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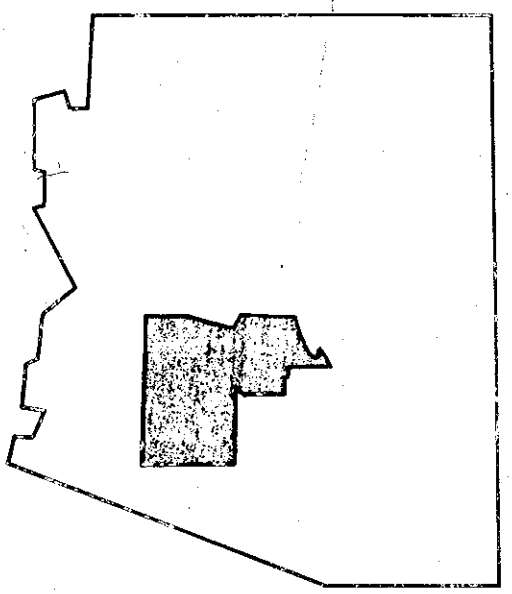

MARICOPA COUNTY, ARIZONA
UNINCORPORATED AREAS

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Federal Emergency Management Agency

COMMUNITY NUMBER - 040037

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Exhibit 2 - Flood Boundary and Floodway Map Index
Flood Boundary and Floodway Map

PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index
Flood Insurance Rate Map

FLOOD INSURANCE STUDY

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study report has been prepared to revise and update a previous Flood Insurance Study/Flood Insurance Rate Map for the unincorporated areas of Maricopa County, Arizona, which was published on July 2, 1979. This information will be used by Maricopa County to update existing flood plain regulations as part of the regular program of flood insurance by the Federal Emergency Management Agency (FEMA). The information will also be used by local and regional planners to further promote sound land use and flood plain development.

In some states or communities, flood plain 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 Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

This Flood Insurance Study is based on previous Flood Insurance Studies for the various incorporated communities and unincorporated areas within Maricopa County.

The original hydrologic and hydraulic analyses for this study were performed by the U.S. Army Corps of Engineers (COE), Los Angeles District, for FEMA, under Inter-Agency Agreement Nos. IAA-H-15-72 and IAA-H-15-73. This study was completed in 1973.

Additional hydrologic and hydraulic analyses for many streams within the county were performed by Harris-Toups Associates under Contract No. H-4008. This work was completed in February 1978 and January 1979.

Hydrologic and hydraulic analyses for Cave Creek (below Cave Creek Dam) and for East Fork Cave Creek were revised by Cella, Barr, Evans, and Associates, under Contract No. H-4607. This work was completed in October 1980.

1.3 Coordination

The Maricopa County Flood Control District (MCFCD) assisted in the selection of the areas that were studied in detail and the selection of preliminary floodway limits.

The Arizona Department of Transportation provided highway maps used for the preparation of base maps covering undeveloped areas studied only by approximate methods.

This study was also coordinated with the Special Studies Section of the Water Resources Division of the U.S. Geological Survey (USGS), Tucson, Arizona.

On May 31, 1977, results of the study were reviewed at the final consultation and coordination meeting, which was attended by residents of the county, and representatives of MCFCD and FEMA.

This study was revised in 1984 to incorporate either new or revised hydrologic and hydraulic analyses for several flooding sources throughout the county. At this time, FEMA decided to include flooding information through the incorporated communities to provide the county with a more usable Flood Insurance Rate Map.

2.0 AREA STUDIED

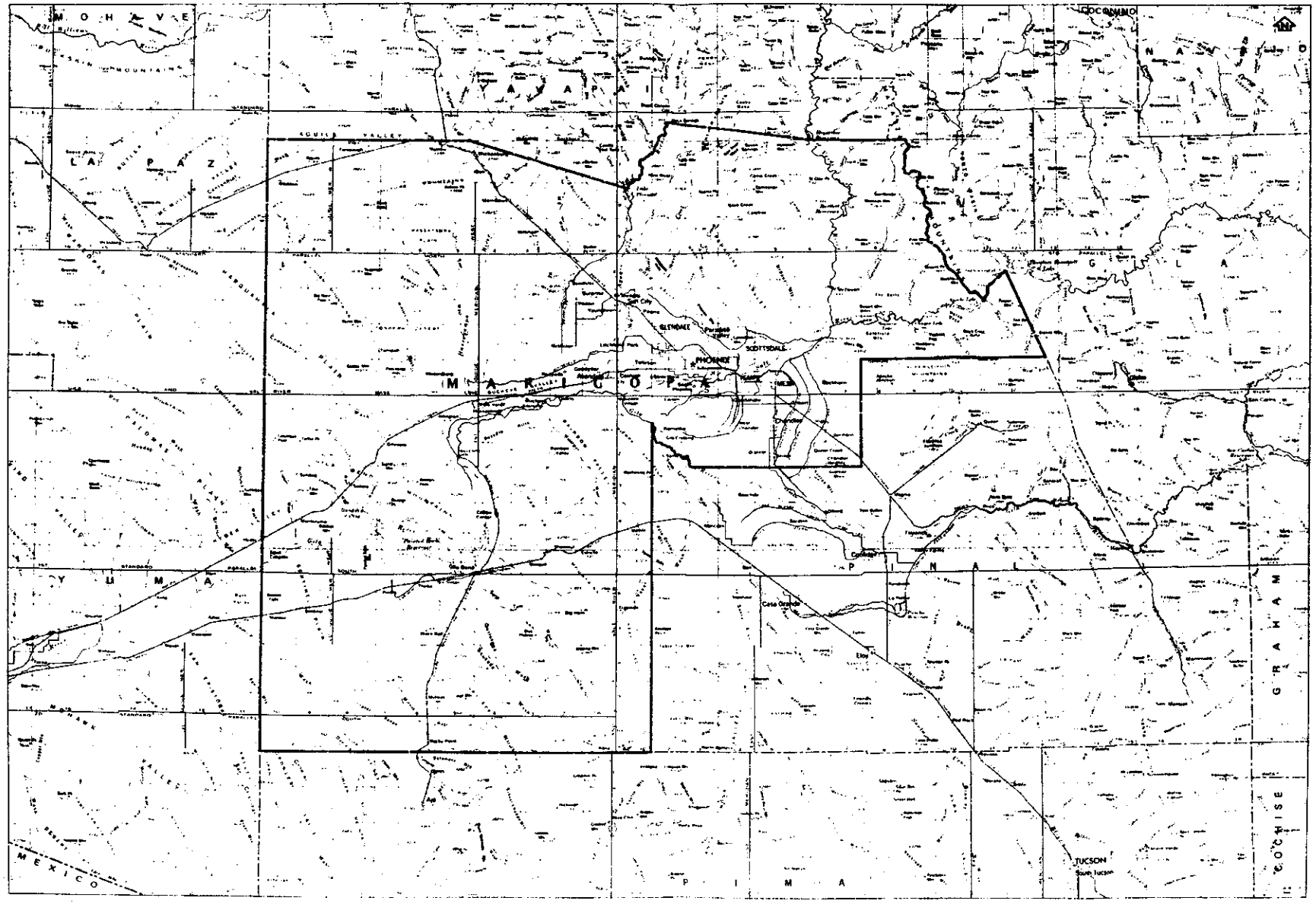
2.1 Scope of Study

This Flood Insurance Study covers the incorporated and unincorporated areas of Maricopa County, Arizona. Areas included in this study are the incorporated Towns of Buckeye, El Mirage, Gila Bend, Gilbert, Guadalupe, Goodyear, Surprise, Wickenburg, and Youngtown; and the Cities of Chandler, Glendale, Mesa, Peoria, Phoenix, Scottsdale, Apache Junction, Avondale, Tempe, and Tolleson. Military installations; regional, State, and national forests and parks; Federal and State-owned lands; Indian reservations; and undeveloped areas with no potential for future habitation were not included. The area of study is shown on the Vicinity Map (Figure 1).

The flooding sources studied by detailed methods are shown in Table 1.

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through 1989.

Portions of some flooding sources were studied by approximate methods and are shown in Table 2.



APPROXIMATE SCALE

16 0 16 32 48 MILES

VICINITY MAP

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FIGURE 1

Table 1. Detailed Study Streams

Drainage	Limit of Study
Gila River	From 331st Avenue to its confluence with Salt River at 115th Avenue
Gila River Overflow Area	On north overbank around Buckeye Canal
Agua Fria River	From its confluence with Gila River to River Mile 24.32 (near Pinnacle Peak Road)
New River	From its confluence with Agua Fria River to River Mile 14.48 (near Pinnacle Peak Road)
Skunk Creek	From its confluence with New River to River Mile 27.76 in north-central Maricopa County
Scatter Wash	From its confluence with Skunk Creek to a point just above Williams Drive, and between Black Canyon Highway (Interstate Highway 17) and 7th Avenue
East Branch Scatter Wash	From its confluence with Scatter Wash to a point 0.8 mile upstream
Salt River	From its confluence with Gila River to North Mesa Drive
Salt River Overflow Area	Along the southern overbank between 75th and 39th Avenues
Cave Creek	From 27th Avenue to a point 0.3 mile above Granite Reef Aqueduct, and from a point 0.7 mile below Carefree Highway to a point 0.14 mile above Morning Star Road
East Fork Cave Creek	From its confluence with Cave Creek to Beardsley Road
Andora Hills Wash	From its confluence with Cave Creek to a point approximately 2.9 miles upstream

Table 1. Detailed Study Streams (Cont'd)

Drainage	Limit of Study
Galloway Wash	From its confluence with Cave Creek to a point approximately 3.1 miles upstream
Rowe Wash	From its confluence with Galloway Wash to a point 1.5 miles upstream
Grapevine Wash	From its confluence with Galloway Wash to a point approximately 1 mile upstream
Ocotillo Wash	From its confluence with Cave Creek to a point approximately 2 miles upstream
Willow Springs Wash	From its confluence with Cave Creek to a point approximately 1.8 miles upstream
Hassayampa River	From River Mile 40.0 to the Yavapai County line
Sols Wash	From its confluence with Hassayampa River to a point 1.6 miles upstream
Casandro Wash	From its confluence with Sols Wash to a point approximately 2.8 miles upstream
South Branch Casandro Wash	From its confluence with Casandro Wash to a point 0.9 mile upstream
Flying "E" Wash	From a point approximately 0.2 mile downstream of U.S. Highways 60 and 70 to a point 0.5 mile above the Highway
Hospital Wash	From its confluence with Sols Wash to a point 0.4 mile upstream
Powder House Wash	From its confluence with Hassayampa River to a point 1.3 miles upstream

Table 1. Detailed Study Streams (Cont'd)

Drainage	Limit of Study
Martinez Wash	From its confluence with Hassayampa River to the Yavapai County line
Mockingbird Wash	From U.S. Highways 60, 70, and 89 to a point 0.9 mile upstream
Little San Domingo Wash	From the U.S. Highways 60, 70, and 89 crossing at Morristown to a point approximately 0.7 mile upstream
Wittmann Drainage	From the U.S. Highways 60, 70, and 89 crossing to a point 0.6 mile upstream
Aguila Farm Channel	For 1.5 miles at Aguila, in northwestern Maricopa County
Grass Wash	For 2.2 miles at Aguila
Lower El Mirage Wash	From Cactus Road to a point approximately 0.4 mile upstream, within El Mirage
Lower El Mirage Wash Tributary	Shallow flooding from its confluence with Lower El Mirage Wash to a point 0.7 mile upstream
Sand Tank and Bender Washes	Combined flows of these two washes at Gila Bend
Rodeo Wash	Ponding along Southern Pacific Railroad, U.S. Highway 80, and Gillespie Canal at Gila Bend
Rodeo Wash Tributary	Ponding along Southern Pacific Railroad at Gila Bend
Airport Wash	Ponding along U.S. Highway 80 at Gila Bend
Scott Avenue Wash	Ponding along Gillespie Canal, Southern Pacific Railroad, and U.S. Highway 80 at Gila Bend

Table 1. Detailed Study Streams (Cont'd)

Drainage	Limit of Study
Atchison, Topeka & Santa Fe Railway Channel	From its confluence with Agua Fria River to a point 1.5 miles upstream at El Mirage
Atchison, Topeka & Santa Fe Railway ponding	Along the railroad at Peoria
Echo Canyon Wash	From Arizona Canal to McDonald Drive
Arizona Canal	Shallow flooding along both sides of the canal from its outlet at Skunk Creek to 43rd Avenue
Grand Canal	Shallow flooding between Bethany Home Road and Camelback Road
Western Canal	Shallow flooding within Tempe
Tempe Canal	Shallow flooding in Mesa and Tempe
Highline Canal	Shallow flooding along north and south branches at Chandler and Tempe
Kyrene Branch Canal	Shallow flooding within Tempe
Gila Bend Canal	Shallow flooding along Interstate Highway 8 near Gila Bend
Buckeye Canal	Shallow flooding along the canal at Buckeye
Consolidated Canal	Shallow flooding through Gilbert
Roosevelt Canal	Shallow flooding at Tolleson
Eastern Canal	Shallow flooding along the canal within Mesa
Southern Pacific Railroad shallow flooding	At Buckeye, Chandler, Goodyear, Gilbert, Tempe, and Tolleson

Table 1. Detailed Study Streams (Cont'd)

Drainage	Limit of Study
Southern Pacific Railroad Spur shallow flooding	In Chandler
Apache Creek	Flooding on alluvial fan near Apache Junction, in southeastern part of county

Table 2. Approximate Study Streams

Agua Fria River	Moore Gulch
Arizona Canal	New River
Buckeye Detention Dike	Queen Creek
Cave Creek	Rodger Creek
Cemetery Wash	Roosevelt Canal
Centennial Wash	Rowe Wash
Cline Creek	Salt River
Consolidated Canal	Scatter Wash
Copper Creek	Sols Wash
Flying "E" Wash	Southern Pacific Railroad
Gila Bend Canal	Sunny Cove Wash
Gila River	Sunset Wash
Grand Canal	Sycamore Creek
Granite Reef Aqueduct	Trilby Wash Detention Basin
Hartman Wash	Verde River
Hassayampa River	Verde River tributaries - Washes 9, 10, and 11
Jackrabbit Wash	Waterman Wash
Kyrene Branch Canal	West Prong Waterman Wash
Little Squaw Creek	Western Canal

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and Maricopa County.

2.2 Community Description

Maricopa County, encompassing a total area of 9,238 square miles, is located in south-central Arizona. Adjacent counties are Yavapai on the north, Gila on the northeast, Pinal on the east, Pima on the south, Yuma on the west, and La Paz on the northwest. The incorporated communities within the county cover an area in excess of 100 square miles, and an additional 3,330 square miles are government owned lands. A large portion of the remaining county land is undeveloped and is presently considered to be economically unfit for development. The 1980 population of the county was 1.5 million.

The terrain throughout Maricopa County varies in character from numerous rugged mountain ranges to plains and deserts. An abundance of small intermittent streams and washes traverse the major portion of the county.

Residential and agricultural development is concentrated along the major streams with expansion continuing at a rapid pace.

The climate in Maricopa County is mild, with short winters and long, hot summers.

The Gila River, which is the largest tributary to the lower Colorado River, flows southwesterly through the southern half of the county. The river basin includes the southern half of Arizona and part of southwestern New Mexico, and contributes a drainage area of 49,500 square miles at the Gillespie Dam, which is approximately 31 miles downstream from Goodyear.

The Agua Fria River, a tributary to the Gila River, rises in the Prescott National Forest and flows southerly for approximately 130 miles to its confluence with the Gila River. It drains an area of approximately 2,340 square miles. The river is usually dry because flows are regulated by the Carl Pleasant Dam and Lake Pleasant reservoir, approximately 18 miles north of El Mirage (Reference 1), in north-central Maricopa County.

The New River, the major tributary of the Agua Fria River, rises in the Cook Mesa area of the New River Mountains and flows southerly to the Agua Fria River. The total length of the stream is approximately 48 miles, with a total drainage area of approximately 315 square miles (Reference 2).

Skunk Creek flows southwesterly to its confluence with the New River, draining approximately 110 square miles at its mouth.

Scatter Wash flows westerly through northern Phoenix to its confluence with Skunk Creek.

East Branch Scatter Wash is an overflow area from Scatter Wash. Floodwaters overflow along the southern overbank of Scatter Wash just north of Black Canyon Highway, cross the highway at the Deer Valley Road interchange, and rejoin Scatter Wash along Rose Garden Lane in Phoenix.

The Salt River originates at the Theodore Roosevelt Lake in Gila County. The river flows westerly through east-central Maricopa County to its confluence with Gila River. The Salt River has a wide, irregular, sandy streambed with several meandering channels throughout the study area. The river drains 13,700 square miles at its mouth.

The Salt River is regulated by four dams: Roosevelt Dam, Horse Mesa Dam, Mormon Flat Dam, and Stewart Mountain Dam. Total capacity of the four reservoirs is 1,755,000 acre-feet. Water from this system is used for irrigation of Salt River Valley and for the generation of power (Reference 3).

Granite Reef Dam, located on the Salt River 3.4 miles below its confluence with Verde River, diverts water from the river to Arizona and Southern Canals. This water is for municipal use and irrigation.

Cave Creek and its numerous tributaries drain the mountainous areas of east-central Maricopa County. Cave Creek flows southwesterly to its confluence with the Salt River. Its tributaries include East Fork Cave Creek, Andora Hills Wash, Galloway Wash, Rowe Wash, Grapevine Wash, Ocotillo Wash, and Willow Springs Wash. Flows are regulated by Cave Creek Dam, located just north of Phoenix.

East Fork Cave Creek flows southwesterly to its confluence with Cave Creek, draining 14.4 square miles at its mouth.

Andora Hills Wash flows westerly to its confluence with Cave Creek north of Phoenix.

Galloway Wash flows westerly to its confluence with Cave Creek north of Phoenix.

Rowe Wash and Grapevine Wash flow southwesterly to their confluences with Galloway Wash north of Phoenix.

Ocotillo Wash and Willow Springs Wash flow southwesterly before joining Cave Creek north of Phoenix.

The Hassayampa River flows southerly through northwestern Maricopa County before joining the Gila River 40 miles west of Phoenix. The river, which drains an area in northwestern Maricopa County and southern Yavapai County, originates in the Bradshaw Mountains south of Prescott (Reference 4). Terrain of the drainage basin consists of mountains with heavy forest cover in the northern third, rolling hills in the central third, and desert valley in the southern third. The stream gradient of the Hassayampa River ranges from an average of 20 feet per mile near River Mile 40 to approximately 400 feet per mile near Box Canyon in Yavapai County (Reference 4).

Sols Wash originates in the Date Creek Mountains north of Wickenburg. It flows southeasterly, draining 145 square miles at its confluence with Hassayampa River. The basin is bounded by low, poorly defined ridges and hills extending to Twin Peaks. On the south and east, pronounced foothills and mountains distinguish the drainage divide. The Sols Wash basin is a mild sloping desert plain. Tributaries to Sols Wash include Flying "E" Wash, Hospital Wash, Casandro Wash, and South Branch Casandro Wash.

Casandro Wash flows northeasterly to its confluence with Sols Wash in Wickenburg.

South Branch Casandro Wash flows northeasterly to its confluence with Casandro Wash in southwestern Wickenburg.

Flying "E" Wash flows northeasterly, joining Sols Wash in the western one-half of Wickenburg.

Hospital Wash flows southerly to its confluence with Sols Wash within Wickenburg.

Powder House Wash flows southwesterly in a well-defined channel, draining 2 square miles of desert highlands before discharging into the Hassayampa River at Wickenburg.

Martinez Wash flows southeasterly, joining the Hassayampa River at the Yavapai County line.

Mockingbird Wash, a tributary of the Hassayampa River, is located approximately 2 miles southeast of Wickenburg. The wash is well defined with steep side walls. Mockingbird Wash flows southwesterly, draining approximately 7 square miles of desert highland. There is some residential development upstream of the U.S. Highways 60, 70, and 89 crossing.

Little San Domingo Wash is a small, well-defined wash near the unincorporated area of Morristown in northern Maricopa County. It flows southwesterly, draining 6.2 square miles of desert highlands at the U.S. Highways 60, 70, and 89 crossing.

Wittmann Drainage flows southerly near the unincorporated community of Wittmann, approximately 25 miles northwest of Phoenix on U.S. Highways 60, 70, and 89.

Aguila Farm Channel collects floodflows north of the Atchison, Topeka & Sante Fe Railway in northwestern Maricopa County and conveys them westerly across Aguila Farm to Grass Wash.

Grass Wash flows northwesterly through Aguila to its confluence with Centennial Wash in northwestern Maricopa County.

Sand Tank and Bender Washes flow northwesterly through the center of Gila Bend, in southwestern Maricopa County. Sand Tank and Bender Washes approach Gila Bend from the south in two separate channels, but during periods of heavy runoff the washes overflow their banks and the flows are intermixed. The combined flows join the Gila River 3 miles north of Gila Bend.

Rodeo Wash and Rodeo Wash Tributary flow northwesterly through the eastern half of Gila Bend.

Airport Wash flows northwesterly through the northeastern corner of Gila Bend.

Scott Avenue Wash flows northerly through the western half of Gila Bend.

Lower El Mirage Wash and Lower El Mirage Wash Tributary flow easterly to the Agua Fria River near El Mirage.

The Atchison, Topeka & Santa Fe Railway Channel at El Mirage runs easterly to the Agua Fria River through the northern half of the town.

The elevated embankments of the Atchison, Topeka & Santa Fe Railway and Southern Pacific Railroad impede the movement of floodwaters from the east and northeast, resulting in ponding and shallow flooding along the embankments throughout the county.

Echo Canyon Wash flows southwesterly through Paradise Valley, Scottsdale, and Phoenix to its junction with Arizona Canal.

Apache Creek, near Apache Junction, is on an alluvial fan at the base of the Superstition Mountains in southeastern Maricopa County.

There is a system of irrigation canals crossing the southern one-half of the county nearly parallel to ground contours. The system includes the Arizona, Grand, Western, Tempe, Highline, Kyrene Branch, Gila Bend, Southern, Buckeye, Consolidated, Roosevelt, and Eastern Canals, and the Granite Reef Aqueduct.

2.3 Principal Flood Problems

The past flooding history of Maricopa County indicates that large portions of the county are subject to destructive floods.

The principal flood hazard results from overflow of the major rivers; the overflow results in the inundation of the wide, flat flood plains, including any residential, commercial, or agricultural developments located within them. Erosion, combined with the development of new channels, adds to the potential hazard from inundation.

Areas adjacent to the flood plains of the major rivers, but not subject to overflow from the rivers, may be flooded due to the failure of earthen dikes and other retarding or diverting structures (Reference 5).

The upland areas of Maricopa County are also subject to flooding. Throughout the county there are broad alluvial slopes that lie between the steep mountains and major watercourses. These slopes are formed by the intermingling of alluvial fans from several streams and are traversed by many small channels that divide and reconverge at many places. These channels are usually lined with small amounts of brush. Flooding occurs either as a direct result of rainfall on the slopes or by streams that drain from the mountains. Floods originating in the mountains often carry large amounts of rock debris that are deposited on the alluvial slope. The debris may plug old channels and cause new ones to develop. Many of the lower slopes receive runoff only from precipitation that falls directly on the area involved because mountain runoff is completely dissipated on the upper slopes.

Much of the floodflow on the upland areas is unconfined and moves downslope as sheetflow. Generally, sheetflow is less than 1.0 foot deep because the wide expanse of flow prevents water from building up to greater depths, except in depressions and where water ponds behind dikes, canals, and road fills. A wide expanse of sheetflow may be diverted from its normal path by such structures. The concentrated flow may then break through at one spot causing high velocities and deep flows immediately below the break or overflow area (Reference 6).

The type of sheetflow described above occurs on ground slopes of from 1 to 5 percent. Slopes of less than 1 percent are too flat to carry water far. Ponding and rapid infiltration deplete the floodflows quickly. Slopes of more than 5 percent generally cause defined channels to form. Defined channels of minor tributaries may extend a considerable distance into slopes that are flatter than 5 percent, but will seldom reach slopes of less than 2 percent without distributary channels forming. Water in these channels is generally 2.5 to 3 feet deep (Reference 6).

Floods have plagued the Gila River Basin for many years. The flood of February 1891, produced a great flood on the Salt River; the estimated peak floodflow was 300,000 cubic feet per second (cfs) at Arizona Dam (the present site of Granite Reef Dam). The largest flood involving the entire Gila River Basin since that time was produced by the storms of January 1916. During that month, two Pacific storms - 10 days apart - brought warm rain to melt unusually heavy snow covers. The resultant flood ravaged the entire basin (Reference 7).

Other large floods occurred in April 1905, February 1920, March 1938, August 1951, December 1965, December 1967, September 1970, June 1972, and October 1983.

Figures 2, 3, 4, and 5 depict flooding along the Salt River during December 1965. Figure 6 shows flooding on the Agua Fria River near Goodyear during the December 1965 flood.

2.4 Flood Protection Measures

Several flood control structures exist in Maricopa County. Painted Rock Dam, which is located 20 miles northwest of Gila Bend on the Gila River, was completed in 1959. It provides flood protection for approximately 360,000 acres downstream of the dam (Reference 7).

Runoff on the Salt River and its tributary, the Verde River, has been reduced over the years by the construction of several dams: Granite Reef Dam (1908); Roosevelt Dam (1911); Mormon Flat Dam (1925); Horse Mesa Dam (1927); Stewart Mountain Dam (1930) on the Salt River; Bartlett Dam (1939); and Horseshoe Dam (1945) on the Verde River.

Carl Pleasant Dam was constructed at the Frog Tanks gage on the Agua Fria River in 1927. It controls runoff from 1,457 square miles (Reference 8).

Cave Creek Dam, built in 1920, provides protection from a 25 year flood to parts of Phoenix.

The Paradise Valley detention dikes, which are a feature of the Central Arizona Project (CAP), retain in excess of the 100-year flood. These dikes provide flood protection for the northeastern part of Phoenix and Scottsdale. The Paradise Valley detention dikes have 14 feet of freeboard against the 100-year flood (Reference 9). Also part of the CAP is the Granite Reef Aqueduct, which consists of a concrete-lined channel and a series of levees.

Dreamy Draw detention basin (1973) and Cave Buttes Dam (1980) provide additional flood protection for the City of Phoenix.

Figure 2. Looking Downstream on the Salt River During the December 1965 Flood (Sky Harbor International Airport runways are in the center.)

Figure 3. Salt River Flooding in December 1965 (The 40th Street bridge railing is visible at lower right; flow is from right to left.)

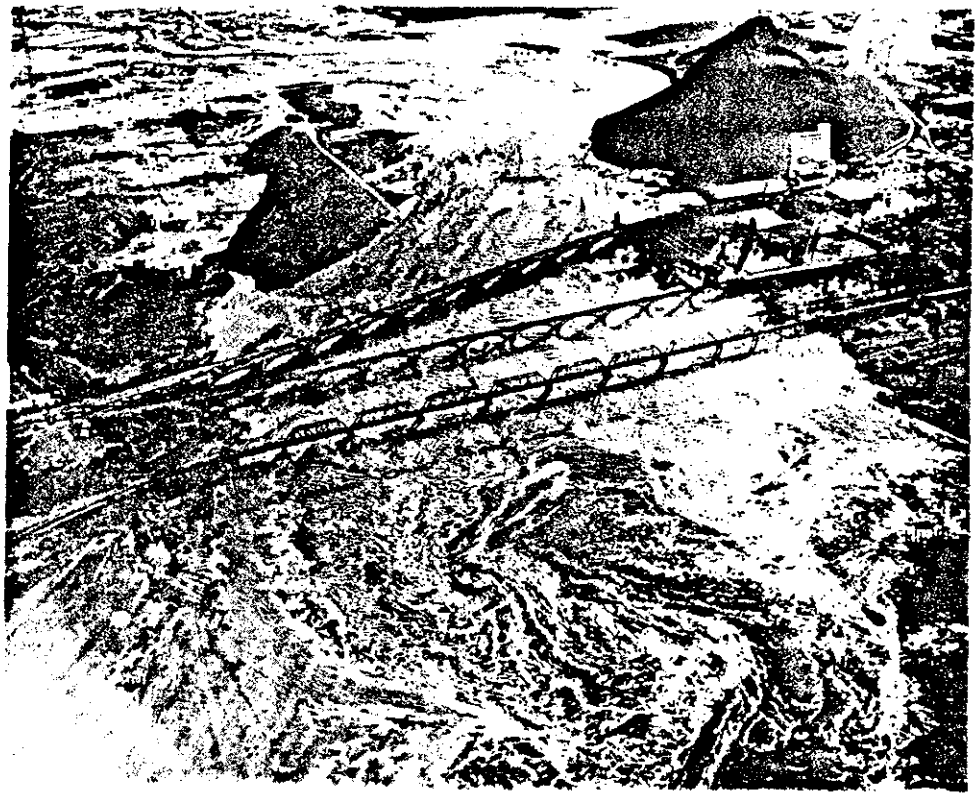


Figure 4. The Salt River Bridges in Tempe, Looking Upstream (The flooded area in the upper center is now developed into athletic fields and parking lots for Arizona State University. Photograph was taken on December 31, 1965.)

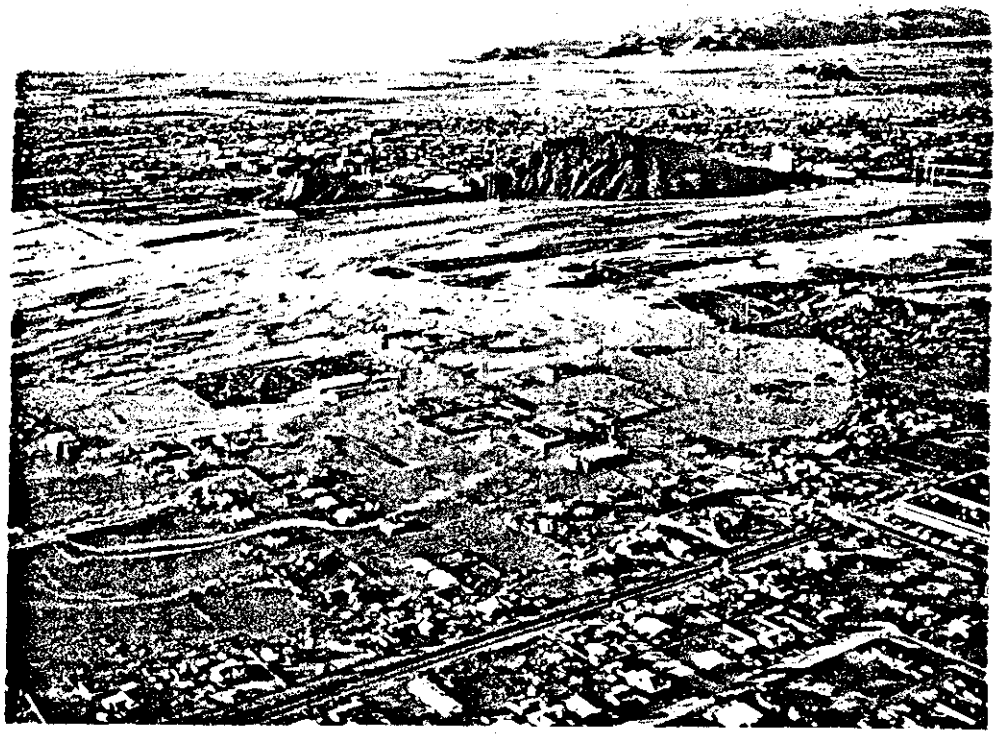


Figure 5. The Salt River in Tempe Looking Southwest (The flow is left to right. The buildings in the upper center of the photo are the Arizona State University. Scottsdale Road crosses the photo from the upper left to the lower right. Photograph was taken on December 31, 1965.)

