River Basin which normally would have been diverted to the East Slope but were not because the reservoirs on the East Slope had filled during the spring runoff.

No call was placed on the Colorado River at the Cameo gage by senior water right holders due to high flows in the Colorado River throughout the irrigation season. Because of that, there were no releases made for either Project depletions or for depletions caused by Ruedi Reservoir water contract holders during the 1995 water year. High flows in the Colorado River also eliminated the need to release any water to augment the habitat of endangered aquatic species in the Colorado River downstream of the Grand Valley Diversion Dam and above the confluence with the Gunnison River.

The Corps of Engineers estimated that the operation of Ruedi Reservoir to fill the operating storage, the Boustead Tunnel diversion, and Turquoise Lake prevented \$1,770,000 of flood damage in the Colorado River Basin during 1995.

Homestake Reservoir Dam was constructed on Homestake Creek in 1967 for water diversion to Colorado Springs and Aurora. It has acted to inadvertently reduce the peak flood discharges on the lower Eagle River. The dam was not constructed for flood control, but acts to fill during the spring runoff and has reduced peak flooding on the Eagle River.

An informal levee exists along the north bank of the Eagle River at the gravel ponds in Dotsero. This levee was field investigated and determined to be "non-FEMA compliant," meaning it does not have a formal maintenance program, may not withstand 100-year flooding, and does not have the required freeboard. Further, the field investigation indicated that once the floodwater does breach the levee, it would be effective flow.

No other significant flood control resources affect the flooding sources in Eagle County.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood-hazard data required for this study. Flood events of a magnitude that is expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials

based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analysis

Hydrologic analyses were performed to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each stream studied in detail in the county.

The hydrologic analyses for the August 22, 2003, Matrix study of Colorado River and Eagle River were authorized by the CWCB and completed by Water Resource Consultants, LLC (WRC) (Reference 14). WRC completed their work on May 13, 2002, to update flood hydrology on the main stem of the Eagle River. Previous studies published by FEMA in May 1980 did not cover all the reaches of the Eagle River. A regression analysis of tributary area above 10,000 feet elevation was performed where gage data was lacking. Stream data taken at gages for the limited years of existence in the Eagle Basin was analyzed and natural flow frequency curves were developed. The peak flows determined for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods were used to determine the flood profiles and the 100-year floodplain for this report. Table 1 lists the peak discharges for these floods on the Eagle and Colorado Rivers.

There is not a long history of stream gage records on the Eagle River. The gage on the Eagle River with the longest period of record is located outside this study area. The Eagle River at Red Cliff gage is located upstream from this floodplain study area and has 73 years of record. The peak flood of record occurred in 1912. The Eagle River below Gypsum gage has the next longest period of record and has been in existence since 1947. This gage has a drainage basin of 944 sq. mi. The U.S. Geological Survey (USGS) gage records do not show a significant flood during this period of record. However, high flows occurred on the Eagle River in the years 1952, 1957, 1983, 1984, 1995, 1997, and 2003.

There are five active USGS gages located on the main stem of the Eagle River and the portion of the Colorado River in this study area. Two other gages have existed in the past, but are no longer active, although records from the gages are useful in statistical gage analysis. The gages are listed in order from upstream to downstream.

Eagle River USGS Gaging Stations

Station No.	Station Name	Drainage Area (sq.mi.)	Gage Elev. (feet)	Period of Record	Status	Peak Discharge (cfs)
09063000	Eagle River at Red Cliff	70	8,654	1911-1925,1924-present	Active	1,010
09064600	Eagle River near Minturn	186	8,078	1990-present	Active	1,810
09067005	Eagle River at Avon	395	7,410	1989-1999	Inactive	3,930
09067020	Eagle River WWTP at Avon	402	7,380	1999-present	Active	3,640
09067500	Eagle River at Eagle	629	6,560	1911-1924	Inactive	6,760
09070000	Eagle River below Gypsum	944	6,275	1947-present	Active	7,020
09070500	Colorado River near Dotsero	4,394	6,130	1941-present	Active	22,200

The hydrologic analysis for the August 2003 Brush Creek LOMR was based on the effective information.

For the Eagle River near the Towns of Minturn and Red Cliff, Taylor Creek, Brush Creek, and Turkey Creek and discharges for approximate study areas, discharge were determined using regression analyses based upon regional gage analyses. These regional analyses of streamflow data were completed assuming a log-Pearson Type III distribution (Reference 10). The streamflow data were separated into snowmelt and rainfall peaks, and each type was analyzed separately. Fifteen stream gages located in Eagle County were analyzed. The length of record of these gages ranged from 6 years to 43 years. Drainage area-discharge curves were developed from these data for the 10-, 50-, 100-, and 500-year flood events. Snowmelt peaks were found to produce the flood peaks for larger drainage areas, and cloudbursts produced the peaks in smaller basins, generally less than 20 sq. mi. in area.

Peak discharge-drainage area relationships for the Eagle River, Taylor Creek, Brush Creek, and Turkey Creek are shown in Table 1.

For Gore Creek and tributaries, flood frequency analyses of annual peak flow data were made for nine stream gages in the Gore Creek basin. It is unusual to have records available from that many stream gaging stations in a 102-square-mile drainage basin. Many of those stations now have records of more than 30 years in length. In addition, data for 11 gaging stations located in eastern Eagle County, but outside the Gore Creek basin, were analyzed to obtain a larger data sample and to better fill out the range of drainage areas for which data are needed.

Previous flood frequency studies by GAI for the FIS used peak flow data through 1976. The current study used data through 1997, so 21 additional years of data were available for the current study. The orographic effects of mountain barriers have an effect on precipitation in the Gore Creek basin; this was a consideration in selecting stations to supplement the Gore Creek gages. The Piney and Eagle River peak flow data used in this study are all nearby and drain the western slope of the Gore Mountain Range. Care was taken to ensure the streams adopted for use in the regional study reflect reasonably similar orographic effects and runoff characteristics to the Gore Creek basin.

The flood frequency analyses for individual stream gaging stations were performed using the computer program, FFFREAK, Version 1, that was developed by US West. The program was designed to run using peak annual discharge values contained in their HYDRODATA product. The program follows procedures recommended in *Bulletin 17B* (Reference 15).

A plot of the standard deviations computed for these records versus their drainage areas resulted in a wide scatter of data points. No meaningful relationship was apparent. The average value of the standard deviation was just under 0.20, which is typical when snowmelt floods dominate frequency distributions.

A generalized coefficient of skew of -0.3 was adopted for all stations based on the generalized skew map presented in *Bulletin 17B* (Reference 15). The average unadjusted coefficient of skew computed from the station record is -0.33, and the average adjusted skew is -0.28, which are both very close to the -0.3 value that was adopted from the generalized skew map.

Three events could produce runoff in the study area for Gore Creek and Tributaries (Reference 16): thunderstorms, general storms, and snowmelt. Floods could occur as a result of rapid snowmelt or rainfall alone, or a combination of those events. The seasonal distribution of peak flow data was reviewed for the 20 stream gaging stations to assist in defining the primary source of flooding.

A total of 650 station years of record were examined, and about two-thirds (435) of the annual peak discharges occurred during June, 188 during May, and 24 during July. Only three of

650 station year events occurred outside those 3 months. While floods as a result of rainfall alone could be important for small drainage areas, peak flow records show snowmelt is the primary cause of peaks at the stations studied. Rainfall may have contributed some runoff to a few of the annual peak flows, but it is very difficult to identify the amount of contribution from available hydrologic records. During spring months, much of the precipitation that occurs as rainfall will be retained in the snowpack. The ground is often still frozen during the spring snowmelt season, so runoff occurs with very little infiltration. Rainfall did not result in significant independent peak discharge events because the annual peaks occurred during the snowmelt season.

The Hydrometeorological Branch of the National Weather Service, in cooperation with other Federal agencies, made a major effort to identify historic thunderstorms in the Rocky Mountain region during probable maximum precipitation (PMP) studies. The results were documented in *U.S. Commerce Hydrometeorological Reports No. 55A and No. 49*, dated June 1988 and September 1977, respectively. They found that a few severe thunderstorms have occurred in the mountains of Colorado, New Mexico, and Utah. However, these storms are very rare, and precipitation data for them are sparse, partially because only a limited number of rainfall gages are located at high elevations. Thunderstorm, or local storm, rainfall is a significant factor for small drainage areas at the extreme PMP level, but it has not been observed often enough to be a significant factor at the more frequent flood levels considered in this floodplain study.

The best technical evaluation procedure would be to determine an independent series of exclusive snowmelt and rainfall events that could be analyzed independently and combined on a probability basis into an all-season flood frequency curve. However, this is not possible, so as a practical matter, the peak annual events that were recorded at each of the gaging stations, whether exclusive snowmelt or with some rainfall contribution, were analyzed and their frequency determined for application to this study. The streamflow records reflect the flood history at those stations.

Discharges for specific frequencies are needed for performing hydraulic analyses in the ungaged reaches that are part of this study. Discharges and drainage areas were subjected to regression analyses using a log-log relationship. Drainage area was adopted as the only predictor because previous studies by GAI indicated that additional predictors did not improve the correlation coefficient.

A review of a plot of the discharges for specific frequencies versus their drainage areas shows that the three smallest basins, all of which have areas under 4 sq. mi., plot low compared to other stations. These three stations were located close to Gore Creek, but were at high elevations that exceeded 9,000 feet mean sea level (msl). They were eliminated from the final regression analysis to avoid distorting the lower end of the regression range. The 17 stream gaging stations listed below were used in the final regression analyses.

ID No.	Gaging Station Name	Drainage Area (sq. mi.)
1	Bighorn Creek Near Minturn	4.5
2	Pitkin Creek Near Minturn	5.3
3	Middle Creek Near Minturn	5.9
4	Booth Creek Near Minturn	6.0
5	Red Sandstone Creek Near Minturn	7.3
6	Black Gore Creek Near Minturn	12.6
7	Piney River Below Piney Lake Near Minturn	13.0
8	Gore Creek at Upper Station Near Minturn	14.4
9	Beaver Creek at Avon	14.8
10	Turkey Creek Near Red Cliff	23.8
11	Homestake Creek at Gold Park	36.0
12	Eagle River at Red Cliff	70.0
13	Brush Creek Near Eagle (Discontinued 1972)	71.4
14	Gore Creek Lower Station at Vail	77.1
15	Piney River Near State Bridge	86.2
16	Gore Creek at Mouth Near Minturn	101.0
17	Eagle River at Eagle (1911-24)	629.0

The regression equations were used to develop discharges for specific frequencies on ungaged tributaries. Spraddle Creek was an exception to this general rule because it is the only stream in the study with a drainage area of less than 4 sq. mi. (2.2 sq. mi.). The discharges developed by GAI during previous studies using rainfall-runoff relationships were adopted for this one small area.

The discharges for the main stem of Gore Creek plotted significantly above the average data points from the stream gaging records. Discharges for ungaged reaches on the main stem were determined using the three gages on that stream. One of those new stations, Gore Creek Lower Station in the Town of Vail, with 77.1 sq. mi. of area, is in the Gore Creek study reach. It has 9 years of record that were extended by adjusting 6 years of data for an upstream gage that had been in place from 1974 through 1979 for a total 15-year record. Annual peak flows recorded for the 57.3-sq.-mi. upstream drainage area were adjusted to the downstream location based on the ratio of their respective areas raised to the 0.7 power. While the 6-year adjustment had little impact on the final results, the longer record is more reliable. The Gore Creek gage at the mouth has 14 years of peak flow data, and the gage upstream of the confluence with Black Gore Creek has 40 years of data.

The discharges for specific frequencies for the main stem Gore Creek stations, when plotted versus their drainage areas, all plot higher than most of the other data points in the analysis. The three stations are consistent with each other for each frequency. A line was drawn through those three data points and parallel to the regression equations for each frequency. Consequently, the slope of the relationship for the three main stem stations is the same as that for the regression equations. This curve was used to determine discharges for specific frequencies for ungaged reaches along the main stem of Gore Creek.

The results of hydrologic analyses that are recommended for use in the Gore Creek basin hydraulic analyses are presented in Table 1. The same computation points that were used in the original FIS were adopted for this evaluation to facilitate comparison of results. In general, the results of both studies are quite similar. Some of the specific discharges computed for tributaries during current studies are slightly higher than those from previous studies. Discharges computed for the main stem of Gore Creek are slightly lower than previously developed, particularly for less frequent events. The 100-year floods computed for large areas are about 200 cfs less, with smaller differences for small areas.

During review of previous studies, it was learned that the discharges that were adopted by GAI for the main stem were from previous studies by Hydro-Triad. Hydro-Triad used a Log-Normal distribution in its flood frequency computations for individual gaging stations. This procedure overstates the magnitude of infrequent floods at stations such as those in this region whose peak flow records exhibit negative skewness. They computed a mean curve through the data points for individual stations and an upper envelope curve that was 1.5 standard deviations above the mean curve. Hydro-Triad recommended using the upper envelope curve to be conservative and because data on which to determine flood frequencies were limited at that time. That was a good decision because main stem stations would have otherwise been understated when compared to current results.

The 100-year discharges presented in a table in the FIS were compared to the upper envelope curve presented by Hydro-Triad. This comparison revealed that the discharges came directly from the Hydro-Triad report, even though this is not so stated. The additional years of data that have become available for three main stem Gore Creek stations allows an analysis to be made specifically for Gore Creek. These are the major reasons for differences between studies of discharge for specific frequencies.

The slopes of the four regression equations computed for specific frequencies varied uniformly from 0.73 at the 10-year event to 0.70 at the 500-year event. This is a reasonable range of slopes since 0.7 is a rule of thumb value for a snowmelt-dominated relationship and provides comfort

that the results are reasonable. The fact that 21 additional years of peak flow data are now available also increases confidence in the results of the current study.

For the Roaring Fork and Fryingpan Rivers, the hydrologic analyses were completed by the USACE (Reference 17). A regional analysis of stream data taken at gages in the Roaring Fork Basin was performed and natural flow frequency curves were developed. The peak flows determined for the 10-, 50-, 100-, and 500-year floods were used to determine the flood profiles and the 100-year floodplain for this report.

Data from a large number of stream gaging stations located within the homogenous watershed area similar to this area were analyzed. These gages are located within Pitkin County and nearby Summit, Eagle, Garfield, Mesa, Delta, and Gunnison Counties. The streamflow data were separated into snowmelt and rainfall peaks and analyzed separately.

Snowmelt peaks from a total of 40 gages and rainfall peaks from 25 gages were analyzed to obtain individual and regional statistical parameters of mean, standard deviation, and skew for the two types of flow peaks. In numerous instances, the rainfall peaks were of very small magnitude. Several stream gages did not show any significant peaks caused by rainfall.

Using log-Pearson Type III distribution as described in U.S. Water Resources Council *Bulletin 17A*, the discharge-frequency information was developed separately for the snowmelt peaks and the rainfall peaks for the 10-, 50-, 100-, and 500-year recurrence intervals. These two distributions were combined to obtain the overall peak discharge-frequency relationship for each stream. For ungaged streams, the values of regional statistical parameters were used and the drainage area curves were developed for the 10-, 50-, 100-, 500-year recurrence intervals.

Peak discharges for the Roaring Fork and Fryingpan Rivers are shown in Table 1.

Table 1. Summary of Discharges

Flooding Source and Study Reach	Drainage Area (sq. mi.)	Peak Discharges (cfs) (Annual Chance)			
		10%	2%	1%	0.2%
NORTH TRIBUTARIES					
Bighorn Creek Near Mouth	4.5	180	250	280	340
Black Gore Creek Near Mouth	20.7	440	590	640	770
Booth Creek Near Mouth	6.0	245	330	370	460
Brush Creek At downstream corporate limits of the Town of Eagle	150	875	1,150	1,225	1,400
Buffehr Creek Near Mouth	4.6	150	200	220	270
Colorado River Downstream of Eagle River	4,344	18,950	24,900	27,140	31,830
Upstream of Eagle River	3,400	14,649	19,685	21,650	25,933
Eagle River Downstream of Gypsum Creek	944	5,890	7,430	8,030	9,330
Downstream of Brush Creek	808	5,300	6,690	7,230	8,400
Downstream of Lake Creek	658	4,530	5,710	6,170	7,060
Downstream of Beaver Creek	402	3,980	5,010	5,430	6,210
Downstream of Gore Creek	361	3,800	4,790	5,190	5,940
Downstream of Minturn	260	2,520	3,290	3,490	3,980
East Mill Creek/West Mill Creek Near Mouth	7.2	200	280	300	370
Fryingpan River At Mouth	298	2,250	3,300	3,950	7,150
Above Basalt	290	2,200	3,230	3,860	7,000
At upstream limit of study	253	2,000	2,950	3,500	6,350
Gore Creek Near Mouth	102	1,990	2,490	2,650	2,930
Upstream of Buffehr Creek	90.6	1,950	2,420	2,620	2,880
Upstream of Red Sandston	77.1	1,790	2,170	2,310	2,610
Upstream of Middle Creek	68.8	1,600	1,990	2,150	2,380
Upstream of Spraddle Creek	66.5	1,560	1,940	2,100	2,320
Upstream of Mill Creek	58.9	1,420	1,780	1,930	2,130
Downstream of 1st Vail Course Bridge	55.0	1,350	1,690	1,840	2,030
Upstream of Booth Creek	48.0	1,230	1,530	1,670	1,850
Upstream of Pitkin Creek	40.3	1,080	1,350	1,470	1,640
Upstream of Bighorn Creek	35.7	990	1,240	1,350	1,500
Gypsum Creek At Confluence with Eagle River	100	1,450	1,775	1,950	2,150
Middle Creek Near Mouth	5.9	110	130	140	160

Table 1. Summary of Discharges

Flooding Source and Study Reach	Drainage Area (sq. mi.)	Peak Discharges (cfs) (Annual Chance)			
		10%	2%	1%	0.2%
Pitkin Creek Near Mouth	5.3	180	260	290	380
Red Sandstone Creek Near Mouth	13.9	330	440	490	590
Roaring Fork River					
Roaring Fork River, above Garfield County Line	870	7,300	9,800	10,800	14,700
Roaring Fork River, above Sopris Creek, below Fryingpan River	850	7,100	9,400	10,400	14,300
Roaring Fork River, above Fryingpan River	510	6,100	8,500	9,400	12,200
Below Spris Creek					
Spraddle Creek Near Mouth	2.2	95	115	170	370
Taylor Creek					
At Downstream Limit of Study	8.8	245	300	325	480
Turkey Creek At Upstream Limit of Study					
At USGS Gage No. 635	30	525	720	795	955
Upper Gore Creek					
Just upstream of confluence with Gore Creek	14.4	550	690	740	845

3.2 Hydraulic Analysis

The August 22, 2003, hydraulic analyses of the Colorado and Eagle River computed the water-surface elevations (WSELs) for floods of the selected recurrence intervals using the USACE HEC-RAS backwater computer program (Reference 18). A total of 471 cross sections were secured from topographic mapping and field surveys.

One bridge is located within this study reach of the Colorado River. The bridge is a cable and wood bridge used for livestock to cross the river. A total of 42 bridges are located within this study reach of the Eagle River. There are four old concrete arch bridges on the Eagle River: an abandoned bridge at Gypsum, an abandoned bridge between Eagle and Wolcott, Highway 131 Bridge at Wolcott, and an old bridge with a new deck on the County Road at Minturn. These bridges have limited hydraulic capacity and provide little or no freeboard during a 100-year flood. Of these four bridges, only the Highway 131 Bridge is not overtopped in a flood. The Gypsum Bridge and the bridge between Eagle and Wolcott have failed structurally and are no longer used for vehicular traffic.

Detailed field survey measurements were taken along the bridge decks, and at every cross section upstream and downstream of the bridges. This survey information was completed between May and October of 2002.

The cross sections for the Eagle River near Minturn and Eagle River near Red Cliff, Fryingpan River, Taylor Creek, and Turkey Creek were obtained by field surveys. Cross sections for the backwater analyses of Brush Creek, Reach 1, were also obtained from field surveys. Cross sections for Brush Creek, Reach 2, were obtained from topographic maps with a contour interval of 2 feet (References 19 and 20). In undeveloped areas, field surveys were supplemented using aerial photographs (Reference 21). All bridges and culverts were field checked to obtain elevation data and structural geometry.

Cross sections for Gore Creek and Gore Creek Tributaries were cut from the topographic mapping provided by the Town of Vail. The Town of Vail contracted with Peak Land Surveying to provide survey data for all crossing structures within the study reaches. The February 1999 Sato work maps used this topography. Revised work maps dated June 6, 2003, were provided to show new locations of cross sections (Reference 22). In April 2003, the Town of Vail provided updated survey data for some bridges, walls, and berms along Gore Creek. The additional data included revised survey information for Circle K Bridge, Ford Park Covered Bridge, and Ford Amphitheater Bridge and new survey information that identified Nugget Lane and the Donovan Park foot bridge. Information on the Chammonix Lane culvert along Buffehr Creek was also revised. This information was incorporated into this study.

A total of 112 cross sections secured from topographic mapping and field surveys were analyzed for the hydraulic analysis of the Roaring Fork River. The locations of these cross sections are shown by reference point on the flood maps and the flood profiles.

The cross sections for the revised reach of Brush Creek were based on as-built construction surveys and associated topographic information for the new bridges and channel. The input and output HEC-2 data and the engineering report were used in recoding the original HEC-2 model into one HEC-RAS model.

Two additional cross sections were analyzed using normal depth in order to determine the flooding extent of a divided flow condition.

The model for Brush Creek incorporates the addition of the new bridges in addition to the minor grading that has occurred in the floodplain as a result of the development of Eagle County Ranch Development, namely the Capital Street Bridge, Sylvan Road Bridge, and Eagle Ranch Bridge No. 1.

In the vicinity of new bridge structures, as-built surveys were completed to verify the channel grades and bridge geometries (Reference 23). Field surveys were completed at various times between December 2001 and January 2003. Geometry data for small existing bridges that have remained in place since the effective information were developed from field measurements in February 1997.

Cross sections for the backwater analyses of Gypsum Creek were obtained from topographic maps at a scale of 1:1,200, with a contour interval of 2 feet (References 24 and 25). All bridges were field checked to obtain elevation data and structural geometry.

Starting WSELs for the Colorado River were calculated using normal depth at the beginning of the study with a gradient of 0.00954. The upstream ending water surface was also computed as normal depth downstream of the I-70 bridges at a gradient of 0.00244. Mapping indicates the channel gradient is greater upstream of the confluence with the Eagle River.

The starting WSEL for the Eagle River model was computed based on the known WSELs from the Colorado River model at Cross Section 44. This appears to be a reasonable and conservative assumption because a coincidental flood peak in the Colorado River would create backwater upstream on the Eagle River through Cross Section 5. By viewing the Eagle River profile, it is apparent that either a large deposit of volcanic ash and debris, or channel degradation from the Colorado River propagating up the Eagle River, has caused a relatively steep slope in the Eagle River channel near the confluence. Because of the steep channel slope in this area, a normal depth calculation would produce a lower water surface on the Eagle River than the backwater elevation caused by a 100-year flood on the Colorado River. The upstream ending water surface on the Eagle River was computed as critical depth near the town limits of Minturn at a county bridge structure, a hydraulic control structure. This is a reasonable assumption as a result of the steep gradient, narrow channel geometry, and limited conveyance capacity of the bridge.

Starting WSELs for the Eagle River near Minturn were obtained using the slope-area method at a starting cross section 800 feet downstream of the Town of Minturn corporate limits. Starting WSELs for the Eagle River near Red Cliff were calculated using critical depth downstream of the corporate limits of the Town of Red Cliff.

The starting WSEL for Fryingpan River was obtained from a flood study along the Fryingpan River through the Town of Basalt (Reference 26). Along Taylor Creek, the starting WSELs were taken from those elevations calculated for the Fryingpan River.

For the original Brush Creek Study, starting WSELs were calculated using critical depth at the mouth of Brush Creek, however, the starting water surface elevation for the August 2003 study of Brush Creek was computed based on a known WSEL. Starting WSELs for Turkey Creek were derived from the calculated flood elevations along the Eagle River near the Town of Red Cliff.

Starting WSELs for Gypsum Creek and Gore Creek were calculated using the slope-area method.

Starting WSELs for the Roaring Fork River were calculated using critical depth at the beginning and end of the study. This is a reasonable assumption because of the steep gradient.

The USACE Hydraulic Engineering Center-River Analysis System (HEC-RAS) computer program was used to determine WSELs for the August 2004 Eagle River study, the August 2003 Brush Creek study, Gypsum Creek, Gore Creek and its tributaries, and the Roaring Fork River. WSELs of the other flooding sources in Eagle County were computed through use of the USACE HEC-2 step-backwater computer program (Reference 26).

A channel roughness value of 0.035 was selected for Gypsum Creek; floodplain roughness values ranged from 0.040 to 0.090. Roughness coefficients for Brush Creek range from 0.03 to 0.035 for the channel and 0.030 to 0.060 for the overbank areas. Manning's "n" values for the Colorado River range from 0.030 to 0.070 for the main channel and 0.050 to 0.080 for the overbank areas. Channel and overbank roughness for the Eagle River were determined from field investigations and use of the ortho-rectified aerial imagery. The values for the Eagle River channel vary from 0.035 to 0.050 and 0.040 to 0.100 for the overbank areas.

The Manning's "n" values for Gore Creek and its tributaries were determined by field inspection by the SC and were estimated to be 0.04 for the main channel and 0.05 to 0.08 for the overbank areas.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD). With the finalization of the North American Vertical Datum of 1988 (NAVD), many FIS reports and FIRMs are being prepared using NAVD as the referenced vertical datum.

All elevations are referenced to the NAVD. To obtain up-to-date elevation information on National Geodetic Survey (NGS) Elevation Reference Marks (ERMs) shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov. Map users should seek verification of non-NGS ERM monument elevations when using these elevations for construction or floodplain management purposes. It is important to note that adjacent communities may be referenced to NGVD. This may result in differences in BFEs across the corporate limits between the communities.

For more information on NAVD, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (FEMA, June 1992), or contact the Vertical Network Branch, NGS, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS provides 100-year floodplain data, which may include a combination of the following: 10-, 50-, 100-, and 500-year flood elevations; delineations of the 100-year and 500-year floodplains; and 100-year floodway. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles, Floodway Data tables and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:1,200, with a contour interval of 2 feet (References 20, 27, and 28); 1:2,400, with contour intervals of 2, 5, 10, and 20 feet (References 29, 30, and 31); and 1:2,400, with contour intervals 20 feet and 40 feet (References 32 and 33).

The Brush Creek LOMR used the aerial topographic mapping provided by Alpine Engineering Inc. dated August 2003 (Reference 34). Flood boundaries for Brush Creek were delineated using topographic base maps with a scale of 1"=100', with a contour interval of 2 feet (Reference 35).

The base topographic mapping for the Matrix study of the Eagle River was provided by Analytical Surveys, Inc. Aerial imagery and mapping was completed October 1998. This mapping was available at scales of 1" = 200' and has a contour interval of 2 feet

(References 36, 37, and 38). The topographic mapping for the Eagle River was flown over a 2-week period during the middle of October 1998 when the flow was approximately 270 cfs to 300 cfs at a location downstream of Gypsum. This is a relatively low flow for the Eagle River, and represents only 3.5 percent of the 100-year flow of 8,030 cfs. The average depth of water in the channel during the mapping was negligible. The model input channel geometry assumes negligible channel geometry below the water surface at the time of the aerial mapping (Reference 36).

The topographic mapping for the Colorado River was flown in October 1998 when the flow was approximately 1,300 cfs to 1,400 cfs. Although this is a relatively low flow for the Colorado River, it represents approximately 5.8 percent of the 100-year flow. On average, the depth of water in the channel during mapping was approximately 2 feet to 3 feet (Reference 36).

The 100- and 500-year floodplain boundaries are shown on the FIRM. On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown because of limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary is shown on the FIRM.

Within the Town of Eagle, Eby Creek was studied by approximate methods and the boundary of the 100-year flood was developed from normal depth calculations and topographic maps at a scale of 1:1,200, with a contour interval of 2 feet (Reference 39).

For the Town of Gypsum, approximate and shallow flooding boundaries were delineated on these maps and on topographic maps at a scale of 1:24,000 with a contour interval of 20 feet (Reference 33).

Within the Towns of Minturn and Red Cliff, for streams studied by approximate methods, the boundary of the 100-year flood was delineated using topographic maps at a scale of 1:2,400, with a contour interval of 5 feet (References 27 and 39).

For the Town of Vail, boundaries of the shallow flooding areas were delineated, using field inspection and engineering judgment, on topographic maps at a scale of 1:2,400 with contour intervals of 2, 10, and 20 feet. (Reference 29). The Gore Creek floodplain was manually redelineated based on Geographic Information System data that were supplied by the Town of Vail in November 2003. The supplied topographic coverage had a contour interval of 2 feet.

Approximate 100-year floodplain boundaries in some portions of the study area were taken directly from the Flood Hazard Boundary Map (FHBM) for Eagle County, Colorado and other FHBMs for the incorporated communities within Eagle County, where appropriate (Reference 22).

The SC determined that some areas shown on the FHBM are areas of minimal flooding; therefore, they were not delineated on the maps.

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (see Table 2, "Floodway Data"). In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

The floodway along the Colorado River and Eagle River detailed studied reach were determined by specifying the elevations and stations of the left and right encroachments for individual cross sections as desired in the HEC-RAS backwater model.

The floodway along Brush Creek was computed using two methods; equal conveyance method and specifying the elevations and stations of the left and right encroachments of individual cross sections as desired in the HEC-RAS backwater model.

Because of the supercritical flow on Reach 2 of Brush Creek, the floodway was delineated to include all of the 100-year flood limits except for areas of ineffective flow.

The area between the floodway and 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the WSEL of the 100-year flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

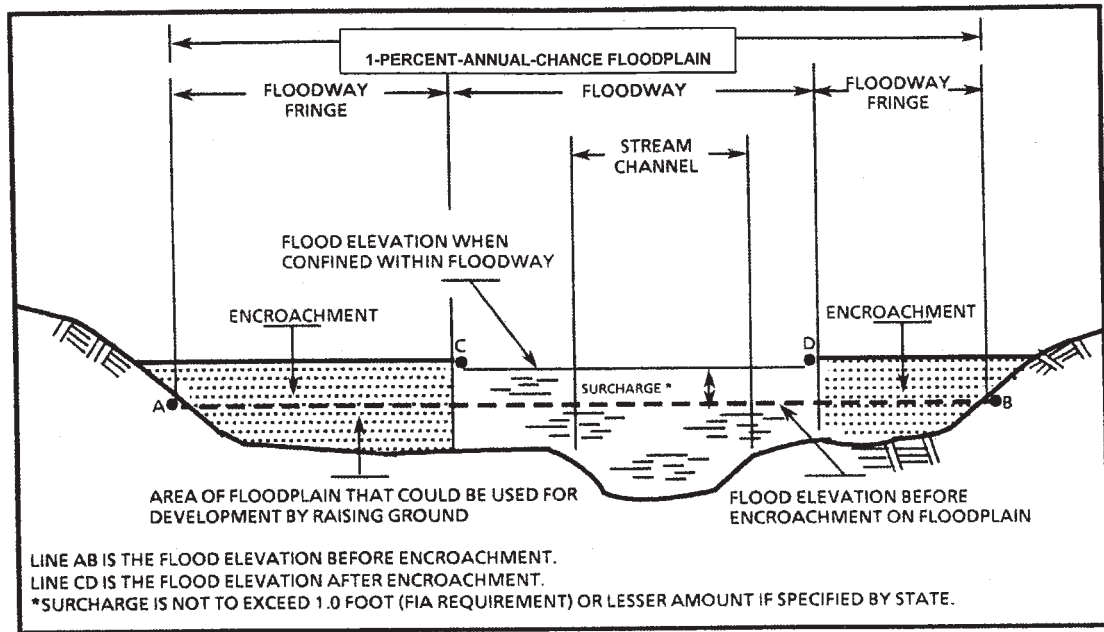


Figure 1. Floodway Schematic

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no BFEs or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the FIS by detailed methods. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No BFEs or depths are shown within this zone.

Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY	
BRUSH CREEK								
A	156	29	111	11.3	6,504.5	6503.1 ²	6503.1 ²	0.0
B	242	32	148	8.5	6,504.5	6,504.5	6,504.9	0.4
C	569	33	138	9	6,507.3	6,507.3	6,507.8	0.5
D	963	24	105	11.9	6,514.0	6,514.0	6,514.5	0.5
E	1,050	36	221	5.6	6,518.5	6,518.5	6,518.5	0.0
F	1,139	66	392	3.2	6,519.3	6,519.3	6,519.6	0.3
G	1,230	77	186	6.7	6,519.3	6,519.3	6,519.5	0.2
H	1,260	105	327	3.8	6,520.3	6,520.3	6,520.4	0.1
I	1,330	100	156	8	6,520.3	6,520.3	6,520.3	0.0
J	1,730	37	120	10.4	6,528.8	6,528.8	6,528.8	0.0
K	2,000	54	161	7.7	6,534.8	6,534.8	6,534.9	0.1
L	2,010	54	159	7.9	6,534.9	6,534.9	6,535.0	0.1
M	2,085	72	346	3.6	6,535.7	6,535.7	6,536.6	0.9
N	2,255	40	124	10.1	6,538.3	6,538.3	6,538.3	0.0
O	2,915	116	163	7.5	6,546.8	6,546.8	6,546.8	0.0
P	3,640	83	180	6.8	6,554.0	6,554.0	6,554.5	0.5
Q	5,295	106	182	6.8	6,577.0	6,577.0	6,577.1	0.1
R	5,840	52	177	6.9	6,585.3	6,585.3	6,585.3	0.0
S	5,900	50	180	6.8	6,586.3	6,586.3	6,586.3	0.0
T	6,560	46	128	9.5	6,597.6	6,597.6	6,597.6	0.0
U	8,015	31	121	10.1	6,617.3	6,617.3	6,617.7	0.4
V	10,380	190	275	4.5	6,647.3	6,647.3	6,647.7	0.4
W	11,175	215	367	3.3	6,661.8	6,661.8	6,661.8	0.0
X	13,140	80	151	8.1	6,697.1	6,697.1	6,697.1	0.0
Y	15,115	92	189	6.5	6,731.4	6,731.4	6,731.9	0.5
Z	15,435	279	357	3.4	6,738.0	6,738.0	6,738.0	0.0

¹Feet above mouth ²Elevation Shown Without Consideration of Backwater Effects From Eagle River

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

BRUSH CREEK

CROSS SECTION	FLOODING SOURCE		FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION		
	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY FEET (NAVD)	INCREASE
BRUSH CREEK								
AA	15,870	52	262	5.9	6,743.2	6,743.2	6,743.2	0.0
AB	16,110	192	436	2.8	6,748.5	6,748.5	6,748.5	0.0
AC	17,330	193	358	3.4	6,767.2	6,767.2	6,767.3	0.1
AD	18,105	121	182	6.7	6,777.6	6,777.6	6,777.6	0.0
AE	18,625	105	194	6.3	6,785.5	6,785.5	6,785.7	0.2
AF	19,365	65	164	7.5	6,797.1	6,797.1	6,797.5	0.4
AG	19,655	120	450	2.7	6,798.4	6,798.4	6,799.3	0.9
AH ²	19,955	229	308	4	6,801.2	6,801.2	6,801.2	0.0
AI ²	20,180	70	*	*	6,803.5	6,803.5	6,803.5	0.0
AJ ²	20,415	58	84	14.6	6,804.6	6,804.6	6,804.6	0.0
AK ²	20,655	110	*	*	6,811.4	6,811.4	6,811.4	0.0
AL ²	20,920	160	*	*	6,814.4	6,814.4	6,814.4	0.0
AM ²	21,595	90	*	*	6,825.4	6,825.4	6,825.4	0.0
AN ²	22,320	43	68	17.9	6,837.2	6,837.2	6,837.2	0.0
AO ²	22,840	85	*	*	6,850.5	6,850.5	6,850.5	0.0

¹ Feet above mouth ² Feet above Allen Tract Access Road
* Data not available

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA
BRUSH CREEK

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
COLORADO RIVER								
A	180	149	3,252	8.4	6,130.6	6,130.6	6,131.6	1.0
B	709	187	3,936	6.9	6,131.5	6,131.5	6,132.5	1.0
C	1,166	185	3,673	7.4	6,131.7	6,131.7	6,132.7	1.0
D	1,779	192	3,539	7.7	6,132.2	6,132.2	6,133.1	0.9
E	2,381	518	8,896	3.1	6,133.2	6,133.2	6,134.2	1.0
F	3,058	452	8,469	3.2	6,133.3	6,133.3	6,134.3	1.0
G	3,465	539	9,807	2.8	6,133.5	6,133.5	6,134.5	1.0
H	3,839	434	5,879	4.6	6,133.6	6,133.6	6,134.5	0.9
I	4,454	378	7,121	3.8	6,134.1	6,134.1	6,135.0	0.9
J	4,962	607	9,145	3.0	6,134.3	6,134.3	6,135.2	0.9
K	5,405	548	9,225	2.9	6,134.4	6,134.4	6,135.2	0.8
L	5,934	417	5,552	4.9	6,134.4	6,134.4	6,135.3	0.9
M	6,623	551	7,756	3.5	6,135.1	6,135.1	6,135.9	0.8
N	7,390	585	8,527	3.2	6,135.5	6,135.5	6,136.2	0.7
O	7,830	880	11,033	2.5	6,135.6	6,135.6	6,136.3	0.7
P	8,616	903	9,847	2.8	6,135.8	6,135.8	6,136.5	0.7
Q	9,216	869	9,343	2.9	6,136.0	6,136.0	6,136.7	0.7
R	9,899	437	5,504	4.9	6,136.1	6,136.1	6,136.8	0.7
S	11,048	246	4,383	6.2	6,137.5	6,137.5	6,138.1	0.6
T	11,699	260	4,592	5.9	6,138.0	6,138.0	6,138.6	0.6
U	12,307	205	3,515	7.7	6,138.1	6,138.1	6,138.8	0.7
V	12,798	296	5,272	5.2	6,139.1	6,139.1	6,139.7	0.6
W	13,319	320	5,094	5.3	6,139.4	6,139.4	6,139.9	0.5
X	14,099	400	5,760	4.7	6,140.2	6,140.2	6,140.7	0.5
Y	14,951	602	7,648	3.6	6,140.6	6,140.6	6,141.2	0.6
Z	15,516	440	4,891	5.6	6,140.6	6,140.6	6,141.2	0.6

¹ Stream distance in feet upstream of Garfield County and Eagle County corporate limits

FLOODWAY DATA

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD 88)	WITH FLOODWAY	INCREASE
COLORADO RIVER								
AA	16,427	1,050	8,489	3.2	6,141.5	6,141.5	6,142.0	0.5
AB	17,495	1,637	14,497	1.9	6,142.2	6,142.2	6,142.6	0.4
AC	18,168	1,663	14,431	1.9	6,142.3	6,142.3	6,142.7	0.4
AD	18,640	1,320	11,684	2.3	6,142.3	6,142.3	6,142.7	0.4
AE	19,108	1,100	8,873	3.1	6,142.4	6,142.4	6,142.8	0.4
AF	19,984	993	8,551	3.2	6,142.7	6,142.7	6,143.2	0.5
AG	20,433	903	6,641	4.1	6,142.9	6,142.9	6,143.3	0.4
AH	20,811	590	4,857	5.6	6,143.1	6,143.1	6,143.7	0.6
AI	21,516	350	4,662	4.6	6,144.5	6,144.5	6,145.0	0.5
AJ	22,267	280	3,278	6.6	6,144.7	6,144.7	6,145.3	0.6
AK	22,730	260	3,367	6.4	6,145.4	6,145.4	6,146.0	0.6

¹ Stream distance in feet upstream of Garfield County and Eagle County corporate limits

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

COLORADO RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY WITH FLOODWAY FEET (NAVD 88)	INCREASE
EAGLE RIVER							
A	980	550	2,593	3.1	6,144.5	6,144.3	0.8
B	1,541	401	1,974	4.1	6,145.0	6,145.7	0.7
C	2,059	331	827	9.7	6,145.4	6,146.4	1.0
D	2,415	339	866	9.3	6,149.2	6,149.7	0.5
E	3,169	132	724	11.1	6,155.1	6,155.2	0.1
F	3,890	180	925	8.7	6,160.6	6,161.2	0.6
G	4,364	240	1,199	6.7	6,165.0	6,165.1	0.1
H	4,980	186	857	9.4	6,172.1	6,172.1	0.0
I	5,612	140	738	10.9	6,181.0	6,181.3	0.3
J	6,004	121	649	12.4	6,186.9	6,186.9	0.0
K	6,519	105	608	13.2	6,192.2	6,192.2	0.0
L	7,021	124	1,274	6.3	6,196.4	6,196.5	0.1
M	7,730	404	1,932	4.2	6,197.3	6,197.6	0.3
N	8,478	545	3,544	2.3	6,197.6	6,198.5	0.9
O	8,964	553	4,217	1.9	6,197.8	6,198.7	0.9
P	9,417	265	2,319	3.5	6,197.9	6,198.7	0.8
Q	9,817	113	932	8.6	6,197.9	6,198.5	0.6
R	10,243	110	779	10.3	6,199.2	6,200.2	1.0
S	10,916	143	1,299	6.2	6,202.6	6,203.3	0.7
T	11,659	156	1,257	6.4	6,204.1	6,204.7	0.6
U	12,100	294	2,133	3.8	6,204.8	6,205.7	0.9
V	12,813	568	4,505	1.8	6,205.2	6,206.1	0.9
W	13,399	307	2,123	3.8	6,205.3	6,206.2	0.9
X	14,151	346	3,669	2.2	6,205.7	6,206.6	0.9
Y	15,250	382	2,127	3.8	6,205.8	6,206.8	1.0
Z	15,805	445	2,653	3.0	6,206.3	6,207.3	1.0

¹ Stream distance in feet above the confluence with Colorado River

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA
EAGLE RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD - WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EAGLE RIVER								
AA	16,558	260	2,071	3.9	6,206.8	6,206.8	6,207.8	1.0
AB	17,106	105	746	10.8	6,206.5	6,206.5	6,207.4	0.9
AC	17,758	170	1,359	5.9	6,210.4	6,210.4	6,210.9	0.5
AD	18,300	230	1,690	4.8	6,211.5	6,211.5	6,211.8	0.3
AE	19,040	400	2,983	2.7	6,212.1	6,212.1	6,212.5	0.4
AF	19,803	185	981	8.2	6,212.1	6,212.1	6,212.5	0.4
AG	20,189	86	693	11.6	6,214.1	6,214.1	6,214.2	0.1
AH	20,580	196	1,717	4.7	6,216.3	6,216.3	6,216.9	0.6
AI	21,280	467	2,901	2.8	6,217.0	6,217.0	6,217.6	0.6
AJ	22,318	415	2,440	3.3	6,217.5	6,217.5	6,218.3	0.8
AK	22,876	274	1,899	4.2	6,217.8	6,217.8	6,218.6	0.8
AL	24,140	420	2,494	3.2	6,219.2	6,219.2	6,220.1	0.9
AM	24,838	527	3,919	2.1	6,219.7	6,219.7	6,220.7	1.0
AN	25,256	450	3,409	2.4	6,219.8	6,219.8	6,220.8	1.0
AO	26,275	550	3,188	2.5	6,220.3	6,220.3	6,221.2	0.9
AP	27,007	235	1,331	6.0	6,221.0	6,221.0	6,221.8	0.8
AQ	27,616	295	1,343	6.0	6,223.3	6,223.3	6,223.8	0.5
AR	28,790	331	1,634	4.9	6,227.4	6,227.4	6,228.0	0.6
AS	29,660	90	568	14.1	6,232.5	6,232.5	6,232.5	0.0
AT	30,737	144	1,314	6.1	6,238.3	6,238.3	6,239.2	0.9
AU	31,571	232	1,400	5.7	6,240.0	6,240.0	6,240.9	0.9
AV	32,015	488	2,605	3.1	6,241.0	6,241.0	6,242.0	1.0
AW	32,543	160	818	9.8	6,241.6	6,241.6	6,241.9	0.3
AX	32,893	158	981	8.2	6,244.2	6,244.2	6,245.1	0.9
AY	33,501	245	1,140	7.0	6,248.9	6,248.9	6,248.9	0.0
AZ	33,824	235	1,014	7.9	6,250.1	6,250.1	6,250.6	0.5

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WATER-SURFACE ELEVATION		INCREASE
						WITHOUT FLOODWAY	WITH FLOODWAY	
						FEET (NAVD 88)		
EAGLE RIVER								
BA	34,454	174	998	8.1	6,253.4	6,253.4	6,254.4	1.0
BB	35,020	210	1,160	6.9	6,256.1	6,256.1	6,257.0	0.9
BC	35,160	157	847	9.5	6,256.6	6,256.6	6,257.2	0.6
BD	36,051	190	1,142	7.0	6,262.6	6,262.6	6,262.8	0.2
BE	36,686	223	1,685	4.8	6,264.2	6,264.2	6,264.5	0.3
BF	37,317	333	1,876	4.3	6,264.8	6,264.8	6,265.4	0.6
BG	38,182	247	1,331	6.0	6,266.1	6,266.1	6,266.8	0.7
BH	38,605	199	1,369	5.9	6,267.0	6,267.0	6,267.9	0.9
BI	39,365	400	2,113	3.8	6,268.7	6,268.7	6,269.7	1.0
BJ	40,210	704	1,492	5.4	6,272.7	6,272.7	6,272.7	0.0
BK	41,028	235	1,686	4.8	6,276.3	6,276.3	6,276.6	0.3
BL	41,374	121	724	11.1	6,276.3	6,276.3	6,276.8	0.5
BM	42,782	330	1,993	3.6	6,286.2	6,286.2	6,286.2	0.0
BN	43,586	373	1,887	3.8	6,286.9	6,286.9	6,287.1	0.2
BO	44,407	235	1,308	5.5	6,288.0	6,288.0	6,288.6	0.6
BP	44,839	235	1,224	5.9	6,288.9	6,288.9	6,289.7	0.8
BQ	46,028	600	2,929	2.5	6,291.6	6,291.6	6,292.4	0.8
BR	46,993	506	1,392	5.2	6,293.8	6,293.8	6,294.3	0.5
BS	47,611	310	1,111	6.5	6,298.3	6,298.3	6,298.4	0.1
BT	50,144	155	765	9.4	6,314.9	6,314.9	6,315.8	0.9
BU	50,566	245	1,140	6.3	6,318.3	6,318.3	6,319.0	0.7
BV	50,991	185	674	10.7	6,321.7	6,321.7	6,321.9	0.2
BW	51,445	198	1,140	6.3	6,325.1	6,325.1	6,325.8	0.7
BX	52,005	153	683	10.6	6,328.4	6,328.4	6,328.5	0.1
BY	52,837	222	1,038	7.0	6,335.2	6,335.2	6,335.4	0.2
BZ	53,819	138	608	11.9	6,340.1	6,340.1	6,340.4	0.3

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

CROSS SECTION	DISTANCE ¹	FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION		INCREASE
		WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY WITH FLOODWAY	
EAGLE RIVER							
CA	55,005	400	1,516	4.8	6,347.8	6,347.8	6,348.8
CB	55,495	205	705	10.3	6,351.3	6,351.3	6,351.7
CC	56,071	220	994	7.3	6,356.3	6,356.3	6,357.2
CD	56,665	241	938	7.7	6,360.2	6,360.2	6,360.8
CE	57,100	120	630	11.5	6,362.6	6,362.6	6,363.6
CF	57,565	252	913	7.9	6,367.3	6,367.3	6,368.2
CG	58,179	660	2,261	3.2	6,371.0	6,371.0	6,372.0
CH	58,704	379	1,294	5.6	6,372.8	6,372.8	6,373.2
CI	60,030	298	962	7.5	6,378.4	6,378.4	6,379.2
CJ	60,759	172	779	9.3	6,383.2	6,383.2	6,383.7
CK	61,611	155	728	9.9	6,388.5	6,388.5	6,389.4
CL	62,171	280	1,273	5.7	6,392.1	6,392.1	6,393.0
CM	62,698	275	854	8.5	6,394.9	6,394.9	6,394.9
CN	63,415	150	790	9.2	6,399.2	6,399.2	6,399.7
CO	64,267	168	848	8.5	6,404.2	6,404.2	6,405.0
CP	64,796	115	701	10.3	6,407.8	6,407.8	6,408.6
CQ	65,363	190	1,139	6.4	6,411.8	6,411.8	6,412.7
CR	66,035	194	881	8.2	6,415.0	6,415.0	6,415.5
CS	66,569	180	719	10.1	6,419.1	6,419.1	6,419.5
CT	67,131	194	945	7.7	6,424.2	6,424.2	6,425.1
CU	67,749	103	661	10.9	6,428.0	6,428.0	6,428.4
CV	68,520	96	573	12.6	6,433.7	6,433.7	6,434.0
CW	69,305	105	647	11.2	6,440.0	6,440.0	6,440.9
CX	70,547	130	793	9.1	6,449.1	6,449.1	6,449.3
CY	71,371	192	843	8.6	6,453.4	6,453.4	6,453.6
CZ	71,711	148	676	10.7	6,456.6	6,456.6	6,457.2

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

EAGLE RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY		INCREASE
						FEET (NAVD 88)	WITH FLOODWAY	
EAGLE RIVER								
DA	72,627	226	1,277	5.7	6,461.6	6,461.6	6,462.5	0.9
DB	73,144	190	776	9.3	6,463.5	6,463.5	6,463.5	0.0
DC	73,660	173	828	8.7	6,466.3	6,466.3	6,466.6	0.3
DD	74,138	323	1,473	4.9	6,469.2	6,469.2	6,469.3	0.1
DE	74,504	231	832	8.7	6,469.8	6,469.8	6,469.9	0.1
DF	75,066	152	805	9.0	6,473.2	6,473.2	6,473.4	0.2
DG	75,583	144	639	11.3	6,476.4	6,476.4	6,476.6	0.2
DH	76,360	148	857	8.4	6,481.8	6,481.8	6,482.3	0.5
DI	76,922	163	778	9.3	6,484.8	6,484.8	6,485.0	0.2
DJ	77,473	132	628	11.5	6,488.6	6,488.6	6,488.8	0.2
DK	78,109	124	741	9.8	6,493.5	6,493.5	6,494.0	0.5
DL	78,787	120	688	10.5	6,497.5	6,497.5	6,497.9	0.4
DM	79,474	118	609	11.9	6,503.0	6,503.0	6,503.2	0.2
DN	80,102	160	859	7.2	6,507.9	6,507.9	6,508.1	0.2
DO	80,650	108	507	12.2	6,511.1	6,511.1	6,511.1	0.0
DP	81,933	108	567	10.9	6,523.3	6,523.3	6,523.6	0.3
DQ	82,494	115	518	11.9	6,528.6	6,528.6	6,528.6	0.0
DR	83,474	92	481	12.8	6,537.3	6,537.3	6,537.4	0.1
DS	84,349	85	545	11.3	6,545.1	6,545.1	6,545.3	0.2
DT	84,898	147	593	10.4	6,550.1	6,550.1	6,550.1	0.0
DU	85,510	82	483	12.8	6,557.7	6,557.7	6,557.9	0.2
DV	85,857	118	522	11.8	6,562.6	6,562.6	6,562.6	0.0
DW	87,687	108	761	8.1	6,579.2	6,579.2	6,579.3	0.1
DX	88,387	153	653	9.4	6,581.6	6,581.6	6,582.3	0.7
DY	89,235	133	621	9.9	6,588.7	6,588.7	6,588.7	0.0
DZ	90,982	129	537	11.5	6,598.9	6,598.9	6,598.9	0.0

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY		WITH FLOODWAY	
						FEET (NAVD 88)			
EAGLE RIVER									
EA	91,587	168	826	7.5	6,603.8	6,603.8	6,604.0	0.2	
EB	92,137	98	489	12.6	6,607.4	6,607.4	6,607.4	0.0	
EC	93,059	119	738	8.4	6,614.1	6,614.1	6,614.6	0.5	
ED	93,543	149	642	9.6	6,616.4	6,616.4	6,617.0	0.6	
EE	94,111	161	922	6.7	6,619.8	6,619.8	6,620.2	0.4	
EF	94,748	165	578	10.7	6,623.7	6,623.7	6,623.8	0.1	
EG	95,588	126	631	9.8	6,631.1	6,631.1	6,631.6	0.5	
EH	96,476	128	532	11.6	6,642.4	6,642.4	6,642.4	0.0	
EI	96,998	142	722	8.6	6,647.1	6,647.1	6,647.3	0.2	
EJ	97,791	142	596	10.4	6,652.0	6,652.0	6,652.2	0.2	
EK	98,321	151	802	7.7	6,655.8	6,655.8	6,656.0	0.2	
EL	99,577	124	552	11.2	6,662.4	6,662.4	6,662.5	0.1	
EM	100,318	164	748	8.2	6,668.7	6,668.7	6,668.8	0.1	
EN	101,065	139	655	9.4	6,672.8	6,672.8	6,672.9	0.1	
EO	101,897	128	560	11.0	6,679.2	6,679.2	6,679.3	0.1	
EP	102,681	139	740	8.3	6,684.8	6,684.8	6,685.3	0.5	
EQ	103,437	156	595	10.4	6,689.8	6,689.8	6,689.9	0.1	
ER	104,310	145	670	9.2	6,697.3	6,697.3	6,697.3	0.0	
ES	105,511	144	678	9.1	6,705.3	6,705.3	6,705.4	0.1	
ET	106,540	143	615	10.0	6,712.4	6,712.4	6,712.6	0.2	
EU	108,252	116	519	11.9	6,728.7	6,728.7	6,728.7	0.0	
EV	109,235	123	603	10.2	6,737.8	6,737.8	6,738.2	0.4	
EW	109,965	96	539	11.4	6,743.3	6,743.3	6,743.6	0.3	
EX	111,015	75	543	11.4	6,750.6	6,750.6	6,751.3	0.7	
EY	112,284	125	527	11.7	6,762.4	6,762.4	6,762.4	0.0	
EZ	112,946	151	765	8.1	6,767.8	6,767.8	6,768.1	0.3	

¹ Stream distance in feet above the confluence with Colorado River

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

EAGLE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	
						FEET (NAVD 88)		
EAGLE RIVER								
FA	113,654	125	559	11.0	6,773.8	6,773.8	6,773.9	0.1
FB	114,355	127	600	10.3	6,787.1	6,787.1	6,787.1	0.0
FC	115,053	105	511	12.1	6,793.4	6,793.4	6,793.4	0.0
FD	115,746	170	983	6.3	6,798.2	6,798.2	6,798.3	0.1
FE	116,349	117	667	9.3	6,799.6	6,799.6	6,799.8	0.2
FF	116,981	205	677	9.1	6,804.0	6,804.0	6,804.2	0.2
FG	117,600	119	588	10.5	6,809.3	6,809.3	6,809.3	0.0
FH	118,102	90	571	10.8	6,812.5	6,812.5	6,812.7	0.2
FI	118,652	92	562	11.0	6,816.0	6,816.0	6,816.2	0.2
FJ	119,298	84	465	13.3	6,821.5	6,821.5	6,821.5	0.0
FK	120,094	150	633	9.7	6,830.4	6,830.4	6,830.6	0.2
FL	120,802	96	487	12.7	6,837.5	6,837.5	6,837.5	0.0
FM	121,546	63	439	14.1	6,844.8	6,844.8	6,845.1	0.3
FN	122,101	84	774	8.0	6,849.2	6,849.2	6,849.7	0.5
FO	122,722	100	880	7.0	6,850.5	6,850.5	6,851.2	0.7
FP	123,298	136	1,048	5.9	6,851.8	6,851.8	6,852.3	0.5
FQ	123,699	120	942	6.6	6,852.2	6,852.2	6,852.8	0.6
FR	124,321	132	1,020	6.1	6,853.3	6,853.3	6,853.7	0.4
FS	125,923	236	1,452	4.2	6,857.2	6,857.2	6,857.3	0.1
FT	126,815	115	517	11.9	6,858.5	6,858.5	6,858.6	0.1
FU	127,736	96	614	10.1	6,865.5	6,865.5	6,866.4	0.9
FV	128,558	91	478	12.9	6,873.1	6,873.1	6,873.3	0.2
FW	129,583	103	499	12.4	6,885.0	6,885.0	6,885.0	0.0
FX	129,902	128	795	7.8	6,888.1	6,888.1	6,888.3	0.2
FY	130,404	144	1,018	6.1	6,889.5	6,889.5	6,889.8	0.3
FZ	131,171	113	1,001	6.2	6,890.7	6,890.7	6,890.9	0.2

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

CROSS SECTION	FLOODING SOURCE			FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION		
	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY		INCREASE	
						FEET (NAVD 88)	WITH FLOODWAY		
EAGLE RIVER									
GA	131,995	194	889	6.9	6,892.0	6,892.0	6,892.5	0.5	
GB	132,458	127	744	8.3	6,894.0	6,894.0	6,894.1	0.1	
GC	132,900	110	626	9.8	6,895.6	6,895.6	6,895.8	0.2	
GD	133,977	96	655	9.4	6,900.6	6,900.6	6,900.8	0.2	
GE	134,298	86	802	7.7	6,903.2	6,903.2	6,903.5	0.3	
GF	135,000	135	728	8.5	6,904.9	6,904.9	6,905.4	0.5	
GG	135,739	139	667	9.2	6,909.1	6,909.1	6,909.2	0.1	
GH	136,399	127	528	11.7	6,916.1	6,916.1	6,916.1	0.0	
GI	137,246	107	675	9.1	6,923.5	6,923.5	6,923.6	0.1	
GJ	138,247	55	404	15.3	6,936.8	6,936.8	6,936.8	0.0	
GK	138,476	84	736	8.4	6,944.9	6,944.9	6,944.9	0.0	
GL	138,989	119	1,089	5.7	6,947.2	6,947.2	6,947.3	0.1	
GM	139,797	124	782	7.9	6,948.1	6,948.1	6,948.4	0.3	
GN	140,599	129	817	7.6	6,950.8	6,950.8	6,951.0	0.2	
GO	141,349	120	727	8.5	6,954.1	6,954.1	6,954.2	0.1	
GP	142,035	144	889	6.9	6,956.4	6,956.4	6,956.7	0.3	
GQ	142,598	107	506	12.2	6,958.8	6,958.8	6,958.9	0.1	
GR	143,180	139	889	6.9	6,962.5	6,962.5	6,963.2	0.7	
GS	143,678	121	764	8.1	6,963.8	6,963.8	6,964.4	0.6	
GT	144,056	85	466	13.2	6,965.6	6,965.6	6,965.6	0.0	
GU	144,652	183	1,281	4.8	6,969.4	6,969.4	6,969.6	0.2	
GV	145,649	160	572	10.8	6,973.7	6,973.7	6,973.7	0.0	
GW	146,292	122	768	8.0	6,978.0	6,978.0	6,978.3	0.3	
GX	146,992	122	631	9.8	6,980.7	6,980.7	6,981.2	0.5	
GY	147,599	151	745	8.3	6,984.7	6,984.7	6,985.1	0.4	
GZ	148,474	119	605	10.2	6,989.7	6,989.7	6,989.7	0.0	

¹ Stream distance in feet above the confluence with Colorado River

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA
EAGLE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD 88)		
EAGLE RIVER								
HA	148,949	145	557	11.1	6,993.7	6,993.7	6,993.8	0.1
HB	149,692	149	815	7.6	6,999.2	6,999.2	6,999.5	0.3
HC	150,610	94	492	12.5	7,003.5	7,003.5	7,003.6	0.1
HD	151,097	144	668	9.2	7,008.7	7,008.7	7,008.8	0.1
HE	151,619	113	644	9.6	7,011.6	7,011.6	7,011.8	0.2
HF	152,428	113	545	11.3	7,016.9	7,016.9	7,017.1	0.2
HG	153,091	106	658	9.4	7,022.0	7,022.0	7,022.1	0.1
HH	153,319	95	664	9.3	7,023.2	7,023.2	7,023.3	0.1
HI	153,578	127	599	10.3	7,024.2	7,024.2	7,024.3	0.1
HJ	154,374	136	898	6.9	7,029.1	7,029.1	7,029.2	0.1
HK	155,305	103	498	12.4	7,034.7	7,034.7	7,034.8	0.1
HL	156,167	101	611	10.1	7,042.1	7,042.1	7,042.5	0.4
HM	157,213	115	790	7.8	7,047.2	7,047.2	7,047.2	0.0
HN	157,499	123	833	7.4	7,048.1	7,048.1	7,048.1	0.0
HO	158,149	104	625	9.9	7,050.0	7,050.0	7,050.1	0.1
HP	158,896	87	605	10.2	7,054.8	7,054.8	7,055.2	0.4
HQ	159,846	121	589	10.5	7,062.7	7,062.7	7,063.0	0.3
HR	160,436	132	622	9.9	7,069.0	7,069.0	7,069.1	0.1
HS	161,128	92	634	9.7	7,074.0	7,074.0	7,074.3	0.3
HT	161,557	115	609	10.1	7,077.1	7,077.1	7,077.4	0.3
HU	162,425	124	730	8.4	7,083.3	7,083.3	7,083.9	0.6
HV	163,247	116	855	7.2	7,087.1	7,087.1	7,087.5	0.4
HW	164,151	215	787	7.8	7,091.4	7,091.4	7,091.6	0.2
HX	164,874	140	603	10.2	7,098.3	7,098.3	7,098.3	0.0
HY	165,871	72	552	11.2	7,106.6	7,106.6	7,107.1	0.5
HZ	166,558	104	619	10.0	7,112.3	7,112.3	7,112.6	0.3

¹ Stream distance in feet above the confluence with Colorado River

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

EAGLE RIVER

TABLE 2

CROSS SECTION	FLOODING SOURCE			FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD 88)	WITH FLOODWAY			
EAGLE RIVER										
IA	166,833	116	773	8.0	7,114.5	7,114.5	7,114.7		0.2	
IB	167,224	140	877	7.0	7,116.0	7,116.0	7,116.4		0.4	
IC	168,471	249	1,878	3.3	7,119.8	7,119.8	7,119.9		0.1	
ID	169,088	192	1,550	4.0	7,120.1	7,120.1	7,120.2		0.1	
IE	169,771	116	519	11.9	7,120.4	7,120.4	7,120.5		0.1	
IF	170,530	163	814	7.6	7,125.9	7,125.9	7,126.2		0.3	
IG	171,210	266	1,969	3.1	7,127.1	7,127.1	7,127.5		0.4	
IH	171,728	270	1,297	4.8	7,127.2	7,127.2	7,127.6		0.4	
II	172,428	610	2,556	2.4	7,127.4	7,127.4	7,128.3		0.9	
IJ	173,366	460	1,701	3.6	7,127.7	7,127.7	7,128.7		1.0	
IK	174,196	400	1,714	3.2	7,128.5	7,128.5	7,129.4		0.9	
IL	174,840	186	913	6.0	7,128.7	7,128.7	7,129.7		1.0	
IM	175,687	186	621	8.7	7,131.0	7,131.0	7,131.9		0.9	
IN	176,297	132	702	7.7	7,134.5	7,134.5	7,135.5		1.0	
IO	176,817	93	443	12.3	7,147.2	7,147.2	7,147.7		0.5	
IP	177,661	92	475	11.4	7,158.9	7,158.9	7,159.3		0.4	
IQ	178,384	121	521	10.4	7,168.3	7,168.3	7,168.3		0.0	
IR	179,992	100	452	12.0	7,198.4	7,198.4	7,198.5		0.1	
IS	180,622	112	618	8.8	7,205.2	7,205.2	7,205.7		0.5	
IT	181,940	111	465	11.7	7,226.3	7,226.3	7,226.4		0.1	
IU	182,696	121	604	9.0	7,234.0	7,234.0	7,235.0		1.0	
IV	183,154	106	503	10.8	7,238.6	7,238.6	7,238.8		0.2	
IW	183,685	110	531	10.2	7,244.3	7,244.3	7,244.8		0.5	
IX	184,846	93	442	12.3	7,256.8	7,256.8	7,256.9		0.1	
IY	185,552	110	584	9.3	7,265.0	7,265.0	7,265.3		0.3	
IZ	186,267	78	440	12.3	7,271.2	7,271.2	7,271.6		0.4	

¹ Stream distance in feet above the confluence with Colorado River

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA
EAGLE RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD 88)	WITH FLOODWAY		
EAGLE RIVER									
JA	187,403	115	470	11.6	7,281.3	7,281.3	7,281.3	0.0	
JB	188,200	161	734	7.4	7,289.3	7,289.3	7,289.3	0.0	
JC	189,133	126	509	10.7	7,296.2	7,296.2	7,296.4	0.2	
JD	189,817	67	408	13.3	7,304.9	7,304.9	7,304.9	0.0	
JE	190,818	213	884	6.2	7,313.9	7,313.9	7,314.2	0.3	
JF	191,378	123	482	11.3	7,319.9	7,319.9	7,320.0	0.1	
JG	191,906	164	808	6.7	7,324.9	7,324.9	7,325.2	0.3	
JH	192,580	109	466	11.7	7,328.6	7,328.6	7,328.6	0.0	
JI	193,137	98	606	9.0	7,334.2	7,334.2	7,334.5	0.3	
JJ	193,762	80	421	12.9	7,341.0	7,341.0	7,341.3	0.3	
JK	195,052	107	463	11.7	7,356.0	7,356.0	7,356.4	0.4	
JL	195,852	120	658	8.2	7,364.3	7,364.3	7,364.6	0.3	
JM	196,852	76	512	10.6	7,370.0	7,370.0	7,370.7	0.7	
JN	197,997	90	578	9.4	7,378.5	7,378.5	7,379.4	0.9	
JO	198,666	117	728	7.4	7,383.4	7,383.4	7,383.5	0.1	
JP	199,578	91	557	9.8	7,392.4	7,392.4	7,392.5	0.1	
JQ	200,329	117	617	8.8	7,399.3	7,399.3	7,399.5	0.2	
JR	200,960	127	564	9.6	7,404.3	7,404.3	7,404.4	0.1	
JS	201,617	152	775	7.0	7,409.1	7,409.1	7,409.3	0.2	
JT	202,333	126	611	8.9	7,412.9	7,412.9	7,412.9	0.0	
JU	203,457	106	494	10.5	7,424.8	7,424.8	7,424.9	0.1	
JV	204,089	124	545	9.5	7,432.6	7,432.6	7,432.8	0.2	
JW	204,806	147	724	7.2	7,438.8	7,438.8	7,438.9	0.1	
JX	205,571	103	449	11.6	7,447.2	7,447.2	7,447.2	0.0	
JY	206,721	99	432	12.0	7,459.1	7,459.1	7,459.1	0.0	
JZ	207,416	75	507	10.2	7,467.3	7,467.3	7,467.5	0.2	

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

CROSS SECTION	FLOODING SOURCE		FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION			INCREASE
	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	FEET (NAVD 88)	
EAGLE RIVER									
KA	207,979	140	577	9.0	7,472.7	7,472.7	7,473.0	7,473.0	0.3
KB	208,073	149	546	9.5	7,474.0	7,474.0	7,474.0	7,474.0	0.0
KC	208,274	121	515	10.1	7,476.5	7,476.5	7,476.6	7,476.6	0.1
KD	209,409	105	443	11.7	7,489.0	7,489.0	7,489.0	7,489.0	0.0
KE	210,173	107	475	10.9	7,501.2	7,501.2	7,501.2	7,501.2	0.0
KF	210,696	107	553	9.4	7,507.5	7,507.5	7,507.5	7,507.5	0.0
KG	211,328	110	609	8.5	7,512.4	7,512.4	7,512.6	7,512.6	0.2
KH	212,134	97	434	12.0	7,520.6	7,520.6	7,520.6	7,520.6	0.0
KI	212,425	98	601	8.6	7,524.4	7,524.4	7,524.6	7,524.6	0.2
KJ	213,503	90	424	12.2	7,537.3	7,537.3	7,537.4	7,537.4	0.1
KK	213,903	83	421	12.3	7,543.7	7,543.7	7,543.7	7,543.7	0.0
KL	215,301	98	433	12.0	7,558.9	7,558.9	7,558.9	7,558.9	0.0
KM	215,957	110	636	8.2	7,566.2	7,566.2	7,566.3	7,566.3	0.1
KN	216,537	111	482	10.8	7,570.7	7,570.7	7,570.7	7,570.7	0.0
KO	217,100	145	772	6.7	7,575.9	7,575.9	7,575.9	7,575.9	0.0
KP	217,686	127	474	11.0	7,581.7	7,581.7	7,581.7	7,581.7	0.0
KQ	218,628	97	509	10.2	7,594.9	7,594.9	7,595.2	7,595.2	0.3
KR	219,373	77	498	10.4	7,602.2	7,602.2	7,602.5	7,602.5	0.3
KS	219,810	74	661	7.8	7,605.3	7,605.3	7,605.7	7,605.7	0.4
KT	220,544	95	430	12.1	7,613.1	7,613.1	7,613.1	7,613.1	0.0
KU	220,838	109	602	8.6	7,617.3	7,617.3	7,617.3	7,617.3	0.0
KV	220,922	106	655	7.9	7,617.9	7,617.9	7,617.9	7,618.0	0.1
KW	221,021	73	400	13.0	7,617.9	7,617.9	7,617.9	7,618.0	0.1
KX	221,462	95	548	9.5	7,623.8	7,623.8	7,624.0	7,624.0	0.2
KY	221,994	113	532	9.8	7,628.7	7,628.7	7,628.8	7,628.8	0.1
KZ	222,859	101	467	11.1	7,638.6	7,638.6	7,638.7	7,638.7	0.1

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EAGLE RIVER								
LA	223,447	84	418	12.4	7,649.4	7,649.4	7,649.5	0.1
LB	223,791	71	452	11.5	7,654.3	7,654.3	7,654.4	0.1
LC	224,351	110	458	11.3	7,662.1	7,662.1	7,662.2	0.1
LD	224,599	164	793	6.5	7,665.5	7,665.5	7,665.6	0.1
LE	225,306	99	438	11.8	7,676.7	7,676.7	7,676.7	0.0
LF	225,896	84	557	9.3	7,683.4	7,683.4	7,683.9	0.5
LG	226,600	58	364	14.3	7,699.8	7,699.8	7,699.8	0.0
LH	227,112	60	368	14.1	7,715.5	7,715.5	7,715.5	0.0
LI	227,591	45	351	14.8	7,722.3	7,722.3	7,722.7	0.4
LJ	228,256	60	367	14.1	7,729.7	7,729.7	7,729.7	0.0
LK	228,920	97	632	5.5	7,734.8	7,734.8	7,734.8	0.0
LL	229,636	94	454	7.7	7,737.0	7,737.0	7,737.2	0.2
LM	230,191	162	636	5.5	7,740.5	7,740.5	7,740.5	0.0
LN	230,520	92	439	8.0	7,742.0	7,742.0	7,742.1	0.1
LO	231,127	67	502	7.0	7,751.7	7,751.7	7,751.7	0.0

¹ Stream distance in feet above the confluence with Colorado River

FLOODWAY DATA

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
 AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD - WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	FEET (NAVD)	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EAGLE RIVER									
LP	4,215 ²	58	301	9.3	7,794.4	7,794.4	7,794.4	7,795.4	1.0
LQ	4,970 ²	43	287	9.7	7,800.3	7,800.3	7,800.3	7,801.1	0.8
LR	5,990 ²	60	251	11.1	7,811.0	7,811.0	7,811.0	7,811.4	0.4
LS	6,970 ²	90	373	7.5	7,821.8	7,821.8	7,821.8	7,822.0	0.2
LT	6,990 ²	97	507	5.5	7,822.3	7,822.3	7,822.3	7,823.3	1.0
LU	7,330 ²	70	245	11.4	7,824.8	7,824.8	7,824.8	7,824.8	0.0
LV	7,870 ²	112	368	7.6	7,830.8	7,830.8	7,830.8	7,831.5	0.7
LW	9,060 ²	80	258	10.9	7,842.6	7,842.6	7,842.6	7,842.8	0.2
LX	10,010 ²	66	280	10.0	7,857.6	7,857.6	7,857.6	7,857.9	0.3
LY	10,570 ²	59	260	10.8	7,863.1	7,863.1	7,863.1	7,863.4	0.3
LZ	10,590 ²	82	425	6.6	7,864.2	7,864.2	7,864.2	7,865.2	1.0
MA	10,640 ²	68	385	7.3	7,864.7	7,864.7	7,864.7	7,865.3	0.6
MB	11,840 ²	42	217	12.9	7,879.3	7,879.3	7,879.3	7,879.5	0.2
MC	13,280 ²	35	205	13.7	7,905.5	7,905.5	7,905.5	7,905.6	0.1
MD	14,170 ²	63	324	8.5	7,916.2	7,916.2	7,916.2	7,916.9	0.7
ME	14,870 ²	80	297	9.4	7,926.1	7,926.1	7,926.1	7,926.1	0.0
MF	15,940 ²	55	235	11.9	7,941.3	7,941.3	7,941.3	7,942.0	0.7
MG	16,880 ²	55	239	11.7	7,956.5	7,956.5	7,956.5	7,957.0	0.5
MH	17,730 ²	75	261	10.7	7,970.9	7,970.9	7,970.9	7,971.1	0.2
MI	18,350 ²	89	280	10.0	7,981.2	7,981.2	7,981.2	7,981.2	0.0
MJ	19,020 ²	91	342	8.2	7,989.4	7,989.4	7,989.4	7,989.6	0.2
MK	1,790 ³	60	182	8.1	8,580.2	8,580.2	8,580.2	8,580.2	0.0
ML	6,835 ³	28	43	7.9	8,670.4	8,670.4	8,670.4	8,671.0	0.6
MM	7,675 ³	30	106	10.7	8,691.3	8,691.3	8,691.3	8,692.0	0.7
MN	8,745 ³	39	142	8.0	8,721.4	8,721.4	8,721.4	8,721.5	0.1

¹ Stream distance in feet above Town of Gypsum downstream corporate limits.

² Stream distance in feet above County Road

³ Stream distance in feet above First Denver & Rio Grande Western Railroad Crossing, downstream of Town of Red Cliff corporate limit

FEDERAL EMERGENCY MANAGEMENT AGENCY EAGLE COUNTY, CO AND INCORPORATED AREAS	FLOODWAY DATA
EAGLE RIVER	

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY FEET (NAVD)	INCREASE
FRYINGPAN RIVER								
A	370	135	629	6.1	6,594.5	6,594.5	6,595.5	1.0
B	410	104	367	10.5	6,595.0	6,595.0	6,595.1	0.1
C	450	90	311	12.4	6,595.7	6,595.7	6,595.7	0.0
D	520	93	330	11.7	6,598.1	6,598.1	6,598.1	0.0
E	810	125	526	7.3	6,600.9	6,600.9	6,601.5	0.6
F	1,120	77	329	11.7	6,604.3	6,604.3	6,604.3	0.0
G	1,530	82	395	9.8	6,609.7	6,609.7	6,609.9	0.2
H	1,590	55	380	10.2	6,612.0	6,612.0	6,613.0	1.0
I	1,640	71	337	11.4	6,612.9	6,612.9	6,613.2	0.3
J	1,980	103	359	10.7	6,618.6	6,618.6	6,618.6	0.0
K	2,620	109	364	10.6	6,629.3	6,629.3	6,629.3	0.0
L	3,380	92	378	10.2	6,640.0	6,640.0	6,640.0	0.0
M	3,710	67	314	12.3	6,644.4	6,644.4	6,644.4	0.0
N	4,145	80	416	9.3	6,649.9	6,649.9	6,649.9	0.0
O	5,145	58	303	13.0	6,665.7	6,665.7	6,665.7	0.0
P	5,780	68	319	12.4	6,677.7	6,677.7	6,677.7	0.0
Q	7,120	85	414	9.5	6,694.9	6,694.9	6,695.3	0.4
R	8,080	45	249	15.8	6,718.1	6,718.1	6,718.1	0.0
S	8,945	74	292	13.6	6,744.2	6,744.2	6,744.3	0.1
T	9,950	55	299	13.2	6,769.7	6,769.7	6,769.7	0.0
U	10,435	80	306	12.9	6,781.2	6,781.2	6,781.4	0.2
V	11,480	130	573	6.9	6,791.2	6,791.2	6,791.9	0.7
W	12,310	79	357	11.1	6,798.5	6,798.5	6,798.7	0.2
X	13,270	74	455	8.7	6,806.6	6,806.6	6,807.5	0.9
Y	13,925	64	320	12.3	6,817.0	6,817.0	6,817.3	0.3
Z	14,545	116	420	9.2	6,827.7	6,827.7	6,827.8	0.1

¹ Stream distance in feet above mouth

FLOODWAY DATA

FRYINGPAN RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD - WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FRYINGPAN RIVER								
AA	15,730	123	574	6.9	6,836.4	6,836.4	6,837.2	0.8
AB	16,760	77	337	11.7	6,848.0	6,848.0	6,848.1	0.1
AC	17,295	40	327	12.1	6,852.8	6,852.8	6,853.5	0.7
AD	17,975	166	596	6.6	6,859.5	6,859.5	6,859.7	0.2
AE	18,350	70	286	13.8	6,866.2	6,866.2	6,866.5	0.3
AF	19,665	83	479	8.3	6,878.7	6,878.7	6,879.6	0.9
AG	21,220	105	347	11.4	6,897.0	6,897.0	6,897.3	0.3
AH	22,190	99	443	8.9	6,910.7	6,910.7	6,911.3	0.6
AI	23,585	69	321	12.3	6,943.4	6,943.4	6,943.4	0.0
AJ	24,935	70	446	8.9	6,955.7	6,955.7	6,956.2	0.5
AK	26,225	272	1,016	3.9	6,959.9	6,959.9	6,960.2	0.3
AL	27,185	212	785	5.0	6,961.3	6,961.3	6,961.6	0.3
AM	28,435	425	1,134	3.5	6,964.3	6,964.3	6,964.9	0.6
AN	28,990	317	677	5.8	6,965.4	6,965.4	6,966.3	0.9
AO	29,735	225	700	5.6	6,970.4	6,970.4	6,971.2	0.8
AP	31,045	144	537	6.9	6,977.5	6,977.5	6,977.5	0.0
AQ	31,155	95	346	10.8	6,978.4	6,978.4	6,978.5	0.1
AR	31,180	154	871	4.3	6,981.3	6,981.3	6,981.4	0.1
AS	31,310	147	851	4.4	6,981.4	6,981.4	6,981.5	0.1
AT	31,990	94	300	12.4	6,982.6	6,982.6	6,982.7	0.1
AU	32,770	137	690	5.4	6,988.0	6,988.0	6,988.5	0.5
AV	34,145	117	402	9.3	6,995.0	6,995.0	6,995.4	0.4
AW	34,245	120	555	6.7	6,996.4	6,996.4	6,997.2	0.8
AX	34,275	120	559	6.7	6,996.5	6,996.5	6,997.3	0.8
AY	34,315	75	318	11.7	6,998.5	6,998.5	6,998.6	0.1
AZ	35,355	180	641	5.8	7,006.8	7,006.8	7,007.4	0.6

¹ Stream distance in feet above mouth.

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

FRYINGPAN RIVER

TABLE 2

CROSS SECTION	FLOODING SOURCE		FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION			INCREASE
	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	FEET (NAVD)	
FRYINGPAN RIVER									
BA	36,065	105	355	10.5	7,012.8	7,012.8	7,012.8	7,012.8	0.0
BB	36,845	152	643	5.8	7,019.5	7,019.5	7,019.5	7,020.3	0.8
BC	38,080	70	334	11.2	7,034.1	7,034.1	7,034.1	7,034.3	0.2
BD	38,180	87	432	8.6	7,035.7	7,035.7	7,035.7	7,036.5	0.8
BE	38,210	102	467	8.0	7,035.9	7,035.9	7,035.9	7,036.3	0.4
BF	38,415	63	363	10.3	7,037.7	7,037.7	7,037.7	7,038.0	0.3
BG	39,730	80	403	9.2	7,048.6	7,048.6	7,048.6	7,049.3	0.7
BH	40,680	125	347	10.7	7,057.0	7,057.0	7,057.0	7,057.3	0.3
BI	41,580	81	456	8.2	7,064.5	7,064.5	7,064.5	7,065.1	0.6
BJ	41,790	80	311	12.0	7,067.0	7,067.0	7,067.0	7,067.3	0.3
BK	41,805	80	386	9.6	7,067.5	7,067.5	7,067.5	7,067.9	0.4
BL	42,095	75	351	10.6	7,070.8	7,070.8	7,070.8	7,071.0	0.2
BM	43,105	45	253	14.8	7,083.9	7,083.9	7,083.9	7,083.9	0.0
BN	43,990	55	269	13.8	7,096.9	7,096.9	7,096.9	7,097.3	0.4
BO	45,160	65	277	13.5	7,109.5	7,109.5	7,109.5	7,109.5	0.0
BP	46,420	65	300	12.4	7,129.0	7,129.0	7,129.0	7,129.1	0.1
BQ	48,020	122	699	5.3	7,136.2	7,136.2	7,136.2	7,137.0	0.8
BR	48,215	148	470	7.9	7,137.5	7,137.5	7,137.5	7,138.1	0.6
BS	48,250	236	1,175	3.2	7,140.0	7,140.0	7,140.0	7,140.6	0.6
BT	48,540	65	301	12.4	7,140.6	7,140.6	7,140.6	7,141.0	0.4
BU	49,925	65	290	12.8	7,163.0	7,163.0	7,163.0	7,163.3	0.3
BV	50,315	45	248	15.0	7,169.9	7,169.9	7,169.9	7,170.3	0.4
BW	51,190	60	294	12.6	7,186.9	7,186.9	7,186.9	7,186.9	0.0
BX	51,270	61	312	11.9	7,189.4	7,189.4	7,189.4	7,189.4	0.0
BY	51,475	69	393	9.5	7,192.2	7,192.2	7,192.2	7,192.2	0.0
BZ	52,350	44	265	14.0	7,206.6	7,206.6	7,206.6	7,206.7	0.1

¹ Stream distance in feet above mouth

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA
FRYINGPAN RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY INCREASE
FRYINGPAN RIVER							
CA	53,500	44	266	14.0	7,229.7	7,229.7	0.1
CB	54,480	40	242	15.4	7,262.4	7,262.9	0.5
CC	55,265	110	427	8.7	7,275.8	7,276.3	0.5

¹ Stream distance in feet above mouth

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
 AND INCORPORATED AREAS

FLOODWAY DATA

FRYINGPAN RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY	INCREASE
GORE CREEK								
A	110	54	320	8.2	7,727.8	7,727.8	7,727.8	0.0
B	786	49	260	10.1	7,733.2	7,733.2	7,733.2	0.0
C	1,792	46	214	12.3	7,751.9	7,751.9	7,751.9	0.0
D	2,789	64	367	7.2	7,772.7	7,772.7	7,772.7	0.0
E	3,793	100	560	4.7	7,780.0	7,780.0	7,780.0	0.0
F	4,788	65	314	8.4	7,790.5	7,790.5	7,790.5	0.0
G	5,405	78	254	10.3	7,798.5	7,798.5	7,798.5	0.0
H	6,136	84	417	6.3	7,809.8	7,809.8	7,809.8	0.0
I	7,031	83	301	8.7	7,821.8	7,821.8	7,821.8	0.0
J	7,856	219	880	3.0	7,838.2	7,838.2	7,838.2	0.0
K	9,081	110	305	8.6	7,859.0	7,859.0	7,859.0	0.0
L	9,909	44	211	12.4	7,877.8	7,877.8	7,877.8	0.0
M	10,882	110	276	9.7	7,886.6	7,886.6	7,886.6	0.0
N	11,694	82	401	6.5	7,904.3	7,904.3	7,904.3	0.0
O	13,005	90	291	9.0	7,921.5	7,921.5	7,921.5	0.0
P	13,657	95	272	9.6	7,932.5	7,932.5	7,932.5	0.0
Q	15,038	78	254	10.3	7,953.4	7,953.4	7,953.4	0.0
R	15,810	85	534	4.9	7,968.1	7,968.1	7,968.1	0.0
S	16,868	74	249	10.5	7,985.7	7,985.7	7,985.7	0.0
T	18,307	74	251	10.4	8,014.8	8,014.8	8,014.8	0.0
U	19,196	102	278	9.4	8,030.1	8,030.1	8,030.1	0.0
V	20,162	38	200	13.1	8,047.5	8,047.5	8,047.5	0.0
W	20,873	85	325	8.1	8,060.5	8,060.5	8,060.5	0.0
X	21,891	42	254	9.1	8,082.4	8,082.4	8,083.0	0.6
Y	22,873	110	360	6.4	8,088.0	8,088.0	8,088.0	0.0
Z	23,781	75	231	10.0	8,095.5	8,095.5	8,095.5	0.0

¹ Stream distance in feet above mouth at Eagle River

FLOODWAY DATA

GORE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD - WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY	INCREASE
GORE CREEK								
AA	25,013	114	266	8.7	8,112.9	8,112.9	8,112.9	0.0
AB	26,304	93	243	8.9	8,133.3	8,133.3	8,133.3	0.0
AC	27,473	55	219	9.8	8,144.6	8,144.6	8,144.6	0.0
AD	28,345	43	180	11.7	8,153.0	8,153.0	8,153.0	0.0
AE	29,684	143	563	3.7	8,167.9	8,167.9	8,167.9	0.0
AF	30,740	111	371	5.7	8,175.4	8,175.4	8,175.4	0.0
AG	32,206	106	421	4.6	8,189.0	8,189.0	8,189.0	0.0
AH	33,289	92	293	6.6	8,197.1	8,197.1	8,197.1	0.0
AI	34,330	93	279	8.1	8,205.7	8,205.7	8,205.7	0.1
AJ	35,402	112	310	7.8	8,213.0	8,213.0	8,213.0	0.9
AK	36,451	83	283	7.6	8,221.6	8,221.6	8,222.1	0.5
AL	37,589	71	242	8.0	8,230.3	8,230.3	8,230.5	0.2
AM	38,732	55	216	8.5	8,238.4	8,238.4	8,238.6	0.2
AN	39,743	71	224	8.2	8,246.8	8,246.8	8,246.8	0.0
AO	40,719	250	375	6.6	8,256.7	8,256.7	8,256.9	0.2
AP	41,681	53	225	8.2	8,265.3	8,265.3	8,265.3	0.0
AQ	42,732	59	294	6.3	8,277.1	8,277.1	8,277.1	0.0
AR	43,746	174	399	4.6	8,283.7	8,283.7	8,283.8	0.1
AS	44,597	104	242	7.6	8,290.3	8,290.3	8,290.3	0.0
AT	45,662	90	255	6.6	8,301.0	8,301.0	8,301.1	0.1
AU	47,073	169	341	4.9	8,315.4	8,315.4	8,316.1	0.7
AV	48,253	99	269	6.2	8,328.8	8,328.8	8,328.9	0.1
AW	48,969	82	220	7.6	8,337.7	8,337.7	8,337.7	0.0
AX	50,005	88	251	6.7	8,351.0	8,351.0	8,351.2	0.2
AY	50,877	99	460	3.6	8,365.9	8,365.9	8,365.9	0.0
AZ	52,217	72	168	8.8	8,387.7	8,387.7	8,387.7	0.0

¹ Stream distance in feet above mouth at Eagle River

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA
GORE CREEK

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD - WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY	INCREASE
GORE CREEK								
BA	53,251	46	144	10.2	8,408.1	8,408.1	8,408.1	0.0
BB	54,178	46	288	5.1	8,432.2	8,432.2	8,432.2	0.0
BC	55,284	58	148	9.1	8,454.0	8,454.0	8,454.0	0.0
BD	56,085	34	124	10.9	8,472.2	8,472.2	8,472.2	0.0
BE	57,183	85	210	6.4	8,488.9	8,488.9	8,488.9	0.0
BF	58,263	60	149	9.0	8,507.8	8,507.8	8,507.8	0.0
BG	59,362	72	159	8.5	8,527.7	8,527.7	8,527.9	0.2
BH	60,150	67	257	5.2	8,546.5	8,546.5	8,546.5	0.0
BI	60,626	40	131	10.3	8,557.0	8,557.0	8,557.0	0.0

¹ Stream distance in feet above mouth at Eagle River

FEDERAL EMERGENCY MANAGEMENT AGENCY EAGLE COUNTY AND INCORPORATED AREAS	FLOODWAY DATA GORE CREEK
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TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY FEET (NAVD)	INCREASE
GYPSUM CREEK								
A	135	180	331	5.4	6,279.2	6,279.2	6,279.2	0.0
B	232	130	258	7.0	6,283.9	6,283.9	6,283.9	0.0
C	253	95	333	5.4	6,284.8	6,284.8	6,285.2	0.4
D	380	40	196	9.2	6,286.1	6,286.1	6,286.2	0.1
E	720	37	186	9.7	6,294.9	6,294.9	6,295.6	0.7
F	940	75	250	7.2	6,301.8	6,301.8	6,301.8	0.0
G	990	65	241	7.1	6,302.5	6,302.5	6,302.5	0.0
H	1,095	63	235	7.3	6,304.5	6,304.5	6,304.6	0.1
I	1,115	63	312	5.5	6,305.9	6,305.9	6,306.3	0.4
J	1,180	75	347	5.0	6,306.5	6,306.5	6,306.8	0.3
K	1,315	120	278	7.0	6,309.2	6,309.2	6,310.2	1.0
L	1,530	55	203	9.6	6,314.4	6,314.4	6,314.4	0.0
M	1,710	36	181	10.8	6,318.4	6,318.4	6,319.0	0.6
N	1,770	61	240	8.1	6,321.8	6,321.8	6,321.8	0.0
O	1,800	62	323	6.0	6,323.4	6,323.4	6,323.4	0.0
P	1,903	47	222	8.8	6,323.9	6,323.9	6,323.9	0.0
Q	1,990	32	163	12.0	6,324.7	6,324.7	6,324.8	0.1
R	2,040	45	262	7.4	6,329.0	6,329.0	6,329.0	0.0
S	2,085	43	183	10.6	6,329.1	6,329.1	6,329.1	0.0
T	2,350	37	187	10.4	6,332.5	6,332.5	6,332.8	0.3
U	2,700	119	345	5.7	6,340.6	6,340.6	6,340.6	0.0
V	3,130	150	361	5.4	6,348.9	6,348.9	6,349.2	0.3
W	3,400	160	424	4.6	6,351.8	6,351.8	6,352.5	0.7
X	3,800	70	230	8.5	6,359.3	6,359.3	6,359.9	0.6
Y	3,920	84	335	5.8	6,361.1	6,361.1	6,361.8	0.7
Z	4,272	40	167	11.7	6,366.9	6,366.9	6,366.9	0.0

¹ Stream distance in feet above mouth

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

GYPSUM CREEK

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD - WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY FEET (NAVD)	INCREASE
GYPSUM CREEK AA AB	4,522	77	366	5.3	6,368.9	6,368.9	6,369.9	1.0
	4,740	41	172	11.3	6,370.2	6,370.2	6,370.9	0.7

¹ Stream distance in feet above mouth

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

GYPSUM CREEK

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY		INCREASE
						FEET (NAVD)		
ROARING FORK RIVER								
A	770	1,135	2,255	4.8	6,385.3	6,385.3	6,385.3	0.0
B	2,663	367	1,078	10.0	6,399.1	6,399.1	6,399.1	0.0
C	4,339	535	1,350	8.1	6,415.2	6,415.2	6,415.2	0.0
D	6,356	1,384	2,563	4.2	6,428.2	6,428.2	6,428.2	0.0
E	7,637	996	1,950	5.5	6,436.2	6,436.2	6,436.2	0.0
F	8,645	250	1,381	7.8	6,440.6	6,440.6	6,440.6	0.0
G	9,887	161	845	12.8	6,452.2	6,452.2	6,452.2	0.0
H	10,902	413	1,244	8.7	6,461.6	6,461.6	6,461.6	0.0
I	12,884	270	1,025	10.5	6,475.5	6,475.5	6,475.5	0.0
J	13,810	187	1,417	7.6	6,483.3	6,483.3	6,483.3	0.0
K	15,558	421	1,341	8.1	6,492.3	6,492.3	6,492.3	0.0
L	17,311	150	847	12.8	6,502.8	6,502.8	6,502.8	0.0
M	18,726	185	1,024	10.6	6,513.6	6,513.6	6,513.6	0.0
N	19,461	134	1,001	10.8	6,520.2	6,520.2	6,520.2	0.0
O	21,275	112/12 ²	741	14.0	6,533.6	6,533.6	6,533.6	0.0
P	23,183	346	1,032	10.1	6,543.5	6,543.5	6,543.5	0.0
Q	24,952	444	2,029	5.1	6,556.4	6,556.4	6,556.4	0.0
R	26,178	605	2,196	4.7	6,567.2	6,567.2	6,567.2	0.0
S	28,358	607	1,627	6.4	6,584.7	6,584.7	6,584.7	0.1
T ³	29,219	610/370 ²	2,381	4.4	6,593.4	6,593.4	6,593.5	0.1
U ⁴	30,144	295	1,288	7.3	6,604.5	6,604.5	6,604.5	0.0
V ⁴	31,507	289	921	10.2	6,620.3	6,620.3	6,620.3	0.0
W ⁴	33,910	481	1,186	7.9	6,652.0	6,652.0	6,652.0	0.0
X ⁴	35,200	281	978	9.6	6,667.9	6,667.9	6,667.9	0.0
Y ⁴	36,405	405	1,088	9.4	6,682.0	6,682.0	6,682.1	0.0
Z ⁴	37,525	406	1,344	7.0	6,700.0	6,700.0	6,700.0	0.0

¹ Stream distance in feet above Eagle / Garfield county line

² Total width/width in Eagle County

³ Shown without consideration of lateral flow

⁴ Located outside of Eagle County

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

ROARING FORK RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY				BASE FLOOD - WATER-SURFACE ELEVATION		
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY	INCREASE
ROARING FORK RIVER								
AA ⁴	38,245	161	754	12.5	6,708.2	6,708.2	6,708.2	0.0
AB ⁴	39,975	137	944	10.0	6,730.8	6,730.8	6,730.9	0.0
AC ⁴	41,087	144	809	11.6	6,741.3	6,741.3	6,741.4	0.1
AD ⁴	41,668	106	691	13.6	6,746.2	6,746.2	6,746.3	0.1
AE ⁴	42,199	369	1,669	6.8	6,761.5	6,761.5	6,762.2	0.6
AF ⁴	42,880	222	958	9.8	6,766.5	6,766.5	6,766.5	0.0
AG ⁴	43,140	234	962	9.8	6,768.8	6,768.8	6,768.8	0.0
AH ⁴	43,372	270	982	9.6	6,771.7	6,771.7	6,771.7	0.0
AI ⁴	43,970	142	897	10.5	6,779.3	6,779.3	6,779.4	0.0
AJ ⁴	44,337	163	841	11.2	6,783.7	6,783.7	6,783.7	0.0
AK ⁴	44,597	147	864	11.4	6,786.4	6,786.4	6,786.4	0.0
AL ⁴	44,702	201	1,061	8.9	6,788.0	6,788.0	6,788.0	0.0
AM ⁴	44,923	144	853	13.3	6,790.5	6,790.5	6,790.6	0.0
AN ⁴	45,321	157	813	11.7	6,794.9	6,794.9	6,795.0	0.1
AO ⁴	45,962	181	831	11.3	6,800.9	6,800.9	6,800.9	0.0
AP ⁴	46,220	106	679	13.9	6,803.6	6,803.6	6,803.5	0.0
AQ ⁴	46,757	141	826	11.4	6,808.8	6,808.8	6,808.8	0.0
AR ⁴	48,164	165	826	11.4	6,826.2	6,826.2	6,826.4	0.2
AS ⁴	50,097	111	707	13.3	6,848.5	6,848.5	6,848.5	0.1

¹ Stream distance in feet above Eagle / Garfield county line

² Total width/width in Eagle County

³ Shown without consideration of lateral flow

⁴ Located outside of Eagle County

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

ROARING FORK RIVER

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SOUTH SIDE SPLIT (ROARING FORK RIVER)								
A	0	341	1,255	8.3	6,552.6	6,552.6	6,552.6	0.0
B	740	370	1,173	1.0	6,556.8	6,556.8	6,556.8	0.0
C	1,310	120/90 ³	373	3.3	6,563.0	6,563.0	6,563.0	0.0
D	1,890	358/63 ³	420	2.9	6,567.1	6,567.1	6,567.1	0.0
E ²	3,140	285	1,495	2.5	6,585.5	6,585.5	6,585.5	0.0
F ²	4,277	483	1,696	2.2	6,592.5	6,592.5	6,592.5	0.0
G ²	5,423	810	1,055	3.6	6,603.1	6,603.1	6,603.1	0.0
H ²	5,706	855	1,166	3.5	6,608.5	6,608.5	6,608.5	0.0
I ²	6,586	855	1,075	4.1	6,616.6	6,616.6	6,616.6	0.0
J ²	7,523	525	729	6.0	6,626.4	6,626.4	6,626.4	0.0
K ²	8,248	435	977	4.5	6,637.9	6,637.9	6,637.9	0.0

¹ Stream distance in feet above confluence with Roaring Fork River

² Located outside of Eagle County

³ Width/Width within Eagle County

FEDERAL EMERGENCY MANAGEMENT AGENCY

**EAGLE COUNTY
AND INCORPORATED AREAS**

FLOODWAY DATA

SOUTH SIDE SPLIT (ROARING FORK RIVER)

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY	
TAYLOR CREEK								
A	90	14	62	5.3	6,981.9	6980.0 ²	6980.3 ²	0.3
B	240	14	36	9.1	6,985.2	6,985.2	6,985.2	0.0
C	290	16	97	3.4	6,990.4	6,990.4	6,990.4	0.0
D	480	16	38	8.6	6,996.5	6,996.5	6,996.9	0.4
E	1,270	9	33	9.9	7,023.9	7,023.9	7,024.9	1.0
F	1,960	32	47	7.0	7,046.2	7,046.2	7,046.5	0.3
G	2,900	12	37	8.0	7,101.8	7,101.8	7,102.3	0.5

¹ Stream distance in feet above mouth

² Elevation shown without consideration of backwater effects from Fryingspan River

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

TAYLOR CREEK

TABLE 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NAVD)	WITH FLOODWAY FEET (NAVD)	
TURKEY CREEK								
A	65	19	74	10.7	8,625.3	8,625.3	8,625.9	0.6
B	260	25	82	9.7	8,631.6	8,631.6	8,631.6	0.0
C	510	28	98	8.1	8,638.7	8,638.7	8,639.0	0.3
D	550	19	99	8.0	8,641.0	8,641.0	8,641.0	0.0
E	600	22	148	5.4	8,643.5	8,643.5	8,644.2	0.7
F	805	82	159	5.0	8,645.1	8,645.1	8,645.4	0.3
G	1,000	17	73	9.9	8,648.4	8,648.4	8,649.1	0.7
H	1,040	17	70	10.2	8,649.2	8,649.2	8,649.6	0.4
I	1,210	20	66	10.4	8,653.8	8,653.8	8,654.2	0.4
J	1,230	24	122	5.7	8,656.1	8,656.1	8,657.1	1.0
K	1,350	28	84	9.5	8,657.6	8,657.6	8,657.6	0.0
L	1,640	42	205	3.9	8,659.7	8,659.7	8,660.0	0.3
M	1,760	20	73	10.8	8,669.1	8,669.1	8,669.1	0.0
N	1,790	21	84	9.5	8,670.2	8,670.2	8,670.2	0.0

¹ Stream distance in feet above mouth

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

TURKEY CREEK

TABLE 2

6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 100- and 500-year floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The countywide FIRM presents flooding information for the entire geographic area of Eagle County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the county identified as floodprone. This countywide FIRM also includes flood hazard information that was presented separately on Flood Boundary and Floodway Maps, where applicable. Historical data relating to the maps prepared for each community are presented in Table 3, "Community Map History."

7.0 OTHER STUDIES

This report supersedes all previous studies published for streams studied in this report and should be considered authoritative for the purposes of the NFIP.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting FEMA, Mitigation Division, Denver Federal Center, Building 710, Box 25267, Denver, Colorado 80225-0267.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Avon, Town of	8/19/1987	-	8/19/1987	-
Basalt, Town of	6/28/1974	-	3/18/1980	6/4/1987
Eagle County	11/1/1977	-	11/19/1980	1/25/1983
Eagle, Town of	8/15/1975	2/18/1977	3/18/1980	-
Gypsum, Town of	1/8/1980	-	9/16/1981	9/30/1983
Minturn, Town of	8/16/1974	4/9/1976	9/17/1980	-
Red Cliff, Town of	9/19/1975	-	6/4/1980	-
Vail, Town of	9/19/1978	-	5/2/1983	5/1/1985

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

TABLE 3

9.0 BIBLIOGRAPHY AND REFERENCES

1. Matrix Design Group Inc., "Floodplain Information Report, Eagle River and Colorado River", Eagle County, Colorado, prepared for Eagle County and Colorado Water Conservation Board, August 22, 2003
2. Icon Engineering Inc. Technical report, Letter of Map Revision (LOMR) request for Brush Creek and Abrams Creek, prepared for Town of Eagle, Department of Public Works, August 2003.
3. Colorado State University, Cooperative Extension Service, Eagle County, Colorado Information Service, November 1974
4. Eagle County, Colorado Profile, <http://www.eagle-county.com/profile/index/htm>
5. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Environmental Data Service, Climatological Data: Colorado, 1950-1977
6. Matrix Design Group Inc., Floodplain Information Report Roaring Fork River, Denver, Colorado, November 14, 2001
7. U.S. Department of Agriculture, Soil Conservation Service, General Soil Map for Eagle County, Colorado, Scale 1:126,720, May 1972
8. Town of Basalt, The Basalt Development Project-Interim Plan, Stephen Isom, Planner, June 30, 1975
9. U.S. Department of the Interior, U.S. Geological Survey, Water Resources Data for Colorado—Part 1, Surface Water Records, 1971
10. Federal Emergency Management Agency, Hydrology Report, Flood Insurance Study, Eagle County, Colorado, August 1978
11. Eagle Valley Enterprise, Eagle, Colorado
12. U.S. Department of the Army, Corps of Engineers, Los Angeles District, Investigation of Flood Problems on Roaring Fork River, Colorado, 1958
13. Eagle Valley Enterprise, Eagle, Colorado
14. Water Resource Consultants, LLC, Eagle River Flood Hydrology, May 13, 2002
15. U.S. Department of the Interior, U.S. Geological Survey, "Guidelines for Determining Flood Frequency Flow," *Bulletin 17B*, September 1981, with editorial corrections March 1982
16. J. F. Sato and Associates, Hydrology Report for Gore Creek and Tributaries, Town of Vail, Eagle County, Colorado, April 15, 1999
17. U.S. Department of the Army, Corps of Engineers, Sacramento District, Internal Memorandum, Basalt, Colorado Hydrology, August 1976

18. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, Computer Program, HEC-RAS 3.0.1, Davis, California, March 2001
19. Eldorado Engineering Company, Brush Creek Stables, Eagle County, Colorado, Floodplain Analysis, Glenwood Springs, Colorado, May 1980
20. -----, Brush Creek Stables Subdivision 100-Year Floodplain, Scale 1 inch = 100 feet, Contour Interval 2 feet
21. U.S. Department of the Interior, Bureau of Reclamation, Basalt Project, Colorado, Sheets 16, 19, 20, 22, 23, 24, 26, 28, 30, 32, 34, 36, 38, and 40, Scale 1:1200, Flown by Air Photo Surveys, Inc., Grand Junction, Colorado, April 15, 1966
22. J. F. Sato and Associates, Eagle River, Eagle County, Colorado-Federal Emergency Management Agency, Region VIII LMMP, Topographic Work Maps, Scale 1:2,400, Contour Interval 2 feet, dated February 11, 1999 (revised June 6, 2003)
23. Meyer Land Systems, As-built plan surveys for Sylvan Lake Road Bridge, Capital Street Bridge and Eagle Ranch Bridge No. 1, December 2001
24. State of Colorado, Department of Highways, Topographic Maps, Project No. I 70-2(3) 142 Dotsero-Booth Creek, Scale 1:1200, Contour Interval 2 feet, April 9 and July 3, 1964
25. Johnson and Kunkel Land Surveyors, Job JK 176 169, Map of Gould Property, Scale 1:1200, Contour Interval 2 feet, June 19, 1976
26. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water-Surface Profiles, Generalized Computer Program, Davis, California, October 1973 with updates
27. State of Colorado, Department of Highways, Topographic Maps, Project No. I 70-2(3) 142 Dotsero-Booth Creek, Scale 1:1,200, Contour Interval 2 feet, prepared by Falcon Air Maps Division of Ken R. White Company, April 9, 1964, April 15, 1976
28. J. F. Sato and Associates, Vail, Colorado-Federal Emergency Management Agency Region VIII, LMMP, Gore Creek and Tributaries Topographic Work Maps, Scale 1:1,200, Contour Interval 2 feet, dated February 17, 2000
29. Falcon Air Maps Division of Ken R. White Company, Topographic Maps, Scale 1:2,400, Contour Interval 2 feet: Vail Colorado, November 1972
30. Falcon Aerial Surveys, Topographic Mapping, Scale 1:2,400, Contour Interval 5 feet, October 1966
31. Falcon Air Maps Division of Ken R. White Company, Topographic Map of Meadow Mountain for Vail Associates, Scale 1:2,400, Contour Interval 5 feet, November 1969
32. U.S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 2 feet: Basalt, Colorado (1961)

33. U.S. Department of the Interior, Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 40 feet: Minturn, Colorado (1970); Red Cliff, Colorado (1970)
34. Alpine Engineering Inc., Aerial topographic mapping, NGVD 29 Datum, August 2003
35. Icon Engineering, Brush Creek Floodplain Evaluation, Town of Eagle, Colorado, Letter of Map Revision Brush Creek Floodplain Work maps, Sheets 1 to 8, August 2003, Scale 1" = 100', Contour interval 2 feet.
36. Analytical Surveys, Inc. Aerial imagery and mapping, completed on October 1998, scales of 1" = 200', contour interval of 2 feet
37. Colorado River, Flood Hazard Area Delineation Work Map, Eagle County, Scale 1"=400', Sheets 1-4, contour interval 2 feet, completed August 22, 2003
38. Eagle River, Flood Hazard Area Delineation, Eagle County, Scale 1"=400', Sheets 1-35, contour interval 2 feet, completed August 22, 2003
39. Ken R. White Company, Falcon Air Maps Division, Contour Mapping, Scale 1:2,400, Contour Intervals 2,10, and 20 feet, November 6, 1972

Eagle County and Colorado Water Conservation Board, Flood Plain Information, Roaring Fork and Fryngpan Rivers, Eagle County, Colorado, 1978

Falcon Aerial Surveys, Topographic Mapping, Scale 1:2400, Contour Interval 5 feet, October 1966

Federal Emergency Management Agency, Flood Insurance Study, Pitkin County and Incorporated Areas, Washington, DC, _____

Federal Emergency Management Agency, Flood Insurance Study, Eagle County, Colorado (Unincorporated Areas), Washington, DC, May 1980 (revised January 25, 1983)

Federal Emergency Management Agency, Flood Insurance Study, Town of Basalt, Eagle and Pitkin Counties, Colorado, Washington, DC, June 4, 1987

Federal Emergency Management Agency, Flood Insurance Study, Town of Eagle, Eagle County, Colorado, Washington, DC, September 1979

Federal Emergency Management Agency, Flood Insurance Study, Town of Gypsum, Eagle County, Colorado, Washington, DC, March 16, 1981

Federal Emergency Management Agency, Flood Insurance Study, Town of Minturn, Eagle County, Colorado, Washington, DC, March 1980

Federal Emergency Management Agency, Flood Insurance Study, Town of Red Cliff, Eagle County, Colorado, Washington, DC, December 1979

Federal Emergency Management Agency, Flood Insurance Study, Town of Vail, Eagle County, Colorado, Washington, DC, November 2, 1982

Hydro-Triad, Ltd., Gore Creek Floodplain Information, Vail, Eagle County, Colorado, May 1975

J. F. Sato and Associates, Hydrology Report, Roaring Fork and Eagle Rivers, Eagle and Pitkin Counties, Colorado, December 30, 1997

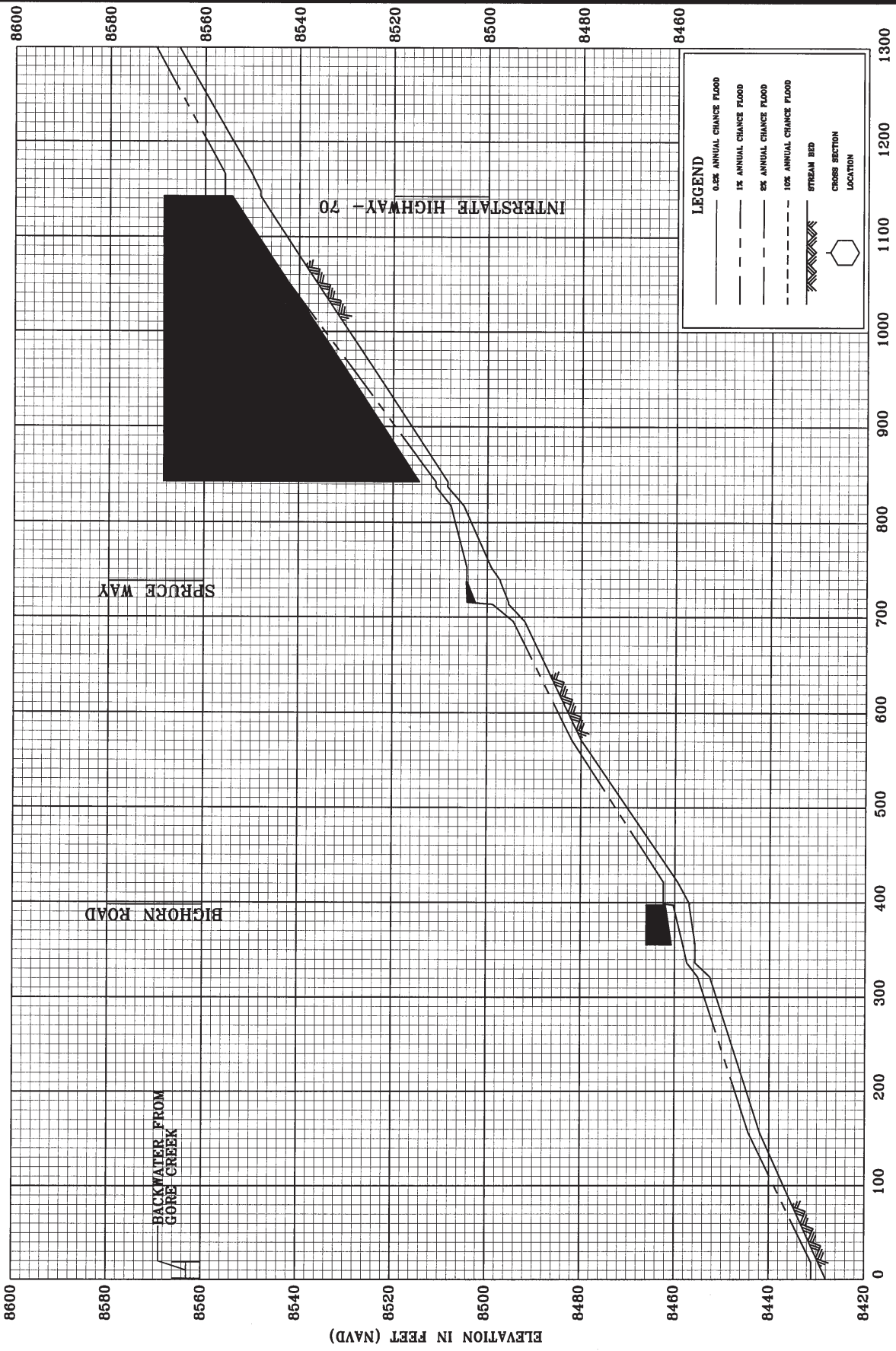
U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-RAS River Analysis System, Version 2.2, Davis, California, September 1998

U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Town of Red Cliff, Eagle County, Colorado, Scale 1:6,000, September 1975

U.S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 20 feet: Gypsum, Colorado (1960); Field Checked (1962)

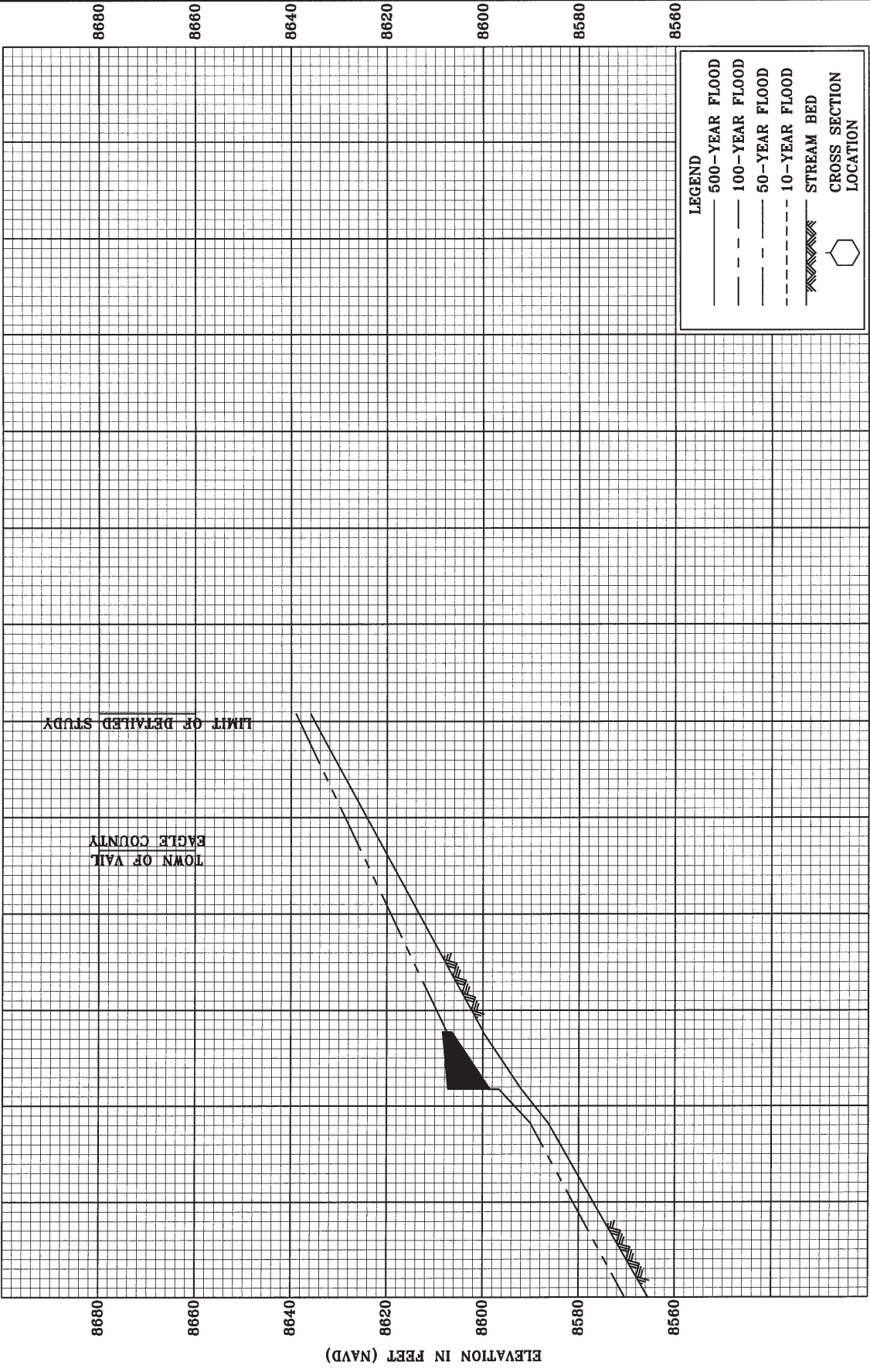
U.S. National Oceanic and Atmospheric Administration, National Geodetic Survey, Vertcon Conversion Program, Version 2.1, August 1996

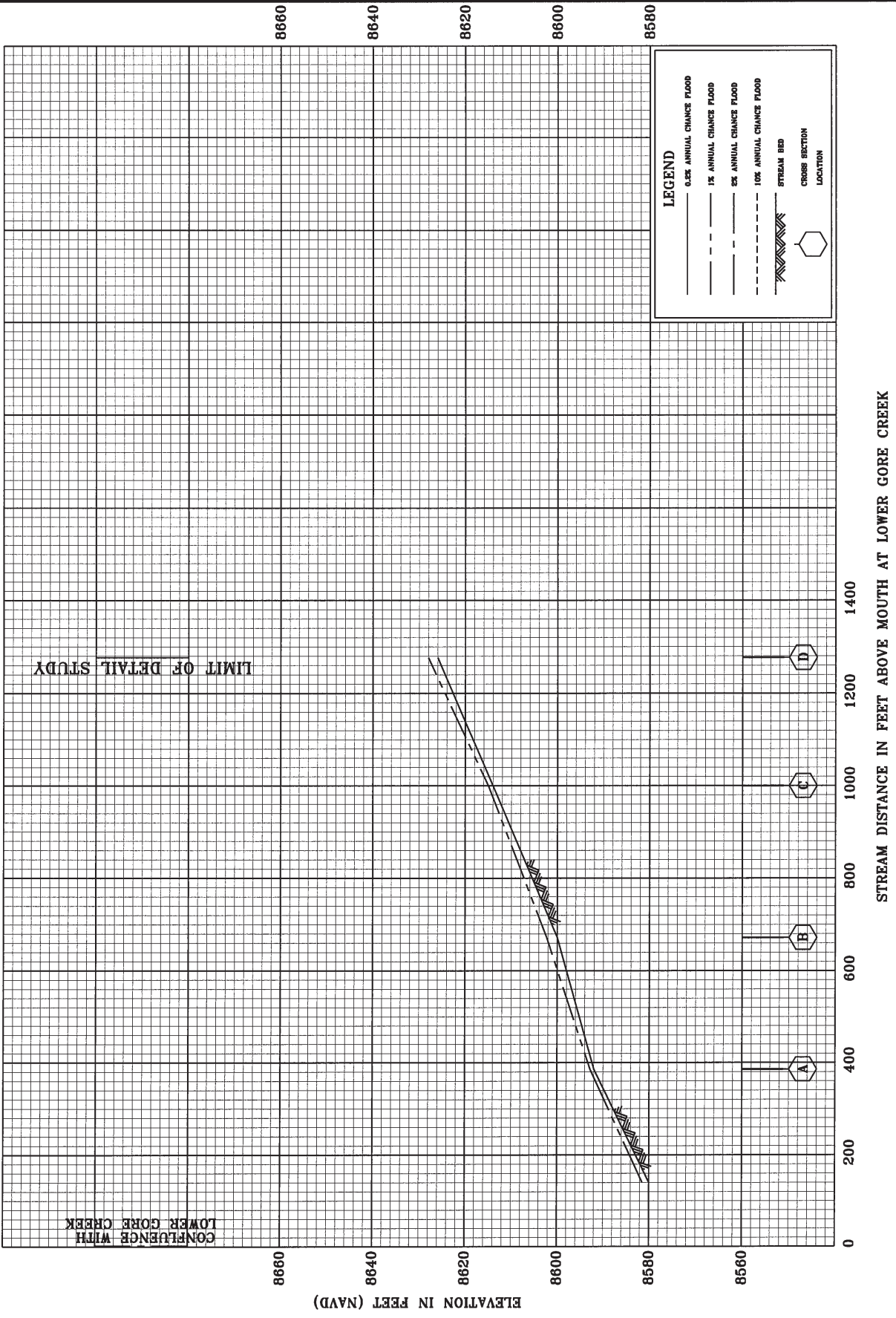
U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Eagle County, Colorado, Scale 1:24,000, November 1977



LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION





CONFLUENCE WITH
LOWER GORE CREEK

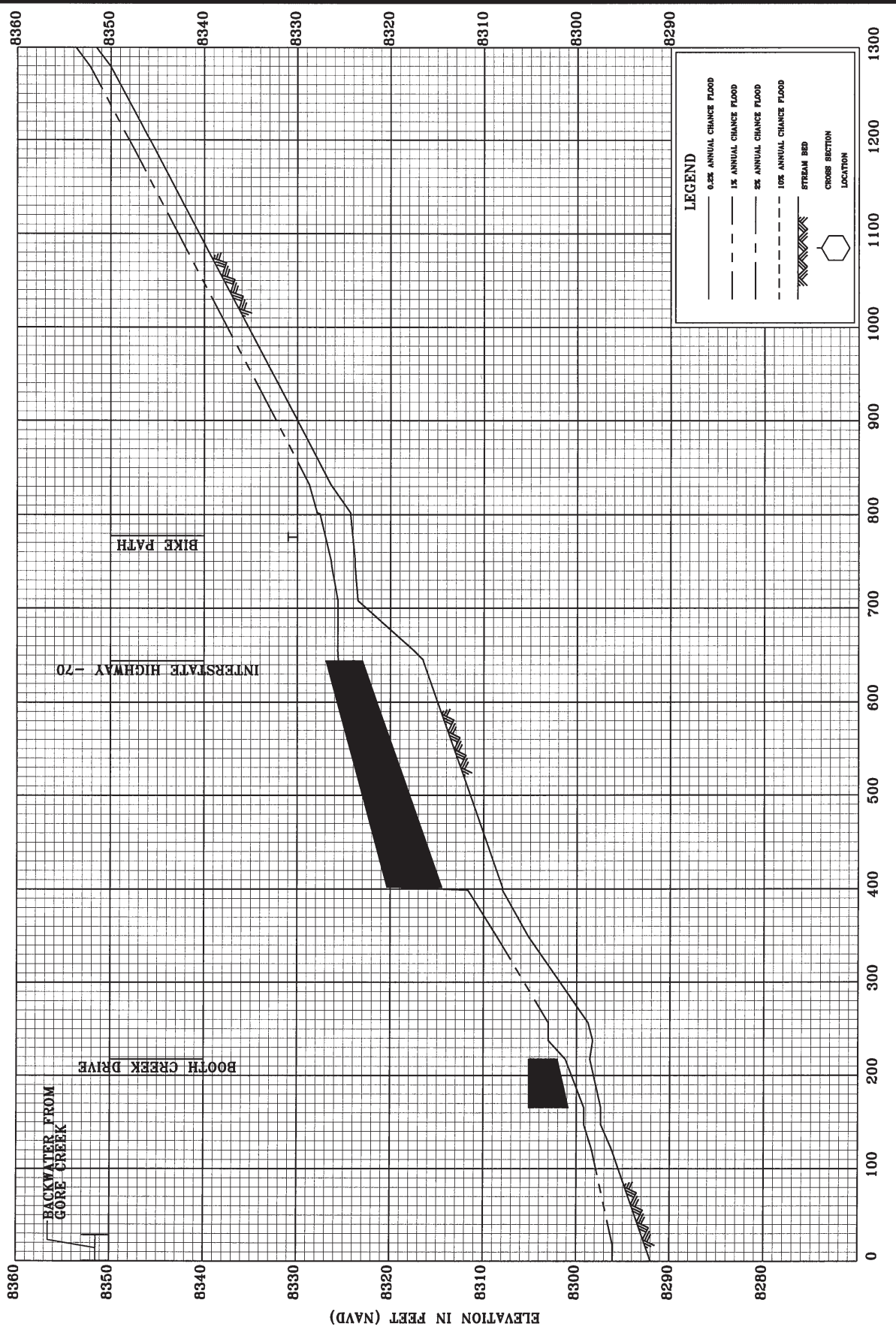
LIMIT OF DETAIL STUDY

ELEVATION IN FEET (NAVD)

STREAM DISTANCE IN FEET ABOVE MOUTH AT LOWER GORE CREEK

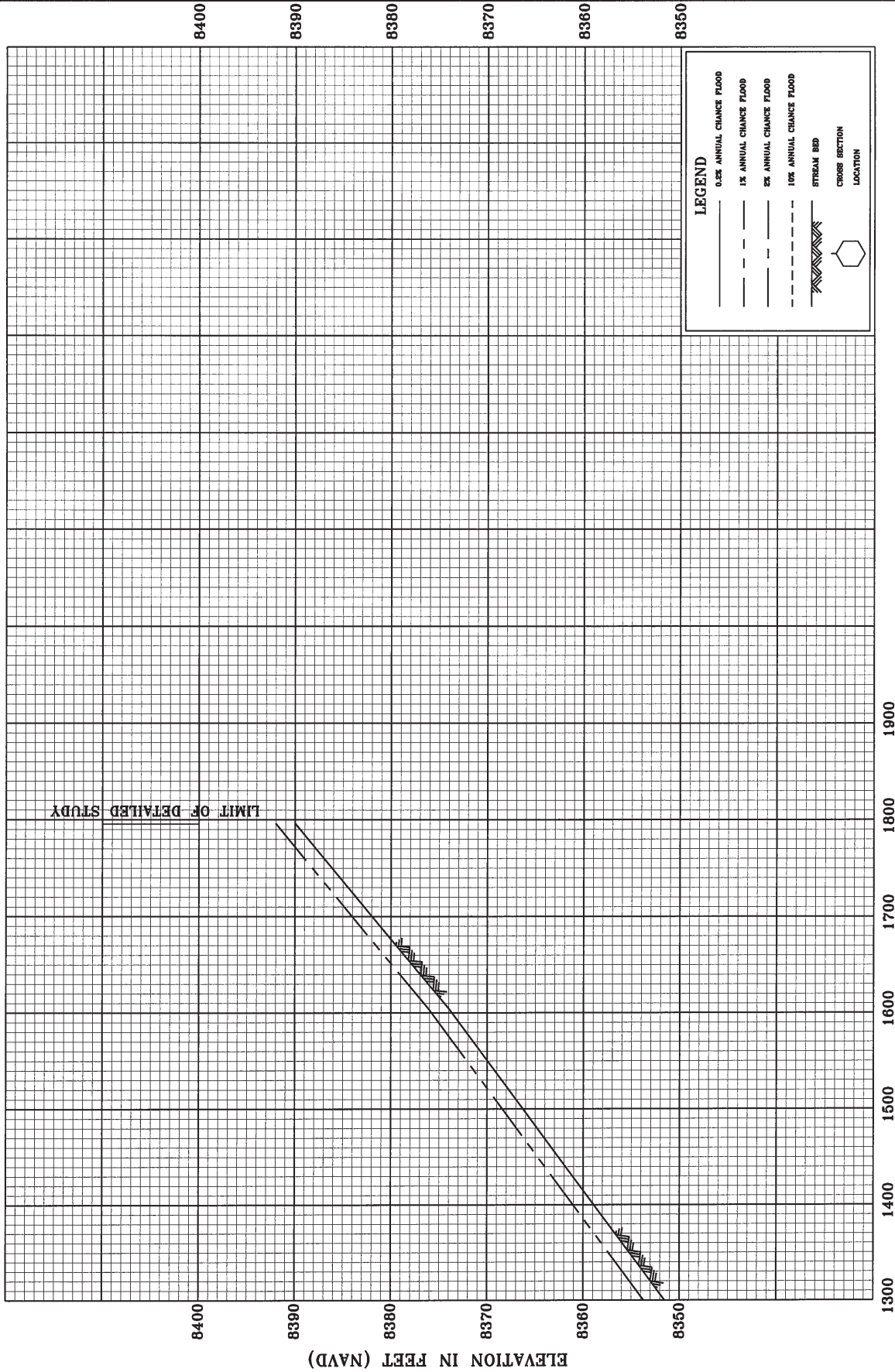
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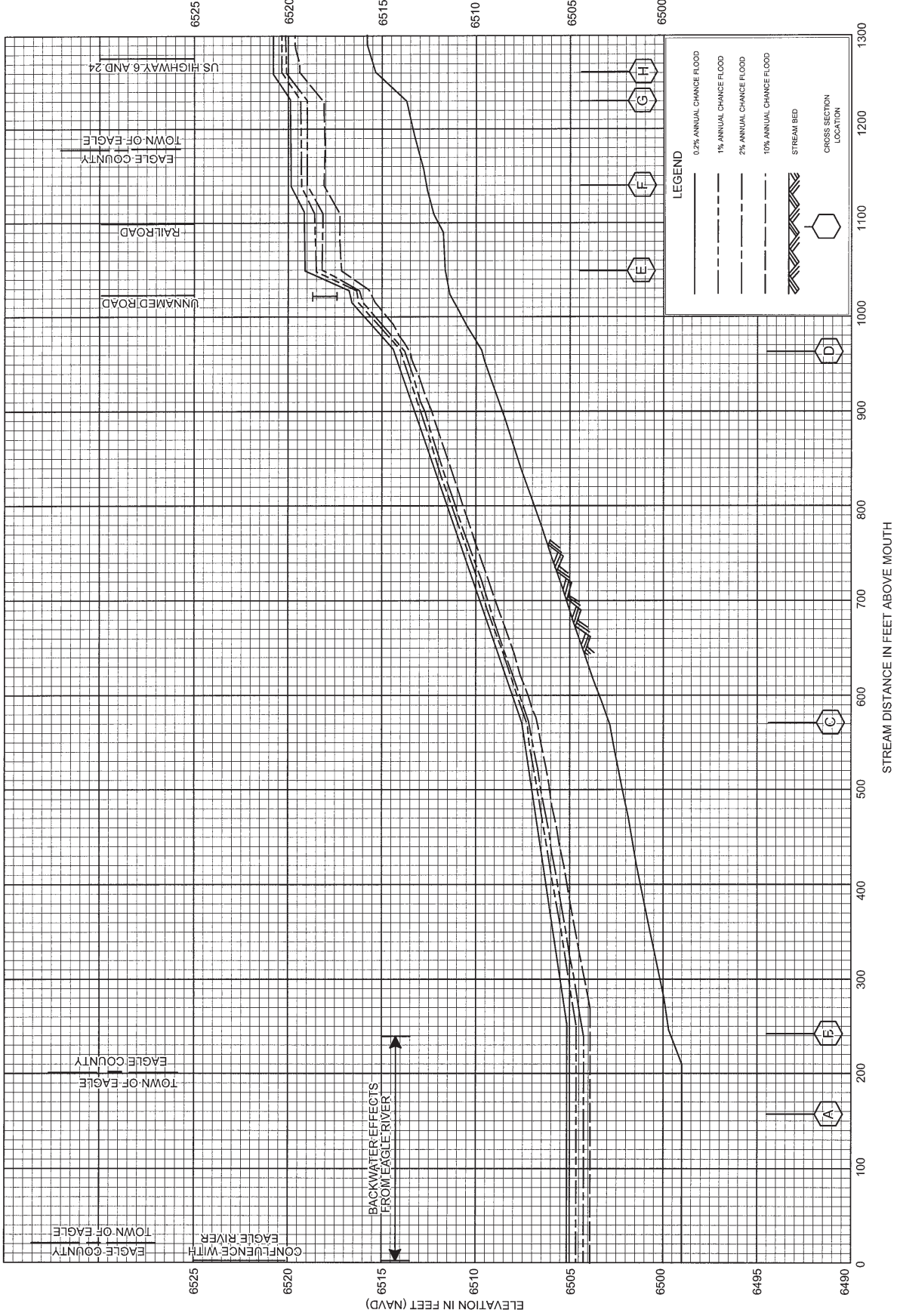
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- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched line)
- CROSS SECTION LOCATION (pentagon symbol)

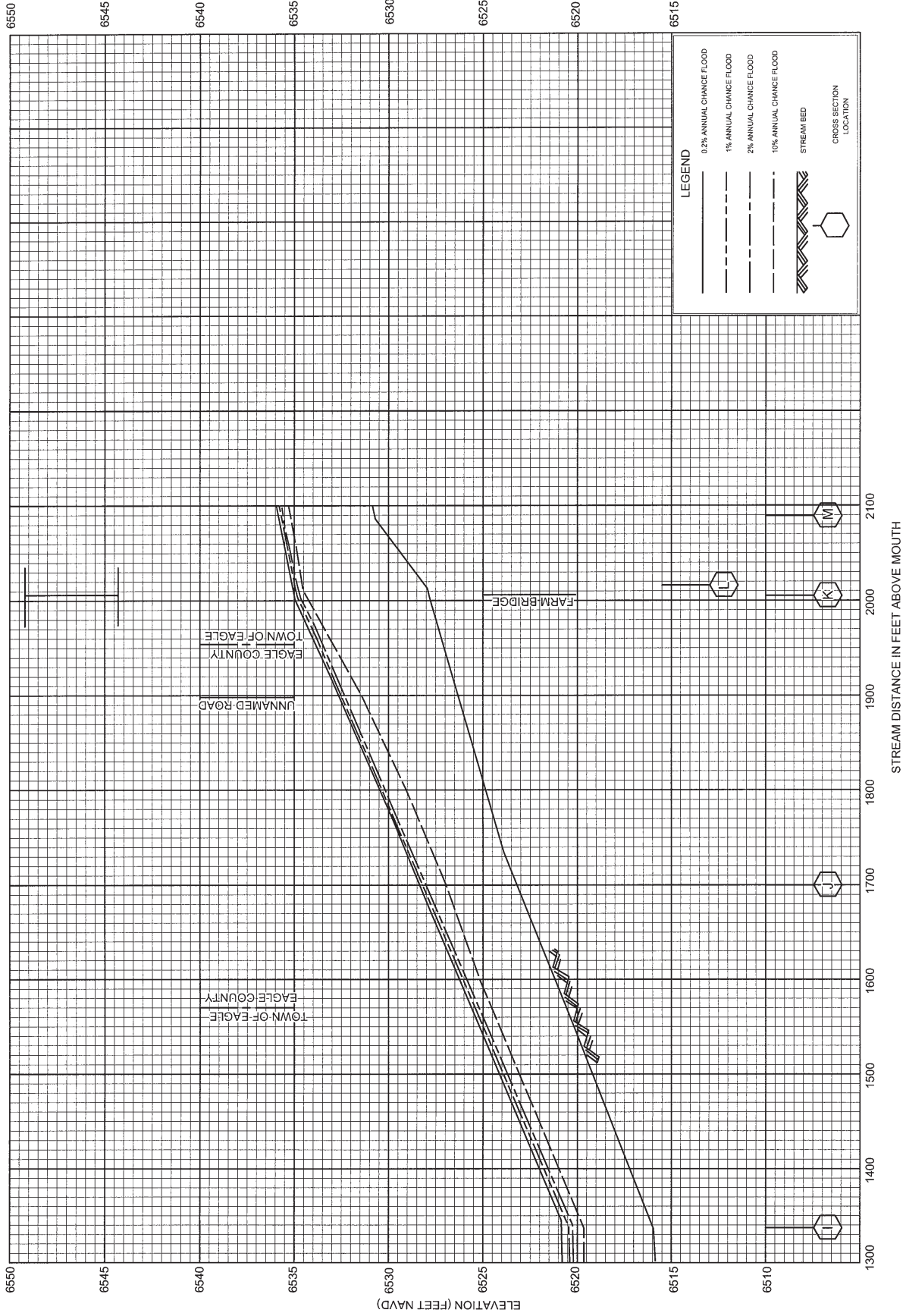


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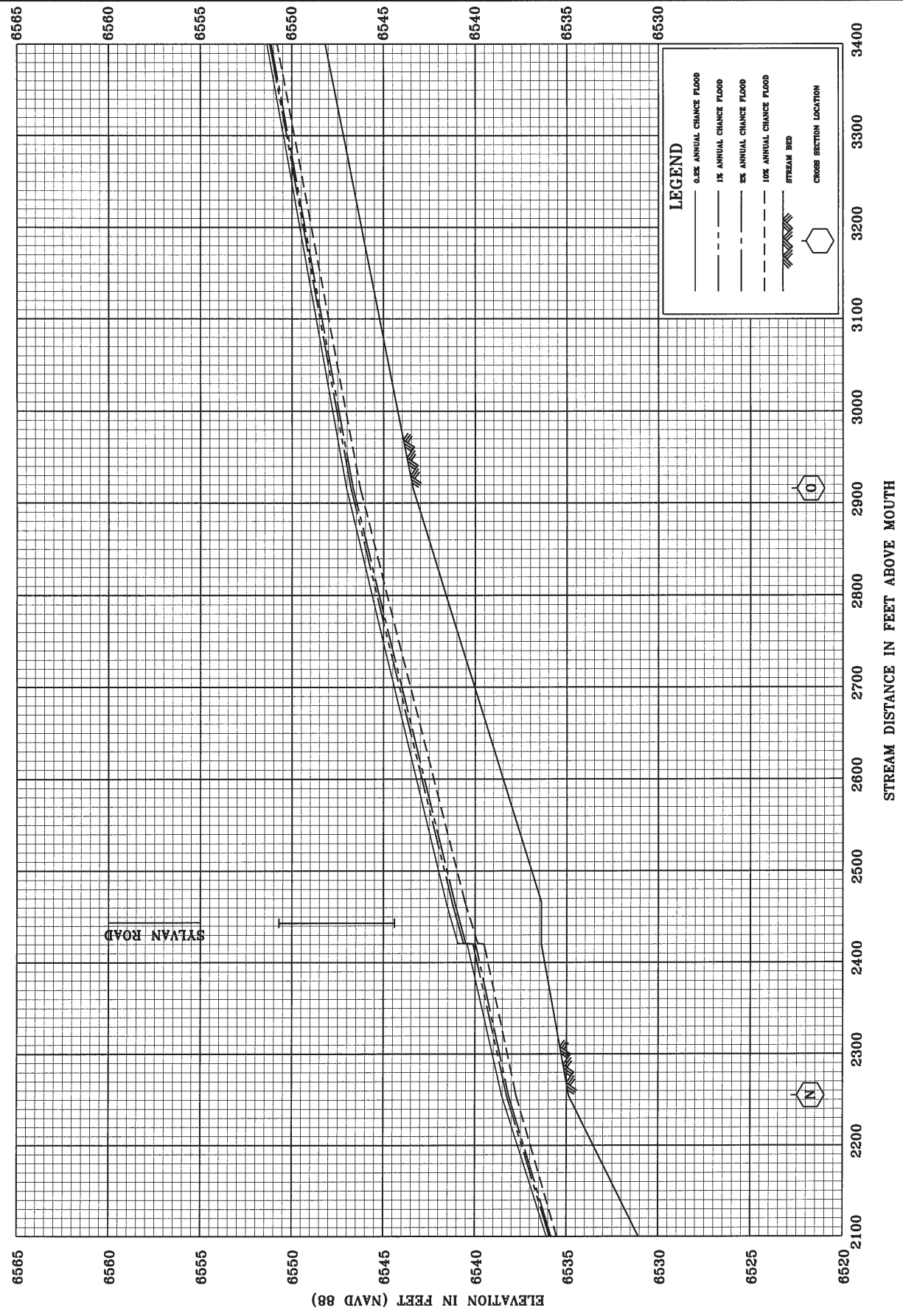
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

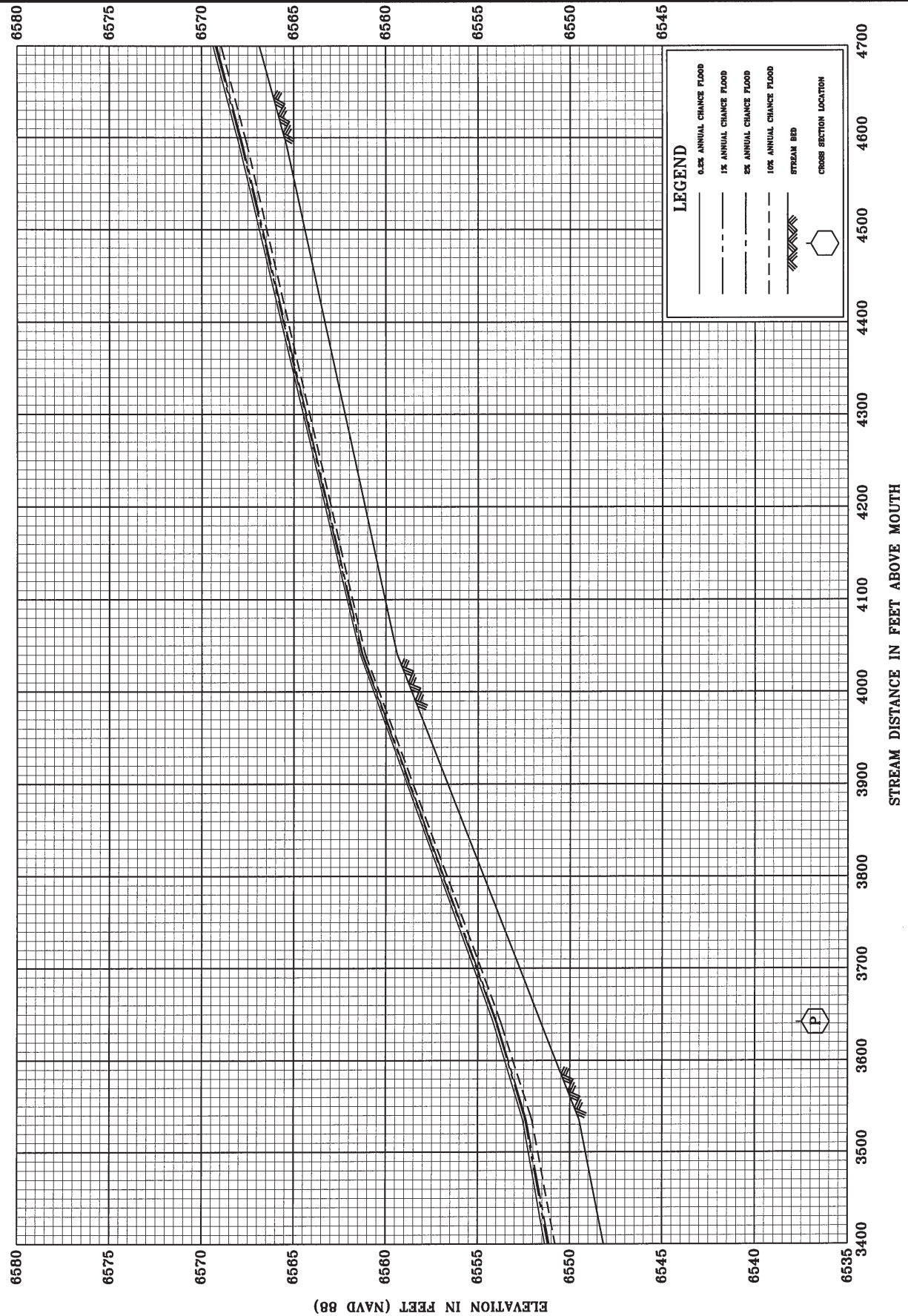






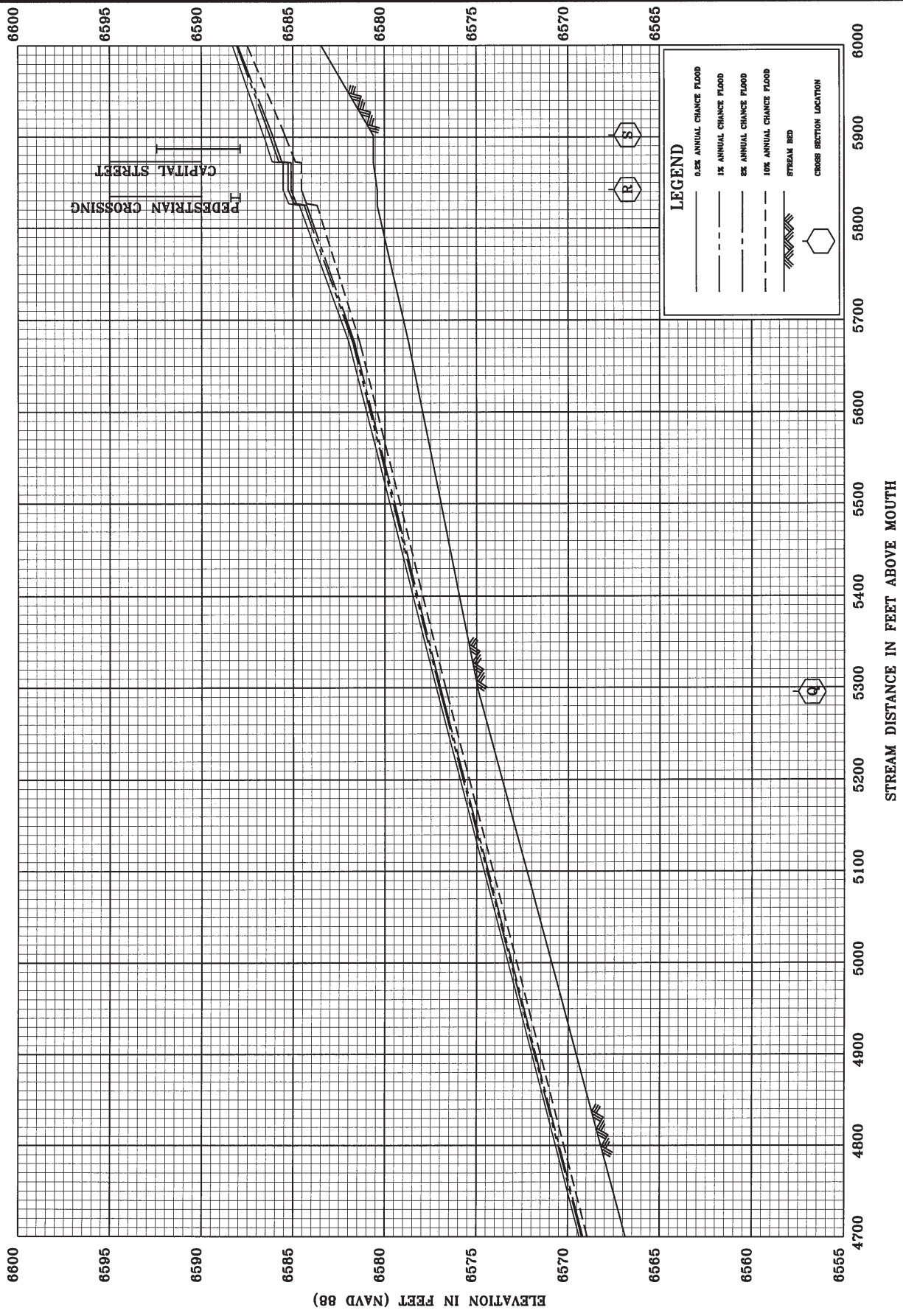
FLOOD PROFILES
BRUSH CREEK





LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched pattern)
- CROSS SECTION LOCATION (pentagon with 'P')



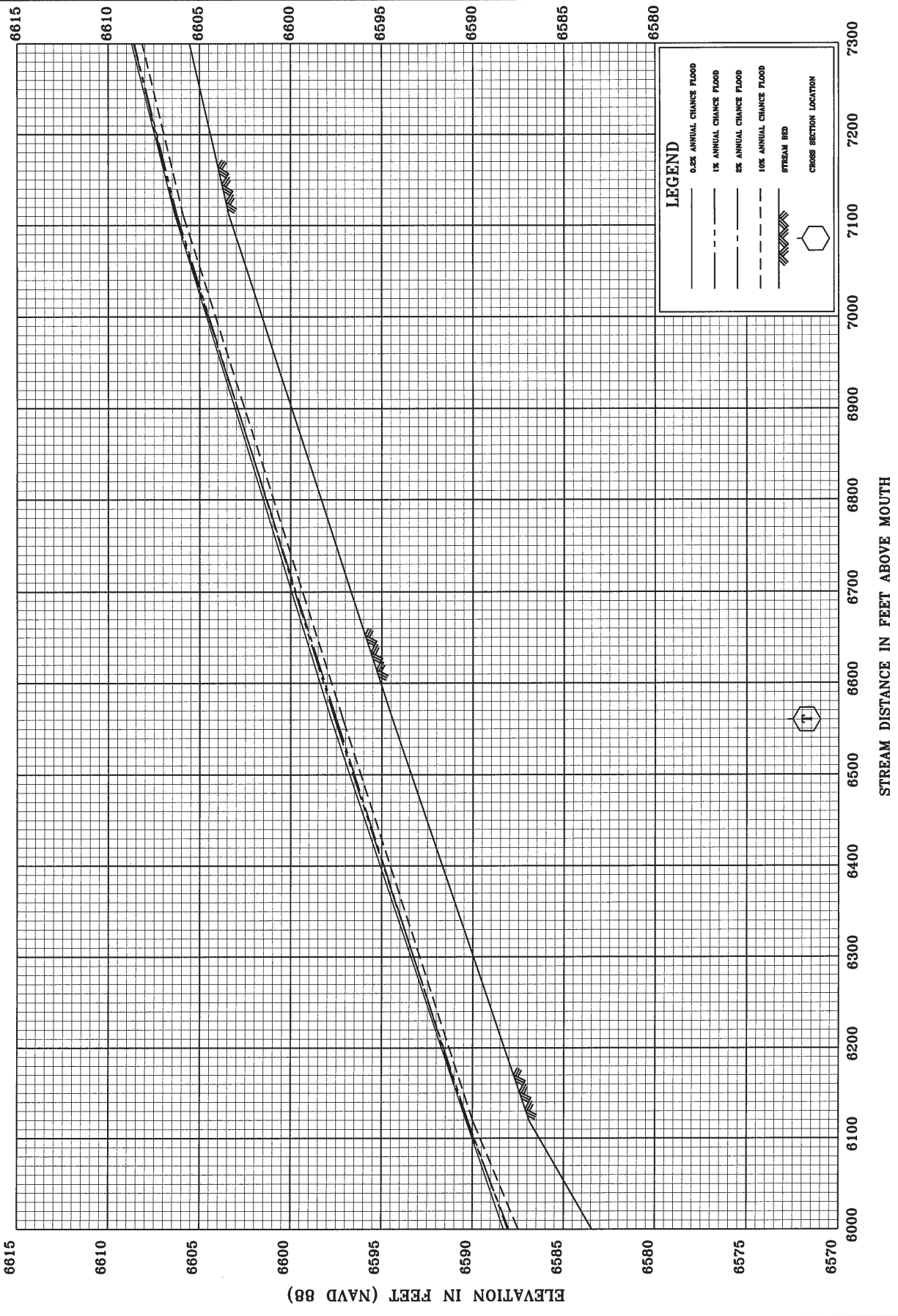
LEGEND

- 0.5% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 5% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

CAPITAL STREET
PEDESTRIAN CROSSING

6600 6595 6590 6585 6580 6575 6570 6565
6600 6000 5900 5800 5700 5600 5500 5400 5300 5200 5100 5000 4900 4800 4700
ELEVATION IN FEET (NAVD 88)
STREAM DISTANCE IN FEET ABOVE MOUTH

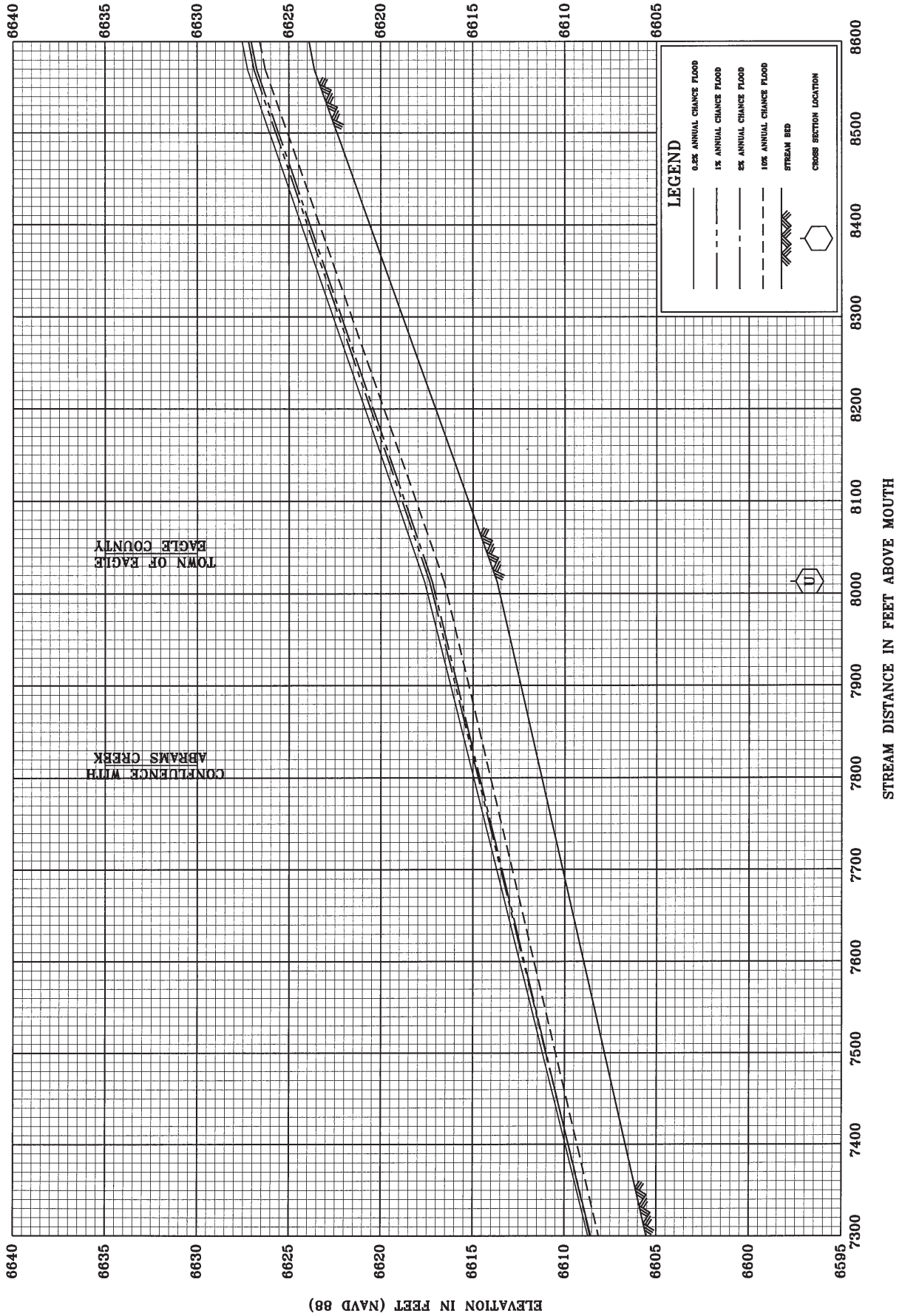
FLOOD PROFILES
BRUSH CREEK



LEGEND

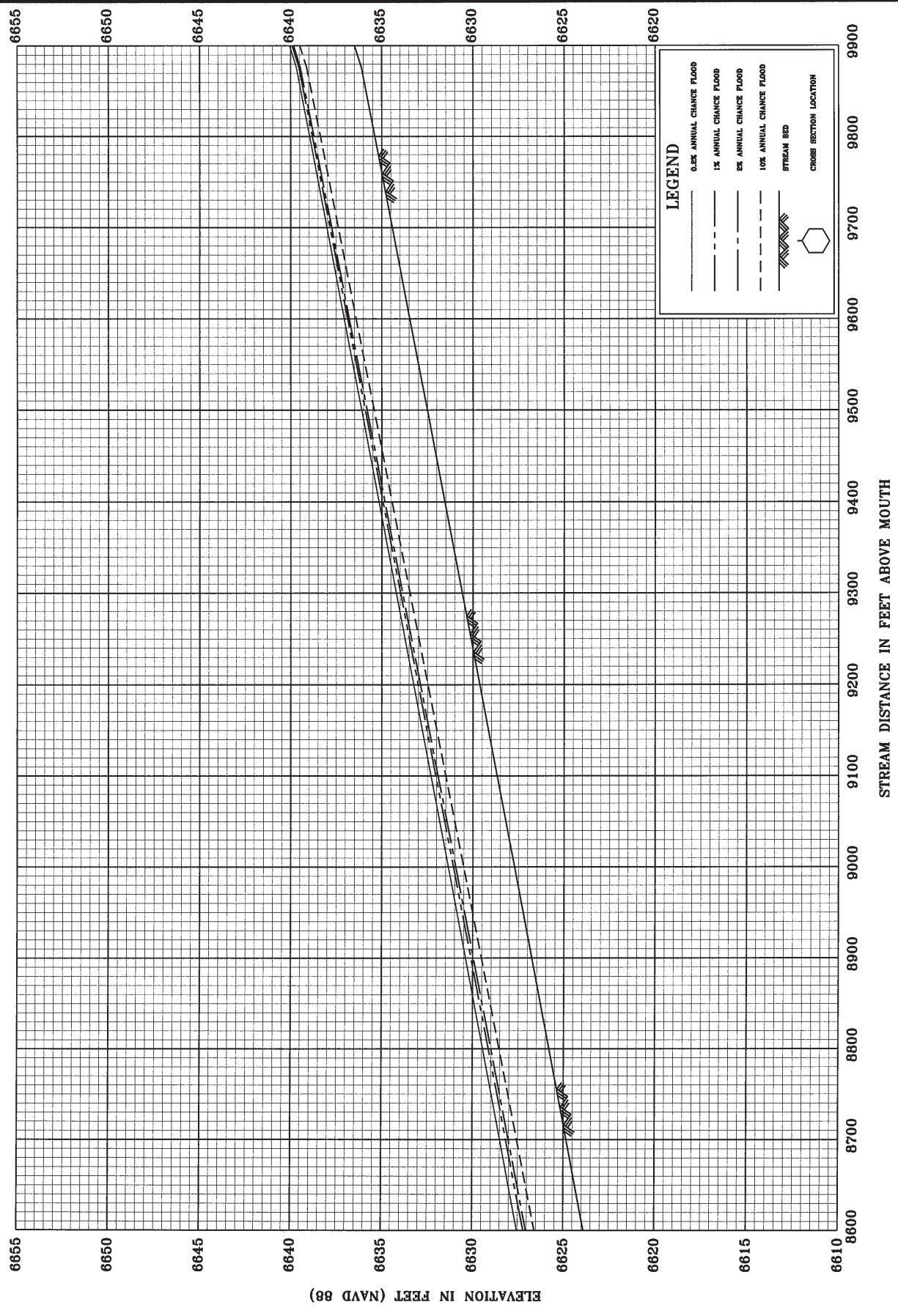
- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 5% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched pattern)
- CROSS SECTION LOCATION (hexagon with 'T')

FLOOD PROFILES
BRUSH CREEK



LEGEND

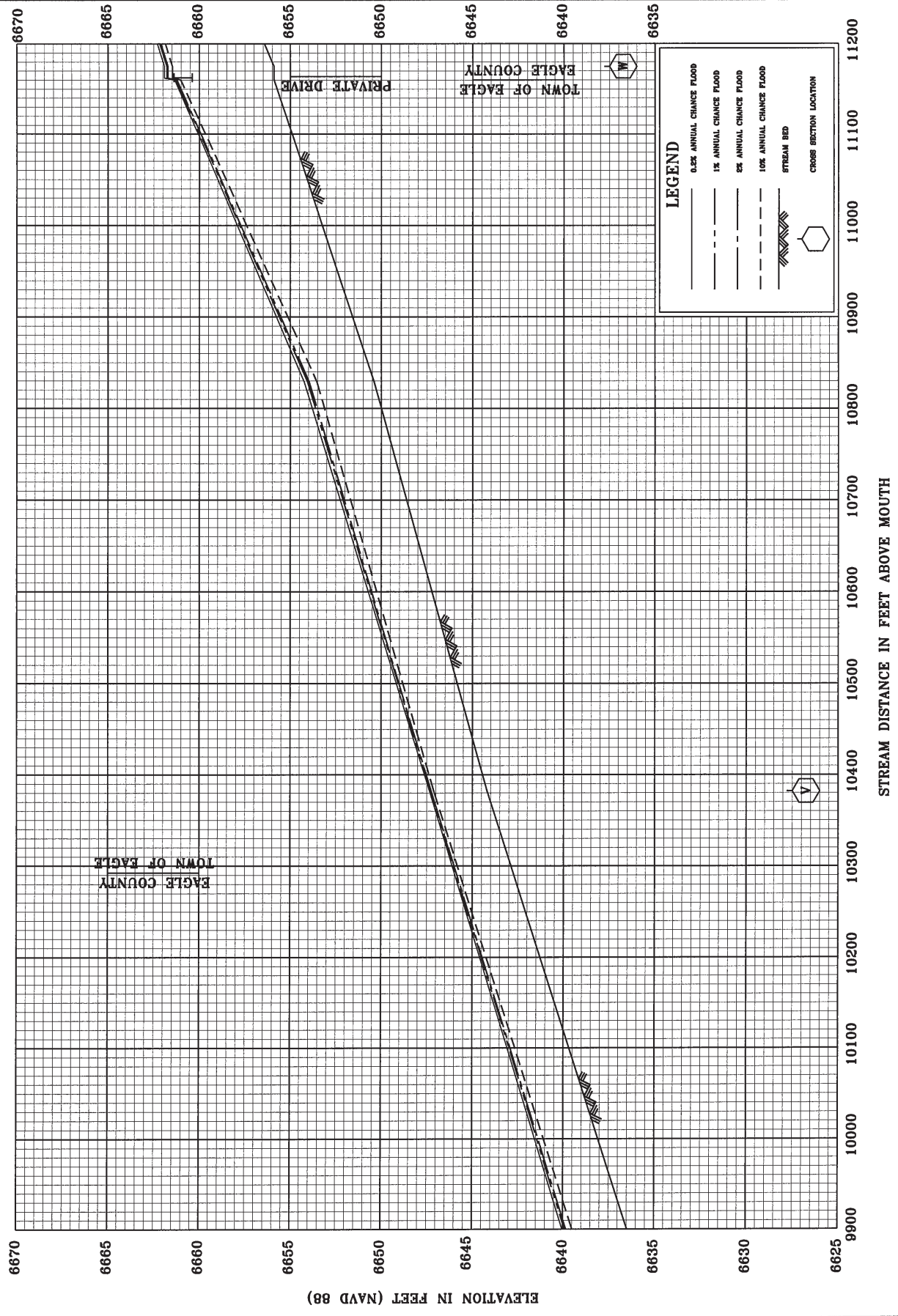
- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (long-dashed line)
- STREAM BED (hatched area)
- CROSS SECTION LOCATION (pentagon symbol)



LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

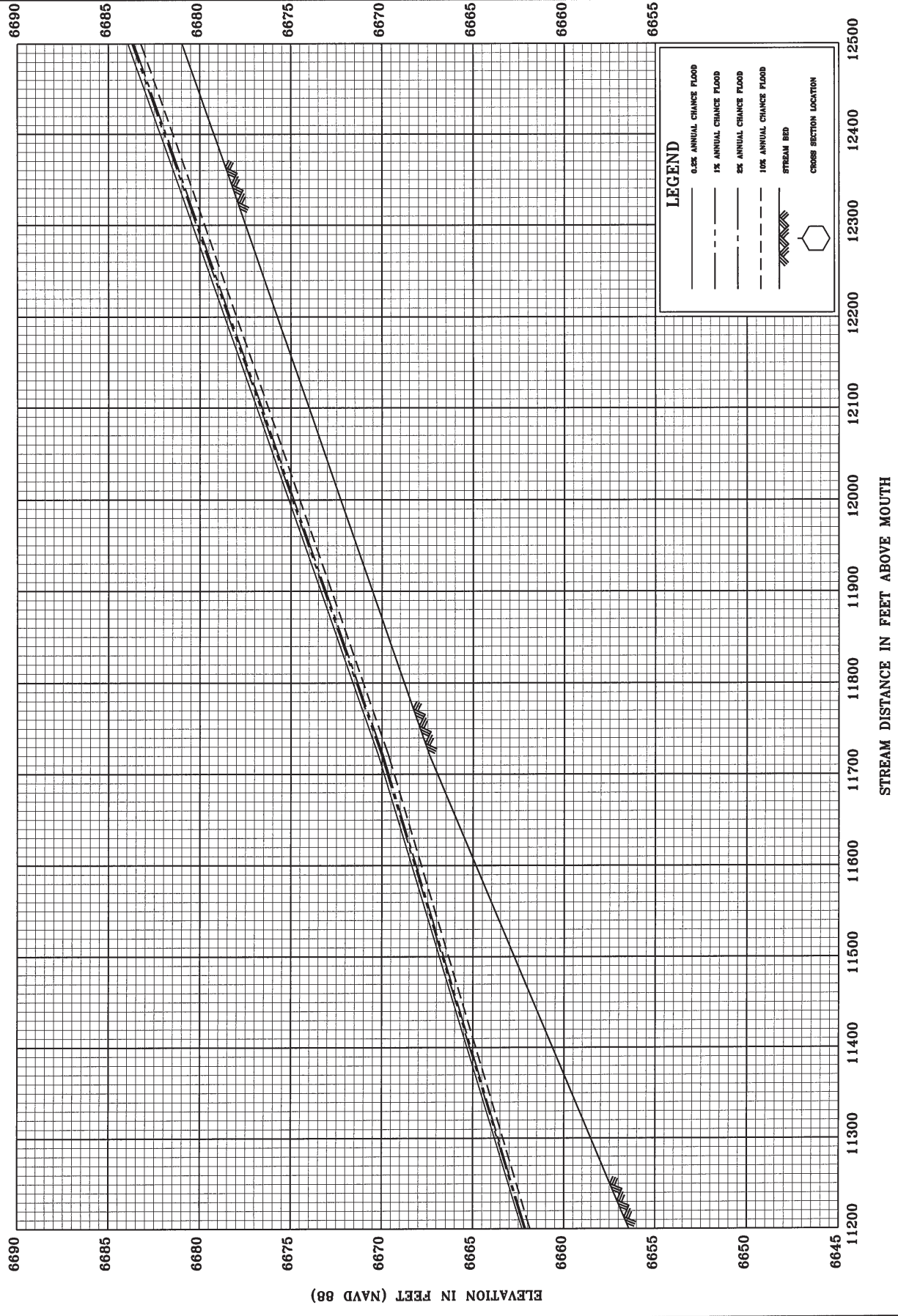
FLOOD PROFILES
BRUSH CREEK



LEGEND

- 0.25 ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

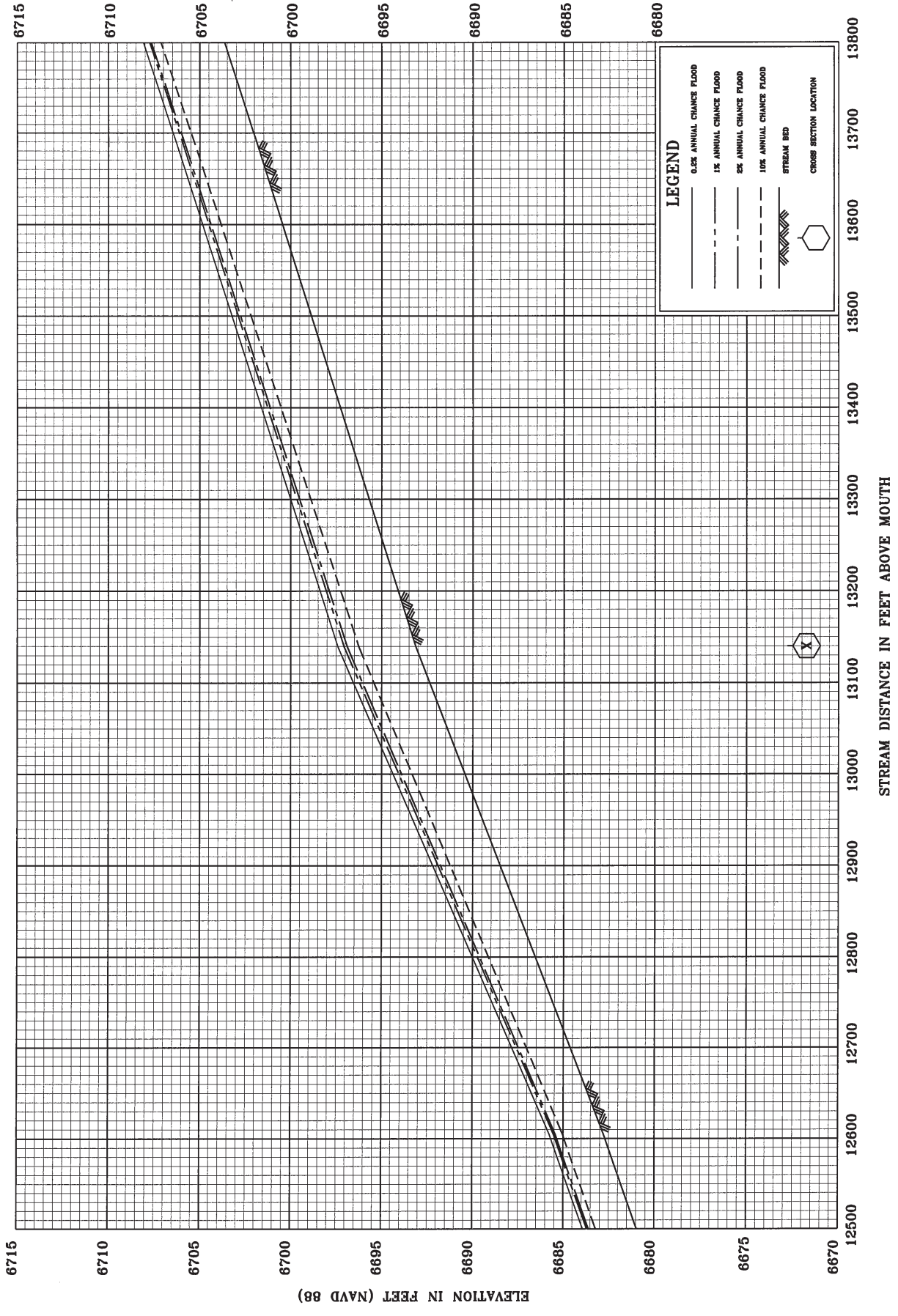
EAGLE COUNTY
TOWN OF EAGLE
PRIVATE DRIVE



LEGEND

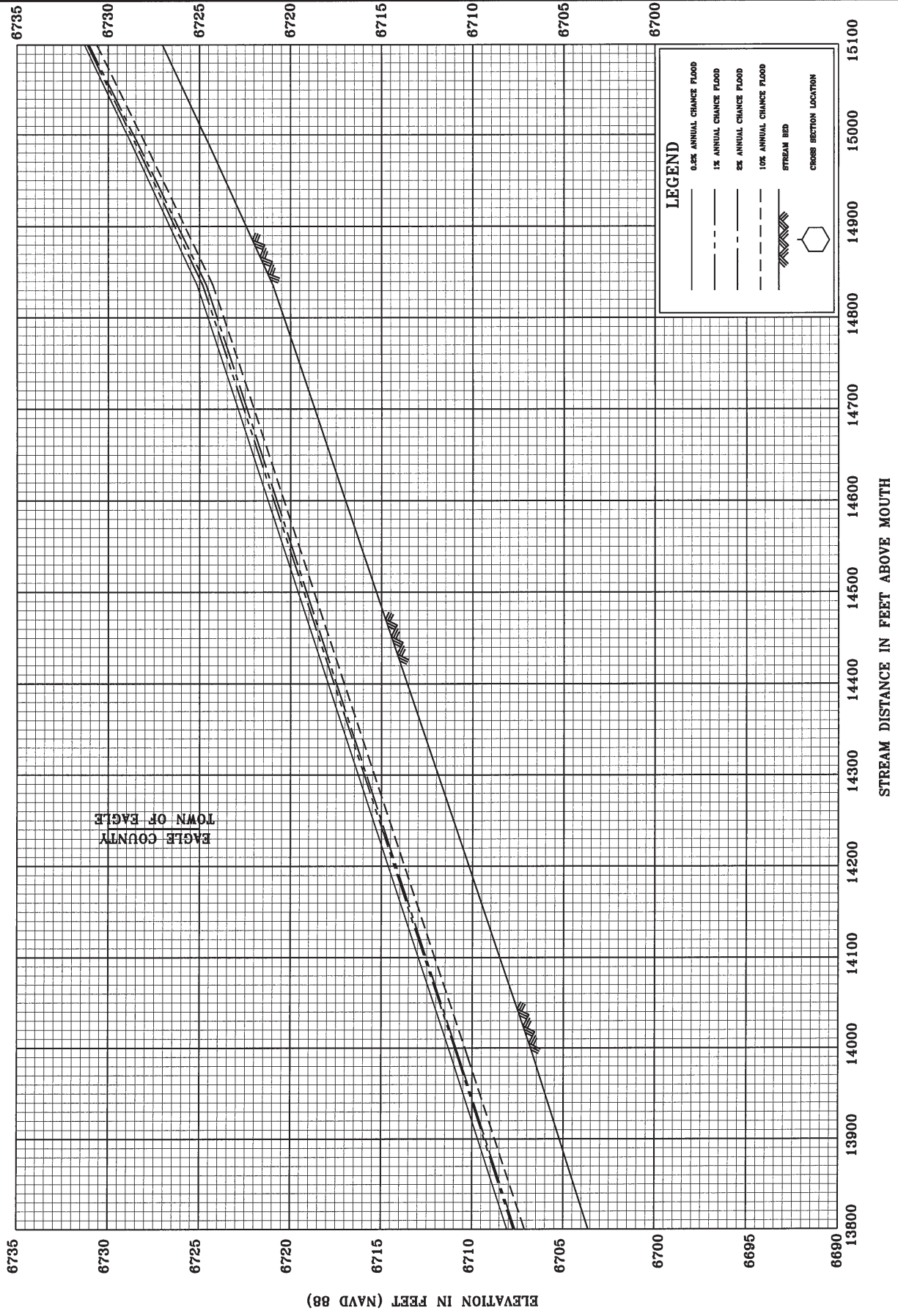
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 25% ANNUAL CHANCE FLOOD
- 100% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES
BRUSH CREEK



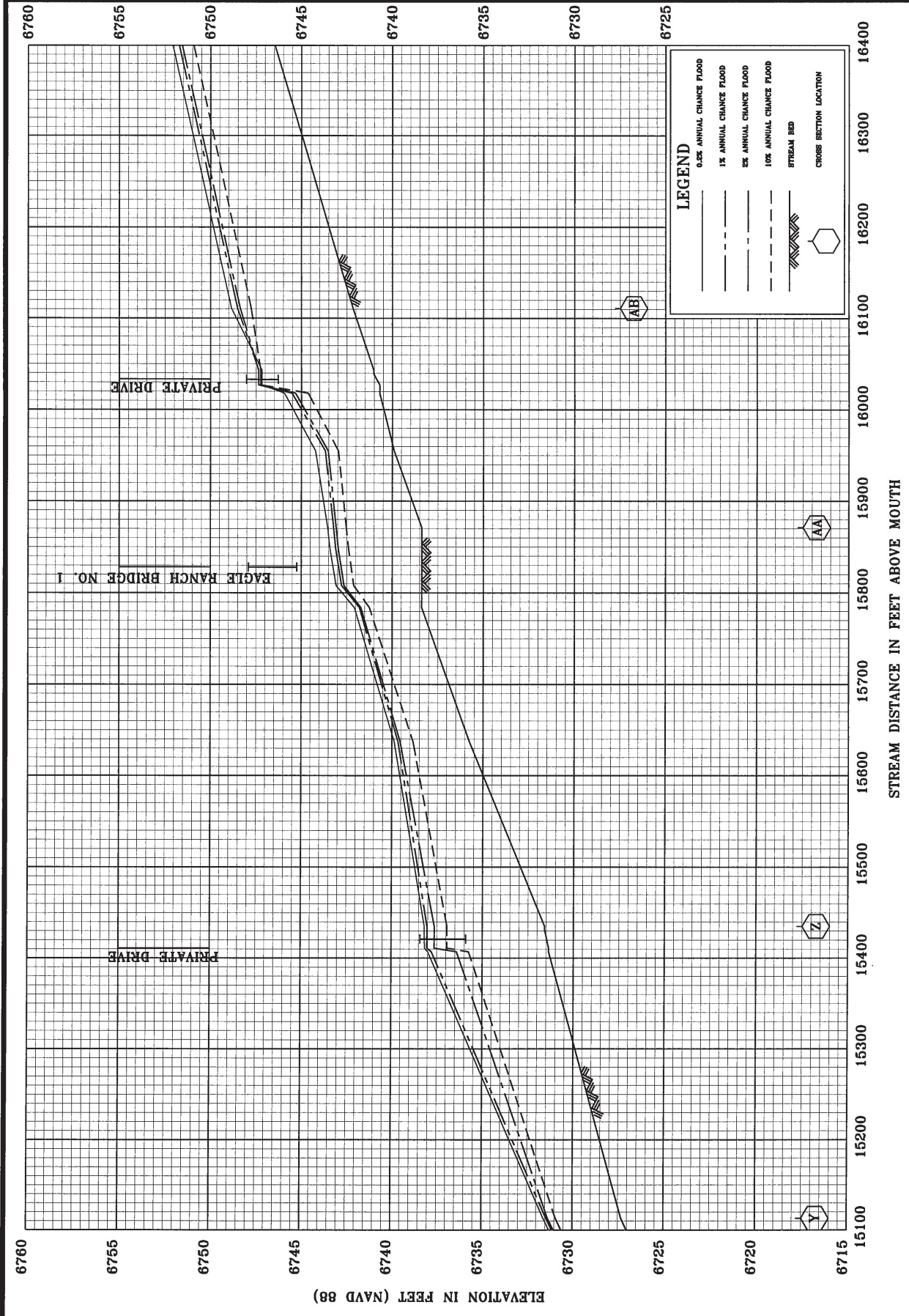
LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched area)
- CROSS SECTION LOCATION (pentagon symbol)

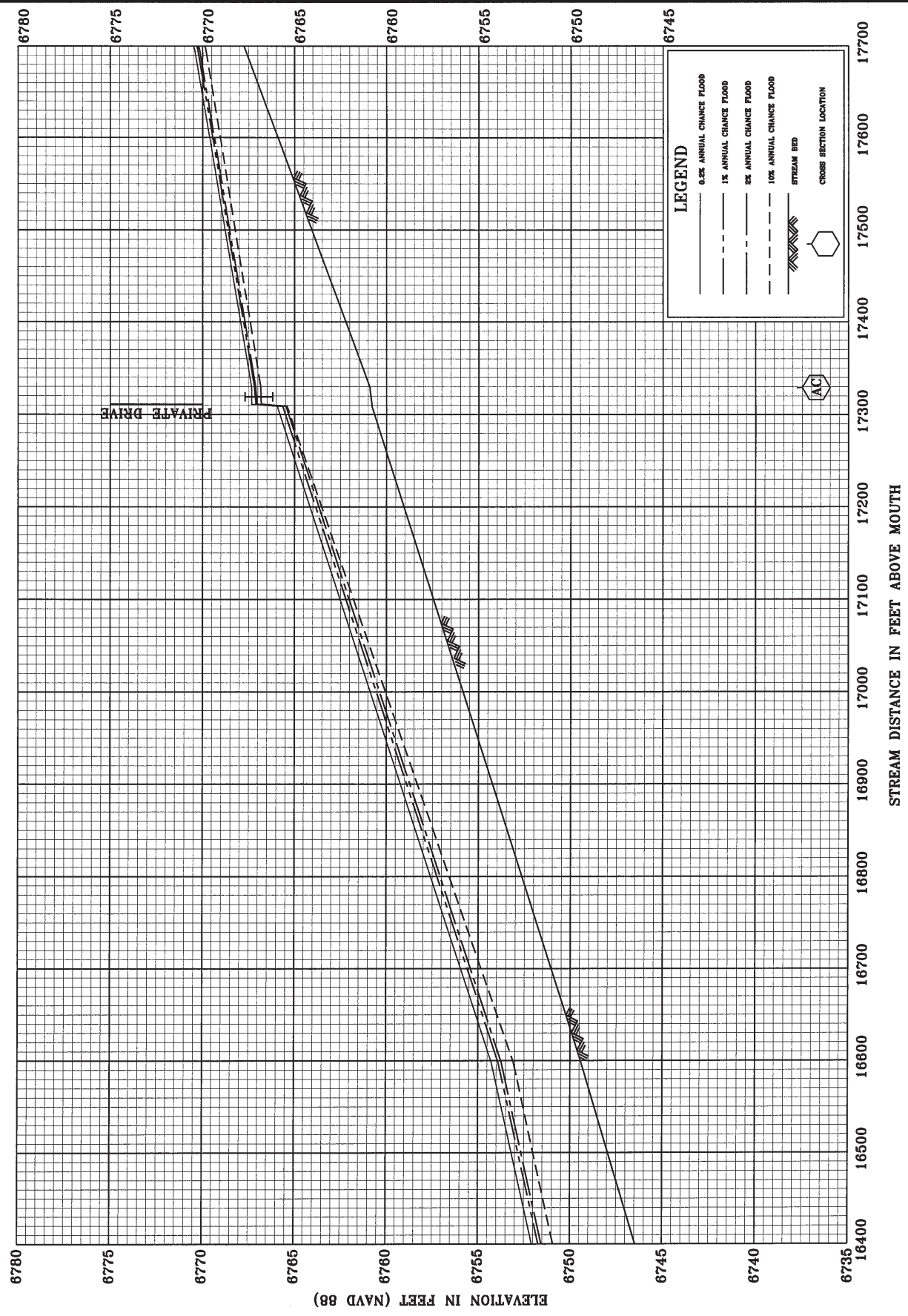


LEGEND

- 0.2% ANNUAL CHANCE FLOOD (dash-dot line)
- 1% ANNUAL CHANCE FLOOD (dash-dot line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dashed line)
- STREAM BED (solid line)
- CROSS SECTION LOCATION (pentagon symbol)



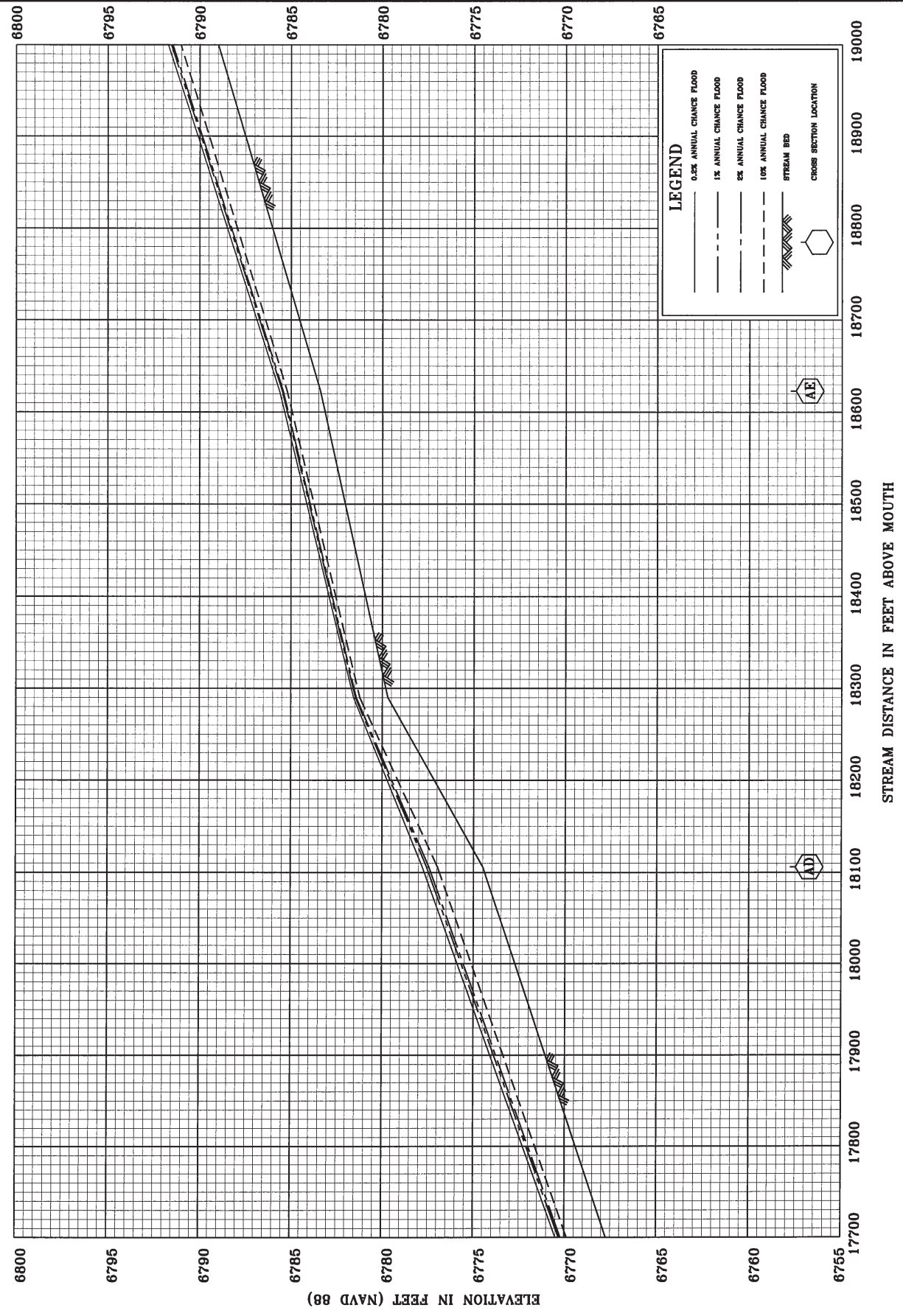
FLOOD PROFILES
BRUSH CREEK



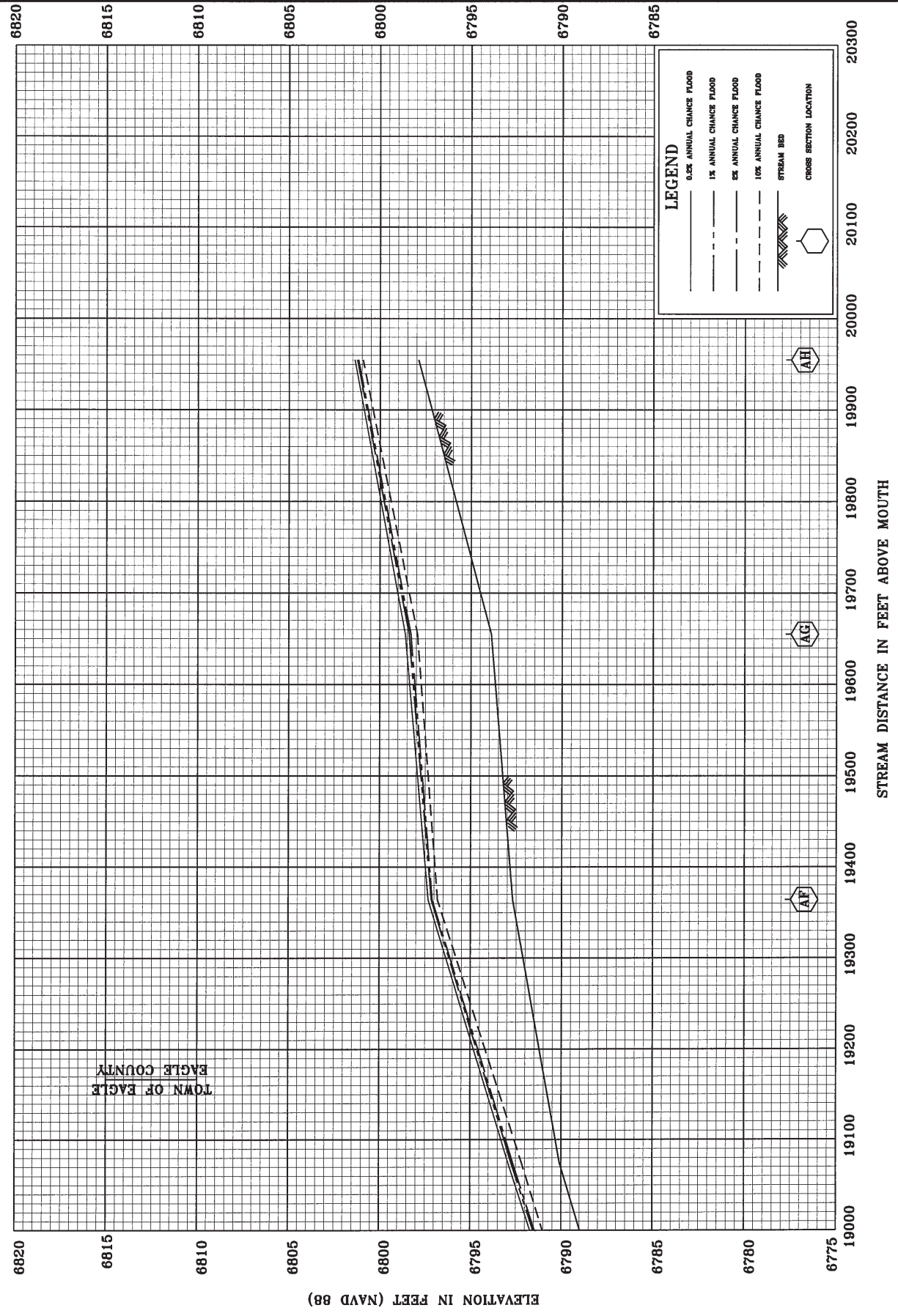
LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (long-dashed line)
- STREAM BED (solid line with hatching)
- CROSS SECTION LOCATION (pentagon symbol)

BRUSH CREEK
FLOOD PROFILES



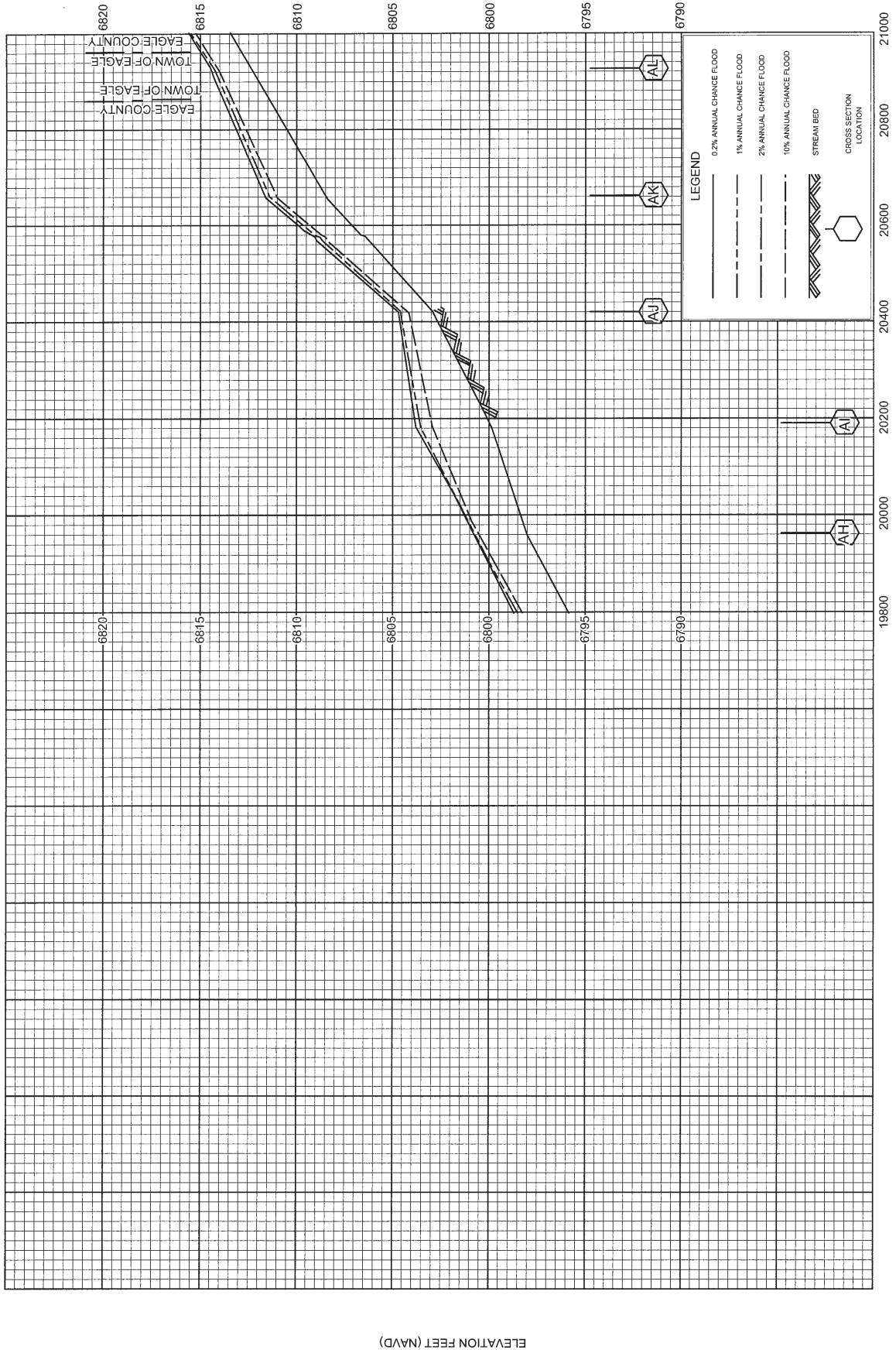
FLOOD PROFILES
BRUSH CREEK



LEGEND

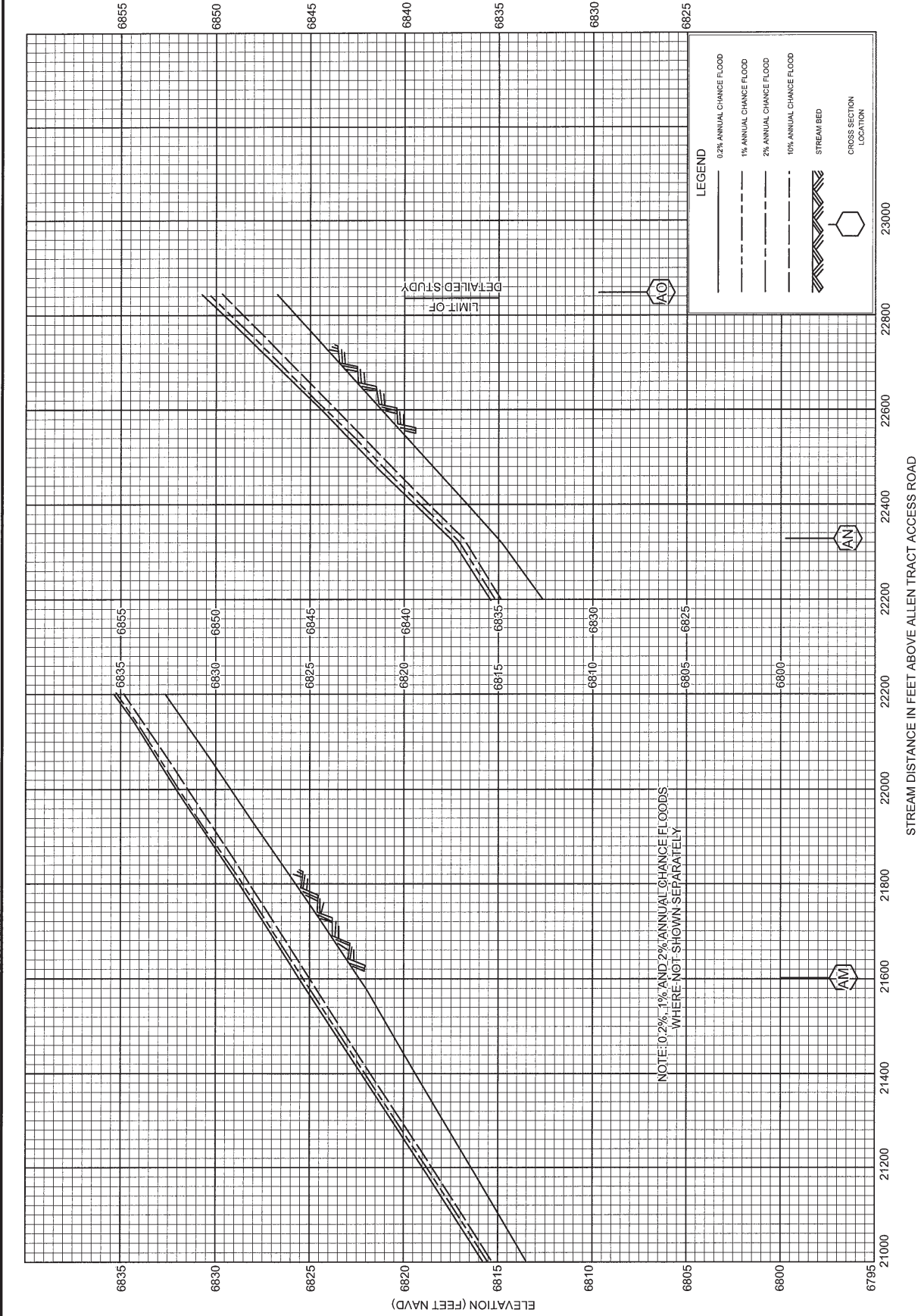
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

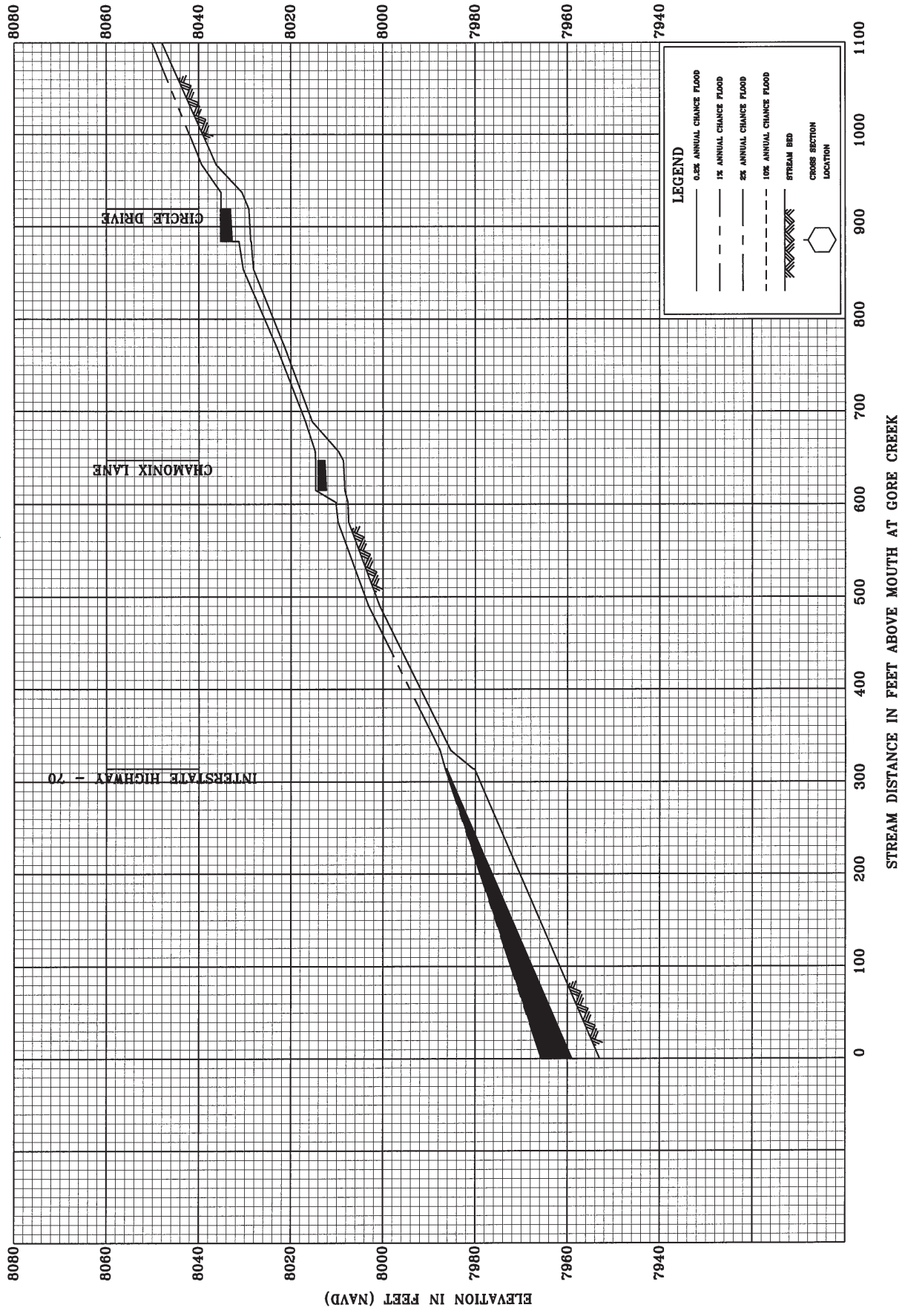
TOWN OF EAGLE
EAGLE COUNTY

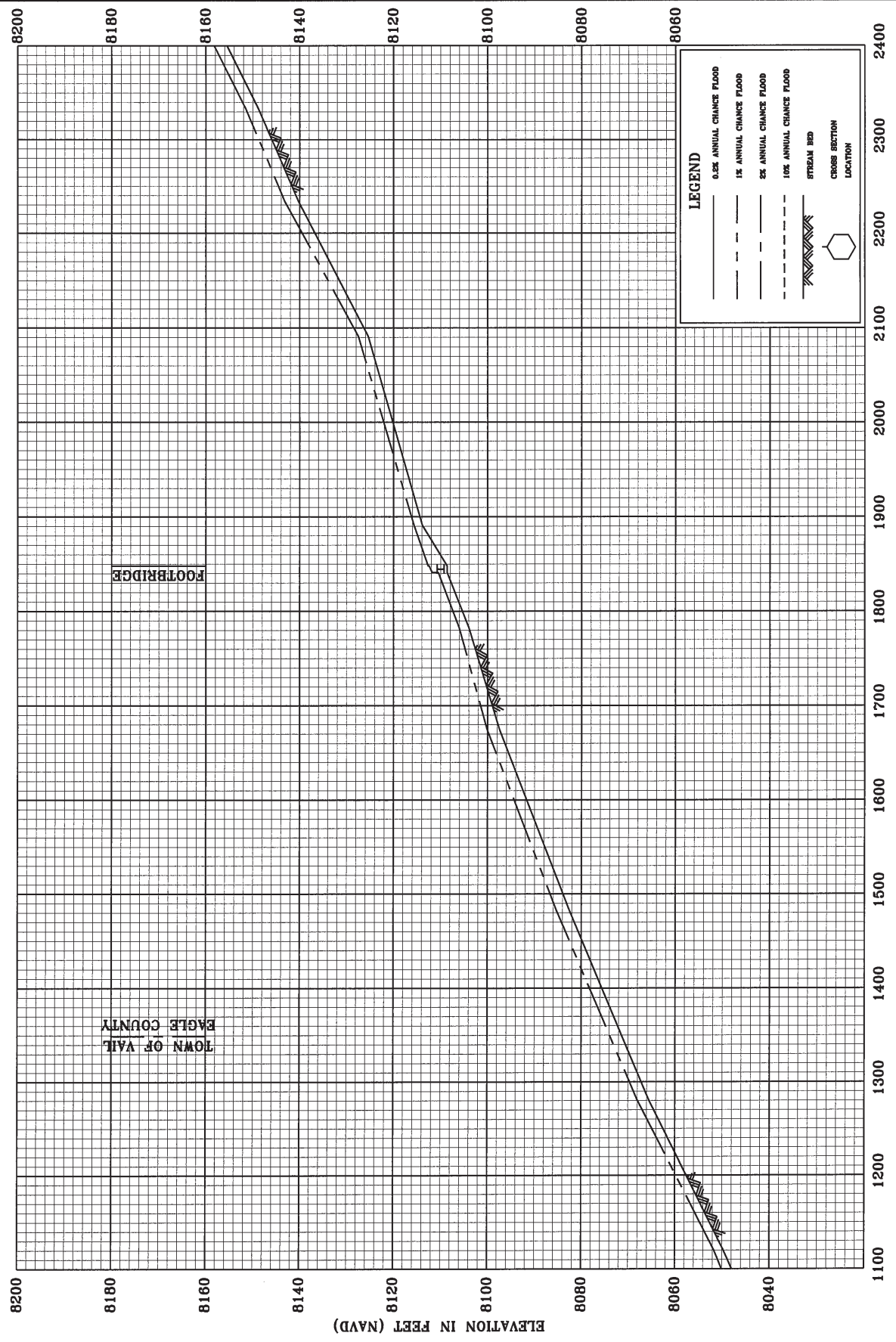


ELEVATION FEET (NAVD)

STREAM DISTANCE IN FEET ABOVE ALEN TRACT ACCESS ROAD





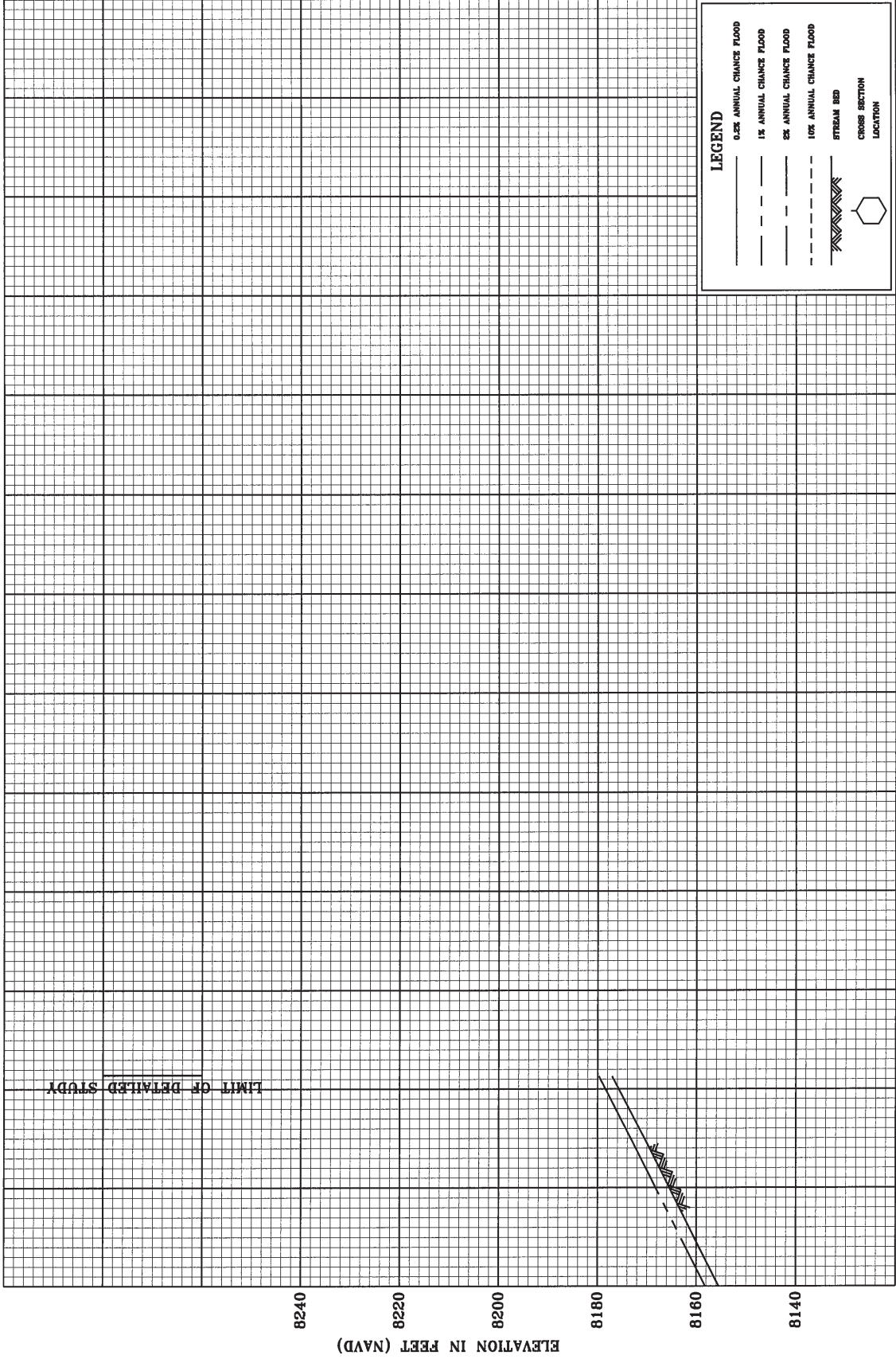


TOWN OF VAIL
EAGLE COUNTY

FOOTBRIDGE

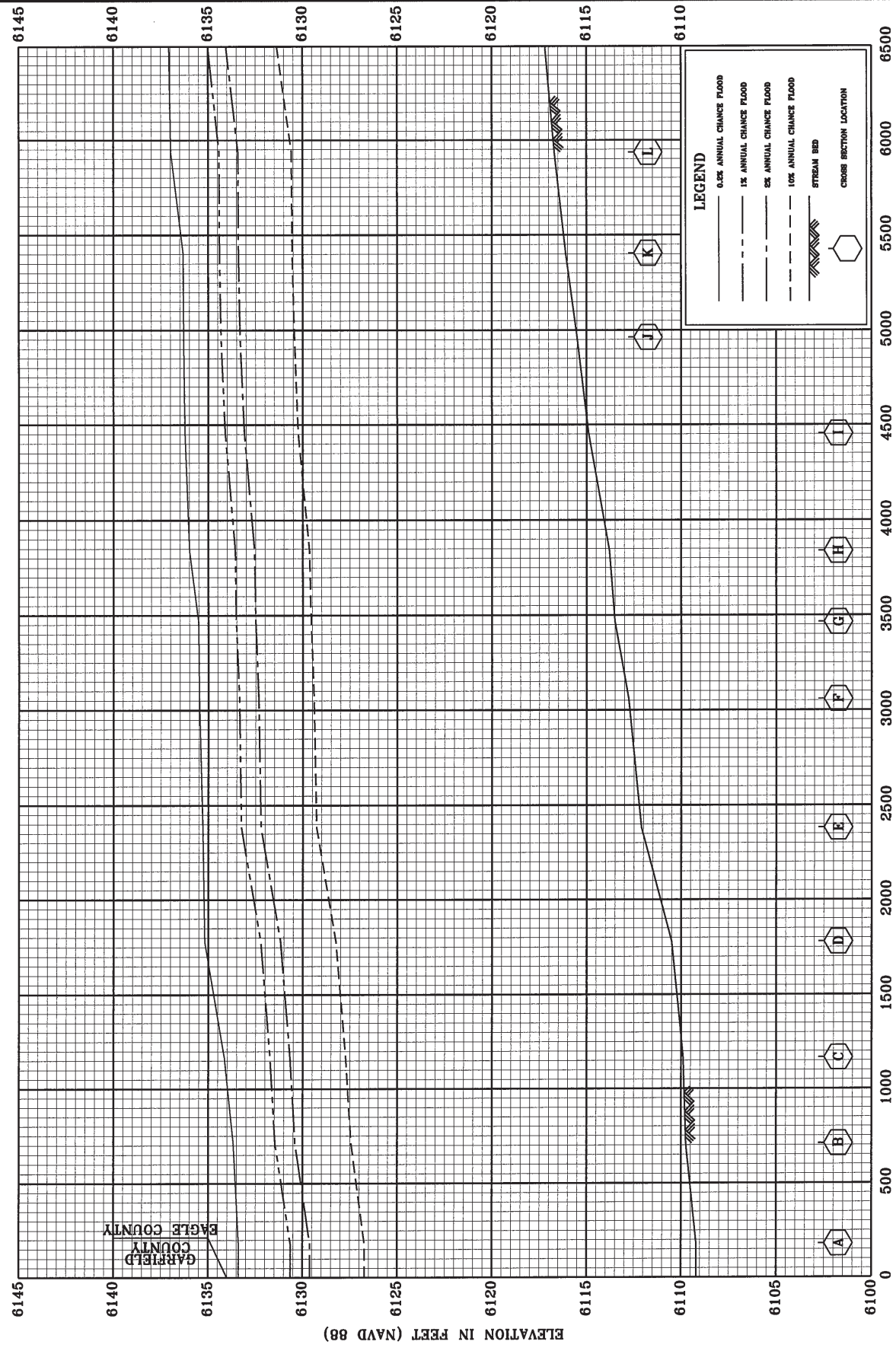
LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION



STREAM DISTANCE IN FEET ABOVE MOUTH AT GORE CREEK

ELEVATION IN FEET (NAVD)



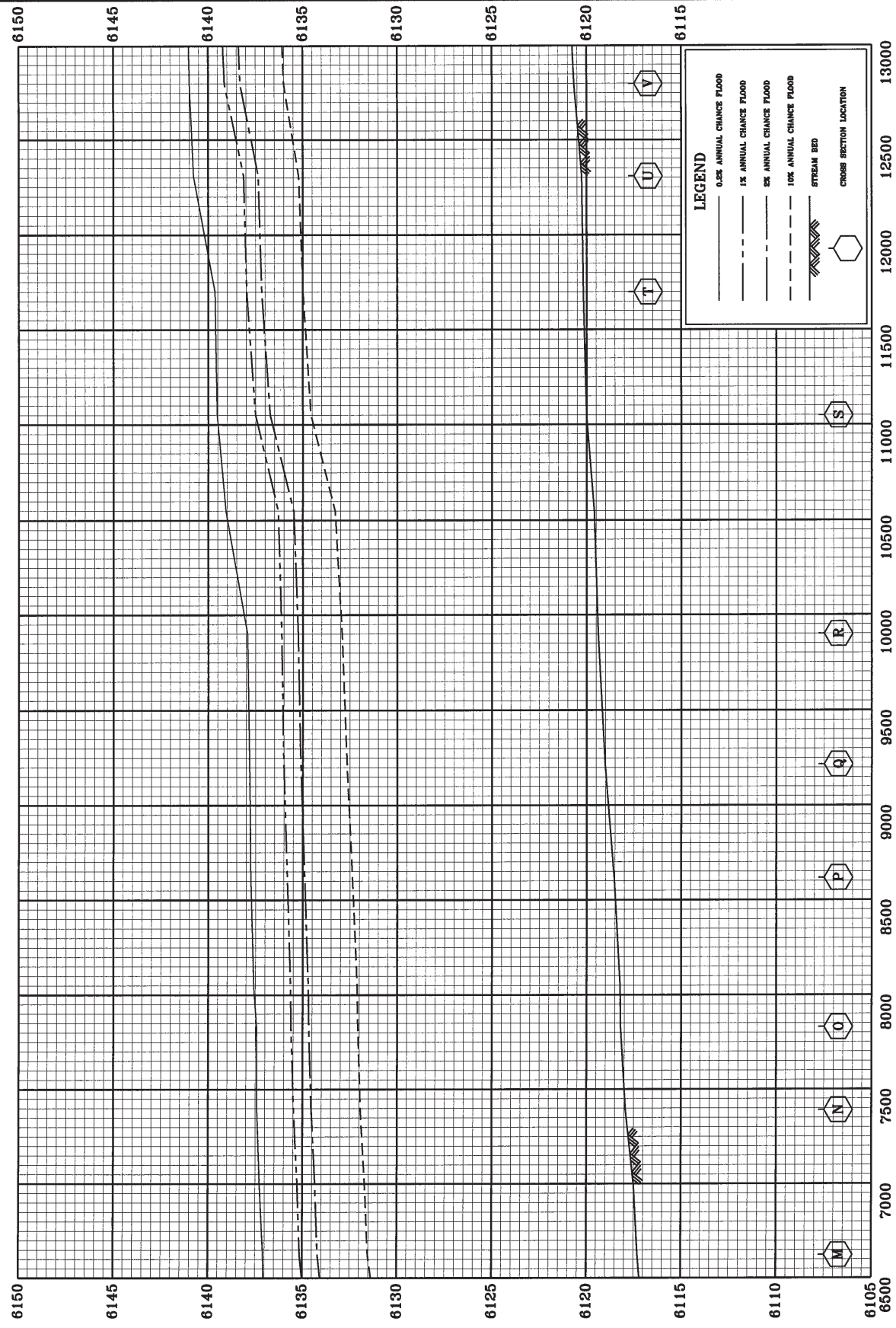
LEGEND

- 0.2% ANNUAL CHANCE FLOOD (Dotted line)
- 1% ANNUAL CHANCE FLOOD (Dashed line)
- 2% ANNUAL CHANCE FLOOD (Solid line)
- 10% ANNUAL CHANCE FLOOD (Long-dashed line)
- STREAM BED (Solid line with hatching)
- CROSS SECTION LOCATION (Hexagon with letter)

ELEVATION IN FEET (NAVD 88)

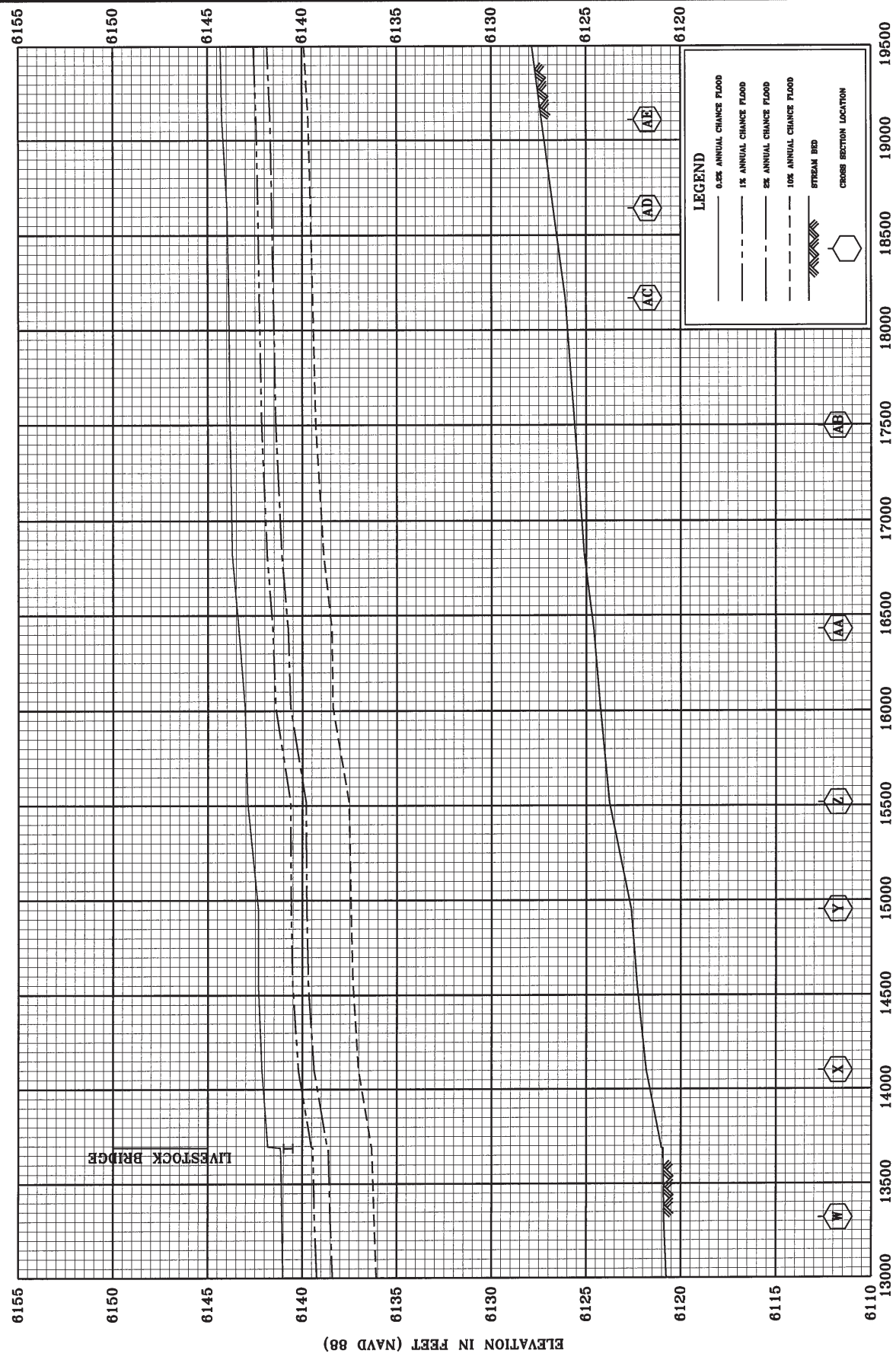
STREAM DISTANCE IN FEET UPSTREAM OF GARFIELD COUNTY AND EAGLE COUNTY BOUNDARY

GARFIELD COUNTY
EAGLE COUNTY



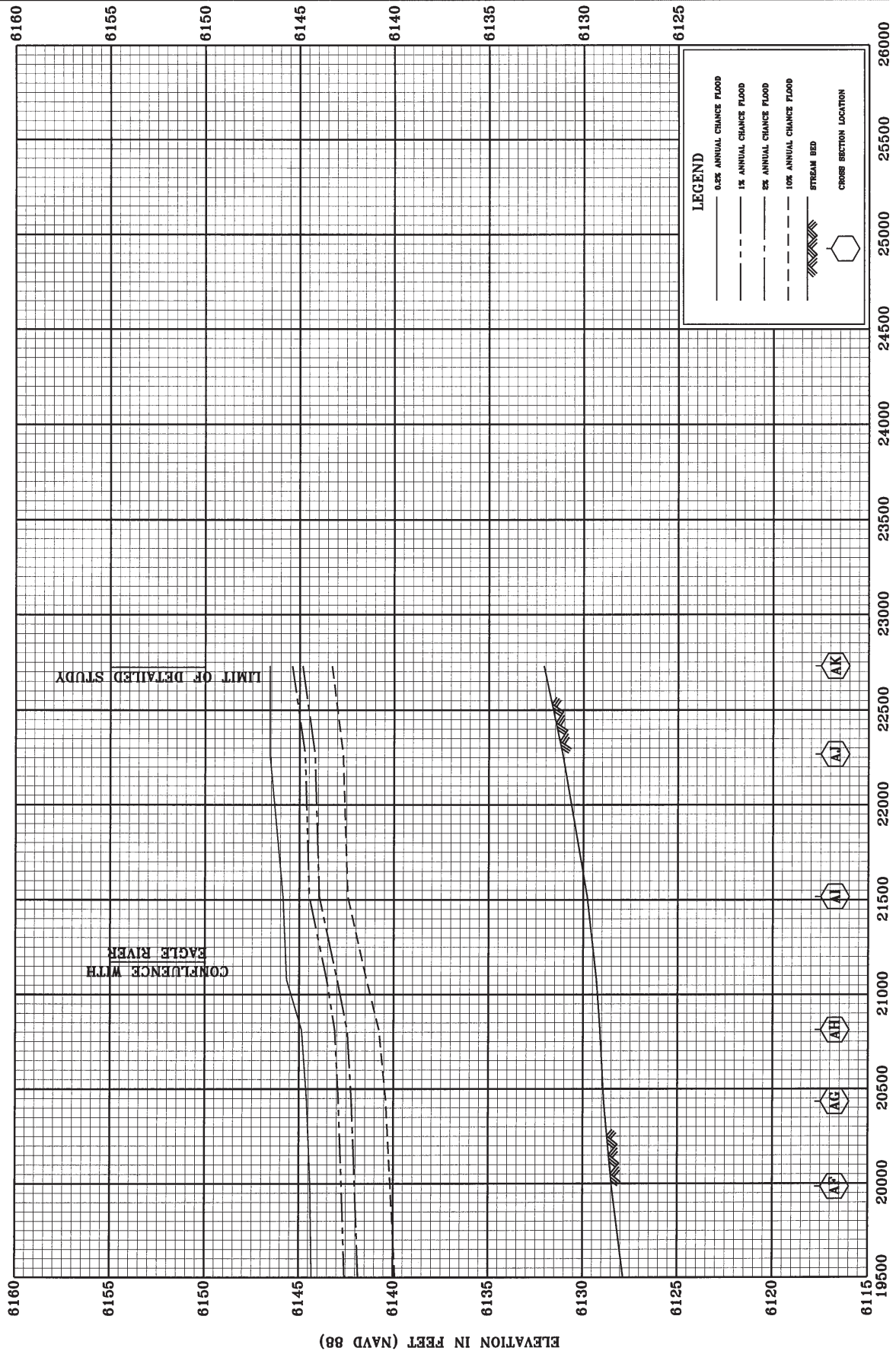
ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET UPSTREAM OF GARFIELD COUNTY AND EAGLE COUNTY CORPORATE LIMITS



STREAM DISTANCE IN FEET UPSTREAM OF GARFIELD COUNTY AND EAGLE COUNTY CORPORATE LIMITS

ELEVATION IN FEET (NAVD 88)

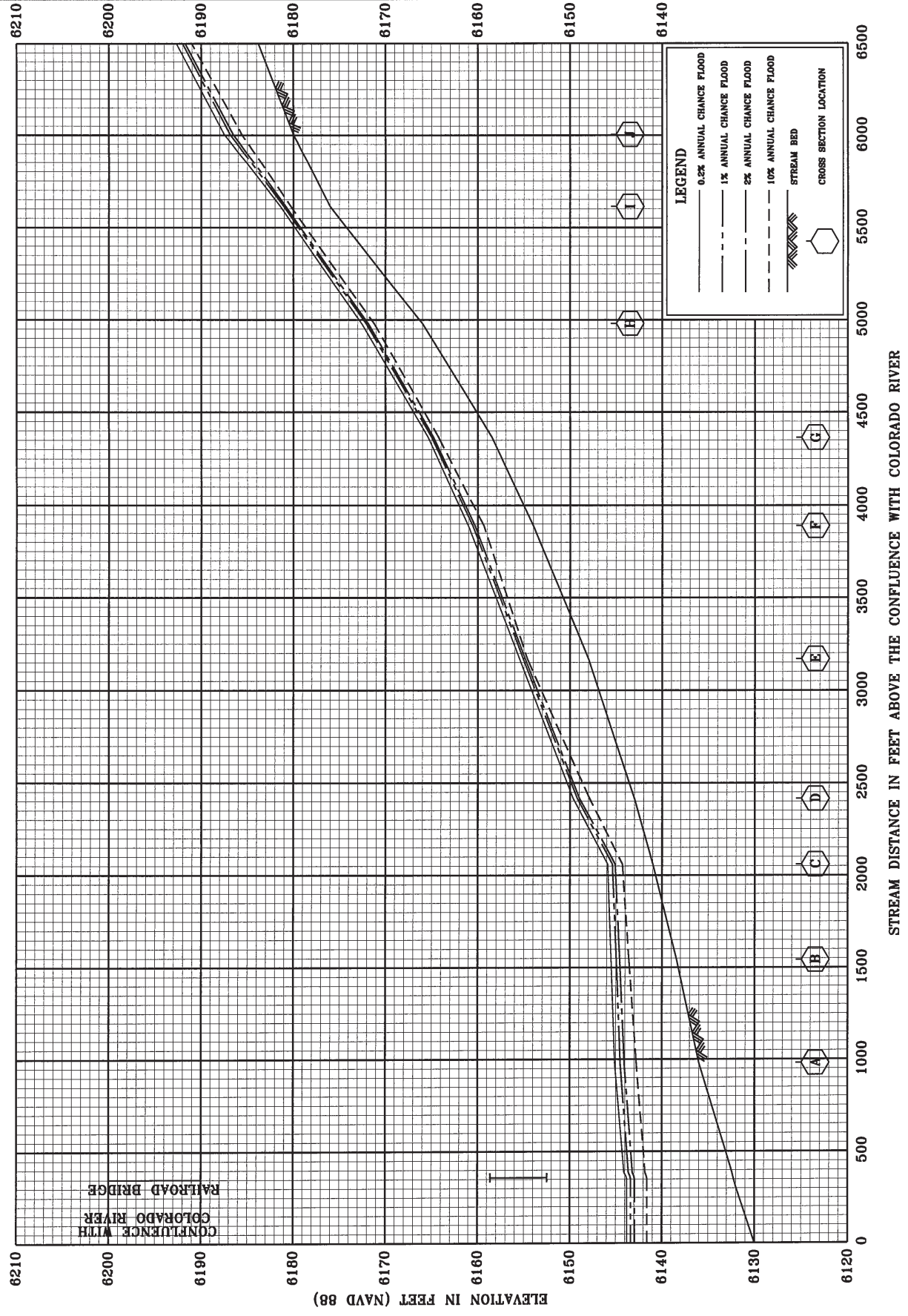


LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

STREAM DISTANCE IN FEET UPSTREAM OF GARFIELD COUNTY AND EAGLE COUNTY CORPORATE LIMITS

ELEVATION IN FEET (NAVD 88)



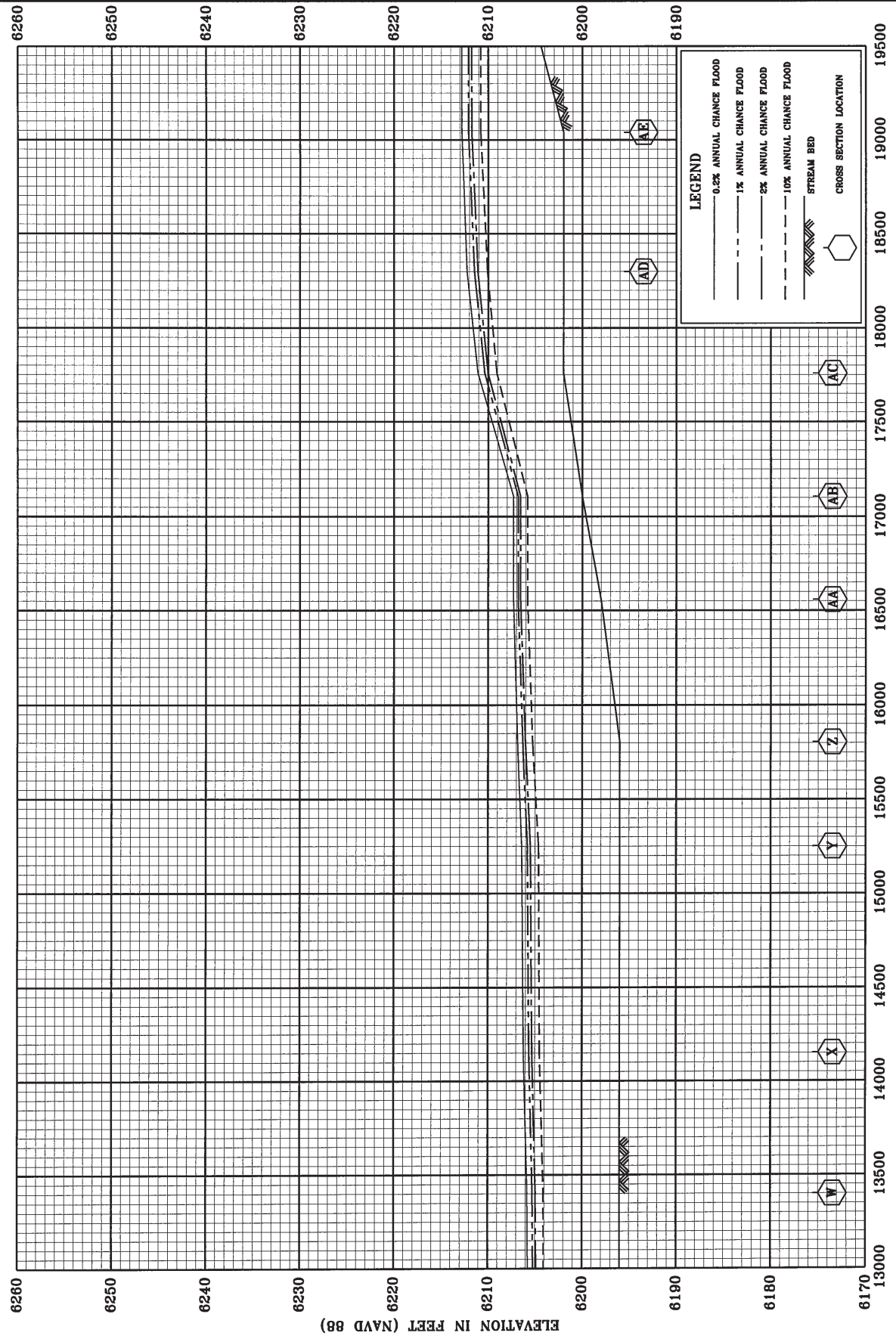
RAILROAD BRIDGE
CONFLUENCE WITH
COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

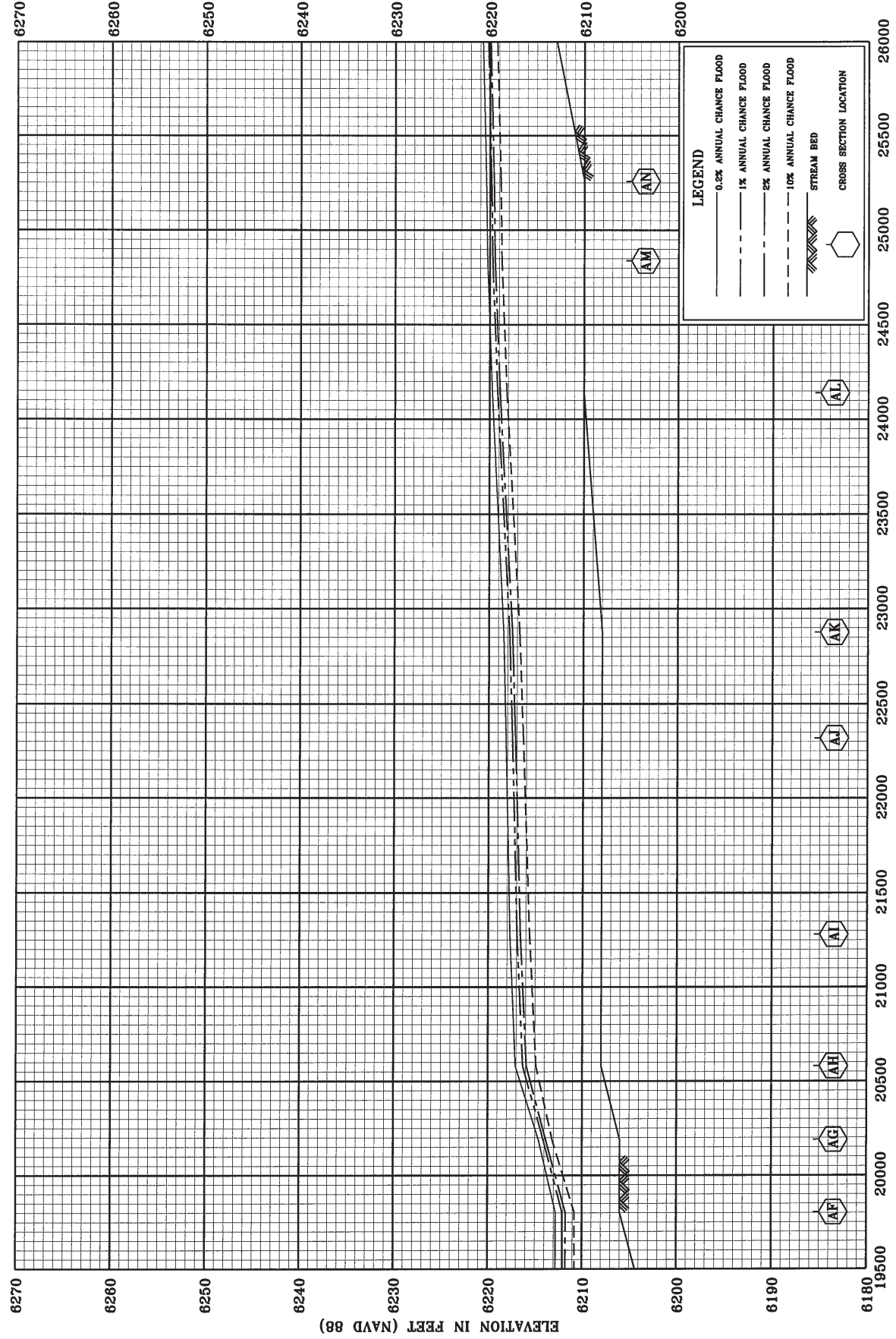
LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION



STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

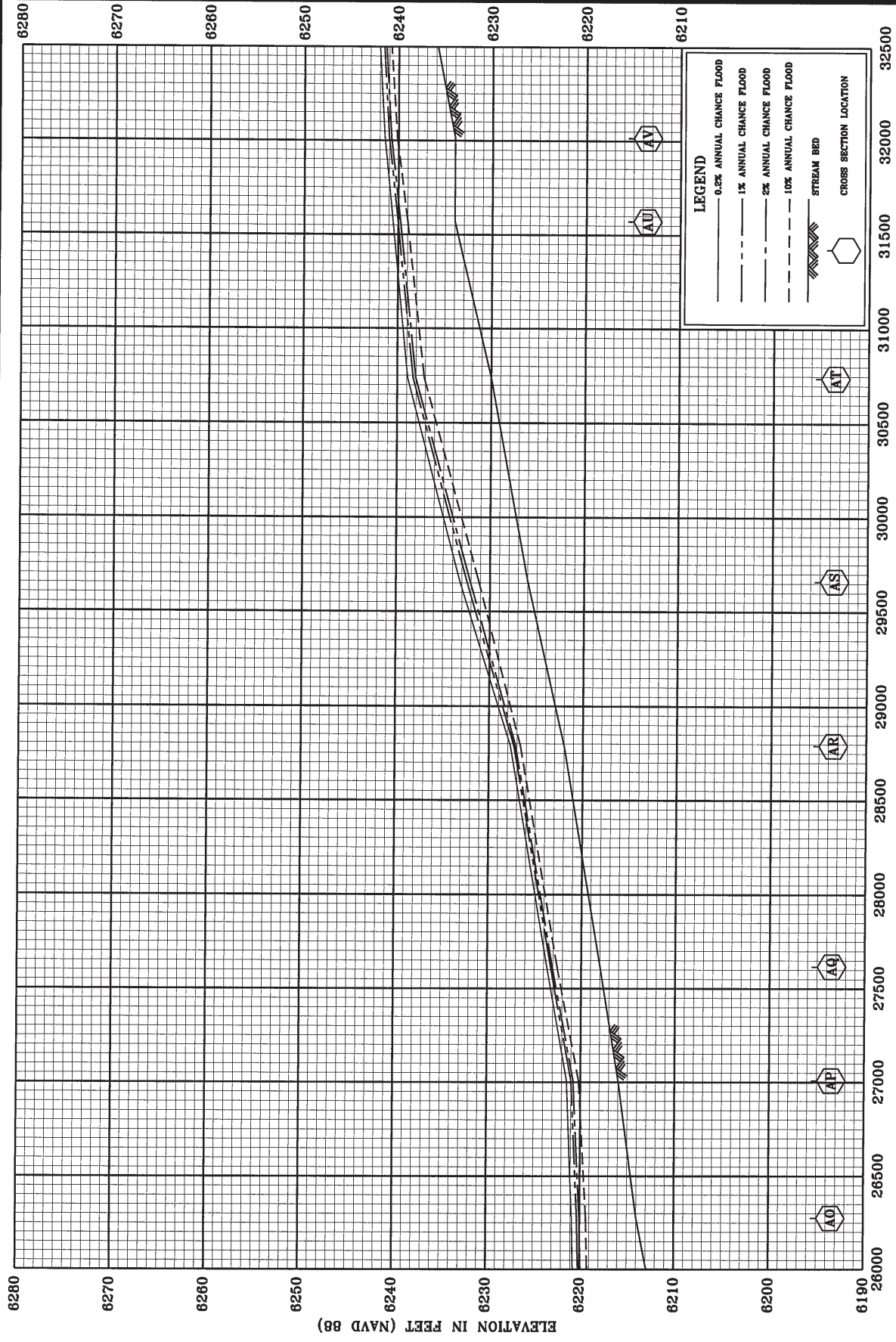
ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

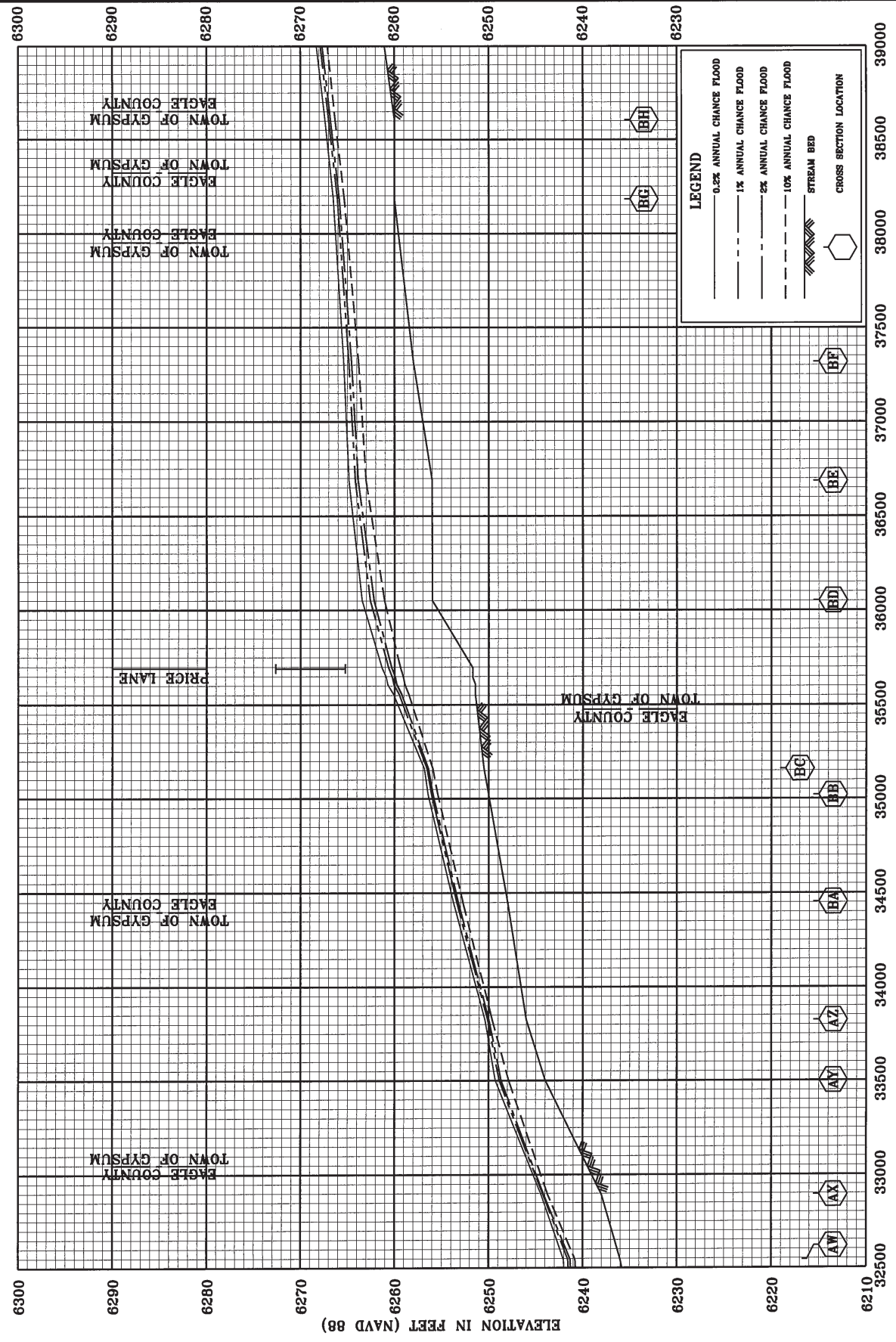
ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
EAGLE RIVER



STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

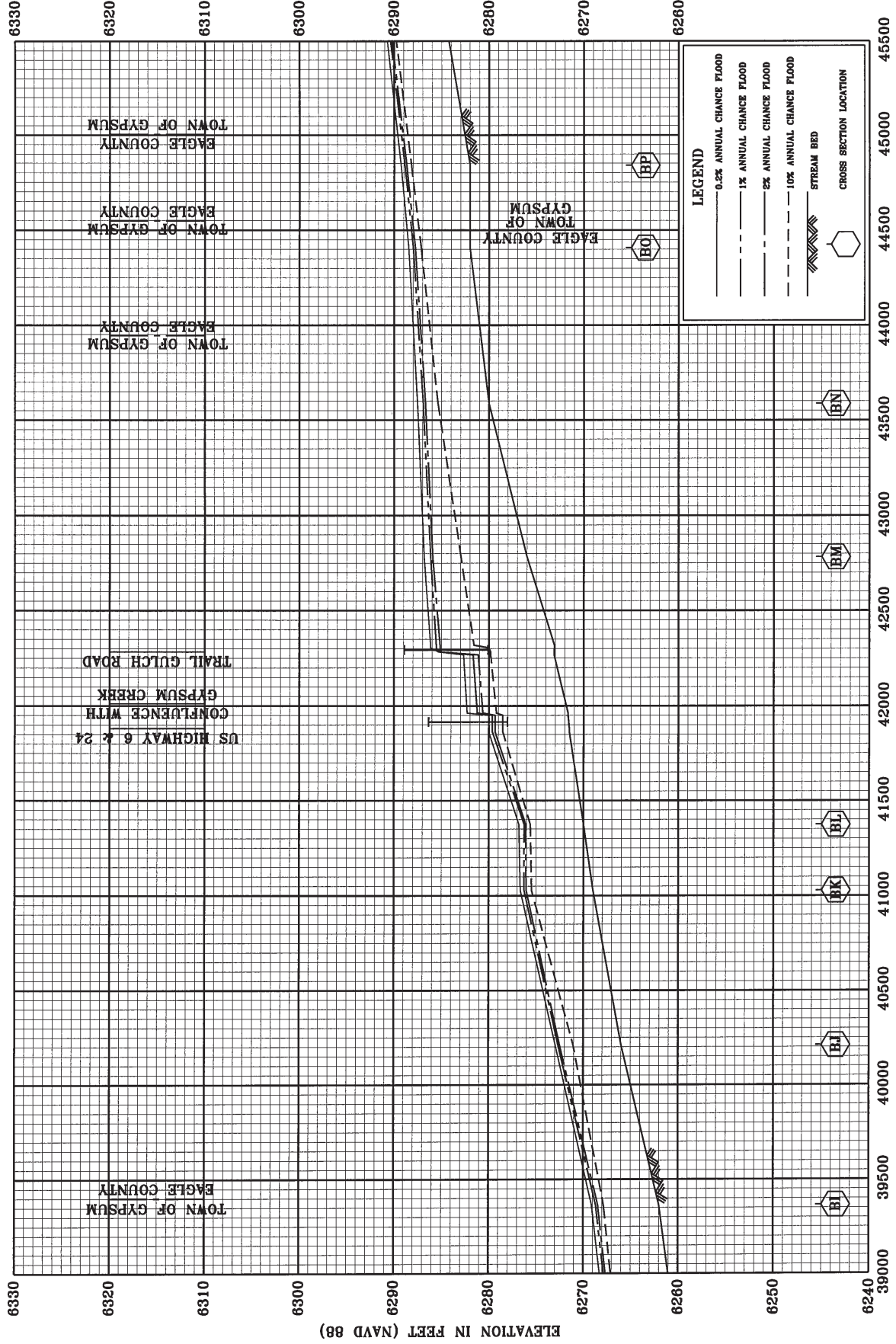
ELEVATION IN FEET (NAVD 88)

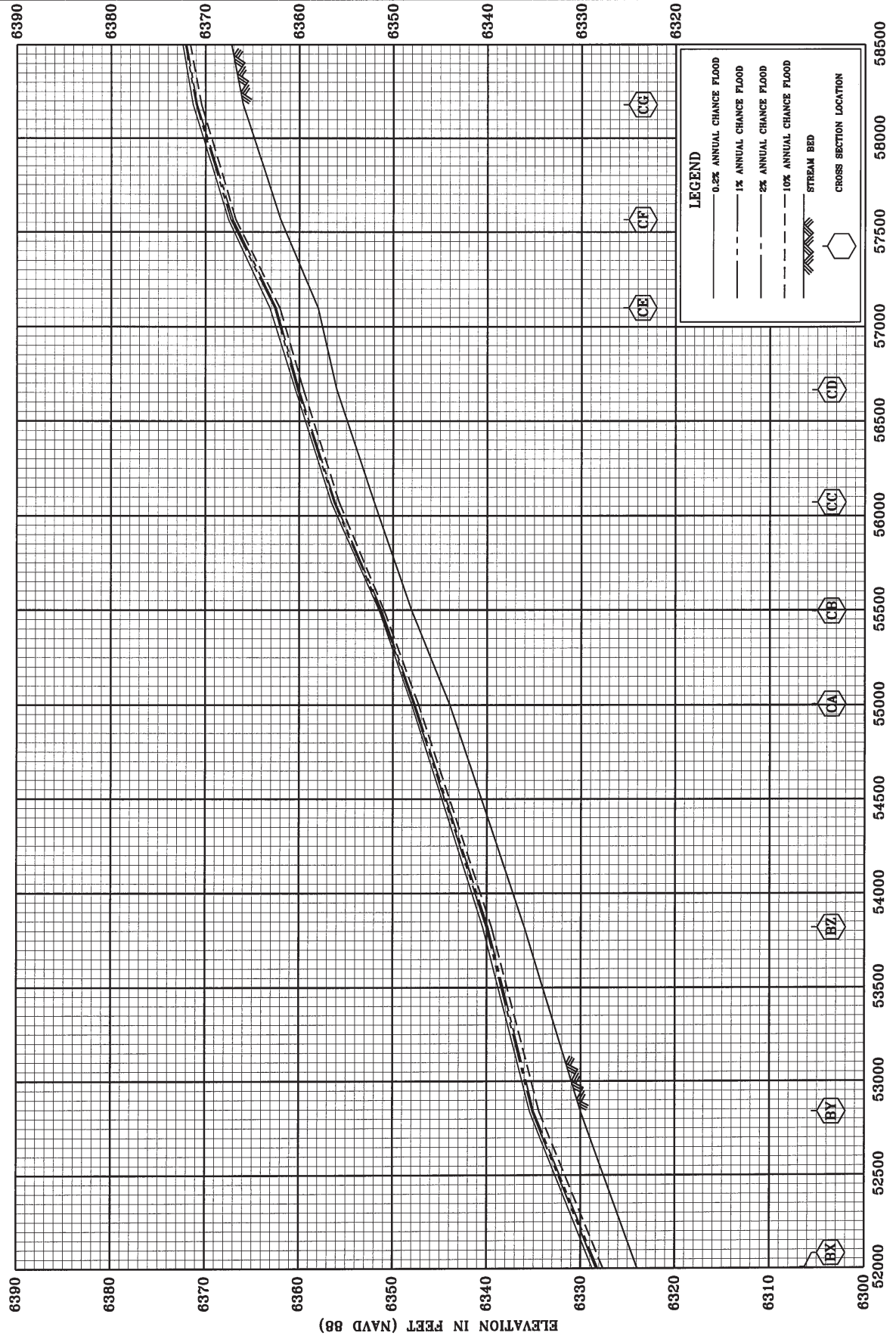


STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
EAGLE RIVER



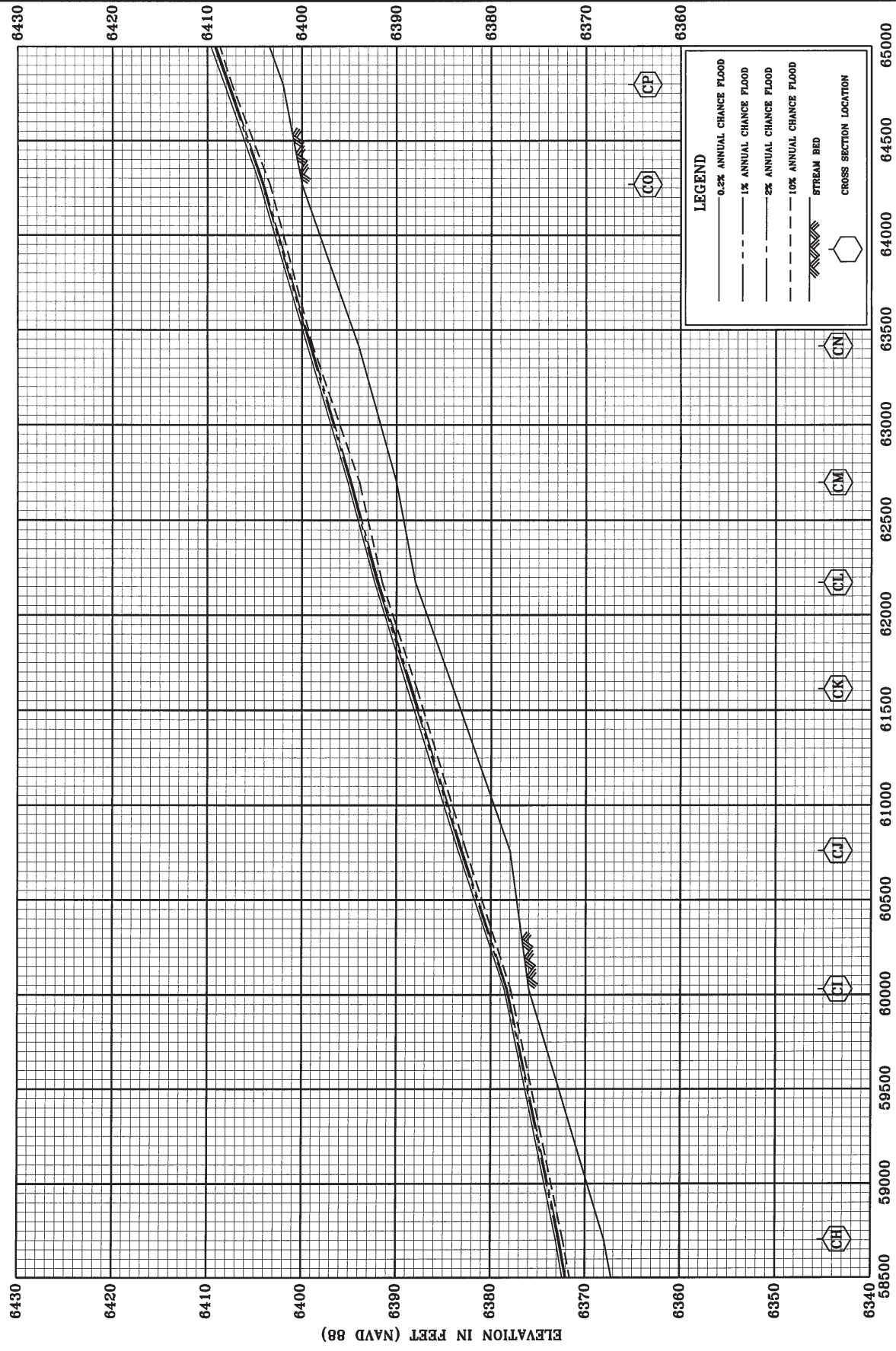


ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION



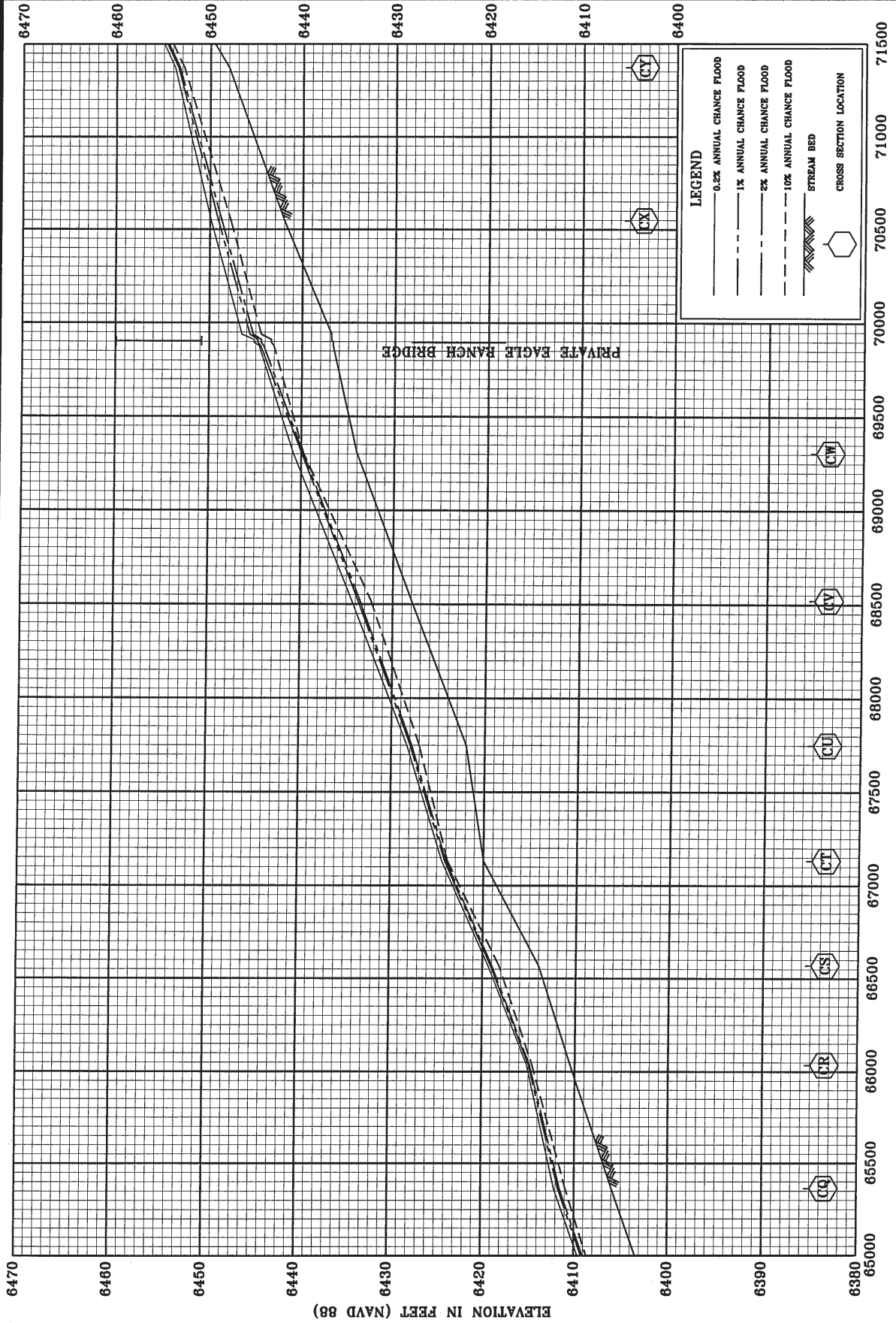
STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

41P

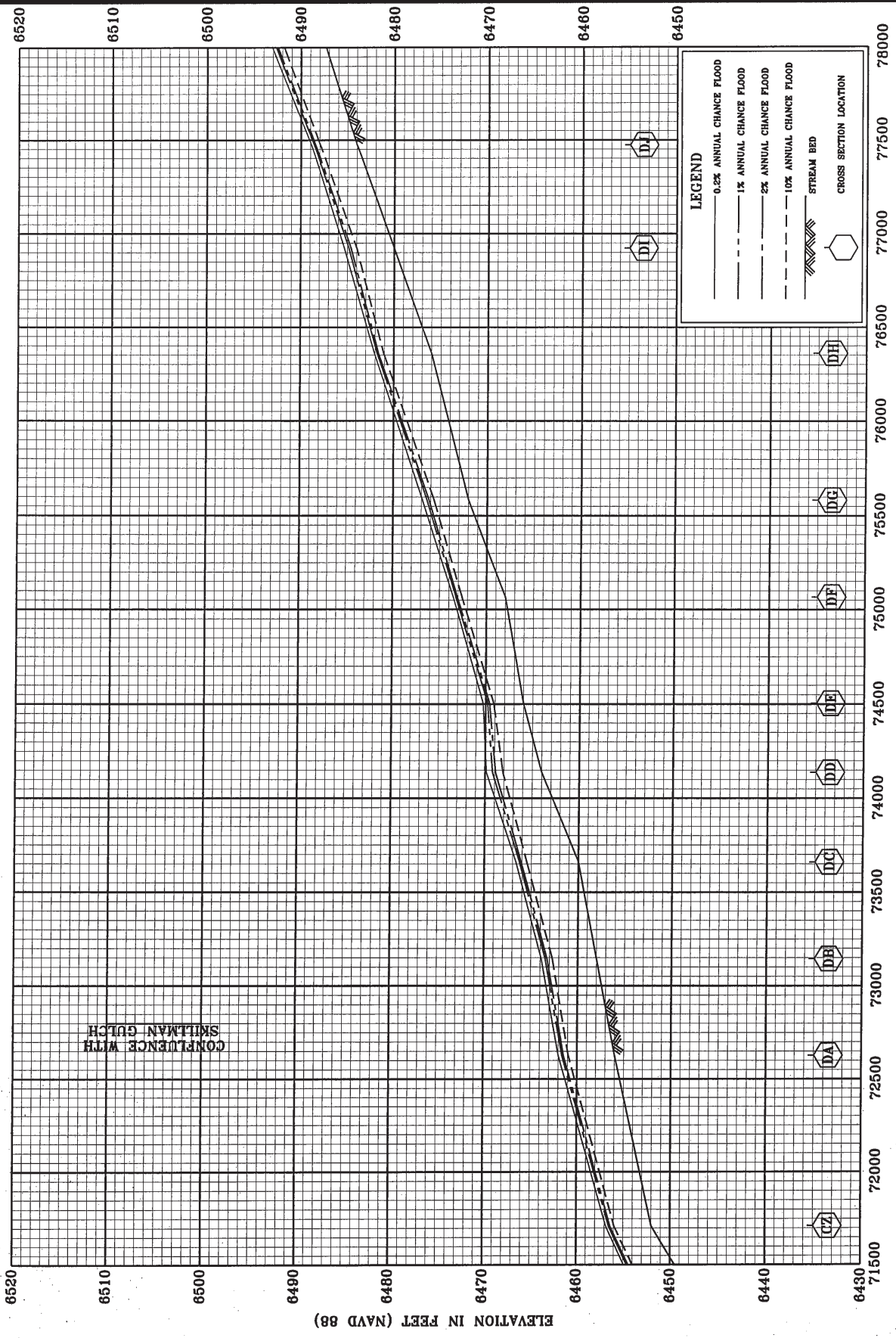


STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

PRIVATE EAGLE RANCH BRIDGE

FLOOD PROFILES
EAGLE RIVER



CONFLUENCE WITH
SKILLMAN GULCH

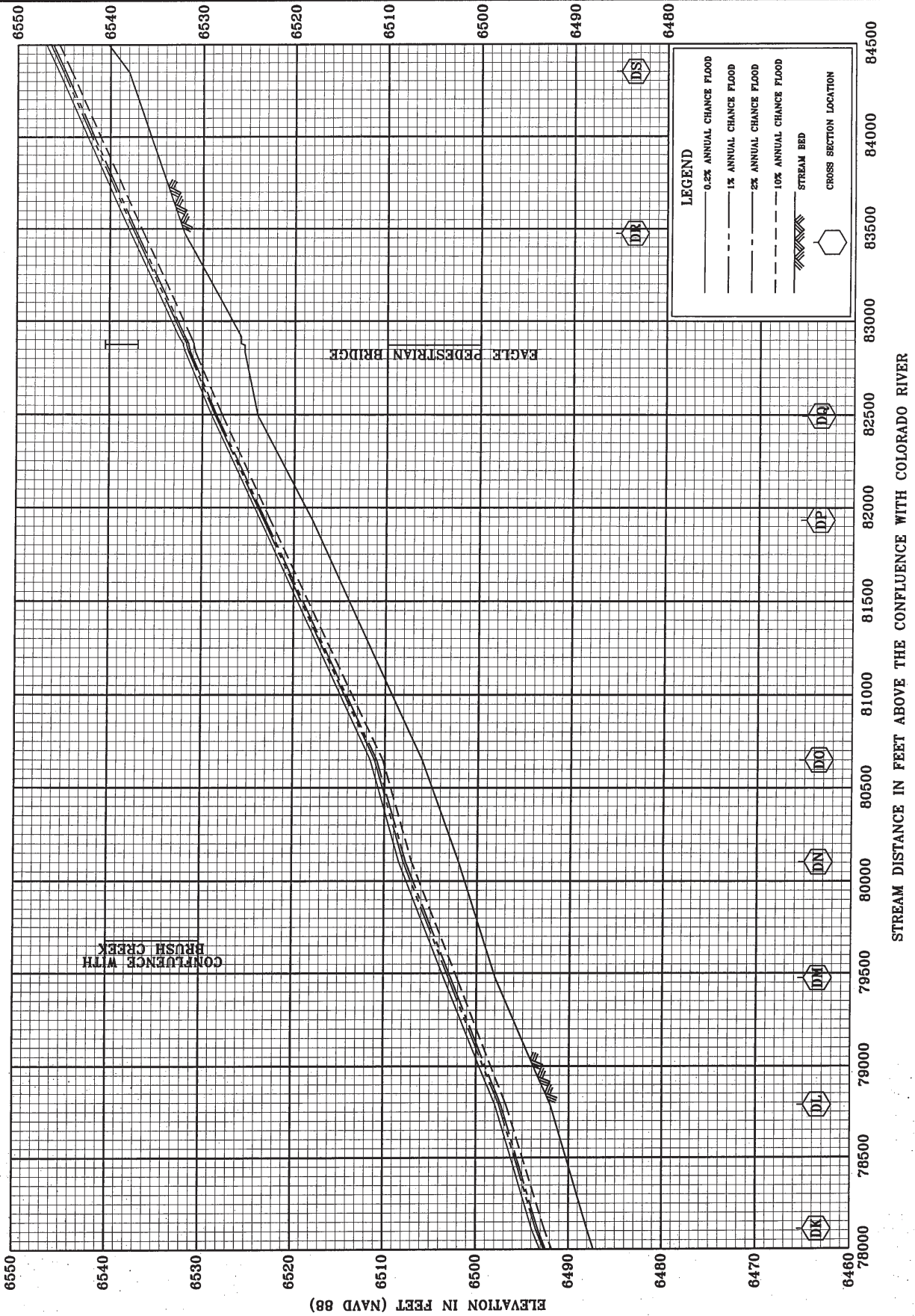
LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

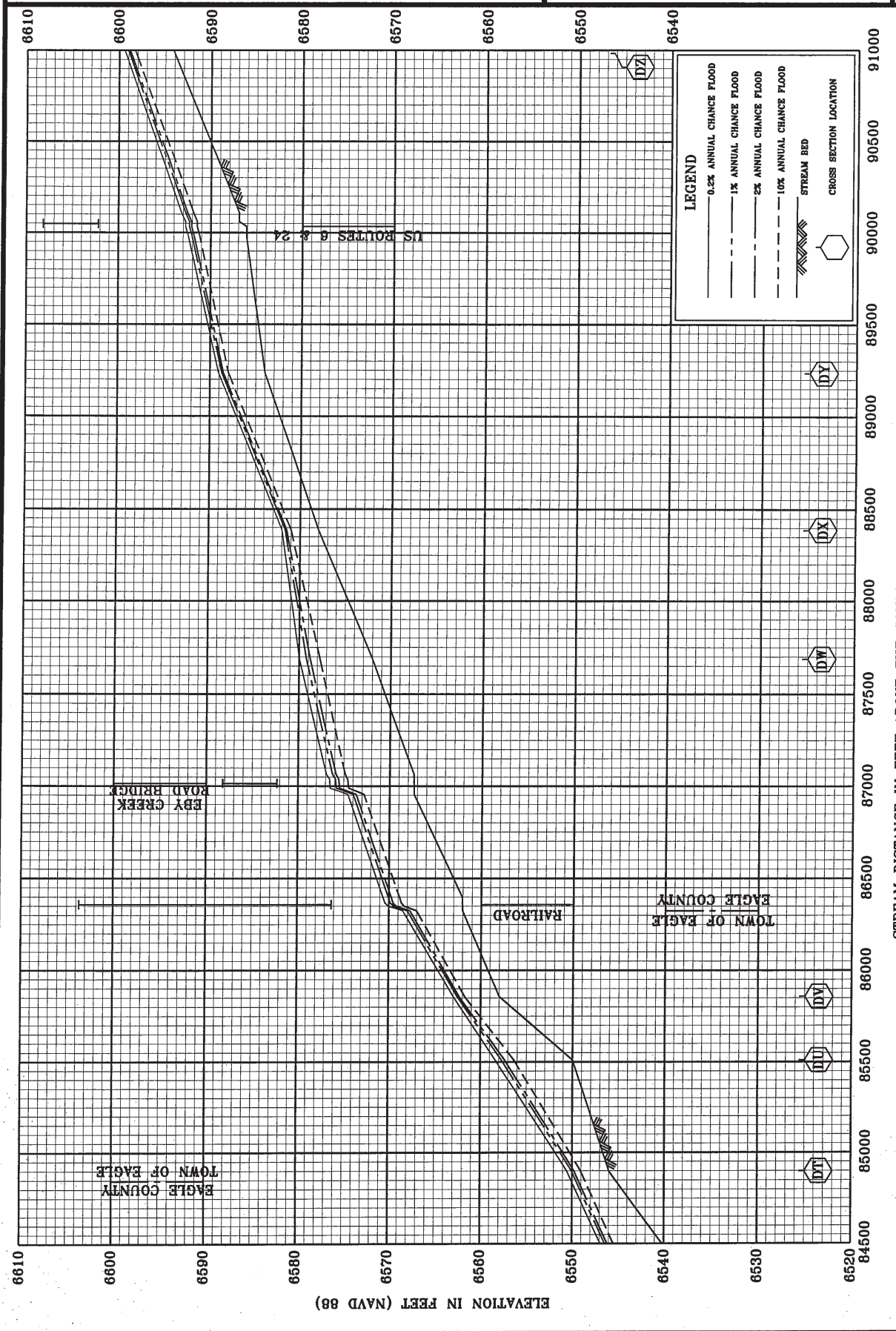
STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

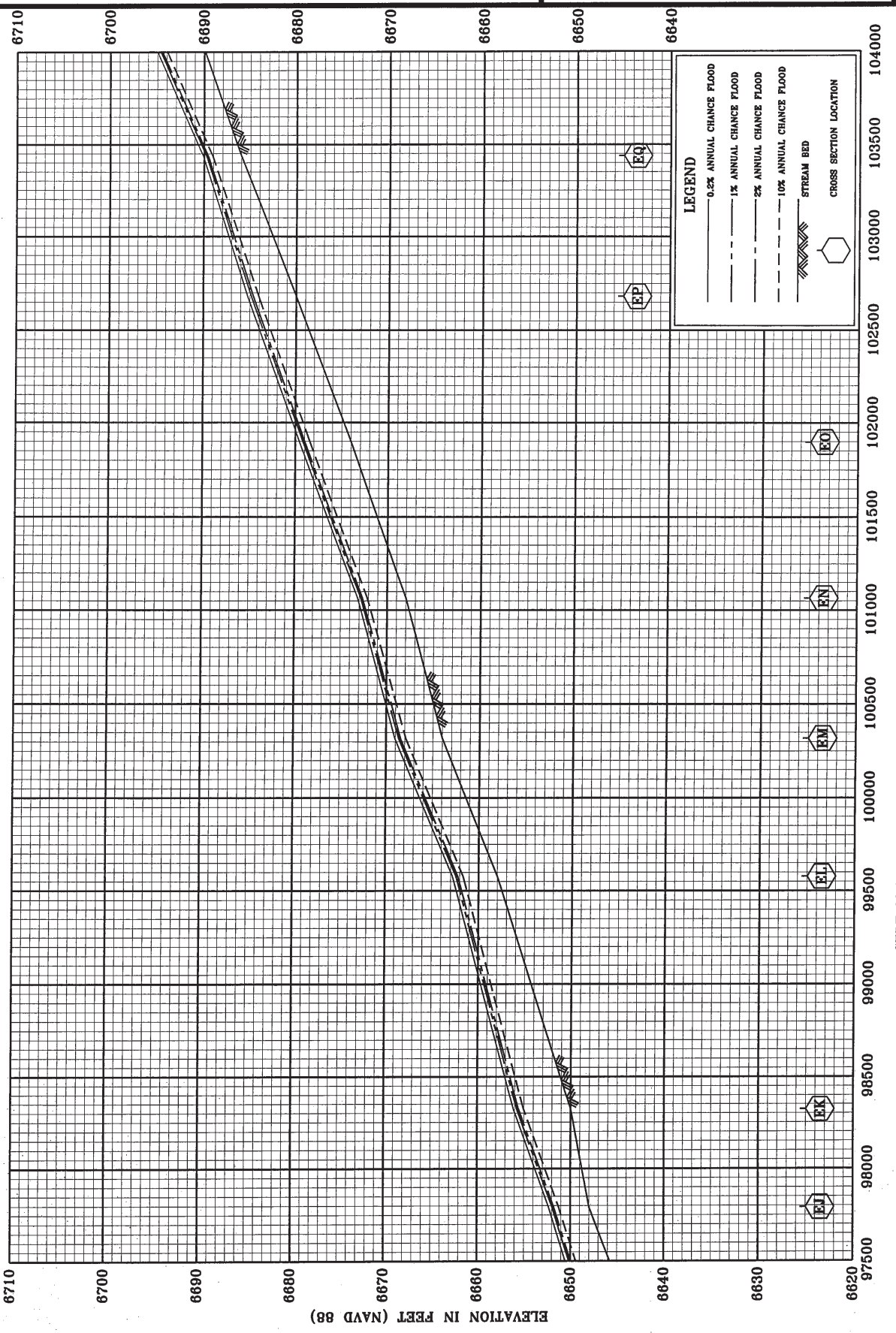
ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
EAGLE RIVER



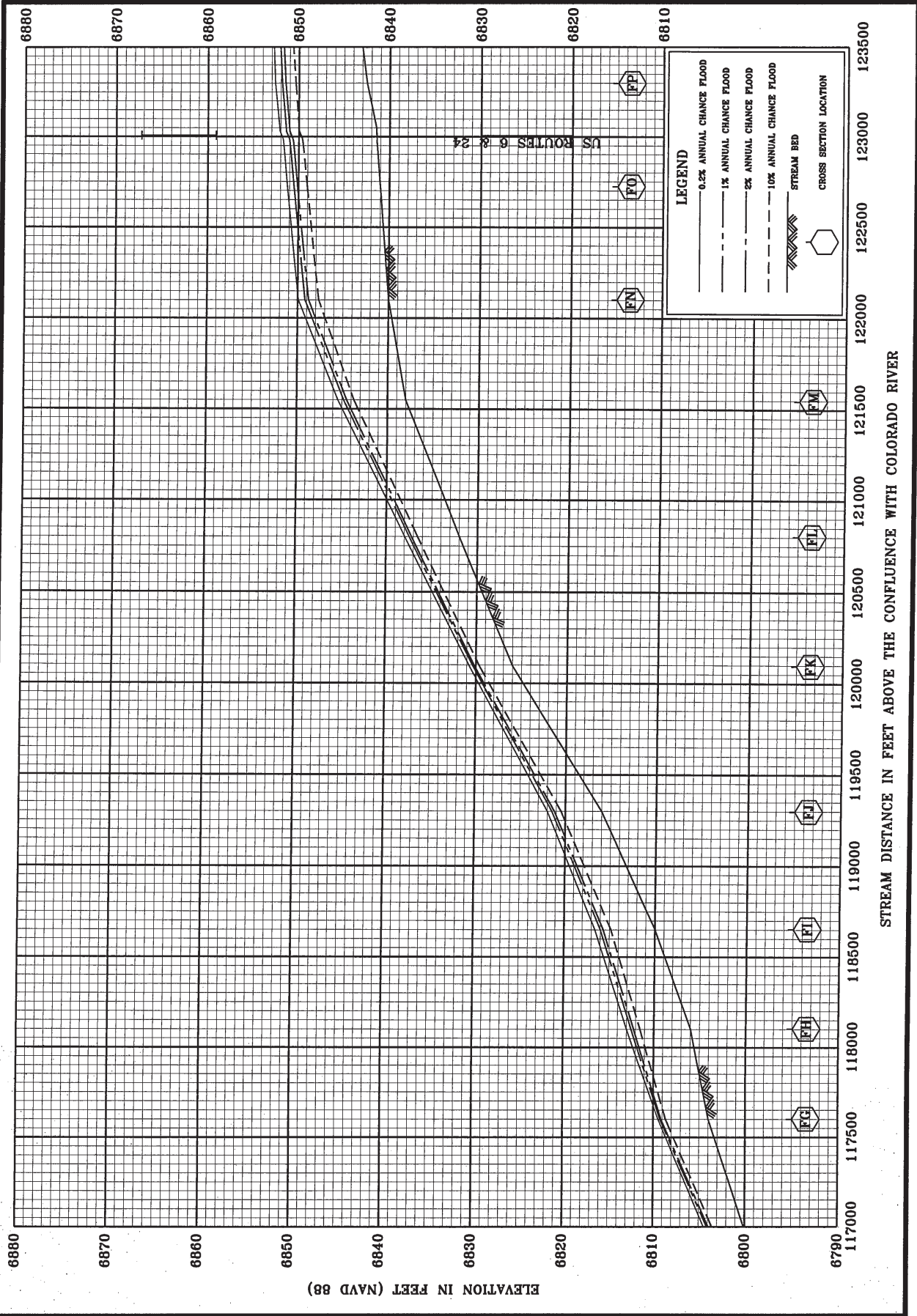
STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER





STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

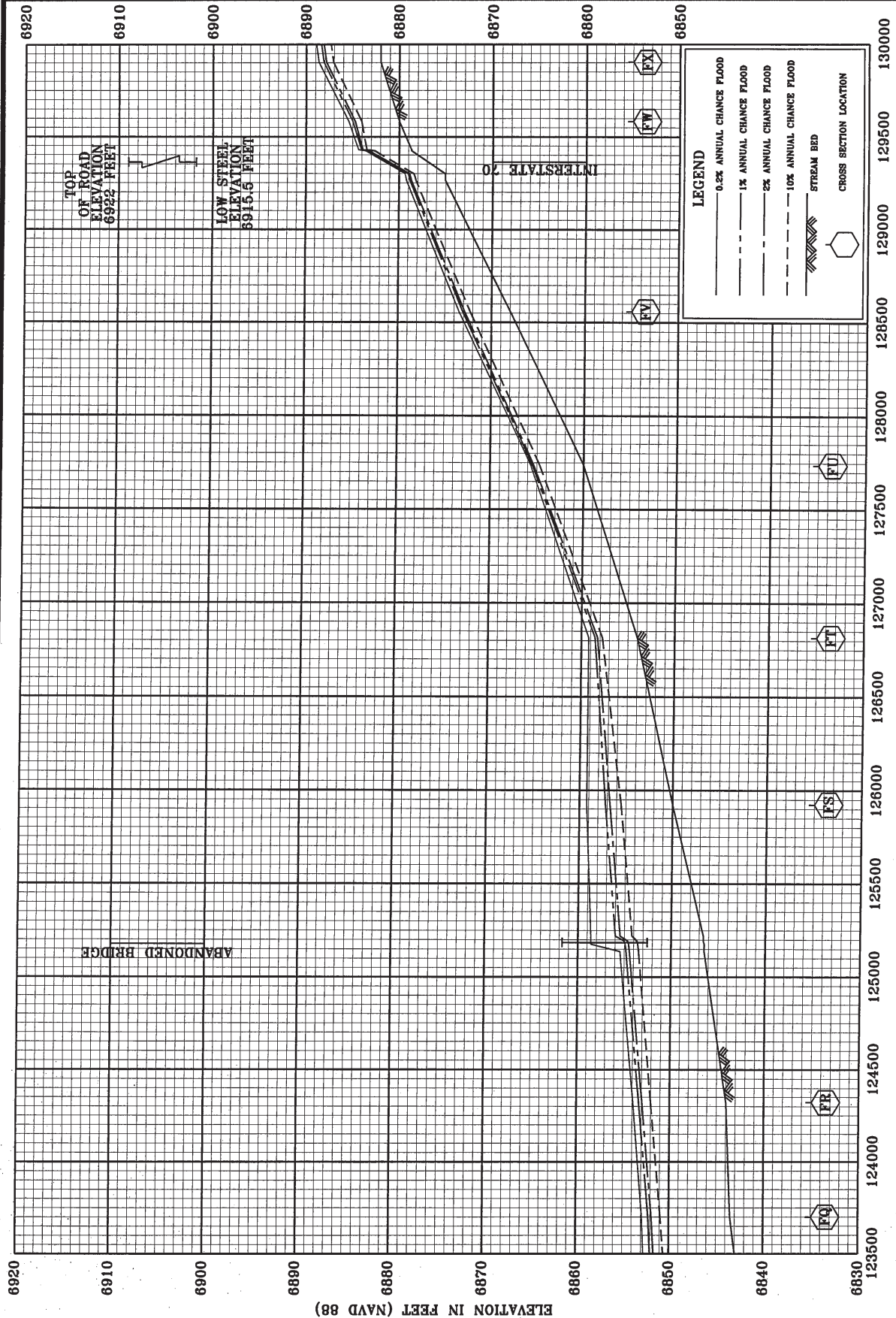
ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

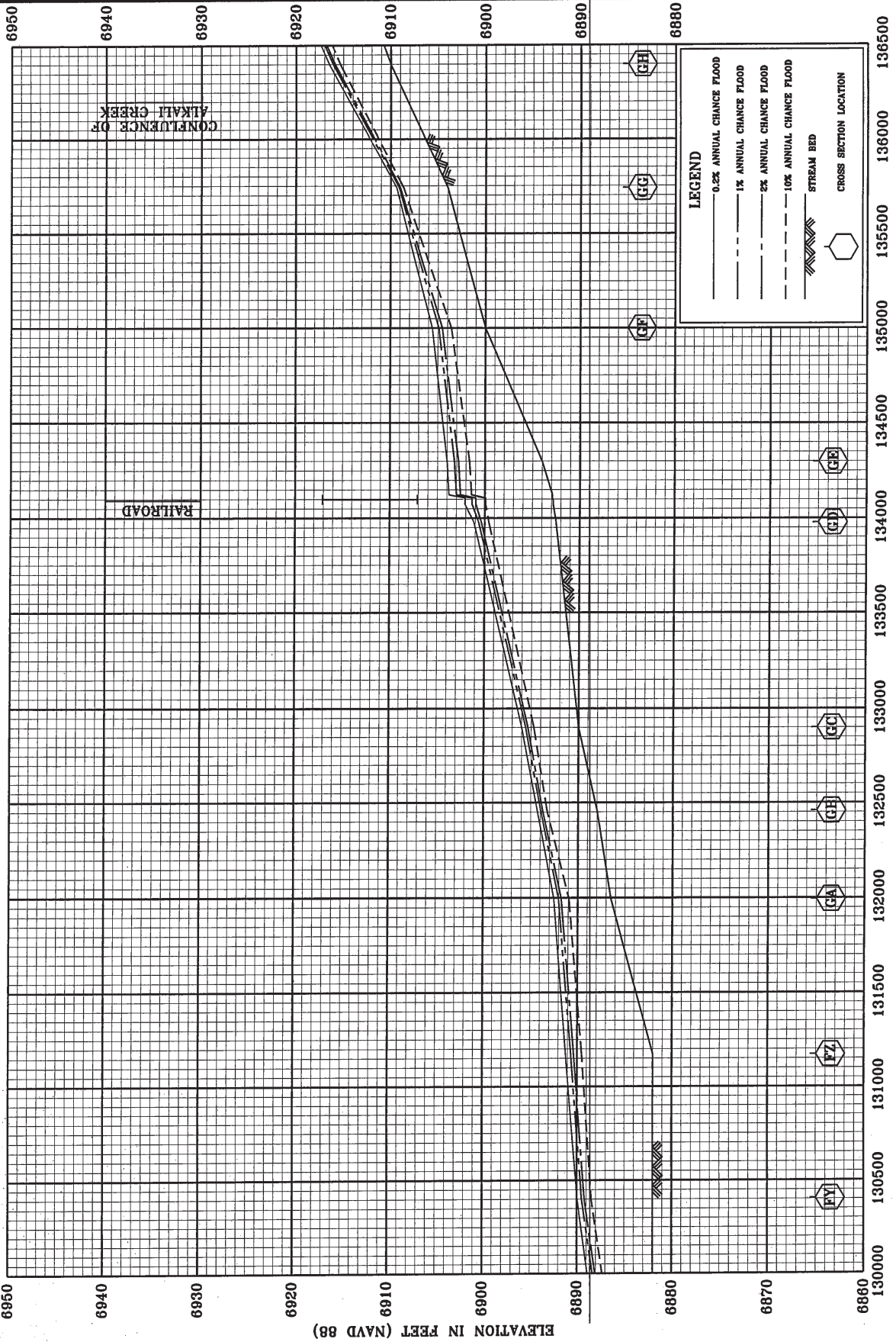
50P



FLOOD PROFILES
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

51P



STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

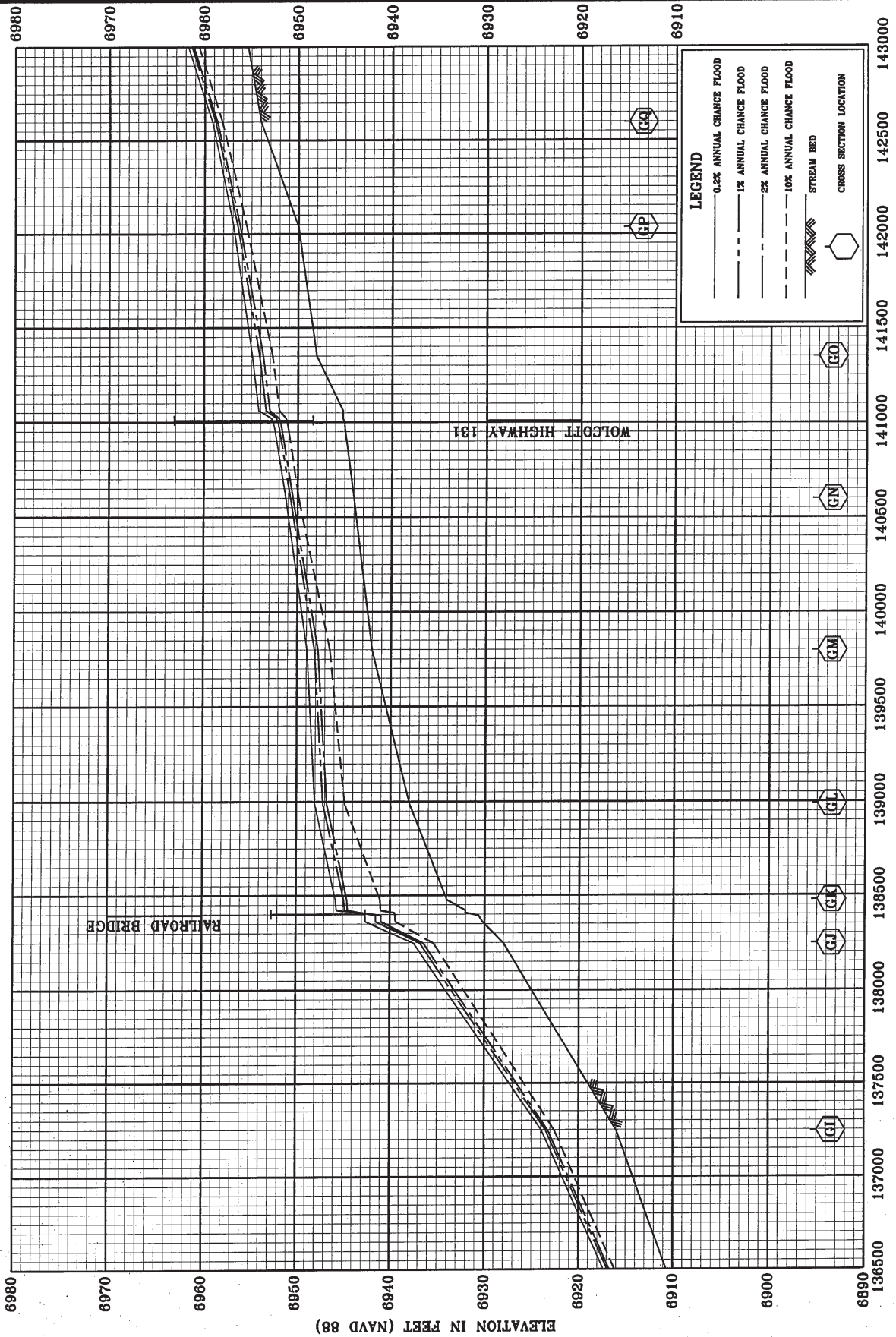
ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES

EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
 EAGLE COUNTY, CO
 AND INCORPORATED AREAS

52P



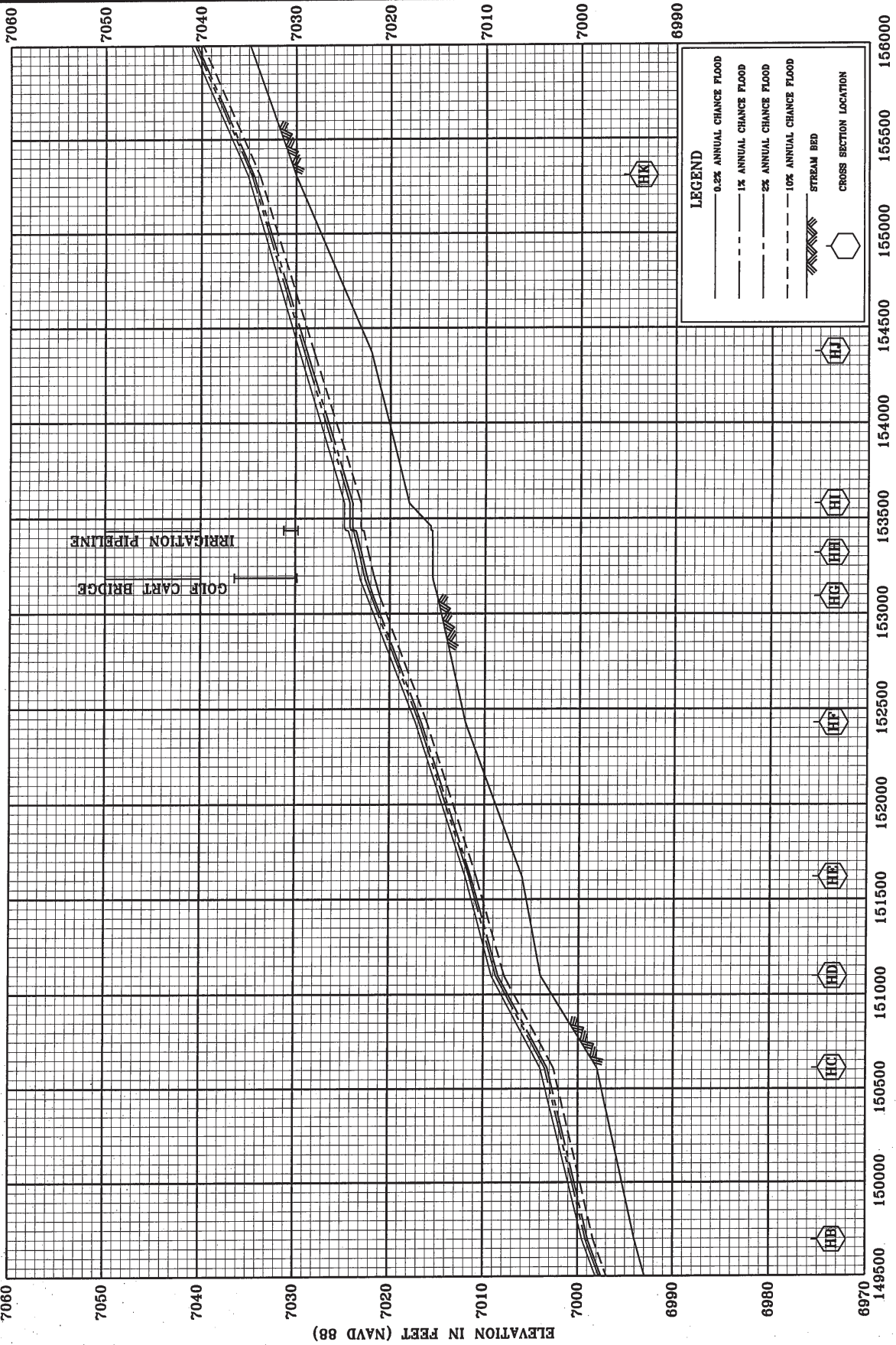
STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
EAGLE RIVER

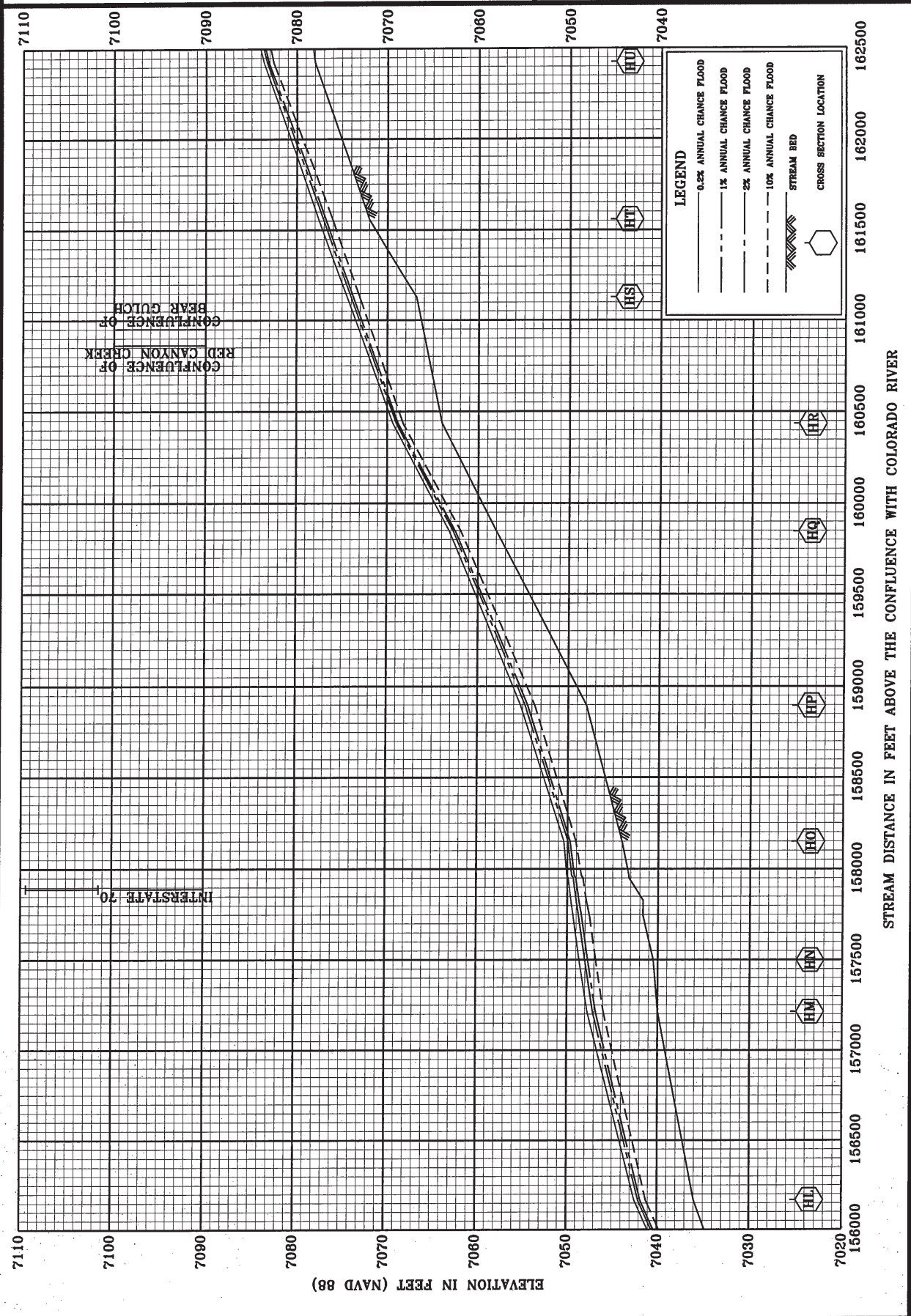
FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

54P



STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

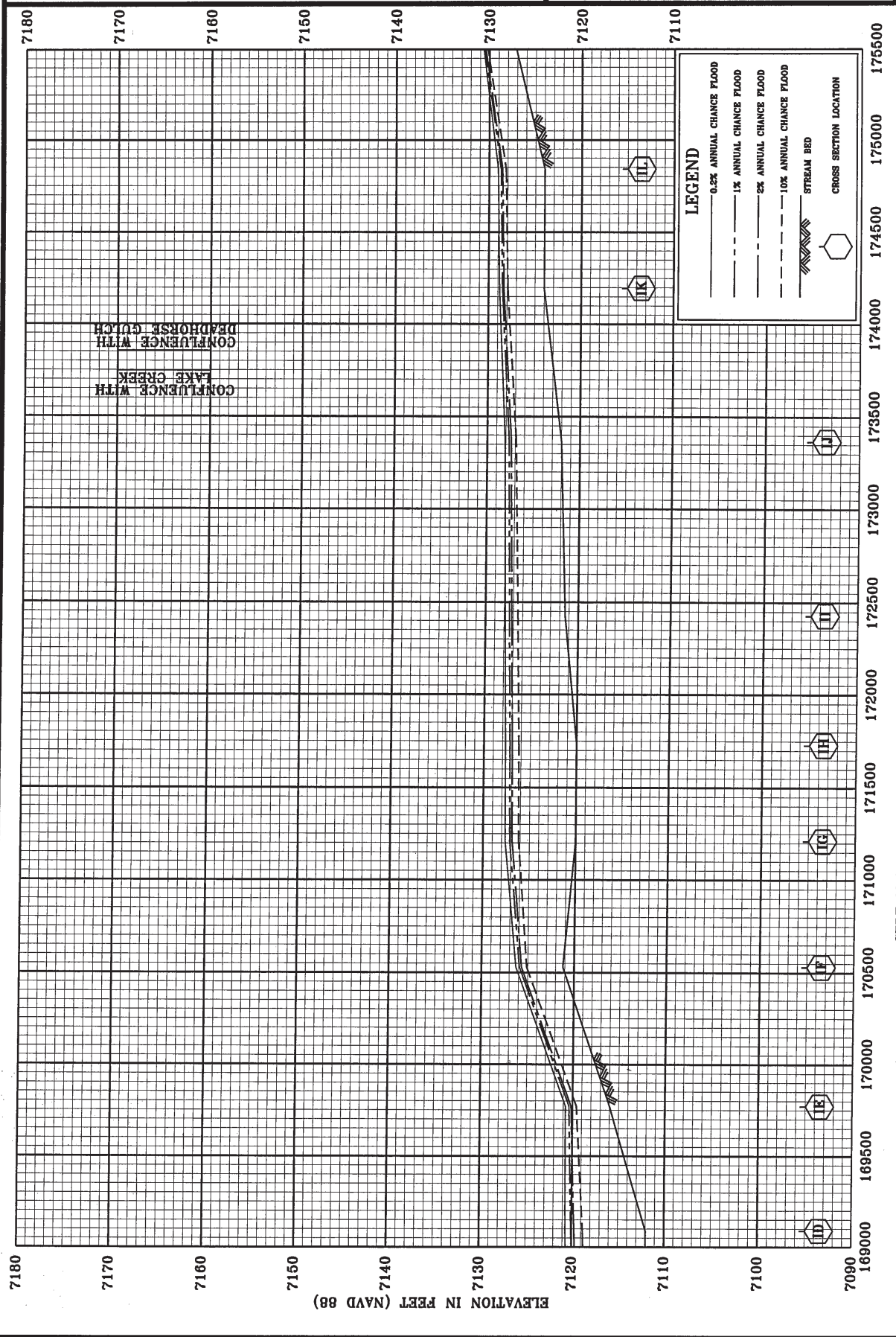
ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

57P



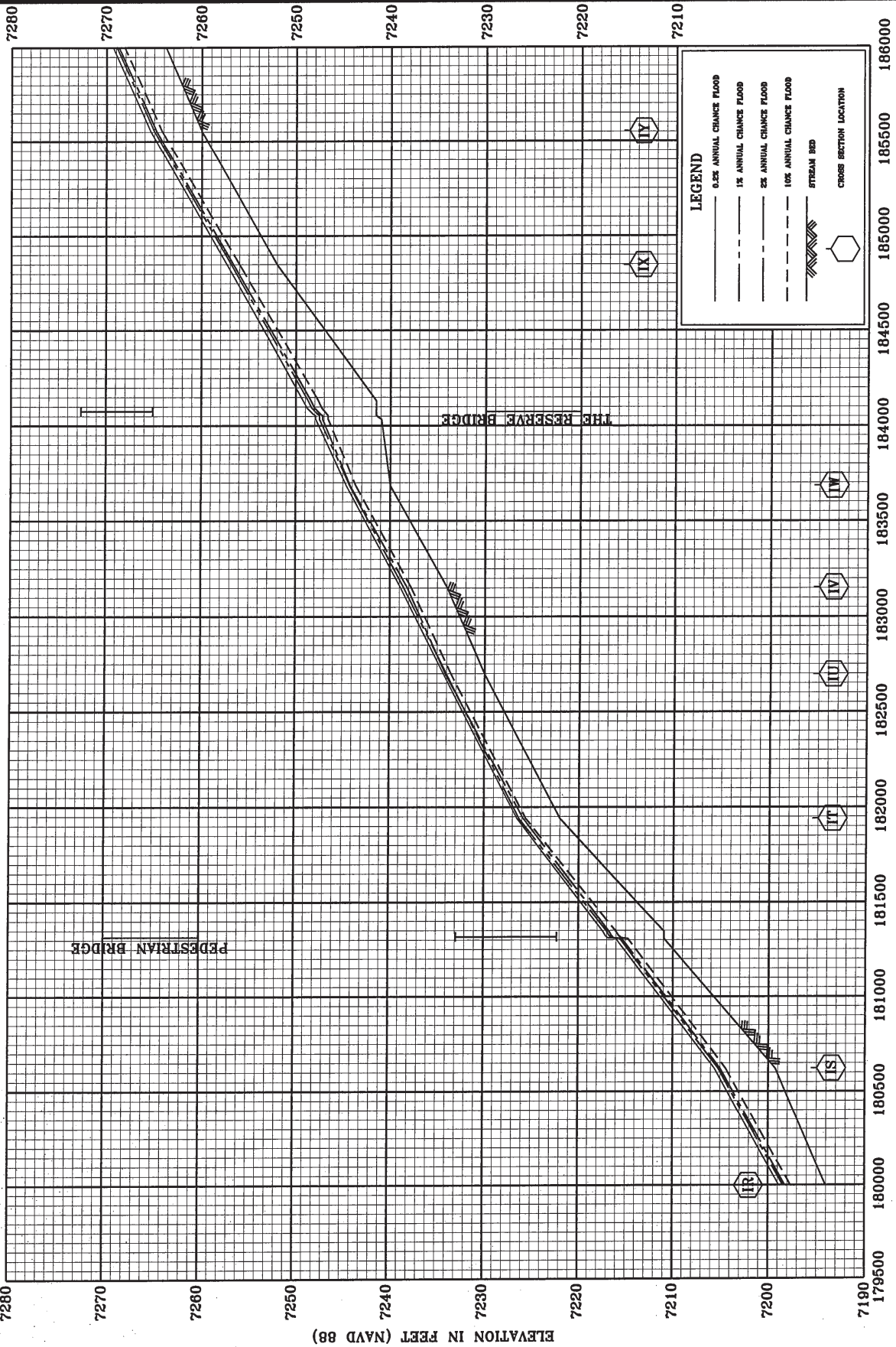
7180
7170
7160
7150
7140
7130
7120
7110
7100
7090

169000 169500 170000 170500 171000 171500 172000 172500 173000 173500 174000 174500 175000 175500

FLOOD PROFILES
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

59P



STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

7280
7270
7260
7250
7240
7230
7220
7210
7200
7190

180000 180500 181000 181500 182000 182500 183000 183500 184000 184500 185000 185500 186000

PEDESTRIAN BRIDGE

THE RESERVE BRIDGE

I

II

III

IV

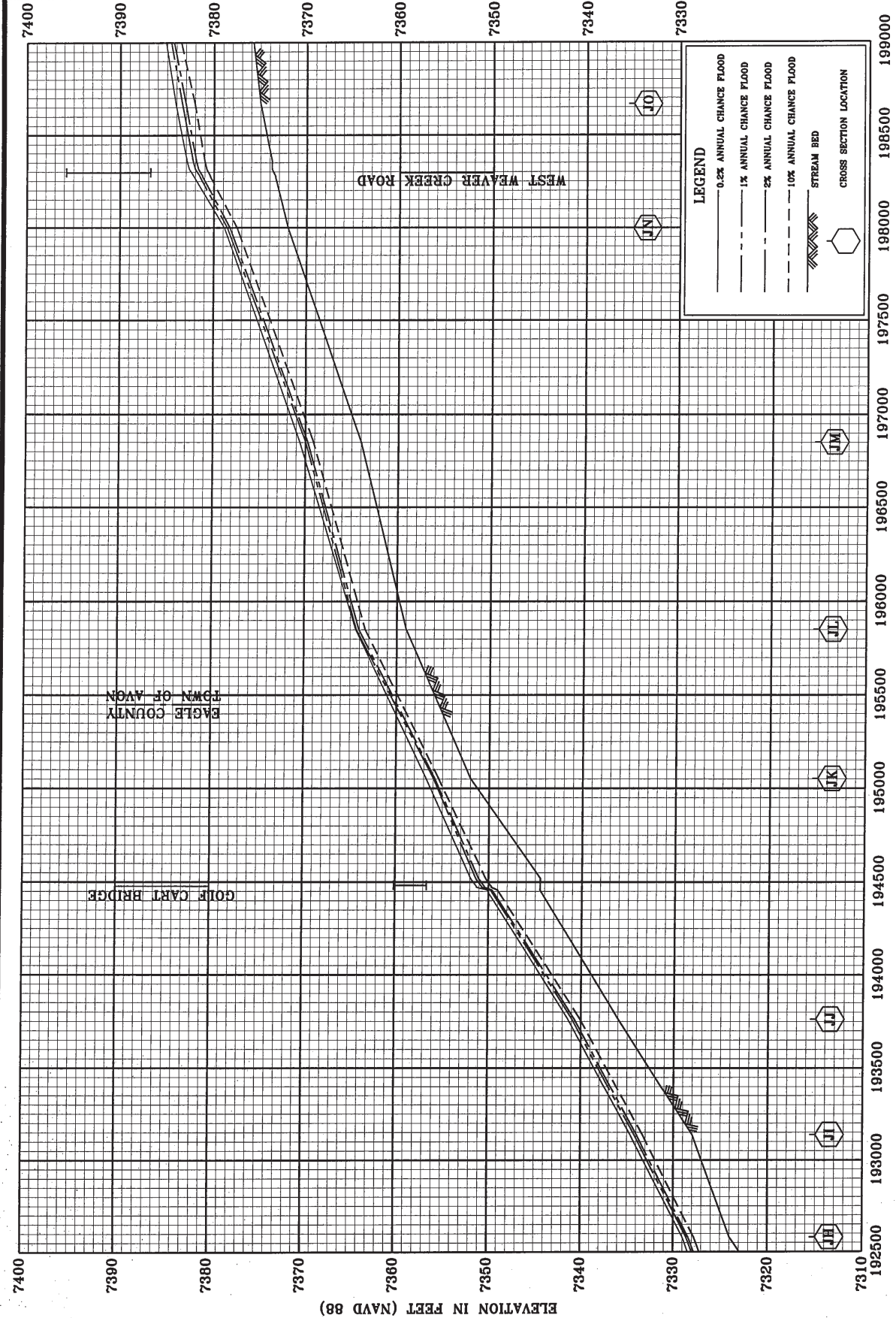
V

VI

VII

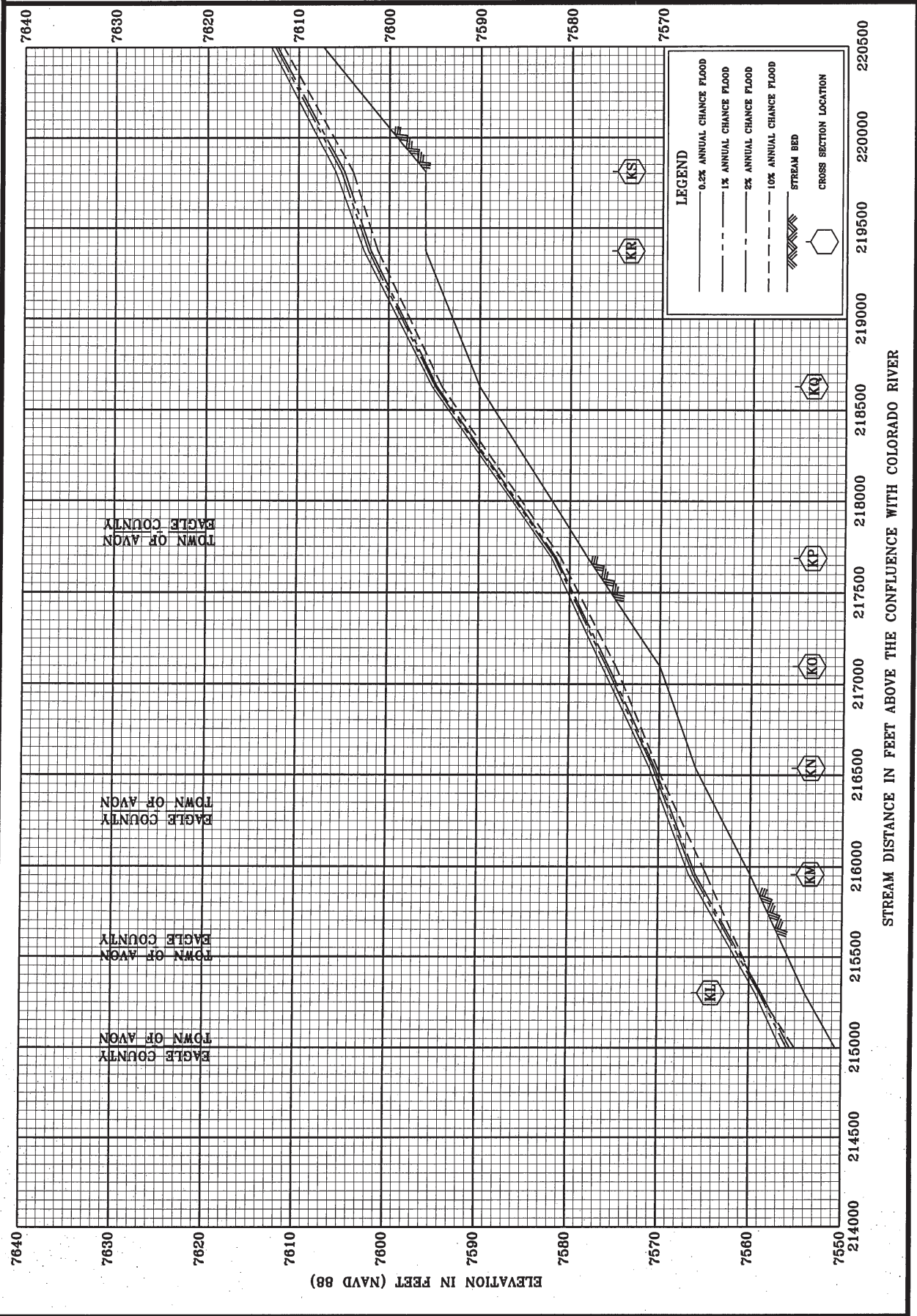
VIII

IX

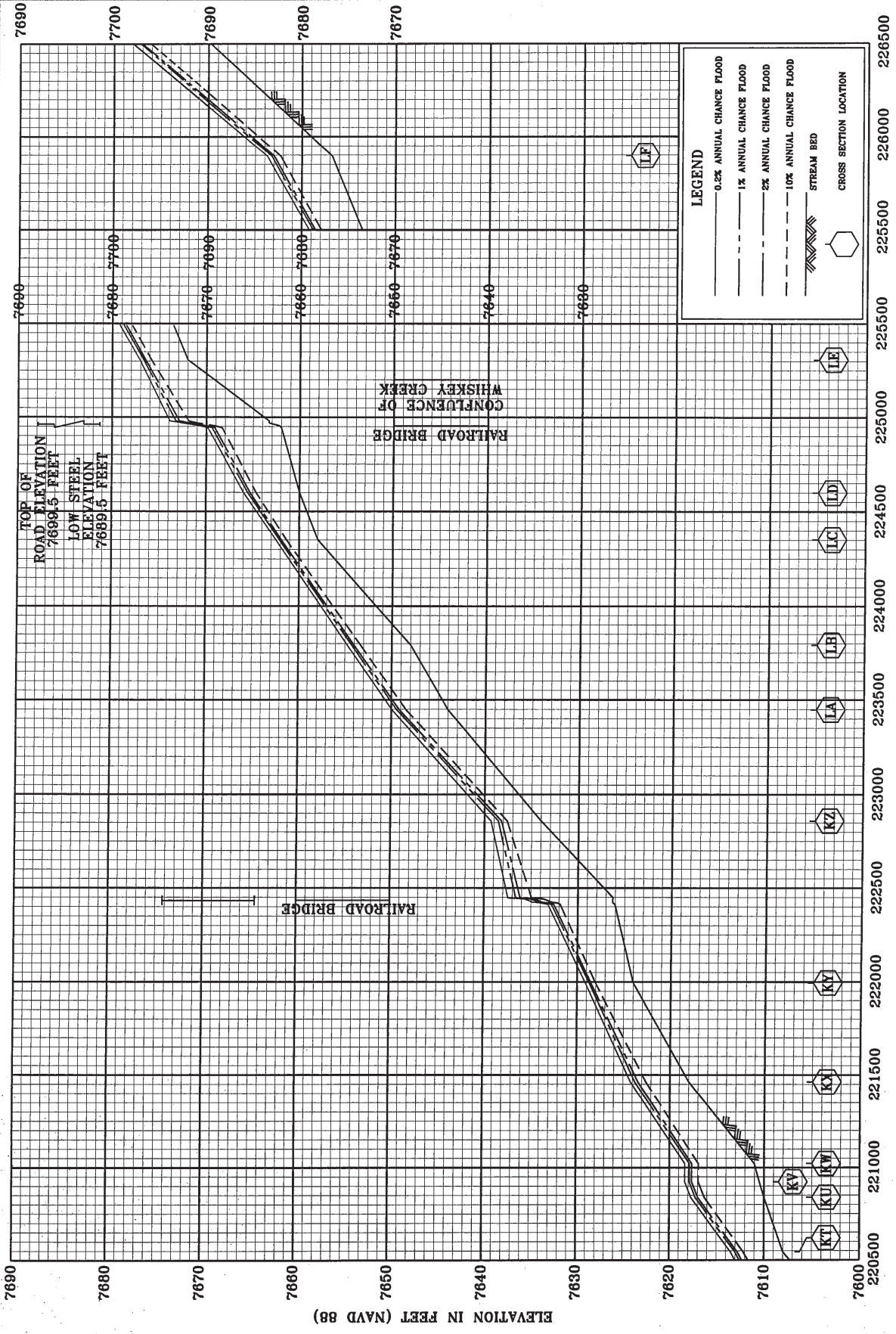


FLOOD PROFILES

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS



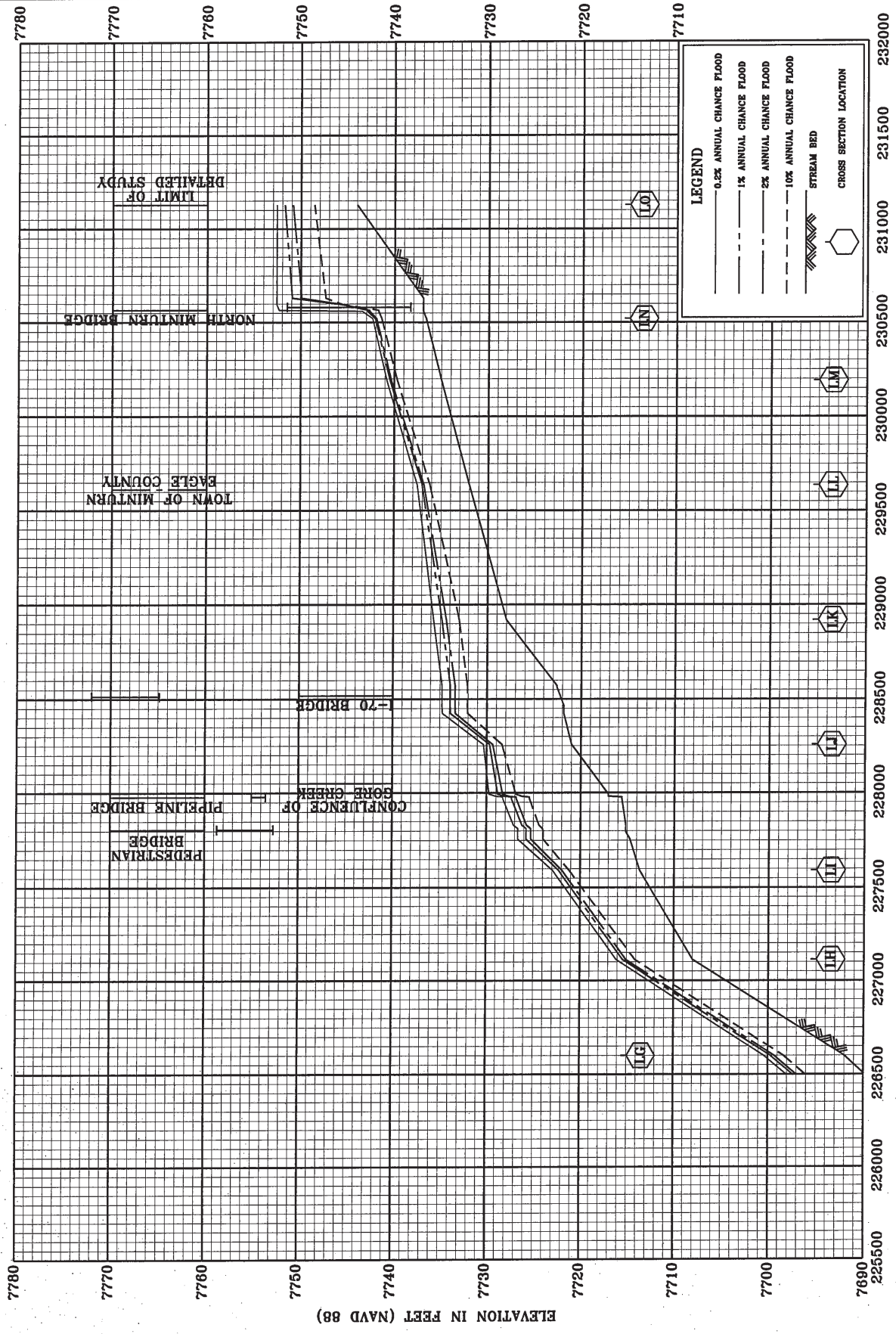
FLOOD PROFILES
 EAGLE RIVER



FLOOD PROFILES
EAGLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

67P

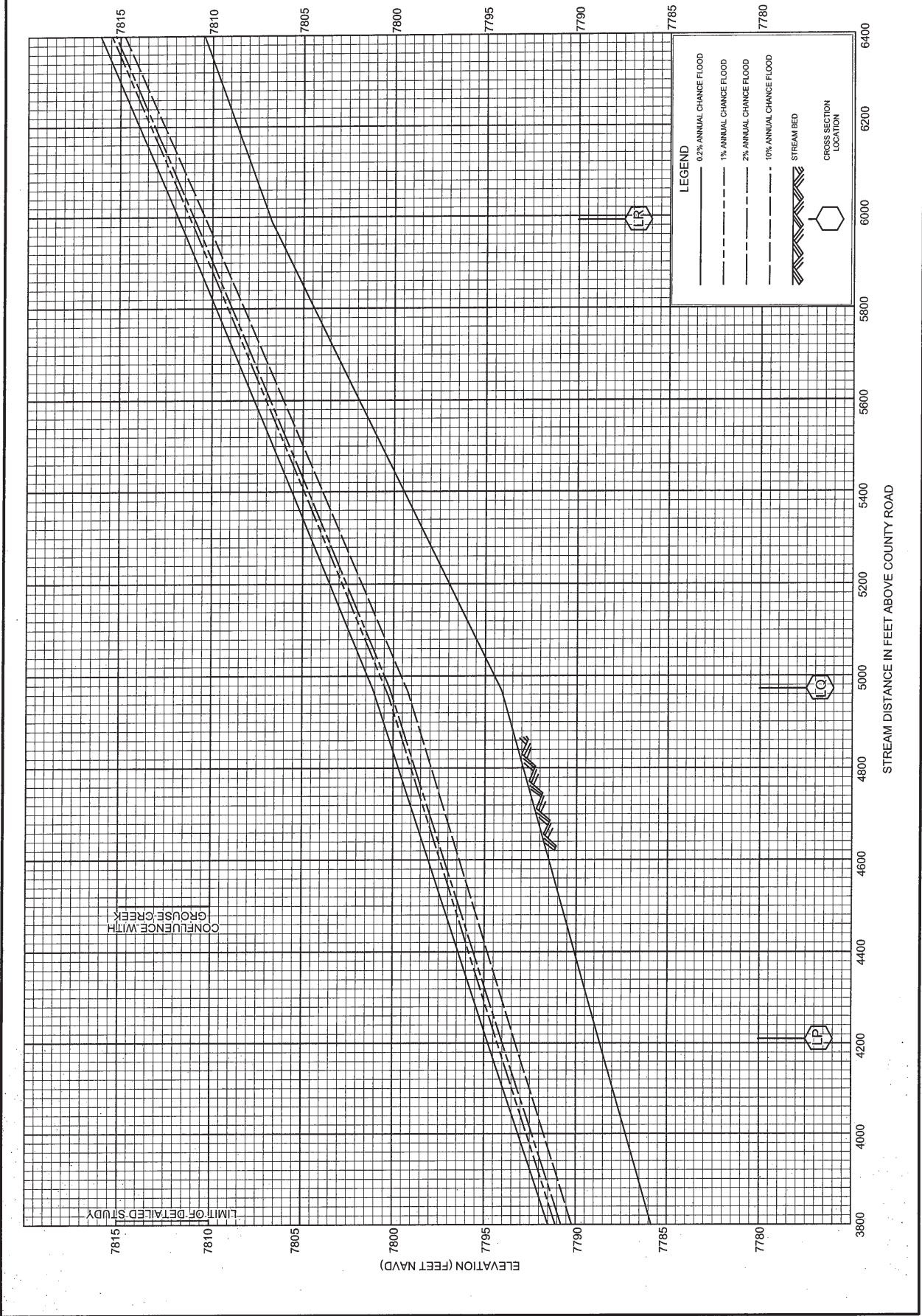


STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH COLORADO RIVER

ELEVATION IN FEET (NAVD 88)