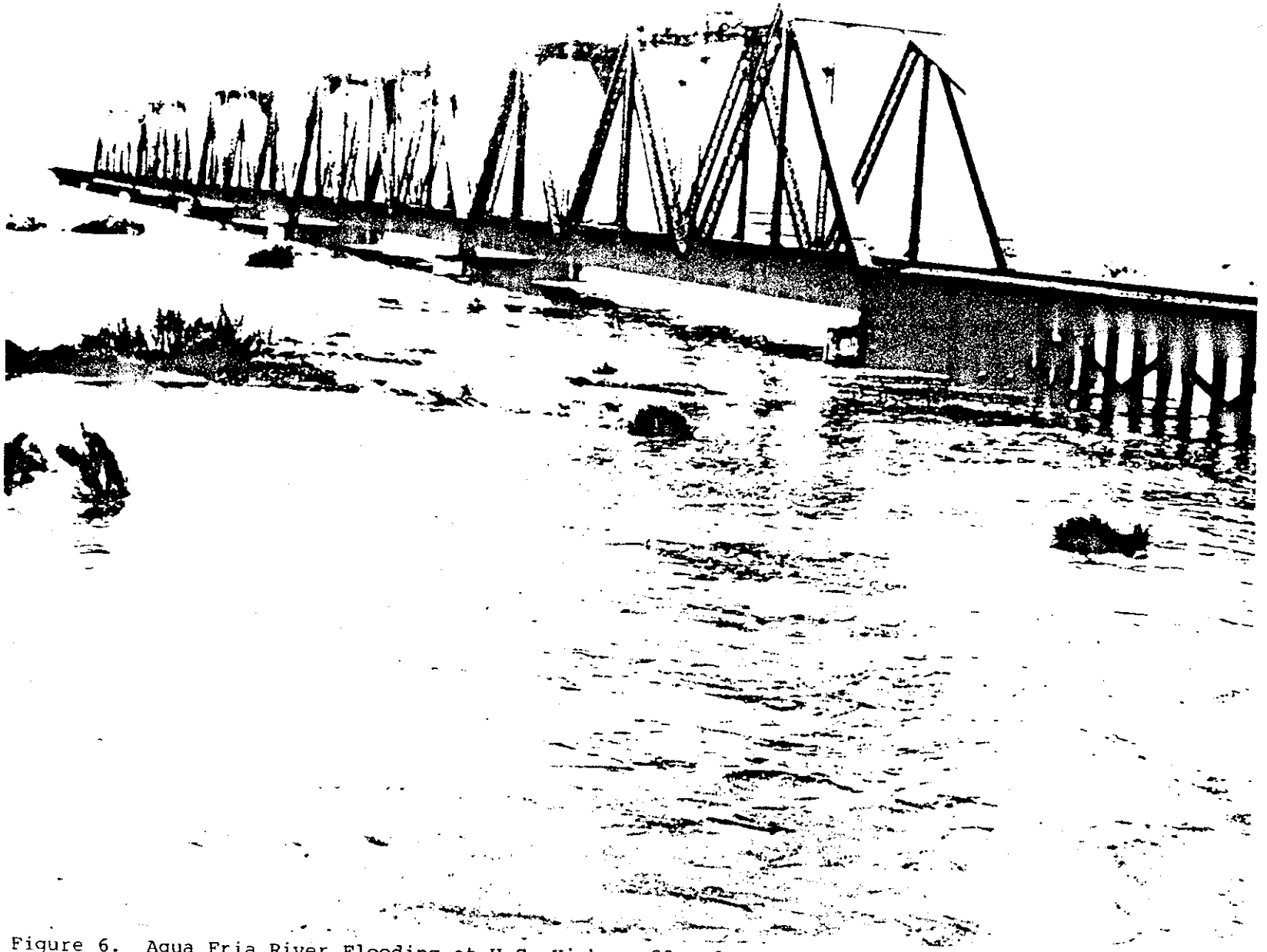


Figure 6. Agua Fria River Flooding at U.S. Highway 80 and Southern Pacific Railroad Bridge near Goodyear, Arizona, on December 22, 1965 (Direction of flow is right to left.)

Trilby Wash detention basin (McMicken Dam) was completed in 1956. The detention basin has a capacity of 19,300 acre-feet (Reference 7). A leveed outlet channel conveys flood releases from the detention basin towards the Agua Fria River.

The project provides some flood protection to Luke Air Force Base, Phoenix Litchfield Municipal Airport, and the Towns of Goodyear, Litchfield, Avondale, Surprise, and El Mirage.

Spookhill Dam, Signal Butte Dam, Pass Mountain Dam, Powerline Dam, a diversion structure to Powerline Dam, and Rittenhouse Dam control flooding in the southeastern part of the county (References 10 and 11).

Drainage structures in the Interstate Highway 8 embankment south of Gila Bend were designed, according to state criteria, for a 50-year storm. This provides a shielding effect to Gila Bend because floodwaters from lower frequency storms will be detained by the freeway, and flows exceeding the capacity of freeway structures will be diverted to the west (Reference 12).

A storm water detention dike was built approximately 4 miles north of Buckeye under the auspices of MCFCD. This facility was designed and constructed to contain up to the 100-year frequency storm runoff from the drainage areas north of the Roosevelt Canal. This facility provides some flood protection to Buckeye (Reference 13).

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are 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 flood plain 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 which 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), and, 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 county at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied in detail affecting the county.

Peak discharges for the Gila and Salt Rivers were taken from a hydrology report for the Gila River (Reference 14).

Peak discharges for the Agua Fría River, the New River, Skunk Creek (below Carefree Highway), and the Hassayampa River were developed from discharge-frequency relationships of historic floods and gage records (Reference 8). Peak discharges were modified, based on field inspection, to reflect current hydrological and hydraulic conditions. Discharges were obtained from a log-Pearson Type III distribution of annual peak-flow data (Reference 15).

Peak discharge-frequency relationships for Scatter Wash, East Branch Scatter Wash, Cave Creek (below Cave Creek Dam), East Fork Cave Creek, and Echo Canyon Wash were taken from the Flood Insurance Study for the City of Phoenix (Reference 9).

Peak discharge-frequency relationships for Cave Creek (above Cave Creek Dam), Andora Hills Wash, Galloway Wash, Apache Creek, Rowe Wash, Grapevine Wash, Ocotillo Wash, Willow Springs Wash, Skunk Creek (above Carefree Highway), Mockingbird Wash, Little San Domingo Wash, Wittmann Drainage, Aguila Farm Channel, Grass Wash, Sand Tank Wash, Bender Wash, Rodeo Wash and its tributary, Airport Wash, Scott Avenue Wash, and Martinez Wash were developed using the U.S. Soil Conservation Service (SCS) TR-20 program (Reference 16). In addition, the SCS TR-55 computer program (Reference 17) was used to determine flood peaks for Buckeye Canal; the Atchison, Topeka & Santa Fe Railway Channel at El Mirage and at Peoria; the Southern Pacific Railroad Spur at Chandler; the Southern Pacific Railroad at Buckeye, Chandler, Gilbert, Goodyear, Tempe, and Tolleson; and Lower El Mirage Wash and its tributary.

Peak discharge-frequency relationships for Sols Wash, Casandro Wash, South Branch Casandro Wash, Flying "E" Wash, Hospital Wash, and Powder House Wash were taken from the Flood Insurance Study for Wickenburg (Reference 18).

Peak discharges and runoff volumes for Arizona, Grand, Kyrene Branch, Gila Bend, Consolidated, and Roosevelt Canals were computed using the SCS TR-20 computer program (Reference 16). A hydrograph of direct runoff versus precipitation was developed for each concentration point. Peak discharges and runoff volumes were then computed.

Hydrologic analyses for Eastern, Western, Tempe, and Highline Canals were taken from the Flood Insurance Study for the City of Tempe (Reference 19).

Peak discharge-drainage area relationships for flooding sources studied by detailed methods are shown in Table 3.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

For areas of riverine flooding studied in detail, water-surface elevations for floods of the selected recurrence intervals were computed using the COE HEC-2 computer program (Reference 20). Water-surface elevations for the Atchison, Topeka & Santa Fe Railway Channel at El Mirage were also computed using HEC-2.

Cross section data for the Gila and Salt Rivers, and for their overflow areas, were digitized from topographic maps (Reference 21).

Cross sections for the Agua Fria River, New River, Skunk Creek (below Carefree Highway), and Hassayampa River were field surveyed.

Cross section data for Skunk Creek above Carefree Highway; Cave Creek above Cave Creek Dam; Andora Hills Wash; Galloway Wash; Rowe Wash; Grapevine Wash; Ocotillo Wash; Willow Springs Wash; Powder House Wash; Mockingbird Wash; Little San Domingo Wash; Wittmann Drainage; Aguila Farm Channel; Grass Wash; Sand Tank and Bender Washes; Rodeo Wash and its tributary; Airport Wash; Scott Avenue Wash; Lower El Mirage Wash and its tributary; the Atchison, Topeka & Santa Fe Railway Channel at El Mirage; the Atchison, Topeka & Santa Fe Railway at Peoria; Arizona, Grand, Western, Tempe, Highline, Kyrene Branch, Gila Bend, Buckeye, Consolidated, Roosevelt, and Eastern Canals; and the Southern Pacific Railroad and its spurs were developed from topographic maps (Reference 21).

Cross section data for Scatter Wash, East Branch Scatter Wash, and Echo Canyon Wash were developed from topographic maps provided by the City of Phoenix (Reference 22).

Cross section data for Cave Creek below Arizona Canal and for East Fork Cave Creek were developed from aerial photographs flown in March 1980 (Reference 23). Cross section data for Cave Creek between Arizona Canal and Cave Creek Dam were developed from aerial photographs flown in March 1978 (Reference 24).

Cross section data for Sols Wash, Casandro Wash, South Branch Casandro Wash, Flying "E" Wash, and Hospital Wash were taken from a flood information report for Wickenburg (Reference 25) and from topographic maps (Reference 26).

Table 3. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Gila River					
At Bullard Avenue	49,000[1]	35,000	159,000	209,000	355,000
Gila River Overflow Area					
At Buckeye Canal	--[2]	0	0	7,000	31,400
Agua Fria River					
At USGS Gage No. 09513650, at Bell Road	1,636	16,000	40,000	54,000	78,000
At Southern Avenue in Goodyear	2,013	30,000	42,000	56,000	93,000
New River					
At Confluence with Skunk Creek	314.6	17,000	44,000	58,000	86,000
Skunk Creek					
At Confluence With New River	110.0	13,000	26,000	37,000	58,000
At Carefree Highway	49.7	14,600	21,400	31,300	40,800
At Confluence With Rodger Creek	41.0	13,100	19,100	28,100	36,000
At Confluence With Cline Creek	33.1	11,100	16,200	23,800	30,000
At Tejon Drive	16.9	5,870	8,590	12,600	16,000
At Zorrillo Drive	11.1	4,390	6,400	9,390	11,800
At New River Road	8.0	3,370	4,910	7,200	9,200
At Upstream Study Limit	2.8	1,730	2,500	3,650	4,600
Scatter Wash					
At Mouth	8.5	580	3,500	6,100	17,000
Above Black Canyon Highway	6.3	540	3,200	5,700	16,000
East Branch Scatter Wash					
At Mouth	1.25	1,000	2,400	3,000	3,700

[1] Approximate Drainage Area
[2] Not Applicable

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Salt River					
At Confluence With Gila River	13,700	37,000[1]	104,000[1]	145,000[1]	290,000[1]
At Mill Avenue	13,260	47,000[1]	130,000[1]	178,500[1]	368,000[1,3]
At Mesa	13,000	50,000	137,000	194,000	375,000
Salt River Overflow Area					
At 51st Avenue	--[2]	0	0	7,000	368,000[3]
Cave Creek					
At Confluence With Salt River	96.6[4]	2,800[5,6]	7,700[5,6]	10,900[5,6]	22,000[5,6]
At Grand Canal Crossing	50.4[4]	3,100[5,6]	8,600[5,6]	12,400[5,6]	26,000[5,6]
At Arizona Canal Crossing	30.4[4]	3,200[6]	9,000[6]	13,000[6]	27,000[6]
Below Confluence With Moon Valley Wash	29.3[4]	3,200[6]	9,000[6]	12,000[6]	27,000[6]
Below Confluence With East Fork Cave Creek	22.5[4]	3,100[6]	8,700[6]	11,000[6]	25,000[6]
Below Deer Valley Road	5.0[4]	1,400[6]	3,800[6]	5,400[6]	11,000[6]
Above Deer Valley Road	4.5[4]	1,300[6]	3,500[6]	5,000[6]	10,000[6]
Below Carefree Highway	126.9[7]	20,600	32,975	36,860	52,000
Above Carefree Highway	121.5[7]	20,130	32,180	35,900	51,000
At Confluence With Andora Hills Wash	115.1[7]	19,640	31,430	35,000	50,000
Above Confluence With Willow Springs Wash	80.3[7]	13,210	21,480	23,600	33,000

[1] Decrease Due to Overbank Losses Upstream
[2] Not Applicable
[3] Total Flow For Salt River and Overflow Area
[4] Contributing Drainage Area Below Cave Creek Dam Only
[5] Decrease Due to Storage in Overbanks Upstream
[6] Regulated by Cave Creek Dam
[7] Contributing Drainage Area Above Cave Creek Dam

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
East Fork Cave Creek					
At Confluence With Cave Creek	14.4	2,300	6,400	9,000	19,000
Below 7th Avenue, extended	13.8	2,300	6,300	8,900	18,000
Below 7th Street	12.4	2,200	5,900	8,400	17,000
Above 7th Street	10.0	1,900	5,300	7,500	15,200
At Bell Road	3.4	1,100	2,900	4,200	8,200
Below Cave Creek Road	3.0	1,000	2,800	3,900	7,900
At Utopia Road	1.8	800	2,100	3,000	5,800
At Beardsley Road	1.0	600	1,500	2,100	4,300
Andora Hills Wash					
Above Confluence With Cave Creek	2.8	1,450	2,280	2,590	3,550
Above School House Road	1.6	1,070	1,620	1,820	2,500
Below Scottsdale Road	0.6	420	640	720	980
Galloway Wash					
At Spur Cross Road	20.5	10,870	16,920	19,180	26,400
Below Confluence With Grapevine Wash	14.6	7,470	11,800	13,430	18,700
At a point 1.4 miles Above Confluence With Grapevine Wash	0.4	170	290	330	490
Rowe Wash					
Above Confluence With Galloway Wash	5.5	4,170	6,190	6,940	9,200
At a point 2.5 Miles Above Confluence With Galloway Wash	4.8	4,030	5,940	6,650	8,800
Grapevine Wash					
At Mouth	--[1]	4,090	6,420	7,290	10,000
Ocotillo Wash					
Above Confluence With Cave Creek	3.8	3,200	4,820	5,420	7,200
Near Intersection of Rockaway Hills Drive and Fleming Springs Road	2.8	2,800	4,140	4,630	6,200

[1] Data Not Available

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Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Willow Springs Wash					
Above Confluence With Cave Creek	5.0	3,740	5,570	6,240	8,250
At a Point 0.8 Mile Above Confluence With Cave Creek	3.1	2,920	4,300	4,800	6,220
Hassayampa River					
At Yavapai County Line	524.0	16,500	42,300	72,200	125,000
Sols Wash					
At River Street	145.0	4,000	16,500	24,000	59,000
Casandro Wash					
At Atchison, Topeka & Santa Fe Railway	1.5	250	1,050	1,500	3,500
At U.S. Highways 60 and 70	0.5	50	500	800	1,900
South Branch Casandro Wash					
Above Yaqui Drive	0.2	50	250	400	1,000
Flying "E" Wash					
At U.S. Highways 60 and 70	8.4	1,000	4,500	6,500	15,000
Hospital Wash					
At Honeysuckle Avenue	0.5	150	600	900	2,000
Powder House Wash					
At Jack Burden Road	1.9	300	1,300	1,900	4,400
Martinez Wash					
At Mouth	103.0	9,220	27,400	32,000	45,000
Mockingbird Wash					
At U.S. Highways 60, 70, and 89	6.9	2,750	4,040	5,060	7,400

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Little San Domingo Wash					
At U.S. Highways 60, 70, and 89	6.2	1,690	2,620	3,090	4,250
Wittmann Drainage					
At Atchison, Topeka & Santa Fe Railway	8.6	1,760	2,770	3,060	4,350
Aguila Farm Channel					
At Eagle Eye Avenue	216.0	5,450	12,000	16,000	--[1]
Grass Wash					
At U.S. Highways 60 and 70	83.0	6,380	11,600	14,400	--[1]
Lower El Mirage Wash					
At Cactus Road	1.9	90	200	250	--[1]
Lower El Mirage Wash Tributary					
At Mouth	1.3	53	110	150	--[1]
Sand Tank and Bender Washes					
At Gila Bend (Gillespie Canal)	261	28,200	33,000[3]	33,500[3]	34,500[3]
At Interstate Highway 8	257[2]	28,000	51,000	64,000	87,000
Rodeo Wash					
At U.S. Highway 80	3.3	560	1,100	1,400	2,200
Rodeo Wash Tributary					
At Gila Bend	--[4]	--[4]	--[4]	--[4]	--[4]

[1] Not Computed
[2] An Equivalent of 128 Square Miles of Drainage Area is Diverted to the West at Interstate Highway 8
[3] Decrease Due to Diversion at Interstate Highway 8
[4] Data Not Available

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Airport Wash					
At Gila Bend	--[1]	--[1]	--[1]	--[1]	--[1]
Scott Avenue Wash					
At Gila Bend	--[1]	--[1]	--[1]	--[1]	--[1]
Atchison, Topeka & Santa Fe Railway Channel (at El Mirage)					
At Confluence With Agua Fria River	1.1	180	370	435	--[2]
Atchison, Topeka & Santa Fe Railway (at Peoria)					
At Olive and 75th Avenues	5.4	490	1,020	1,340	1,920
At Peoria and 83rd Avenues	2.7	280	560	730	1,060
At Hawkins Road	0.3	100	190	230	--[2]
Echo Canyon Wash					
At Mouth	5.1	2,000	4,600	6,600	18,000
200 Feet East of 40th Street	4.3	1,900	4,200	5,900	14,000
At McDonald Drive	3.5	1,600	3,500	4,900	10,200
At Tatum Road	1.9	1,200	2,550	3,600	8,650
Arizona Canal					
At 67th Avenue	--[3]	--[2]	--[2]	1,220	--[2]
Grand Canal					
At Camelback Road	--[2]	--[2]	--[2]	5,200	--[2]

[1] Decrease Due to Diversion at Interstate Highway 8
[2] Not Computed
[3] Data Not Available

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Western Canal					
At Interstate Highway 10	1.7	--[1]	--[1]	400	--[1]
At 48th Street	0.5	--[1]	--[1]	360	--[1]
At Southern Pacific Railroad	0.3	--[1]	--[1]	160	--[1]
Tempe Canal					
At West Broadway Avenue	6.91	880	2,300	2,900	6,200
Highline Canal					
At Gravel Pit South of Warner Road	2.5	--[1]	--[1]	830	--[1]
At Highline Drive (56th Street)	1.3	--[1]	--[1]	480	--[1]
At 48th Street	0.3	--[1]	--[1]	200	--[1]
Kyrene Branch Canal					
At Kyrene Road	0.7	--[1]	--[1]	320	--[1]
Gila Bend Canal					
At Southern Pacific Railroad	--[2]	--[2]	--[2]	2,880	--[2]
Buckeye Canal					
At Miller Road	4.4	65	210	420	--[1]
Consolidated Canal					
At Lindsey Road	7.3	60	210	305	--[1]
Roosevelt Canal					
At Main Street	4.05	810	2,200	2,700	5,600
Eastern Canal					
At University Drive	8.54	980	2,000	2,400	4,600

[1] Not Computed
[2] Data Not Available

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second) 10-Year	50-Year	100-Year	500-Year
Southern Pacific Railroad (At Buckeye)					
At Apache Road	2.6	220	450	650	--[1]
At Miller Road	2.0	50	210	410	--[1]
Southern Pacific Railroad (At Chandler)					
At Ray Road	4.7	110	270	360	--[1]
At Pecos Road	1.9	50	130	180	--[1]
Southern Pacific Railroad (At Avondale)					
At Railroad Spur	2.2	120	280	320	--[1]
Southern Pacific Railroad (At Gilbert)					
1.0 Mile North of Guadalupe Road	143.9	200	2,270	4,090	--[1]
0.25 Mile South of Western Canal	131.8	130	2,160	3,950	--[1]
Southern Pacific Railroad (At Goodyear)					
At Airport Entrance	2.2	120	280	320	--[1]
Southern Pacific Railroad Spur					
At Ray Road	2.5	--[1]	--[1]	790	--[1]
Apache Creek (Apache Junction Alluvial Fan)					
At U.S. Highway 80 and 108th Street	2.64	433	831	1,021	--[1]

[1] Not Computed

Cross section data for Martinez Wash were digitized from topographic maps (Reference 27).

Cross sections were located at close intervals above and below bridges in order to compute the significant backwater effects of these structures. All bridges and culverts were investigated to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 2).

Hydraulic roughness coefficients (Manning's "n") were selected on the basis of field inspection and engineering judgment. Table 4 gives the range of Manning's "n" for each flooding source studied in detail.

Starting water-surface elevations for all riverine flooding sources, except as noted, were developed using the slope-area method.

Starting water-surface elevations for Skunk Creek and the Salt River were taken from the flood profiles for the New and Gila Rivers, respectively.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit 1).

A split flow condition on the Gila River exists around the Buckeye Canal from Bullard Road downstream to Cotton Lane. This situation was analyzed as flow around an island using the tributary option in HEC-2 (Reference 20). Flow is split by the Buckeye Canal and surrounding high ground at Bullard Road. This split continues downstream until flow is recombined near Cotton Lane. A preliminary estimate of the percentage of split flow was taken from the flow distribution at River Mile 95.54 (Bullard Road). This was adjusted by iteration so that the computed water-surface elevations matched at Section 95.70 (the first section upstream of where the flow splits). The amount of flow above the canal is approximately 7,000 cfs for the 100-year event and 30,000 cfs for the 500-year event. Neither the 10- nor the 50-year flows enter this area. A separate profile is presented for this overflow area.

There are several critical sections along the Salt River where floodwaters break out of the main watercourse. These areas were analyzed using the same methodology used to analyze the split flow condition on Gila River (Reference 20). Floodwaters break out near 39th Avenue on the south overbank and flow independently before rejoining the Gila River near 75th Avenue. Neither the

Table 4. Range of Hydraulic Roughness Coefficients (Manning's "n")

Flooding Source	Channel	Overbanks
Gila River	0.030 to 0.064	0.030 to 0.035
Gila River Overflow	--[1]	0.030 to 0.035
Agua Fria River	0.035 to 0.050	0.040 to 0.085
New River	0.035	0.030 to 0.100
Skunk Creek	0.035 to 0.050	0.045 to 0.050
Scatter Wash	0.015 to 0.050	0.015 to 0.070
East Branch Scatter Wash	0.015 to 0.050	0.015 to 0.070
Salt River	0.035	0.045 to 0.070
Salt River Overflow	--[1]	0.045 to 0.070
Cave Creek	0.020 to 0.045	0.020 to 0.052
East Fork Cave Creek	0.015 to 0.050	0.015 to 0.070
Andora Hills Wash	0.020 to 0.045	0.020 to 0.052
Galloway Wash	0.020 to 0.045	0.020 to 0.052
Rowe Wash	0.020 to 0.045	0.020 to 0.052
Grapevine Wash	0.020 to 0.045	0.020 to 0.052
Ocotillo Wash	0.020 to 0.045	0.020 to 0.052
Willow Springs Wash	0.020 to 0.045	0.020 to 0.052
Hassayampa River	0.030 to 0.060	0.040 to 0.060
Sols Wash	0.030 to 0.060	0.040 to 0.060
Casandro Wash	0.030 to 0.060	0.040 to 0.060
South Branch Casandro Wash	0.030 to 0.060	0.040 to 0.060
Flying "E" Wash	0.030 to 0.060	0.040 to 0.060
Hospital Wash	0.030 to 0.060	0.040 to 0.060

Table 4. Range of Hydraulic Roughness Coefficients (Manning's "n") (Cont'd)

Flooding Source	Channel	Overbanks
Powder House Wash	0.030 to 0.060	0.040 to 0.060
Martinez Wash	0.025 to 0.060	0.060 to 0.100
Mockingbird Wash	0.030 to 0.037	0.035 to 0.042
Little San Domingo Wash	0.030	0.040
Wittmann Drainage	0.033	0.035
Aguila Farm Channel	0.030	0.040
Grass Wash	0.025 to 0.040	0.025 to 0.045
Lower El Mirage Wash	0.044	0.044
Lower El Mirage Wash Tributary	0.044	0.044
Sand Tank and Bender Washes	0.025	0.035
Rodeo Wash	0.025	0.035
Rodeo Wash Tributary	0.025	0.035
Airport Wash	0.025	0.035
Scott Avenue Wash	0.025	0.035
Atchison, Topeka & Santa Fe Railway Channel (At El Mirage)	0.032 to 0.037	0.032 to 0.047
Atchison, Topeka & Santa Fe Railway (At Peoria)	0.035 to 0.040	0.035 to 0.040
Echo Canyon Wash	0.018 to 0.025	0.012 to 0.035
Arizona Canal	--[1]	0.080
Grand Canal	--[1]	0.080
Western Canal	0.040 to 0.080	0.040 to 0.080
Tempe Canal	--[1]	0.035

Table 4. Range of Hydraulic Roughness Coefficients (Manning's "n") (Cont'd)

Flooding Source	Channel	Overbanks
Highline Canal	--[1]	0.035
Kyrene Branch Canal	--[1]	0.035
Gila Bend Canal	0.035	0.035
Buckeye Canal	0.035 to 0.040	0.035 to 0.040
Consolidated Canal	0.040 to 0.080	0.040 to 0.080
Roosevelt Canal	0.035	0.035
Eastern Canal	0.035	0.035
Southern Pacific Railroad	--[1]	0.040 to 0.080
Southern Pacific Railroad Spur (At Chandler)	--[1]	0.035
Apache Creek (Apache Junction Alluvial Fan)	--[2]	--[2]

[1] Not Applicable
[2] Not Available

10- nor 50-year flows enter this area. A flood profile is presented for the area from just above 75th Avenue to just above 51st Avenue. The remainder of this overflow area is shallow flooding.

During periods of heavy runoff, flows from Sand Tank and Bender Washes near Gila Bend are intermixed. Highway and railroad bridges traverse both washes. These structures cannot pass a 100-year flood, resulting in extensive ponding at each obstruction during floods of low frequency.

Apache Creek is located on an alluvial fan near Apache Junction at the base of the Superstition Mountains. A vast network of intermingling channels is found on the fan. Flooding on alluvial fans is often erratic and unpredictable, and flow may occur on separate parts of an alluvial fan during sequent flood events. Flooding in this area was analyzed using alluvial fan methodology developed by FEMA.

Much of the flooding in the county is caused by sheetflow that originates from alluvial fans. Flows are intercepted by canal levees, railroad embankments, and elevated roads, causing water to pond behind the embankments. Depths of ponding depend on the elevation of the embankments. When the intercepted runoff exceeds ponding storage capacity, the flow will overtop the embankment, thus eroding the levee. Areas immediately downslope of the breakout will be affected by high water. However, flows will fan out to again become shallow sheetflow less than 1 foot in depth. Therefore, many areas in the county have been designated Zone B (Section 5.3).

Cross sections were taken perpendicular to the canals and railroad embankments using topographic maps (Reference 21). The top of the embankments were assumed to be the maximum ponding elevation upslope of the embankment. Flood hazard areas were then determined by projecting this elevation upslope to intersect the natural ground.

The canal levees and railroad embankments do not permanently retain stormflows but rather divert flows along the embankments. Most of the canal levees consist of unconsolidated material. These levees are subject to failure when runoff volumes exceed storage capacity. Potential flood hazard areas on the downslope side of the canals were analyzed for levees exceeding 2 feet in height. This analysis determined the distance required for flow through a break in a levee to spread and be reduced to an average depth of 1 foot, using Manning's equation. This analysis assumed:

1. a canal breach could occur at any point;

2. a broad, cresting horizontal weir equation with a head of 3 feet was used to determine the length of a breach resulting in a weir from 50 to 100 feet long;

3. floodwaters would spread at a 45° angle from the breach in the levee;

4. the peak discharge at a potential levee break was the maximum canal capacity or the concentration of peak flows from runoff in the watershed, whichever was greater.

Due to the nature of flooding along the New River, Skunk Creek below Carefree Highway, Lower El Mirage Wash, Scatter Wash below Black Canyon Highway, and East Branch Scatter Wash, no 500-year profiles were developed. The flood plains of these streams are wide; therefore, flow could increase substantially without significantly raising the water-surface elevation or increasing the velocity of flow. Moreover, most of the area contiguous to the flood plains is subject to sheetflow during a 100-year flood.

In addition, 50-year profiles for the Agua Fria River, the New River, Skunk Creek below Carefree Highway, Cave Creek below Cave Creek Dam, East Fork Cave Creek, Echo Canyon Wash, Scatter Wash, and East Branch Scatter Wash were not computed.

Flood profiles are not applicable for areas of shallow flooding and ponding; therefore, flood profiles are not presented for any of the canals or other areas of shallow flooding, including Sand Tank and Bender Washes, Rodeo Wash and its tributary, Lower El Mirage Wash Tributary, and Airport and Scott Avenue Washes.

For flooding sources studied by approximate methods, 100-year flood elevations were computed using Manning's equation, Flood Plain Information reports (References 1, 2, 4, 25, and 28), USGS Flood-Prone Area Maps (Reference 29), USGS Slope Maps (Reference 30), high-resolution Skylab photographs (References 31 and 32), and USGS topographic maps (Reference 33).

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.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the maps.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program (NFIP) encourages State and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study produces maps designed to assist communities in developing flood plain management measures.

4.1 Flood 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 flood plain 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 in detail, the 100- and 500-year flood plain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at scales of 1:1,200; 1:2,400; 1:4,800; and 1:6,000, with contour intervals of 2 and 4 feet (References 21, 22, 26, and 27).

The 100- and 500-year flood plain boundaries are shown on the Flood Boundary and Floodway Map (Exhibit 2). In cases where the 100- and 500-year flood plain boundaries are close together, only the 100-year flood plain boundary has been shown. Small areas within the flood plain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

Approximate flood boundaries were delineated using USGS topographic maps and Flood-Prone Areas Maps (References 29 and 33), and high-resolution Skylab photographs (References 31 and 32).

4.2 Floodways

Encroachment on flood plains, 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 flood plain management involves balancing the economic gain from flood plain 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 flood plain management. Under this concept, the area of the 100-year flood plain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent flood plain 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 1.0 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 on the basis of equal-conveyance reduction from each side of the flood plain.