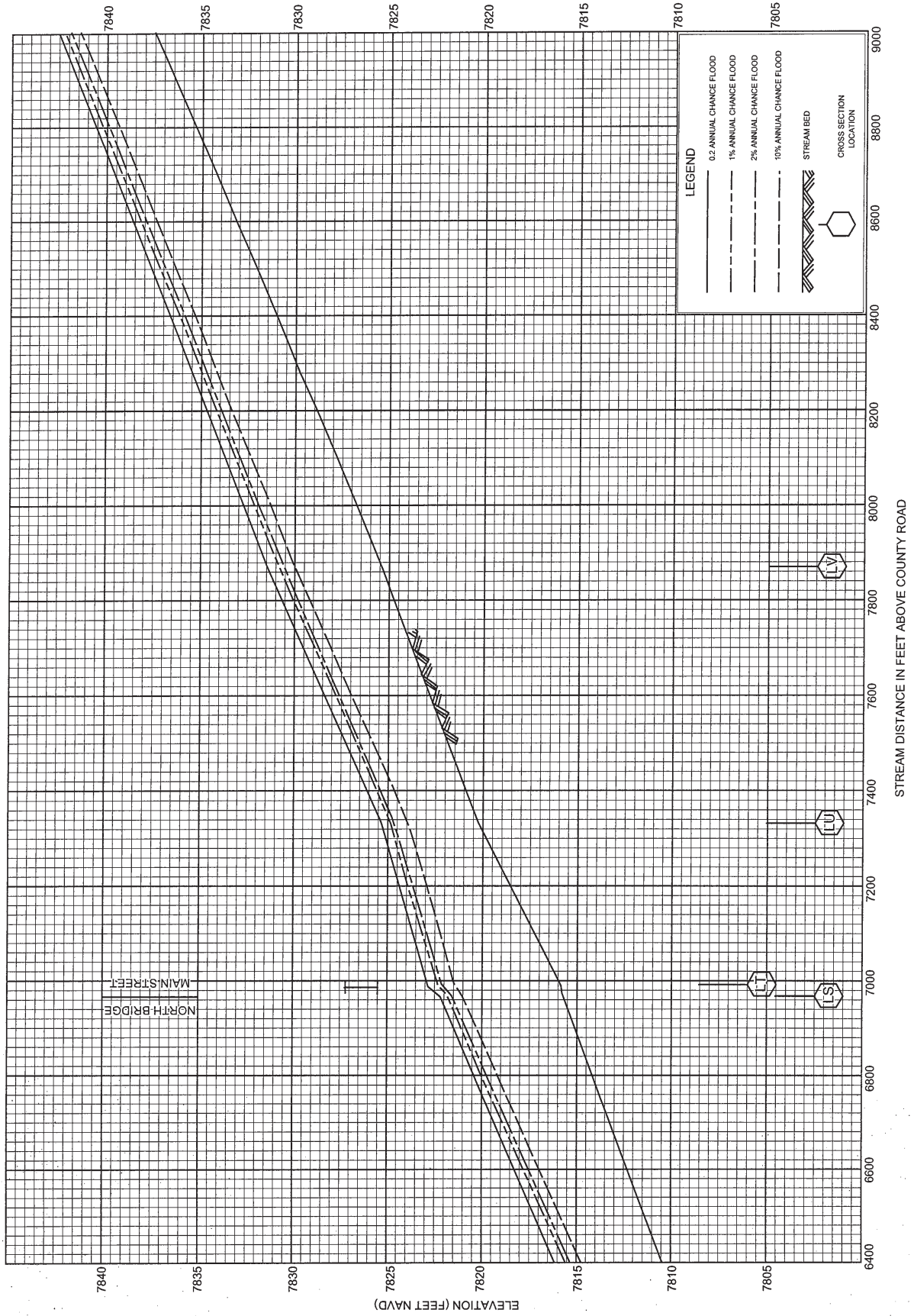
225500 226000 226500 227000 227500 228000 228500 229000 229500 230000 230500 231000 231500 232000

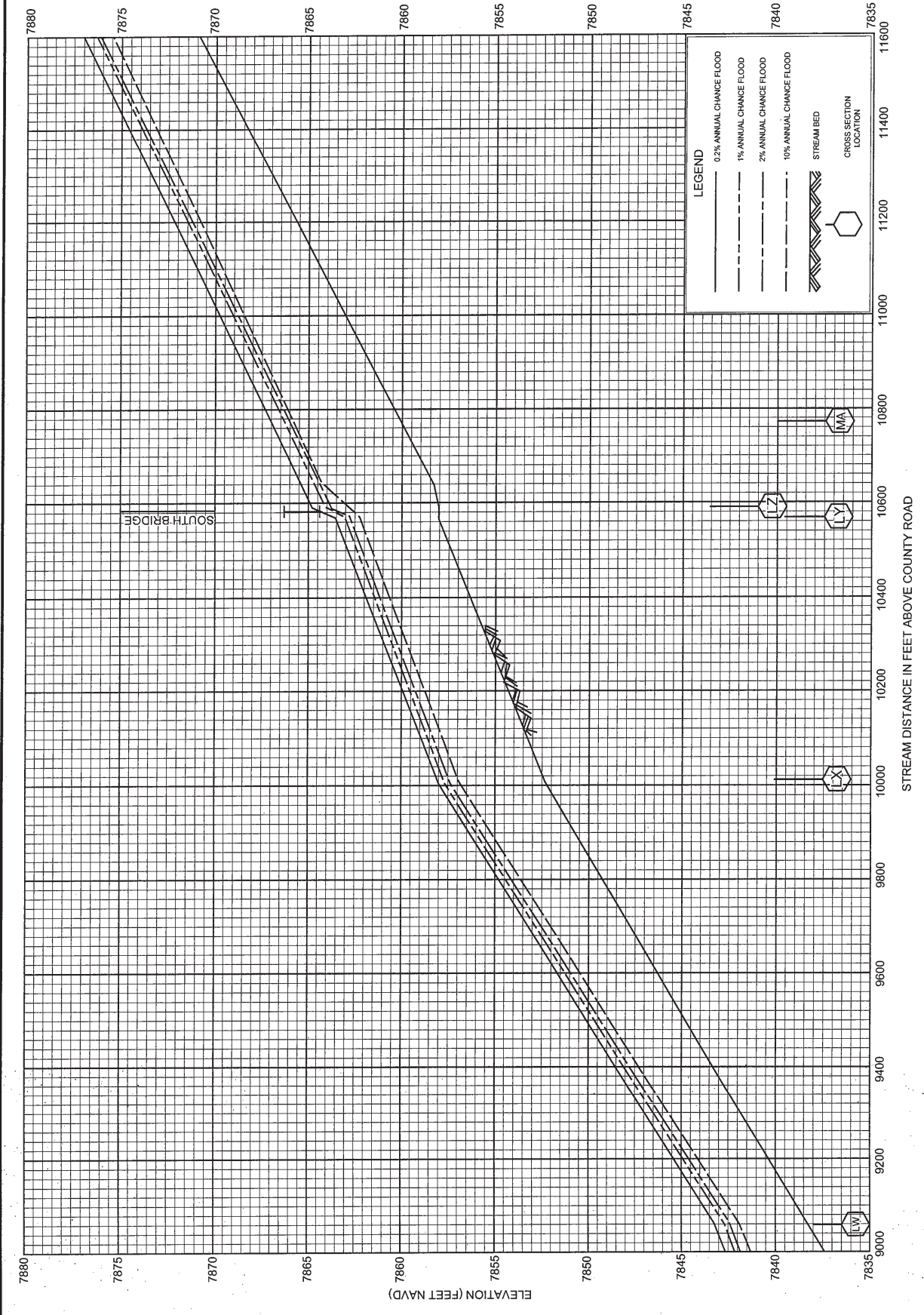
7780 7770 7760 7750 7740 7730 7720 7710

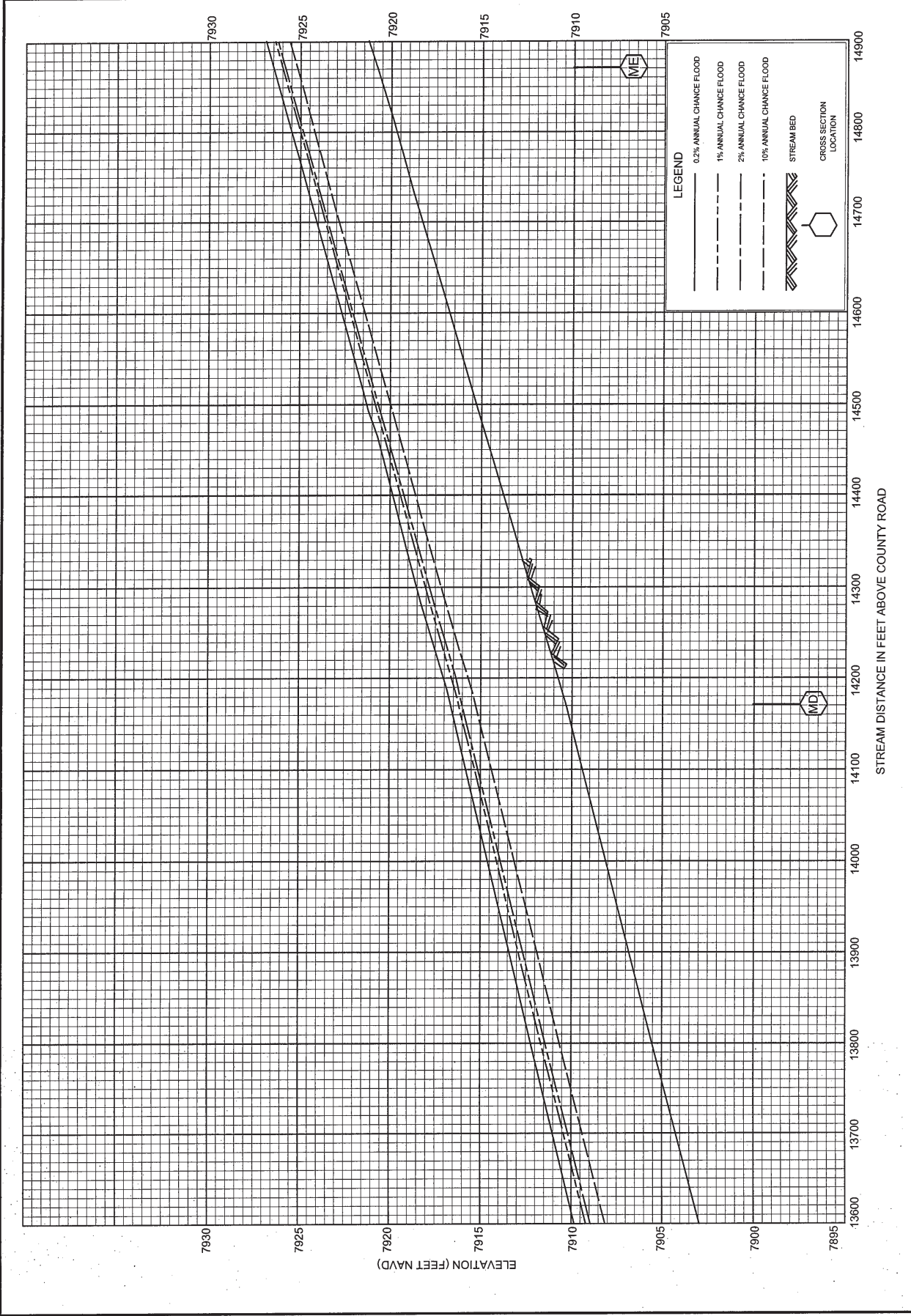


LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - · 2% ANNUAL CHANCE FLOOD
- · - · 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- CROSS SECTION LOCATION



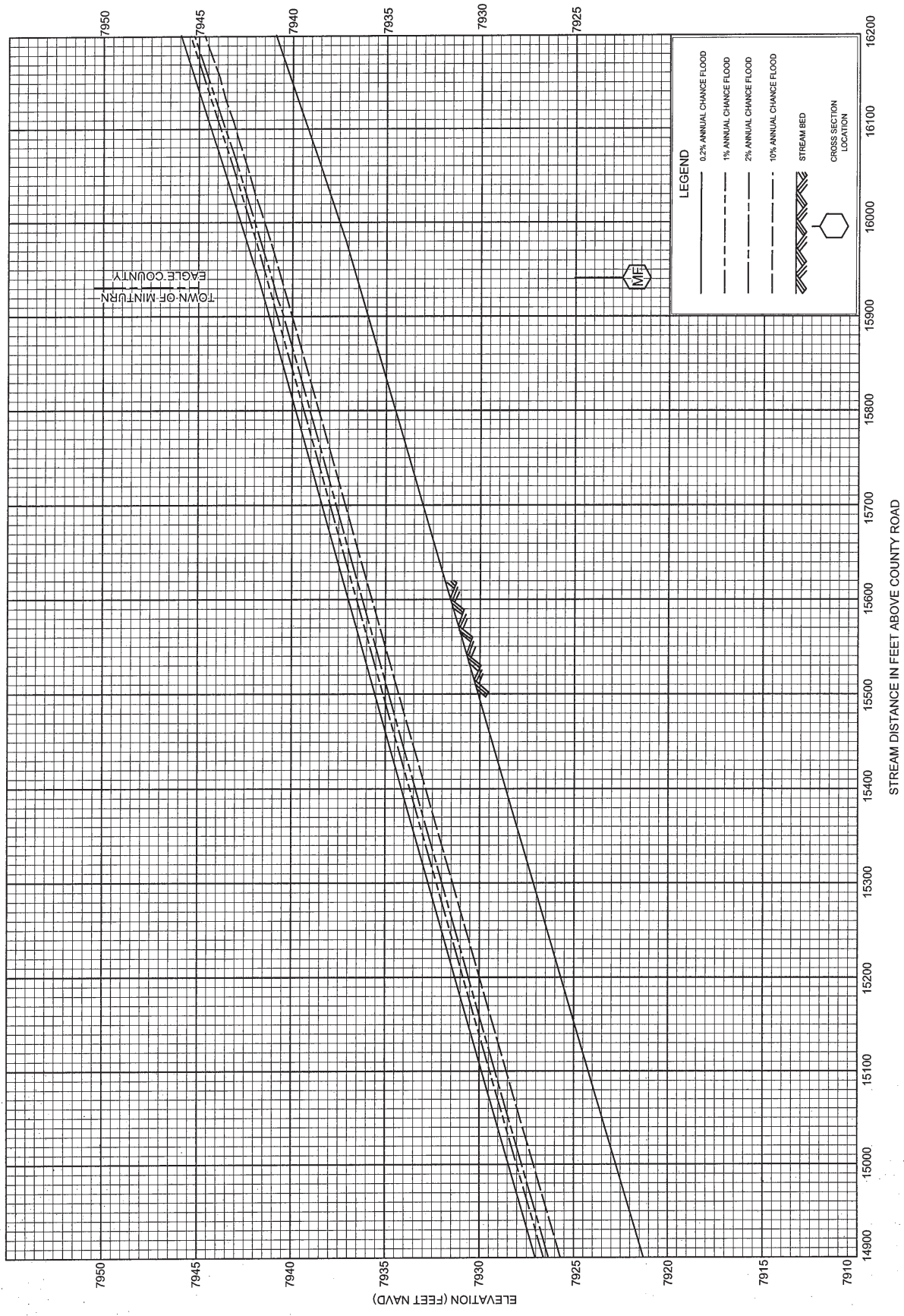




FLOOD PROFILES
EAGLE RIVER

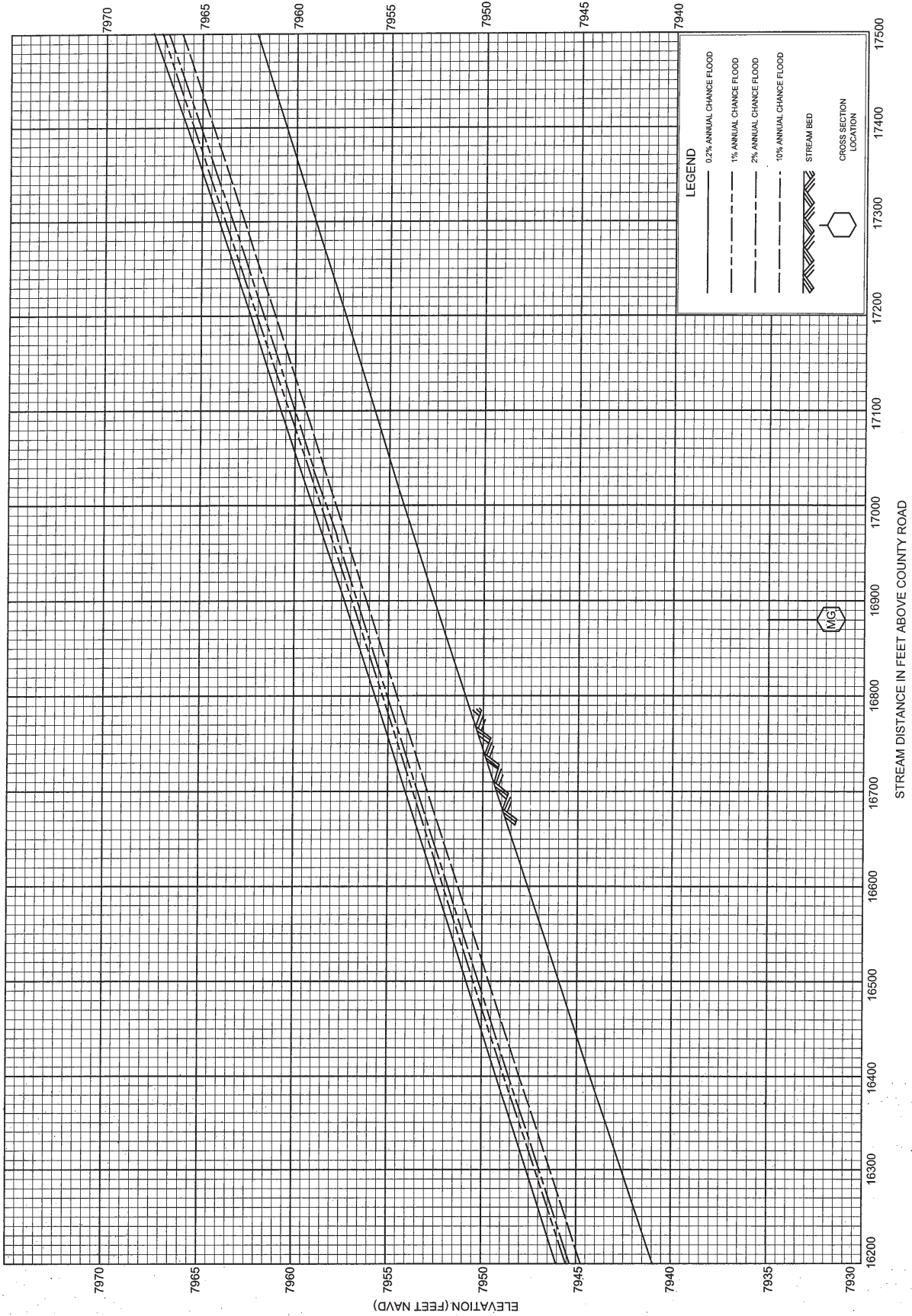
FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

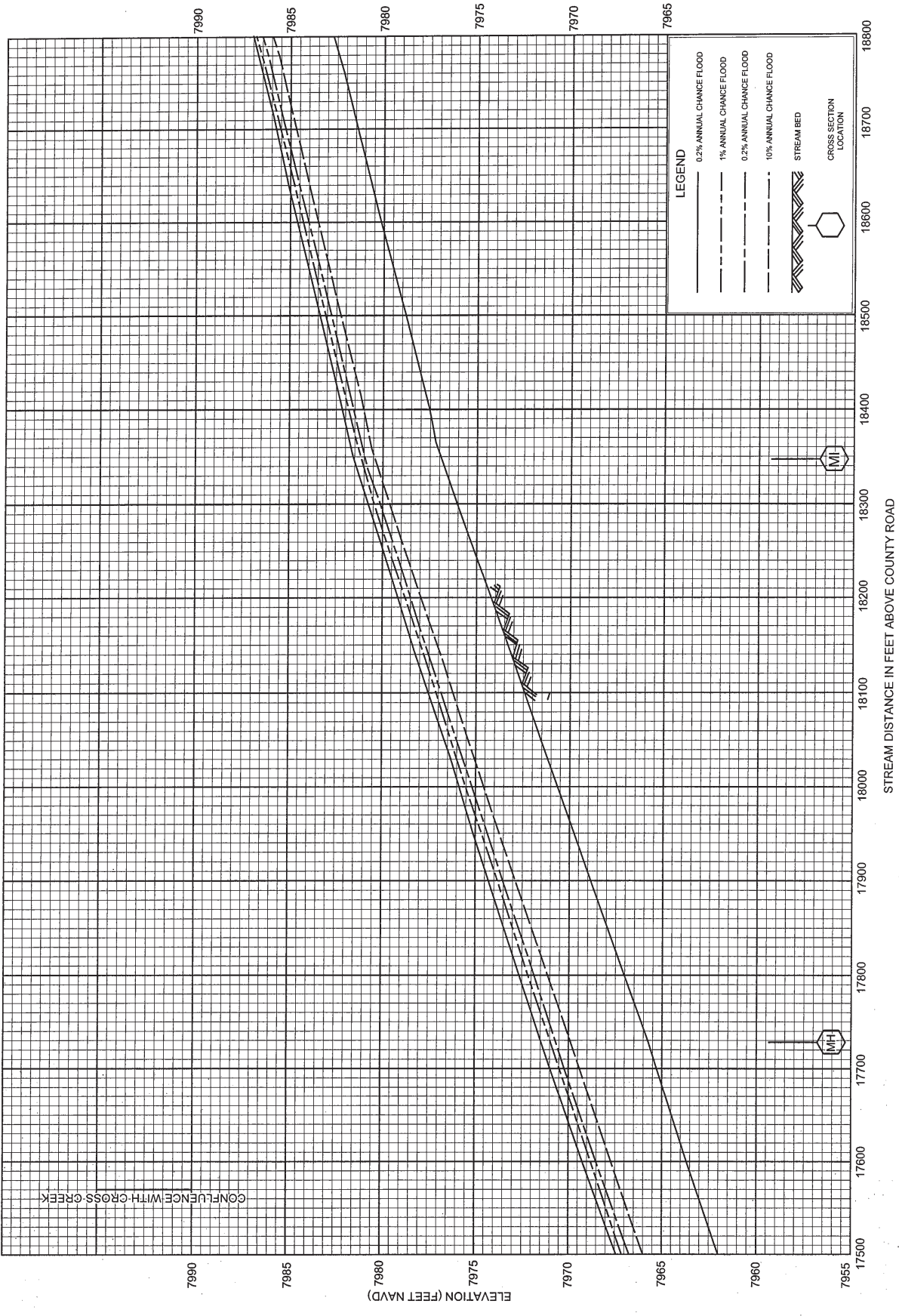
73P

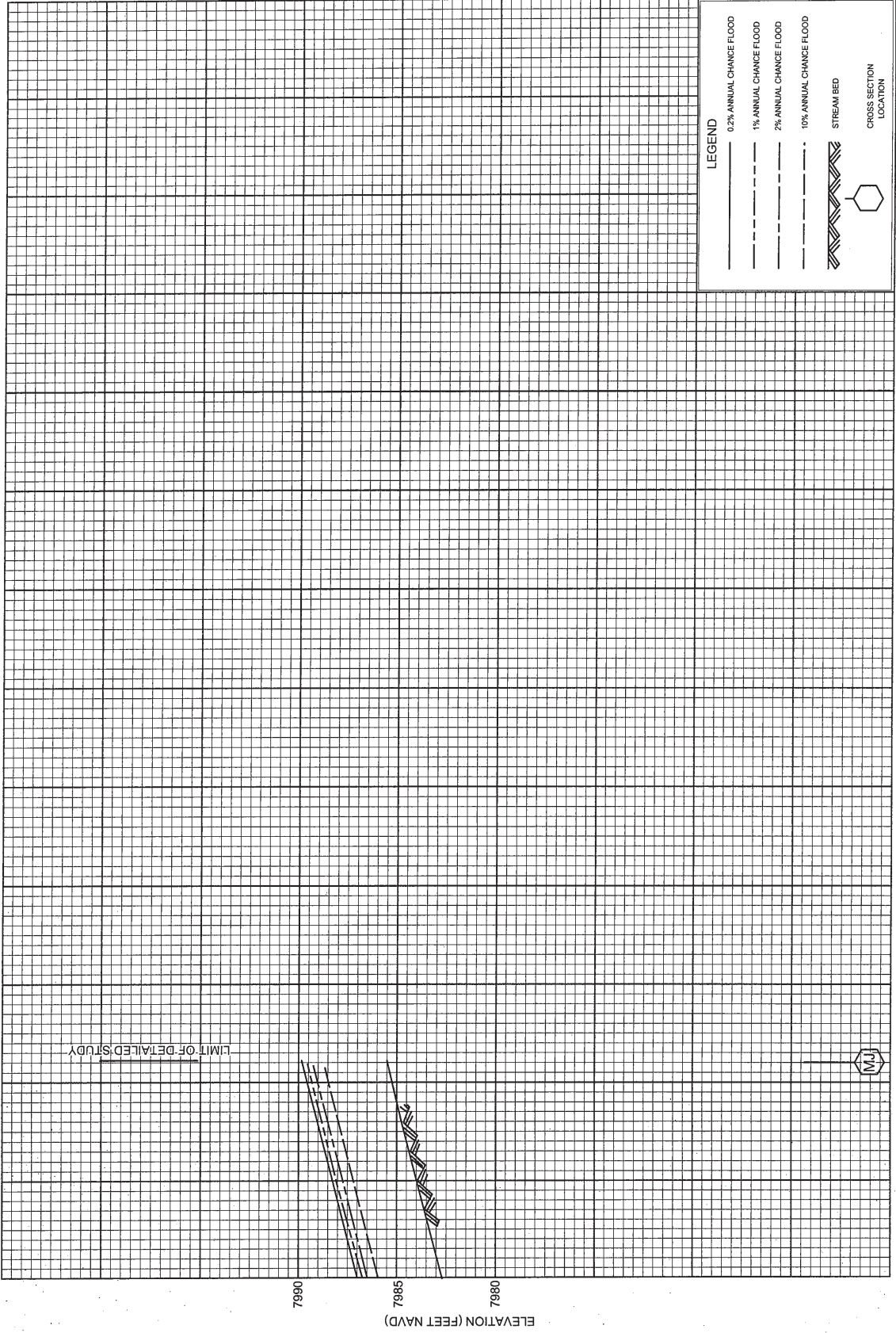


LEGEND

- 0.2% ANNUAL CHANCE FLOOD (Solid line)
- 1% ANNUAL CHANCE FLOOD (Long dashed line)
- 2% ANNUAL CHANCE FLOOD (Short dashed line)
- 10% ANNUAL CHANCE FLOOD (Dash-dot line)
- STREAM BED (Hatched pattern)
- CROSS SECTION LOCATION (Hexagon symbol)

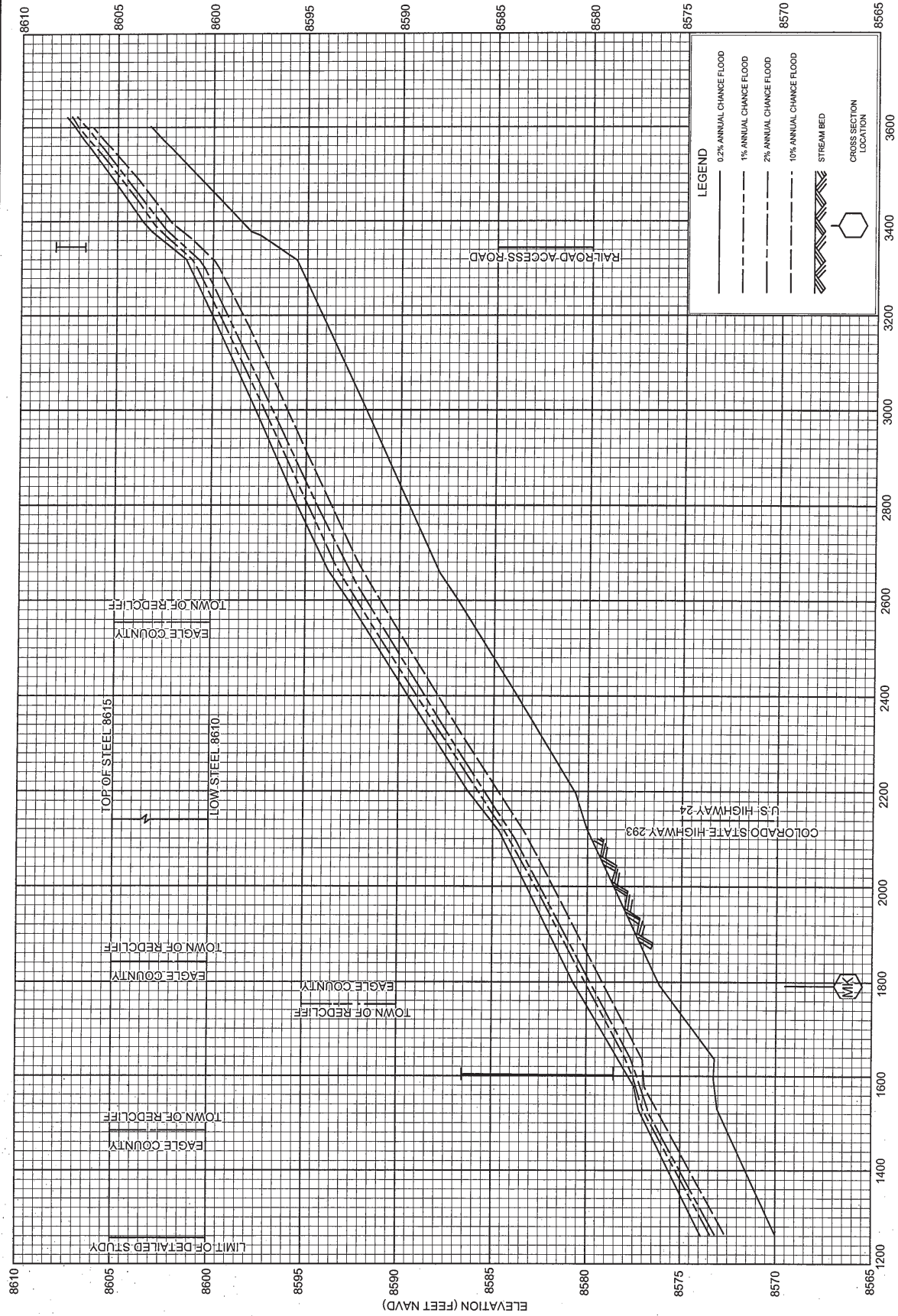




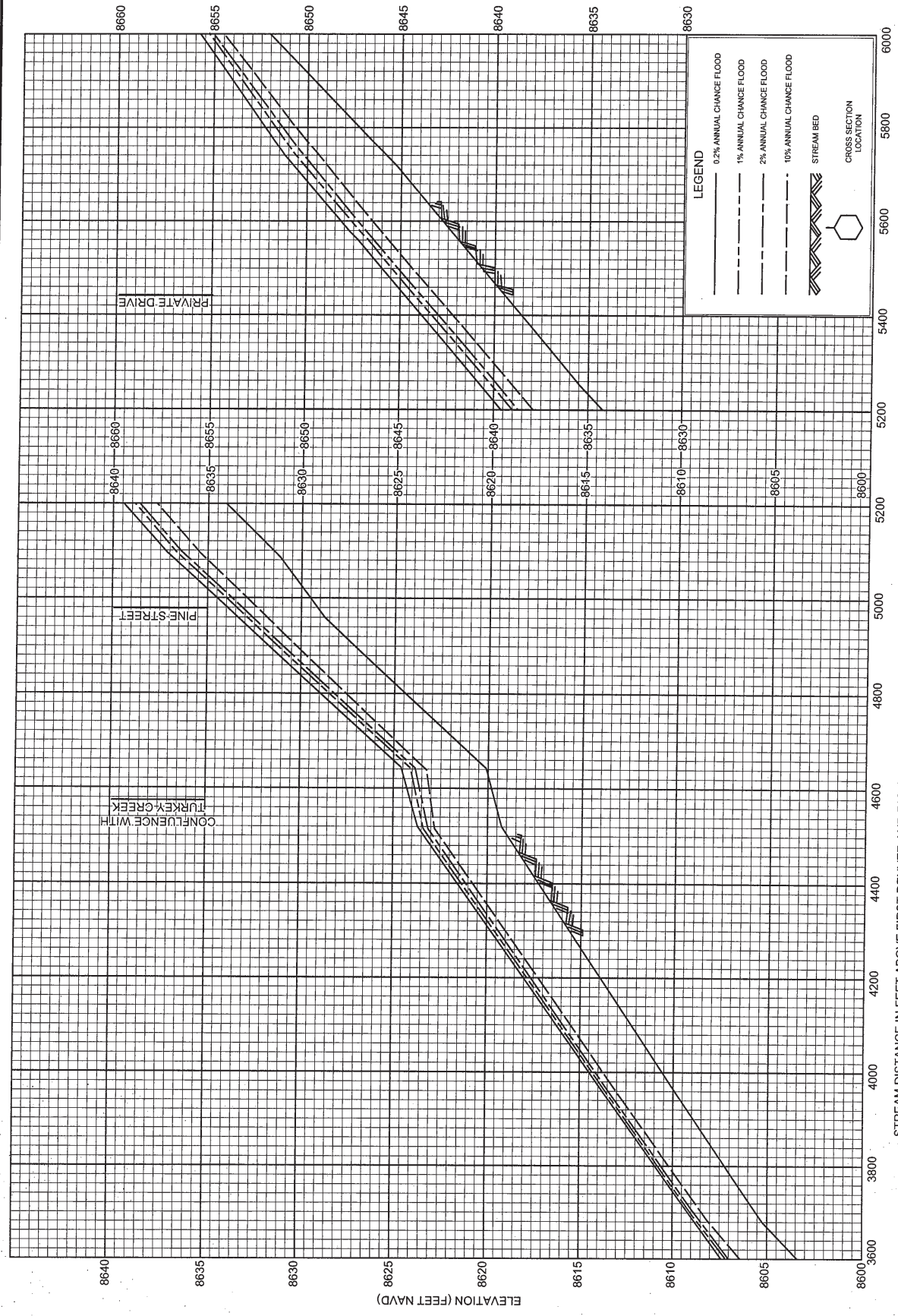


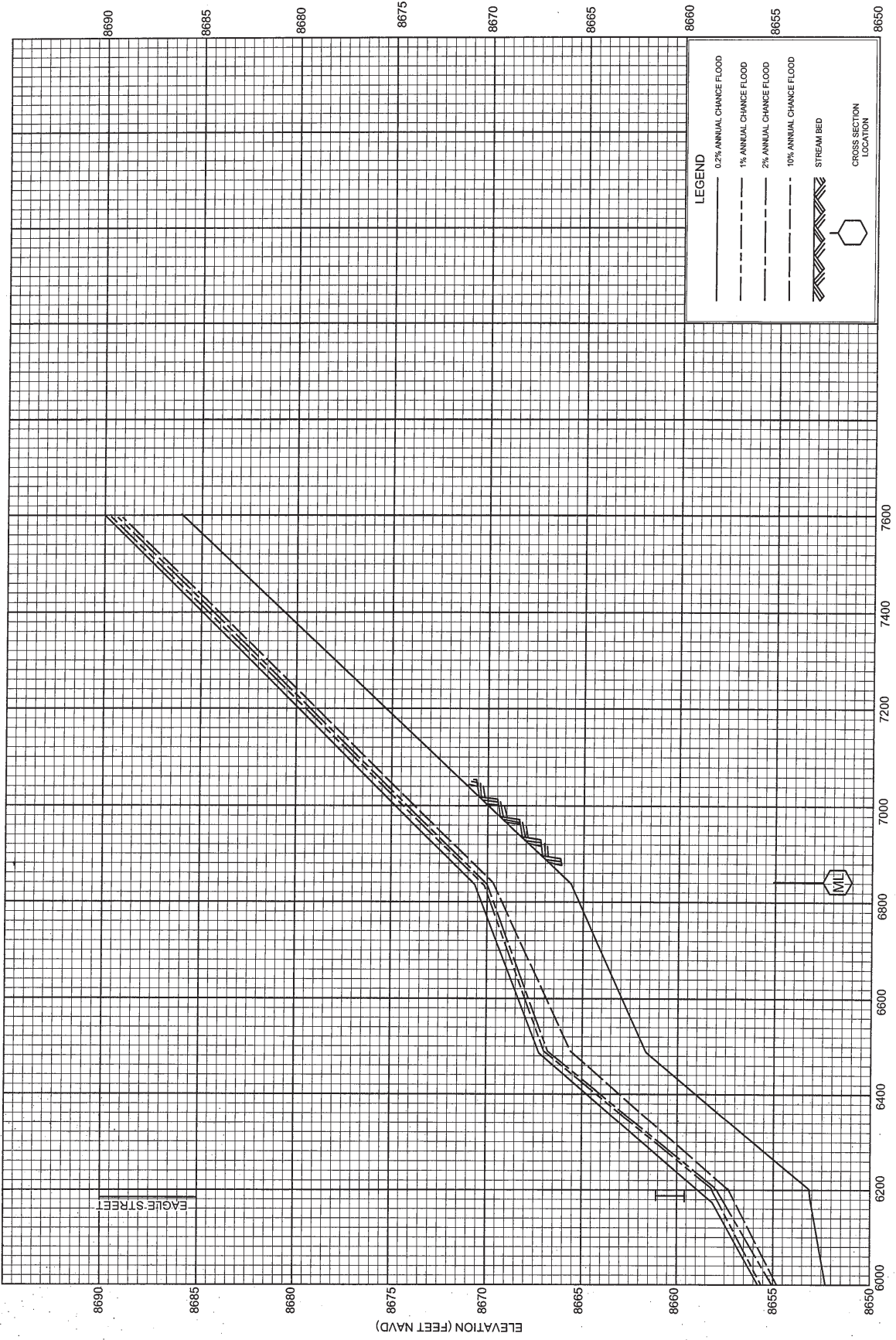
FLOOD PROFILES

EAGLE RIVER

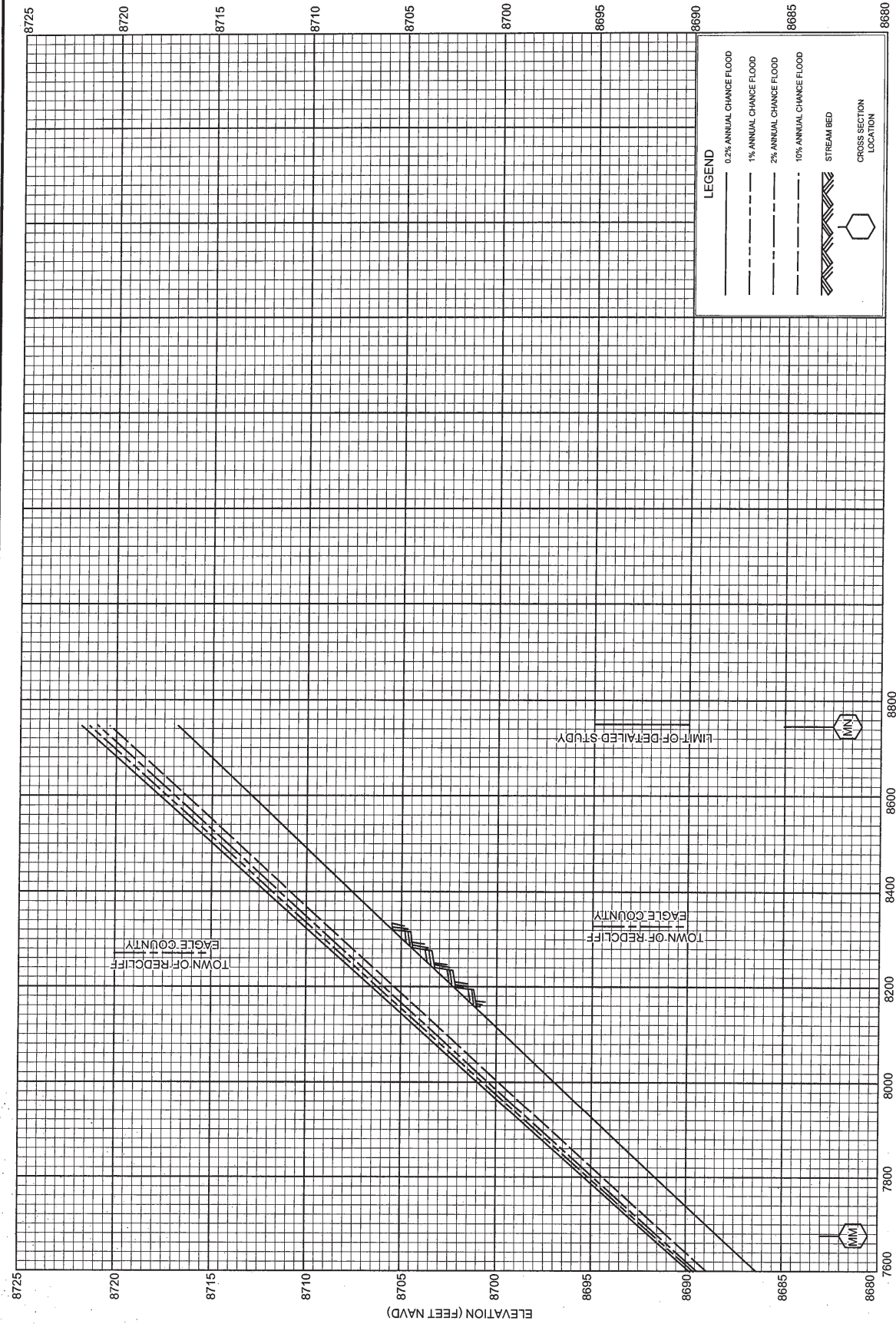


FLOOD PROFILES
EAGLE RIVER





FLOOD PROFILES
EAGLE RIVER



STREAM DISTANCE IN FEET ABOVE FIRST DENVER AND RIO GRANDE WESTERN RAILROAD CROSSING DOWNSTREAM OF TOWN OF REDCLIFF CORPORATE LIMITS

ELEVATION (FEET NAVD)

LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched area)
- CROSS SECTION LOCATION (hexagon symbol)

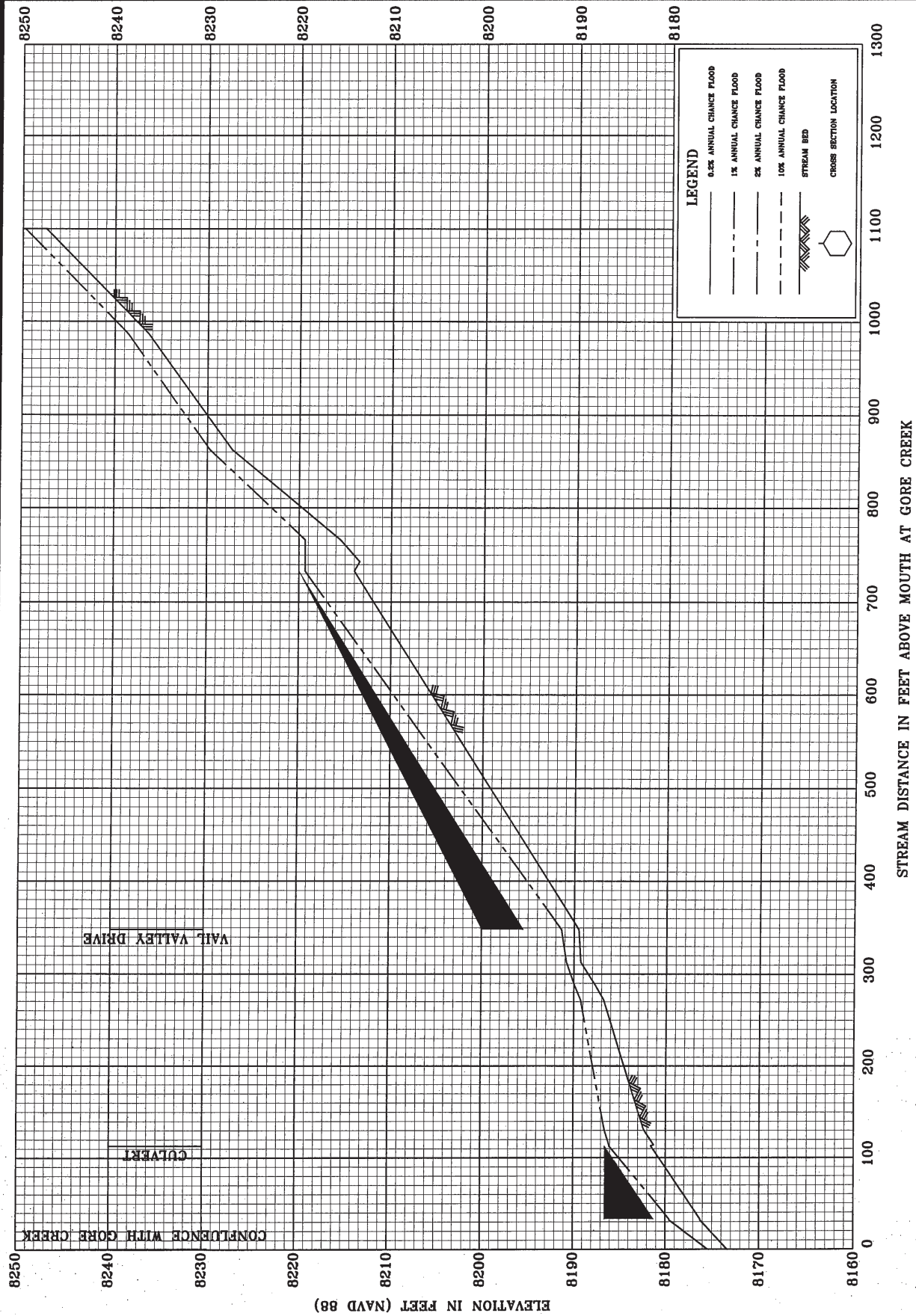
LIMIT OF DETAILED STUDY

TOWN OF REDCLIFF
EAGLE COUNTY

TOWN OF REDCLIFF
EAGLE COUNTY



FLOOD PROFILES
 EAST MILL CREEK



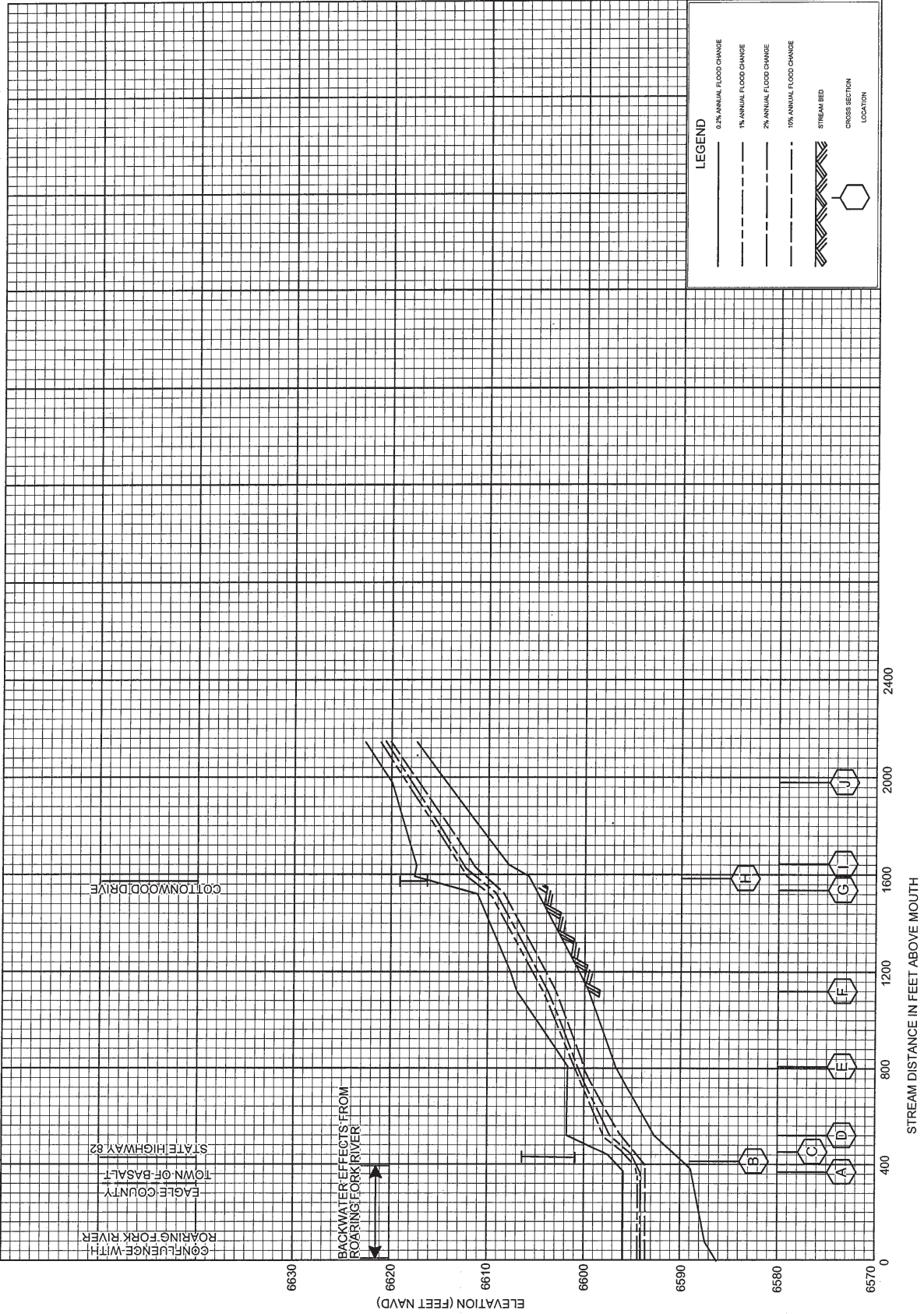
STREAM DISTANCE IN FEET ABOVE MOUTH AT GORE CREEK

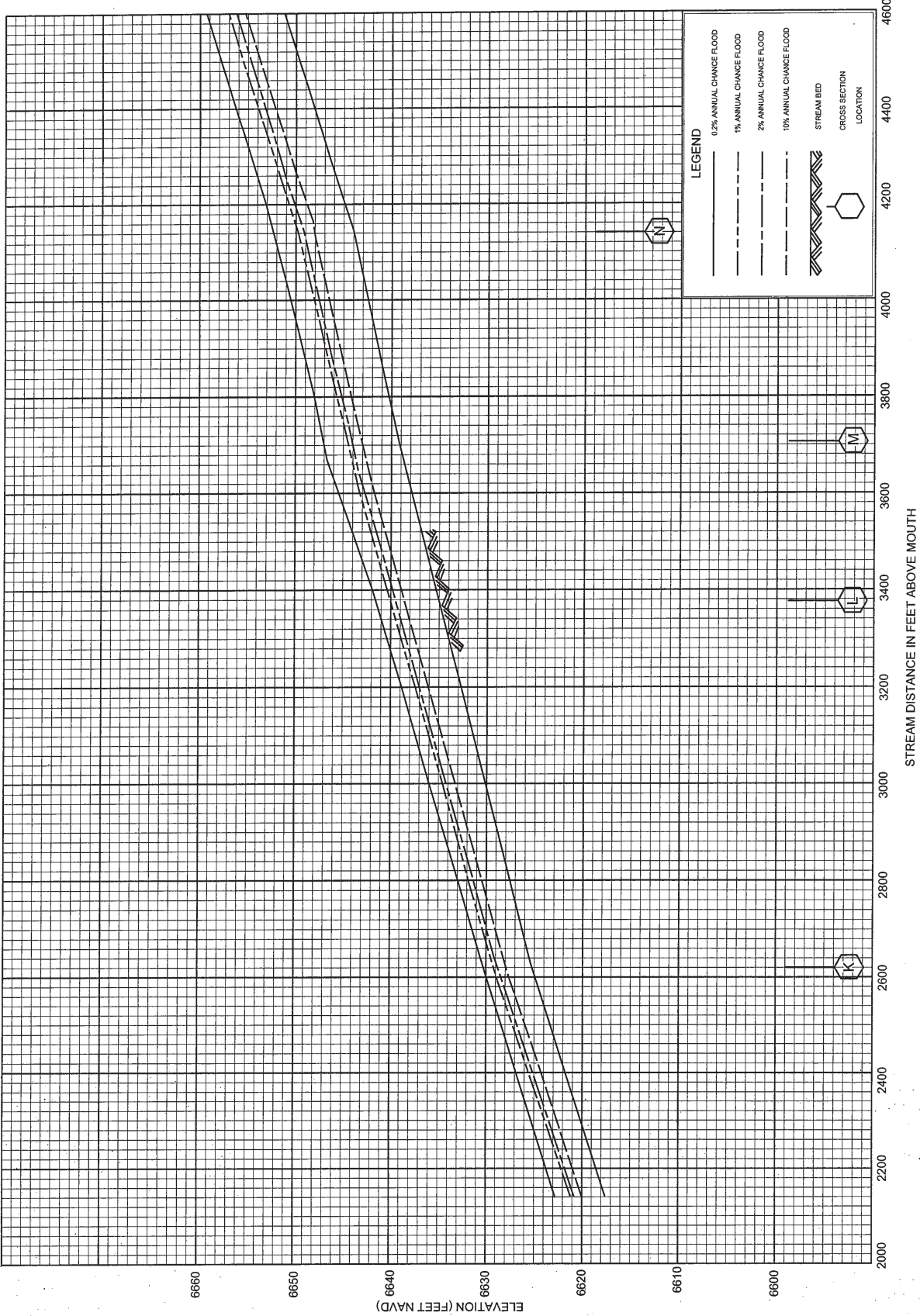
CONFLUENCE WITH GORE CREEK

CULVERT

VAIL VALLEY DRIVE

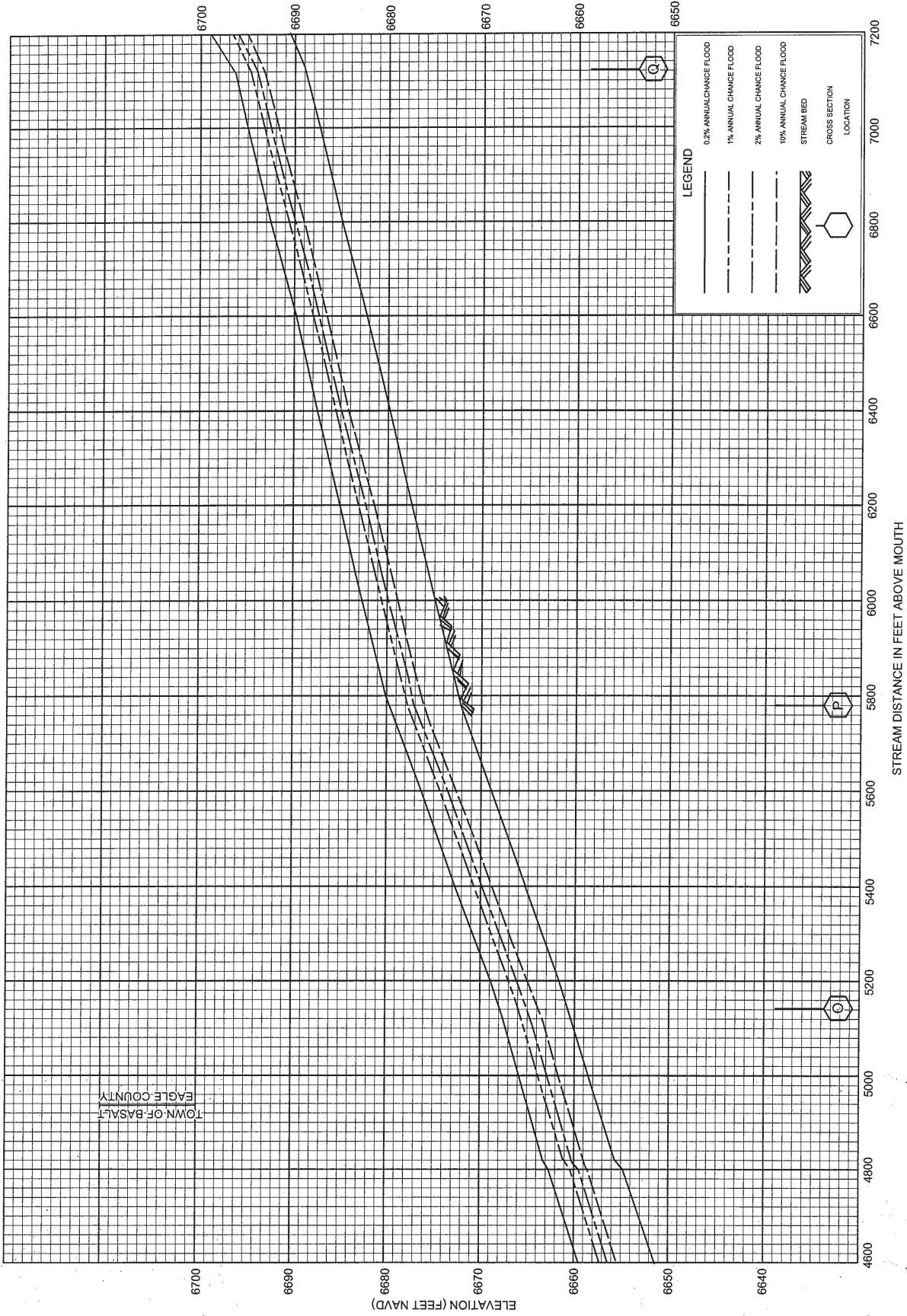
ELEVATION IN FEET (NAVD 88)

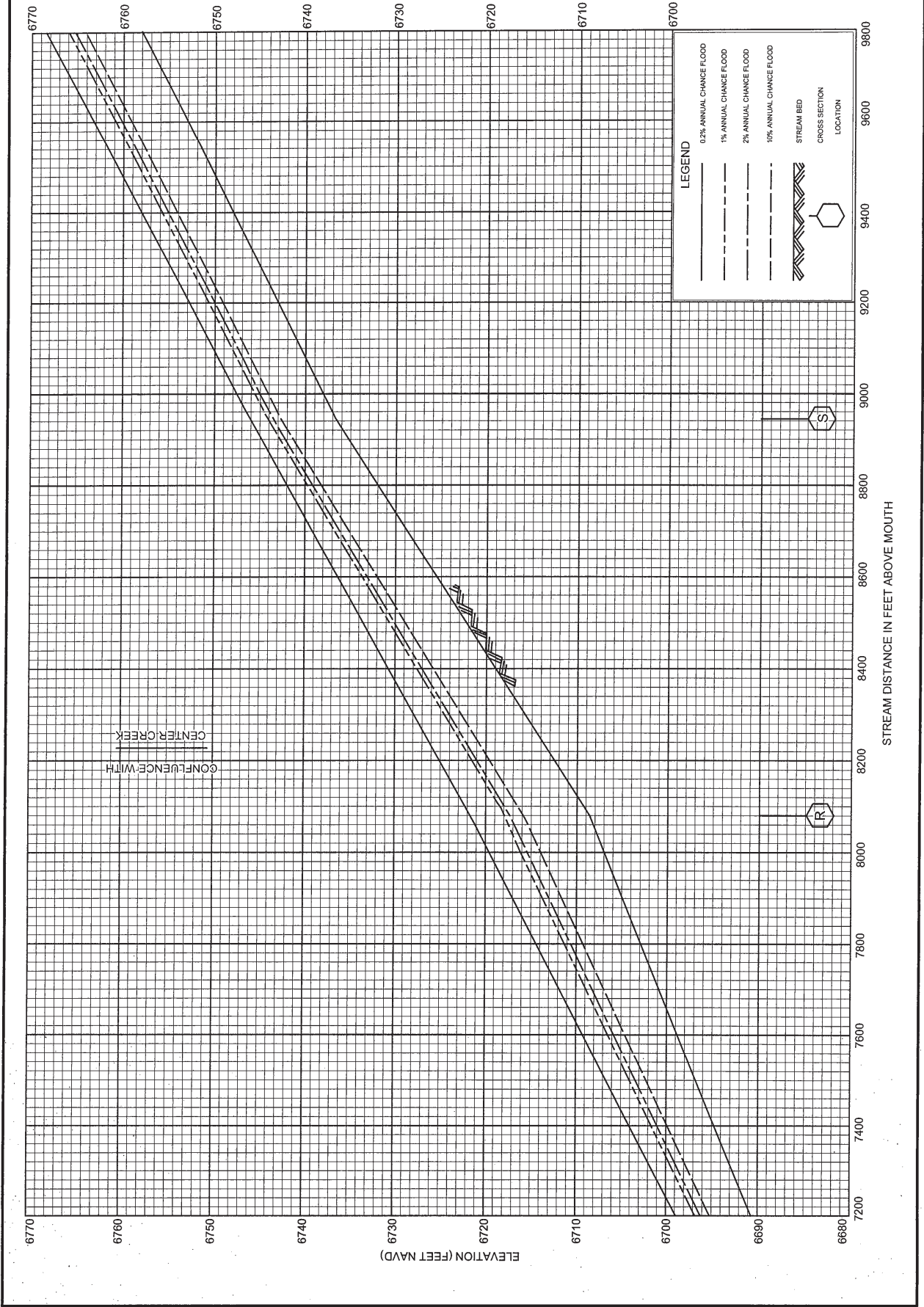


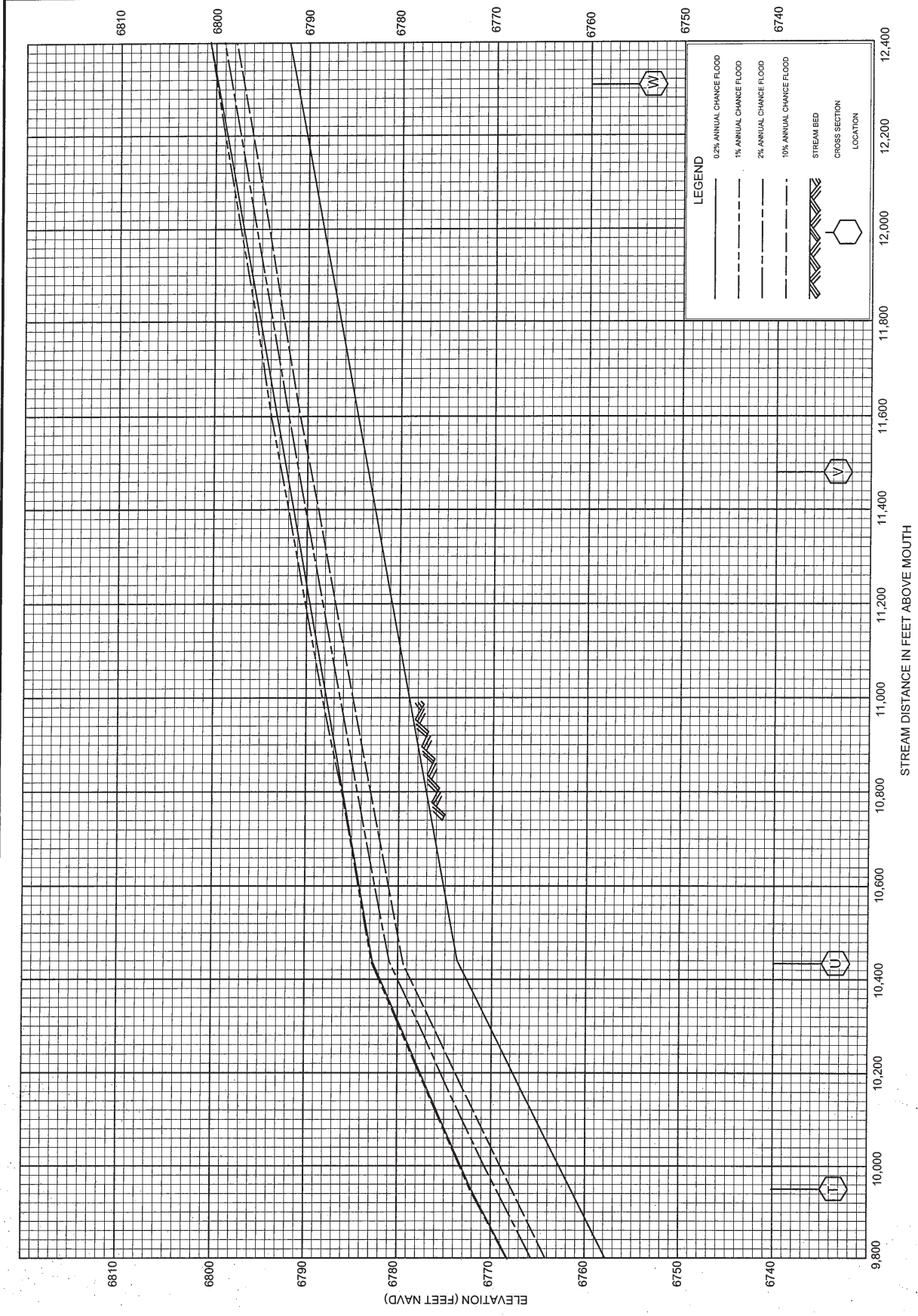


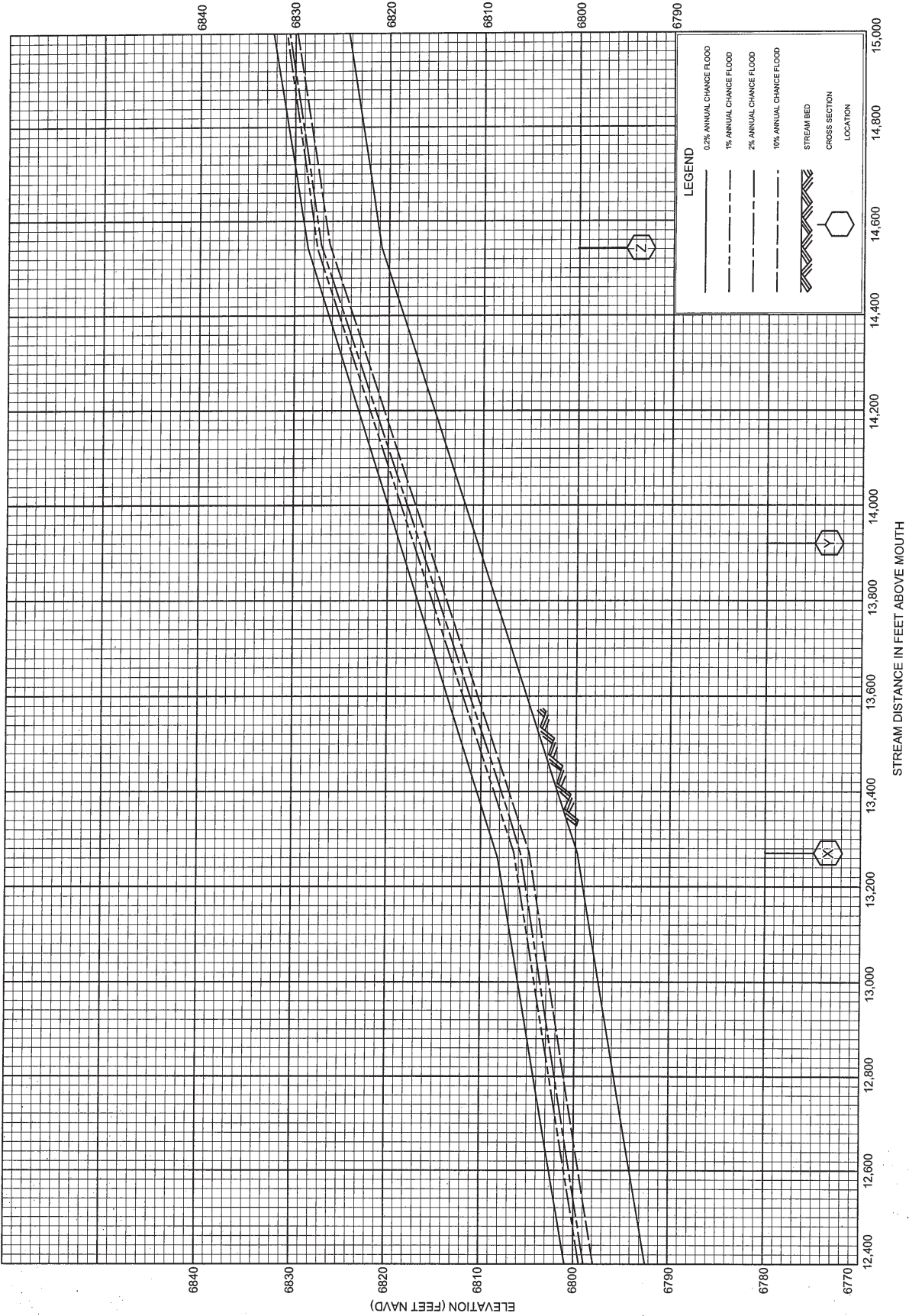
LEGEND

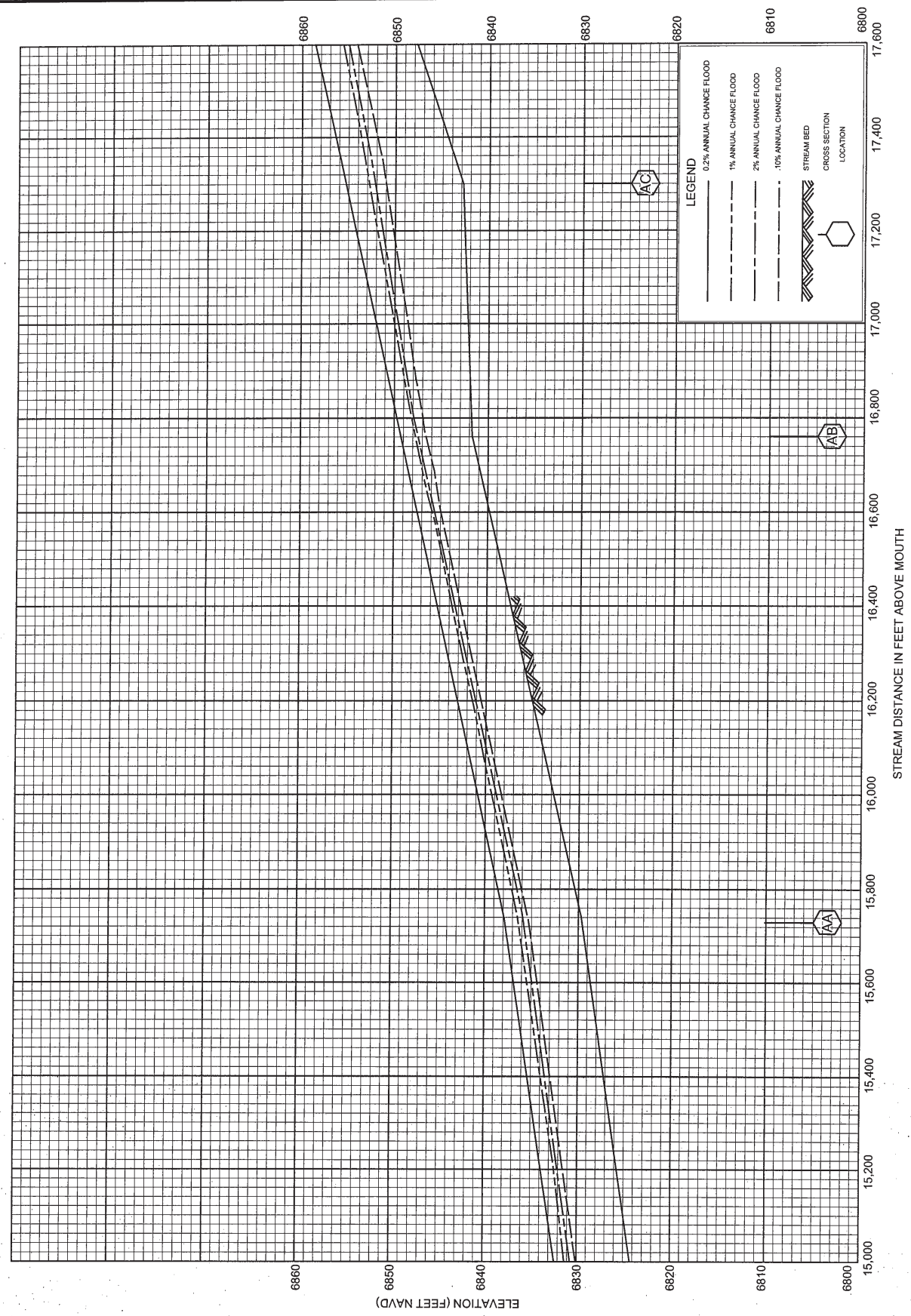
- 0.2% ANNUAL CHANCE FLOOD (dash-dot line)
- 1% ANNUAL CHANCE FLOOD (long-dashed line)
- 2% ANNUAL CHANCE FLOOD (short-dashed line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (solid line)
- CROSS SECTION LOCATION (pentagon symbol)

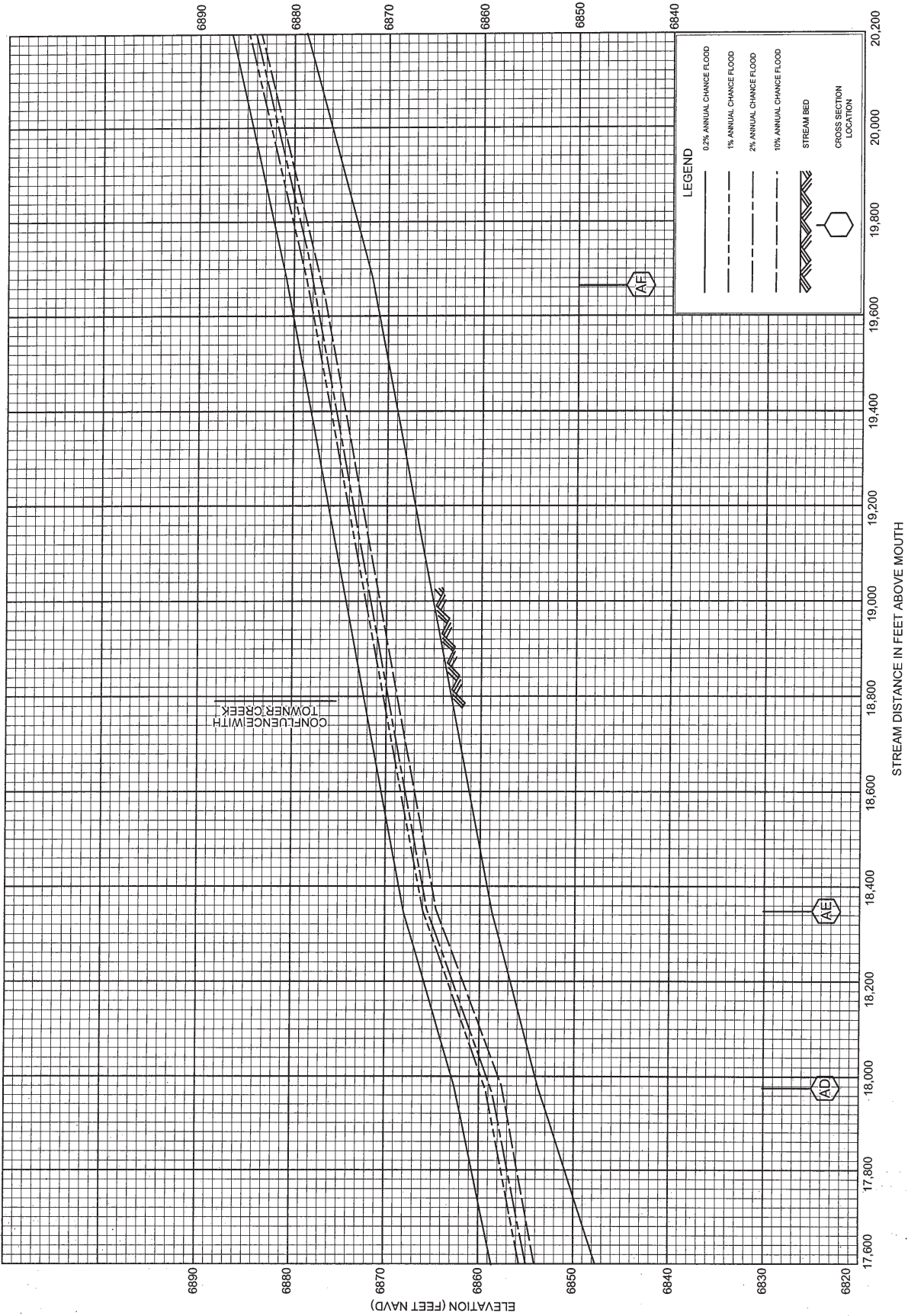


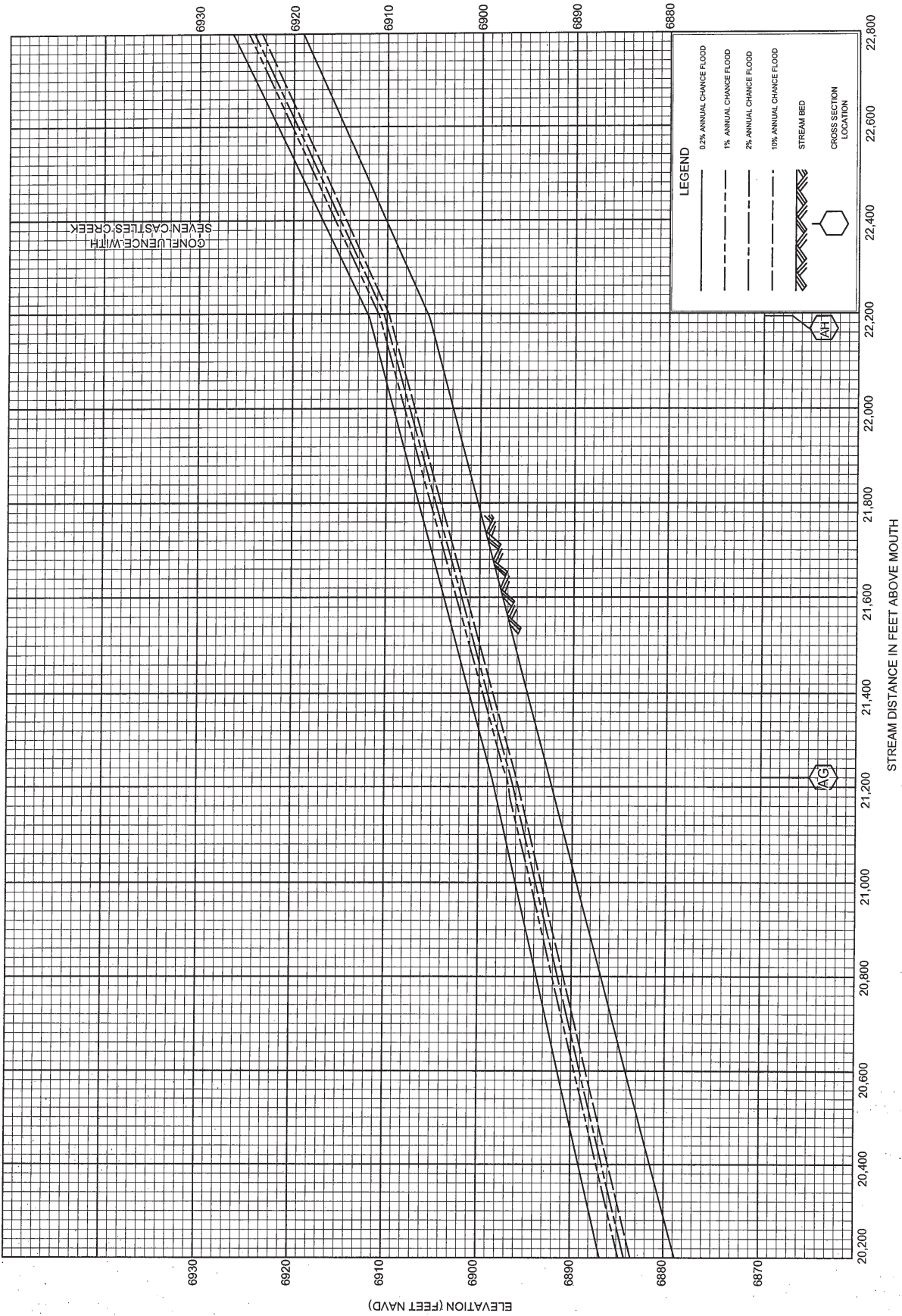


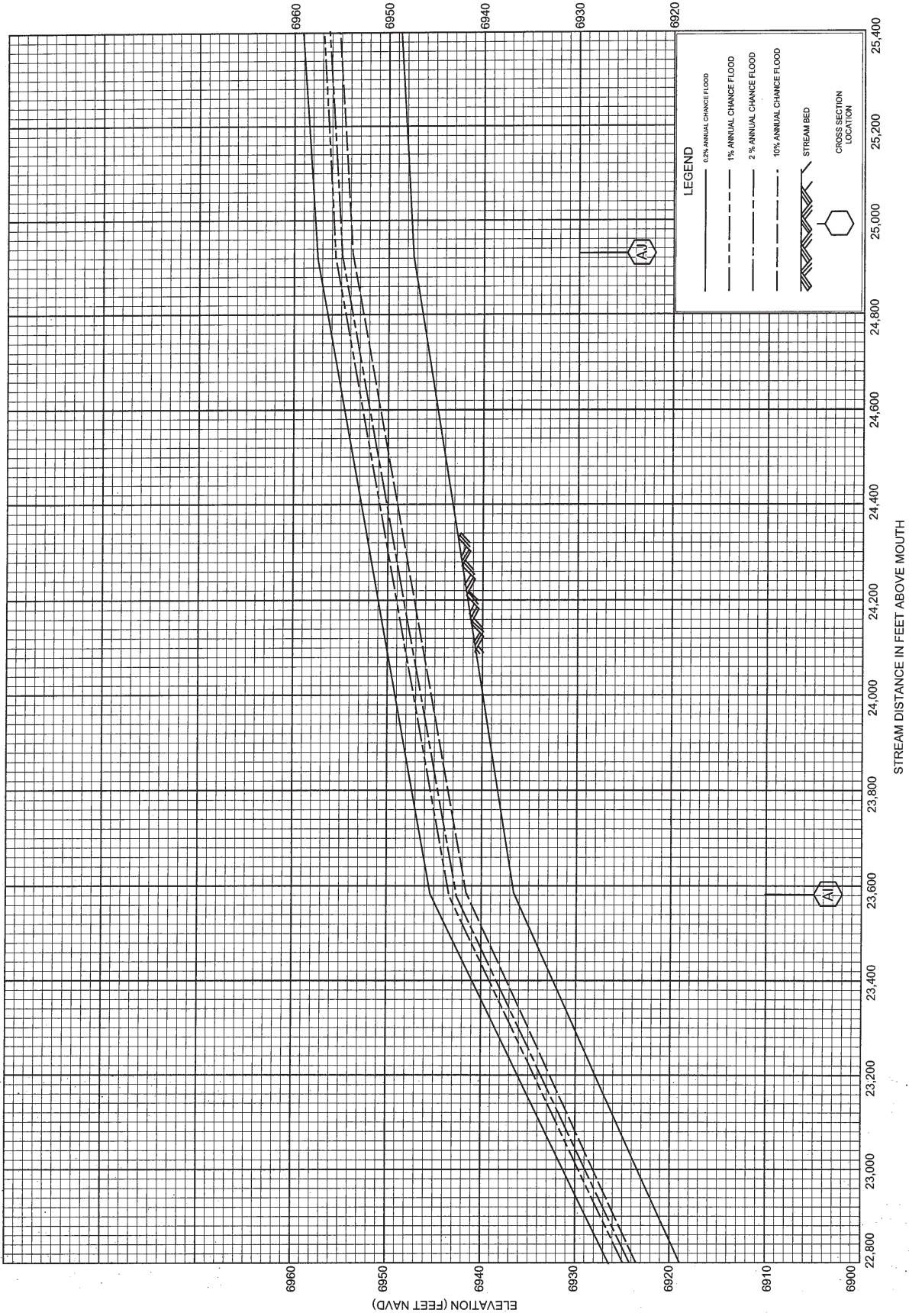


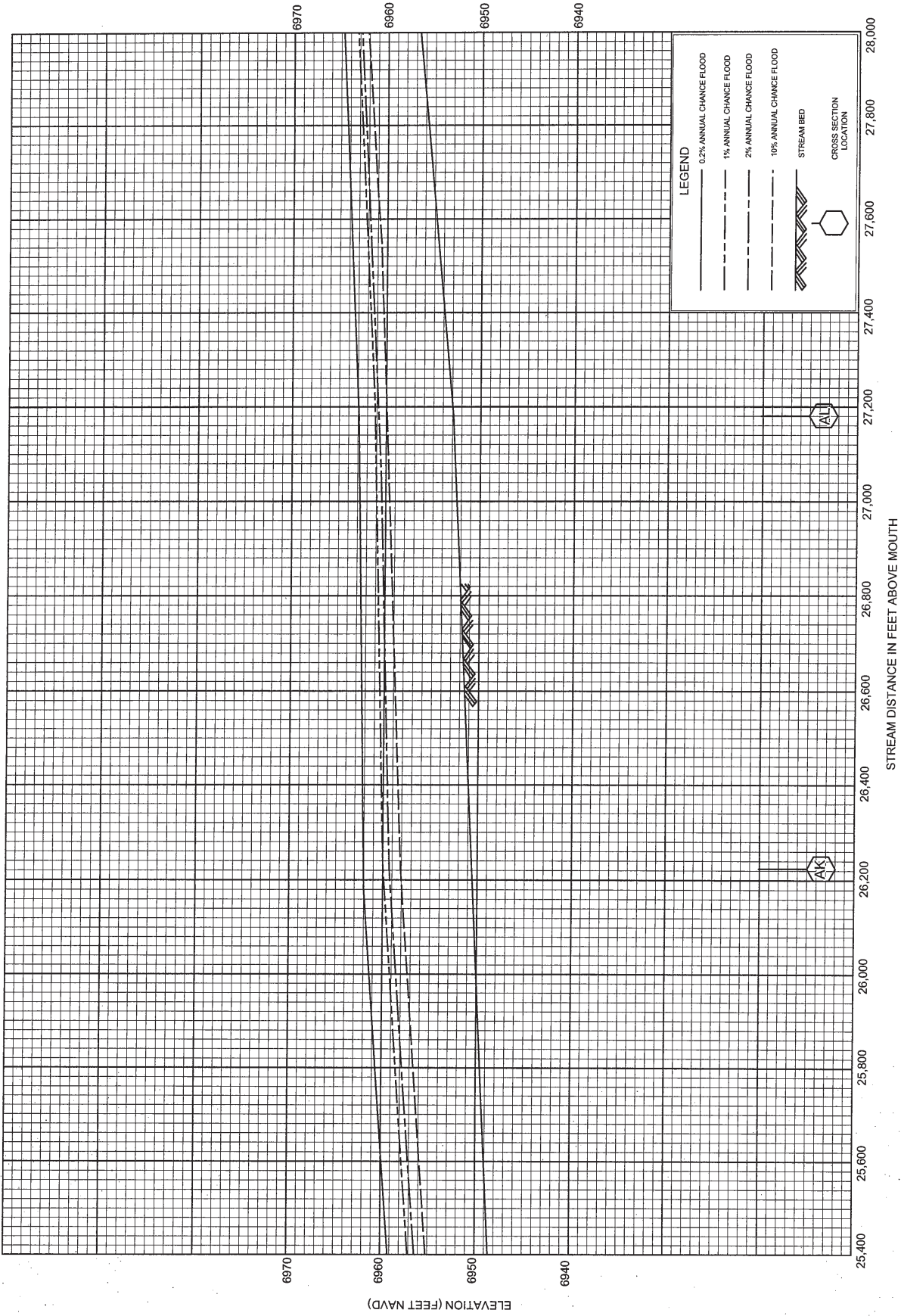


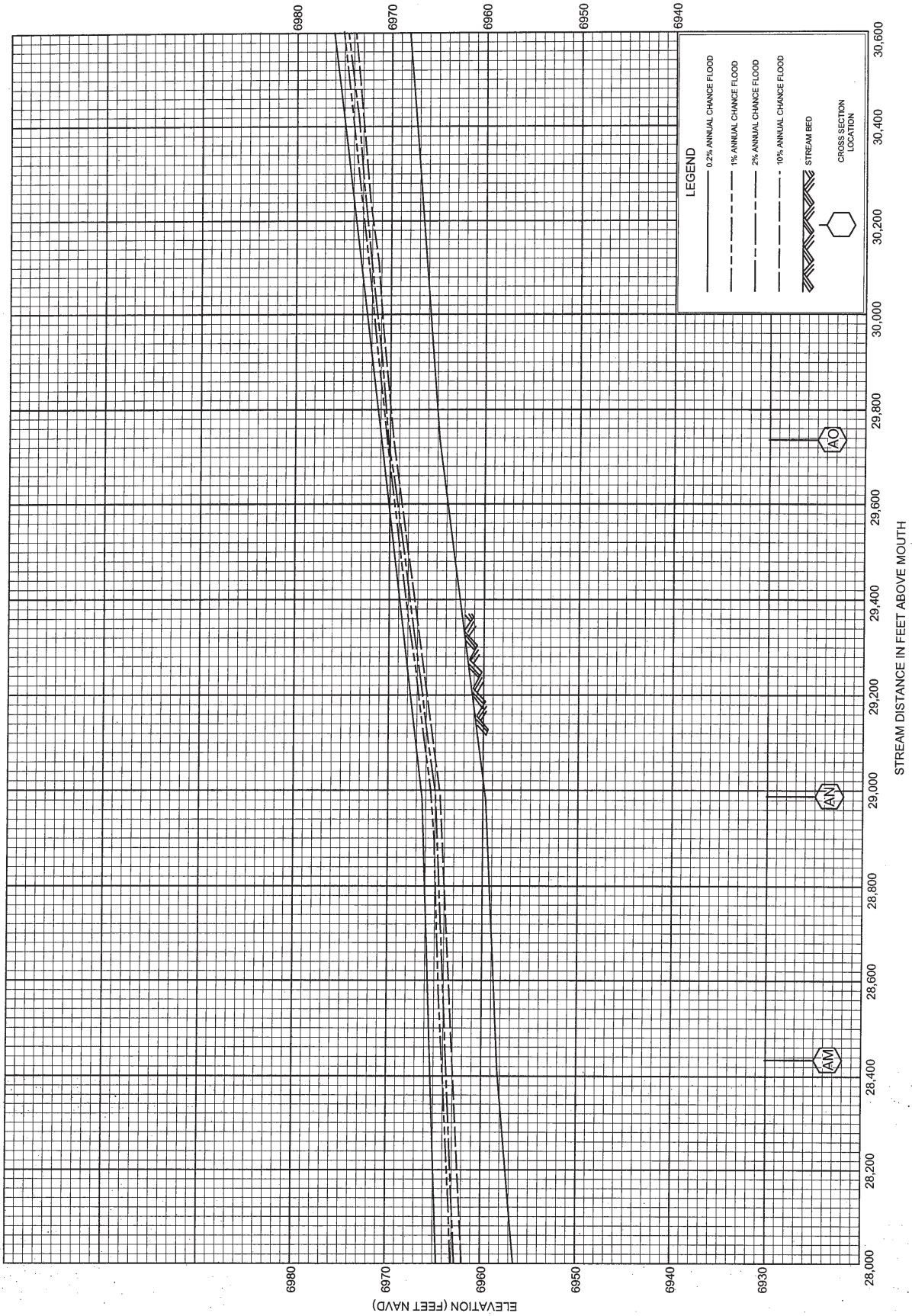


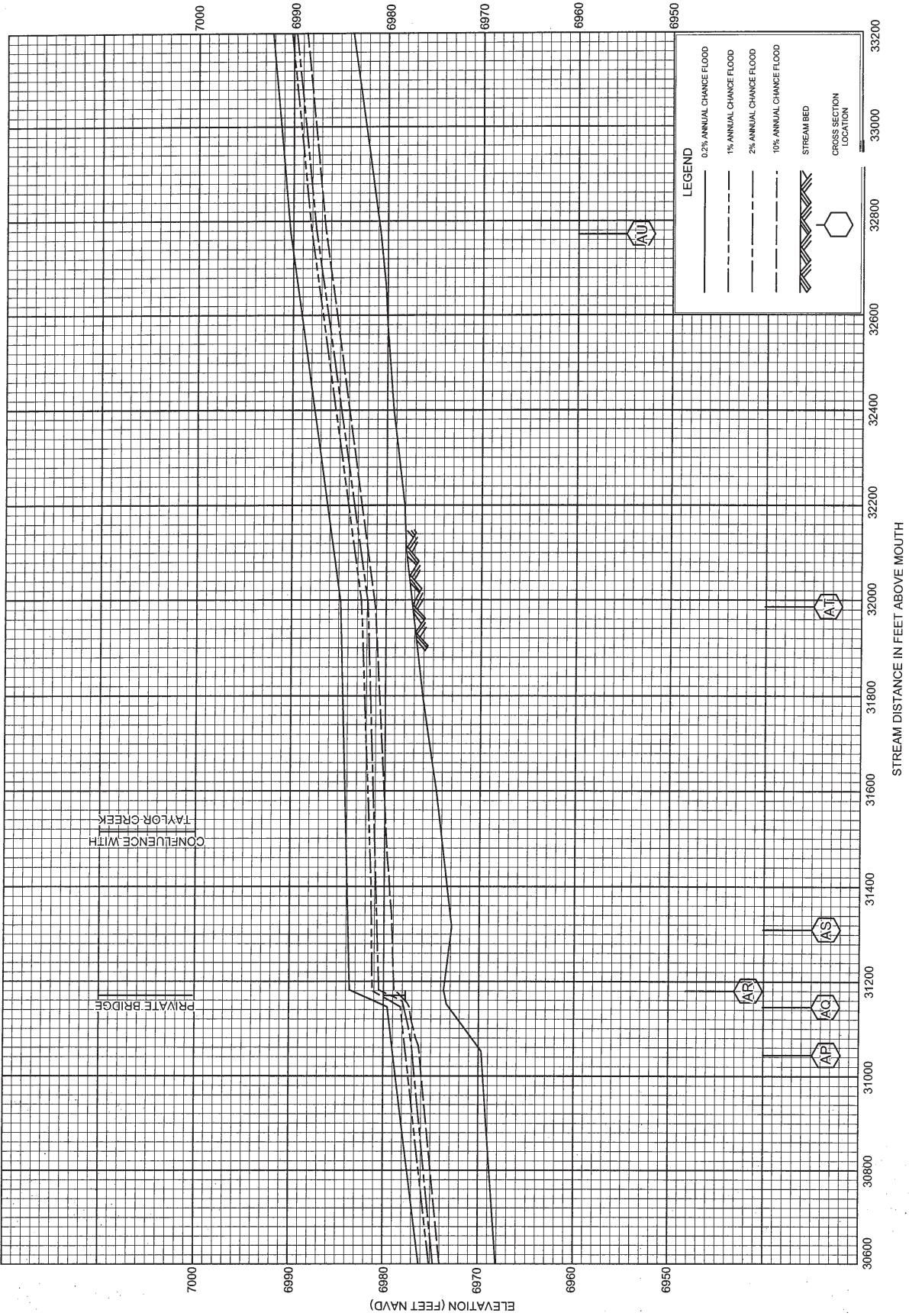


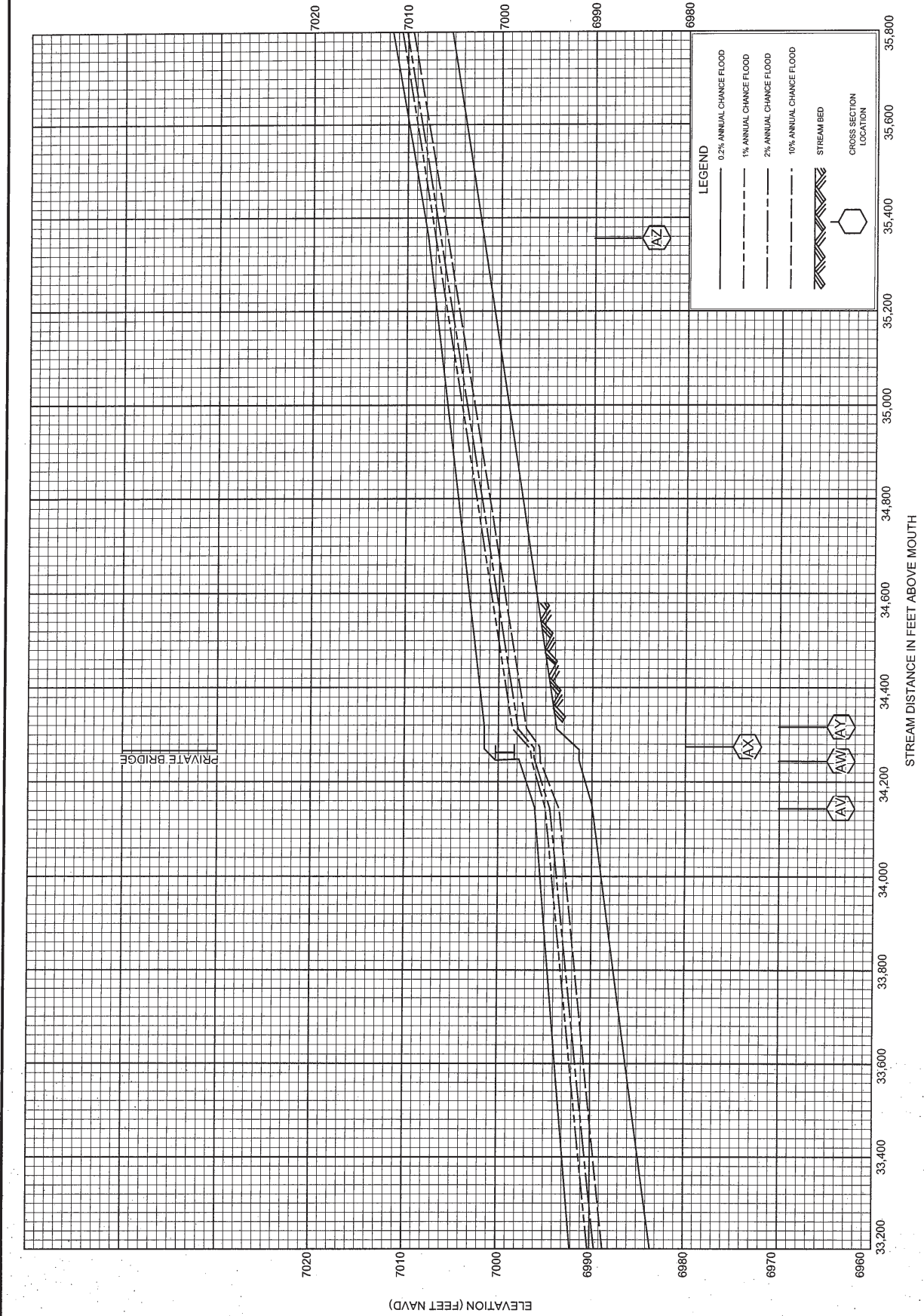


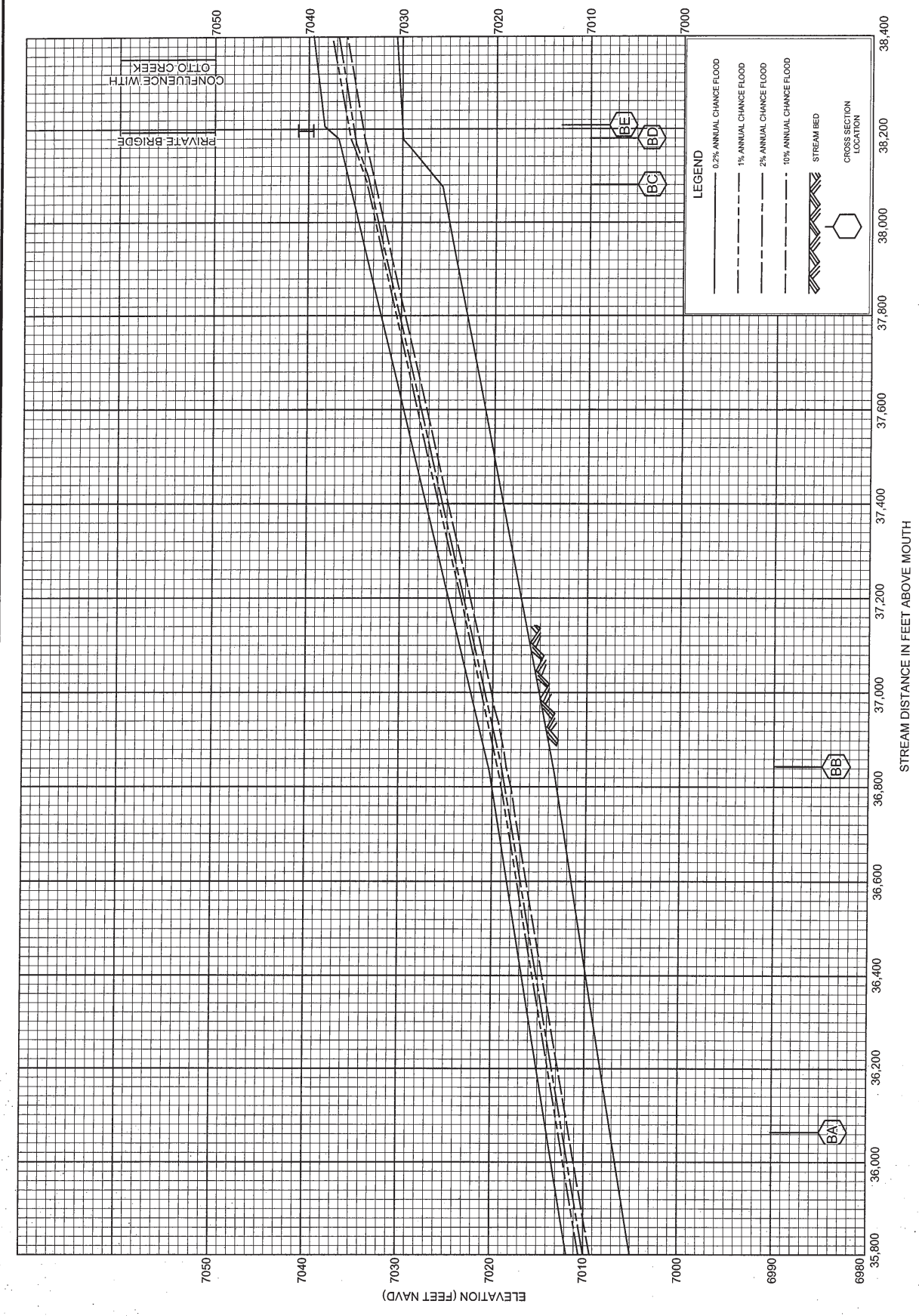


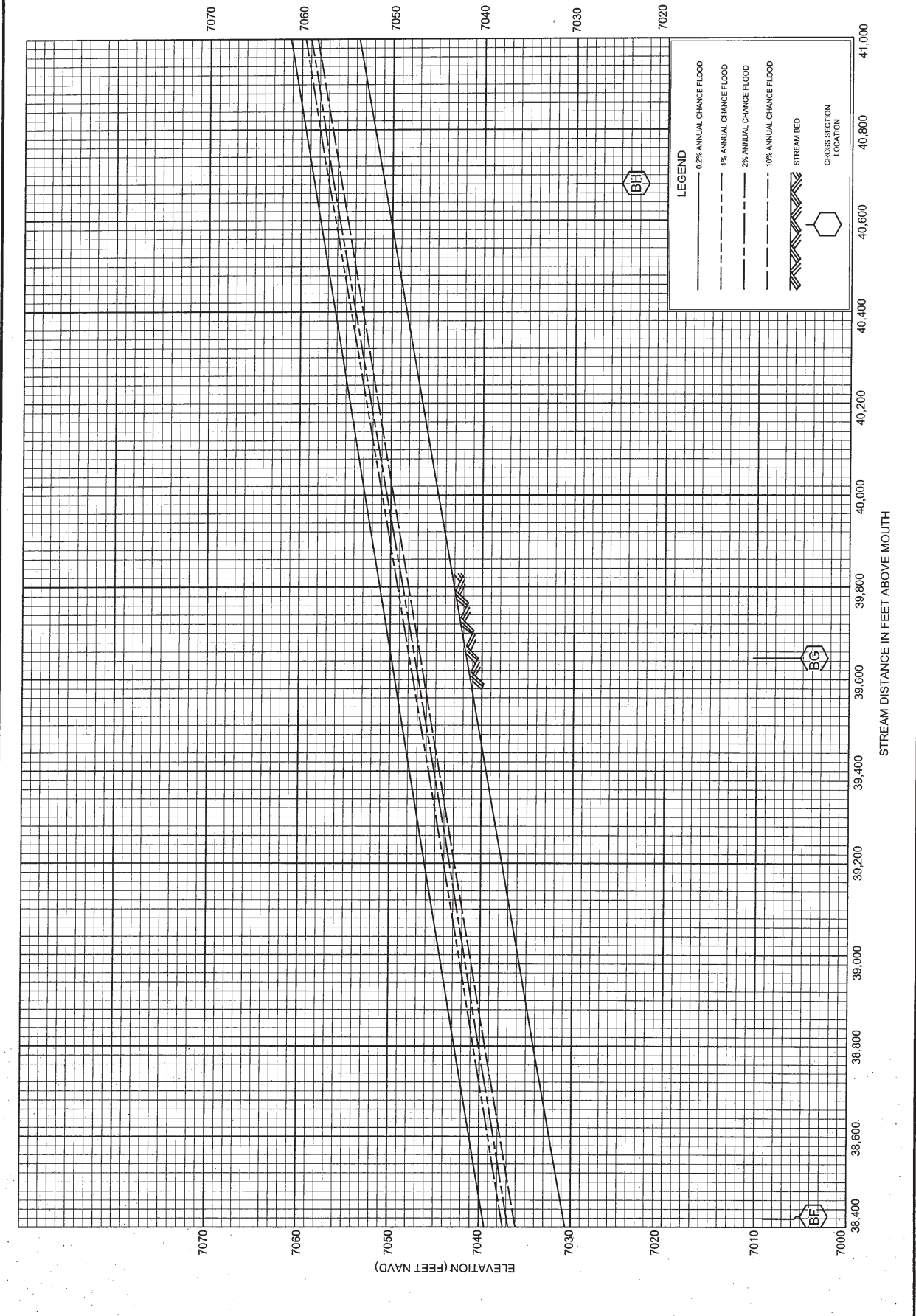


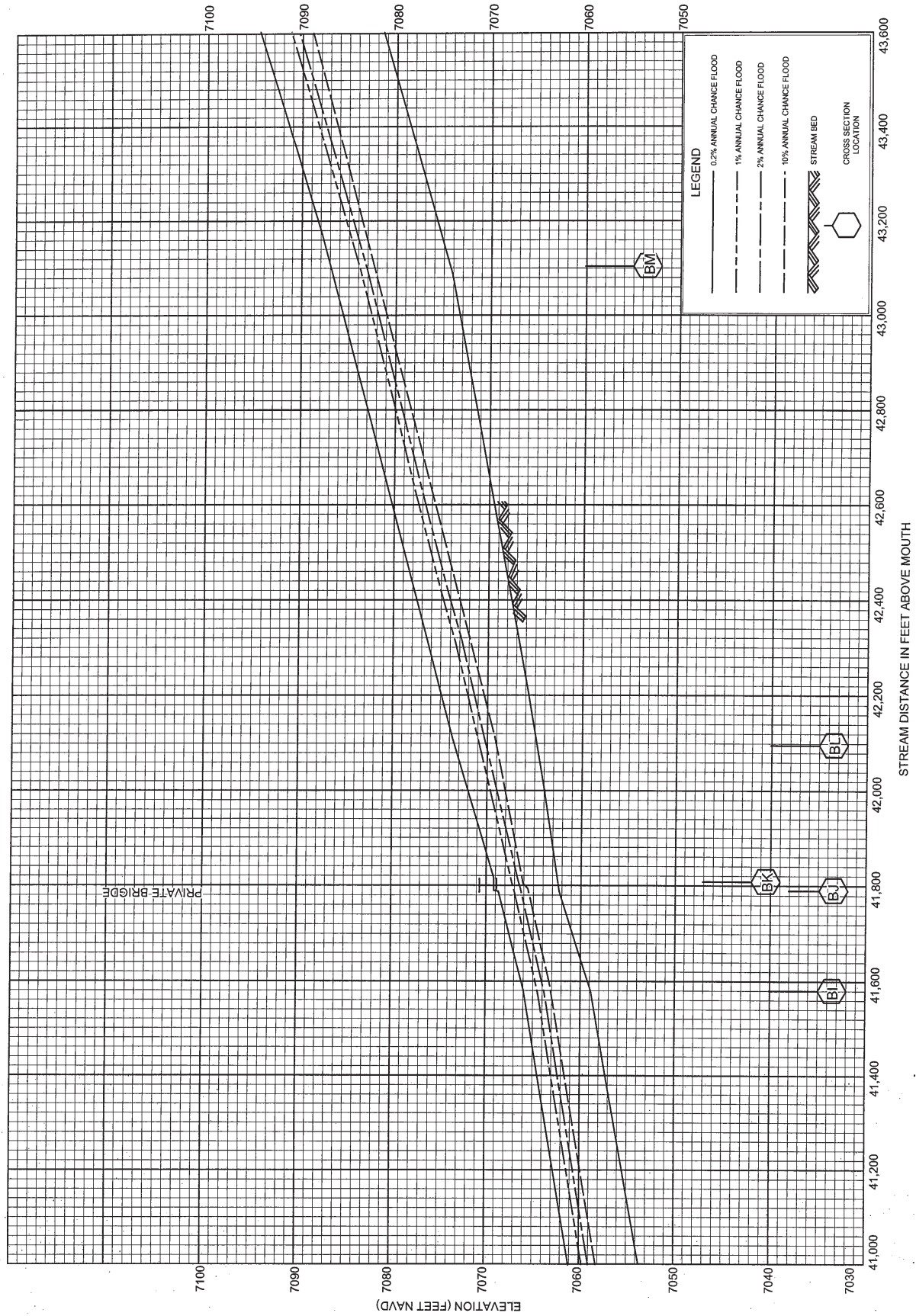


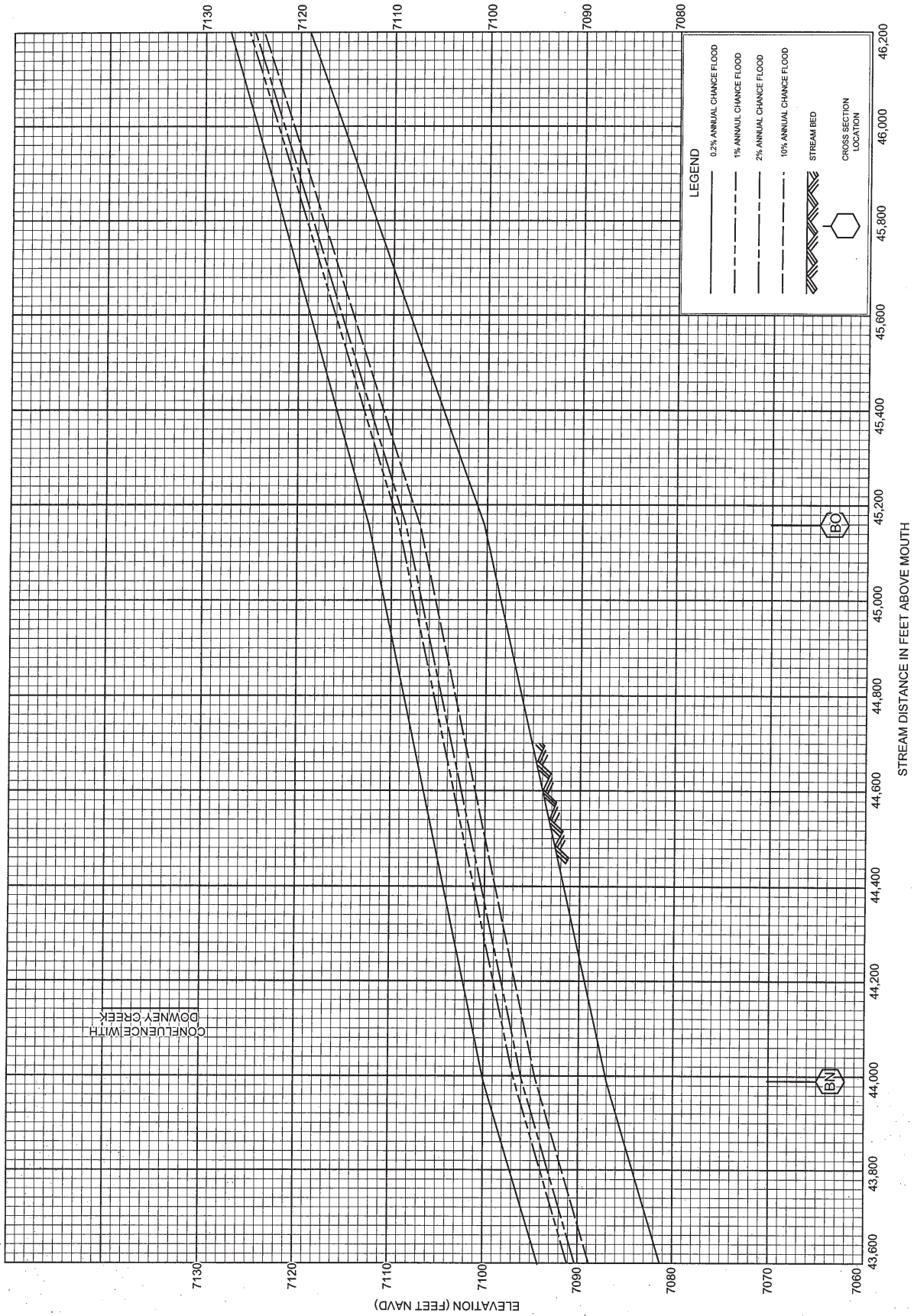












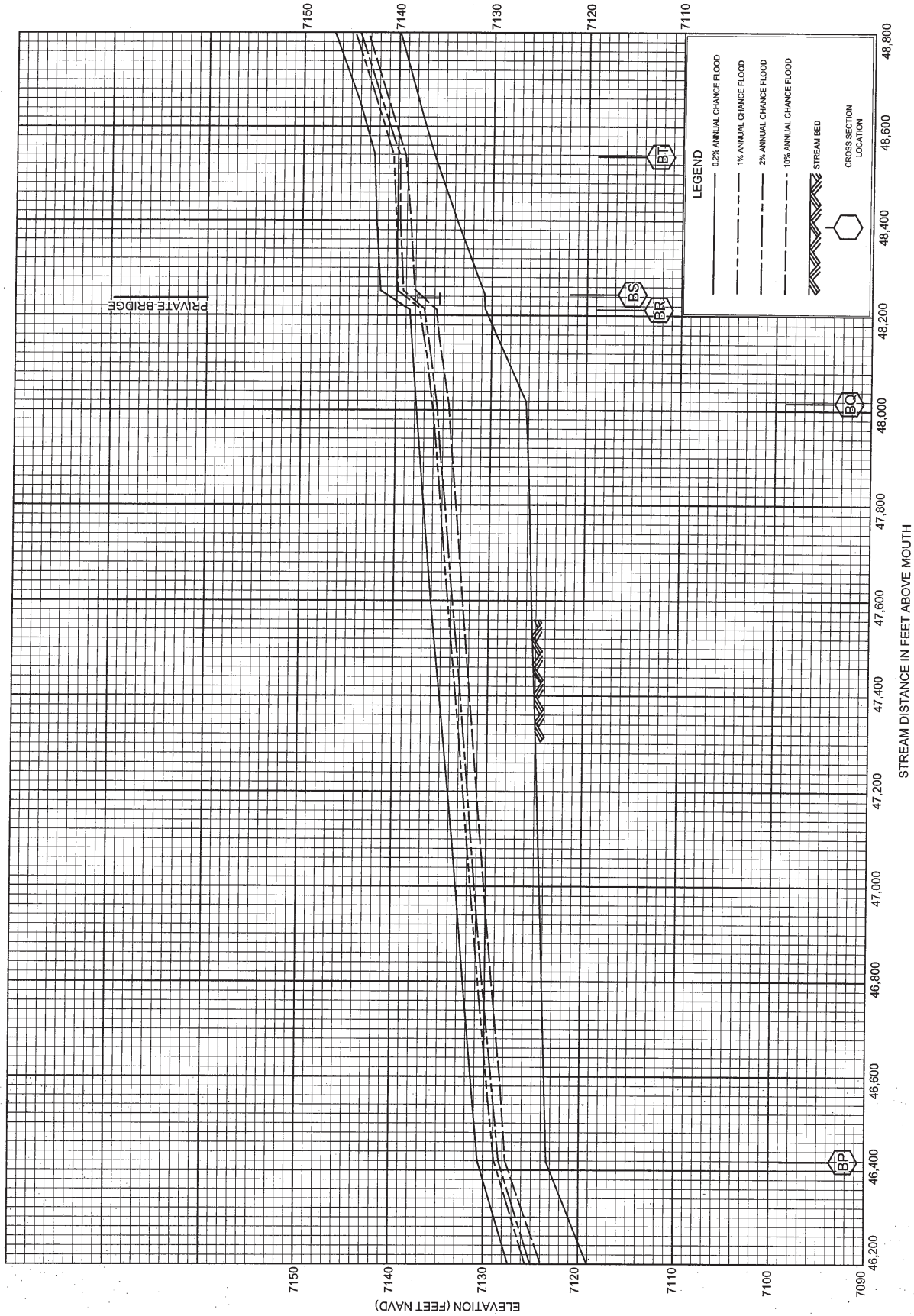
CONFLUENCE WITH
DOWNEY CREEK

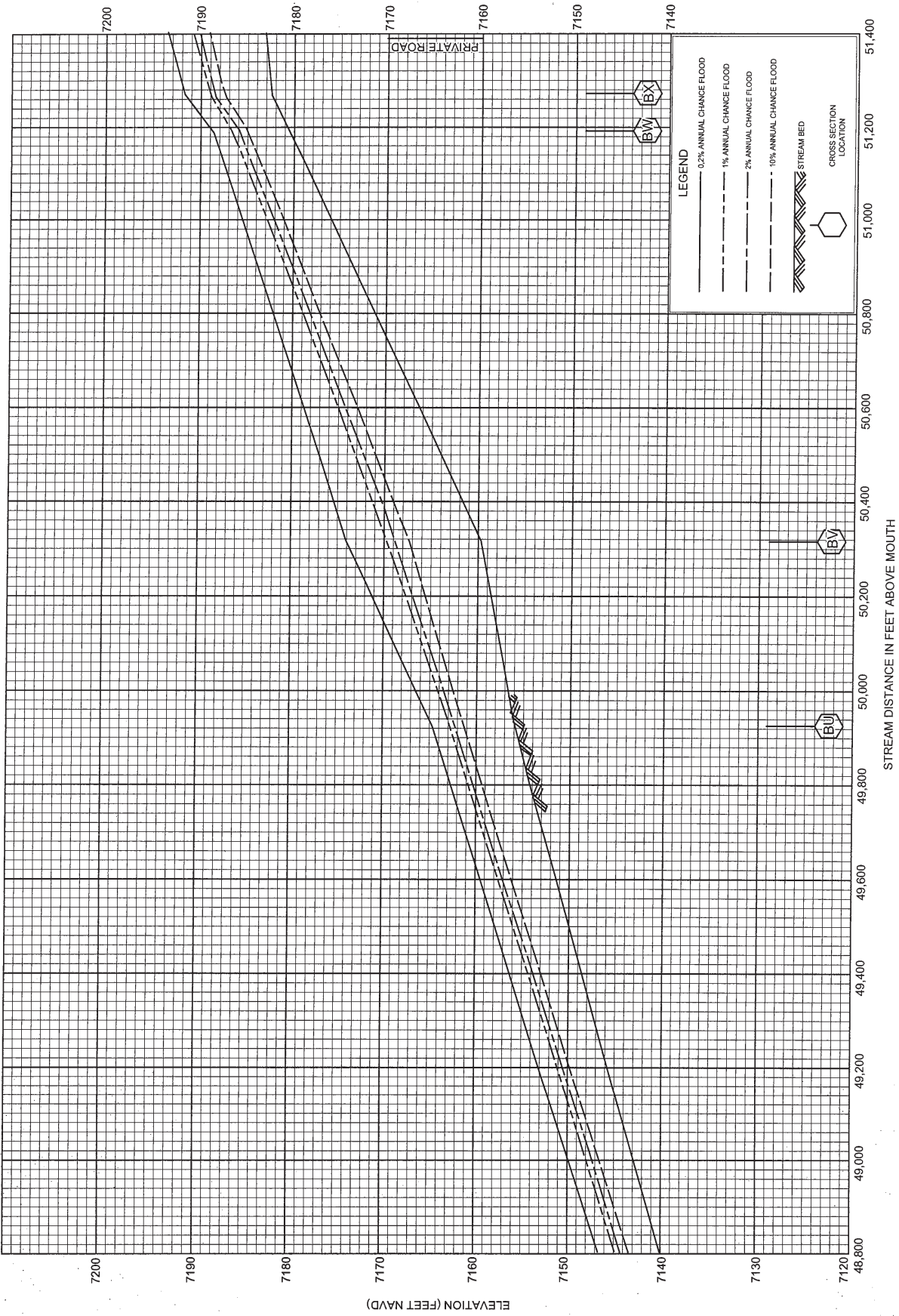
ELEVATION (FEET NAVD)

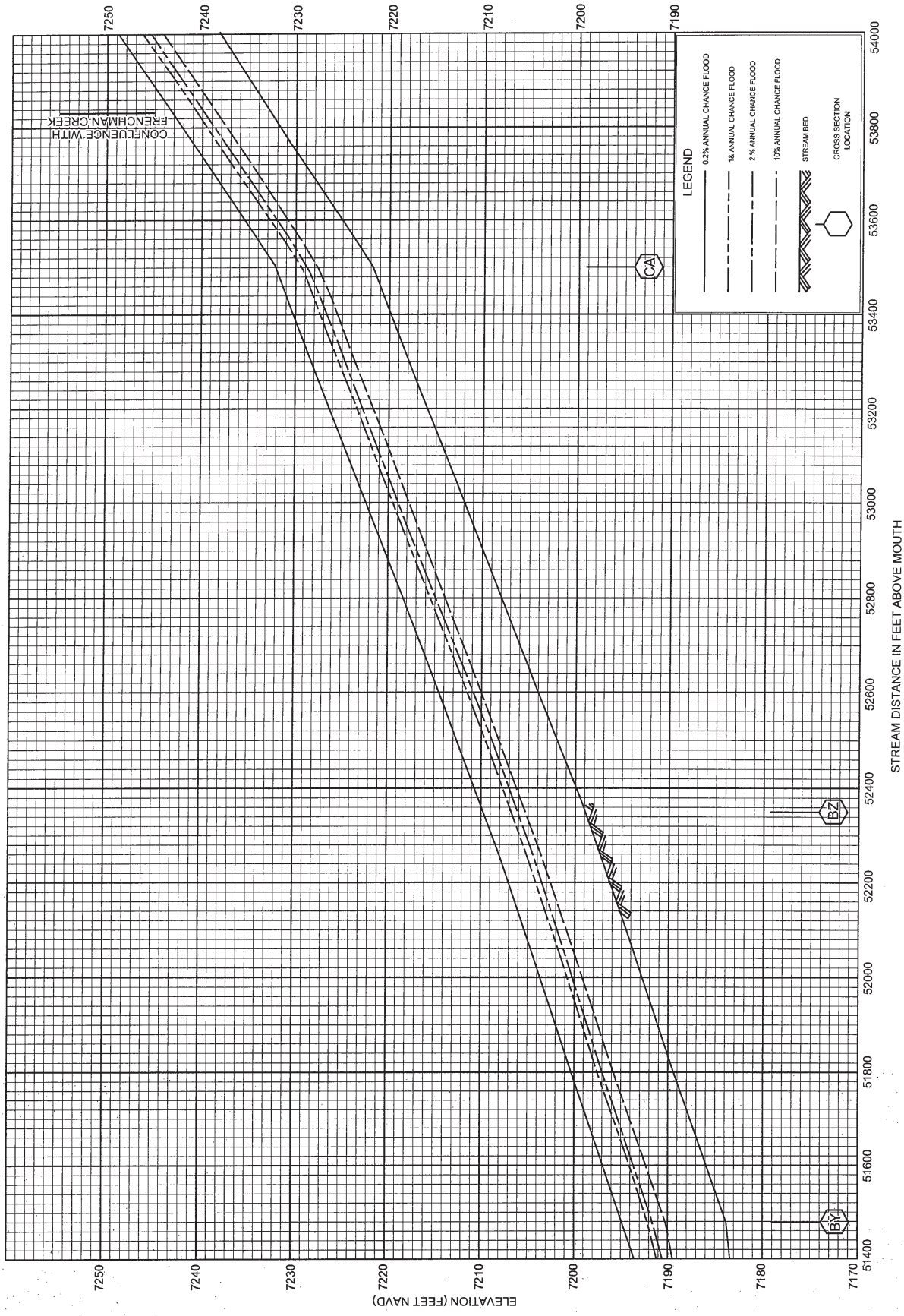
STREAM DISTANCE IN FEET ABOVE MOUTH

LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (long-dashed line)
- 10% ANNUAL CHANCE FLOOD (dash-dot line)
- STREAM BED (hatched area)
- CROSS SECTION LOCATION (hexagonal symbol)







CONFLUENCE WITH FRENCHMAN CREEK

LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (long dashed line)
- 2% ANNUAL CHANCE FLOOD (short dashed line)
- 10% ANNUAL CHANCE FLOOD (dash-dot line)
- STREAM BED (hatched pattern)
- CROSS SECTION LOCATION (hexagon symbol)

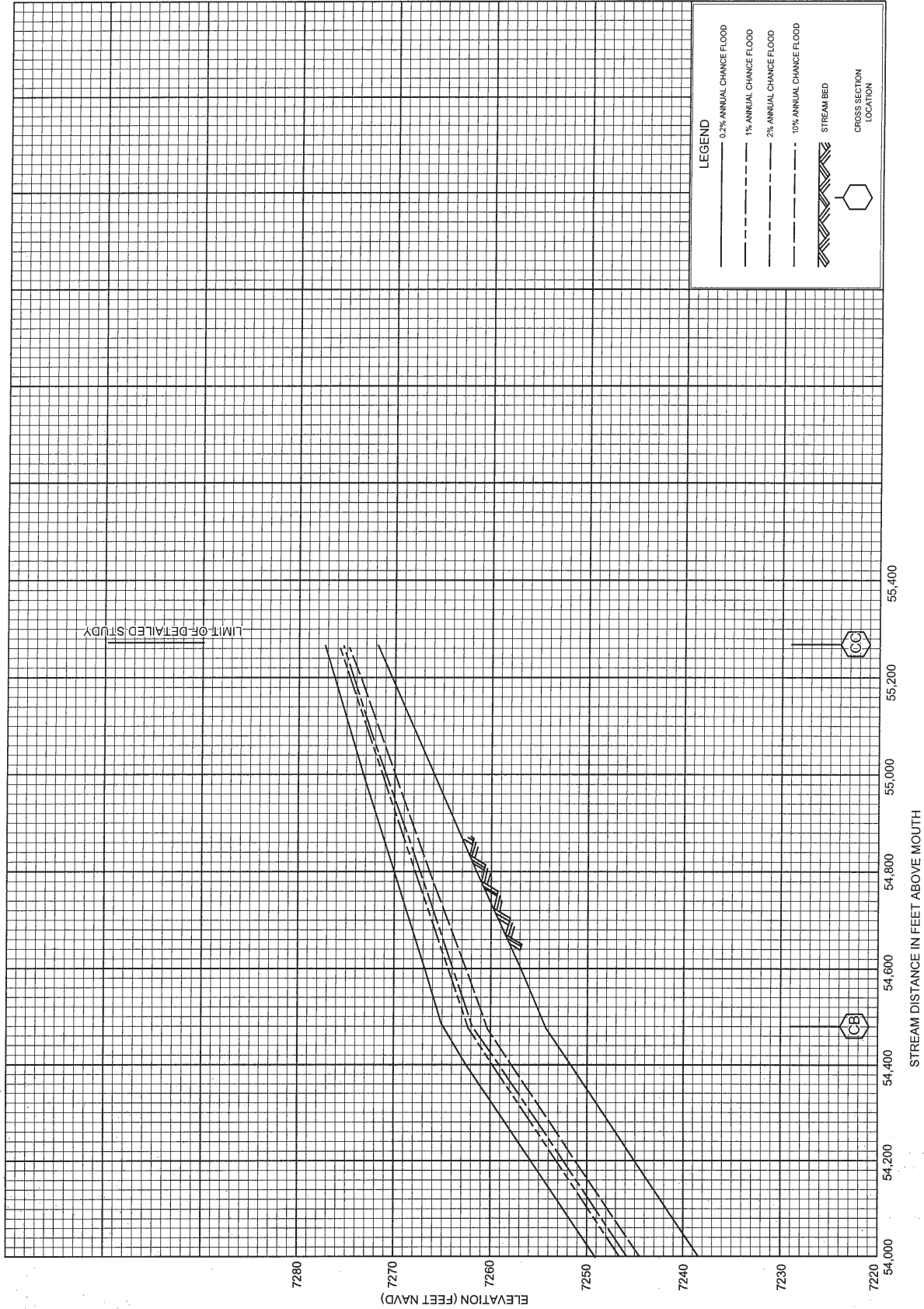
CA1

BZ

BY

ELEVATION (FEET NAVD)

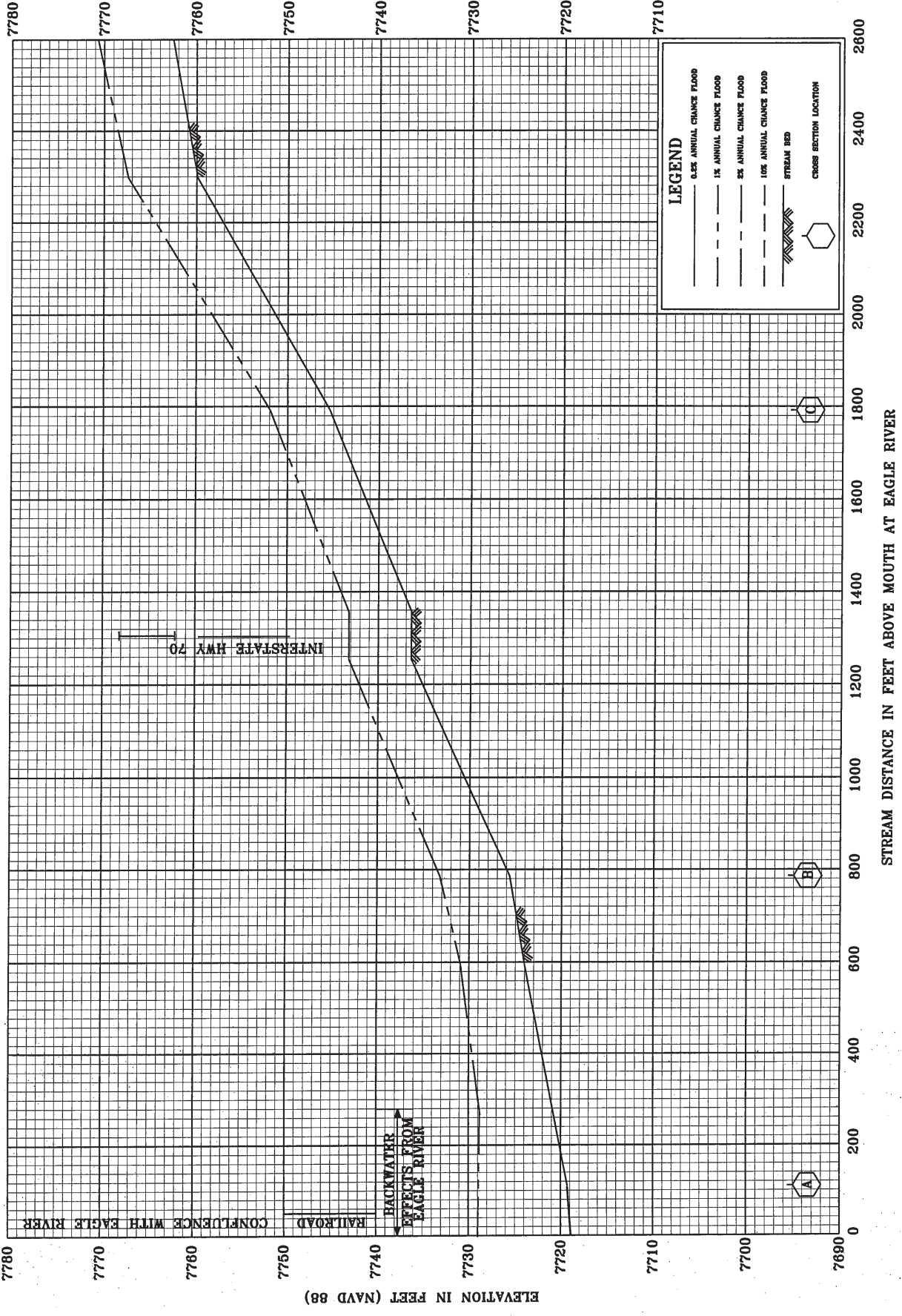
STREAM DISTANCE IN FEET ABOVE MOUTH



LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (long dashed line)
- 2% ANNUAL CHANCE FLOOD (short dashed line)
- 10% ANNUAL CHANCE FLOOD (dash-dot line)
- STREAM BED (hatched area)
- CROSS SECTION LOCATION (hexagonal symbol)

FLOOD PROFILES
GORE CREEK



7780
7770
7760
7750
7740
7730
7720
7710
7700
7690

ELEVATION IN FEET (NAVD 88)

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800

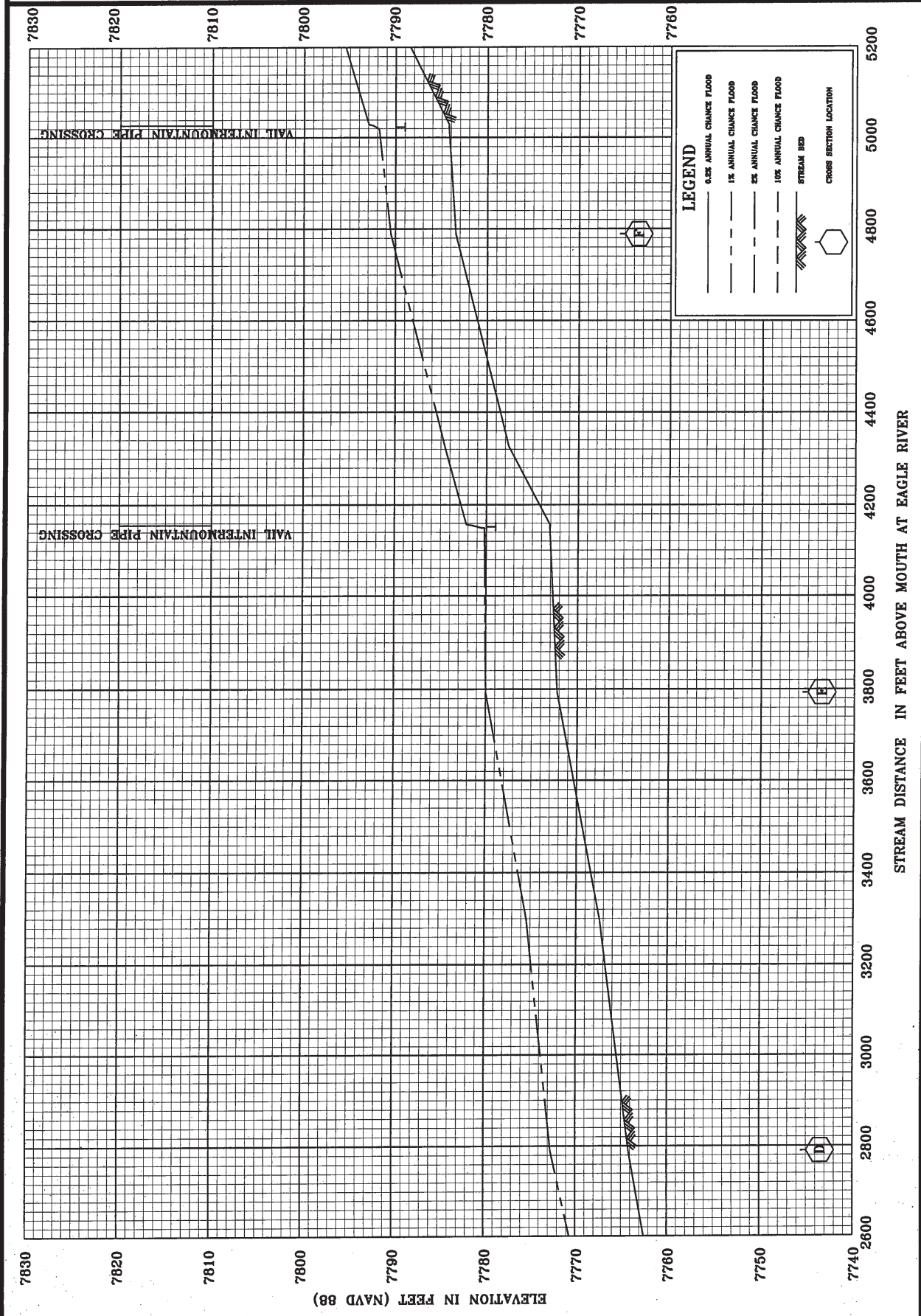
STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER

RAILROAD CONFDENCE WITH EAGLE RIVER

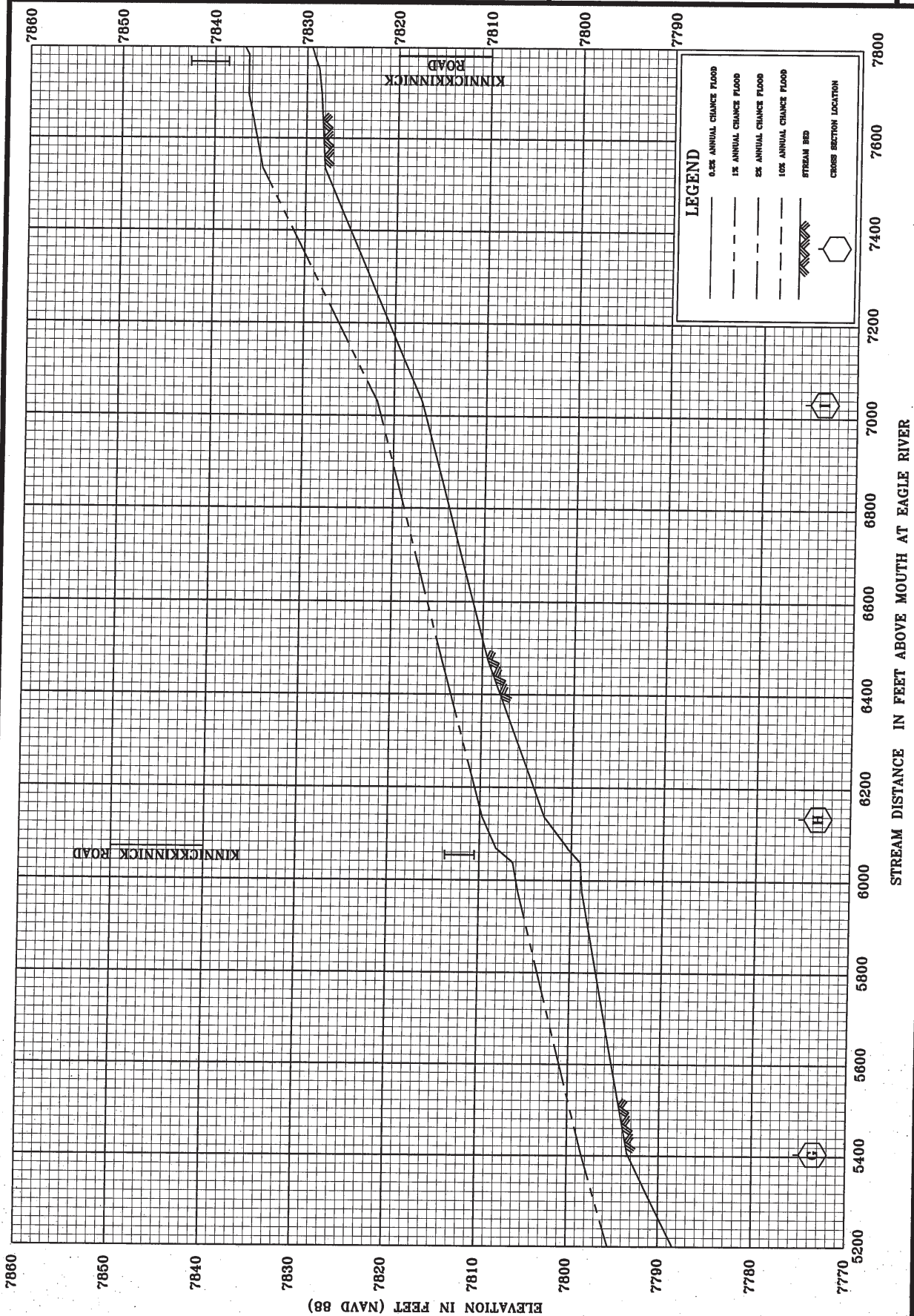
INTERSTATE HWY 70

BACKWATER EFFECTS FROM EAGLE RIVER

A B C



FLOOD PROFILES
GORE CREEK



7860

7850

7840

7830

7820

7810

7800

7790

7780

7770

7860

7850

7840

7830

7820

7810

7800

7790

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7800

7800

7800

7800

7800

7800

7800

7800

7800

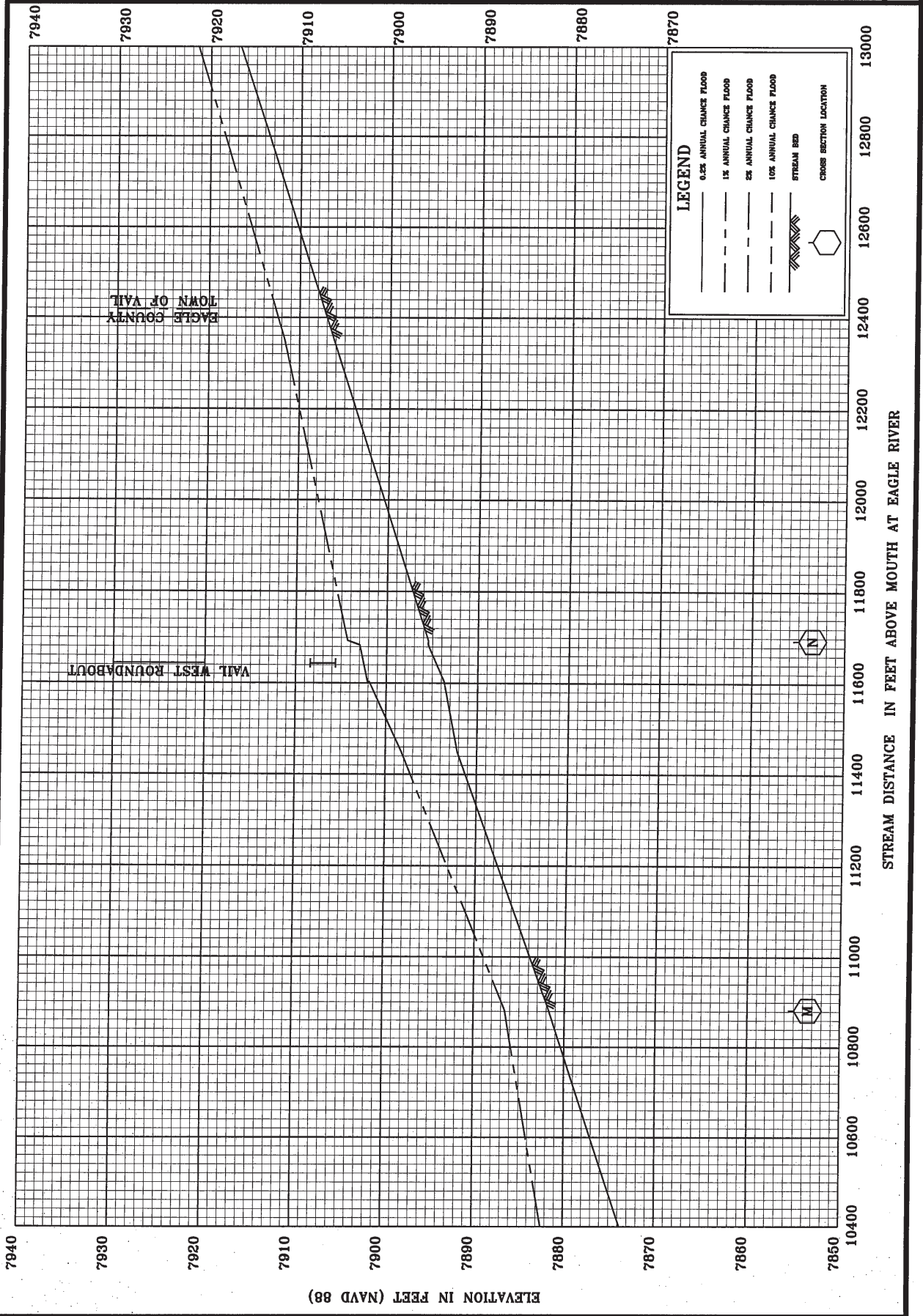
7800

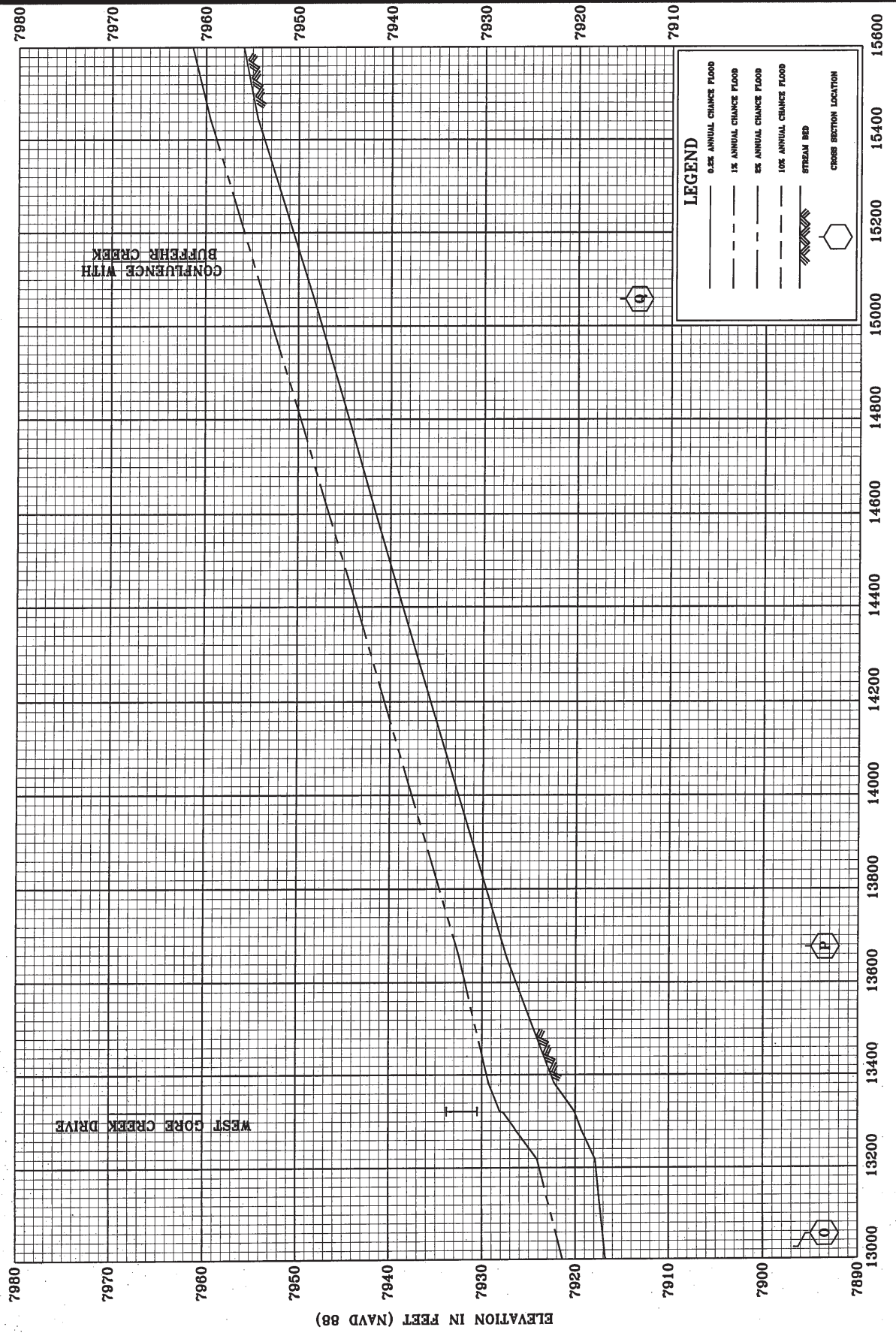
KINNICKINNICK ROAD

KINNICKINNICK ROAD

LEGEND

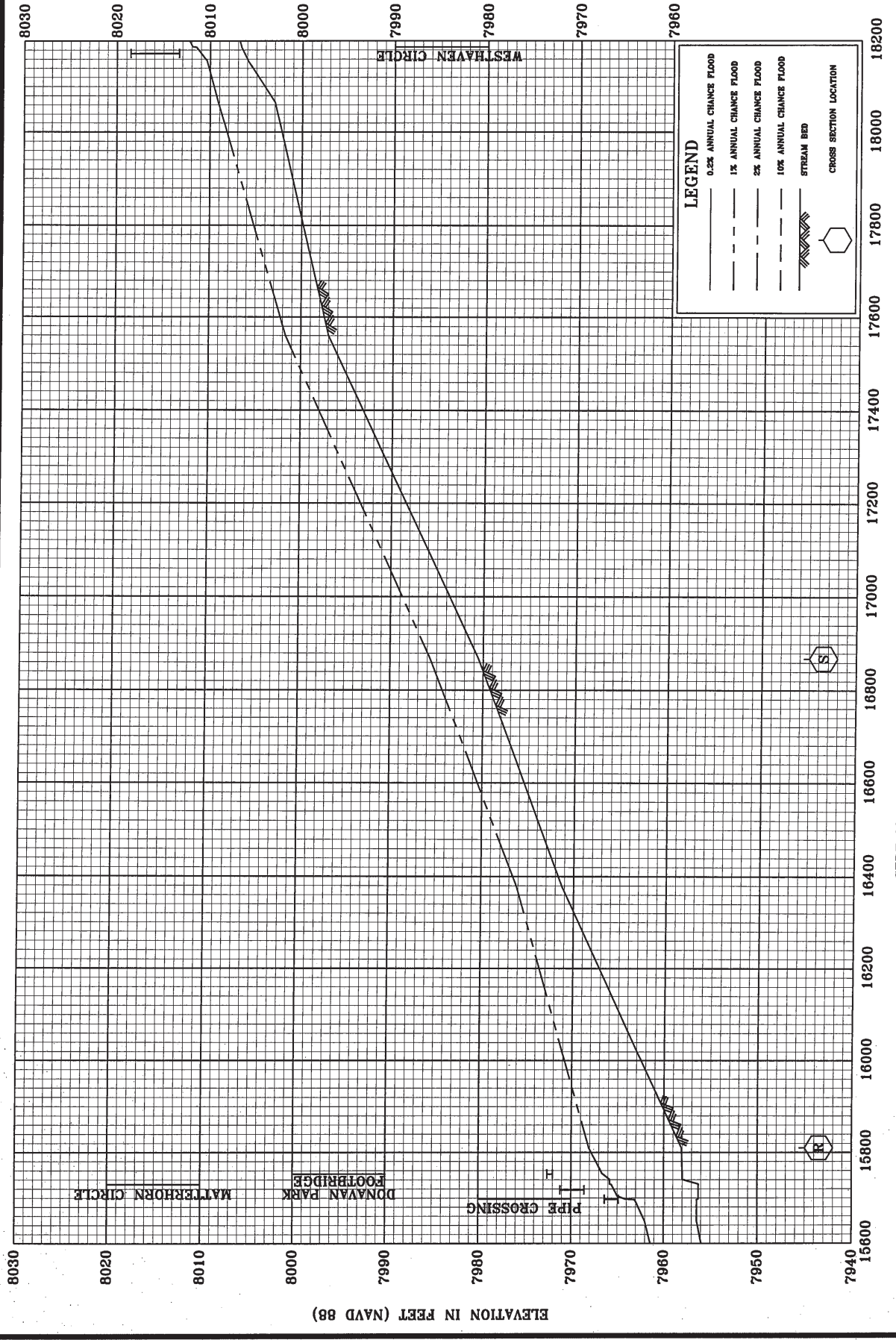
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 100% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION





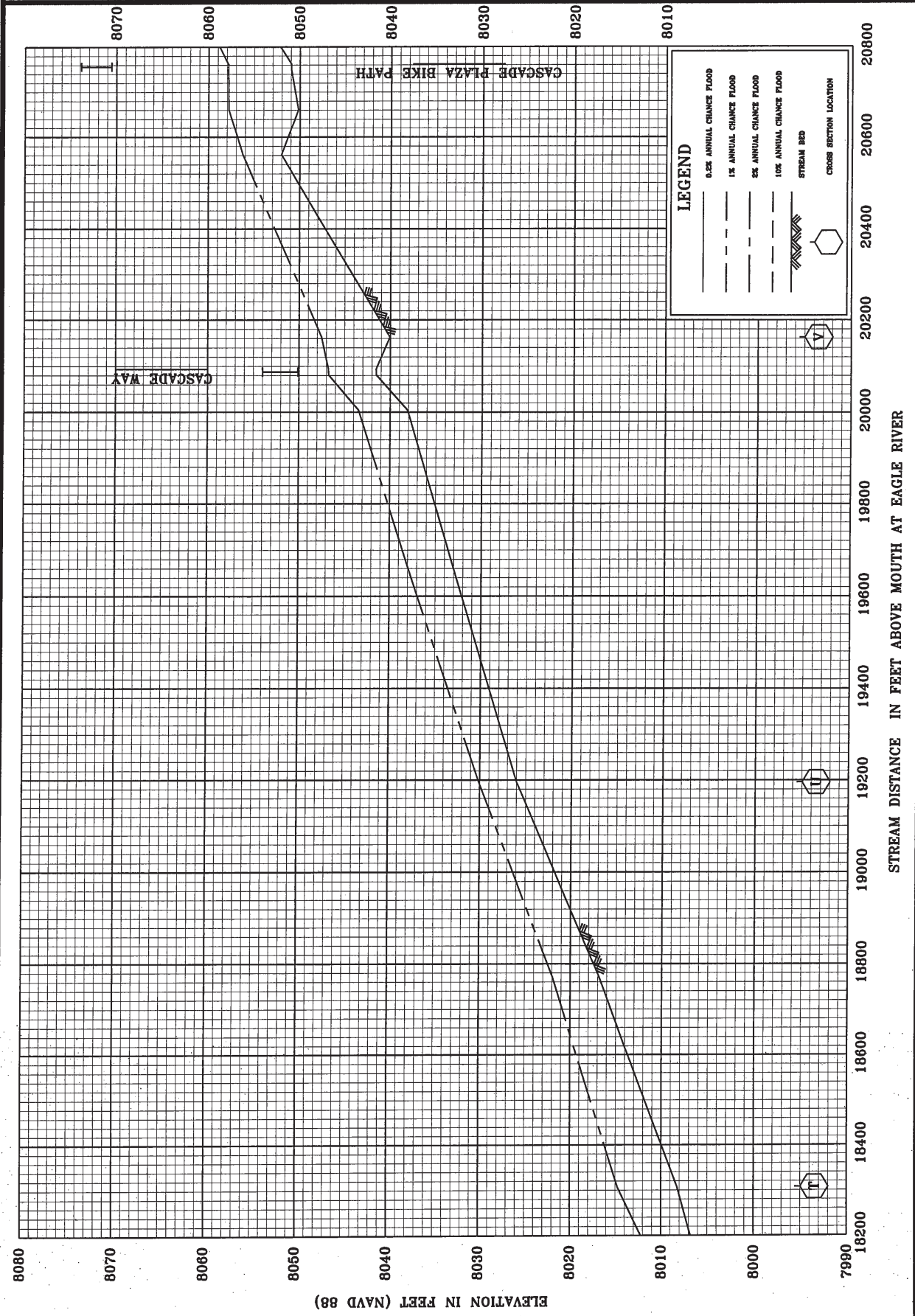
7980
7970
7960
7950
7940
7930
7920
7910
7900
7890

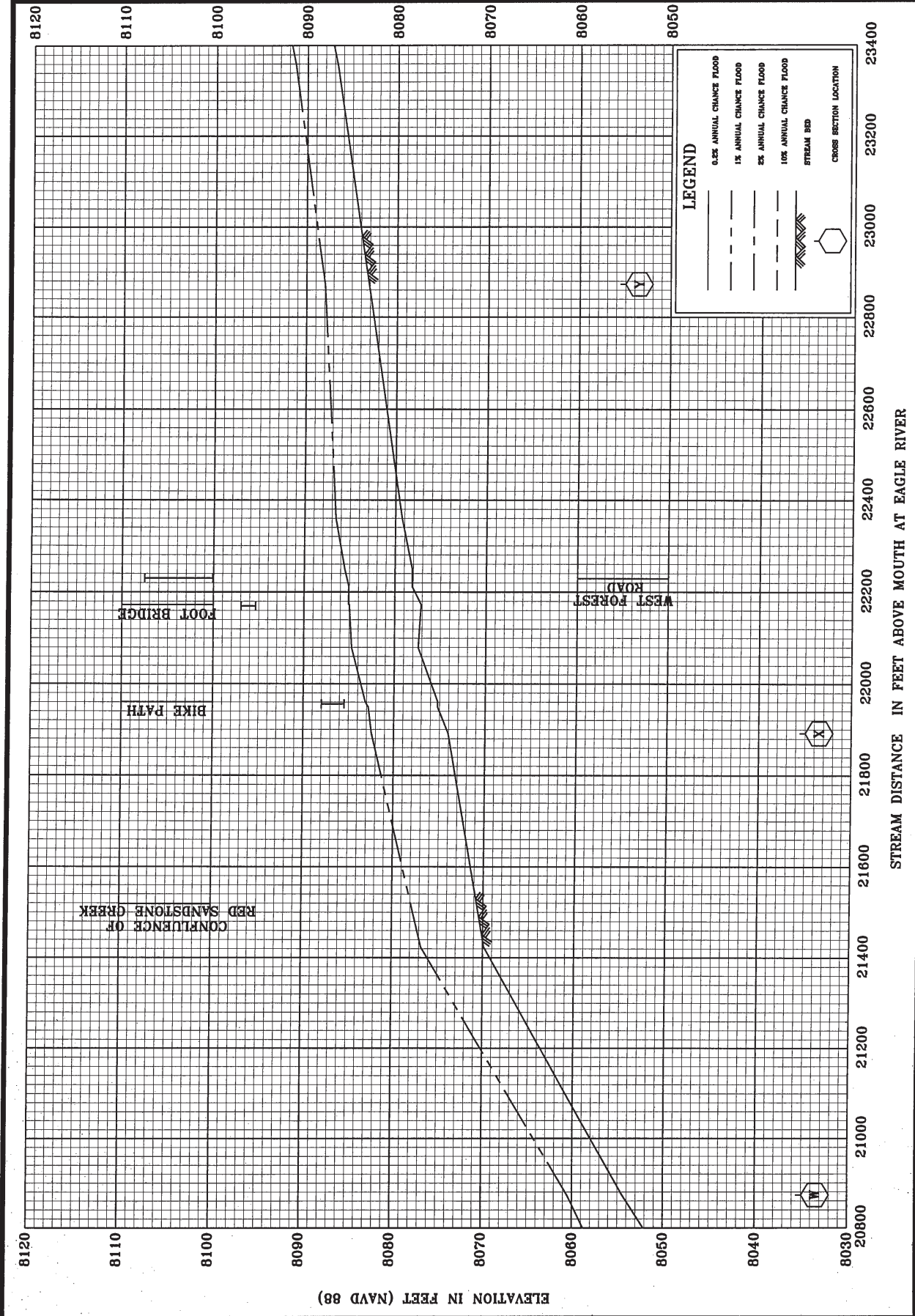
13000
13200
13400
13600
13800
14000
14200
14400
14600
14800
15000
15200
15400
15600