The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway is computed (Table 5).

The floodways for Little San Domingo Wash, Mockingbird Wash, and Powder House Wash are shown coincident with the 100-year flood boundaries because of high, hazardous velocities in their respective flood plains.

As shown on the Flood Boundary and Floodway Map (Exhibit 2), the floodway boundaries were computed at cross sections. Between cross sections, the boundaries were interpolated. In cases where the floodway and 100-year flood plain boundaries are either close together or collinear, only the floodway boundary has been shown.

Due to the lack of a defined channel, no floodway was computed for East Branch Scatter Wash. Also, a floodway was not computed for Cave Creek below Arizona Canal.

A floodway was not computed for Wittmann Drainage due to a split flow below Center Street.

Floodways for Grass Wash below the U.S. Highway 60 bridge and for Aguila Farm Channel were not computed due to excessive overbank losses.

Floodways are not applicable for areas of shallow flooding; therefore, floodways were not computed for any of the canals, railroad embankments, or for Sand Tank and Bender Washes, Rodeo Wash and its tributary, Airport and Scott Avenue Washes, Lower El Mirage Wash Tributary, and Apache Creek.

The area between the floodway and 100-year flood plain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 7.

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
					(FEET NGVD)			
Gila River								
A	69.62	6,627	47,659	4.2	780.2	780.2	781.2	1.0
B	70.45	3,880	47,241	4.2	786.4	786.4	787.1	0.7
C	71.17	2,895	46,076	4.4	795.1	795.1	795.9	0.8
D	71.73	4,828	77,858	2.6	798.3	798.3	799.2	0.9
E	72.25	3,563	57,421	3.5	799.1	799.1	800.0	0.9
F	72.61	3,956	49,730	4.0	800.1	800.1	801.0	0.9
G	72.86	4,769	62,383	3.2	804.0	804.0	804.6	0.6
H	73.28	5,917	85,825	2.3	806.0	806.0	806.6	0.6
I	73.76	6,112	99,836	2.0	807.2	807.2	807.8	0.6
J	74.09	5,702	80,755	2.5	807.9	807.9	808.5	0.6
K	74.62	5,141	76,972	2.6	809.6	809.6	810.3	0.7
L	75.06	4,396	63,953	3.2	810.8	810.8	811.5	0.7
M	75.32	4,162	53,752	3.8	811.8	811.8	812.5	0.7
N	75.65	5,205	65,294	3.1	813.7	813.7	814.3	0.6
O	76.14	5,723	65,013	3.1	814.8	814.8	815.5	0.7
P	76.38	5,294	60,580	3.3	815.5	815.5	816.2	0.7
Q	77.25	5,274	60,079	3.4	818.5	818.5	819.4	0.9
R	77.98	6,418	77,314	2.6	820.4	820.4	821.3	0.9
S	78.35	6,533	69,814	2.9	821.7	821.7	822.5	0.8
T	79.01	6,366	57,194	3.5	826.7	826.7	826.8	0.1
U	79.29	6,269	46,812	4.3	827.7	827.7	828.1	0.4
V	79.57	6,570	72,449	2.8	829.3	829.3	829.9	0.6
W	79.88	6,467	61,820	3.3	830.5	830.5	831.2	0.7
X	80.48	5,474	52,810	3.9	833.5	833.5	834.3	0.8
Y	80.77	5,358	52,050	3.9	836.3	836.3	837.0	0.7
Z	80.93	5,330	56,570	3.6	838.2	838.2	838.8	0.6

[1]Miles Decreasing Downstream From 115th Avenue (Mile 100)

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GILA RIVER

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
					(FEET NGVD)			
Gila River (Cont'd)								
AA	81.15	5,070	55,822	3.7	840.1	840.1	840.6	0.5
AB	81.78	7,180	62,492	3.3	844.9	844.9	845.4	0.5
AC	82.38	7,449	62,973	3.2	848.4	848.4	849.2	0.8
AD	83.27	6,867	62,956	3.2	855.0	855.0	855.8	0.8
AE	83.86	7,494	70,738	2.9	856.8	856.8	857.7	0.9
AF	84.62	6,798	58,057	3.5	858.4	858.4	859.1	0.7
AG	85.44	5,993	49,526	4.1	861.8	861.8	862.2	0.4
AH	86.02	5,348	62,402	3.3	866.5	866.5	867.5	1.0
AI	86.58	4,570	54,953	3.7	869.0	869.0	870.0	1.0
AJ	86.91	4,330	42,780	4.8	870.2	870.2	871.0	0.8
AK	87.44	3,812	34,557	6.0	874.1	874.1	874.5	0.4
AL	87.83	4,669	46,294	4.4	876.3	876.3	877.0	0.7
AM	88.22	4,930	68,314	3.0	878.0	878.0	878.7	0.7
AN	88.82	4,984	50,702	4.1	878.9	878.9	879.7	0.8
AO	89.76	3,790	40,048	5.2	884.0	884.0	885.0	1.0
AP	90.45	4,660	40,776	5.1	887.6	887.6	888.2	0.6
AQ	91.04	5,217	42,769	4.8	891.1	891.1	892.0	0.9
AR	91.91	5,080	43,487	4.8	894.5	894.5	895.4	0.9
AS	92.88	3,548	35,335	5.9	900.9	900.9	901.9	1.0
AT	93.13	3,570	36,118	5.8	902.7	902.7	903.7	1.0
AU	93.90	3,359	39,452	5.3	908.6	908.6	909.1	0.5
AV	94.39	3,787	37,576	5.5	910.7	910.7	911.3	0.6
AW	95.34	3,498	30,941	6.7	917.1	917.1	918.1	1.0
AX	95.50	3,597	32,034	6.5	918.5	918.5	919.4	0.9
AY	95.64	3,700	36,434	5.7	919.8	919.8	920.6	0.8
AZ	95.93	3,510	36,887	5.6	922.8	922.8	923.8	1.0

[1]Miles Decreasing Downstream From 115th Avenue (Mile 100)

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GILA RIVER

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
					(FEET NGVD)			
Gila River (Cont'd)								
BA	96.19	3,802	47,214	4.4	924.2	924.2	925.2	1.0
BB	97.09	5,800	54,919	3.8	926.8	926.8	927.6	0.8
BC	97.91	6,279	52,302	4.0	931.1	931.1	931.8	0.7
BD	98.82	7,019	52,603	4.0	937.7	937.7	938.6	0.9
BE	98.89	7,355	50,837	4.1	939.0	939.0	940.0	1.0
BF	99.01	7,475	53,260	3.9	939.1	939.1	940.1	1.0
BG	99.27	8,749	74,819	2.8	940.9	940.9	941.8	0.9
BH	100.00	7,207	49,060	4.3	946.9	946.9	947.3	0.4

[1]Miles Decreasing Downstream From 115th Avenue (Mile 100)

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GILA RIVER

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
					(FEET NGVD)			
Agua Fria River								
A	0.00	3,950[2]	12,445	4.5	924.3	915.6[3]	915.6[3]	0.0
B	0.80	3,730	13,025	4.3	924.3	923.6[3]	924.4[3]	0.8
C	1.32	3,100	14,360	3.9	932.1	932.1	932.9	0.8
D	1.52	2,800	11,665	4.8	934.0	934.0	934.6	0.6
E	1.99	2,750	8,115	6.9	938.0	938.0	938.9	0.9
F	2.63	2,050	10,180	5.5	944.8	944.8	945.8	1.0
G	3.12	2,300	11,200	5.0	950.5	950.5	951.4	0.9
H	3.46	2,500	14,000	4.0	954.2	954.2	955.1	0.9
I	3.65	2,500	9,335	6.0	956.9	956.9	957.4	0.5
J	3.84	2,650	13,335	4.2	959.4	959.4	960.4	1.0
K	3.97	1,350	6,915	8.1	963.1	963.1	963.6	0.5
L	4.03	1,350	7,885	7.1	963.8	963.8	964.1	0.3
M	4.31	3,340	18,065	3.1	966.2	966.2	967.2	1.0
N	4.74	3,050	16,000	3.5	970.1	970.1	971.1	1.0
O	5.21	3,500	12,725	4.4	975.9	975.9	976.5	0.6
P	5.45	3,800	22,400	2.5	977.6	977.6	978.5	0.9
Q	6.33	3,200	17,500	3.2	985.0	985.0	986.0	1.0
R	6.96	2,890	12,725	4.4	991.2	991.2	992.0	0.8
S	7.65	2,750	13,660	4.1	999.2	999.2	1,000.1	0.9
T	8.18	4,600	12,445	4.5	1,006.3	1,006.3	1,006.9	0.6
U	8.21	4,600	22,400	2.5	1,006.8	1,006.8	1,007.5	0.7
V	8.60	1,600	11,430	4.9	1,009.9	1,009.9	1,010.5	0.6
W	8.64	1,600	--[4]	8.5	1,010.2	1,010.2	1,010.5	0.3
X	9.50	4,200	--[4]	3.3	1,022.0	1,022.0	1,022.9	0.9
Y	10.10	5,600	--[4]	3.6	1,029.8	1,029.8	1,030.8	1.0
Z	11.10	3,950	--[4]	3.5	1,038.5	1,038.5	1,039.3	0.8

[1]Miles Above Confluence With Gila River [2]Width Does Not Include Gila River Floodway [3]Elevation Computed Without Consideration of Backwater Effects from Gila River [4]Not Computed

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

AGUA FRIA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Agua Fria River (Cont'd)								
AA	11.75	2,160		1.9	1,047.3	1,047.3	1,047.3	0.0
AB	11.98	1,110		7.9	1,048.6	1,048.6	1,048.6	0.0
AC	12.06	1,400		2.9	1,051.7	1,051.7	1,051.7	0.0
AD	12.38	3,100		2.4	1,055.9	1,055.9	1,056.7	0.8
AE	12.70	3,400		4.6	1,062.9	1,062.9	1,063.9	1.0
AF	13.04	3,050		3.1	1,067.5	1,067.5	1,068.0	0.5
AG	13.40	2,390		4.9	1,073.6	1,073.6	1,074.2	0.6
AH	14.04	1,650		6.3	1,081.6	1,081.6	1,082.6	1.0
AI	14.50	2,700		3.5	1,086.4	1,086.4	1,087.4	1.0
AJ	15.00	2,400		4.1	1,093.8	1,093.8	1,094.7	0.9
AK	15.44	1,850		4.9	1,101.2	1,101.2	1,101.7	0.5
AL	16.10	2,220		4.7	1,110.6	1,110.6	1,111.0	0.4
AM	17.15	1,620		3.7	1,128.8	1,128.8	1,128.8	0.0
AN	17.40	2,800		3.7	1,129.3	1,129.3	1,130.3	1.0
AO	17.90	1,265		3.4	1,133.4	1,133.4	1,133.5	0.1
AP	18.61	2,230		6.7	1,142.5	1,142.5	1,142.8	0.3
AQ	19.00	2,400		5.1	1,151.7	1,151.7	1,152.3	0.6
AR	19.48	2,590		4.2	1,157.8	1,157.8	1,158.5	0.7
AS	19.70	1,500		3.2	1,163.4	1,163.4	1,164.1	0.7
AT	20.08	2,080		5.5	1,165.1	1,165.1	1,165.9	0.8
AU	20.48	1,700		4.1	1,172.7	1,172.7	1,173.5	0.8
AV	20.86	2,190		1.8	1,180.1	1,180.1	1,180.9	0.8
AW	21.26	2,600		4.0	1,187.8	1,187.8	1,188.5	0.7
AX	21.87	2,000		4.9	1,194.3	1,194.3	1,194.5	0.2
AY	22.72	2,550		3.9	1,205.9	1,205.9	1,206.7	0.8
AZ	22.97	2,500		3.5	1,210.3	1,210.3	1,210.8	0.5

[1]Miles Above Confluence With Gila River [2]Not Computed

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

AGUA FRIA RIVER

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
					(FEET NGVD)			
Agua Fria River (Cont'd)								
BA	23.33	2,500		3.2	1,214.7	1,214.7	1,215.4	0.7
BB	24.04	1,800		4.3	1,224.5	1,224.5	1,225.5	1.0
BC	24.32	1,900		2.1	1,230.3	1,230.3	1,230.8	0.5

[1]Miles Above Confluence With Gila River [2]Not Computed

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

AGUA FRIA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA[2] (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River								
A	0.95	2,250		3.2	1,041.6	1,041.6	1,042.0	0.4
B	1.52	1,840		4.9	1,049.0	1,049.0	1,049.8	0.8
C	2.00	850		4.2	1,055.0	1,055.0	1,055.2	0.2
D	2.56	1,810		9.8	1,068.0	1,068.0	1,068.0	0.0
E	2.95	1,430		9.7	1,074.1	1,074.1	1,074.5	0.4
F	3.73	390		12.7	1,084.6	1,084.6	1,084.8	0.2
G	4.29	860		7.2	1,092.4	1,092.4	1,092.6	0.2
H	4.80	410		14.4	1,100.6	1,100.6	1,100.6	0.0
I	6.28	1,020		9.1	1,124.3	1,124.3	1,124.4	0.1
J	6.91	1,584		4.1	1,141.8	1,141.8	1,141.9	0.1
K	7.28	1,691		4.9	1,147.6	1,147.6	1,148.6	1.0
L	7.65	1,800		5.7	1,152.7	1,152.7	1,153.4	0.7
M	7.91	1,825		2.8	1,159.2	1,159.2	1,159.2	0.0
N	8.58	3,460		4.3	1,168.4	1,168.4	1,169.2	0.8
O	9.71	5,530		4.2	1,196.1	1,196.1	1,196.7	0.6
P	9.98	5,600		3.9	1,204.3	1,204.3	1,204.5	0.2
Q	10.51	4,280		3.3	1,216.0	1,216.0	1,216.7	0.7
R	11.66	4,000		2.7	1,245.2	1,245.2	1,245.2	0.0
S	12.39	4,350		5.5	1,262.8	1,262.8	1,262.8	0.0
T	12.97	5,280		4.2	1,276.6	1,276.6	1,276.8	0.2
U	13.24	5,660		5.3	1,282.1	1,282.1	1,283.0	0.9
V	13.50	4,200		4.7	1,289.1	1,289.1	1,289.3	0.2
W	13.70	2,950		2.4	1,295.5	1,295.5	1,295.5	0.0
X	13.95	2,900		5.8	1,301.5	1,301.5	1,302.5	1.0
Y	14.27	2,870		6.3	1,310.9	1,310.9	1,311.6	0.7
Z	14.48	3,040		5.2	1,316.5	1,316.5	1,317.3	0.8

[1]Miles Above Confluence With Agua Fria River [2]Not Computed

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

NEW RIVER

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 NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE
Skunk Creek								
A	0.50	--[3]		2.7	1,176.9	1,176.9	1,177.3	0.4
B	1.00	--[3]		2.7	1,187.3	1,187.3	1,187.6	0.3
C	1.50	1,980		3.5	1,197.6	1,197.6	1,198.3	0.7
D	1.90	1,490		5.6	1,206.5	1,206.5	1,207.4	0.9
E	2.50	1,405		3.6	1,221.3	1,221.3	1,221.6	0.3
F	3.00	840		5.5	1,231.8	1,231.8	1,232.2	0.4
G	3.50	950		4.9	1,242.1	1,242.1	1,242.9	0.8
H	4.40	1,470		4.4	1,265.3	1,265.3	1,266.1	0.8
I	4.50	2,000		2.5	1,270.9	1,270.9	1,271.9	1.0
J	5.00	1,520		4.5	1,280.2	1,280.2	1,281.2	1.0
K	5.50	1,125		5.5	1,294.1	1,294.1	1,294.8	0.7
L	5.90	1,110		5.0	1,305.4	1,305.4	1,305.9	0.5
M	6.50	1,755		5.1	1,319.5	1,319.5	1,319.8	0.3
N	6.84	1,010		4.8	1,328.9	1,328.9	1,329.6	0.7
O	7.00	790		7.8	1,335.2	1,335.2	1,336.0	0.8
P	7.50	920		5.3	1,347.6	1,347.6	1,348.4	0.8
Q	8.00	870		6.0	1,359.9	1,359.9	1,360.8	0.9
R	8.80	1,220		5.3	1,383.5	1,383.5	1,384.1	0.6
S	9.10	1,550		4.5	1,393.5	1,393.5	1,394.5	1.0
T	9.50	1,900		4.2	1,403.8	1,403.8	1,404.6	0.8
U	10.00	865		2.8	1,419.6	1,419.6	1,420.5	0.9
V	10.50	620		5.4	1,437.1	1,437.1	1,437.9	0.8
W	11.00	1,990		4.2	1,453.1	1,453.1	1,453.3	0.2
X	11.45	630		6.8	1,468.5	1,468.5	1,468.7	0.2
Y	11.70	1,025		6.4	1,477.8	1,477.8	1,477.8	0.0
Z	12.00	1,030		13.1	1,488.0	1,488.0	1,488.0	0.0

[1]Miles Above Confluence With New River [2]Not Computed [3]Combined Floodway for New River and Skunk Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SKUNK CREEK

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
					(FEET NGVD)			
Skunk Creek (Cont'd)								
AA	12.50	1,160	--[2]	4.9	1,505.1	1,505.1	1,505.2	0.1
AB	13.00	1,420	--[2]	6.9	1,522.9	1,522.9	1,523.6	0.7
AC	13.50	940	--[2]	7.0	1,544.7	1,544.7	1,545.6	0.9
AD	14.00	1,280	--[2]	6.9	1,565.7	1,565.7	1,566.7	1.0
AE	14.40	840	--[2]	10.7	1,581.1	1,581.1	1,581.8	0.7
AF	15.00	993	--[2]	9.3	1,606.2	1,606.2	1,606.3	0.1
AG	15.50	870	--[2]	6.5	1,627.3	1,627.3	1,627.3	0.0
AH	16.00	779	--[2]	9.2	1,649.8	1,649.8	1,649.8	0.0
AI	16.50	710	--[2]	9.5	1,670.7	1,670.7	1,670.7	0.0
AJ	16.70	688	--[2]	11.3	1,678.0	1,678.0	1,678.0	0.0
AK	16.87	900	3,169	9.9	1,690.1	1,690.1	1,690.7	0.6
AL	17.10	949	3,958	7.9	1,701.7	1,701.7	1,702.7	1.0
AM	17.30	870	3,224	9.7	1,711.8	1,711.8	1,712.4	0.6
AN	17.56	950	4,982	6.3	1,721.8	1,721.8	1,722.5	0.7
AO	17.78	809	3,083	10.2	1,731.0	1,731.0	1,731.0	0.0
AP	18.06	610	4,109	7.6	1,743.5	1,743.5	1,744.0	0.5
AQ	18.34	910	3,801	8.2	1,754.2	1,754.2	1,754.2	0.0
AR	18.72	770	4,037	7.0	1,769.5	1,769.5	1,769.9	0.4
AS	18.95	790	2,867	9.8	1,780.6	1,780.6	1,780.7	0.1
AT	19.16	680	4,109	6.8	1,790.4	1,790.4	1,790.6	0.2
AU	19.38	700	2,535	11.1	1,800.0	1,800.0	1,800.0	0.0
AV	19.58	730	3,384	8.3	1,812.9	1,812.9	1,812.9	0.0
AW	19.92	1,170	4,200	6.7	1,826.1	1,826.1	1,826.3	0.2
AX	20.23	800	2,870	7.8	1,841.3	1,841.3	1,841.8	0.5
AY	20.39	850	3,761	7.5	1,849.8	1,849.8	1,850.6	0.8
AZ	20.73	780	3,075	9.1	1,865.2	1,865.2	1,865.5	0.3

[1] Miles Above Confluence With New River [2] Not Computed

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SKUNK CREEK

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
					(FEET NGVD)			
Skunk Creek (Cont'd)								
BA	21.00	700	3,242	8.7	1,878.7	1,878.7	1,879.3	0.6
BB	21.24	660	3,456	8.1	1,889.1	1,889.1	1,889.5	0.4
BC	21.59	1,410	4,125	6.8	1,907.4	1,907.4	1,907.4	0.0
BD	21.85	1,330	4,214	6.7	1,921.7	1,921.7	1,922.1	0.4
BE	22.06	1,097	3,871	7.3	1,932.0	1,932.0	1,932.1	0.1
BF	22.25	1,230	3,535	7.9	1,940.4	1,940.4	1,940.8	0.4
BG	22.62	730	2,606	9.1	1,963.2	1,963.2	1,963.2	0.0
BH	22.81	600	3,137	7.6	1,972.8	1,972.8	1,973.4	0.6
BI	23.09	630	2,958	8.0	1,984.2	1,984.2	1,984.5	0.3
BJ	23.42	420	2,205	10.8	2,002.0	2,002.0	2,002.6	0.6
BK	23.72	460	2,228	5.7	2,017.0	2,017.0	2,017.3	0.3
BL	23.98	210	1,086	11.6	2,026.7	2,026.7	2,026.7	0.0
BM	24.31	450	1,989	6.3	2,043.9	2,043.9	2,044.4	0.5
BN	24.55	340	1,356	9.3	2,054.8	2,054.8	2,055.2	0.4
BO	24.78	280	1,413	6.6	2,065.2	2,065.2	2,066.1	0.9
BP	24.99	300	1,030	9.1	2,076.7	2,076.7	2,076.7	0.0
BQ	25.27	710	1,916	4.9	2,088.9	2,088.9	2,089.8	0.9
BR	25.48	750	1,620	5.8	2,098.0	2,098.0	2,098.9	0.9
BS	25.77	650	1,045	6.9	2,120.1	2,120.1	2,121.1	1.0
BT	25.92	685	1,362	5.3	2,131.5	2,131.5	2,131.6	0.1
BU	26.14	418	1,252	5.7	2,143.7	2,143.7	2,143.7	0.0
BV	26.30	383	1,047	6.9	2,153.6	2,153.6	2,153.6	0.0
BW	26.48	487	1,039	6.9	2,164.4	2,164.4	2,164.4	0.0
BX	26.72	273	856	8.4	2,179.1	2,179.1	2,179.1	0.0
BY	26.89	449	1,067	6.7	2,190.4	2,190.4	2,190.4	0.0
BZ	27.00	249	873	8.2	2,196.4	2,196.4	2,196.4	0.0

[1] Miles Above Confluence With New River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SKUNK CREEK

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
					(FEET NGVD)			
Skunk Creek (Cont'd)								
CA	27.32	193	461	7.9	2,220.3	2,220.3	2,220.3	0.0
CB	27.51	288	608	6.0	2,235.7	2,235.7	2,235.7	0.0
CC	27.64	137	375	9.7	2,245.5	2,245.5	2,245.5	0.0
CD	27.76	80	320	11.4	2,254.7	2,254.7	2,254.7	0.0

[1]Miles Above Confluence With New River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SKUNK CREEK

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
					(FEET NGVD)			
Scatter Wash								
A	0.40	620		4.6	1,333.2	1,333.2	1,334.0	0.8
B	0.80	560		4.5	1,343.7	1,343.7	1,344.4	0.7
C	1.30	470		5.4	1,357.7	1,357.7	1,358.5	0.8
D	1.80	270		2.6	1,366.8	1,366.8	1,367.5	0.7
E	2.30	120		4.5	1,380.9	1,380.9	1,381.0	0.1
F	2.80	200		4.5	1,396.2	1,396.2	1,397.0	0.8
G	3.00	185		2.8	1,402.5	1,402.5	1,402.8	0.3
H	3.38	520		--[2]	1,416.0	1,416.0	1,416.0	0.0
I	3.55	320		--[2]	1,417.0	1,417.0	1,417.0	0.0
J	3.92	980		--[2]	1,430.5	1,430.5	1,430.5	0.0
K	4.40	1,800		--[2]	1,445.0	1,445.0	1,445.1	0.1
L	4.67	770		--[2]	1,455.7	1,455.7	1,455.7	0.0
M	5.04	780		--[2]	1,471.4	1,471.4	1,471.5	0.1

[1]Miles Above Mouth [2]Not Available

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SCATTER WASH

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
					(FEET NGVD)			
Salt River								
A	0.15	7,300	54,570	3.8	948.4	948.4	948.9	0.5
B	0.72	6,732/[2] 3,200	61,577	3.4	950.4	950.4	951.2	0.8
C	1.10	6,254/[2] 1,200	53,235	3.9	951.6	951.6	952.3	0.7
D	1.90	3,012/[2] 1,500	16,298	9.0	955.3	955.3	956.2	0.9
E	2.03	2,978/[2] 1,600	24,259	6.1	958.4	958.4	959.2	0.8
F	2.90	3,302/[2] 1,800	26,536	5.6	965.5	965.5	966.4	0.9
G	3.11	3,489/[2] 1,500	27,041	5.6	966.6	966.6	967.4	0.8
H	3.30	3,198/[2] 1,300	26,825	5.6	968.1	968.1	968.7	0.6
I	3.56	2,911/[2] 950	23,942	6.3	970.1	970.1	970.5	0.4
J	3.76	2,856/[2] 1,350	27,004	5.6	971.9	971.9	972.6	0.7
K	4.08	2,320/[2] 1,250	20,303	7.5	974.6	974.6	975.4	0.8
L	4.50	2,910/[2] 1,940	24,355	6.3	978.0	978.0	978.9	0.9
M	4.82	3,514	23,135	6.6	980.7	980.7	981.2	0.5
N	5.40	2,721	19,406	8.0	988.2	988.2	988.2	0.0
O	5.58	2,424	23,192	6.7	989.2	989.2	990.0	0.8

[1]Miles Above Mouth [2]Width/Width Within County

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SALT RIVER

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
					(FEET NGVD)			
Salt River (Cont'd)								
P	6.62	2,824	26,305	6.0	998.2	998.2	998.7	0.5
Q	7.00	3,250	21,697	7.3	1,000.2	1,000.2	1,000.9	0.7
R	7.48	3,860	22,359	7.1	1,004.8	1,004.8	1,005.5	0.7
S	7.88	3,880	33,923	4.7	1,007.4	1,007.4	1,008.1	0.7
T	8.12	3,393	25,085	6.4	1,008.1	1,008.1	1,008.8	0.7
U	8.80	3,121	20,499	7.9	1,015.7	1,015.7	1,016.2	0.5
V	9.00	3,875	21,832	7.5	1,016.7	1,016.7	1,017.3	0.6
W	9.20	3,917	24,665	6.6	1,019.8	1,019.8	1,020.1	0.3
X	9.60	3,780	29,325	5.6	1,023.1	1,023.1	1,023.6	0.5
Y	10.18	3,260	19,409	8.5	1,027.9	1,027.9	1,028.1	0.2
Z	10.57	2,660	23,445	7.0	1,032.3	1,032.3	1,032.7	0.4
AA	10.96	3,150	19,878	8.3	1,035.3	1,035.3	1,035.8	0.5
AB	11.22	2,700	18,912	8.8	1,036.4	1,036.4	1,037.4	1.0
AC	11.39	2,725	21,649	7.7	1,039.8	1,039.8	1,040.2	0.4
AD	11.58	2,660	38,378	4.4	1,041.2	1,041.2	1,041.7	0.5
AE	11.98	2,830	23,367	7.1	1,041.9	1,041.9	1,042.4	0.5
AF	12.20	2,750	17,390	9.7	1,044.0	1,044.0	1,044.4	0.4
AG	12.40	2,625	21,596	7.8	1,047.3	1,047.3	1,047.3	0.0
AH	12.85	2,091	16,694	10.1	1,049.9	1,049.9	1,049.9	0.0
AI	13.06	2,072	10,865	15.6	1,052.9	1,052.9	1,052.9	0.0
AJ	13.20	1,830	26,980	6.3	1,056.9	1,056.9	1,057.4	0.5
AK	13.93	1,830	21,919	7.7	1,058.7	1,058.7	1,059.4	0.7
AL	14.51	1,483	28,480	6.0	1,064.3	1,064.3	1,064.6	0.3
AM	14.95	968	19,473	8.8	1,065.1	1,065.1	1,065.4	0.3
AN	15.22	930	10,094	17.0	1,068.4	1,068.4	1,069.3	0.9
AO	15.50	1,302	21,802	7.9	1,081.7	1,081.7	1,081.8	0.1

[1]Miles Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SALT RIVER

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
					(FEET NGVD)			
Salt River (Cont'd)								
AP	15.85	1,795	37,449	4.6	1,083.0	1,083.0	1,083.1	0.1
AQ	16.37	1,700	14,433	12.0	1,084.5	1,084.5	1,084.7	0.2
AR	16.65	2,047	23,140	7.5	1,091.2	1,091.2	1,091.6	0.4
AS	16.77	2,051	19,930	8.7	1,091.8	1,091.8	1,092.2	0.4
AT	17.26	2,879	23,749	7.3	1,096.4	1,096.4	1,097.1	0.7
AU	17.74	3,394	26,168	6.6	1,103.6	1,103.6	1,104.1	0.5
AV	18.14	2,742	25,852	6.8	1,108.4	1,108.4	1,108.5	0.1
AW	18.44	2,993	23,492	7.4	1,111.2	1,111.2	1,111.2	0.0
AX	19.07	3,050	24,032	7.3	1,113.8	1,113.8	1,113.8	0.0
AY	19.68	4,268	28,580	6.2	1,121.2	1,121.2	1,121.2	0.0
AZ	19.96	4,320	18,301	9.6	1,123.0	1,123.0	1,123.0	0.0
BA	20.25	4,400	29,117	6.1	1,127.0	1,127.0	1,127.6	0.6
BB	20.50	4,750	25,228	7.0	1,128.5	1,128.5	1,129.3	0.8
BC	21.05	3,755	22,554	7.9	1,134.6	1,134.6	1,135.5	0.9
BD	21.16	3,300	23,337	7.6	1,136.5	1,136.5	1,137.4	0.9
BE	21.35	2,888	20,933	8.5	1,138.5	1,138.5	1,139.5	1.0
BF	21.72	3,470	26,746	6.7	1,142.5	1,142.5	1,143.5	1.0
BG	22.16	3,000	30,426	5.9	1,146.0	1,146.0	1,146.8	0.8
BH	22.58	1,689	17,084	10.6	1,149.1	1,149.1	1,149.5	0.4
BI	23.18	1,580	25,110	7.3	1,153.4	1,153.4	1,153.9	0.5
BJ	23.53	1,460	19,579	9.3	1,156.4	1,156.4	1,156.7	0.3
BK	23.90	1,670	24,565	7.4	1,159.5	1,159.5	1,159.7	0.2
BL	24.04	1,486	15,763	11.7	1,159.6	1,159.6	1,159.9	0.3
BM	24.36	1,860	20,334	9.1	1,164.2	1,164.2	1,164.4	0.2
BN	24.96	2,190	23,685	7.8	1,170.5	1,170.5	1,171.0	0.5
BO	25.51	2,027	21,262	8.8	1,174.6	1,174.6	1,175.3	0.7

[1] Miles Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SALT RIVER

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
					(FEET NGVD)			
Salt River (Cont'd)								
BP	25.92	1,813	29,229	6.4	1,180.5	1,180.5	1,181.2	0.7
BQ	26.35	2,091	33,056	5.8	1,182.1	1,182.1	1,182.8	0.7
BR	27.48	4,024/ 3,400[2]	21,976	8.8	1,194.2	1,194.2	1,194.5	0.3
BS	27.86	3,676/ 2,440[2]	28,984	6.7	1,198.2	1,198.2	1,198.8	0.6
BT	28.05	3,236/ 1,700[2]	22,908	8.5	1,199.5	1,199.5	1,200.0	0.5
BU	28.55	3,335/ 1,710[2]	24,649	7.9	1,205.3	1,205.3	1,205.7	0.4
BV	28.83	3,370/ 1,800[2]	33,109	5.9	1,208.8	1,208.8	1,209.0	0.2
BW	29.09	2,678/ 1,200[2]	16,441	11.8	1,209.3	1,209.3	1,209.3	0.0
BX	29.93	4,176/ 2,970[2]	30,649	6.3	1,219.1	1,219.1	1,219.4	0.3
BY	30.65	5,175/ 2,320[2]	62,626	3.1	1,227.1	1,227.1	1,228.1	1.0

[1]Miles Above Mouth [2]Width/Width Within County

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SALT RIVER

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
					(FEET NGVD)			
Cave Creek								
A	15.28	974	2,201	5.5	1,237.2	1,237.2	1,238.2	1.0
B	15.53	723	2,346	5.1	1,241.4	1,241.4	1,242.3	0.9
C	15.64	672	2,474	4.9	1,243.0	1,243.0	1,243.8	0.8
D	15.85	348	1,516	7.9	1,248.2	1,248.2	1,249.0	0.8
E	15.94	300	2,070	5.8	1,252.3	1,252.3	1,252.9	0.6
F	16.00	202	1,412	8.5	1,253.1	1,253.1	1,253.3	0.2
G	16.12	267	1,664	7.2	1,254.5	1,254.5	1,255.1	0.6
H	16.23	229	1,114	10.8	1,256.6	1,256.6	1,256.6	0.0
I	16.35	254	1,318	9.1	1,259.7	1,259.7	1,260.3	0.6
J	16.46	160	1,365	8.8	1,261.8	1,261.8	1,262.6	0.8
K	16.58	205	1,534	7.8	1,264.2	1,264.2	1,264.5	0.3
L	16.70	324	1,669	7.2	1,266.0	1,266.0	1,266.1	0.1
M	16.83	167	943	12.7	1,268.2	1,268.2	1,268.2	0.0
N	16.92	172	1,306	10.0	1,271.7	1,271.7	1,272.1	0.4
O	17.00	124	866	15.0	1,273.3	1,273.3	1,273.6	0.3
P	17.06	290	2,620	5.0	1,277.8	1,277.8	1,278.3	0.5
Q	17.26	196	1,307	9.9	1,278.0	1,278.0	1,278.8	0.8
R	17.37	225	2,062	6.3	1,280.2	1,280.2	1,281.0	0.8
S	17.49	210	1,090	11.9	1,281.1	1,281.1	1,281.6	0.5
T	17.57	357	2,067	5.8	1,284.4	1,284.4	1,284.9	0.5
U	17.67	280	2,243	5.4	1,285.0	1,285.0	1,285.8	0.8
V	17.77	195	946	12.7	1,286.2	1,286.2	1,286.5	0.3
W	17.93	200	1,316	9.1	1,293.9	1,293.9	1,294.3	0.4
X	18.05	86	1,201	10.0	1,297.6	1,297.6	1,298.3	0.7
Y	18.39	--[2]	1,510	7.3	1,299.7	1,299.7	1,300.1	0.4
Z	18.53	--[2]	1,205	9.1	1,301.0	1,301.0	1,301.2	0.2

[1]Miles Above Confluence With Salt River [2]Floodway Contained in Channel

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

CAVE CREEK

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
					(FEET NGVD)			
Cave Creek (Cont'd)								
AA	18.68	--[2]	843	13.1	1,303.4	1,303.4	1,303.4	0.0
AB	18.75	--[2]	1,203	9.1	1,306.2	1,306.2	1,306.2	0.0
AC	18.89	--[2]	1,097	10.0	1,308.0	1,308.0	1,308.0	0.0
AD	18.96	--[2]	1,461	7.5	1,309.6	1,309.6	1,309.6	0.0
AE	19.05	--[2]	818	13.4	1,309.8	1,309.8	1,309.8	0.0
AF	19.16	--[2]	1,058	10.4	1,315.3	1,315.3	1,315.3	0.0
AG	19.24	--[2]	1,089	10.1	1,316.6	1,316.6	1,316.6	0.0
AH	19.28	--[2]	959	11.5	1,317.1	1,317.1	1,317.1	0.0
AI	19.30	--[2]	740	14.9	1,319.9	1,319.9	1,319.9	0.0
AJ	19.33	--[2]	1,432	7.7	1,324.0	1,324.0	1,324.0	0.0
AK	19.42	--[2]	1,180	9.3	1,324.6	1,324.6	1,324.6	0.0
AL	19.56	115	827	14.5	1,326.4	1,326.4	1,326.7	0.3
AM	19.65	327[3]	1,336	4.3	1,331.7	1,331.7	1,332.2	0.5
AN	19.73	103	787	7.4	1,332.0	1,332.0	1,332.6	0.6
AO	19.83	87	676	8.6	1,332.8	1,332.8	1,333.7	0.9
AP	19.98	--[2]	440	9.5	1,336.0	1,336.0	1,336.0	0.0
AQ	20.04	158	400	10.5	1,338.8	1,338.8	1,338.8	0.0
AR	20.18	--[2]	687	6.1	1,342.0	1,342.0	1,342.0	0.0
AS	20.26	--[2]	1,216	3.5	1,347.7	1,347.7	1,347.7	0.0
AT	20.29	149	403	10.4	1,347.7	1,347.7	1,347.7	0.0
AU	20.32	--[2]	999	4.2	1,349.4	1,349.4	1,349.4	0.0
AV	20.44	--[2]	463	9.1	1,352.2	1,352.2	1,352.2	0.0
AW	20.54	149	576	7.3	1,357.4	1,357.4	1,357.4	0.0
AX	20.76	189	1,008	4.2	1,364.0	1,364.0	1,364.0	0.0
AY	20.78	--[2]	498	8.4	1,364.0	1,364.0	1,364.0	0.0
AZ	20.80	--[2]	431	9.7	1,364.1	1,364.1	1,364.1	0.0

[1]Miles Above Confluence With Salt River [2]Floodway Contained in Channel [3]Combined Floodway for Cave Creek and East Fork Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

CAVE CREEK

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
					(FEET NGVD)			
Cave Creek (Cont'd)								
BA	20.81	141	810	5.2	1,365.5	1,365.5	1,365.5	0.0
BB	20.88	--[2]	763	5.5	1,366.4	1,366.4	1,366.4	0.0
BC	20.95	--[2]	438	9.6	1,368.4	1,368.4	1,368.4	0.0
BD	21.01	163	427	9.8	1,372.8	1,372.8	1,372.8	0.0
BE	21.09	65	441	9.5	1,374.9	1,374.9	1,375.1	0.2
BF	21.15	--[2]	546	7.7	1,376.3	1,376.3	1,376.8	0.5
BG	21.28	--[2]	504	8.3	1,380.8	1,380.8	1,380.8	0.0
BH	21.35	123	668	6.3	1,382.4	1,382.4	1,382.5	0.1
BI	21.37	151	555	7.6	1,382.7	1,382.7	1,382.7	0.0
BJ	21.46	357	753	5.6	1,385.4	1,385.4	1,385.5	0.1
BK	21.55	110	482	8.7	1,387.9	1,387.9	1,387.9	0.0
BL	21.63	205	490	8.6	1,391.9	1,391.9	1,391.9	0.0
BM	21.70	83	432	9.7	1,393.6	1,393.6	1,394.0	0.4
BN	21.81	121	589	7.1	1,397.0	1,397.0	1,397.4	0.4
BO	21.88	371	681	6.2	1,398.8	1,398.8	1,399.3	0.5
BP	21.92	361	1,644	2.6	1,399.7	1,399.7	1,400.5	0.8
BQ	22.05	263	956	4.4	1,402.8	1,402.8	1,403.6	0.8
BR	22.25	299	906	4.6	1,408.2	1,408.2	1,409.1	0.9
BS	22.37	139	484	8.7	1,412.3	1,412.3	1,412.6	0.3
BT	22.44	307	1,580	2.7	1,414.7	1,414.7	1,415.5	0.8
BU	22.53	180	1,522	2.8	1,414.9	1,414.9	1,415.6	0.7
BV	23.18	--[2]	581	6.5	1,434.1	1,434.1	1,434.1	0.0
BW	23.36	212	799	4.8	1,443.5	1,443.5	1,444.2	0.7
BX	23.46	--[2]	297	12.1	1,449.3	1,449.3	1,449.3	0.0
BY	23.61	--[2]	341	10.6	1,454.6	1,454.6	1,454.6	0.0
BZ	23.64	87	478	7.5	1,456.1	1,456.1	1,456.1	0.0

[1]Miles Above Confluence With Salt River [2]Floodway Contained in Channel

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

CAVE CREEK

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
					(FEET NGVD)			
Cave Creek (Cont'd)								
CA	23.69	--[2]	398	9.0	1,456.5	1,456.5	1,456.5	0.0
CB	23.89	76	466	7.7	1,458.9	1,458.9	1,458.9	0.0
CC	23.99	--[2]	599	9.0	1,459.9	1,459.9	1,459.9	0.0
CD	24.05	--[2]	628	8.6	1,462.5	1,462.5	1,462.5	0.0
CE	24.07	88	1,500	3.6	1,463.5	1,463.5	1,463.5	0.0
CF	24.16	--[2]	2,353	2.3	1,463.8	1,463.8	1,463.9	0.1
CG	24.61	87	405	12.4	1,474.0	1,474.0	1,474.0	0.0
CH	24.71	210	868	5.8	1,480.5	1,480.5	1,480.8	0.3
CI	24.86	280	1,116	4.5	1,483.4	1,483.4	1,484.1	0.7
CJ	25.06	205	541	9.2	1,489.9	1,489.9	1,490.4	0.5
CK	25.12	225	1,077	4.6	1,492.2	1,492.2	1,493.2	1.0
CL	25.22	130	463	10.8	1,495.1	1,495.1	1,496.0	0.9
CM	25.29	185	810	6.2	1,499.7	1,499.7	1,500.7	1.0
CN	25.37	137	672	7.4	1,503.2	1,503.2	1,503.2	0.0
CO	25.42	86	472	10.6	1,504.1	1,504.1	1,504.5	0.4
CP	25.46	75	520	9.6	1,507.1	1,507.1	1,507.1	0.0
CQ	25.50	100	810	6.2	1,515.1	1,515.1	1,515.1	0.0
CR	25.57	150	965	4.1	1,515.4	1,515.4	1,515.8	0.4
CS	25.72	178	553	7.2	1,516.7	1,516.7	1,517.6	0.9
CT	29.000	450	3,088	11.9	1,833.3	1,833.3	1,833.3	0.0
CU	29.193	446	2,892	12.7	1,841.1	1,841.1	1,841.1	0.0
CV	29.386	551	4,316	8.5	1,848.6	1,848.6	1,849.6	1.0
CW	29.574	530	2,974	12.4	1,859.0	1,859.0	1,859.0	0.0
CX	29.703	535	3,064	12.0	1,866.2	1,866.2	1,866.3	0.1
CY	29.795	500	3,355	11.0	1,869.6	1,869.6	1,870.4	0.8
CZ	29.938	791	4,680	7.9	1,875.2	1,875.2	1,875.7	0.5

[1]Miles Above Confluence With Salt River [2]Floodway Contained in Channel

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

CAVE CREEK

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
					(FEET NGVD)			
Cave Creek (Cont'd)								
DA	30.104	730	3,553	10.4	1,880.2	1,880.2	1,880.2	0.0
DB	30.331	579	3,233	11.1	1,891.7	1,891.7	1,891.9	0.2
DC	30.644	327	2,596	13.8	1,909.9	1,909.9	1,909.9	0.0
DD	30.862	691	4,622	7.8	1,918.7	1,918.7	1,919.7	1.0
DE	31.057	783	3,220	11.2	1,928.2	1,928.2	1,928.8	0.6
DF	31.303	555	3,902	9.2	1,941.5	1,941.5	1,942.0	0.5
DG	31.485	551	3,128	11.5	1,949.4	1,949.4	1,949.9	0.5
DH	31.646	501	3,389	10.6	1,957.5	1,957.5	1,958.0	0.5
DI	31.820	301	2,573	14.0	1,965.0	1,965.0	1,965.5	0.5
DJ	32.032	435	4,406	8.1	1,973.4	1,973.4	1,974.2	0.8
DK	32.237	367	2,541	14.1	1,979.3	1,979.3	1,979.7	0.4
DL	32.466	502	3,929	9.1	1,991.6	1,991.6	1,992.3	0.7
DM	32.655	370	2,594	13.5	2,001.0	2,001.0	2,001.0	0.0
DN	32.911	461	3,848	10.0	2,013.1	2,013.1	2,013.9	0.8
DO	33.112	404	2,655	13.2	2,024.5	2,024.5	2,024.5	0.0
DP	33.316	338	3,204	10.9	2,033.9	2,033.9	2,034.0	0.1
DQ	33.468	279	2,444	14.3	2,042.7	2,042.7	2,042.7	0.0
DR	33.646	151	1,910	18.3	2,055.0	2,055.0	2,055.2	0.2
DS	33.741	283	3,832	9.1	2,062.4	2,062.4	2,062.4	0.0
DT	34.032	454	2,309	10.2	2,068.5	2,068.5	2,068.5	0.0
DU	34.202	259	1,730	13.6	2,078.1	2,078.1	2,078.1	0.0
DV	34.416	444	2,958	8.0	2,088.8	2,088.8	2,088.8	0.0
DW	34.615	362	1,990	11.9	2,099.6	2,099.6	2,099.6	0.0
DX	34.812	431	2,343	10.1	2,115.1	2,115.1	2,115.1	0.0
DY	35.005	580	2,596	9.1	2,124.9	2,124.9	2,124.9	0.0
DZ	35.204	715	2,613	9.0	2,137.0	2,137.0	2,137.0	0.0
EA	35.460	425	2,188	10.8	2,148.5	2,148.5	2,148.5	0.0

[1]Miles Above Confluence With Salt River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

CAVE CREEK

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
					(FEET NGVD)			
East Fork Cave Creek								
A	0.08	377	1,276	7.1	1,332.8	1,332.8	1,332.8	0.0
B	0.12	260	760	11.8	1,332.8	1,332.8	1,332.8	0.0
C	0.17	255	1,498	6.0	1,335.4	1,335.4	1,335.4	0.0
D	0.24	166	1,402	6.4	1,335.8	1,335.8	1,335.8	0.0
E	0.35	213	1,552	5.8	1,338.6	1,338.6	1,339.1	0.5
F	0.47	270	1,657	5.4	1,339.4	1,339.4	1,340.1	0.7
G	0.54	169	726	12.4	1,342.5	1,342.5	1,342.5	0.0
H	0.89	180	1,181	7.5	1,350.4	1,350.4	1,351.1	0.7
I	1.01	230	1,603	5.6	1,352.0	1,352.0	1,353.0	1.0
J	1.19	170	1,306	6.8	1,355.0	1,355.0	1,355.4	0.4
K	1.27	220	1,044	8.0	1,356.0	1,356.0	1,356.6	0.6
L	1.39	460	1,684	5.0	1,359.0	1,359.0	1,359.6	0.6
M	1.49	400	1,343	6.3	1,361.0	1,361.0	1,361.6	0.6
N	1.85	449	1,617	5.2	1,372.8	1,372.8	1,373.7	0.9
O	2.07	670	1,857	4.0	1,377.6	1,377.6	1,378.3	0.7
P	2.30	772	2,090	3.6	1,384.4	1,384.4	1,385.4	1.0
Q	2.44	812	1,599	4.7	1,387.7	1,387.7	1,388.7	1.0
R	2.75	649	1,392	5.4	1,395.9	1,395.9	1,396.7	0.8
S	3.07	219	619	6.8	1,407.8	1,407.8	1,407.9	0.1
T	3.22	310	775	5.0	1,412.3	1,412.3	1,413.2	0.9
U	3.40	211	506	7.7	1,419.3	1,419.3	1,419.5	0.2
V	3.61	282	738	5.3	1,426.6	1,426.6	1,427.5	0.9
W	3.81	194	555	7.0	1,433.3	1,433.3	1,433.9	0.6
X	4.19	188	558	7.0	1,441.4	1,441.4	1,442.2	0.8
Y	4.44	210	572	6.8	1,449.7	1,449.7	1,450.6	0.9
Z	4.673	390	623	4.8	1,460.7	1,460.7	1,461.3	0.6

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

EAST FORK CAVE CREEK

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
					(FEET NGVD)			
East Fork Cave Creek (Cont'd)								
AA	4.832	420	878	3.4	1,466.0	1,466.0	1,466.9	0.9
AB	4.980	337	454	6.6	1,470.0	1,470.0	1,470.6	0.6
AC	5.130	370	718	4.2	1,474.9	1,474.9	1,475.7	0.8
AD	5.265	122	328	9.1	1,479.8	1,479.8	1,479.8	0.0
AE	5.432	140	407	7.4	1,483.4	1,483.4	1,483.4	0.0
AF	5.555	220	365	5.8	1,485.6	1,485.6	1,486.1	0.5
AG	5.669	193	410	5.1	1,489.0	1,489.0	1,489.6	0.6
AH	5.835	130	328	6.4	1,494.0	1,494.0	1,494.0	0.0
AI	5.962	130	515	4.1	1,496.7	1,496.7	1,497.3	0.6

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

EAST FORK CAVE CREEK

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
					(FEET NGVD)			
Andora Hills Wash								
A	0.15	125	292	8.8	2,013.3	2,013.3	2,013.3	0.0
B	0.23	269	318	8.1	2,022.6	2,022.6	2,022.6	0.0
C	0.29	104	275	9.4	2,032.1	2,032.1	2,032.1	0.0
D	0.44	222	322	8.0	2,048.4	2,048.4	2,048.4	0.0
E	0.59	280	382	6.8	2,066.5	2,066.5	2,066.5	0.0
F	0.73	117	313	8.2	2,079.6	2,079.6	2,079.6	0.0
G	0.85	321	384	6.7	2,097.0	2,097.0	2,097.0	0.0
H	0.90	849	7,884	0.3	2,111.0	2,111.0	2,111.0	0.0
I	0.97	215	322	8.0	2,111.5	2,111.5	2,111.5	0.0
J	1.06	96	222	9.2	2,120.4	2,120.4	2,120.4	0.0
K	1.13	67	205	10.0	2,127.1	2,127.1	2,127.1	0.0
L	1.22	79	245	8.4	2,134.0	2,134.0	2,134.0	0.0
M	1.33	137	276	7.4	2,142.8	2,142.8	2,142.8	0.0
N	1.42	69	226	9.1	2,152.0	2,152.0	2,152.0	0.0
O	1.57	88	207	8.8	2,166.9	2,166.9	2,166.9	0.0
P	1.67	87	221	8.2	2,174.1	2,174.1	2,174.1	0.0
Q	1.82	93	216	8.4	2,186.5	2,186.5	2,186.5	0.0
R	1.88	148	361	5.0	2,191.2	2,191.2	2,191.2	0.0
S	1.99	82	201	9.0	2,201.1	2,201.1	2,201.1	0.0
T	2.07	61	184	9.9	2,214.1	2,214.1	2,214.1	0.0
U	2.23	72	151	8.4	2,240.9	2,240.9	2,240.9	0.0
V	2.35	90	178	7.1	2,253.4	2,253.4	2,253.4	0.0
W	2.46	93	184	6.9	2,261.6	2,261.6	2,261.6	0.0
X	2.58	107	171	7.4	2,272.2	2,272.2	2,272.2	0.0
Y	2.68	59	173	7.4	2,279.8	2,279.8	2,279.8	0.0
Z	2.76	77	162	7.8	2,287.0	2,287.0	2,287.0	0.0
AA	2.92	117	217	3.3	2,295.7	2,295.7	2,295.7	0.0

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

ANDORA HILLS WASH

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
					(FEET NGVD)			
Galloway Wash								
A	240	206	1,320	14.3	2,032.3	2,032.3	2,032.3	0.0
B	630	175	1,243	15.2	2,041.0	2,041.0	2,041.0	0.0
C	1,110	259	1,431	13.2	2,050.1	2,050.1	2,050.1	0.0
D	1,780	189	1,264	15.0	2,065.0	2,065.0	2,065.0	0.0
E	2,655	392	1,688	11.3	2,080.2	2,080.2	2,080.2	0.0
F	3,770	261	1,570	12.1	2,102.1	2,102.1	2,102.1	0.0
G	4,940	251	1,107	12.1	2,122.5	2,122.5	2,122.5	0.0
H	5,700	632	1,671	8.0	2,142.9	2,142.9	2,142.9	0.0
I	6,060	525	1,476	9.1	2,149.9	2,149.9	2,149.9	0.0
J	6,830	346	1,398	9.6	2,168.1	2,168.1	2,168.1	0.0
K	7,340	242	1,147	11.7	2,179.2	2,179.2	2,179.2	0.0
L	8,180	114	537	11.9	2,199.9	2,199.9	2,199.9	0.0
M	8,745	118	562	11.4	2,209.8	2,209.8	2,209.8	0.0
N	8,995	133	578	11.1	2,213.7	2,213.7	2,213.7	0.0
O	9,235	104	516	12.4	2,220.3	2,220.3	2,220.3	0.0
P	9,615	94	494	12.9	2,227.4	2,227.4	2,227.4	0.0
Q	9,805	124	552	11.6	2,232.5	2,232.5	2,232.5	0.0
R	10,240	433	845	7.6	2,241.3	2,241.3	2,241.3	0.0
S	10,710	212	520	8.4	2,250.6	2,250.6	2,250.6	0.0
T	11,290	316	575	7.6	2,265.8	2,265.8	2,265.8	0.0
U	11,890	176	466	9.4	2,281.7	2,281.7	2,281.7	0.0
V	12,240	163	458	9.6	2,288.4	2,288.4	2,288.4	0.0
W	12,880	291	610	7.2	2,303.5	2,303.5	2,303.5	0.0
X	13,310	112	261	9.0	2,312.6	2,312.6	2,312.6	0.0
Y	13,990	137	367	6.4	2,322.0	2,322.0	2,322.0	0.0
Z	14,840	399	339	6.9	2,348.4	2,348.4	2,348.4	0.0

[1]Feet Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GALLOWAY WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Galloway Wash (Cont'd)								
AA	15,690[1]	59	58	5.7	2,368.9	2,368.9	2,368.9	0.0
AB	16,730[1]	51	59	5.6	2,392.8	2,392.8	2,392.8	0.0
Rowe Wash								
A	280[2]	209	770	9.0	2,113.5	2,113.5	2,113.5	0.0
B	640[2]	184	692	10.0	2,120.9	2,120.9	2,120.9	0.0
C	1,180[2]	212	677	10.3	2,133.3	2,133.3	2,133.3	0.0
D	1,580[2]	346	849	8.2	2,145.0	2,145.0	2,145.0	0.0
E	2,020[2]	320	790	8.8	2,156.3	2,156.3	2,156.3	0.0
F	2,540[2]	335	855	8.0	2,170.0	2,170.0	2,170.0	0.0
G	3,340[2]	505	1,003	6.8	2,194.0	2,194.0	2,194.0	0.0
H	3,930[2]	625	1,026	6.7	2,209.7	2,209.7	2,209.7	0.0
I	4,580[2]	309	794	8.6	2,227.7	2,227.7	2,227.7	0.0
J	4,960[2]	463	981	7.0	2,238.2	2,238.2	2,238.2	0.0
K	5,410[2]	660	1,073	6.3	2,249.7	2,249.7	2,249.7	0.0
L	5,970[2]	587	928	7.3	2,265.6	2,265.6	2,265.6	0.0
M	6,480[2]	558	959	7.0	2,277.7	2,277.7	2,277.7	0.0
N	6,910[2]	476	951	7.1	2,291.7	2,291.7	2,291.7	0.0
O	7,440[2]	290	785	8.5	2,304.1	2,304.1	2,304.1	0.0
P	7,840[2]	328	775	8.6	2,314.5	2,314.5	2,314.5	0.0

[1]Feet Above Confluence With Cave Creek [2]Feet Above Confluence With Galloway Wash

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GALLOWAY WASH-ROWE WASH

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
					(FEET NGVD)			
Grapevine Wash								
A	0.15	384	1,023	7.1	2,197.2	2,197.2	2,197.2	0.0
B	0.26	291	779	9.4	2,207.3	2,207.3	2,207.3	0.0
C	0.32	376	885	8.2	2,215.7	2,215.7	2,215.7	0.0
D	0.44	238	495	7.5	2,229.8	2,229.8	2,229.8	0.0
E	0.58	125	413	9.0	2,248.1	2,248.1	2,248.1	0.0
F	0.71	127	393	9.5	2,263.6	2,263.6	2,263.6	0.0
G	0.78	96	348	10.7	2,270.9	2,270.9	2,270.9	0.0
H	0.84	90	105	2.1	2,277.5	2,277.5	2,277.5	0.0
I	0.89	27	28	5.8	2,283.1	2,283.1	2,283.1	0.0
J	0.99	55	42	4.0	2,296.8	2,296.8	2,296.8	0.0

[1]Miles Above Confluence With Galloway Wash

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GRAPEVINE WASH

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
					(FEET NGVD)			
Ocotillo Wash								
A	0.05	98	449	12.1	2,039.2	2,039.2	2,039.2	0.0
B	0.13	88	443	12.2	2,045.5	2,045.5	2,045.5	0.0
C	0.18	104	452	12.0	2,049.1	2,049.1	2,049.1	0.0
D	0.23	305	735	7.4	2,053.7	2,053.7	2,053.7	0.0
E	0.31	204	596	9.1	2,064.6	2,064.6	2,064.6	0.0
F	0.39	121	523	10.4	2,074.1	2,074.1	2,074.1	0.0
G	0.46	89	460	11.8	2,080.4	2,080.4	2,080.4	0.0
H	0.55	102	459	11.4	2,086.6	2,086.6	2,086.6	0.0
I	0.70	87	426	12.3	2,099.6	2,099.6	2,099.6	0.0
J	0.78	162	617	8.5	2,105.6	2,105.6	2,105.6	0.0
K	0.89	187	542	9.6	2,114.2	2,114.2	2,114.2	0.0
L	0.92	277	628	8.3	2,117.0	2,117.0	2,117.0	0.0
M	0.97	454	806	6.2	2,123.2	2,123.2	2,123.2	0.0
N	1.14	293	614	8.2	2,142.7	2,142.7	2,142.7	0.0
O	1.36	390	679	7.4	2,165.4	2,165.4	2,165.4	0.0
P	1.47	297	632	7.6	2,177.9	2,177.9	2,177.9	0.0
Q	1.56	416	723	6.7	2,189.1	2,189.1	2,189.1	0.0
R	1.71	188	515	9.4	2,207.0	2,207.0	2,207.0	0.0
S	1.83	196	579	8.3	2,220.7	2,220.7	2,220.7	0.0
T	2.03	186	528	8.8	2,243.7	2,243.7	2,243.7	0.0

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

OCOTILLO WASH

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
					(FEET NGVD)			
Willow Springs Wash								
A	0.25	82	496	12.6	2,067.3	2,067.3	2,067.3	0.0
B	0.32	77	551	11.3	2,071.4	2,071.4	2,071.4	0.0
C	0.39	60	412	15.1	2,074.0	2,074.0	2,074.0	0.0
D	0.47	65	445	14.1	2,078.6	2,078.6	2,078.6	0.0
E	0.54	59	413	15.2	2,082.3	2,082.3	2,082.3	0.0
F	0.60	78	454	13.8	2,087.4	2,087.4	2,087.4	0.0
G	0.70	109	524	12.0	2,095.3	2,095.3	2,095.3	0.0
H	0.79	183	756	8.4	2,100.8	2,100.8	2,100.8	0.0
I	0.84	260	459	10.5	2,103.3	2,103.3	2,103.3	0.0
J	0.89	292	725	6.6	2,110.3	2,110.3	2,110.3	0.0
K	1.02	177	588	8.2	2,120.7	2,120.7	2,120.7	0.0
L	1.09	279	656	7.3	2,126.5	2,126.5	2,126.5	0.0
M	1.19	332	698	6.9	2,135.1	2,135.1	2,135.1	0.0
N	1.27	299	660	7.3	2,142.3	2,142.3	2,142.3	0.0
O	1.34	346	732	6.6	2,147.8	2,147.8	2,147.8	0.0
P	1.40	429	745	6.4	2,154.4	2,154.4	2,154.4	0.0
Q	1.48	403	709	6.8	2,162.2	2,162.2	2,162.2	0.0
R	1.57	160	494	9.7	2,169.4	2,169.4	2,169.4	0.0
S	1.70	78	373	12.9	2,179.2	2,179.2	2,179.2	0.0
T	1.78	53	337	14.3	2,188.4	2,188.4	2,188.4	0.0

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

WILLOW SPRINGS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY[2] (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Hassayampa River								
A	40.00	380			1,843.0	1,843.0	1,843.0	0.0
B	40.31	250			1,859.0	1,859.0	1,859.0	0.0
C	40.75	500			1,865.0	1,865.0	1,865.0	0.0
D	41.46	1,070			1,877.0	1,877.0	1,877.0	0.0
E	41.77	510			1,884.0	1,884.0	1,885.0	1.0
F	42.21	550			1,896.0	1,896.0	1,896.0	0.0
G	42.69	780			1,922.5	1,922.5	1,922.5	0.0
H	43.33	700			1,927.0	1,927.0	1,927.0	0.0
I	43.82	700			1,940.0	1,940.0	1,940.0	0.0
J	44.26	570			1,953.0	1,953.0	1,953.0	0.0
K	44.63	900			1,963.5	1,963.5	1,963.5	0.0
L	45.04	1,420			1,974.5	1,974.5	1,974.5	0.0
M	45.60	1,150			1,988.0	1,988.0	1,988.0	0.0
N	46.30	980			2,009.5	2,009.5	2,009.5	0.0
O	46.61	1,050			2,018.9	2,018.9	2,018.9	0.0
P	47.35	1,367			2,034.1	2,034.1	1,034.6	0.5
Q	47.79	1,452			2,050.5	2,050.5	2,051.5	1.0
R	47.98	1,000			2,051.2	2,051.2	2,052.2	1.0
S	48.17	1,070			2,057.4	2,057.4	2,058.4	1.0
T	48.38	960			2,061.9	2,061.9	2,062.9	1.0
U	48.91	2,000			2,074.0	2,074.0	2,075.0	1.0
V	49.29	1,580			2,085.5	2,085.5	2,086.5	1.0
W	49.53	2,200			2,091.5	2,091.5	2,091.5	0.0