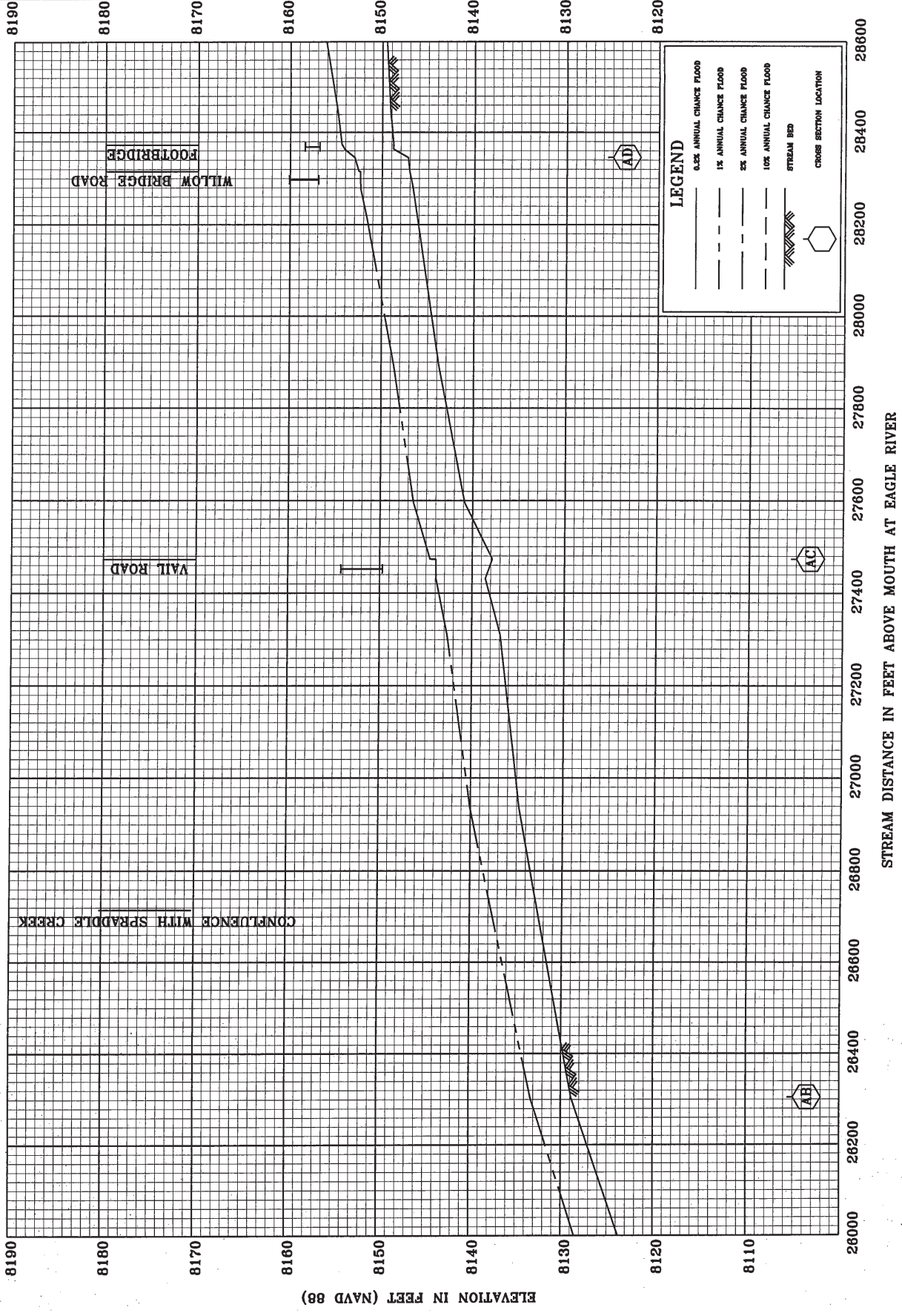
ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER



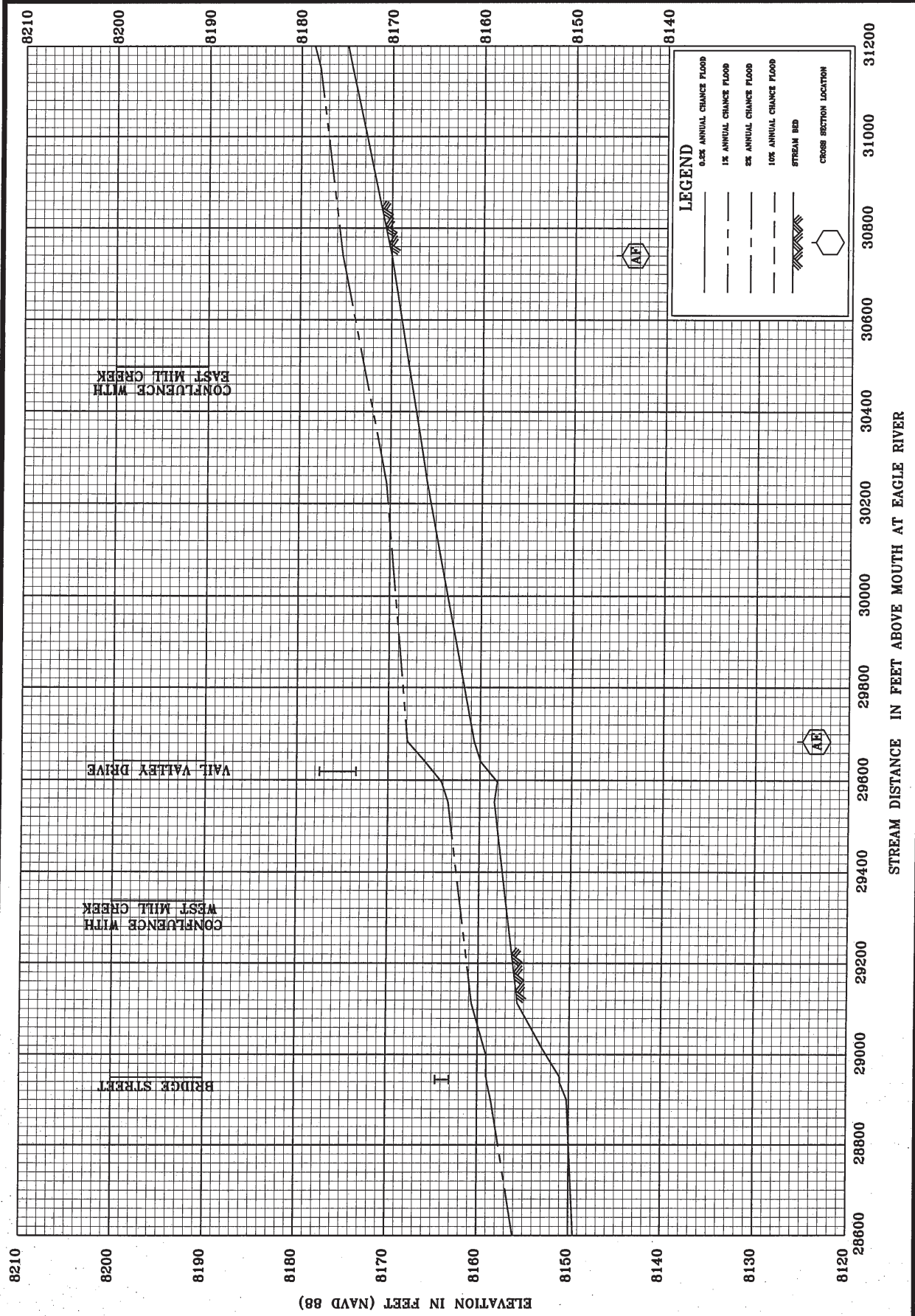


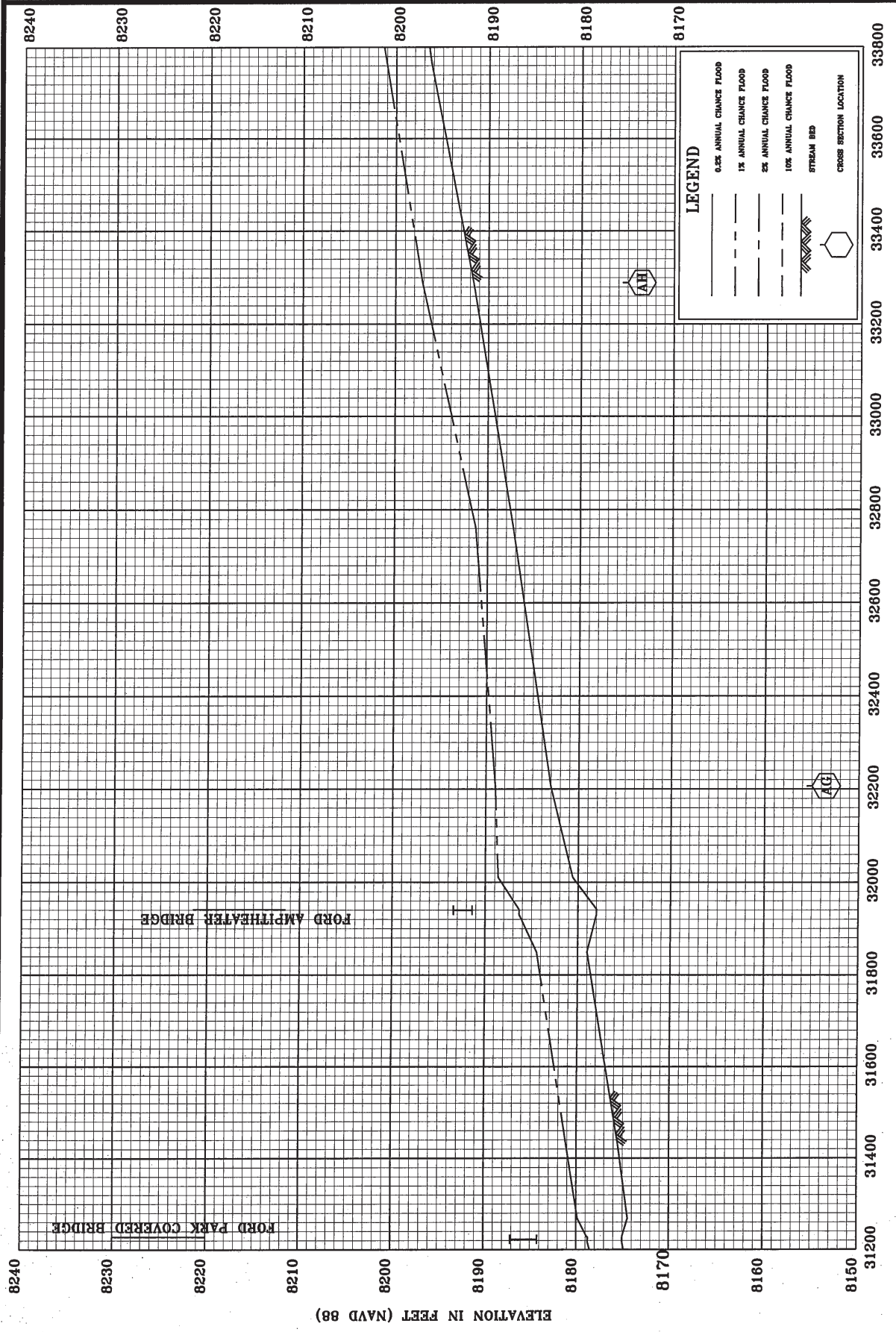
FLOOD PROFILES
CORE CREEK



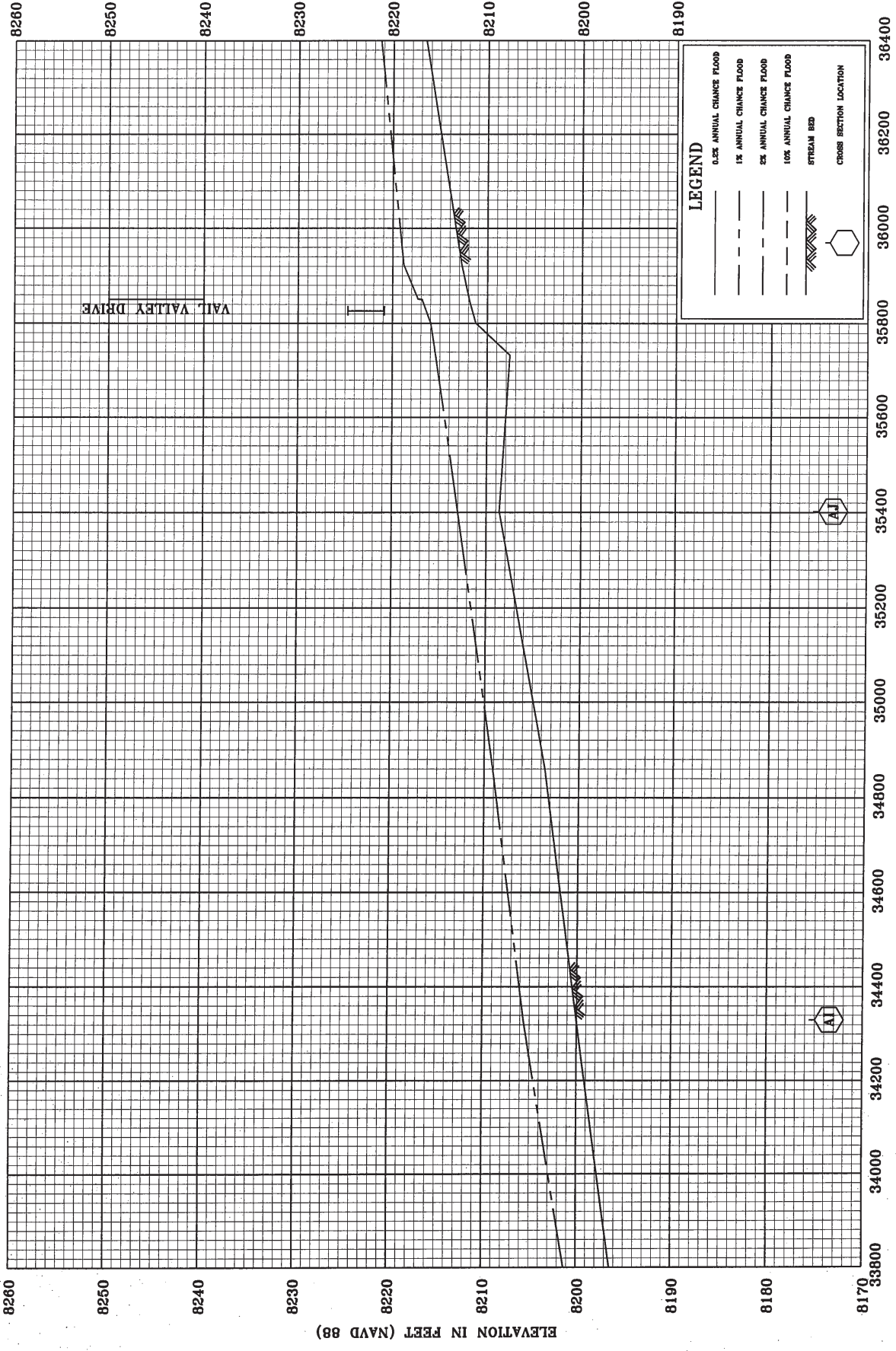
8190
8180
8170
8160
8150
8140
8130
8120
8110

26000 26200 26400 26600 26800 27000 27200 27400 27600 27800 28000 28200 28400 28600

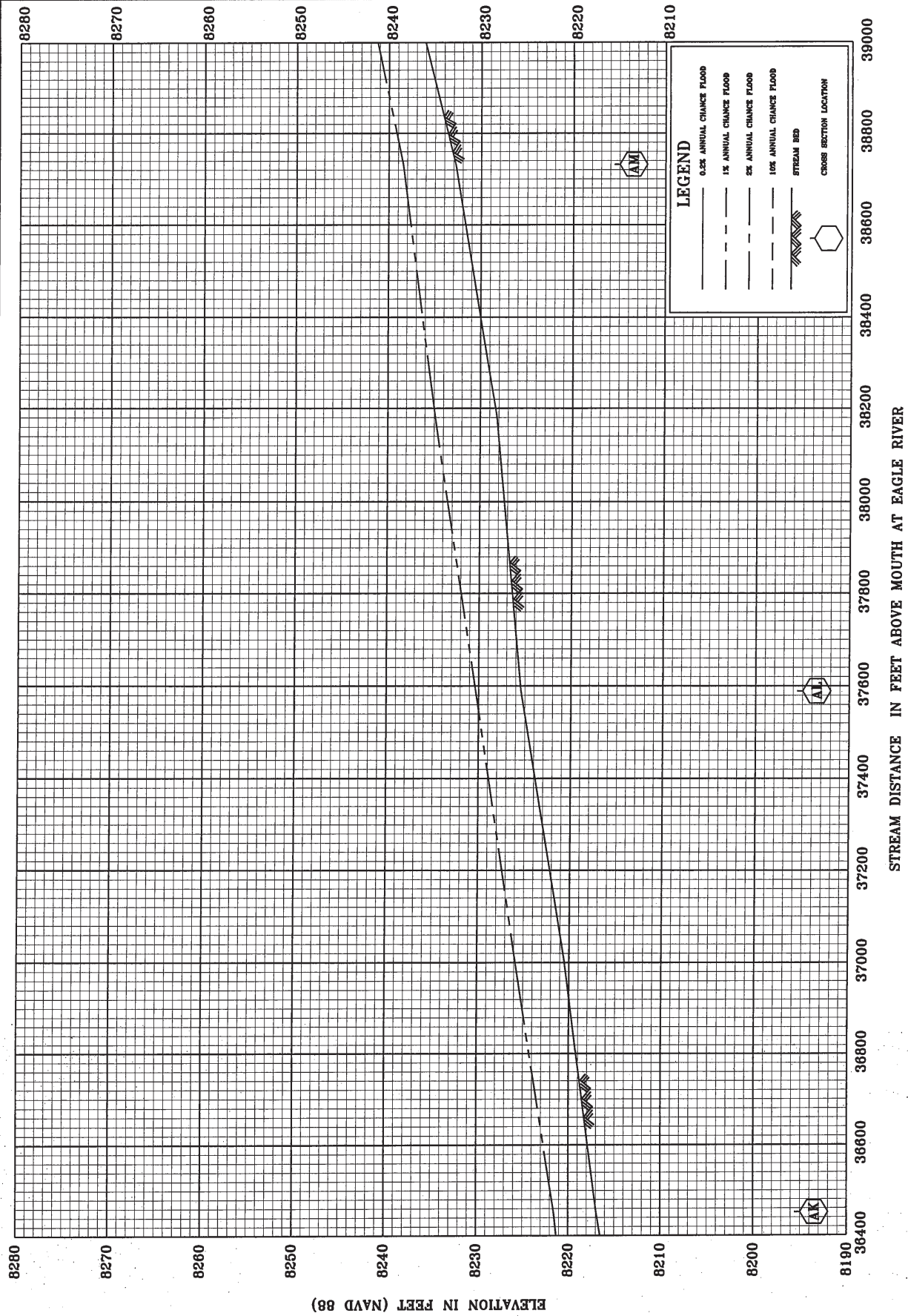




FLOOD PROFILES
GORE CREEK

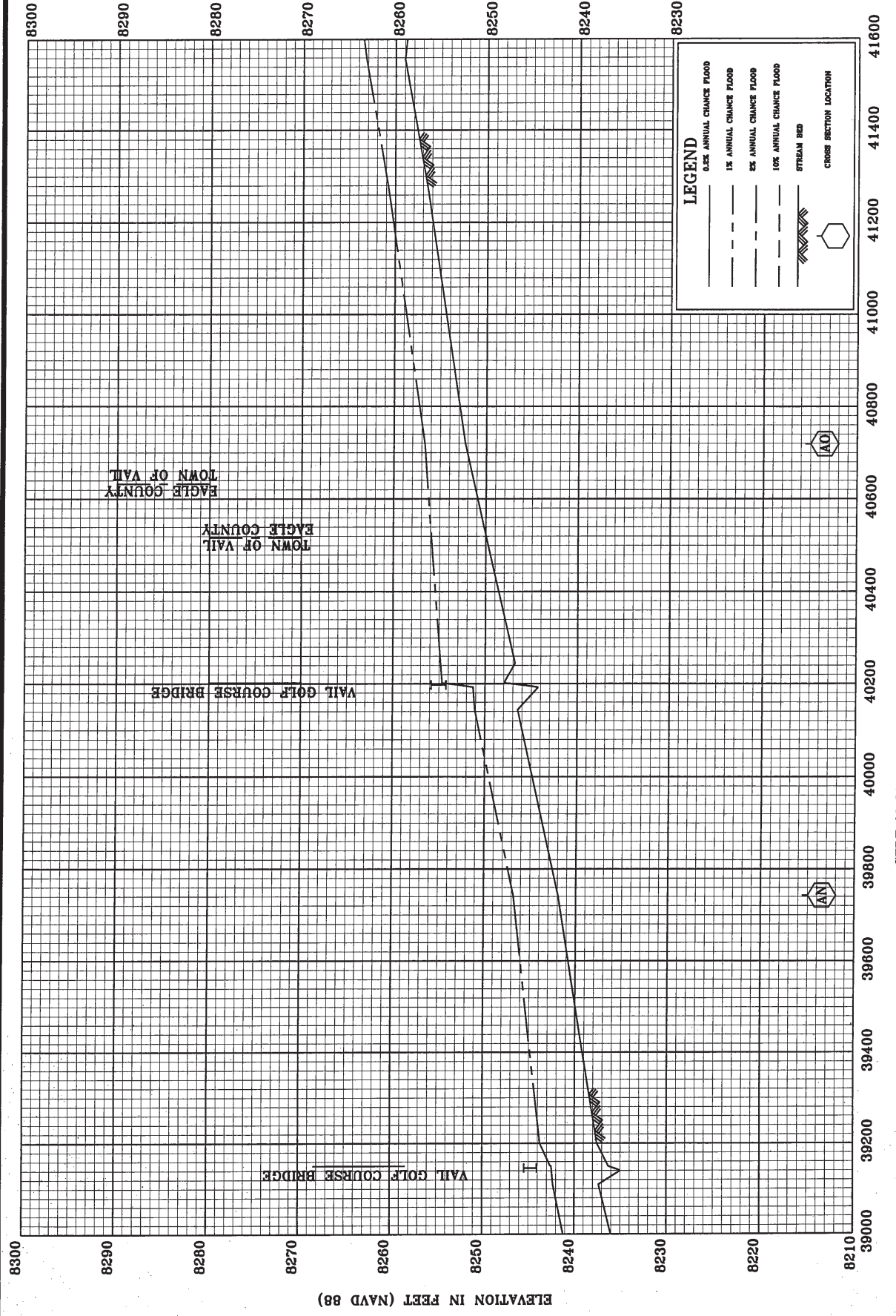


FLOOD PROFILES
CORE CREEK



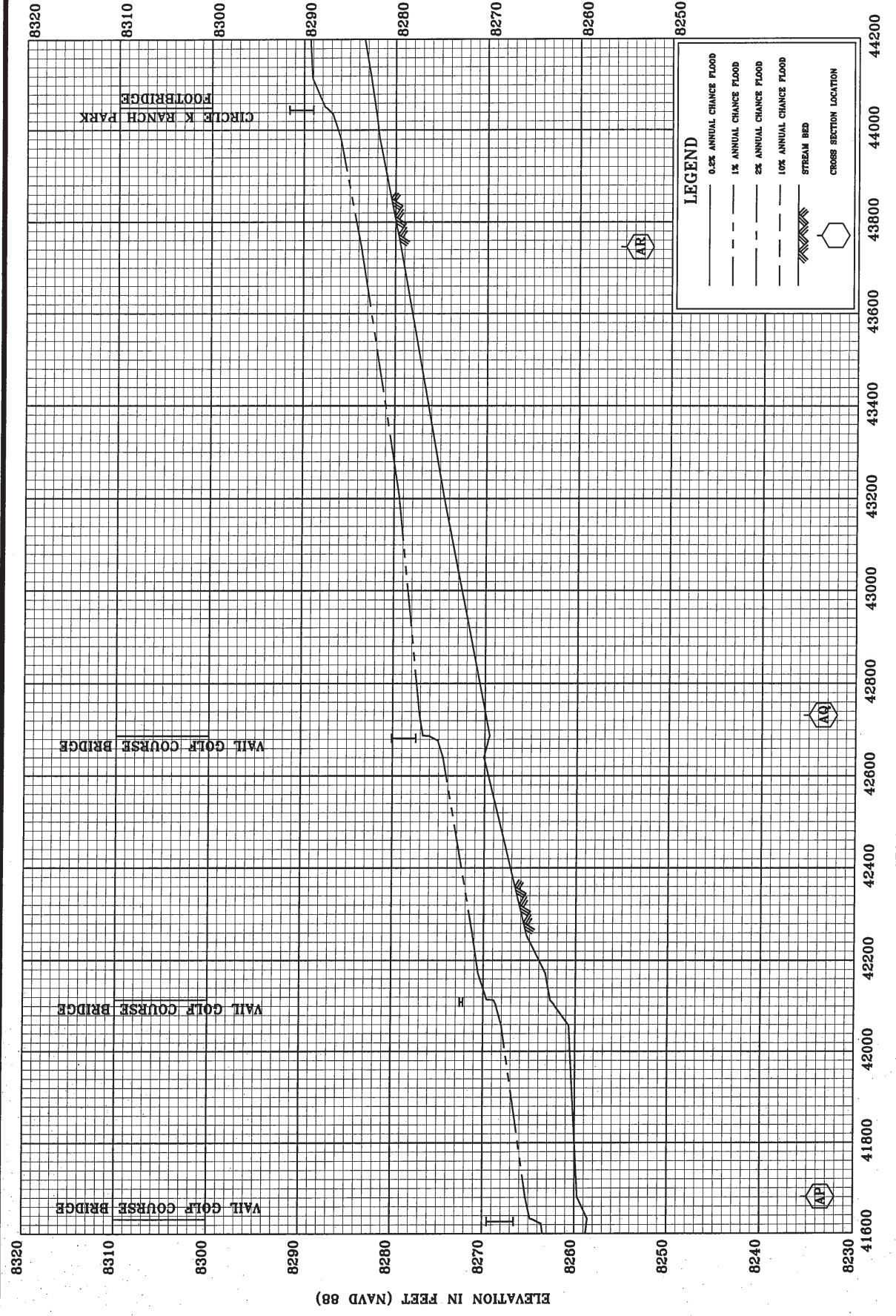
ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER



STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER

ELEVATION IN FEET (NAVD 88)

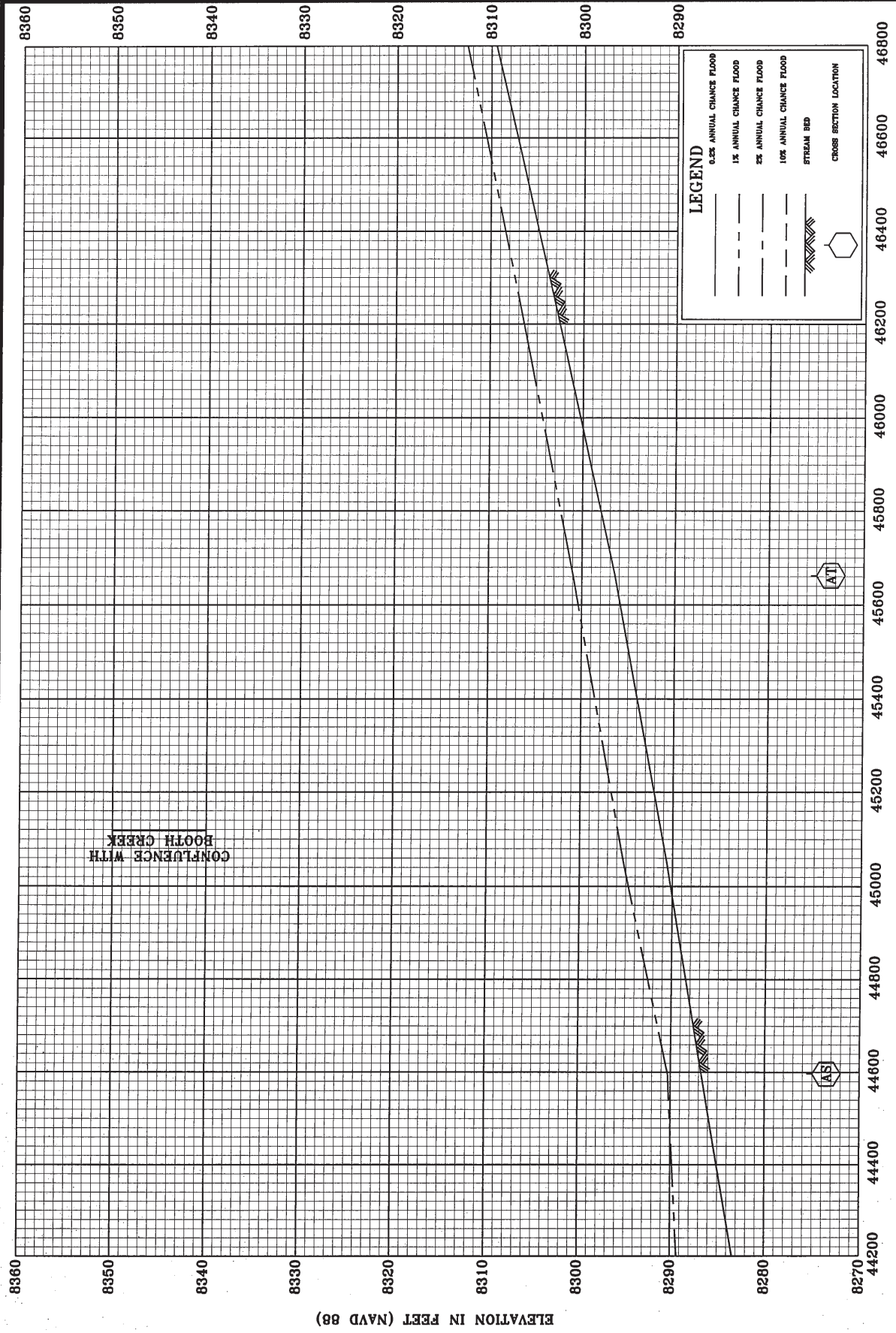


LEGEND

- 0.2% ANNUAL CHANCE FLOOD (long-dashed line)
- 1% ANNUAL CHANCE FLOOD (short-dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (solid line)
- STREAM BED (hatched line)
- CROSS SECTION LOCATION (AR symbol)

ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER



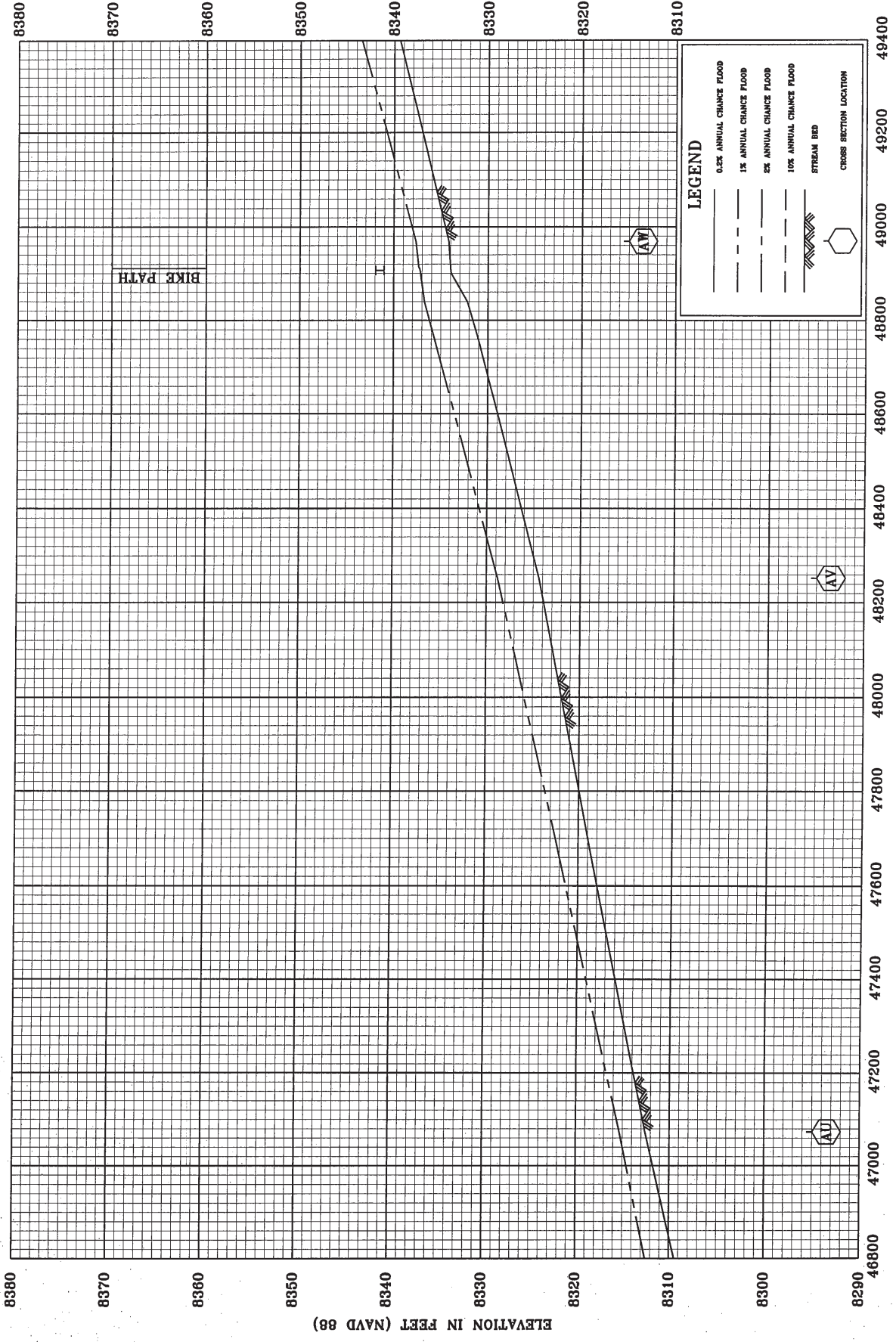
CONFLUENCE WITH
BOOTH CREEK

ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER

LEGEND

- 0.2% ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched line)
- CROSS SECTION LOCATION (circle with 'A' or 'B')

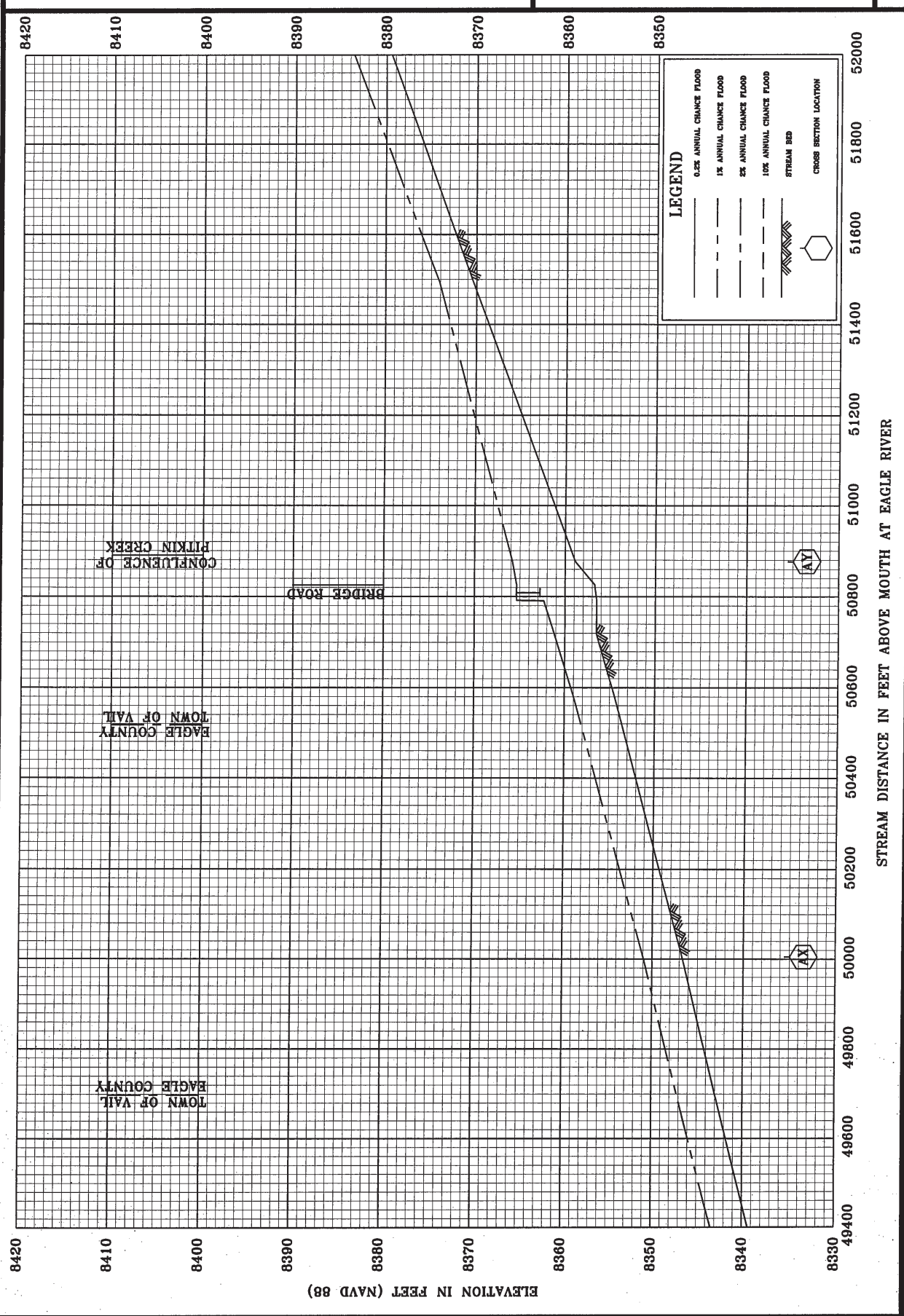


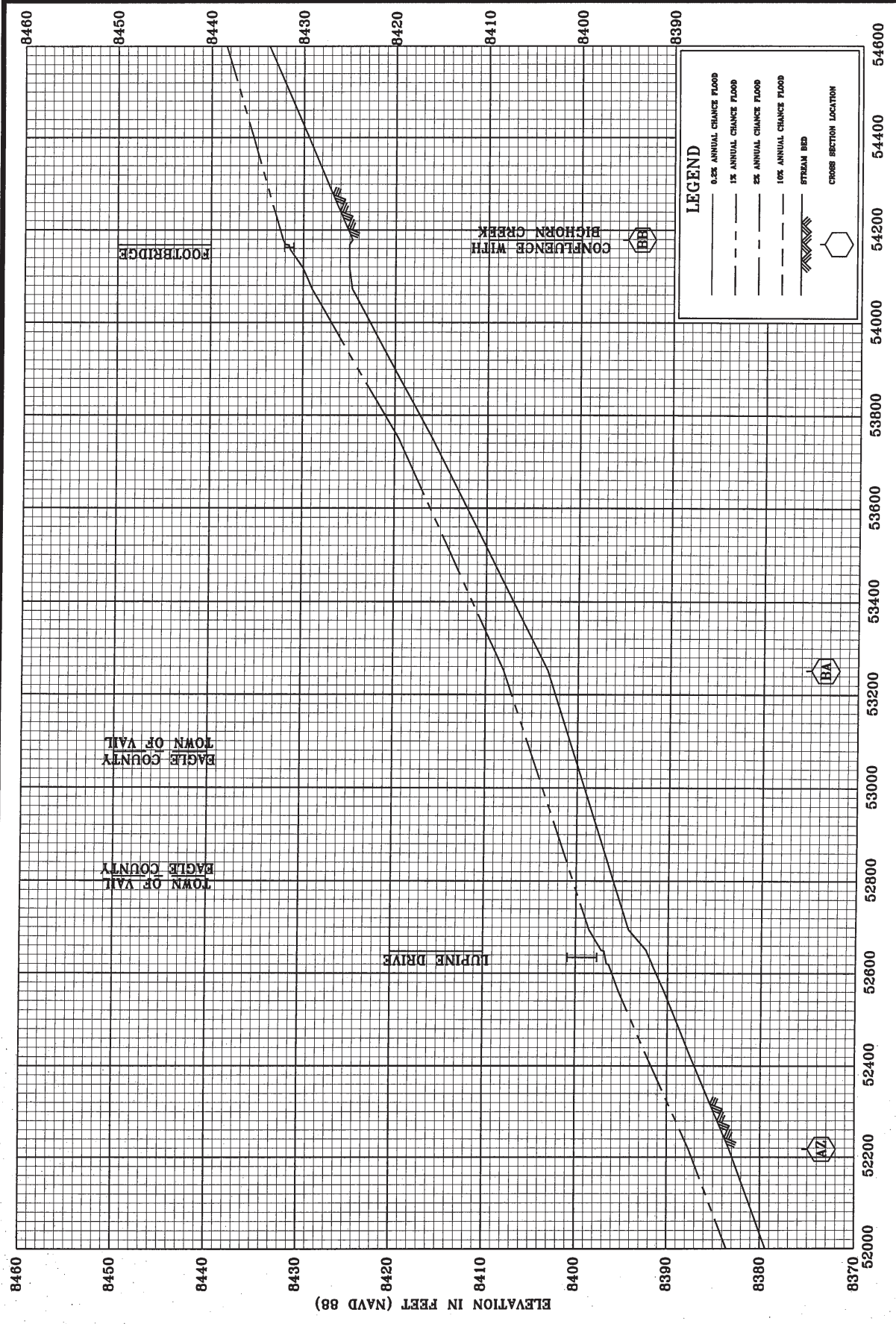
LEGEND

- 0.2% ANNUAL CHANCE FLOOD (dashed line)
- 1% ANNUAL CHANCE FLOOD (long dashed line)
- 2% ANNUAL CHANCE FLOOD (short dashed line)
- 10% ANNUAL CHANCE FLOOD (dash-dot line)
- STREAM BED (solid line)
- CROSS SECTION LOCATION (AV symbol)

ELEVATION IN FEET (NAVD 88)

STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER





LEGEND

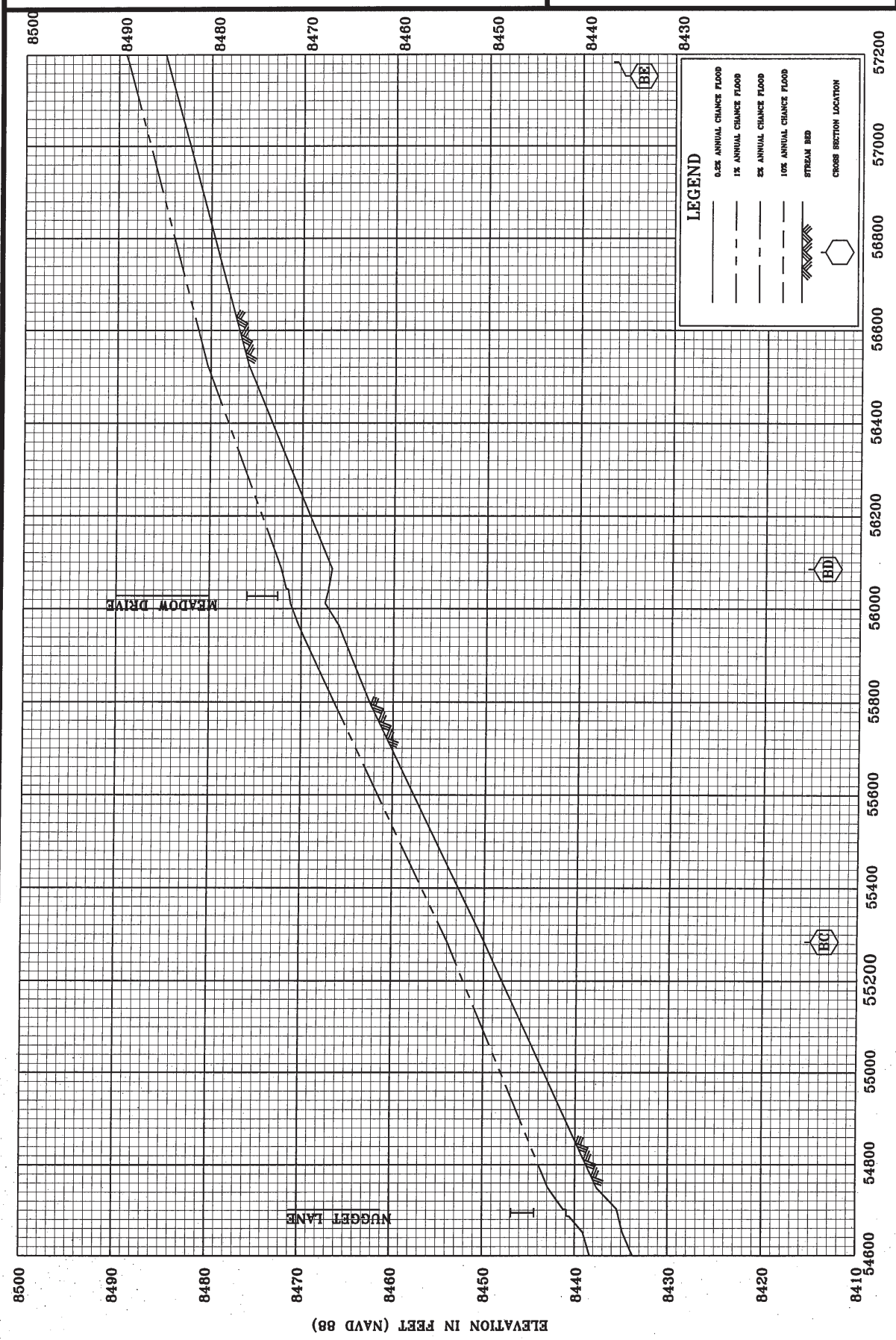
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

ELEVATION IN FEET (NAVD 88)

8460 8450 8440 8430 8420 8410 8400 8390 8380 8370

52000 52200 52400 52600 52800 53000 53200 53400 53600 53800 54000 54200 54400 54600

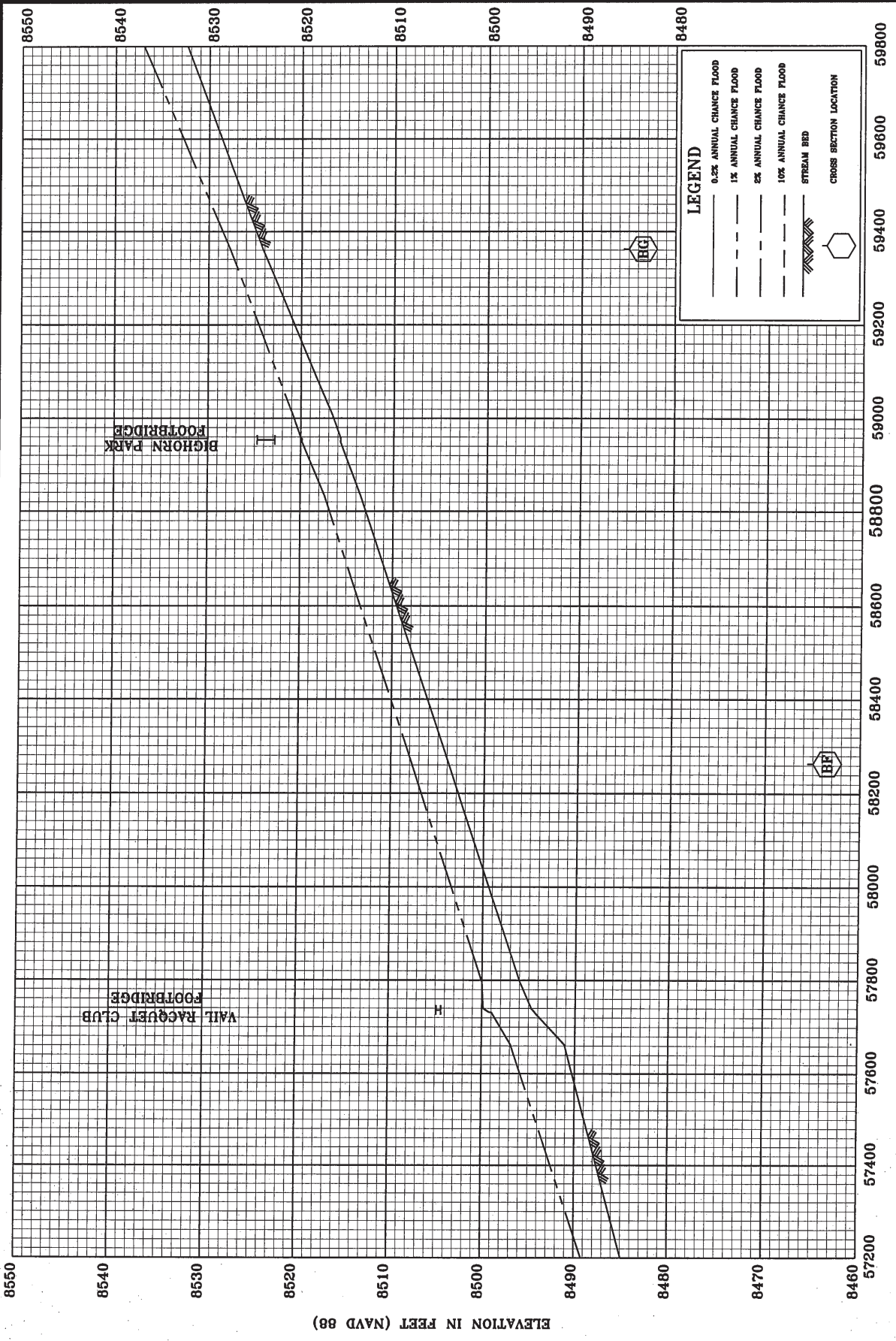
STREAM DISTANCE IN FEET ABOVE MOUTH AT EAGLE RIVER



FLOOD PROFILES
GORE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

127P



VAIL RACQUET CLUB
FOOTBRIDGE

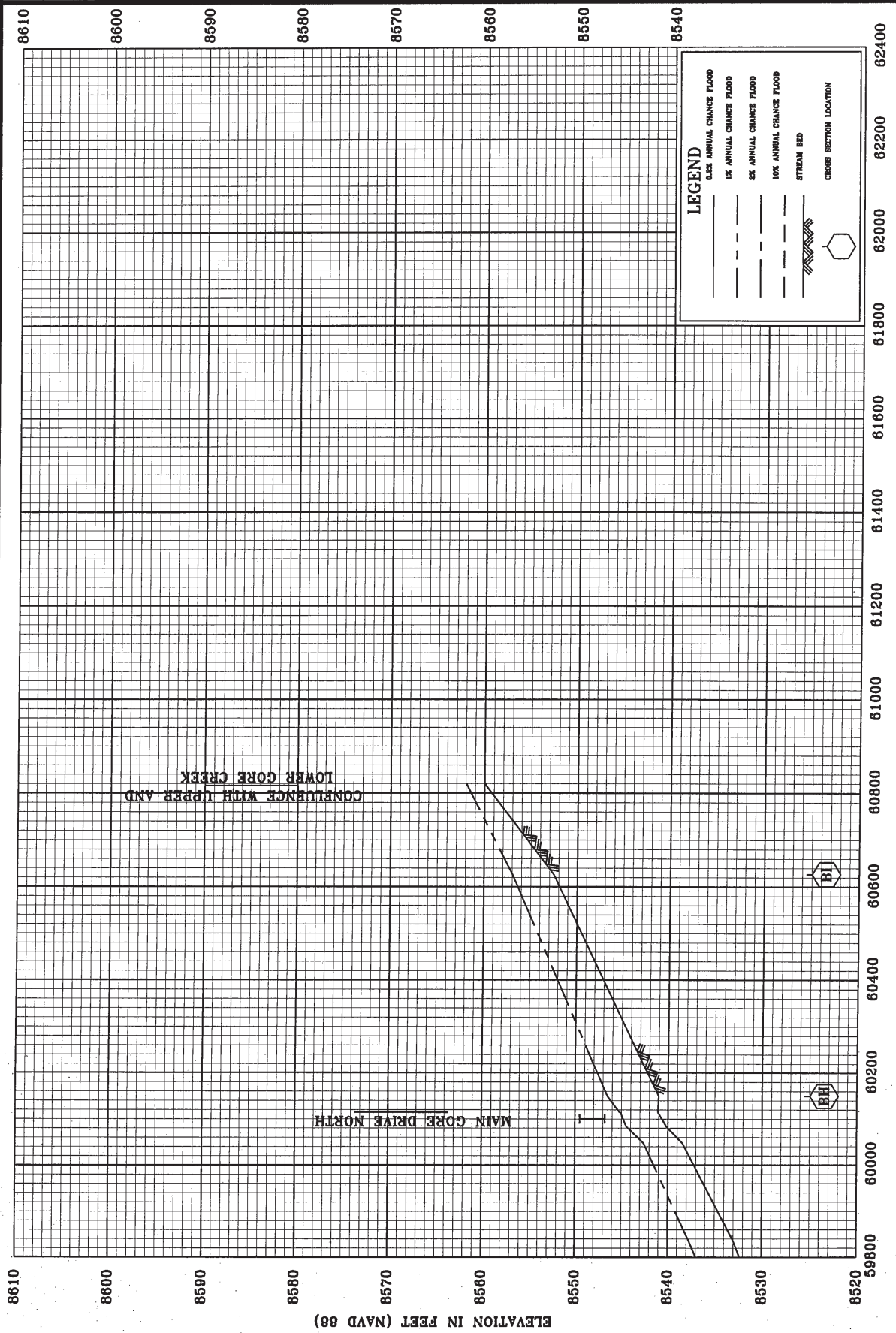
BIGHORN PARK
FOOTBRIDGE

H

I

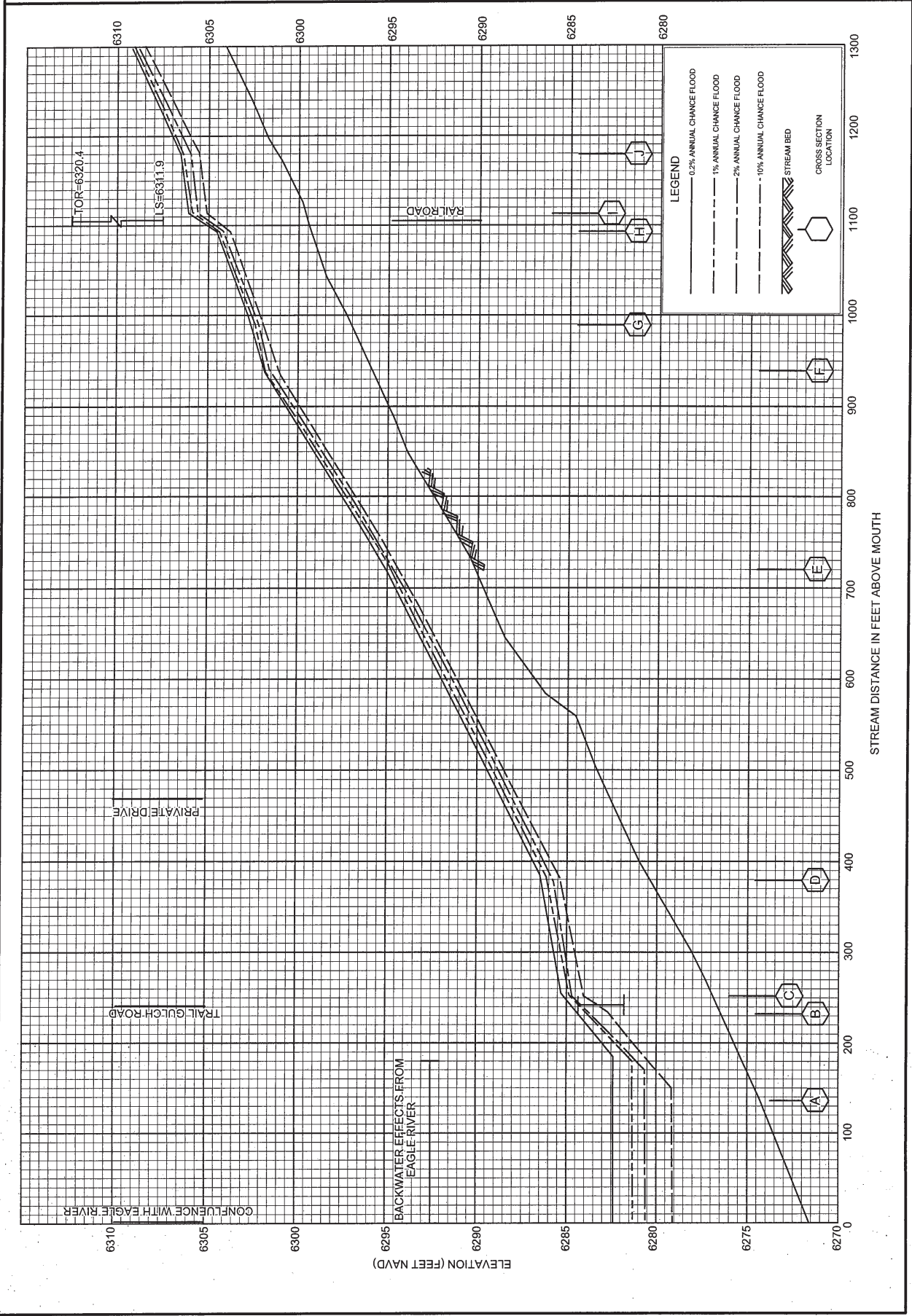
BP

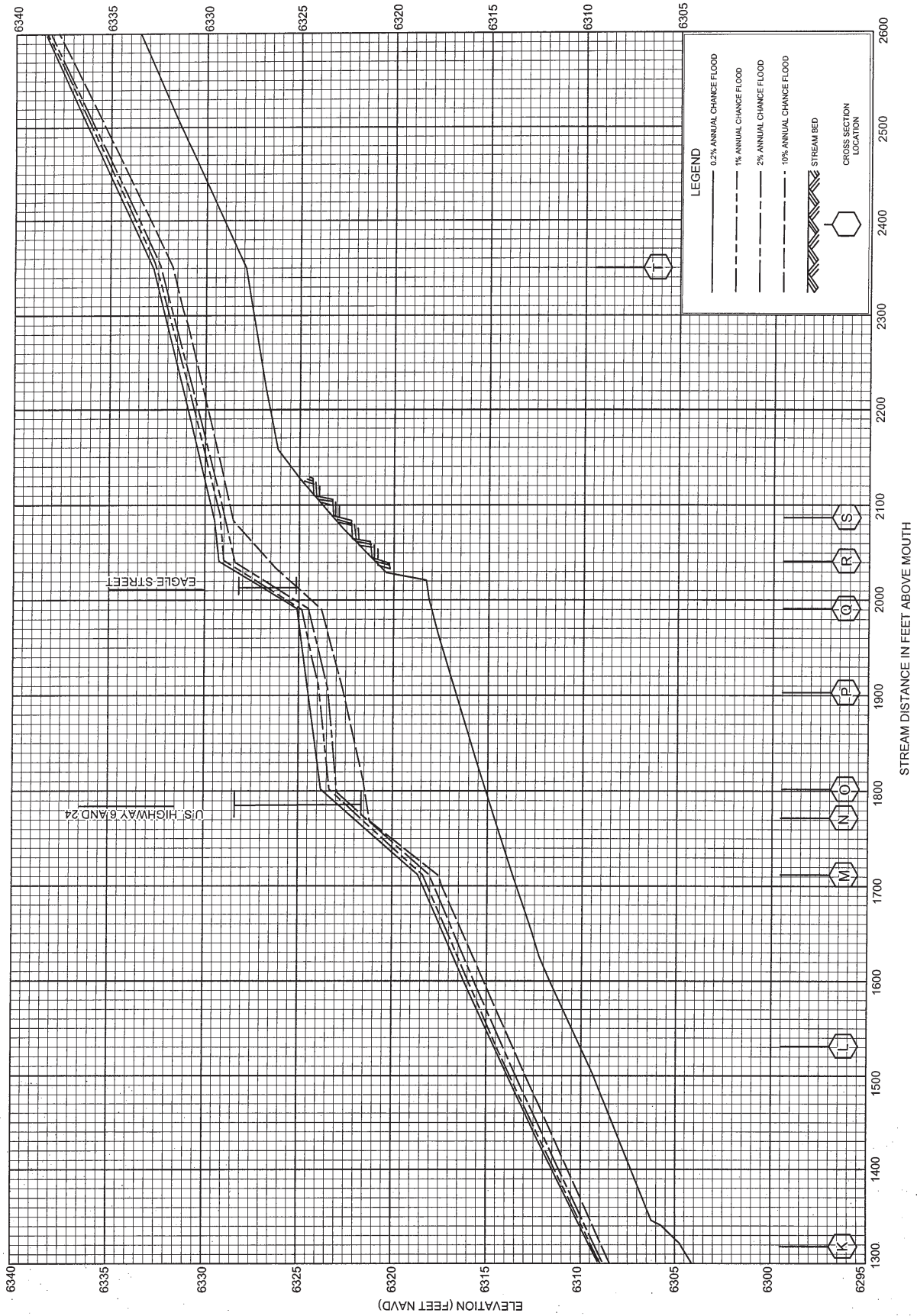
BG

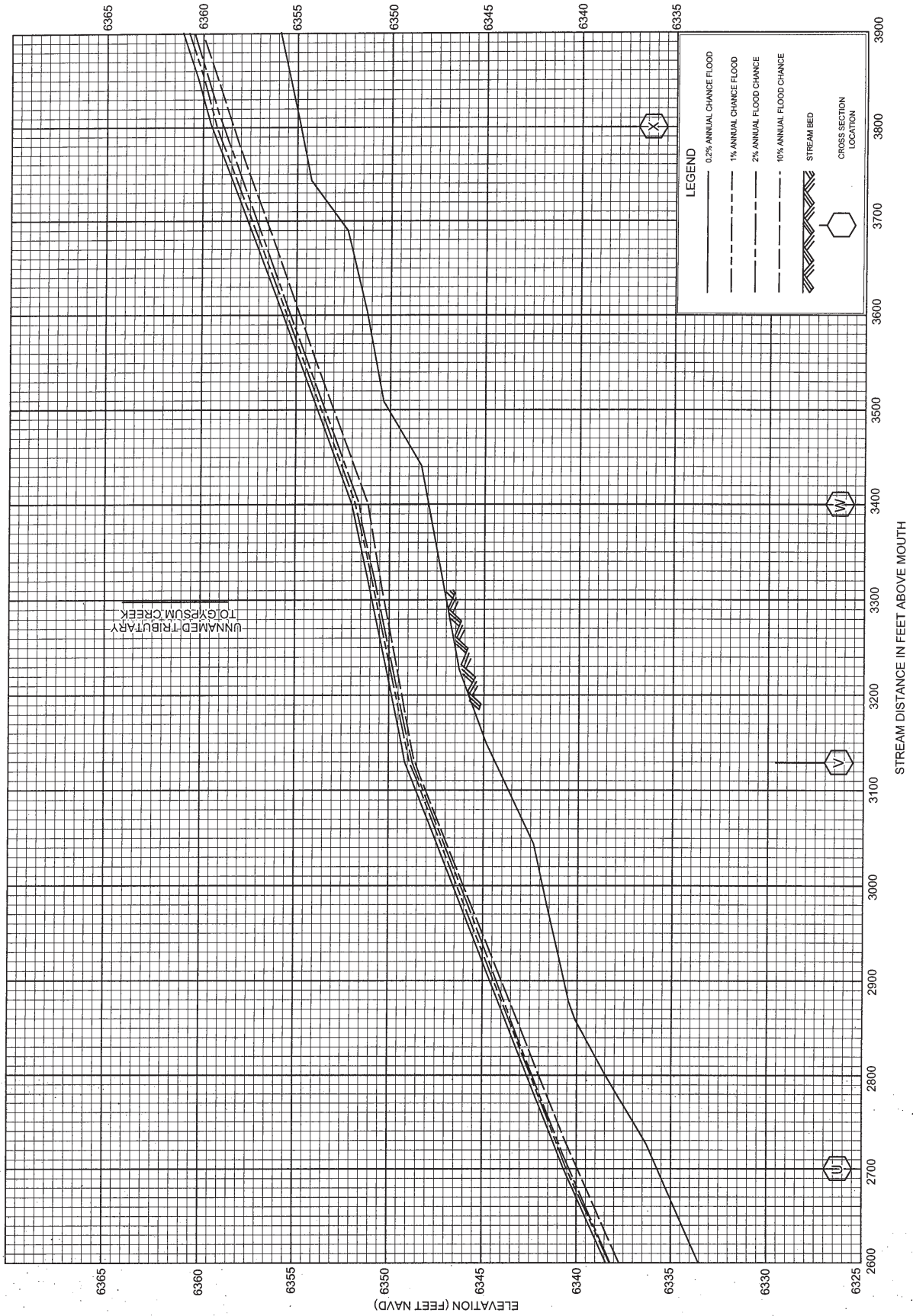


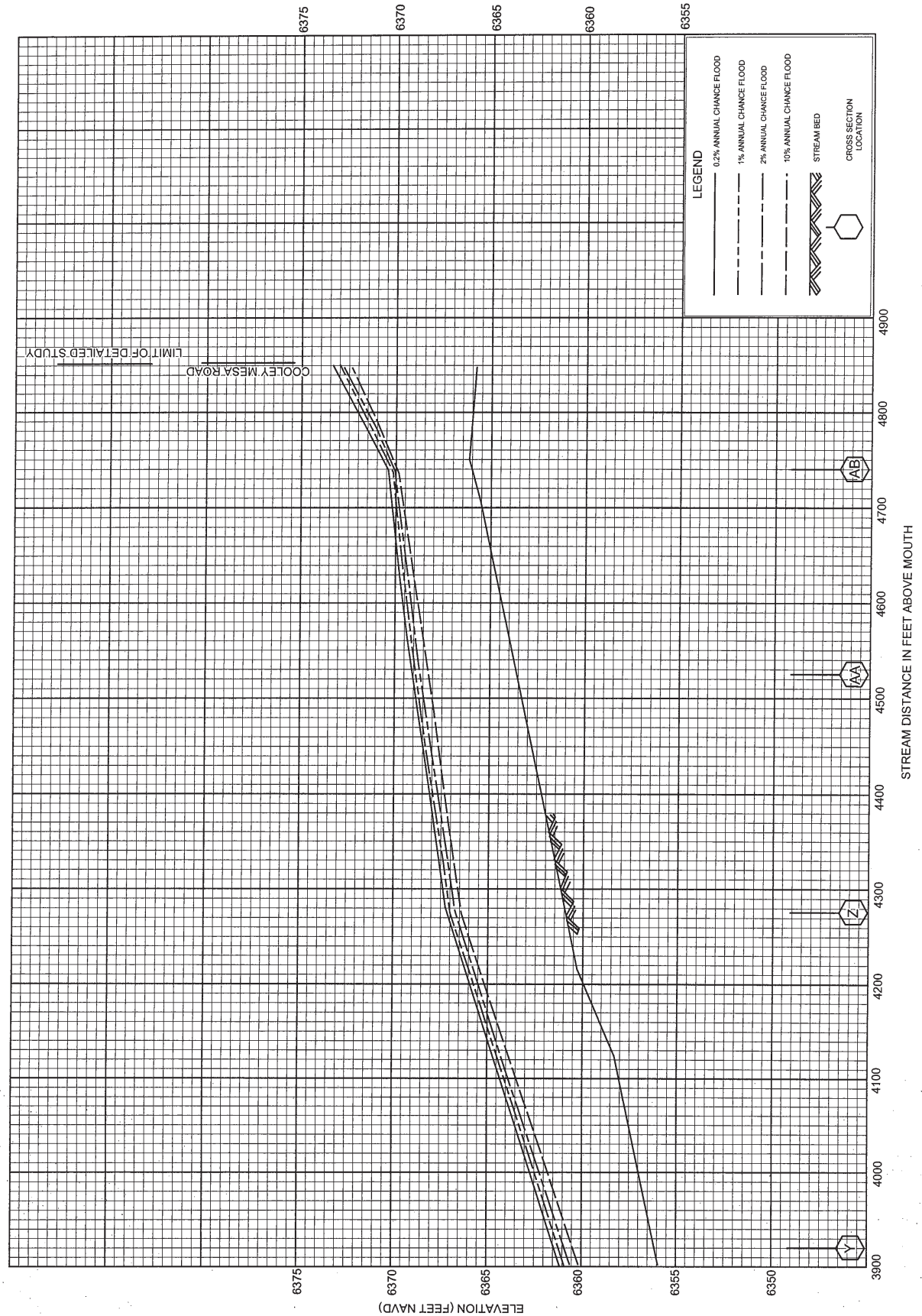
LEGEND

- 0.25% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - · 25% ANNUAL CHANCE FLOOD
- · - · 100% ANNUAL CHANCE FLOOD
- - - - - STREAM BED
- ⬡ CROSS SECTION LOCATION





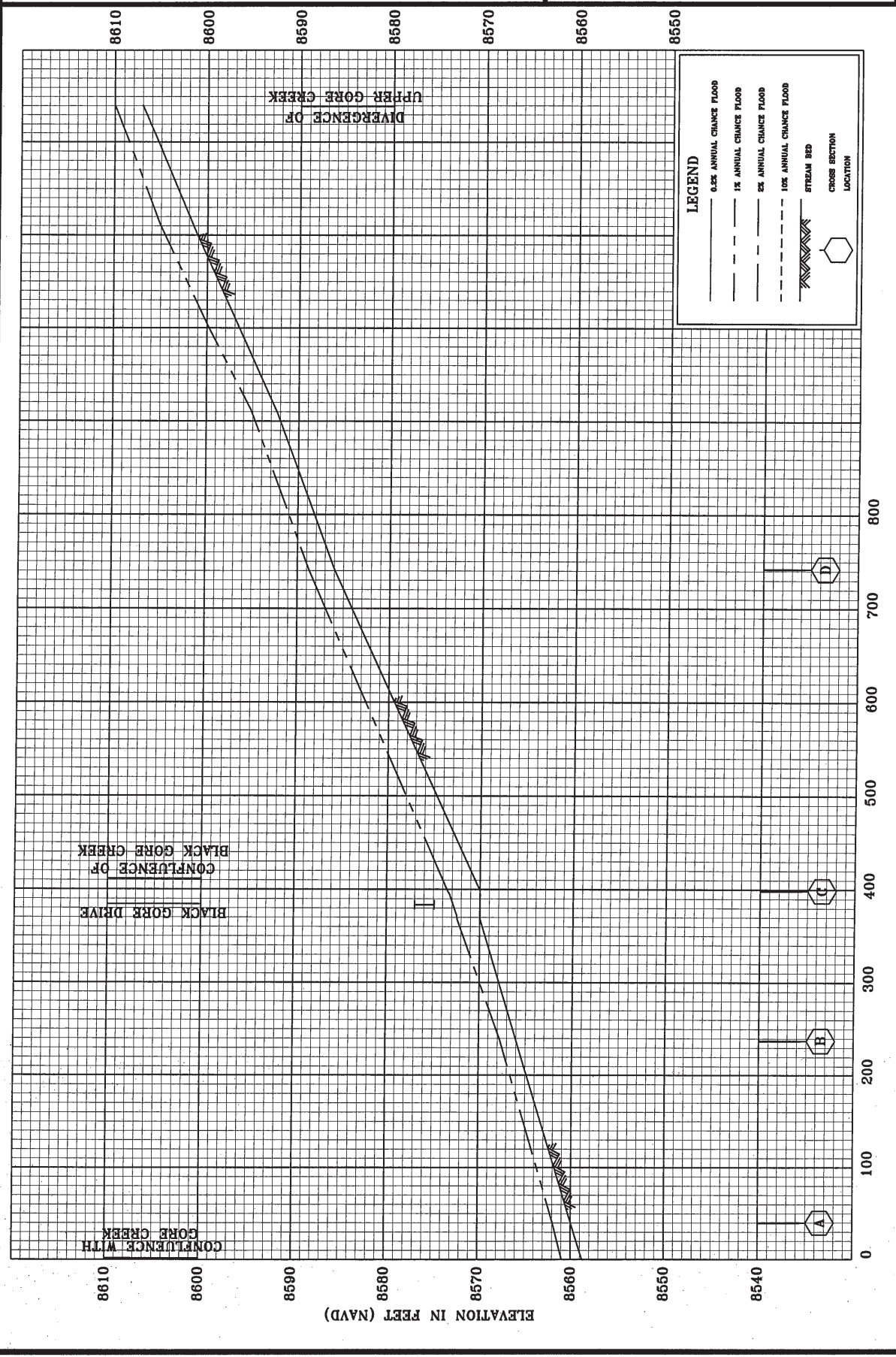




FLOOD PROFILES
LOWER GORE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

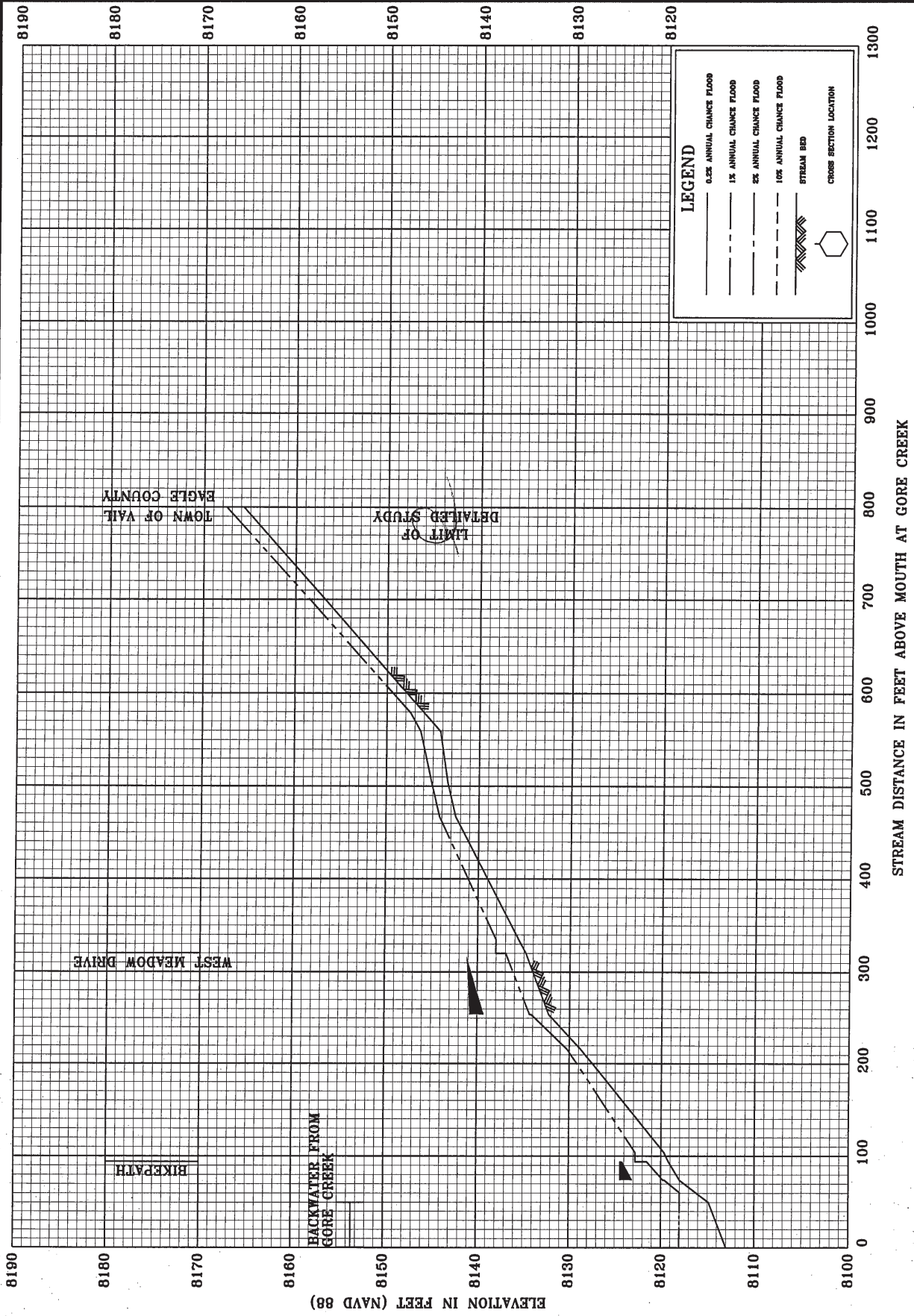
133P



STREAM DISTANCE IN FEET ABOVE MOUTH AT GORE CREEK

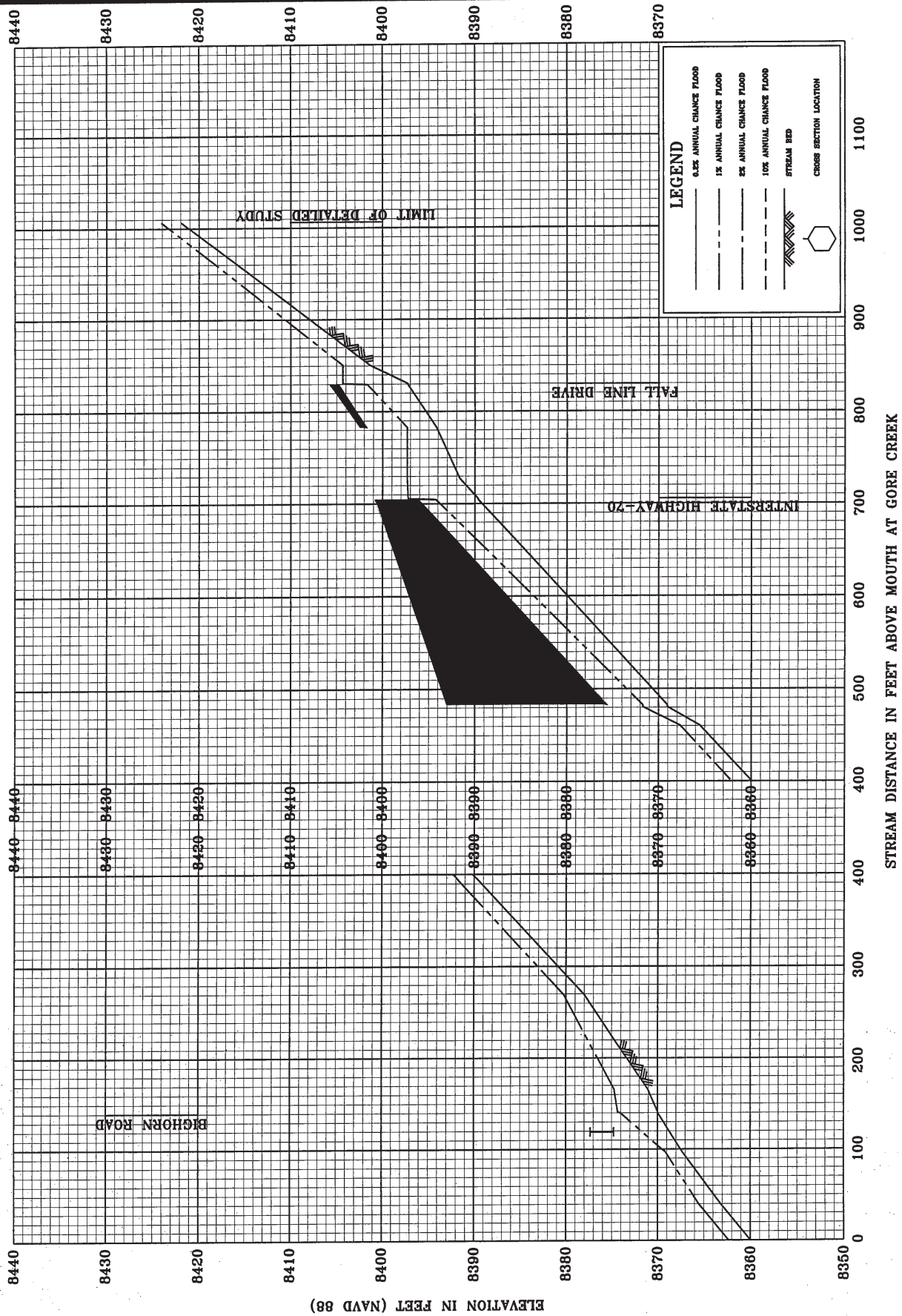
ELEVATION IN FEET (NAVD)