[1]Miles Above Confluence With Gila River [2]Data Not Available

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

HASSAYAMPA RIVER

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
					(FEET NGVD)			
Sols Wash								
A	0.620	600	2,910	8.25	2,067.5	2,067.5	2,068.2	0.7
B	0.820	920	3,558	6.74	2,077.9	2,077.9	2,078.6	0.7
C	1.020	1,082	3,384	7.09	2,086.9	2,086.9	2,087.9	1.0
D	1.120	808	3,326	7.22	2,091.1	2,091.1	2,092.1	1.0
E	1.219	374	1,913	12.55	2,096.8	2,096.8	2,097.1	0.3
F	1.317	650	3,808	6.30	2,100.7	2,100.7	2,101.7	1.0
G	1.412	729	2,342	10.25	2,104.4	2,104.4	2,104.4	0.0
H	1.508	1,060	3,307	7.26	2,110.7	2,110.7	2,110.9	0.2
I	1.609	1,043	3,699	6.49	2,114.8	2,114.8	2,114.8	0.0
Casandro Wash								
A	0.355	190	236	6.35	2,076.3	2,076.3	2,076.5	0.2
B	0.555	271	259	5.78	2,092.0	2,092.0	2,092.0	0.0
C	0.755	273	267	5.63	2,110.0	2,110.0	2,110.0	0.0
D	0.955	105	194	7.72	2,127.5	2,127.5	2,127.5	0.0
E	1.455	126	206	7.28	2,181.9	2,181.9	2,181.9	0.0
F	1.900	196	254	3.50	2,215.5	2,215.5	2,215.5	0.0
G	2.460	164	271	2.95	2,253.0	2,253.0	2,253.0	0.0
H	2.560	169	378	2.21	2,258.8	2,258.8	2,258.8	0.0
South Branch Casandro Wash								
A	0.375	157	122	4.50	2,245.5	2,245.5	2,245.5	0.0
B	0.565	105	128	3.91	2,257.4	2,257.4	2,257.4	0.0
C	0.730	98	104	4.81	2,272.1	2,272.1	2,272.1	0.0

[1]Miles Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

SOLS WASH-CASANDRO WASH-SOUTH BRANCH CASANDRO WASH

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
					(FEET NGVD)			
Flying "E" Wash								
A	1.800	237	676	9.62	2,278.2	2,278.2	2,278.2	0.0
B	1.881	484	1,148	5.66	2,286.4	2,286.4	2,286.4	0.0
C	1.955	476	1,243	5.23	2,290.4	2,290.4	2,290.4	0.0
D	2.080	474	1,356	4.79	2,297.2	2,297.2	2,297.2	0.0
E	2.234	142	561	11.59	2,309.6	2,309.6	2,309.6	0.0
F	2.434	499	943	6.89	2,322.0	2,322.0	2,322.0	0.0
Hospital Wash								
A	0.290	208	201	4.5	2,095.0	2,095.0	2,095.0	0.0

[1]Miles Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

FLYING "E" WASH-HOSPITAL WASH

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
					(FEET NGVD)			
Powder House Wash								
A	1,230	43	123	15.5	2,057.9	2,057.9	2,057.9	0.0
B	1,540	80	278	6.8	2,066.4	2,066.4	2,066.4	0.0
C	1,690	70	199	9.6	2,070.1	2,070.1	2,070.1	0.0
D	2,020	88	214	8.9	2,075.7	2,075.7	2,075.7	0.0
E	2,184	98	221	8.6	2,079.2	2,079.2	2,079.7	0.5
F	2,494	50	177	10.7	2,087.3	2,087.3	2,087.6	0.3
G	2,814	85	210	9.0	2,095.2	2,095.2	2,095.7	0.5
H	3,034	70	199	9.6	2,098.6	2,098.6	2,098.7	0.1
I	3,294	152	279	7.5	2,102.5	2,102.5	2,102.5	0.0
J	3,504	122	250	8.3	2,108.3	2,108.3	2,108.3	0.0
K	3,814	132	253	7.8	2,115.8	2,115.8	2,115.8	0.0
L	4,439	122	251	8.0	2,130.2	2,130.2	2,130.2	0.0
M	4,724	104	229	8.5	2,137.1	2,137.1	2,137.1	0.0
N	4,989	110	231	8.3	2,141.7	2,141.7	2,141.7	0.0
O	5,154	110	233	8.3	2,144.3	2,144.3	2,144.3	0.0
P	5,379	117	236	8.1	2,148.6	2,148.6	2,148.6	0.0
Q	5,769	135	247	7.7	2,157.9	2,157.9	2,157.9	0.0
R	6,179	90	217	8.9	2,166.9	2,166.9	2,166.9	0.0
S	6,579	65	198	10.0	2,178.6	2,178.6	2,178.6	0.0

[1]Feet Above Confluence With Hassayampa River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

POWDER HOUSE WASH

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
					(FEET NGVD)			
Martinez Wash								
A	2,140	1,365[2]	5,129	6.2	2,117.8	2,117.8	2,118.0	0.2
Mockingbird Wash								
A	1,425	1,508	6,959	0.8	1,996.0	1,996.0	1,996.0	0.0
B	1,615	1,380	3,734	1.4	1,996.0	1,996.0	1,996.0	0.0
C	1,905	930	848	6.9	2,000.9	2,000.9	2,000.9	0.0
D	2,300	392	712	7.8	2,012.3	2,012.3	2,012.3	0.0
E	2,580	320	742	8.0	2,017.5	2,017.5	2,017.5	0.0
F	2,900	411	678	7.8	2,023.0	2,023.0	2,023.0	0.0
G	3,325	429	696	7.3	2,033.3	2,033.3	2,033.3	0.0
H	3,735	566	765	6.7	2,041.9	2,041.9	2,041.9	0.0
I	4,085	456	721	7.1	2,049.4	2,049.4	2,049.4	0.0
J	4,635	465	595	6.5	2,064.4	2,064.4	2,064.4	0.0
K	4,960	206	427	8.6	2,071.4	2,071.4	2,071.4	0.0

[1]Feet Above Confluence With Hassayampa River [2]Floodway Lies Entirely Outside County Limits

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

MARTINEZ WASH-MOCKINGBIRD WASH

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
					(FEET NGVD)			
Little San Domingo Wash								
A	0	40	400	7.7	1,962.0	1,962.0	1,962.0	0.0
B	80	148	1,119	2.8	1,963.1	1,963.1	1,963.1	0.0
C	370	131	547	5.6	1,963.1	1,963.1	1,963.1	0.0
D	650	77	312	9.9	1,965.5	1,965.5	1,965.5	0.0
E	920	125	383	8.1	1,968.8	1,968.8	1,968.8	0.0
F	1,140	123	479	6.5	1,970.7	1,970.7	1,970.7	0.0
G	1,430	117	355	8.7	1,973.3	1,973.3	1,973.3	0.0
H	1,670	78	311	9.9	1,977.9	1,977.9	1,977.9	0.0
I	2,105	94	335	9.2	1,981.8	1,981.8	1,981.8	0.0
J	2,525	76	318	9.7	1,986.0	1,986.0	1,986.0	0.0
K	2,815	109	348	8.3	1,989.1	1,989.1	1,989.1	0.0
L	3,100	79	295	9.8	1,992.3	1,992.3	1,992.3	0.0
M	3,515	78	300	9.6	1,998.2	1,998.2	1,998.2	0.0
N	3,865	100	383	7.5	2,001.1	2,001.1	2,001.1	0.0

[1]Stream Distance in Feet Above U.S. Highways 60, 70 and 89

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

LITTLE SAN DOMINGO WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Grass Wash								
A	5.54[1]	224	1,471	9.5	2,157.3	2,157.3	2,157.3	0.0
B	5.76[1]	1,030	5,350	2.6	2,159.6	2,159.6	2,160.1	0.5
C	6.14[1]	1,100	2,824	5.0	2,161.5	2,161.5	2,162.5	1.0
D	6.45[1]	1,000	3,666	3.8	2,166.8	2,166.8	2,167.4	0.6
E	6.81[1]	1,300	4,848	2.9	2,169.2	2,169.2	2,170.1	0.9
F	7.11[1]	1,050	2,953	4.7	2,172.7	2,172.7	2,173.0	0.3
Lower El Mirage Wash								
A	0.05[2]	50	99	2.5	1,115.4	1,115.4	1,116.4	1.0
B	0.21[2]	50	74	1.6	1,117.4	1,117.4	1,118.0	0.6
C	0.38[2]	50	28	4.3	1,122.9	1,122.9	1,122.9	0.0

[1]Miles Above Confluence With Centennial Wash [2]Miles Above Cactus Road

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

GRASS WASH-LOWER EL MIRAGE WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Atchison, Topeka & Santa Fe Railway Channel (At El Mirage)								
A	0.24[1]	30	112	3.9	1,128.8	1,127.2[2]	1,127.7[2]	0.5
B	0.46[1]	30	128	3.1	1,128.8	1,128.7[2]	1,129.4[2]	0.7
C	0.63[1]	30	83	4.8	1,130.5	1,130.5	1,131.3	0.8
D	0.86[1]	30	73	4.6	1,136.0	1,136.0	1,136.6	0.6
E	1.11[1]	30	66	4.6	1,141.6	1,141.6	1,142.3	0.7
F	1.27[1]	30	41	6.7	1,148.1	1,148.1	1,148.7	0.6
Echo Canyon Wash								
A	0.51[3]	150	1,432	4.1	1,271.7	1,271.7	1,272.7	1.0
B	0.71[3]	180	1,466	4.0	1,278.0	1,278.0	1,278.8	0.8
C	1.04[3]	210	1,501	3.9	1,293.1	1,293.1	1,293.5	0.4
D	1.19[3]	180	1,169	5.0	1,298.0	1,298.0	1,298.3	0.3

[1]Miles Above Confluence With Agua Fria River [2]Elevation Computed Without Consideration of Backwater from Auga Fria River [3]Miles Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOODWAY DATA

ATCHISON, TOPEKA & SANTA FE RAILWAY CHANNEL (AT EL MIRAGE)-
ECHO CANYON WASH

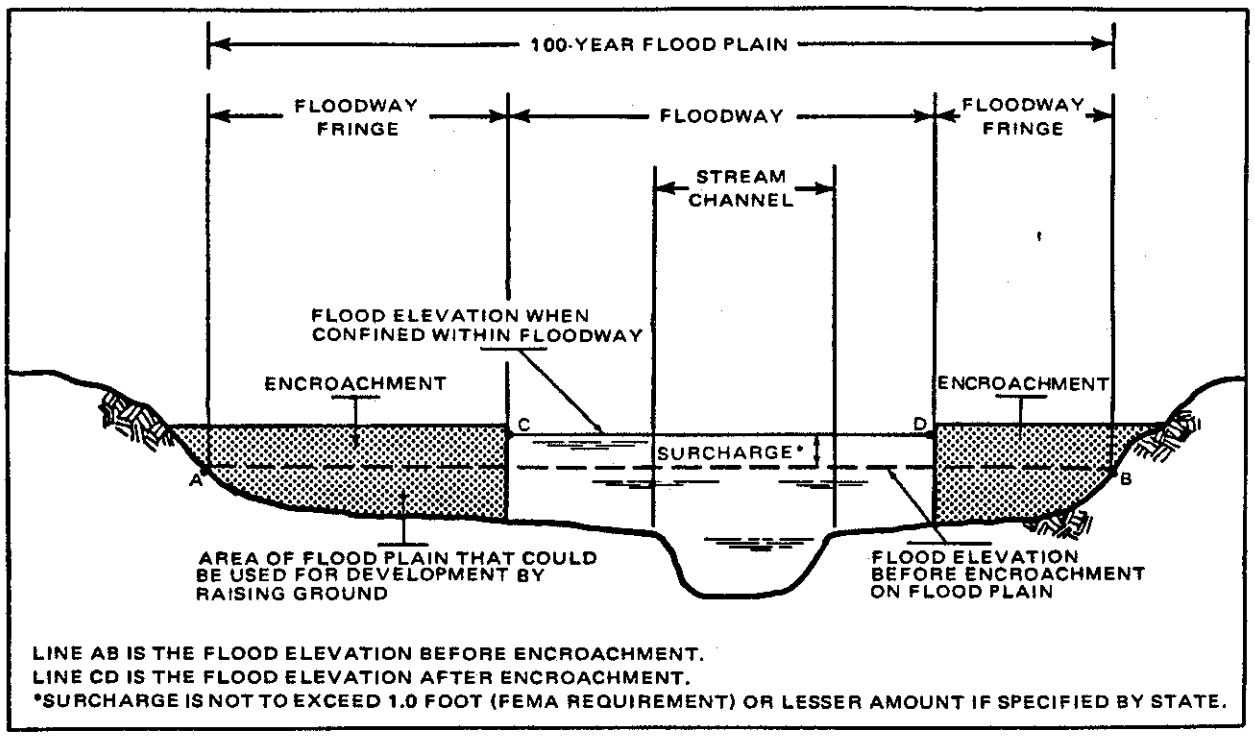

Figure 7. Floodway Schematic

5.0 INSURANCE APPLICATION

To establish actuarial insurance rates, data from the engineering study must be transformed into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source studied in detail affecting Maricopa County.

5.1 Reach Determinations

Reaches are defined as sections of flood plain that have relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference may not have a variation greater than that indicated in the following table for more than 20 percent of the reach:

Average Difference Between 10- and 100-Year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the flooding sources of Maricopa County are shown on the Flood Profiles (Exhibit 1) and summarized in Table 6.

5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is used to establish relationships between depth and frequency of flooding in any reach. This relationship is then used with depth-damage relationships for various classes of structures to establish actuarial insurance rate tables.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations rounded to the nearest one-half foot, multiplied by 10, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, it is rounded to the nearest whole foot.

The FHF for the split flow area on the Gila River at Buckeye Canal was based on the average depth of the 100-year flood.

The FHF for the overflow area on the Salt River between 39th and 75th Avenues was based on the average differences between the natural ground and 100-year flood elevations.

5.3 Flood Insurance Zones

Flood insurance zones and zone numbers are assigned based on the type of flood hazard and the FHF, respectively. A unique zone number is associated with each possible FHF, and varies from 1 for a FHF of 005 to a maximum of 30 for a FHF of 200 or greater.

Zone A:	Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations shown or FHFs determined.
Zone AO:	Special Flood Hazard Areas inundated by types of 100-year shallow flooding where depths are between 1.0 and 3.0 feet; depths are shown, or areas of alluvial fan flooding, depths and velocities are shown, but no FHFs are determined.
Zone AH:	Special Flood Hazard Areas inundated by types of 100-year shallow flooding where depths are between 1.0 and 3.0

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Gila River							
Reach 1	2460,2470, 2480,2490	-5.5	-1.1	1.9	055	A11	Varies - See Map
Reach 2	2460,2480, 2485,2490, 2495,2505	-9.5	-1.9	3.5	095	A19	Varies - See Map
Reach 3	2050,2065, 2070,2090, 2485,2505, 2510,2530, 2550	-7.0	-1.3	2.6	070	A14	Varies - See Map
Reach 4	2090,2095, 2555	-5.1	-1.3	2.2	050	A10	Varies - See Map
Shallow Flooding	2065,2530	N/A	N/A	N/A	N/A	A0	Depth 2
Gila River Overflow							
Reach 1	2070	-2.7[4]	N/A	1.8	025	A5	Varies - See Map
Agua Fria River							
Reach 1	2080,2090	-1.1	--[5]	1.2	010	A2	Varies - See Map
Reach 2	1160,1165, 1170,1605, 1610,1615, 1620,2080, 2085,2090	-2.2	--[5]	1.4	020	A4	Varies - See Map

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Difference Between 100-Year Flood and Ground Elevations [5] Not Computed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

GILA RIVER-GILA RIVER OVERFLOW-AGUA FRIA RIVER

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
New River							
Reach 1	1620	-2.2	--[4]	--[4]	020	A4	Varies - See Map
Reach 2	1620	-4.3	--[4]	--[4]	045	A9	Varies - See Map
Reach 3	1620	-6.6	--[4]	--[4]	065	A13	Varies - See Map
Reach 4	1620	-3.4	--[4]	--[4]	035	A7	Varies - See Map
Reach 5	1610,1620	-6.7	--[4]	--[4]	065	A13	Varies - See Map
Reach 6	1610	-4.7	--[4]	--[4]	045	A9	Varies - See Map
Reach 7	1610	-6.3	--[4]	--[4]	065	A13	Varies - See Map
Reach 8	1610,1630	-7.2	--[4]	--[4]	070	A14	Varies - See Map
Reach 9	1610,1630	-3.3	--[4]	--[4]	035	A7	Varies - See Map
Reach 10	1170,1190, 1610,1630	-2.5	--[4]	--[4]	025	A5	Varies - See Map
Reach 11	1170,1190	-2.2	--[4]	--[4]	020	A4	Varies - See Map
Reach 12	1190	-2.8	--[4]	--[4]	030	A6	Varies - See Map
Reach 13	1180,1190	-1.7	--[4]	--[4]	015	A3	Varies - See Map
Shallow Flooding	1160,1170, 1180,1190	N/A	N/A	N/A	N/A	A0	Depth 1
Skunk Creek							
Reach 1	1190,1630	-2.4	--[4]	--[4]	025	A5	Varies - See Map
Reach 2	0770,0790, 1185,1190, 1195,1205	-2.0	--[4]	--[4]	020	A4	Varies - See Map
Reach 3	0390,0770, 0780,0790	-1.5	-0.8	0.6	015	A3	Varies - See Map

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Not Computed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

NEW RIVER-SKUNK CREEK

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Scatter Wash							
Reach 1	1195,1205, 1215[4]	-3.3	--[5]	--[5]	035	A7	Varies - See Map
Reach 2	1205	-0.8	--[5]	0.3	010	A2	Varies - See Map
East Branch Scatter Wash							
Reach 1	1195, 1215[4]	-2.1	--[5]	--[5]	020	A4	Varies - See Map
Salt River							
Reach 1	2095,2115, 2120,2140	-5.1	-1.3	2.2	050	A10	Varies - See Map
Reach 2	2140, 2145[4] 2155,2165	-8.6	-2.2	3.5	085	A17	Varies - See Map
Reach 3	2155,2165	-5.1	-1.3	2.2	050	A10	Varies - See Map
Reach 4	2155,2160 2165,2170	-7.2	-1.8	3.8	070	A14	Varies - See Map
Reach 5	2160,2170	-5.7	-1.4	2.7	055	A11	Varies - See Map
Reach 6	2160,2170 2180,2190	-6.1	-1.7	3.1	060	A12	Varies - See Map
Shallow Flooding	2140, 2145[4], 2170	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	2120, 2145[4]	N/A	N/A	N/A	N/A	A0	Depth 2
Shallow Flooding	2170,2190	N/A	N/A	N/A	N/A	AH	Depth Varies - See Map

[1]Flood Insurance Rate Map Panel [2]Weighted Average [3]Rounded to Nearest Foot
[4]Not Printed [5]Difference Between 100-Year Flood and Ground Elevation

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

SCATTER WASH-EAST BRANCH SCATTER WASH-SALT RIVER

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Salt River Overflow							
Reach 1	2115,2580	-4.0[4]	N/A	3.1	040	A8	Varies - See Map
Reach 2	2115,2120, 2580,2585	-5.2[4]	N/A	4.5	050	A10	Varies - See Map
Reach 3	2120	-3.4[4]	N/A	4.1	035	A7	Varies - See Map
Cave Creek							
Reach 1	2130[5], 2140	-1.3	-0.4	1.1	015	A3	Varies - See Map
Reach 2	--[5]	-2.3	-0.5	1.8	025	A5	Varies - See Map
Reach 3	--[5]	-4.5	-1.0	3.2	045	A9	Varies - See Map
Reach 4	--[5]	-4.1	-1.1	3.1	040	A8	Varies - See Map
Reach 5	--[5]	-6.4	-1.9	5.0	065	A13	Varies - See Map
Reach 6	--[5]	-4.9	-1.2	5.7	050	A10	Varies - See Map
Reach 7	--[5]	-4.6	-1.1	6.1	045	A9	Varies - See Map
Reach 8	--[5]	-2.6	0.0	3.1	025	A5	Varies - See Map
Reach 9	1215[5], 1220	-4.5	-0.9	6.0	045	A9	Varies - See Map
Reach 10	1210,1220	-2.3	-0.8	1.9	025	A5	Varies - See Map
Reach 11	0795,0805, 0815	-2.4	-0.5	1.7	025	A5	Varies - See Map
Shallow Flooding	--[5]	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	--[5]	N/A	N/A	N/A	N/A	A0	Depth 2

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Difference Between 100-Year Flood and Ground Elevation [5] Not Printed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

SALT RIVER OVERFLOW-CAVE CREEK

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
East Fork Cave Creek							
Reach 1	--[5]	-4.5	-1.3	2.5	045	A9	Varies - See Map
Reach 2	--[5]	-2.1	-0.5	1.1	020	A4	Varies - See Map
Reach 3	1215[5], 1220	-0.9	-0.3	0.7	010	A2	Varies - See Map
Reach 4	1220	-3.3	--[4]	0.9	035	A7	Varies - See Map
Reach 5	1220	-1.9	--[4]	1.1	020	A4	Varies - See Map
Shallow Flooding	--[5]	N/A	N/A	N/A	N/A	A0	Depth 2
Andora Hills Wash							
Reach 1	0805,0810,	-0.9	-0.2	0.6	010	A2	Varies - See Map
Galloway Wash							
Reach 1	0805,0810	-1.9	-0.5	1.3	020	A4	Varies - See Map
Reach 2	0810	-0.8	-0.2	0.7	010	A2	Varies - See Map
Rowe Wash							
Reach 1	0805,0810	-0.7	-0.2	0.5	005	A1	Varies - See Map
Grapevine Wash							
Reach 1	0805,0810	-1.0	-0.3	0.7	010	A2	Varies - See Map
Ocotillo Wash							
Reach 1	0805	-1.1	-0.3	0.7	010	A2	Varies - See Map
Willow Springs Wash							
Reach 1	0805	-2.1	-0.5	1.4	020	A4	Varies - See Map
Reach 2	0805	-0.9	-0.2	0.6	010	A2	Varies - See Map

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Not Computed [5] Not Printed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

EAST FORK CAVE CREEK-ANDORA HILLS WASH-GALLOWAY WASH-ROWE WASH-GRAPEVINE WASH-OCOTILLO WASH-WILLOW SPRINGS WASH

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Hassayampa River							
Reach 1	0270	-13.5	-5.7	10.7	135	A23	Varies - See Map
Reach 2	0270	-5.7	-2.2	4.2	055	A11	Varies - See Map
Reach 3	0265,0270	-6.0	-2.6	5.5	060	A12	Varies - See Map
Reach 4	0255,0265	-4.0	-1.5	3.1	040	A8	Varies - See Map
Reach 5	0255	-6.9	-3.0	9.1	070	A14	Varies - See Map
Reach 6	0255	-3.6	-1.4	6.2	035	A7	Varies - See Map
Reach 7	0255	-2.9	-1.0	3.0	030	A6	Varies - See Map
Sols Wash							
Reach 1	0255	-3.9	-0.8	3.9	040	A8	Varies - See Map
Reach 2	0255	-7.4	-2.8	5.2	075	A15	Varies - See Map
Reach 3	0255	-4.2	-0.9	4.1	040	A8	Varies - See Map
Reach 4	0235,0255	-3.2	-0.7	2.4	030	A6	Varies - See Map
Casandro Wash							
Reach 1	0235,0255	-1.4	-0.4	1.3	015	A3	Varies - See Map
Reach 2	0235	-2.9	-0.8	1.5	030	A6	Varies - See Map
South Branch Casandro Wash							
Reach 1	0235	-2.0	-1.0	1.6	020	A4	Varies - See Map
Reach 2	0235	-1.5	-0.6	1.0	015	A3	Varies - See Map
Flying "E" Wash							
Reach 1	0235	-4.3	-1.4	2.2	045	A9	Varies - See Map
Reach 2	0235	-5.3	-1.7	6.5	055	A11	Varies - See Map
Reach 3	0235	-2.4	-0.7	2.5	025	A5	Varies - See Map

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

HASSAYAMPA RIVER-SOLS WASH-CASANDRO WASH-
SOUTH BRANCH CASANDRO WASH-FLYING "E" WASH

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Hospital Wash							
Reach 1	0255	-0.8	-0.4	0.8	010	A2	Varies - See Map
Powder House Wash							
Reach 1	0255	-1.9	-0.6	1.6	020	A4	Varies - See Map
Martinez Wash							
Reach 1	0235,0255	-2.5	-0.4	1.0	025	A5	Varies - See Map
Mockingbird Wash							
Reach 1	0255	-3.7	-0.9	1.0	035	A7	Varies - See Map
Reach 2	0255	-0.8	-0.3	0.5	010	A2	Varies - See Map
Little San Domingo Wash							
Reach 1	0660,0680	-1.6	-0.5	1.1	015	A3	Varies - See Map
Wittmann Drainage							
Reach 1	0695	-0.8	-0.1	0.5	010	A2	Varies - See Map
Aguila Farm Channel							
Reach 1	0160	-1.2	-0.3	--[4]	010	A2	Varies - See Map
Grass Wash							
Reach 1	0155,0160, 0165,0170	-1.2	-0.4	--[4]	010	A2	Varies - See Map
Shallow Flooding	0160	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	0160	N/A	N/A	N/A	N/A	AH	2166

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Not Computed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

HOSPITAL WASH-POWDER HOUSE WASH-MARTINEZ WASH-MOCKINGBIRD WASH-
LITTLE SAN DOMINGO WASH-WITTMANN DRAINAGE-AGUILA FARM CHANNEL-GRASS WASH

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Lower El Mirage Wash Reach 1	1605	-0.5	-0.1	--[4]	005	A1	Varies - See Map
Lower El Mirage Wash Tributary Shallow Flooding	1605	N/A	N/A	N/A	N/A	A0	Depth 1
Sand Tank and Bender Washes							
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	747
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	740
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	735
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	744
Shallow Flooding	3480	N/A	N/A	N/A	N/A	A0	Depth 2
Rodeo Wash							
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	753
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	749
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	742
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	737
Rodeo Wash Tributary Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	759
Airport Wash Shallow Flooding	3485	N/A	N/A	N/A	N/A	AH	761

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Not Computed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

LOWER EL MIRAGE WASH-LOWER EL MIRAGE WASH TRIBUTARY-SAND TANK AND BENDER WASHES-RODEO WASH-RODEO WASH TRIBUTARY-AIRPORT WASH

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Scott Avenue Wash							
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	745
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	740
Shallow Flooding	3480	N/A	N/A	N/A	N/A	AH	733
Atchison, Topeka & Santa Fe Railway Channel (at El Mirage)							
Reach 1	1605	-0.5	-0.1	--[4]	005	A1	Varies - See Map
Atchison, Topeka & Santa Fe Railway (at Peoria)							
Shallow Flooding	1630	N/A	N/A	N/A	N/A	AH	1141
Shallow Flooding	1630,1640	N/A	N/A	N/A	N/A	AH	1140
Shallow Flooding	1630,1640	N/A	N/A	N/A	N/A	A0	Depth 1
Echo Canyon Wash							
Reach 1	1690	-2.2	--[4]	2.1	020	A4	Varies - See Map
Reach 2	1690	-4.4	--[4]	2.8	045	A9	Varies - See Map
Reach 3	1690	-2.4	--[4]	2.2	025	A5	Varies - See Map
Arizona Canal							
Shallow Flooding	1190,1630	N/A	N/A	N/A	N/A	A0	Depth 2
Shallow Flooding	1630,1635	N/A	N/A	N/A	N/A	AH	1218
Shallow Flooding	1190,1630, 1635	N/A	N/A	N/A	N/A	A0	Depth 3

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot
[4] Not Computed

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

SCOTT AVENUE WASH-ATCHISON, TOPEKA & SANTA FE RAILWAY CHANNEL (AT EL MIRAGE)-ATCHISON, TOPEKA & SANTA FE RAILWAY (AT PEORIA)-ECHO CANYON WASH-ARIZONA CANAL

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Grand Canal							
Shallow Flooding	1640	N/A	N/A	N/A	N/A	A0	Depth 1
Western Canal							
Shallow Flooding	2165,2630, 2635	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	2165,2630, 2635	N/A	N/A	N/A	N/A	A0	Depth 2
Shallow Flooding	2165	N/A	N/A	N/A	N/A	AH	1181
Shallow Flooding	2165	N/A	N/A	N/A	N/A	AH	1180
Tempe Canal							
Shallow Flooding	2170	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	2635,2170	N/A	N/A	N/A	N/A	A0	Depth 2
Shallow Flooding	2170	N/A	N/A	N/A	N/A	A0	Depth 3
Shallow Flooding	2635,2170	N/A	N/A	N/A	N/A	AH	Varies - See Map
Shallow Flooding	2170	N/A	N/A	N/A	N/A	AH	1202
Highline Canal							
Shallow Flooding	2165,2630	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	2630	N/A	N/A	N/A	N/A	A0	Depth 2
Shallow Flooding	2630	N/A	N/A	N/A	N/A	AH	1201
Kyrene Branch Canal							
Shallow Flooding	2630	N/A	N/A	N/A	N/A	A0	Depth 1
Gila Bend Canal							
Shallow Flooding	3450,3465, 3480	N/A	N/A	N/A	N/A	A0	Depth 2

[1]Flood Insurance Rate Map Panel [2]Weighted Average [3]Rounded to Nearest Foot

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

GRAND CANAL-WESTERN CANAL-TEMPE CANAL-HIGHLINE CANAL-KYRENE BRANCH CANAL-GILA BEND CANAL

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Buckeye Canal							
Shallow Flooding	2040,2505	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	2040,2505	N/A	N/A	N/A	N/A	A0	Depth 2
Consolidated Canal							
Shallow Flooding	2180,2185, 2190,2195	N/A	N/A	N/A	N/A	AH	Varies - See Map
Shallow Flooding	2660	N/A	N/A	N/A	N/A	A0	Depth 1
Shallow Flooding	2195,2660	N/A	N/A	N/A	N/A	A0	Depth 2
Roosevelt Canal							
Shallow Flooding	2205,2215	N/A	N/A	N/A	N/A	AH	1345
Shallow Flooding	2085,2105	N/A	N/A	N/A	N/A	AH	1024
Shallow Flooding	2105	N/A	N/A	N/A	N/A	AH	1027
Eastern Canal							
Shallow Flooding	2185,2195, 2215	N/A	N/A	N/A	N/A	AH	Varies - See Map
Southern Pacific Railroad							
Shallow Flooding	2105,2185, 2190,2195, 2655,2660	N/A	N/A	N/A	N/A	A0	Depth 2
Shallow Flooding	2190	N/A	N/A	N/A	N/A	AH	1212
Shallow Flooding	2040	N/A	N/A	N/A	N/A	AH	891

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

BUCKEYE CANAL-CONSOLIDATED CANAL-ROOSEVELT CANAL-EASTERN CANAL-SOUTHERN PACIFIC RAILROAD

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION (FEET NGVD)[3]
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Southern Pacific Railroad Spur							
Shallow Flooding	2655,2665	N/A	N/A	N/A	N/A	AH	1220
Shallow Flooding	2665	N/A	N/A	N/A	N/A	AH	1221
Shallow Flooding	2655	N/A	N/A	N/A	N/A	AH	1217
Shallow Flooding	2630,2640	N/A	N/A	N/A	N/A	A0	Depth 2
Apache Creek Alluvial Fan Flooding	2220,2240	N/A	N/A	N/A	N/A	A0	Depth 1 Velocity 4 fps

[1] Flood Insurance Rate Map Panel [2] Weighted Average [3] Rounded to Nearest Foot

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD INSURANCE ZONE DATA

SOUTHERN PACIFIC RAILROAD SPUR-APACHE CREEK

	feet; base flood elevations are shown, but no FHFs are determined.
Zones A1-A15, A17, A19, and A23:	Special Flood Hazard Areas inundated by the 100-year flood; with base flood elevations shown, and zones subdivided according to FHFs.
Zone B:	Areas between the Special Flood Hazard Areas and the limits of the 500-year flood; areas that are protected from the 100- or 500-year floods by dike, levee, or other local water-control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.
Zone C:	Areas of minimal flood hazard; not subdivided.
Zone D:	Areas of undetermined, but possible flood hazard.