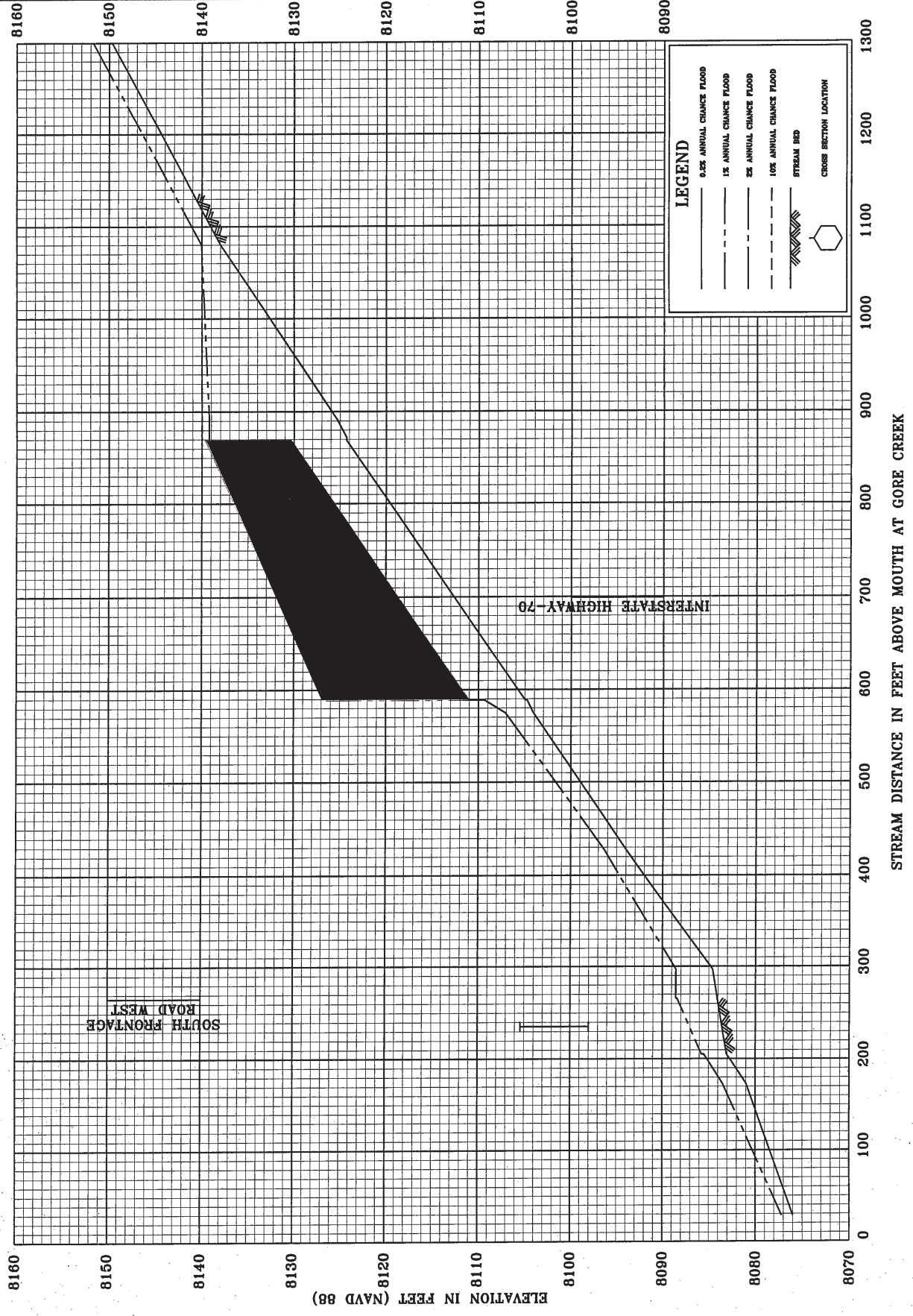
FLOOD PROFILES
 MIDDLE CREEK



LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- - - 2% ANNUAL CHANCE FLOOD
- - - 100% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- ◻ CROSS SECTION LOCATION





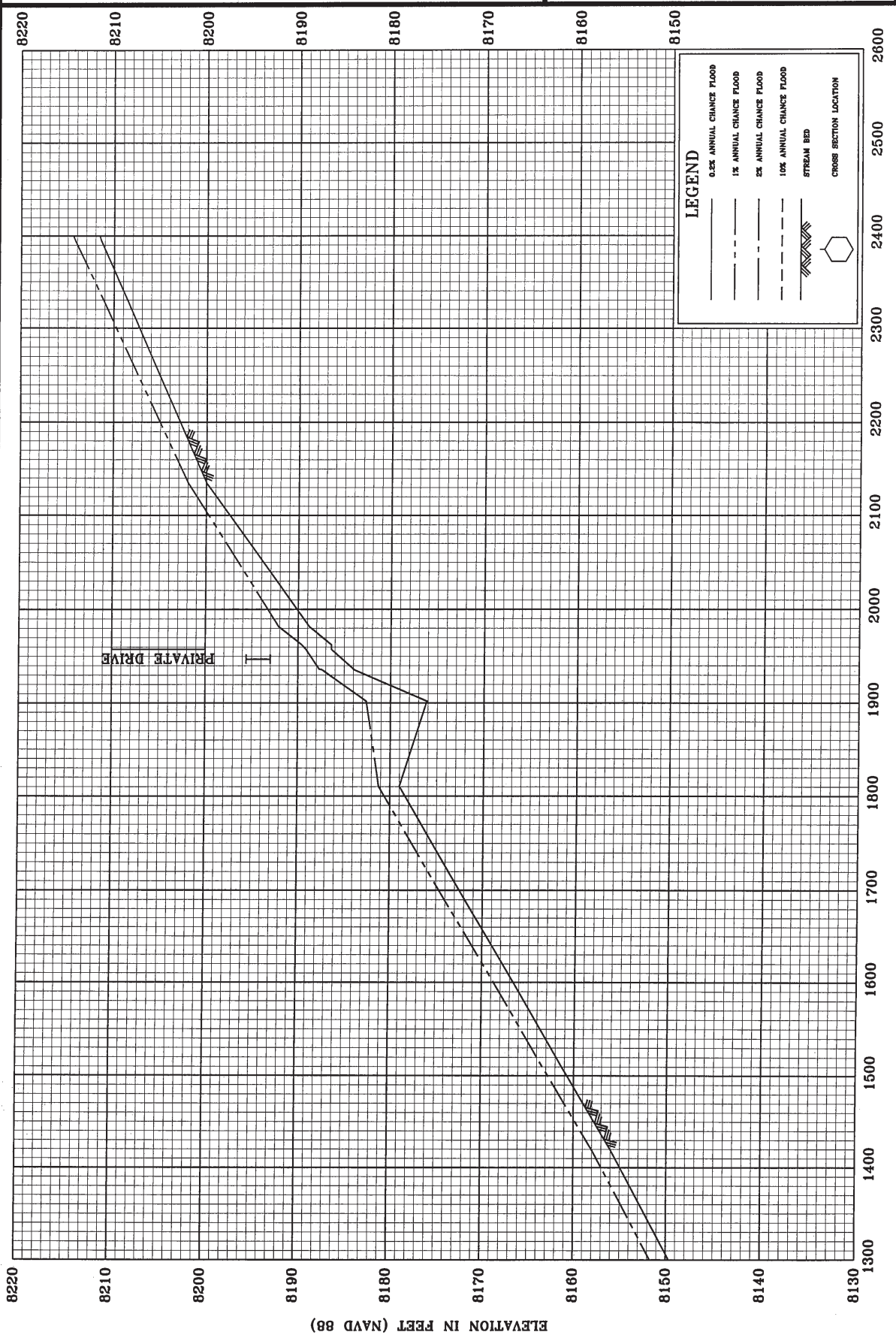
LEGEND

- 0.2% ANNUAL CHANCE FLOOD (dotted line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 2% ANNUAL CHANCE FLOOD (dash-dot line)
- 10% ANNUAL CHANCE FLOOD (solid line)
- STREAM BED (solid line with hatching)
- CROSS SECTION LOCATION (pentagon symbol)

FLOOD PROFILES
RED SANDSTONE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

138P



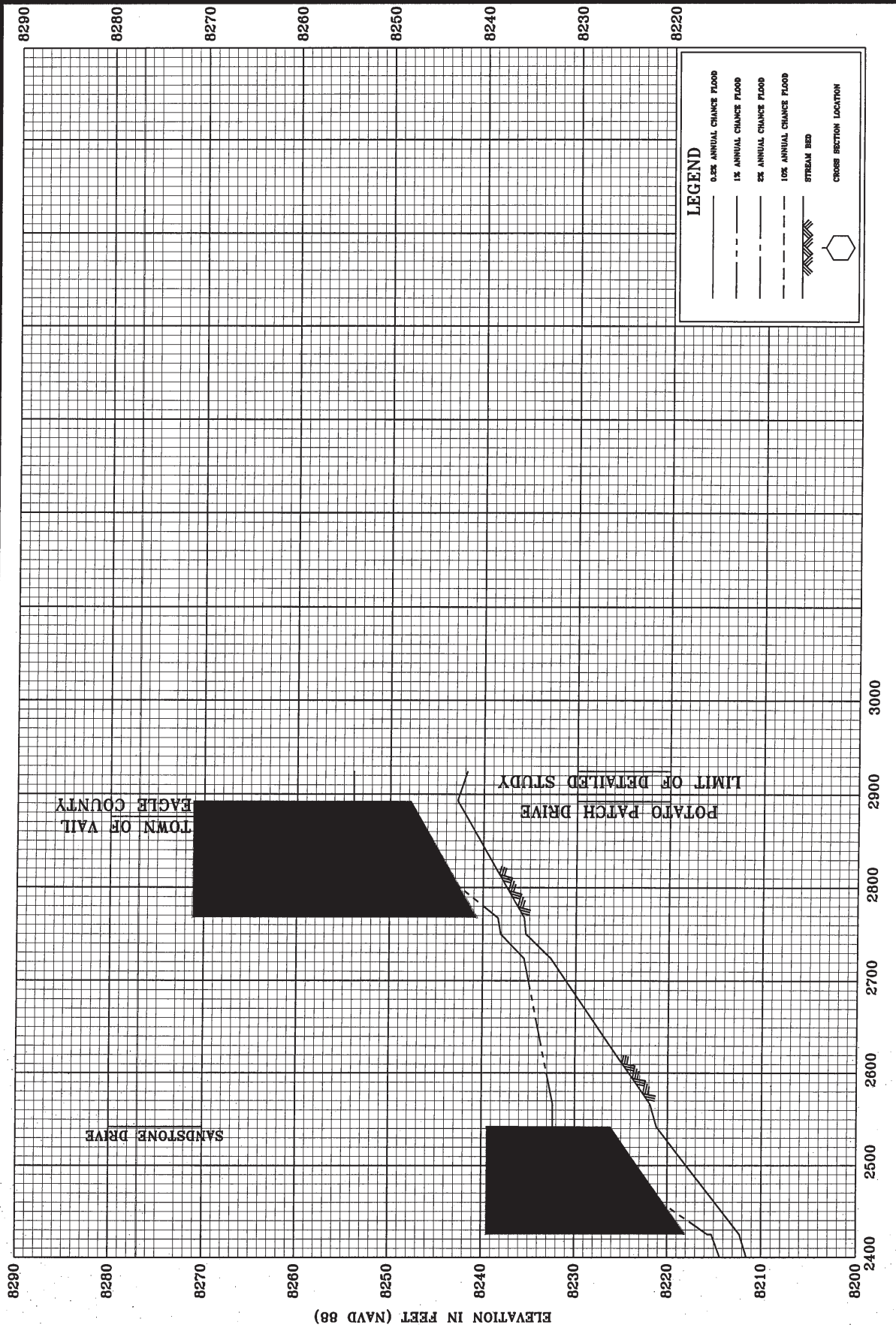
ELEVATION IN FEET (NAVD 88)

8220 8210 8200 8190 8180 8170 8160 8150

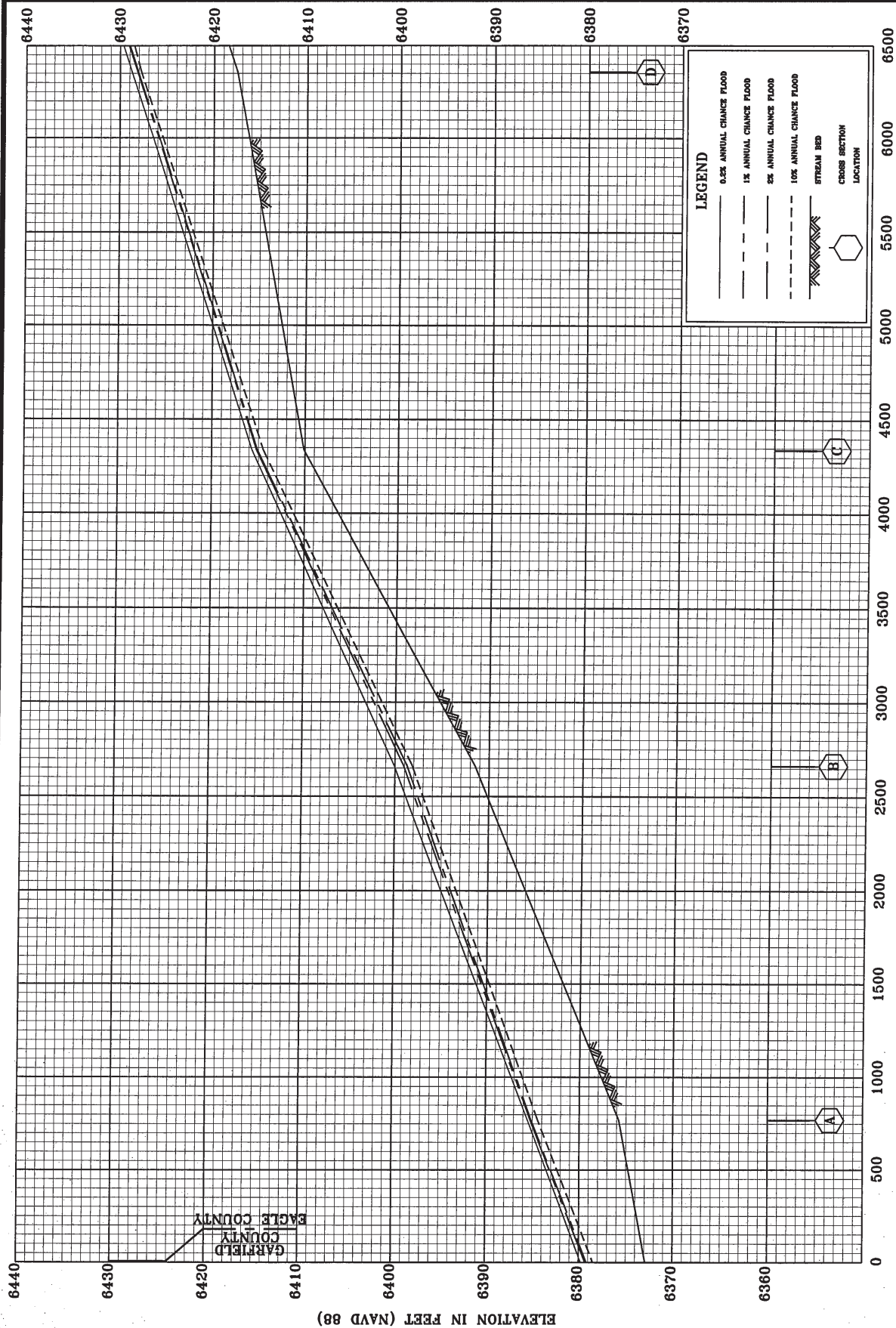
8220 8210 8200 8190 8180 8170 8160 8150

1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600

STREAM DISTANCE IN FEET ABOVE MOUTH AT GORE CREEK



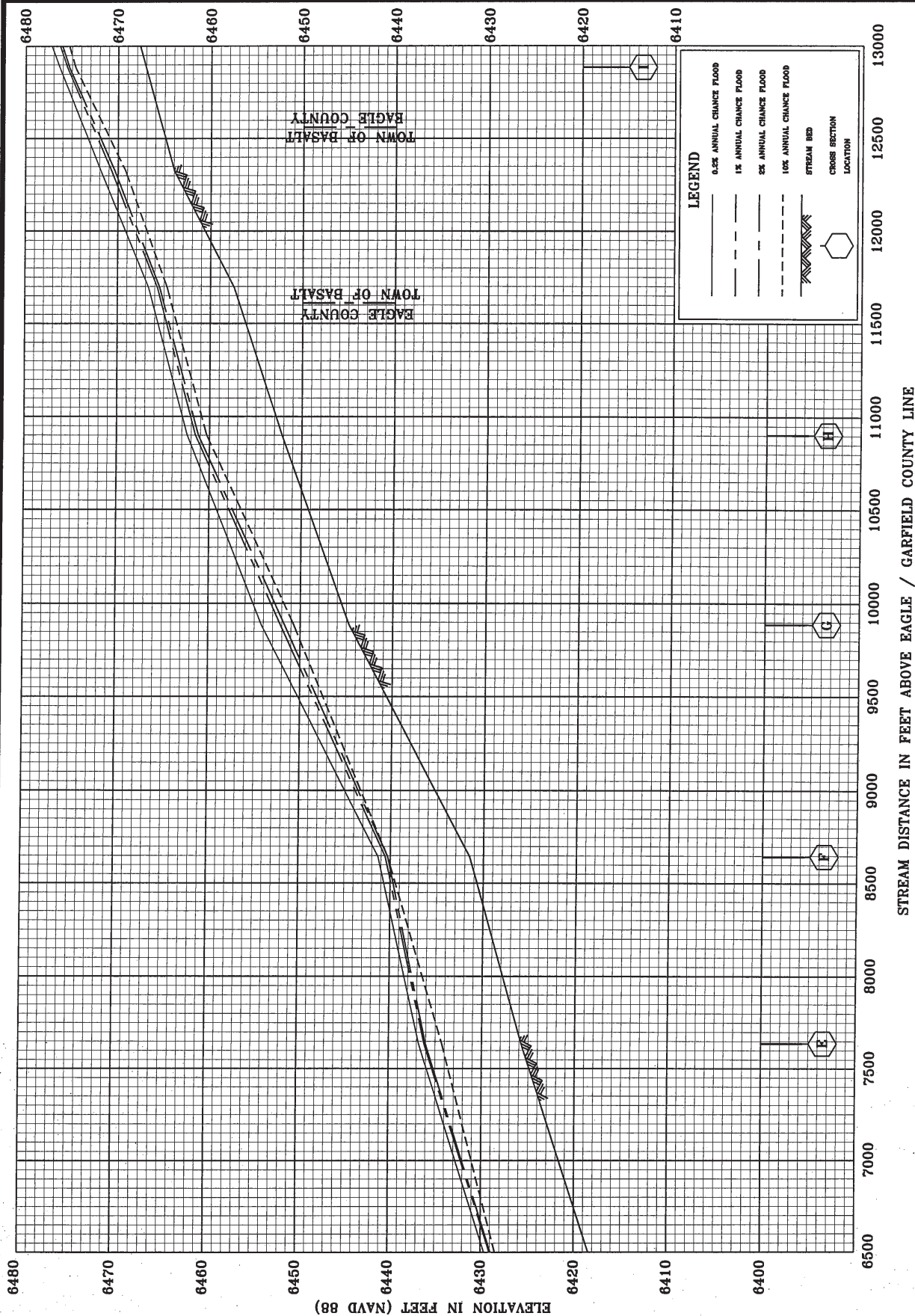
STREAM DISTANCE IN FEET ABOVE MOUTH AT GORE CREEK



STREAM DISTANCE IN FEET ABOVE EAGLE / GARFIELD COUNTY LINE

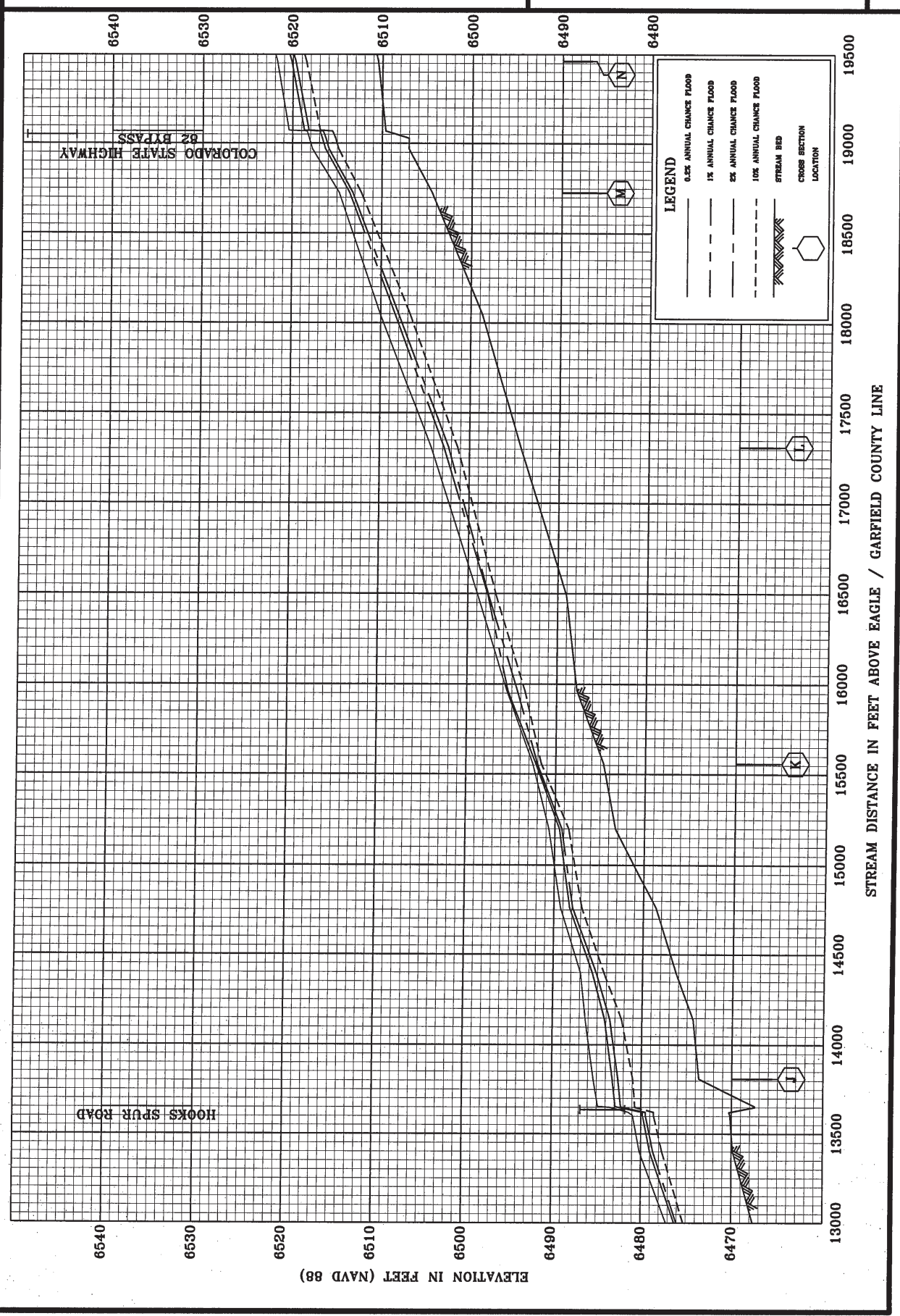
ELEVATION IN FEET (NAVD 88)

EAGLE COUNTY
GARFIELD COUNTY



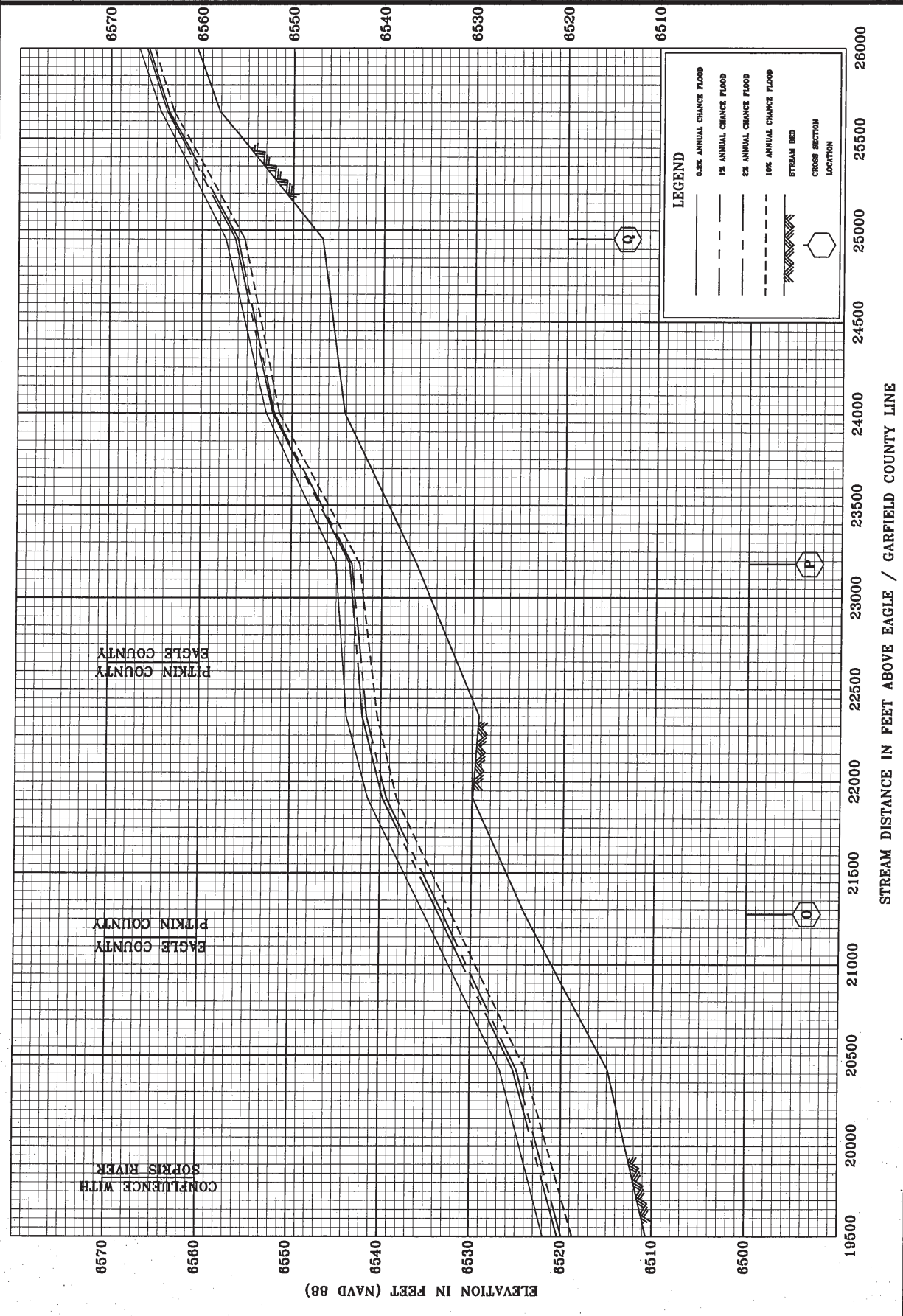
STREAM DISTANCE IN FEET ABOVE EAGLE / GARFIELD COUNTY LINE

FLOOD PROFILES

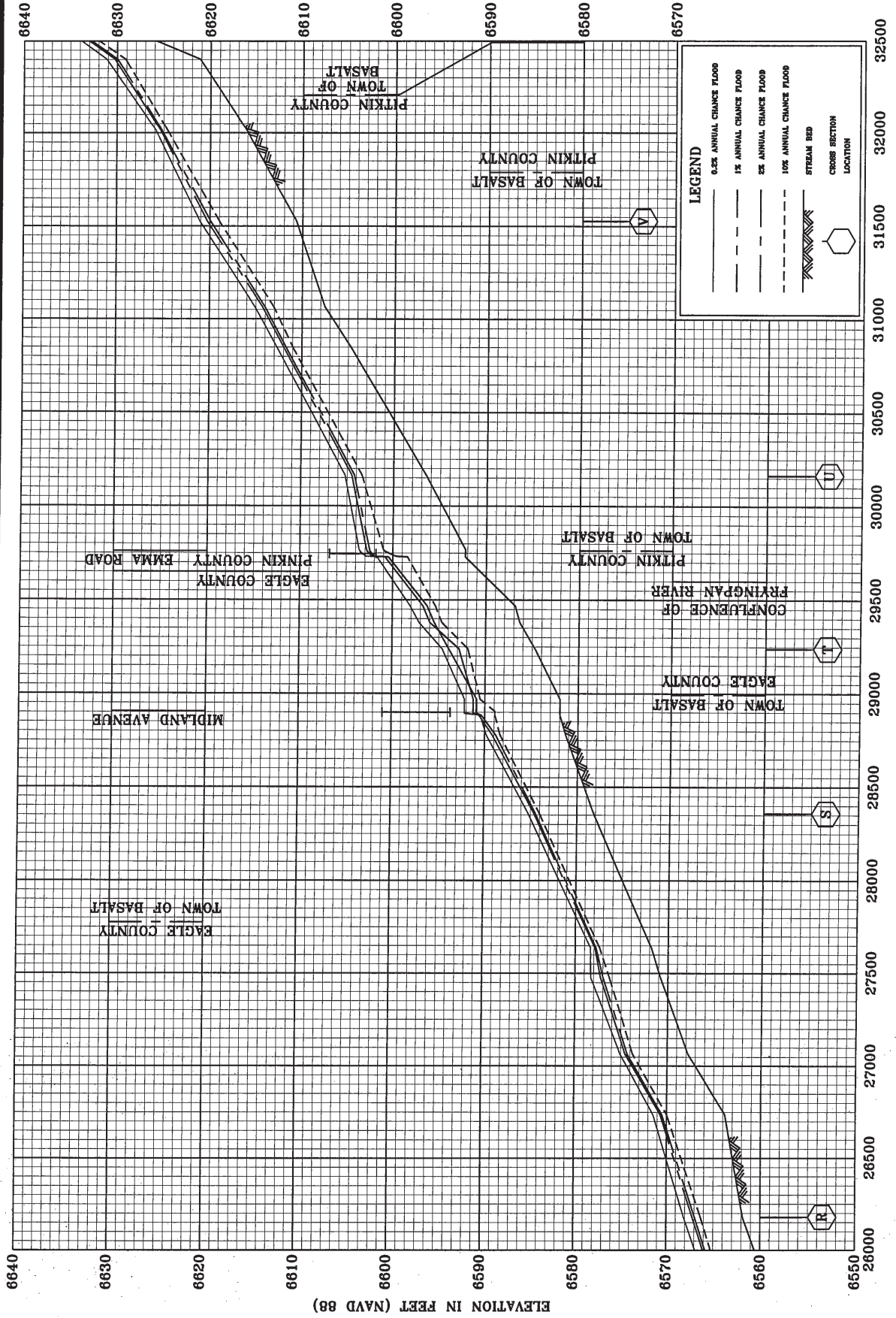


LEGEND

- 0.25 ANNUAL CHANCE FLOOD (solid line)
- 1% ANNUAL CHANCE FLOOD (dashed line)
- 25% ANNUAL CHANCE FLOOD (dash-dot line)
- 100% ANNUAL CHANCE FLOOD (dotted line)
- STREAM BED (hatched line)
- CROSS SECTION LOCATION (hexagon with letter)



FLOOD PROFILES



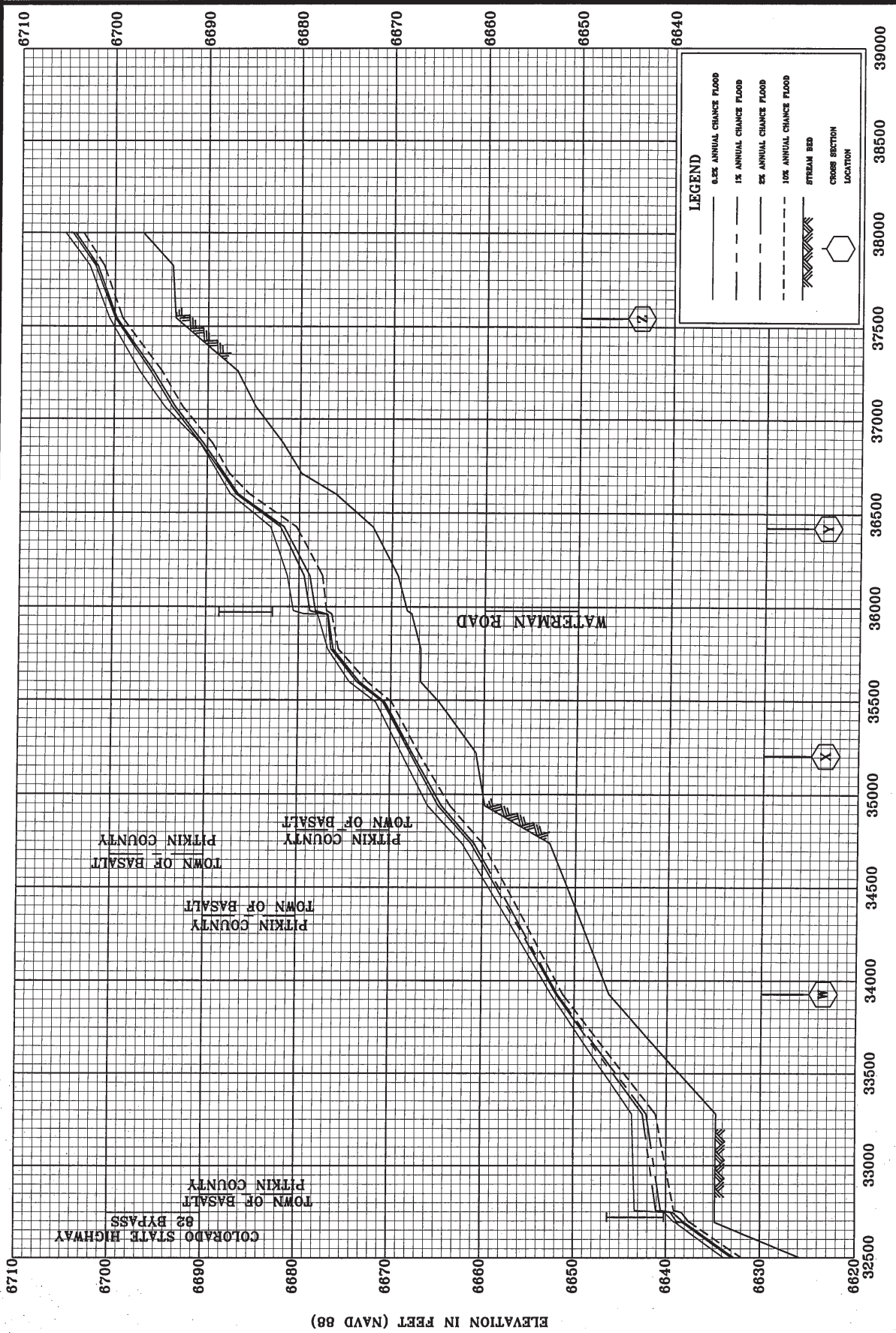
STREAM DISTANCE IN FEET ABOVE EAGLE / GARFIELD COUNTY LINE

ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
ROARING FORK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

145P



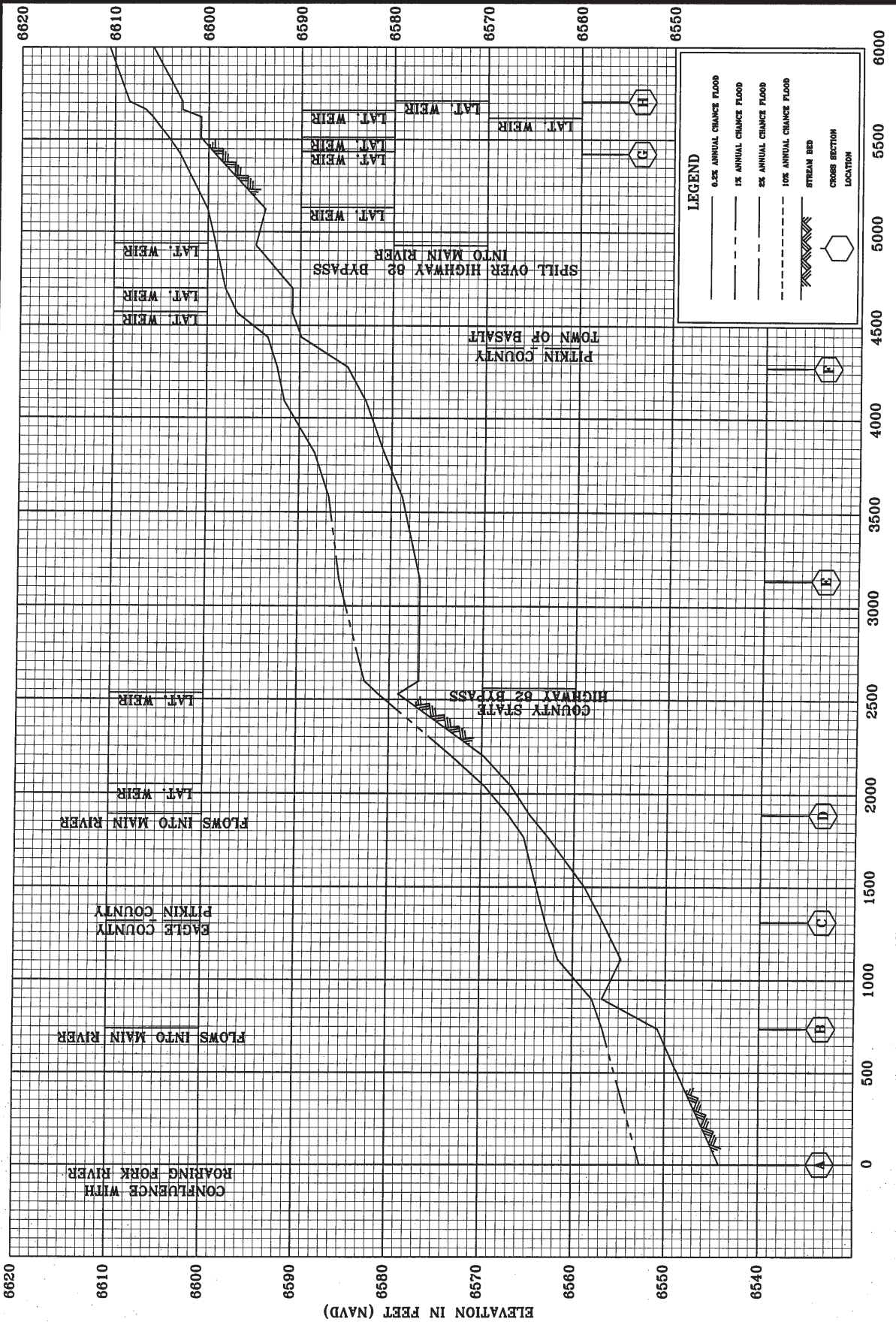
STREAM DISTANCE IN FEET ABOVE EAGLE / GARFIELD COUNTY LINE

ELEVATION IN FEET (NAVD 88)

FLOOD PROFILES
SOUTH SIDE SPLIT FLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY
EAGLE COUNTY, CO
AND INCORPORATED AREAS

147P



6620

6610

6600

6590

6580

6570

6560

6550

6540

6620

6610

6600

6590

6580

6570

6560

6550

6000

5500

5000

4500

4000

3500

3000

2500

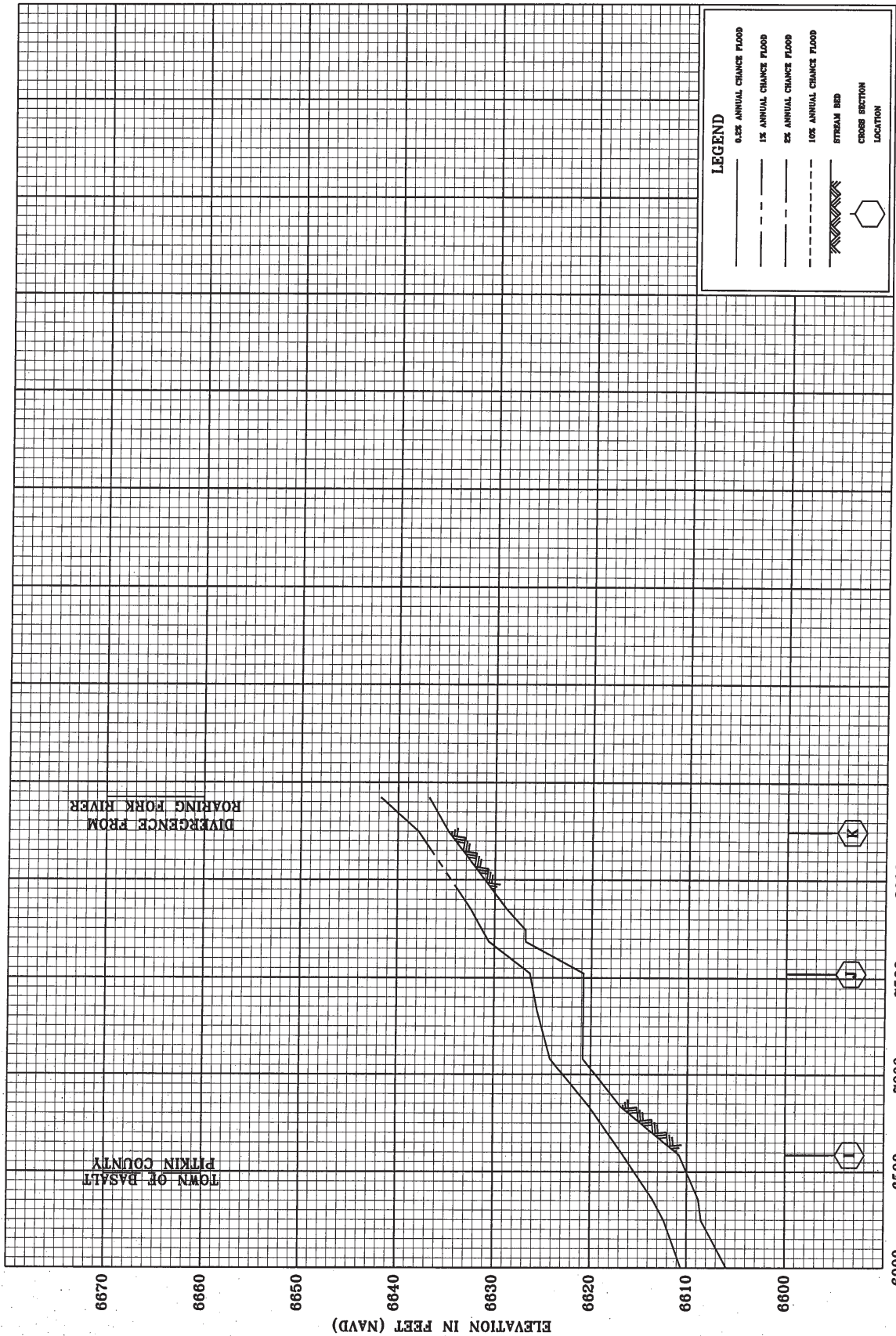
2000

1500

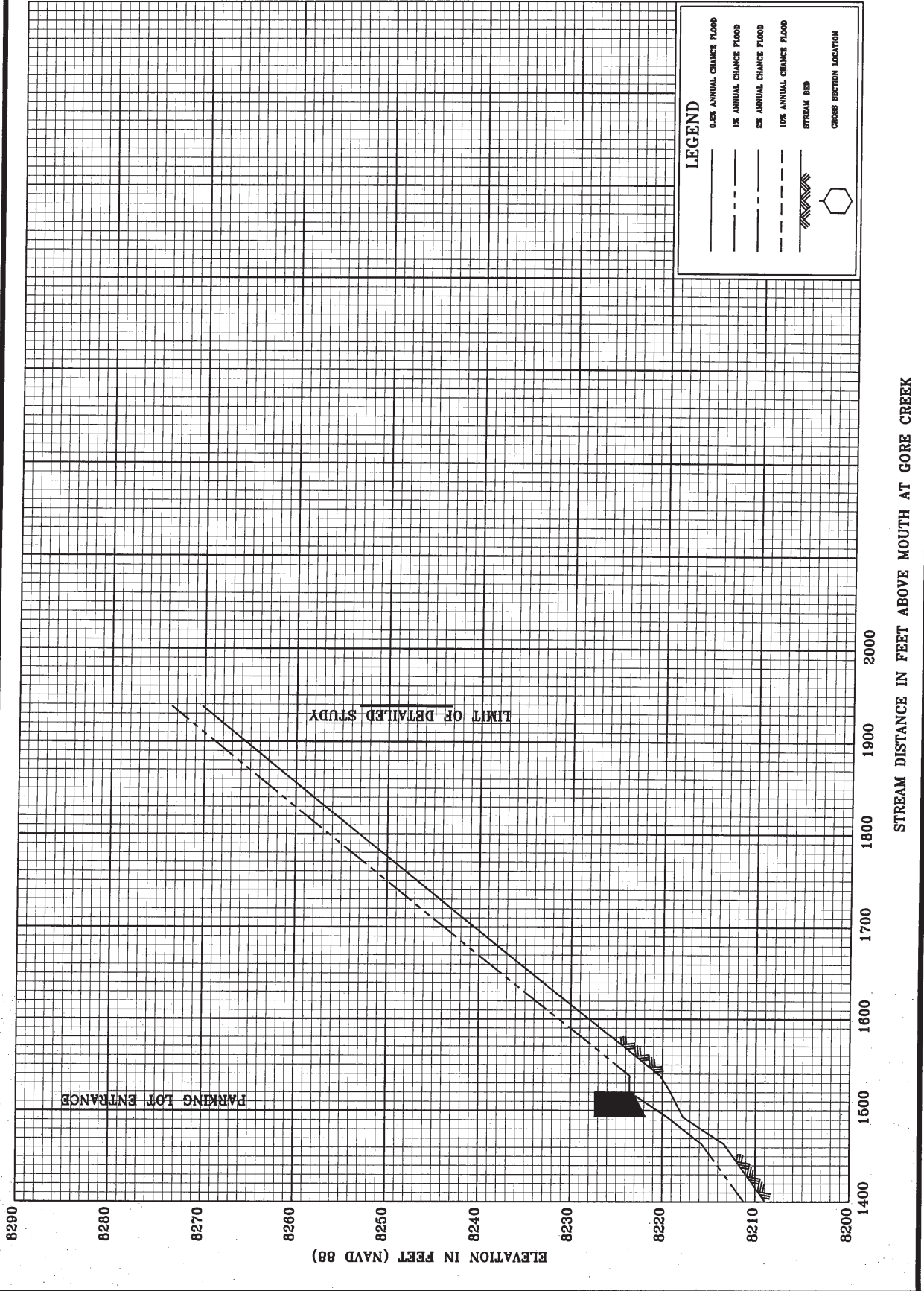
1000

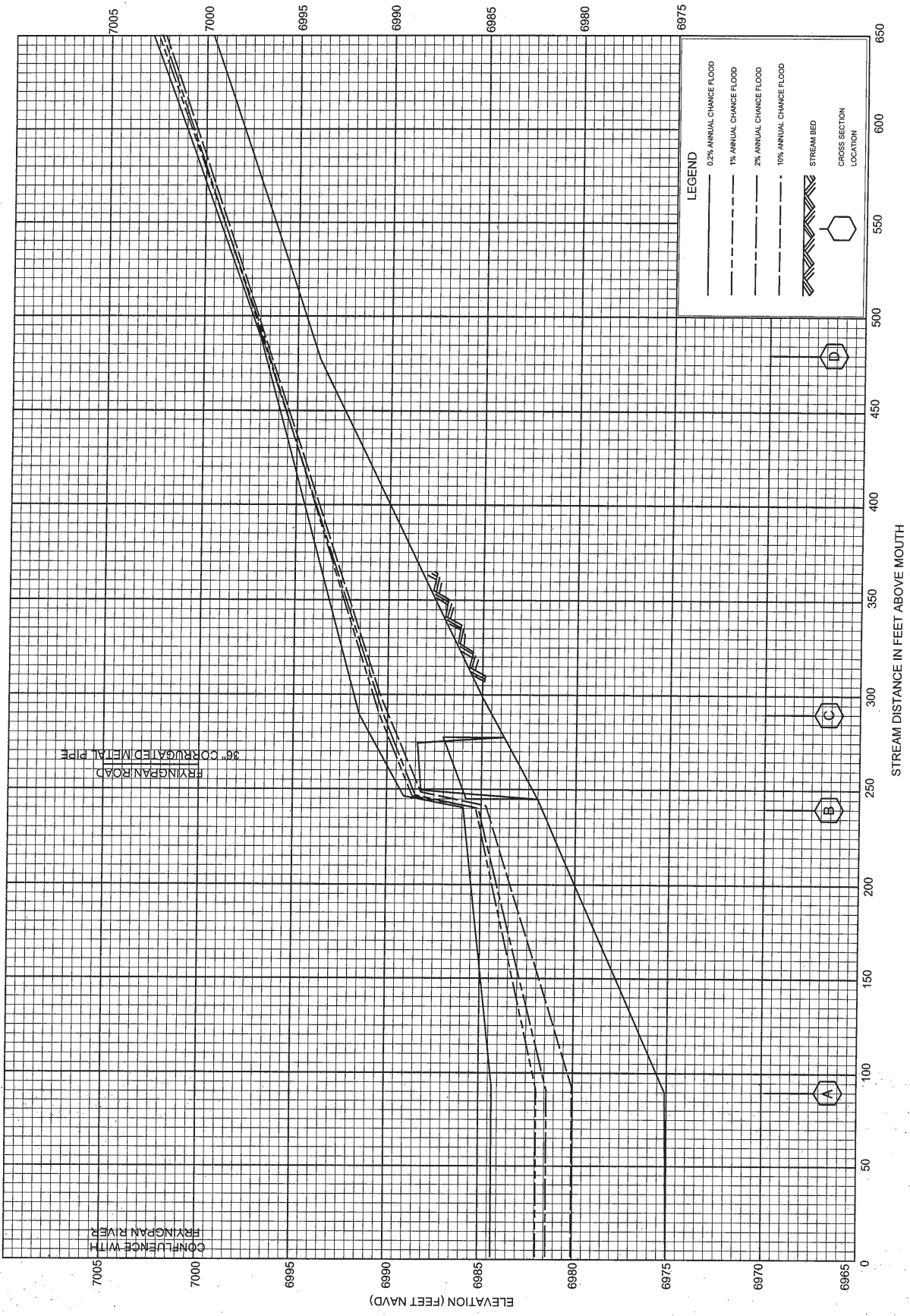
500

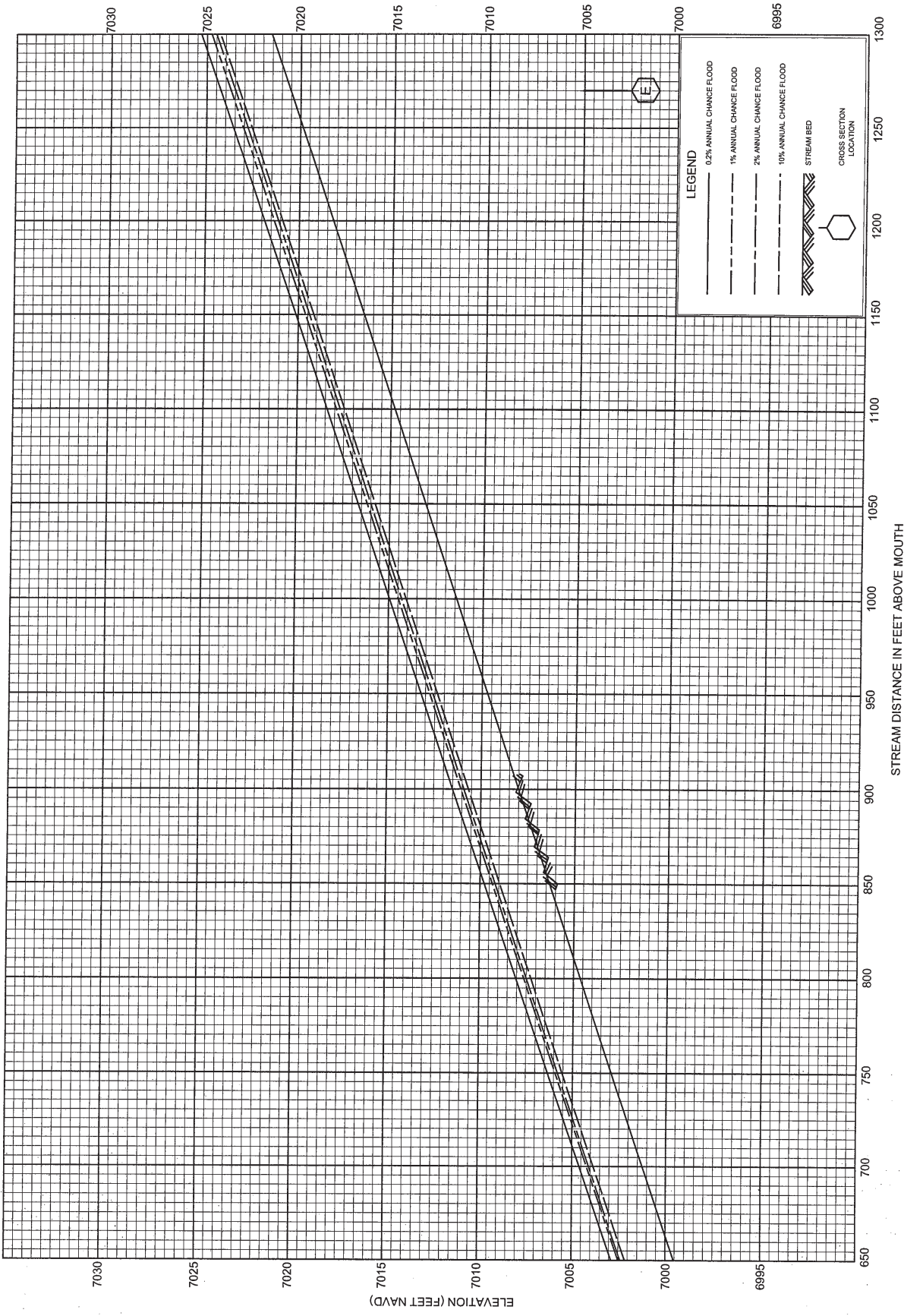
0

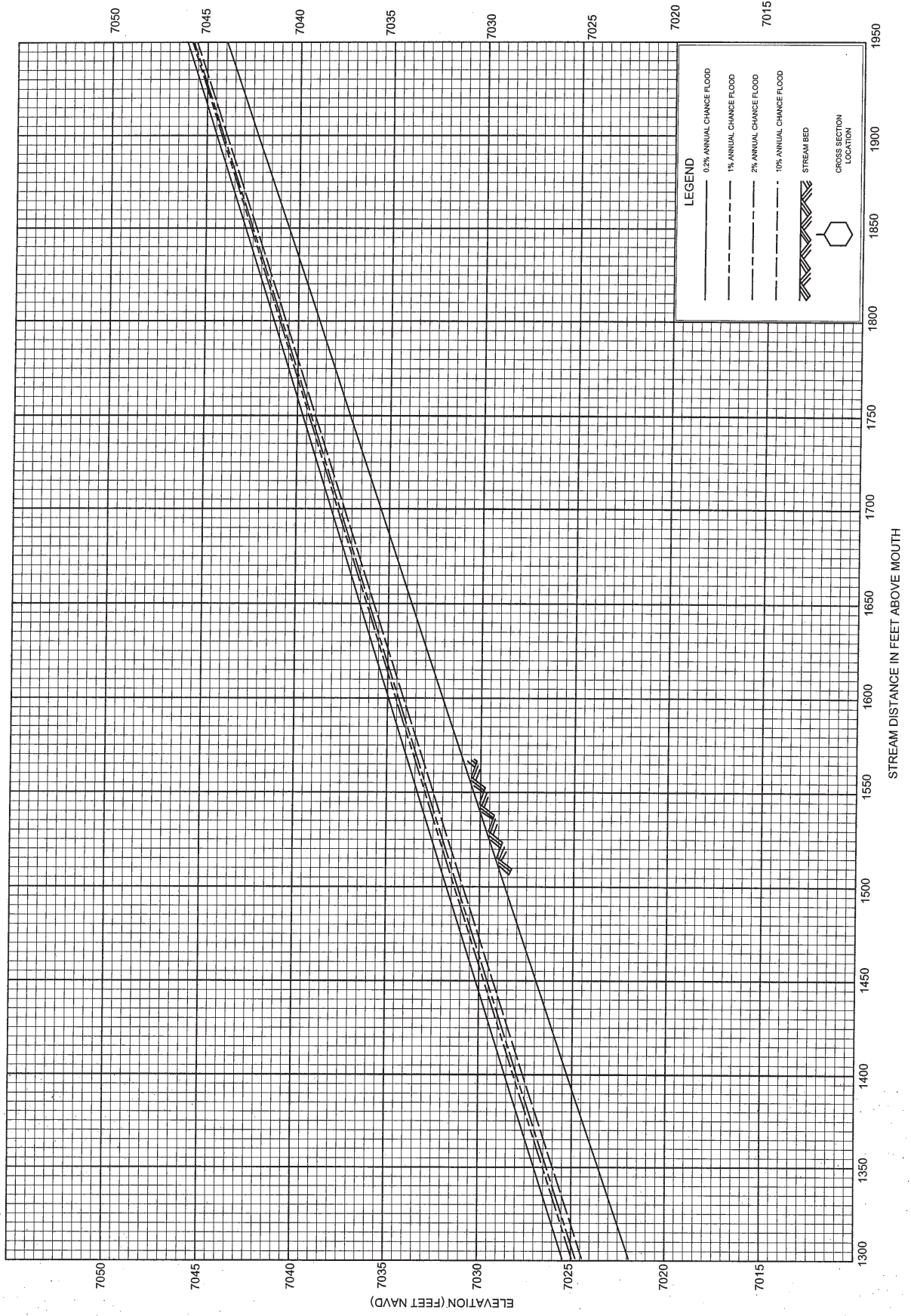


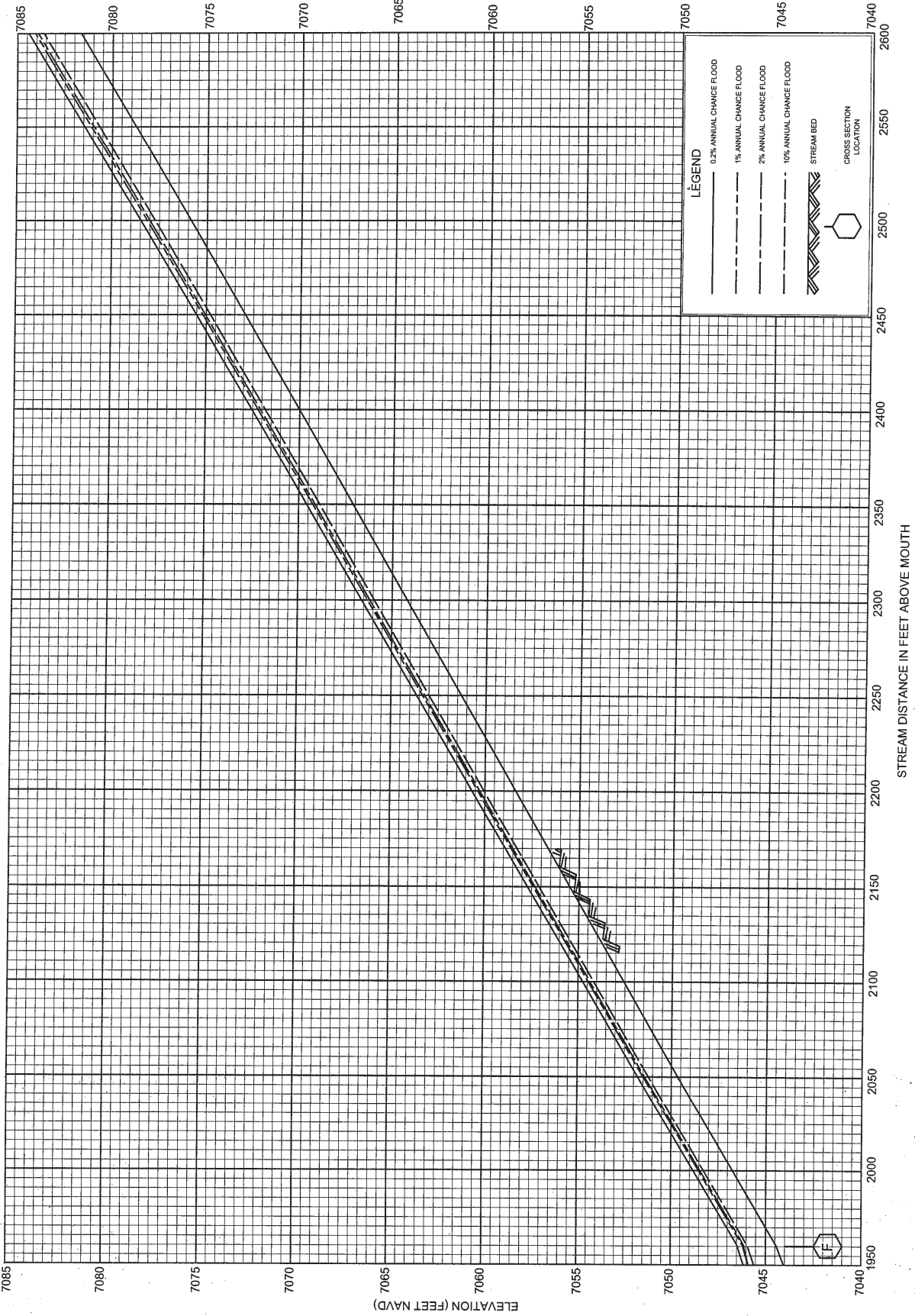
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH ROARING FORK RIVER

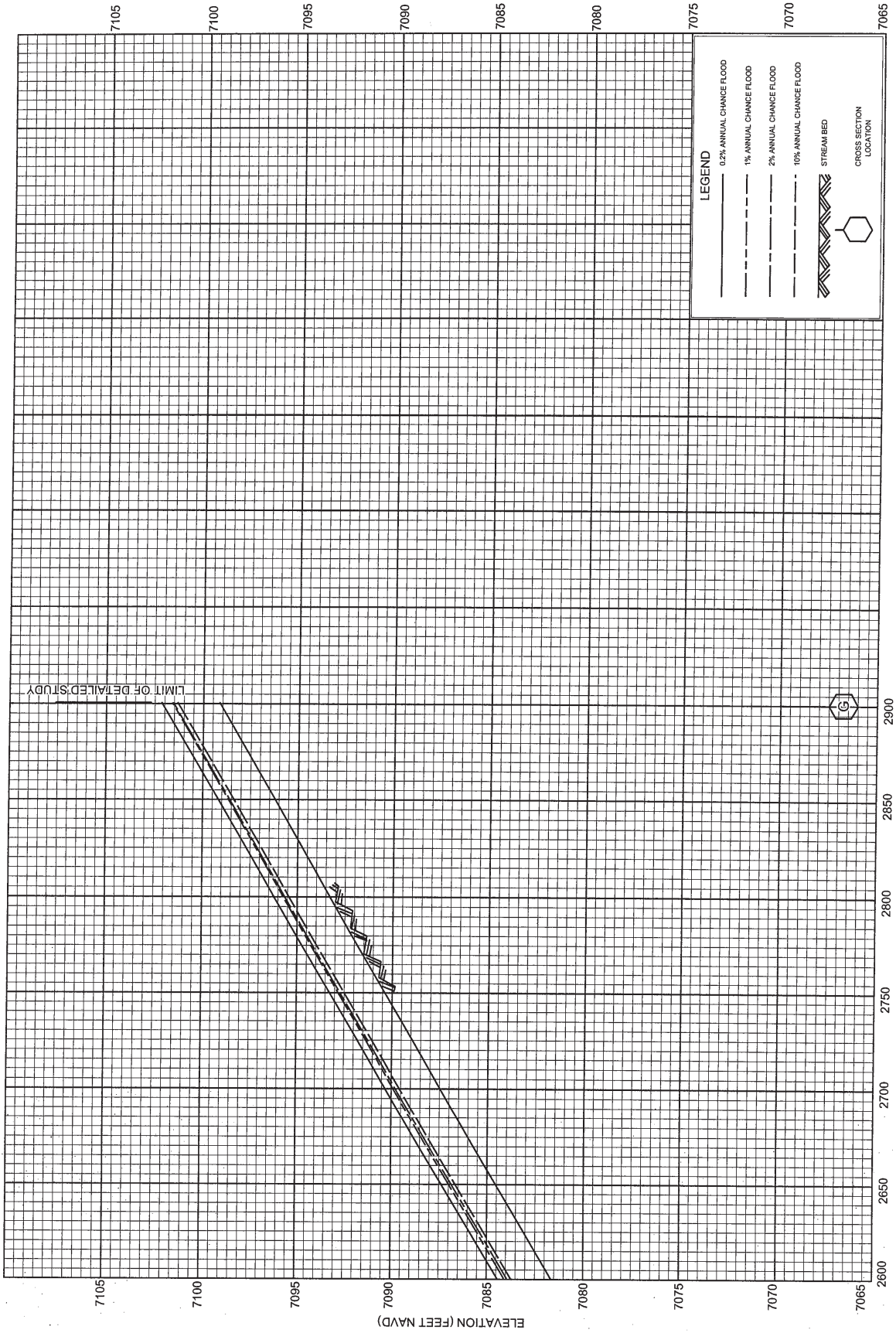


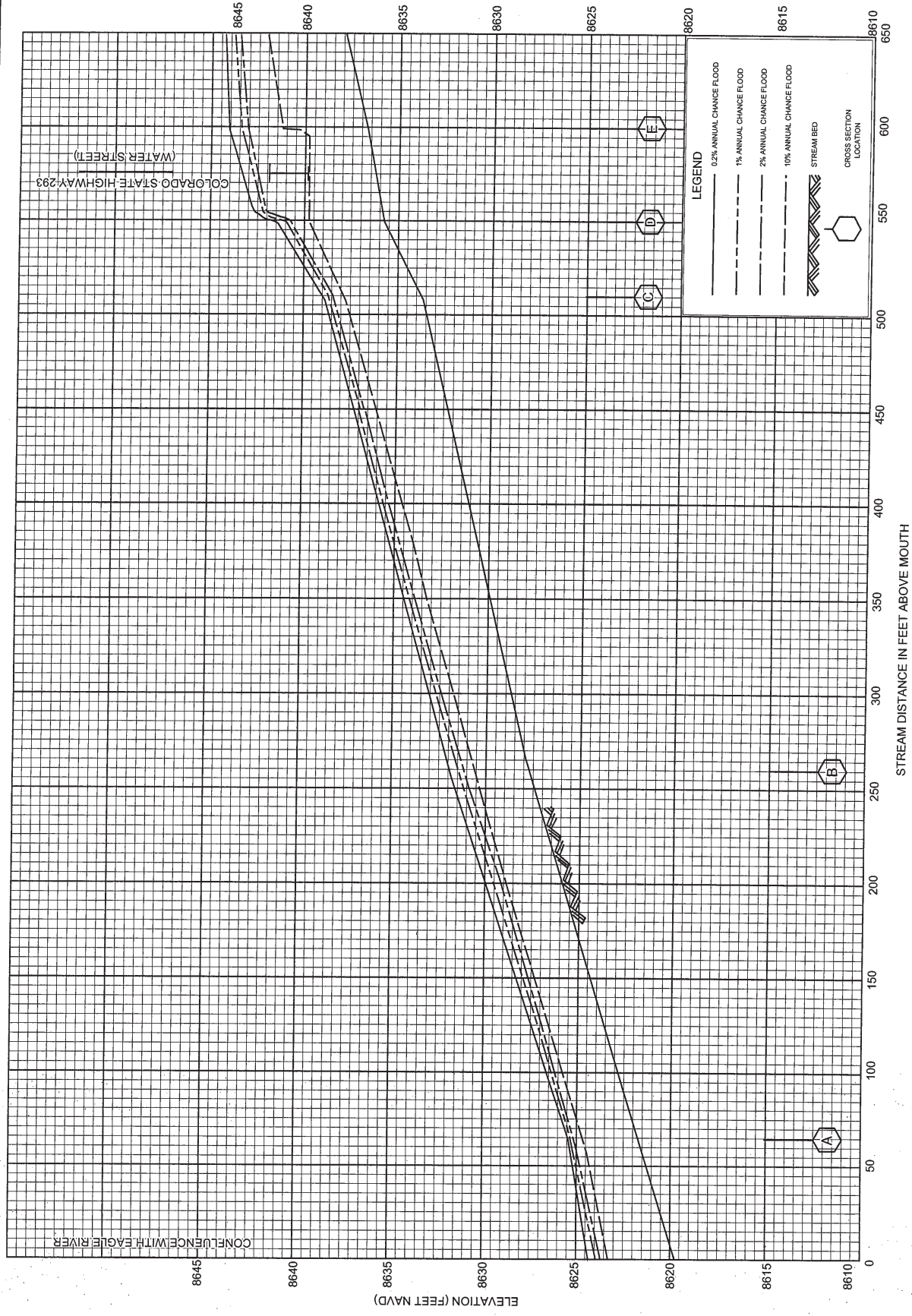








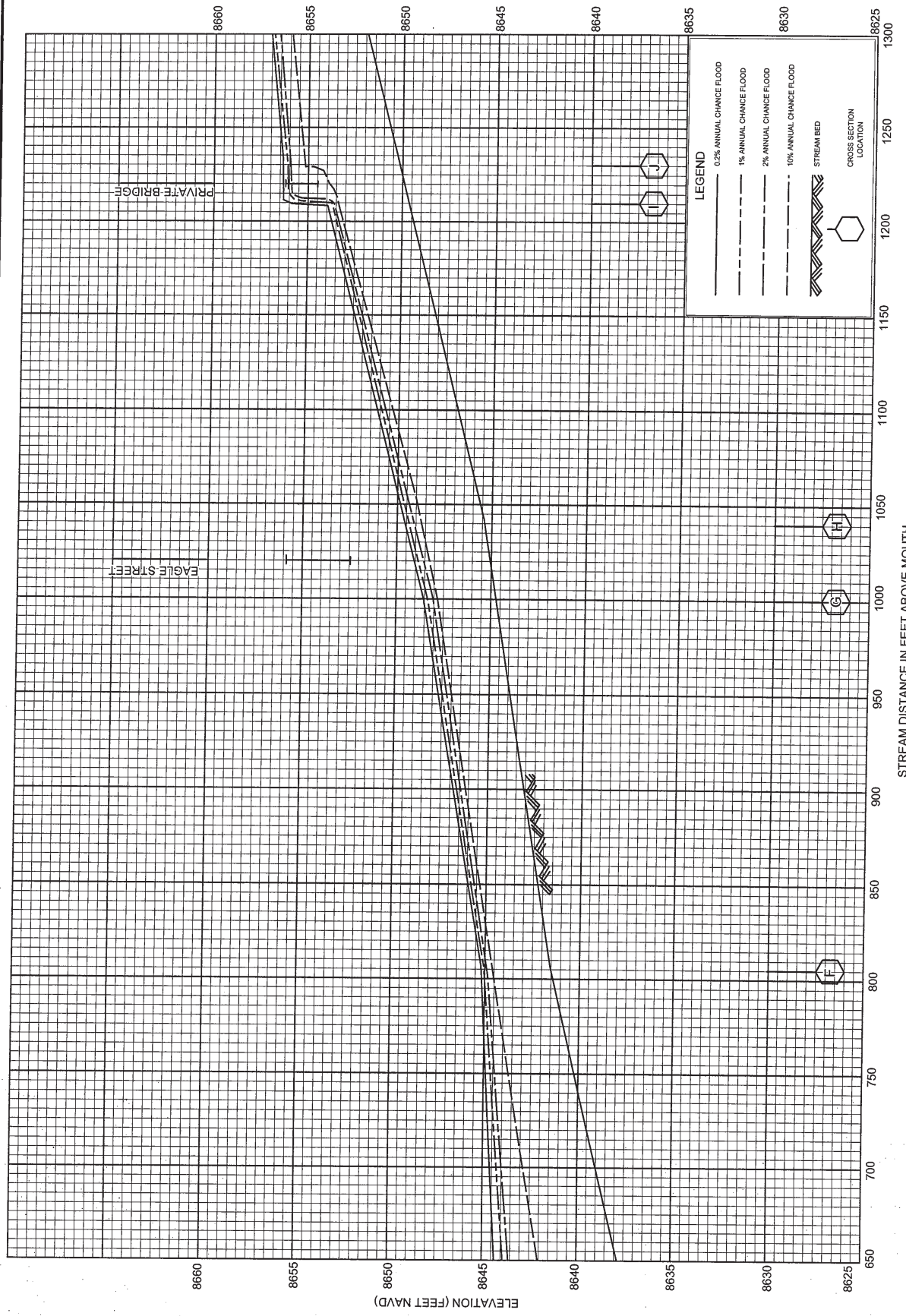


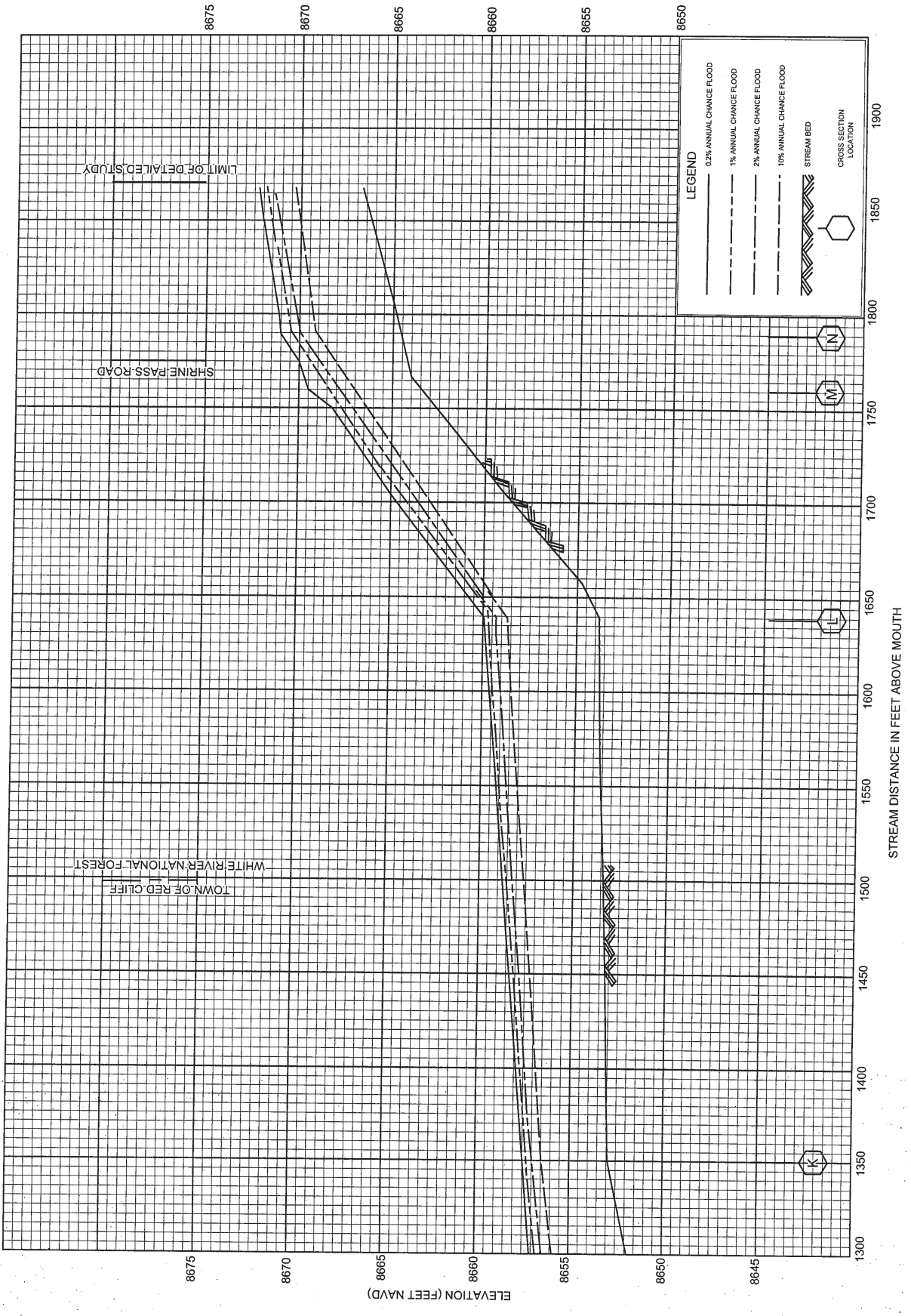


CONFLUENCE WITH EAGLE RIVER
COLORADO STATE HIGHWAY 293
(WATER STREET)

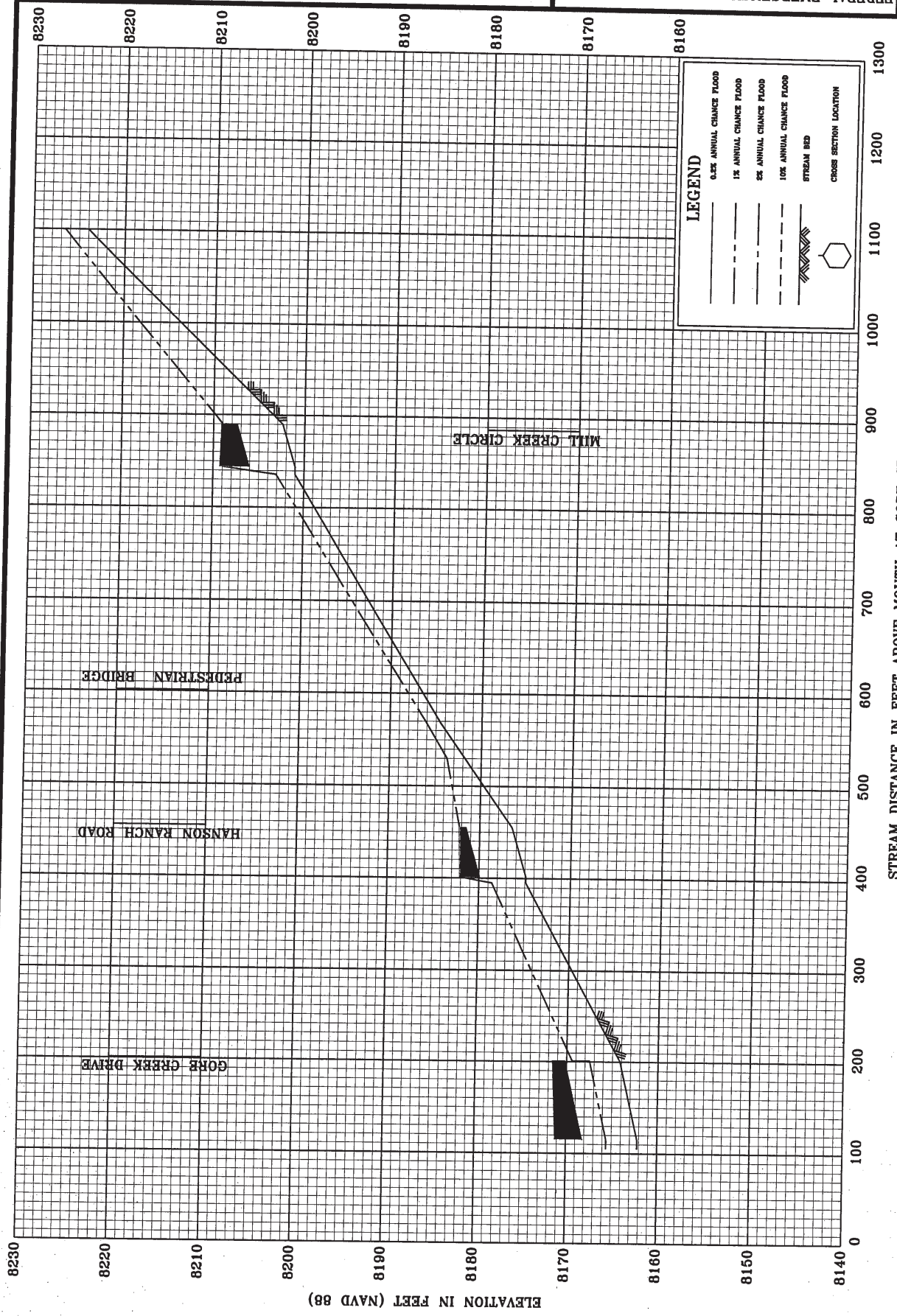
LEGEND

- 0.2% ANNUAL CHANCE FLOOD (Dotted line)
- 1% ANNUAL CHANCE FLOOD (Long-dashed line)
- 2% ANNUAL CHANCE FLOOD (Dash-dot line)
- 10% ANNUAL CHANCE FLOOD (Dashed line)
- STREAM BED (Hatched area)
- CROSS SECTION LOCATION (Hexagon with letter)





FLOOD PROFILES
 WEST MILL CREEK



ELEVATION IN FEET (NAVD 86)

STREAM DISTANCE IN FEET ABOVE MOUTH AT GORE CREEK

8230 8220 8210 8200 8190 8180 8170 8160

8230 8220 8210 8200 8190 8180 8170 8160 8150 8140

GORE CREEK DRIVE

HANSON RANCH ROAD

PEDESTRIAN BRIDGE

MILL CREEK CIRCLE