Alluvial fan flood hazard areas are shown on the Flood Insurance Rate Map (published separately) as A0 zones, with average depths and velocities of flow given. In these areas, depths of the 100-year flood may exceed 3 feet. Development on alluvial fans is subject to a more severe flood hazard than would normally be encountered in an A0 zone due to high velocities and unpredictability of the location of the stream channel across the width of the fan.

The flood elevation differences, FHFs, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community are summarized in Table 6.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for Maricopa County is, for insurance purposes, the principal product of the Flood Insurance Study. This map contains the official delineation of flood insurance zones and base flood elevations. Base flood elevation lines show the locations of the expected whole-foot water-surface elevation of the base (100-year) flood. The base flood elevations and zone numbers are used by insurance agents, in conjunction with structure elevations and characteristics, to assign actuarial insurance rates to structures and contents insured under the NFIP.

6.0 OTHER STUDIES

Flood Insurance Studies have been published for the City of Avondale (Reference 34), Town of Buckeye (Reference 13), City of Chandler (Reference 10), Town of El Mirage (Reference 35), Town of Gila Bend (Reference 12), Town of Gilbert (Reference 11), City of Glendale (Reference 36), Town of Goodyear (Reference 37), and the City of Mesa (Reference 38). Flood Insurance Studies have also been published for the Cities of Peoria (Reference 39), Phoenix (Reference 9), Tempe (Reference 19), Scottsdale (Reference 40), and Tolleson (Reference 41); and for the Towns of Surprise (Reference 42), Wickenburg (Reference 18), and Youngtown (Reference 43).

This Flood Insurance Study supersedes the 1979 Flood Insurance Study for the unincorporated areas of Maricopa County (Reference 44).

Flood Insurance Studies are being prepared for La Paz County (Reference 45), Yavapai County (Reference 46), and Yuma County (Reference 49). Flood Insurance Studies have been prepared for Pinal County (Reference 47) and Pima County (Reference 48). Approximate flooding areas in Yavapai and Pinal Counties were not studied in Maricopa County. All other county studies are in agreement with this FIS.

Flood Plain Information reports for several streams in Maricopa County have been published. These reports are in agreement with this Flood Insurance Study (References 1, 2, 4, 25, and 28).

This study does not match the Flood Insurance Study for the City of Apache Junction (Reference 50). Flooding from Apache Creek (Apache Junction Alluvial Fan) was not included in the Apache Junction Flood Insurance Study.

7.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, Building 105, Presidio of San Francisco, San Francisco, California 94129.

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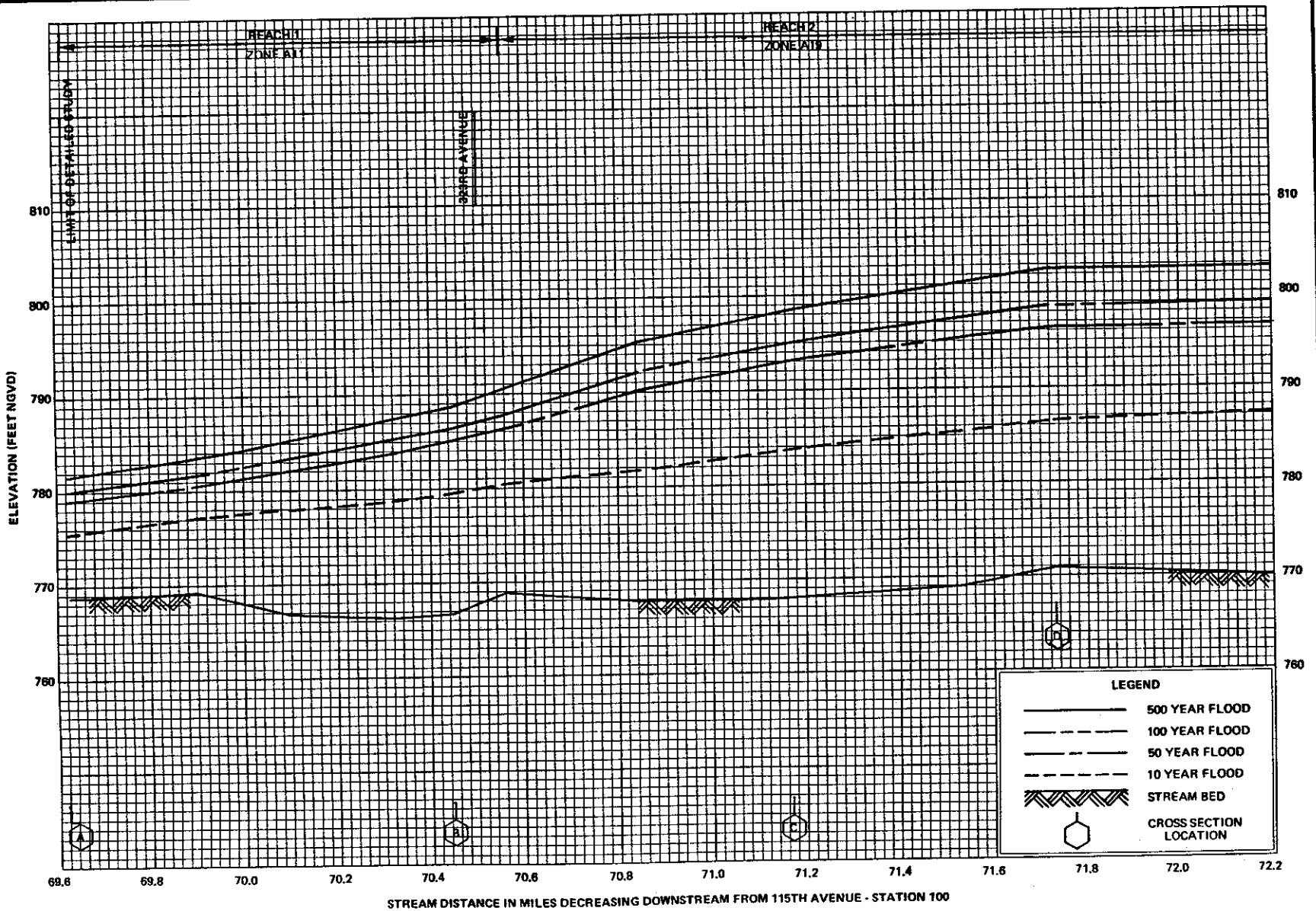


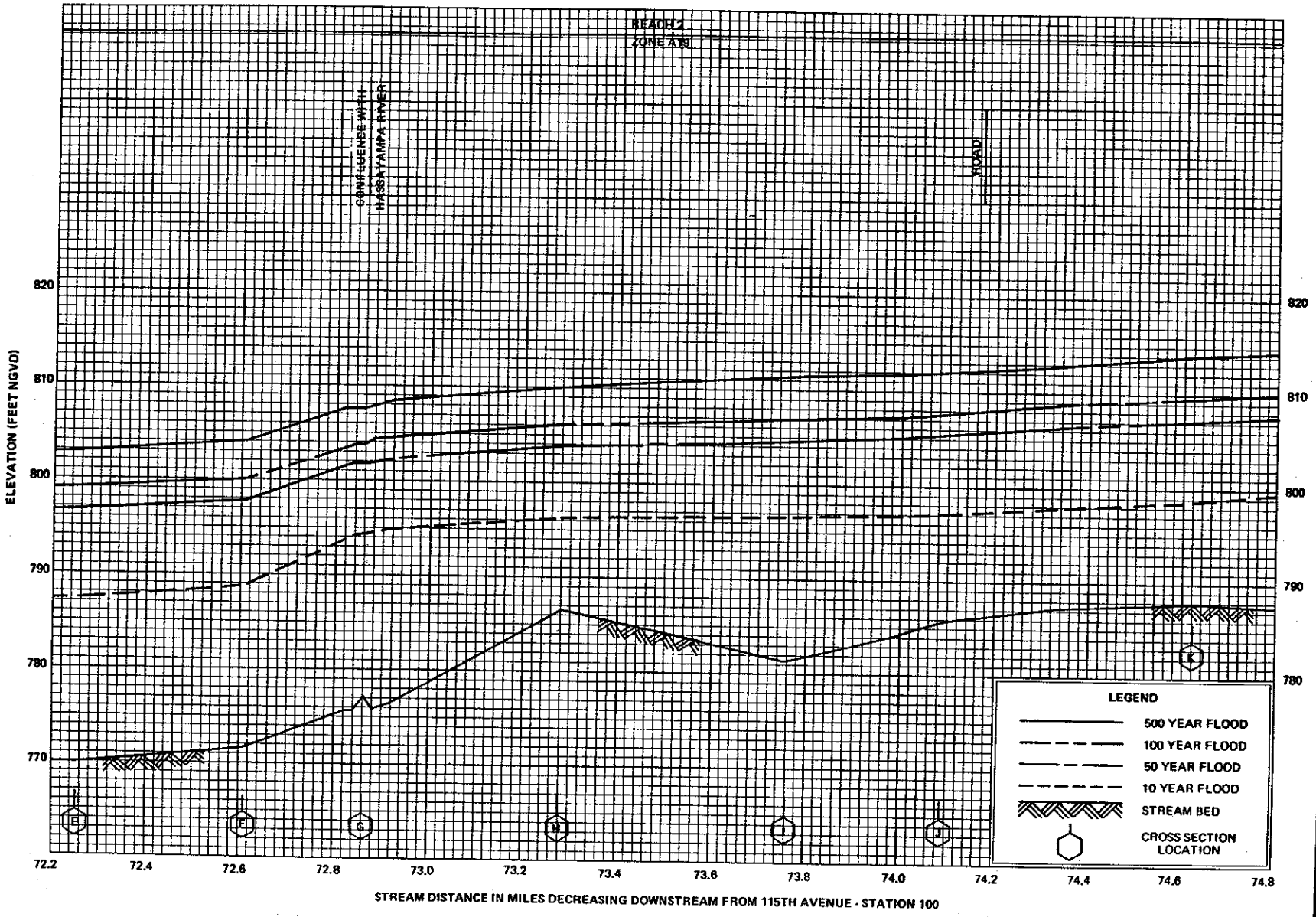
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

01P



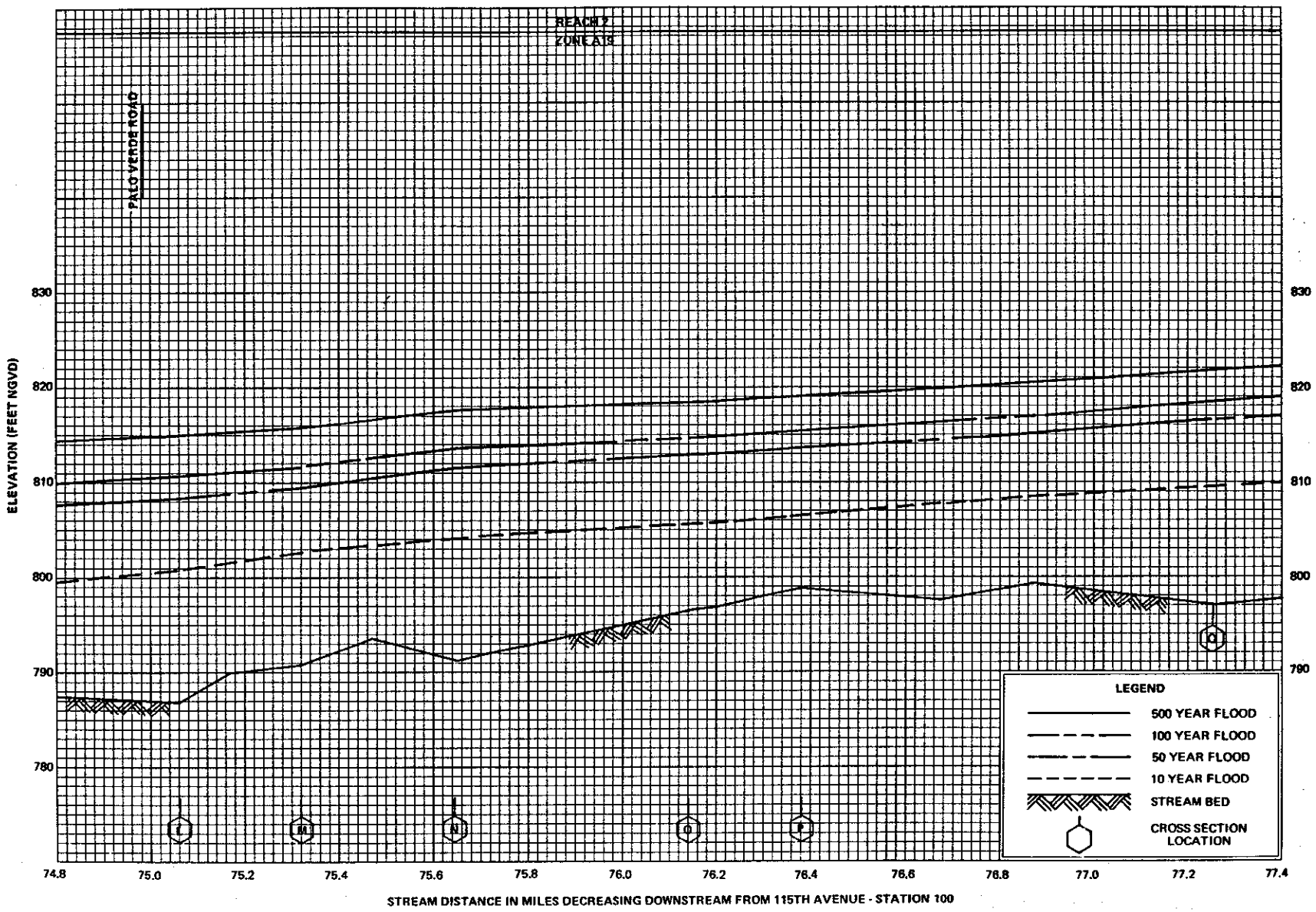
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

02P



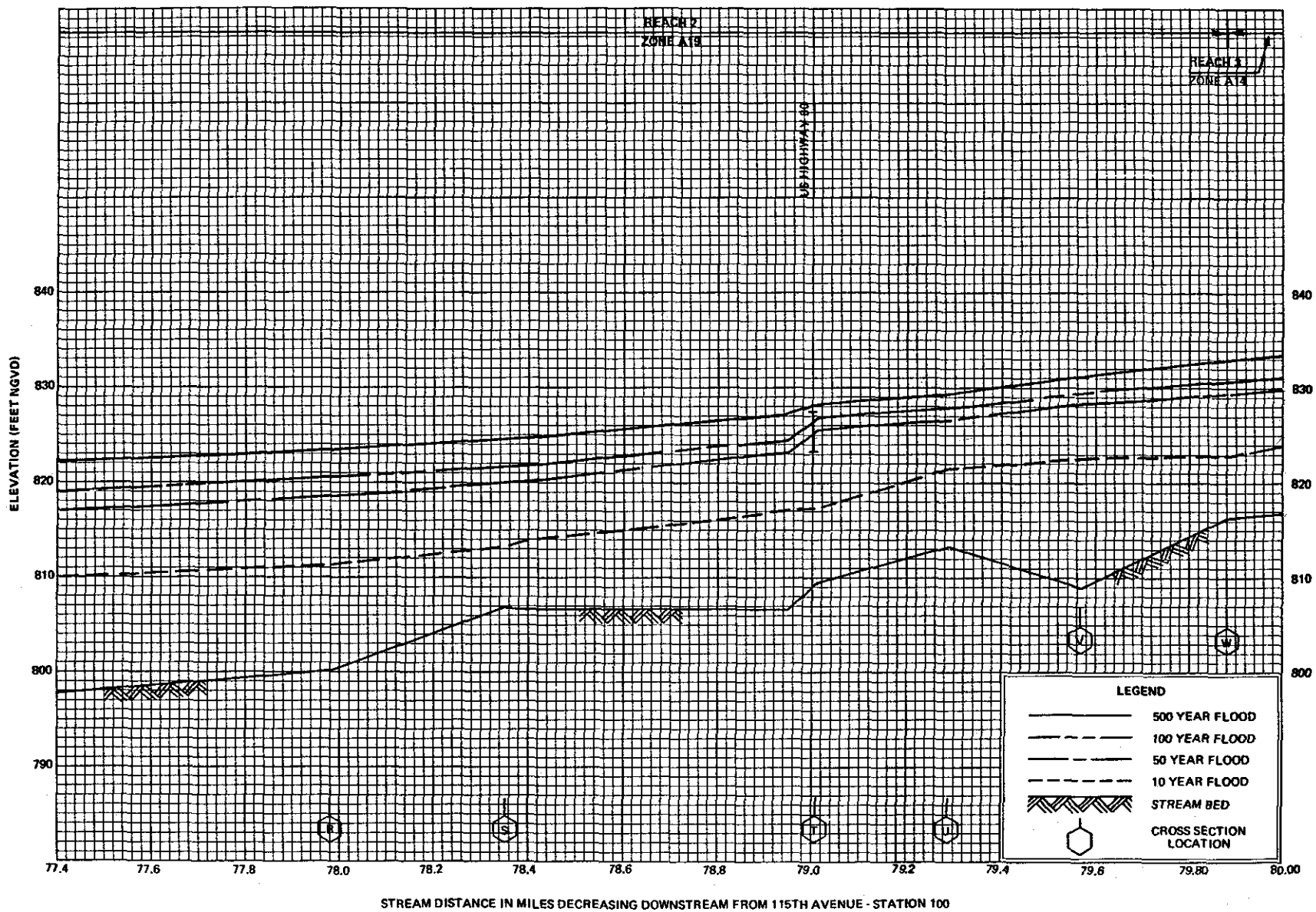
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

03P



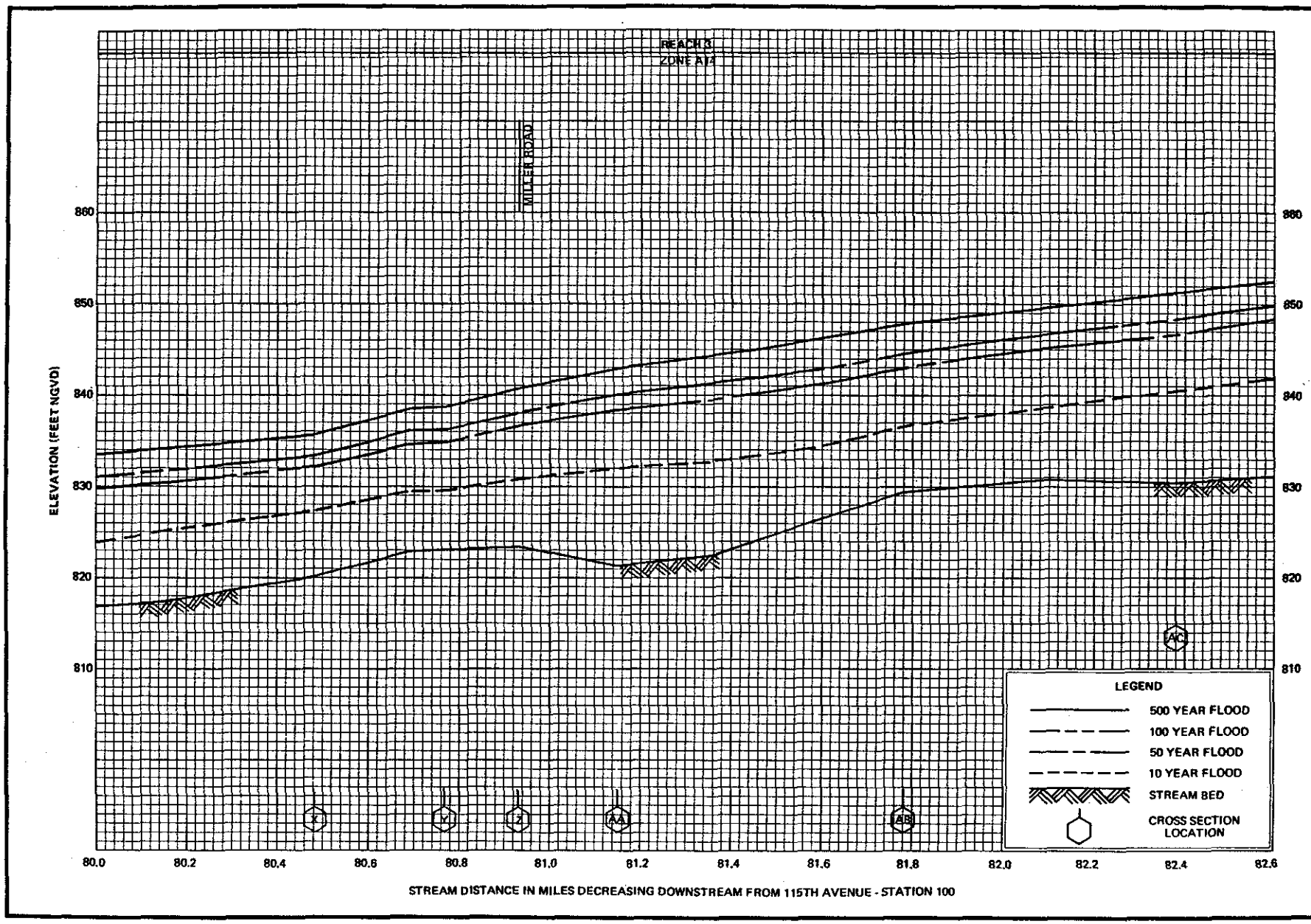
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

04P



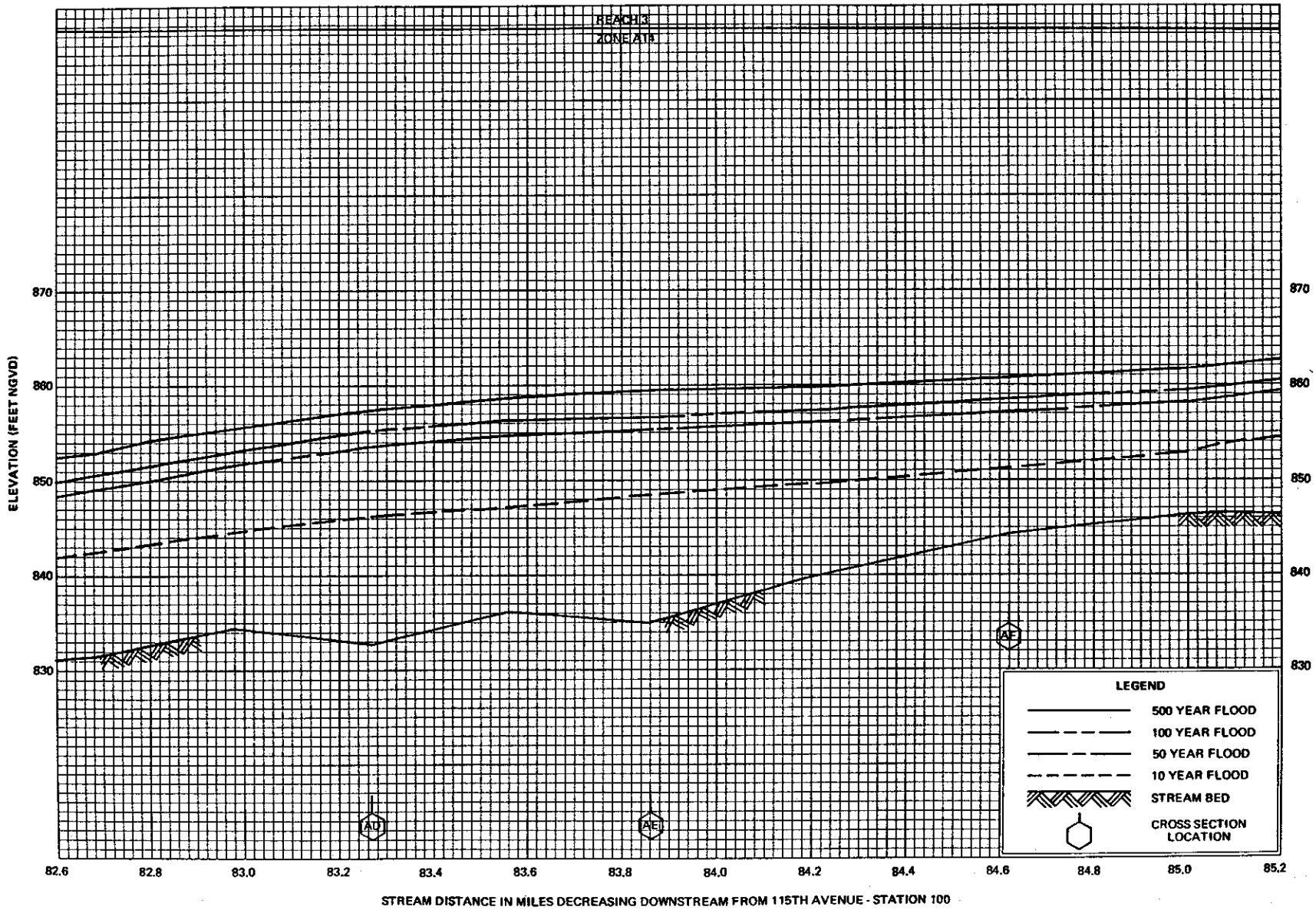
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

05P



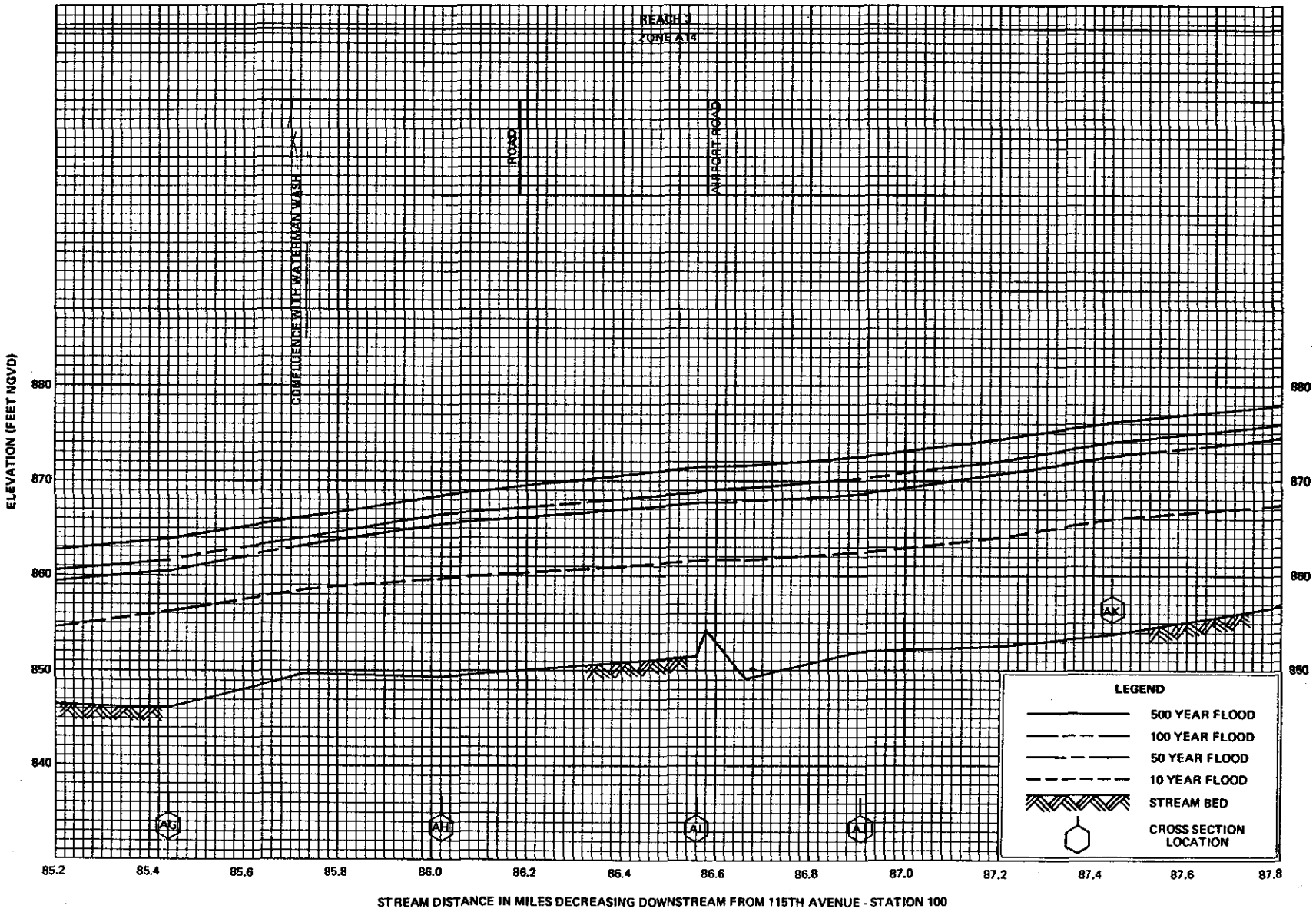
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

06P



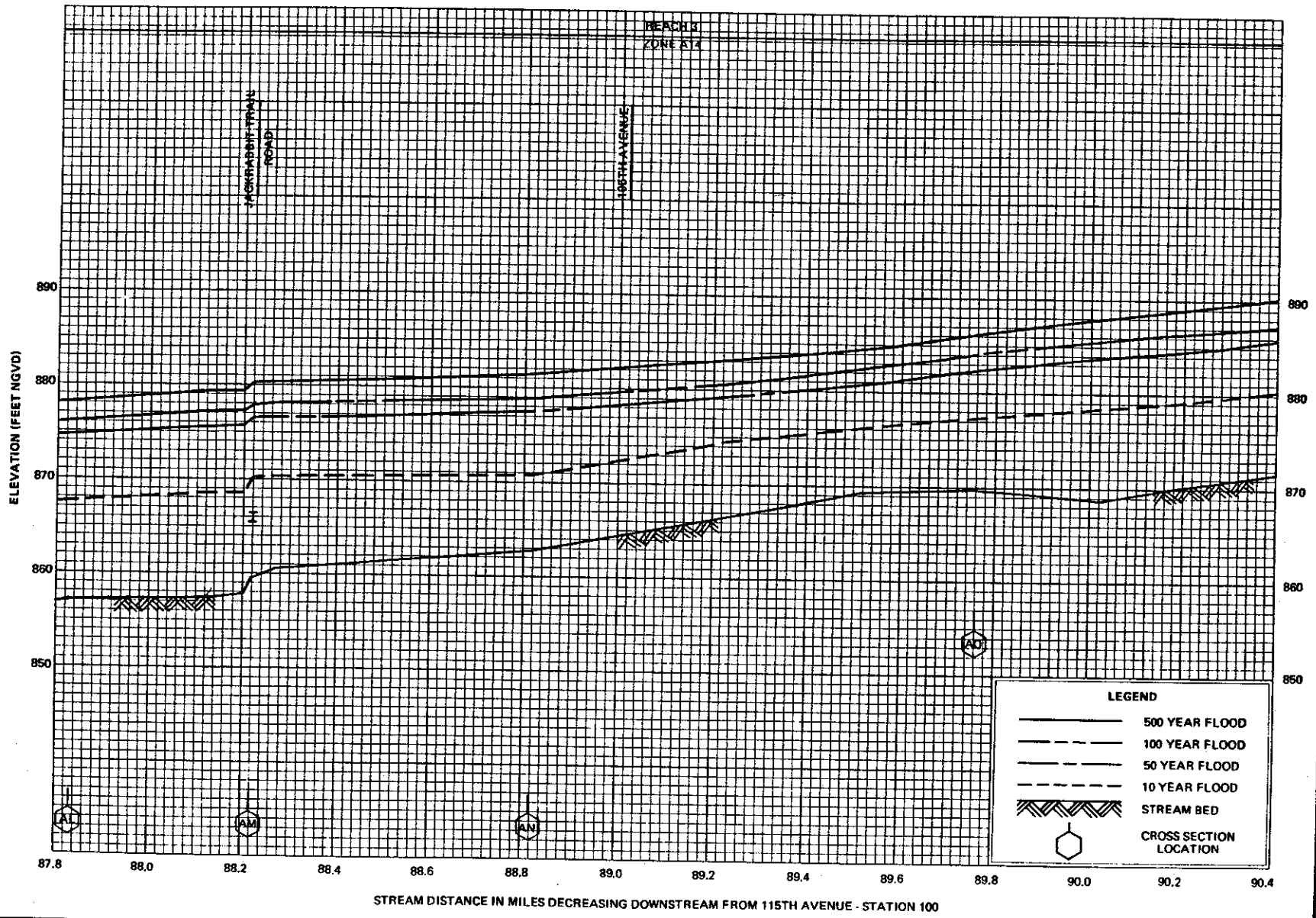
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

07P



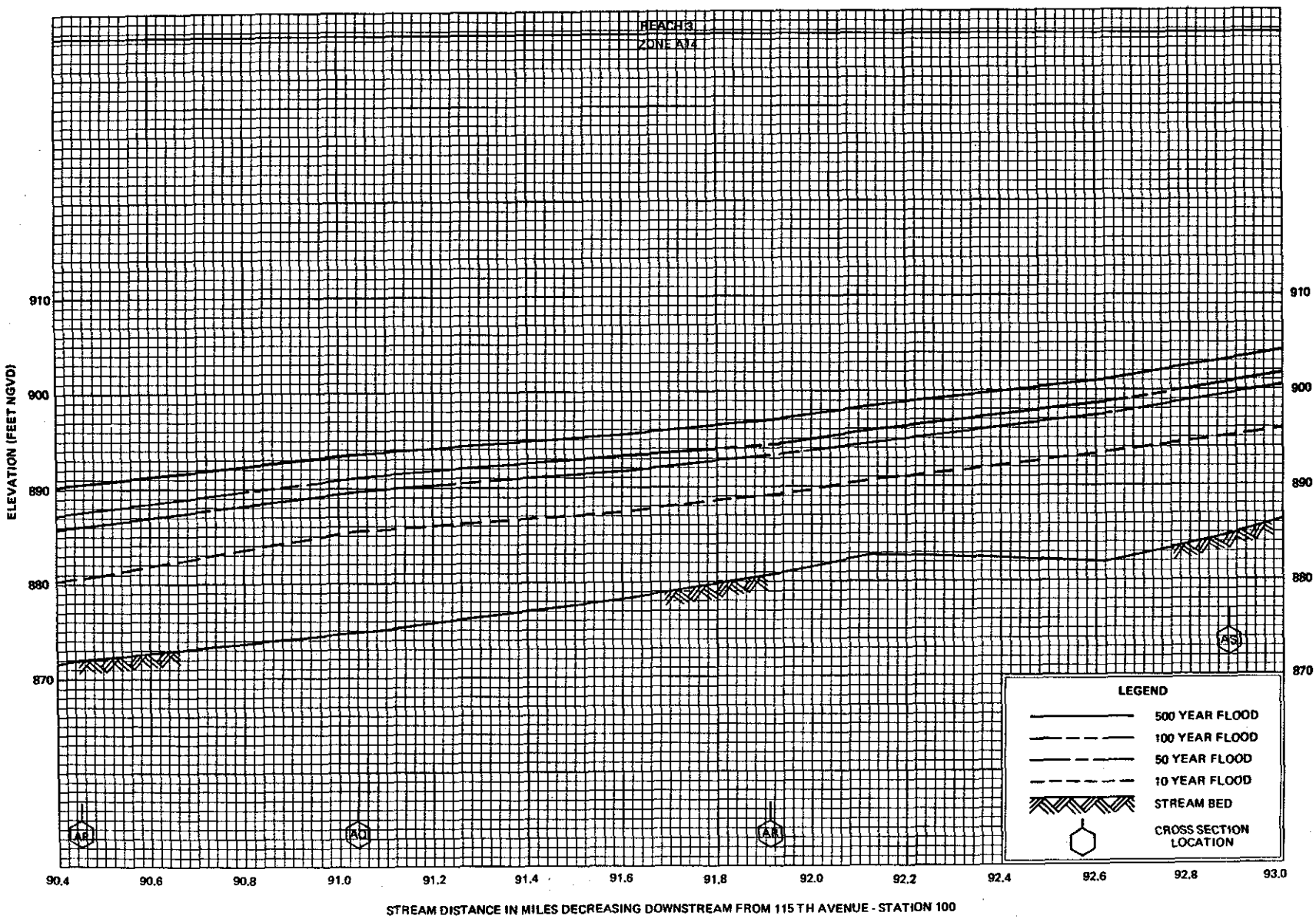
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

08P



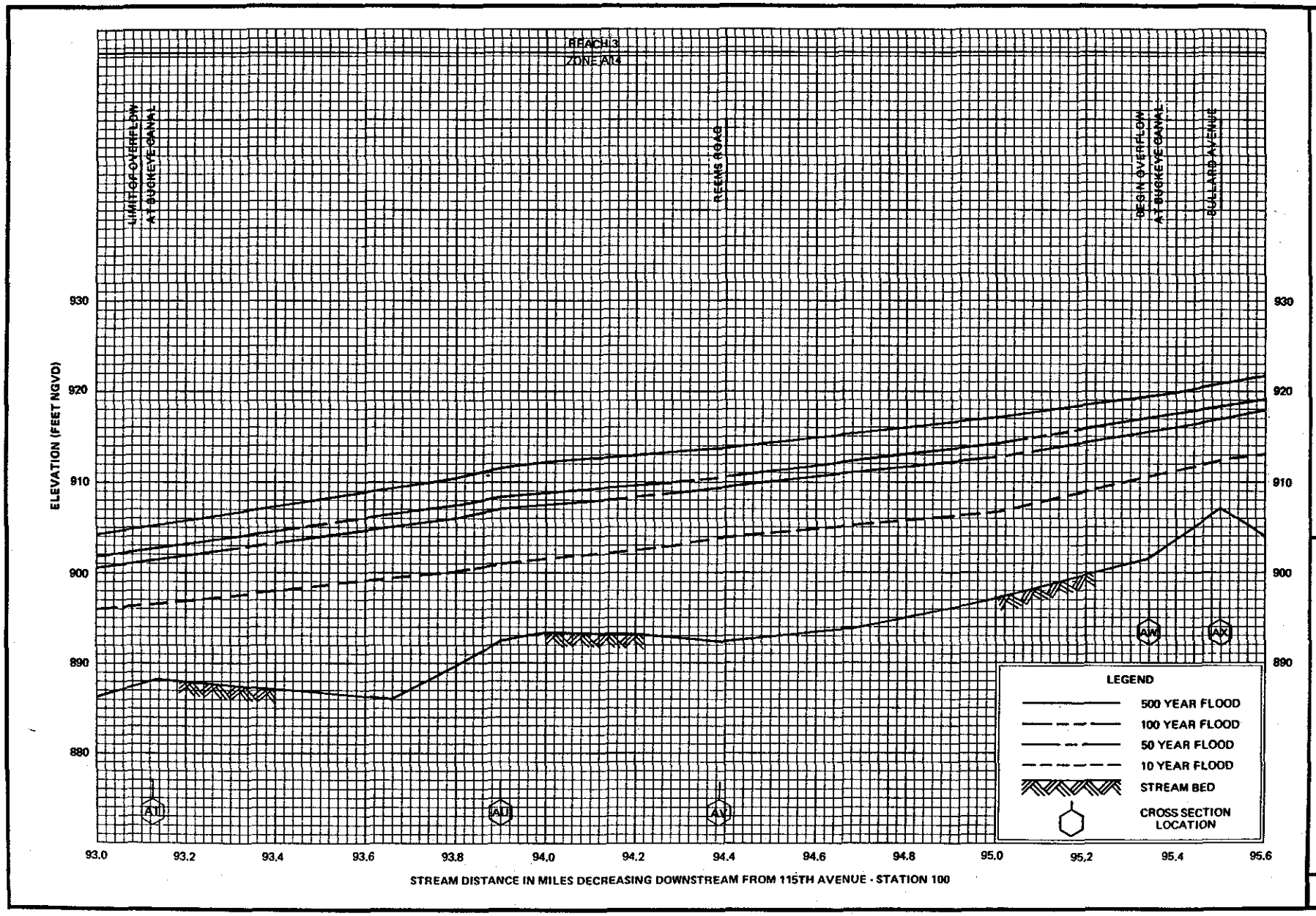
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

09P



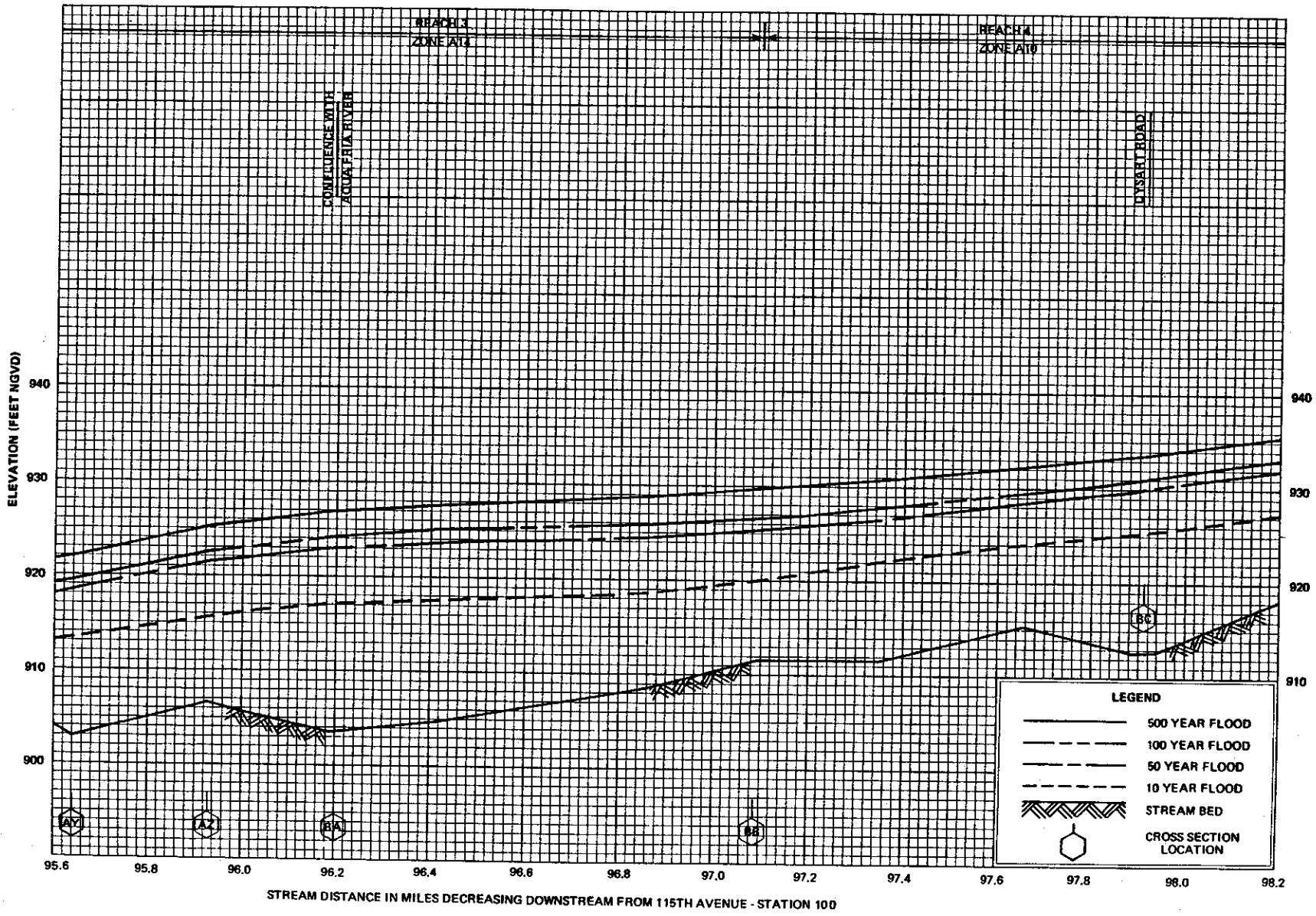
FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

10P

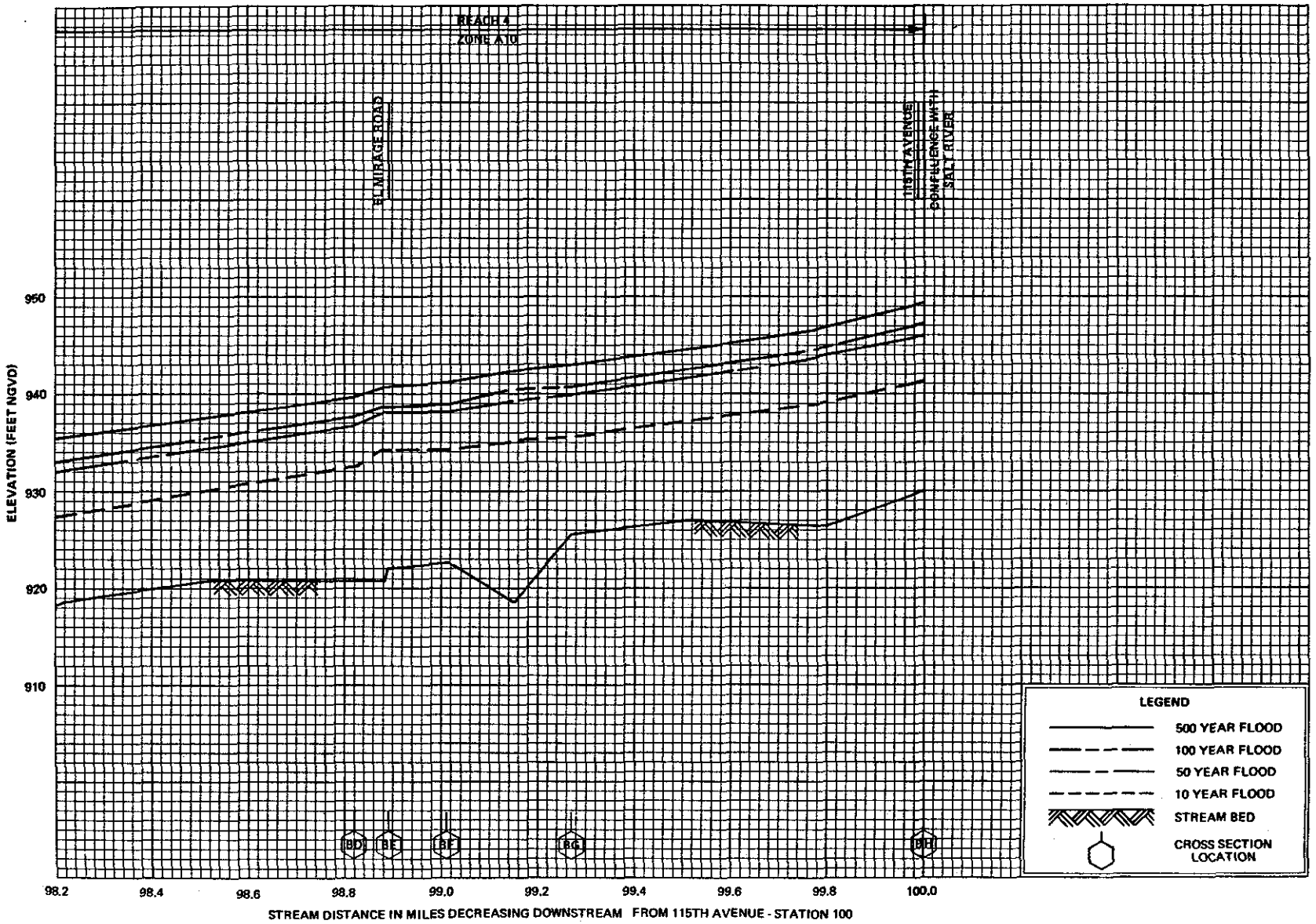


FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

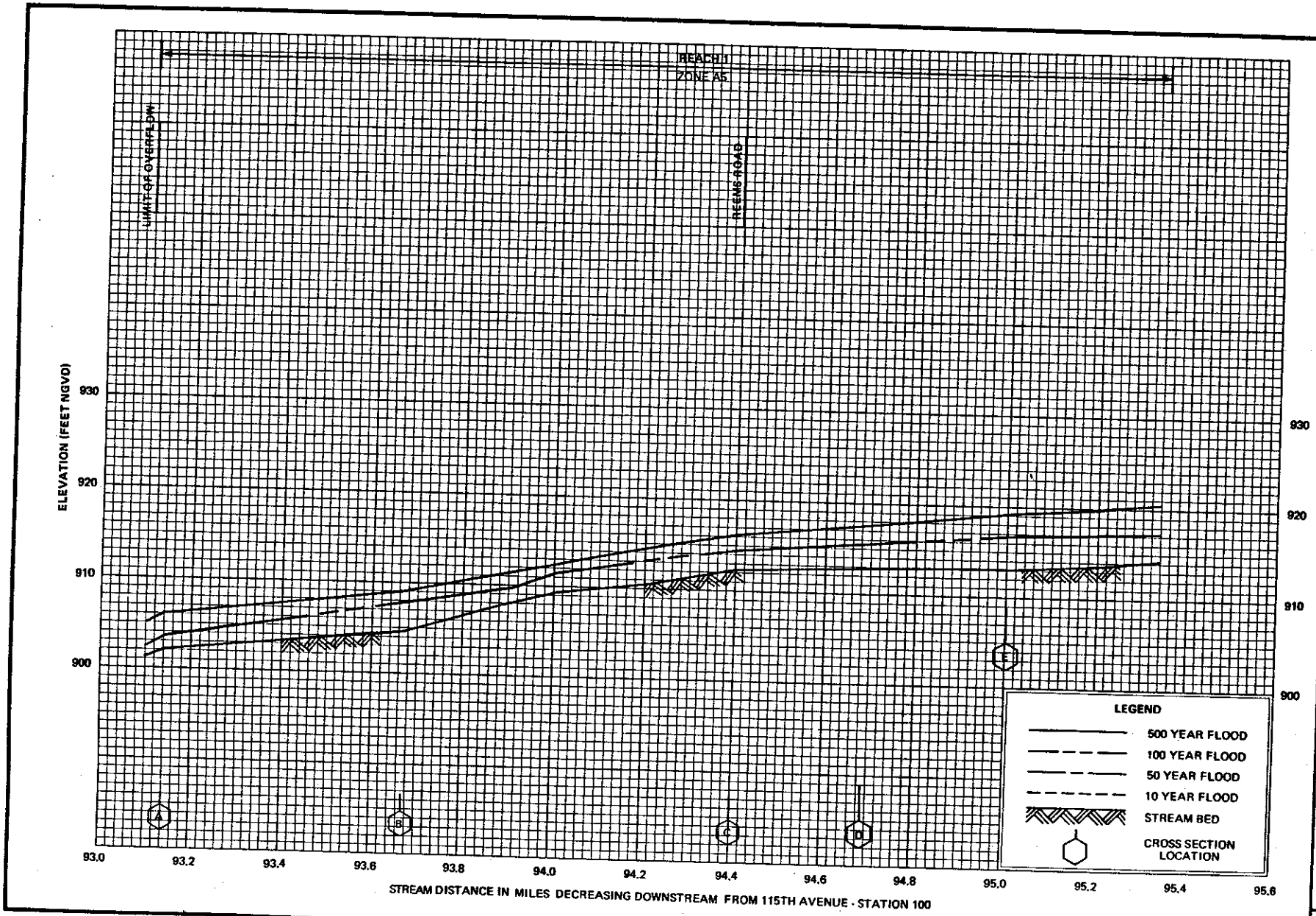


FLOOD PROFILES

GILA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

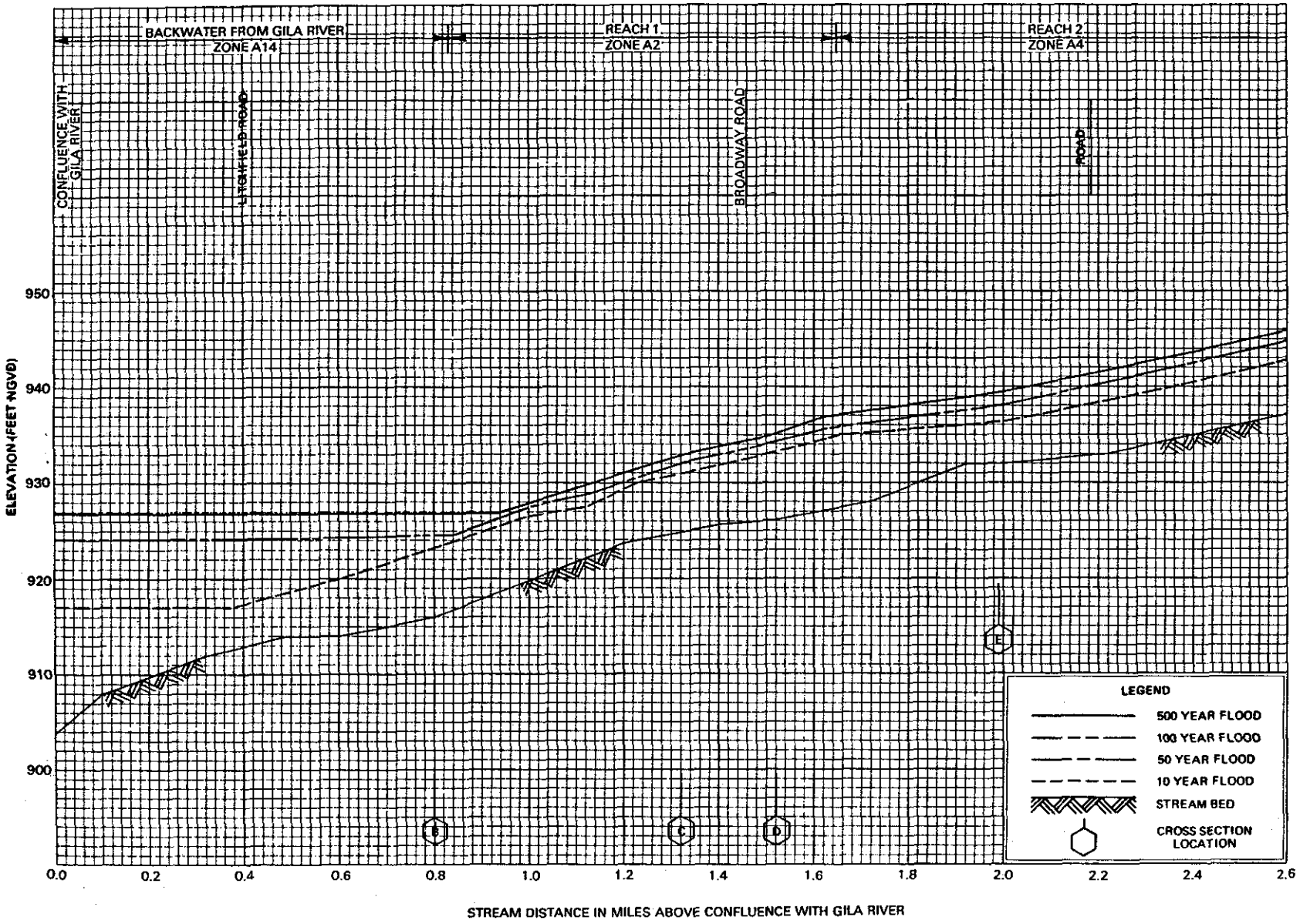


FLOOD PROFILES

GILA RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

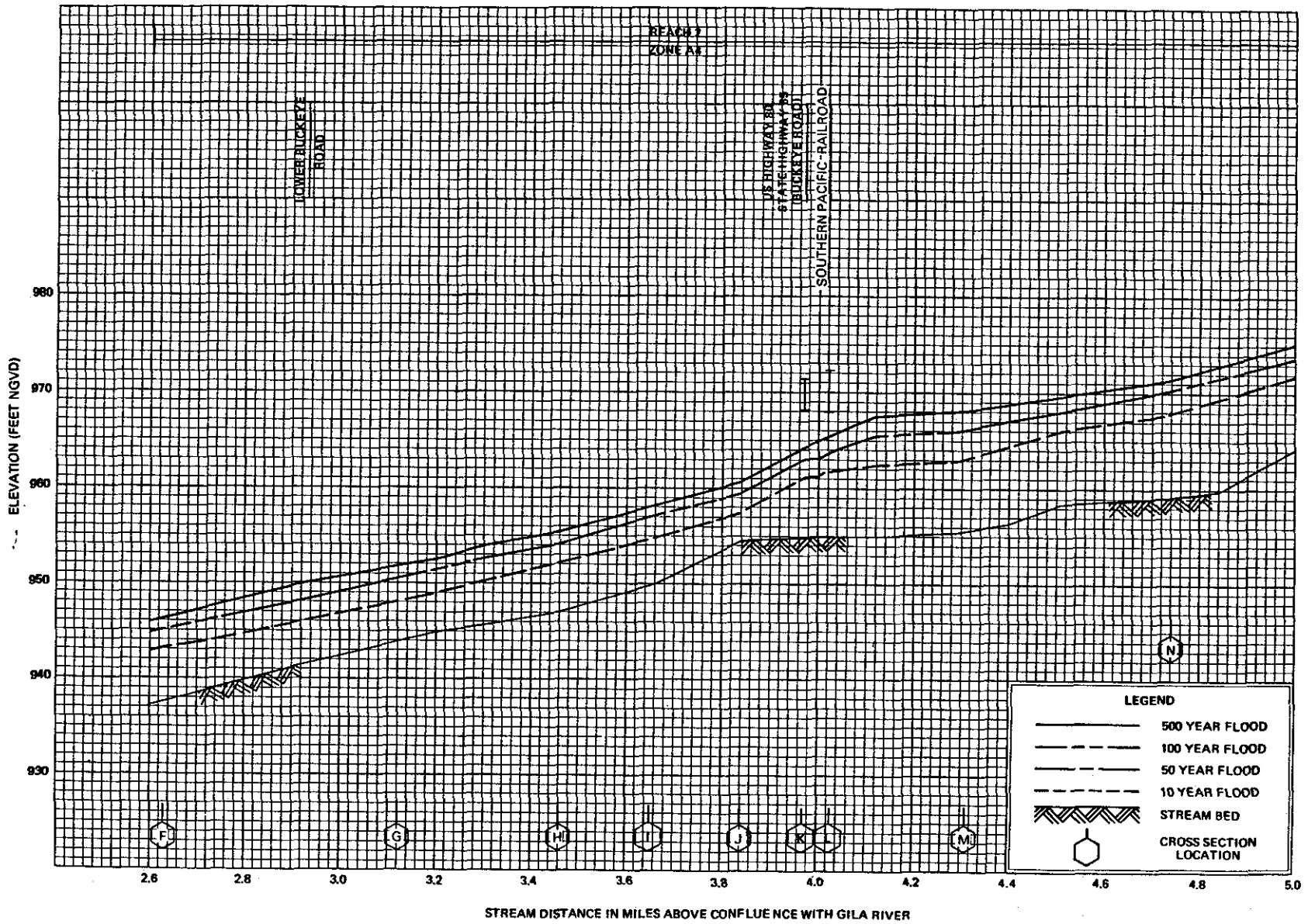


FLOOD PROFILES

AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



FLOOD PROFILES

AGUA FRIA RIVER

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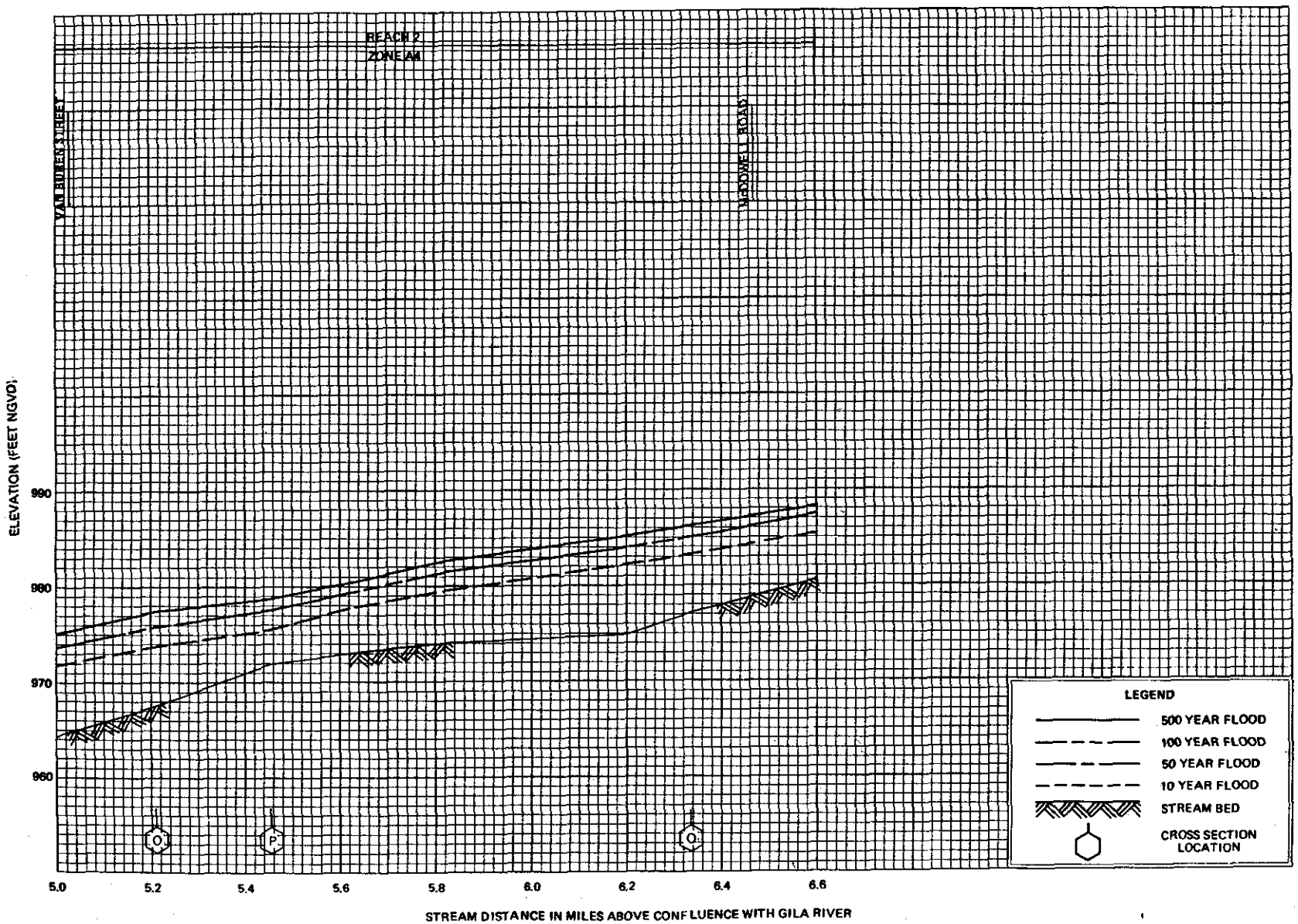
MARICOPA COUNTY, AZ



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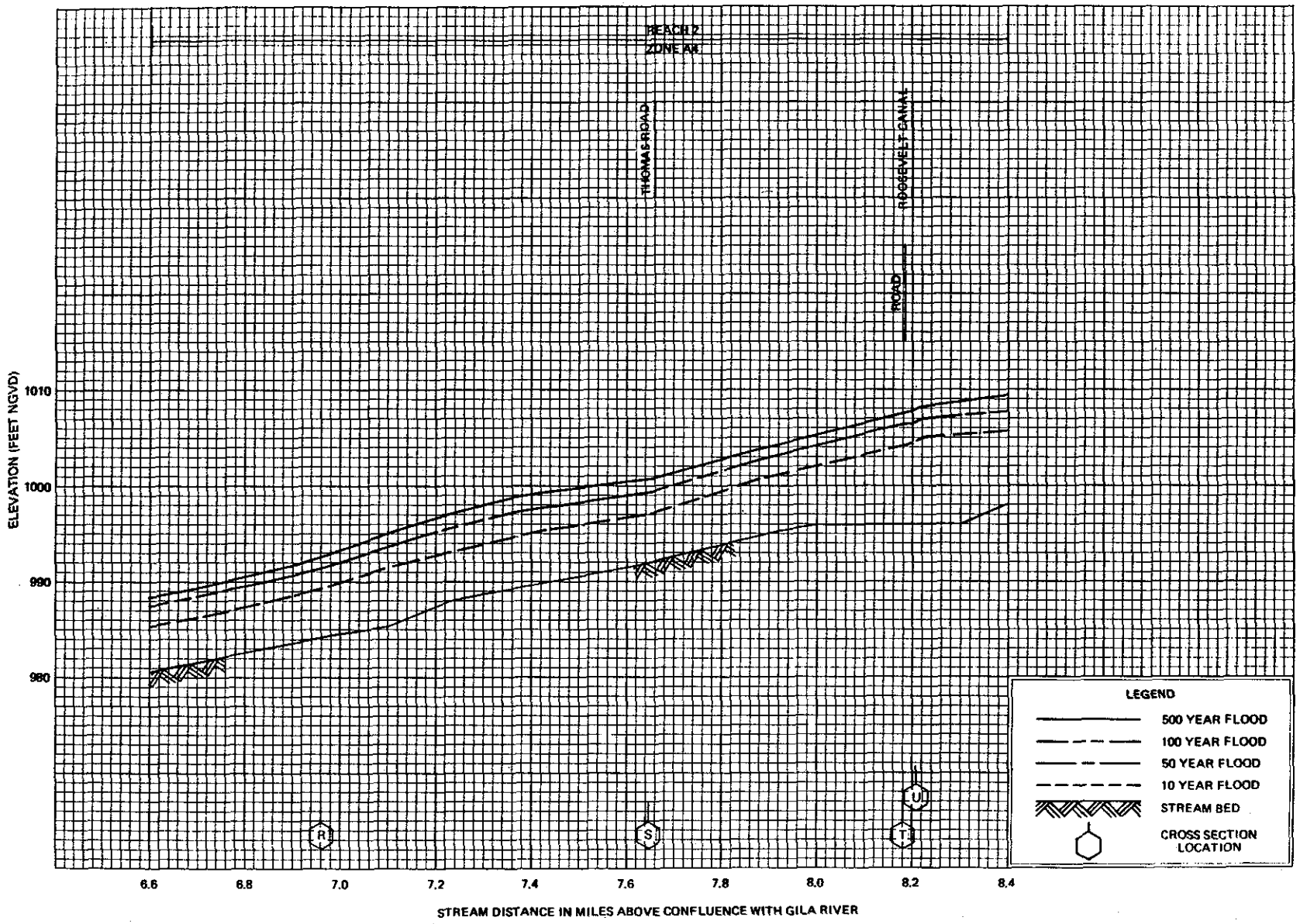
MARICOPA COUNTY, AZ



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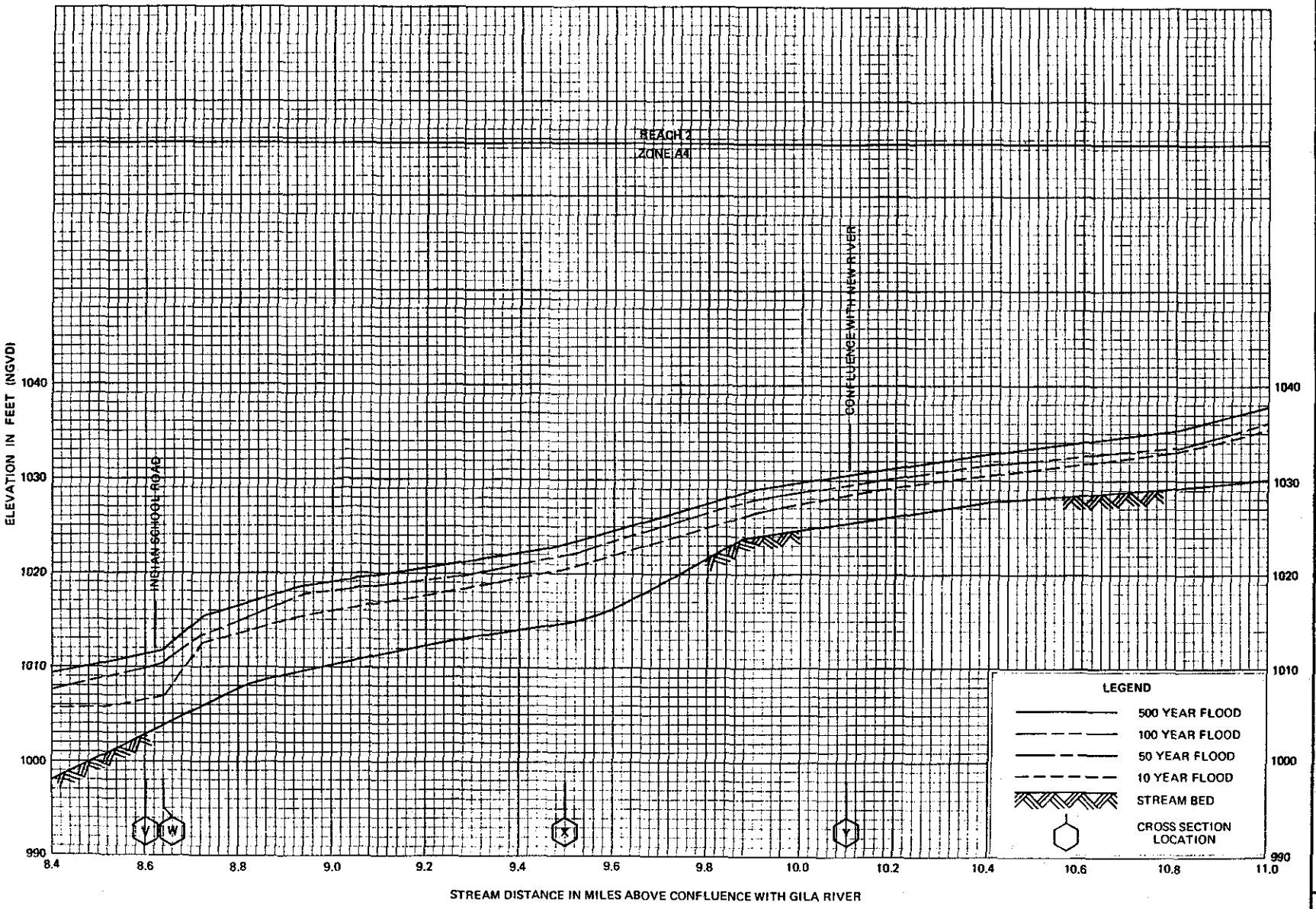
MARICOPA COUNTY, AZ



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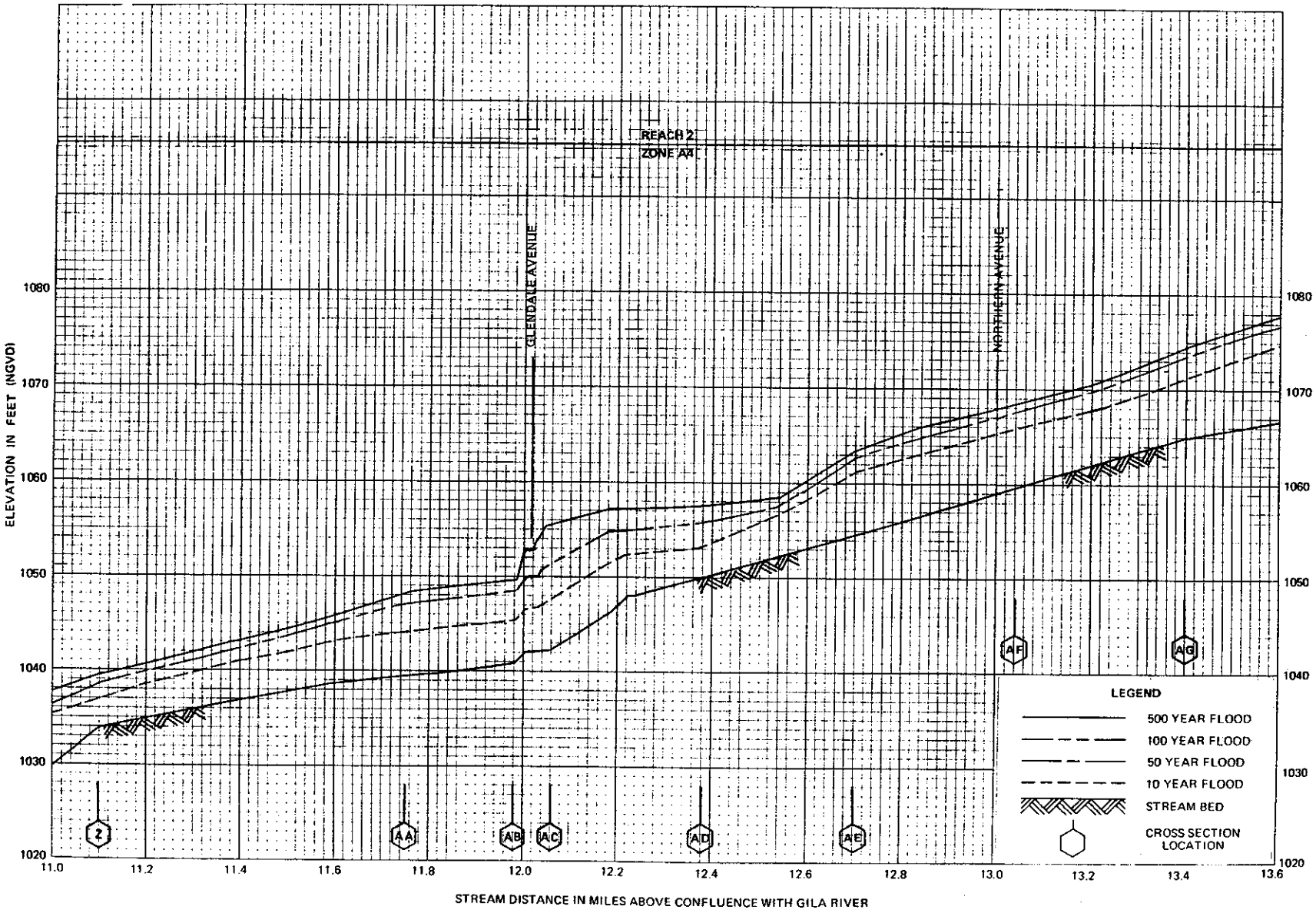
MARICOPA COUNTY, AZ



FLOOD PROFILES

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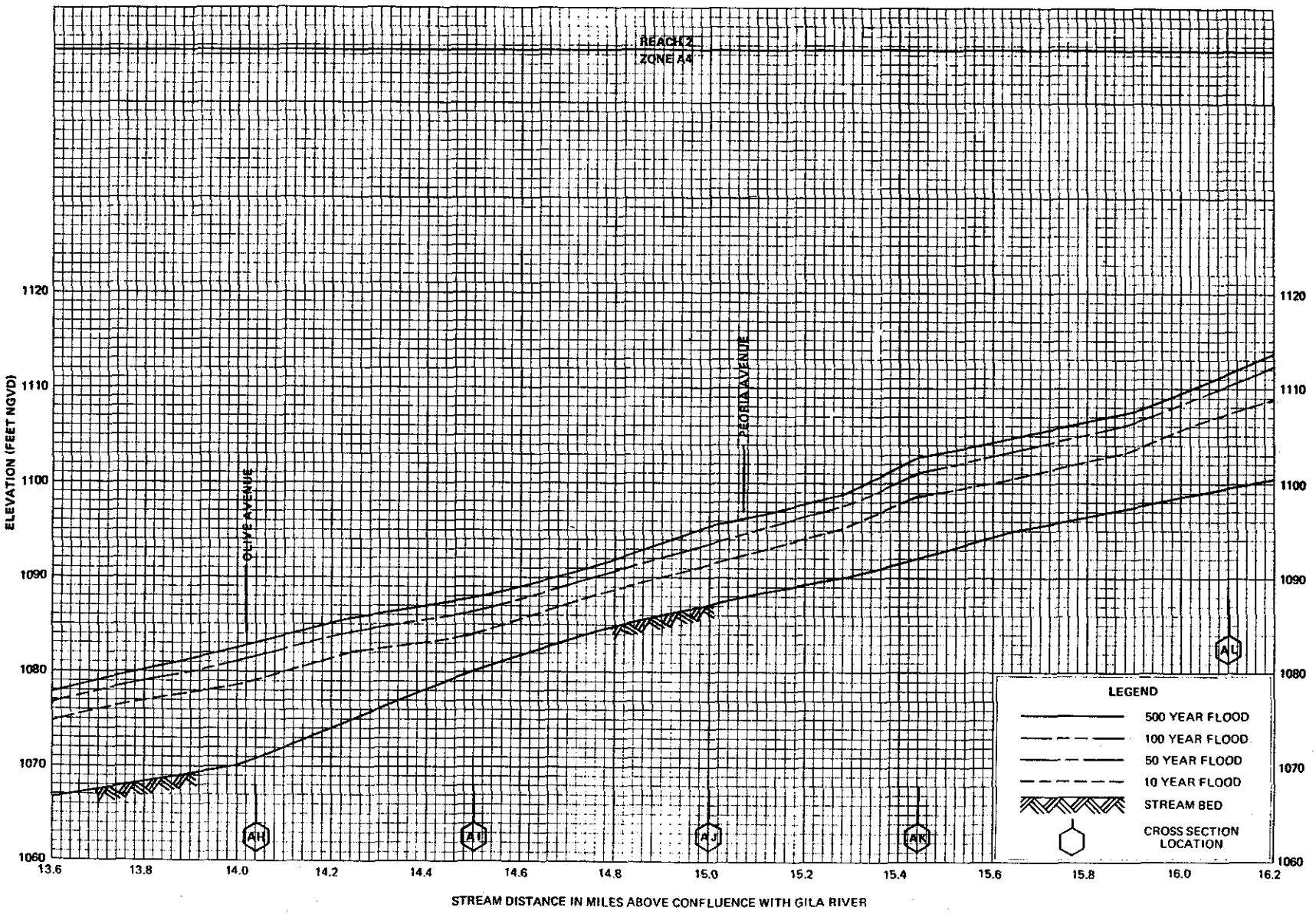
MARICOPA COUNTY, AZ



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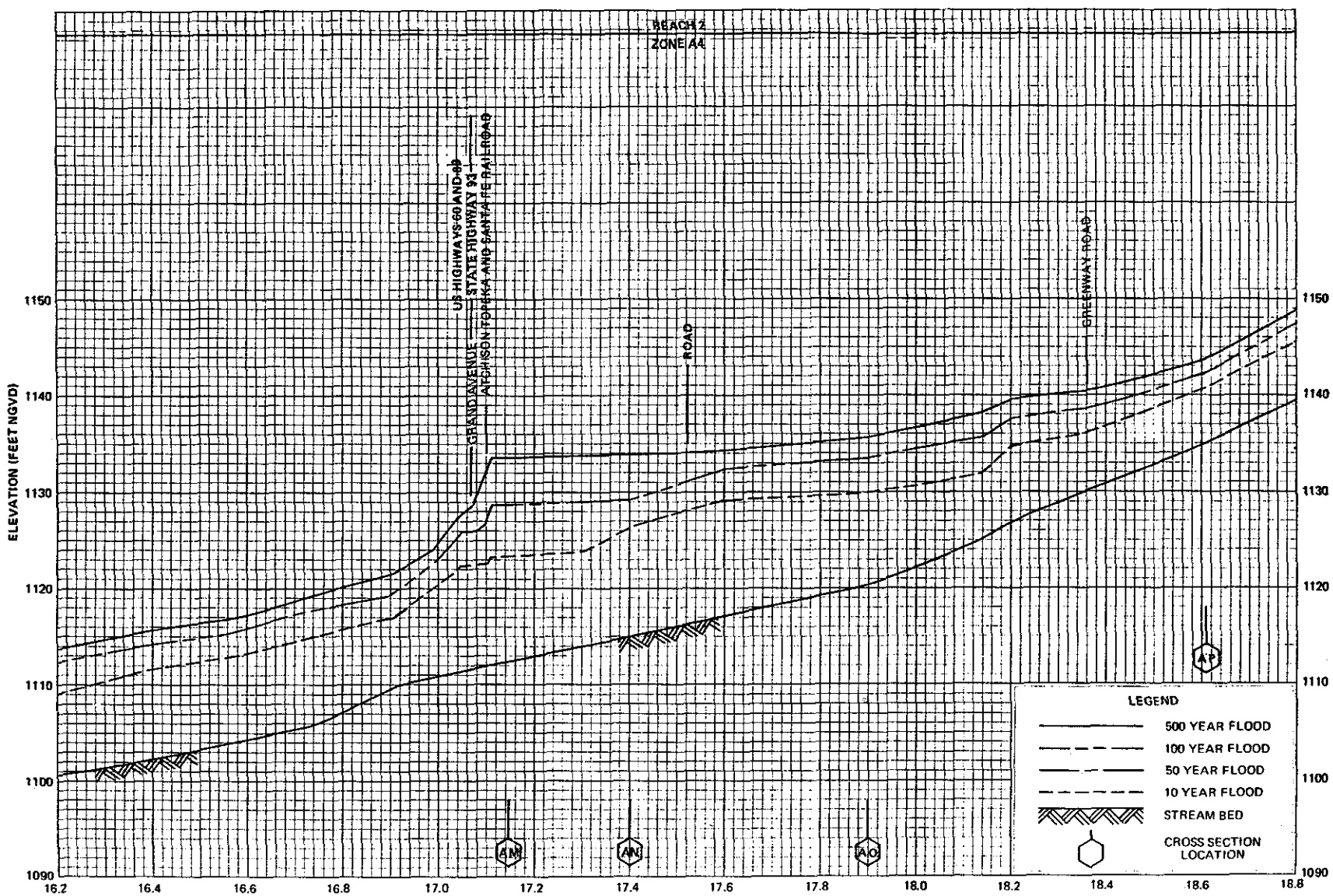
MARICOPA COUNTY, AZ



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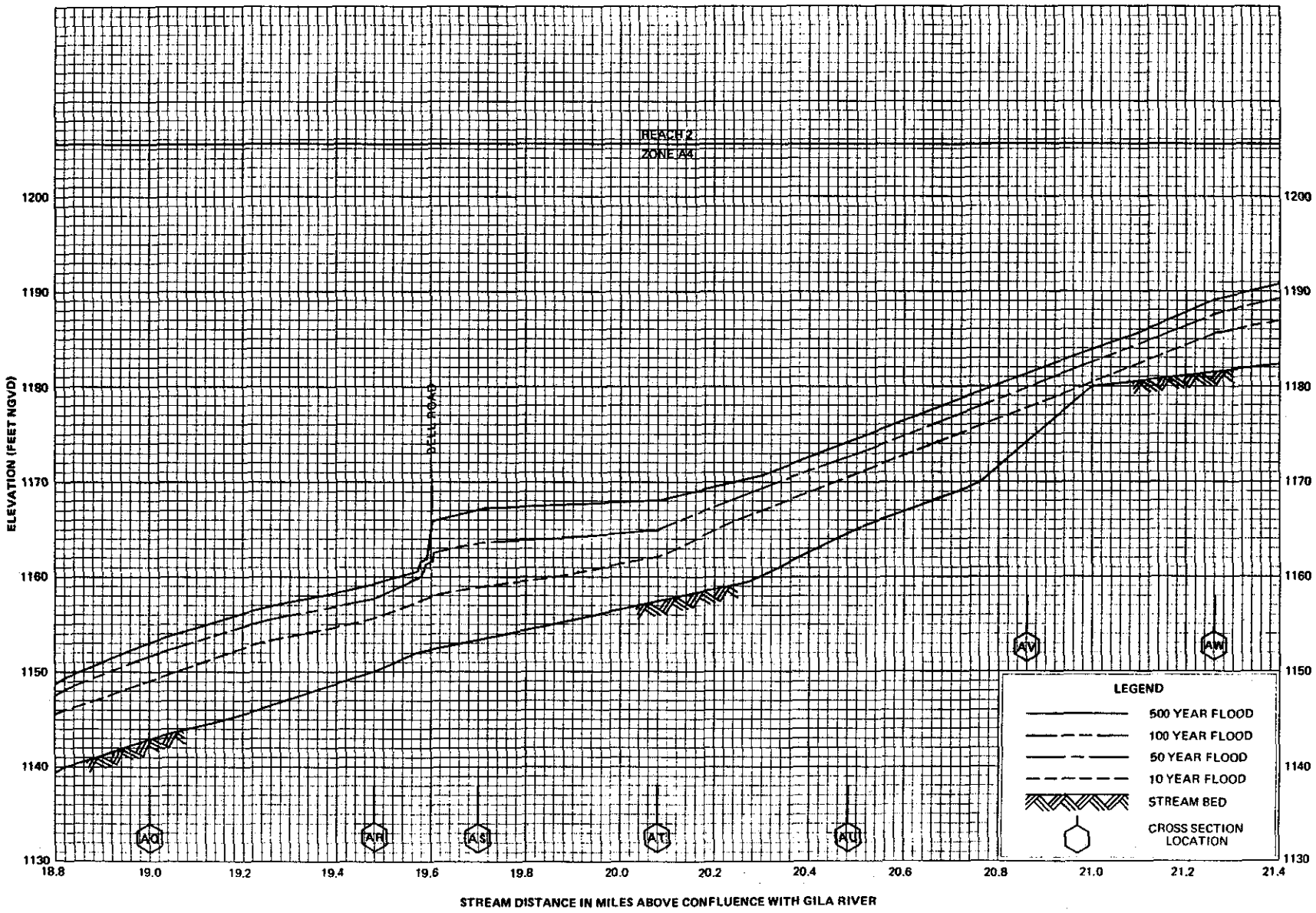
MARICOPA COUNTY, AZ



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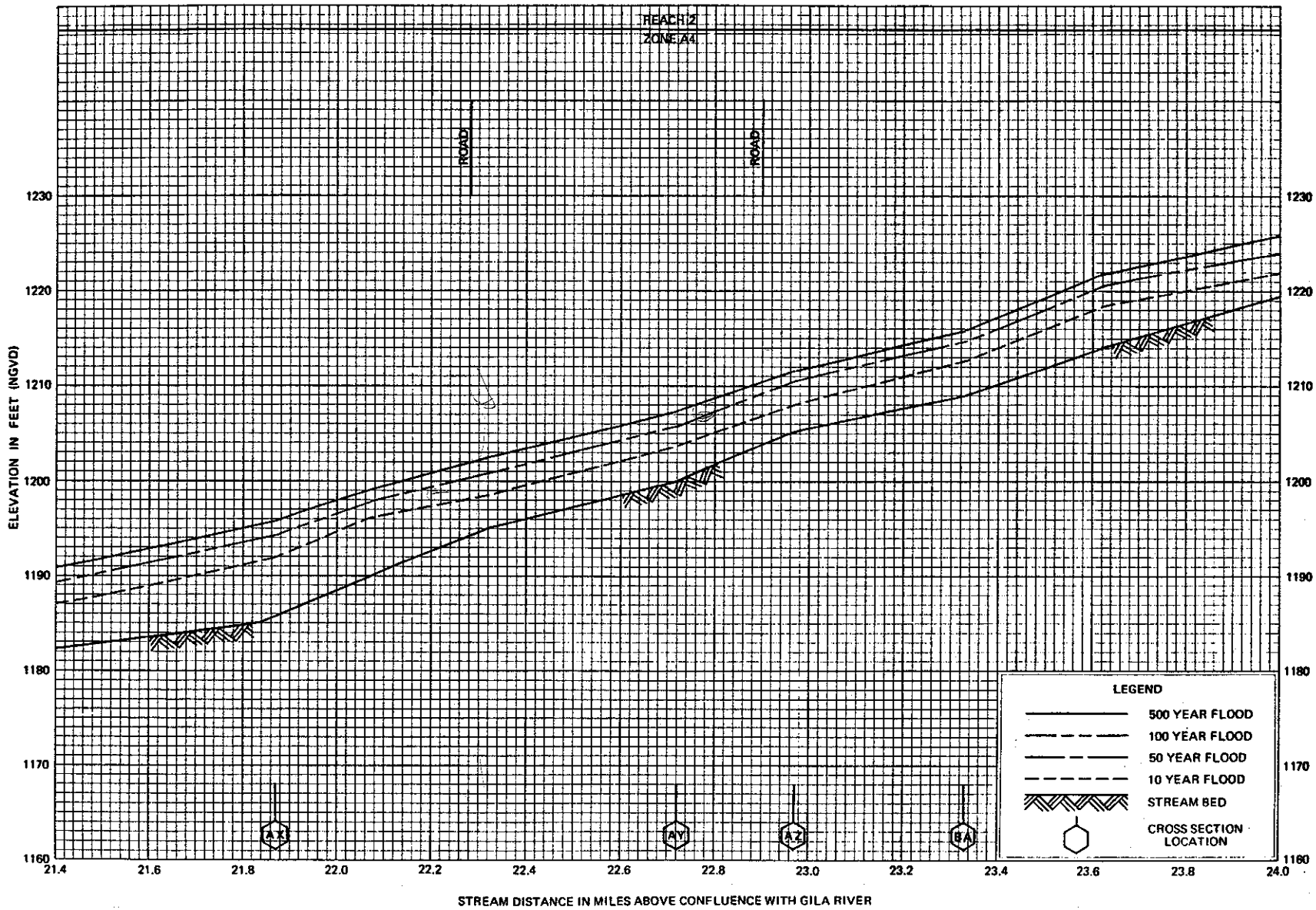
MARICOPA COUNTY, AZ



FLOOD PROFILES

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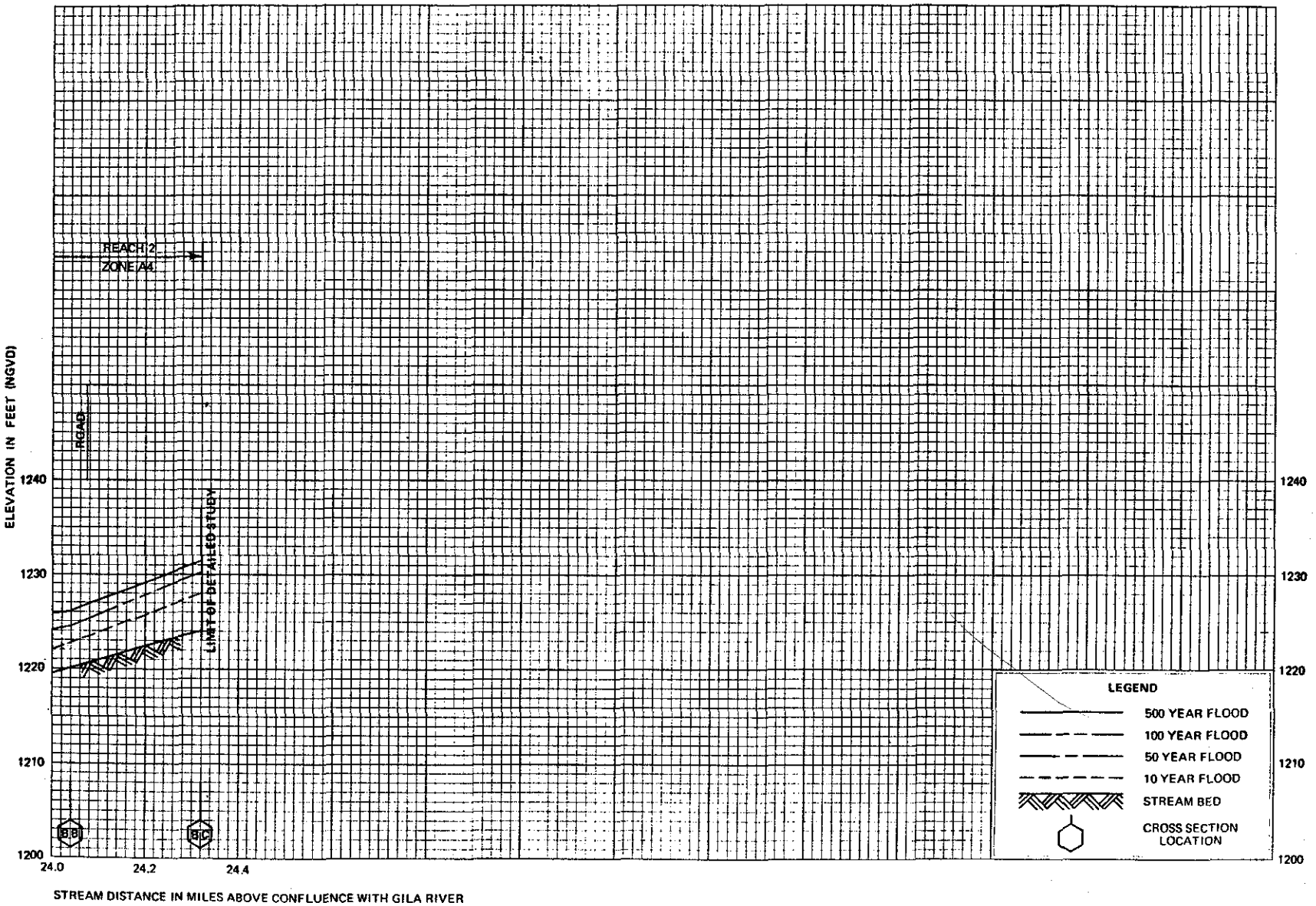
MARICOPA COUNTY, AZ



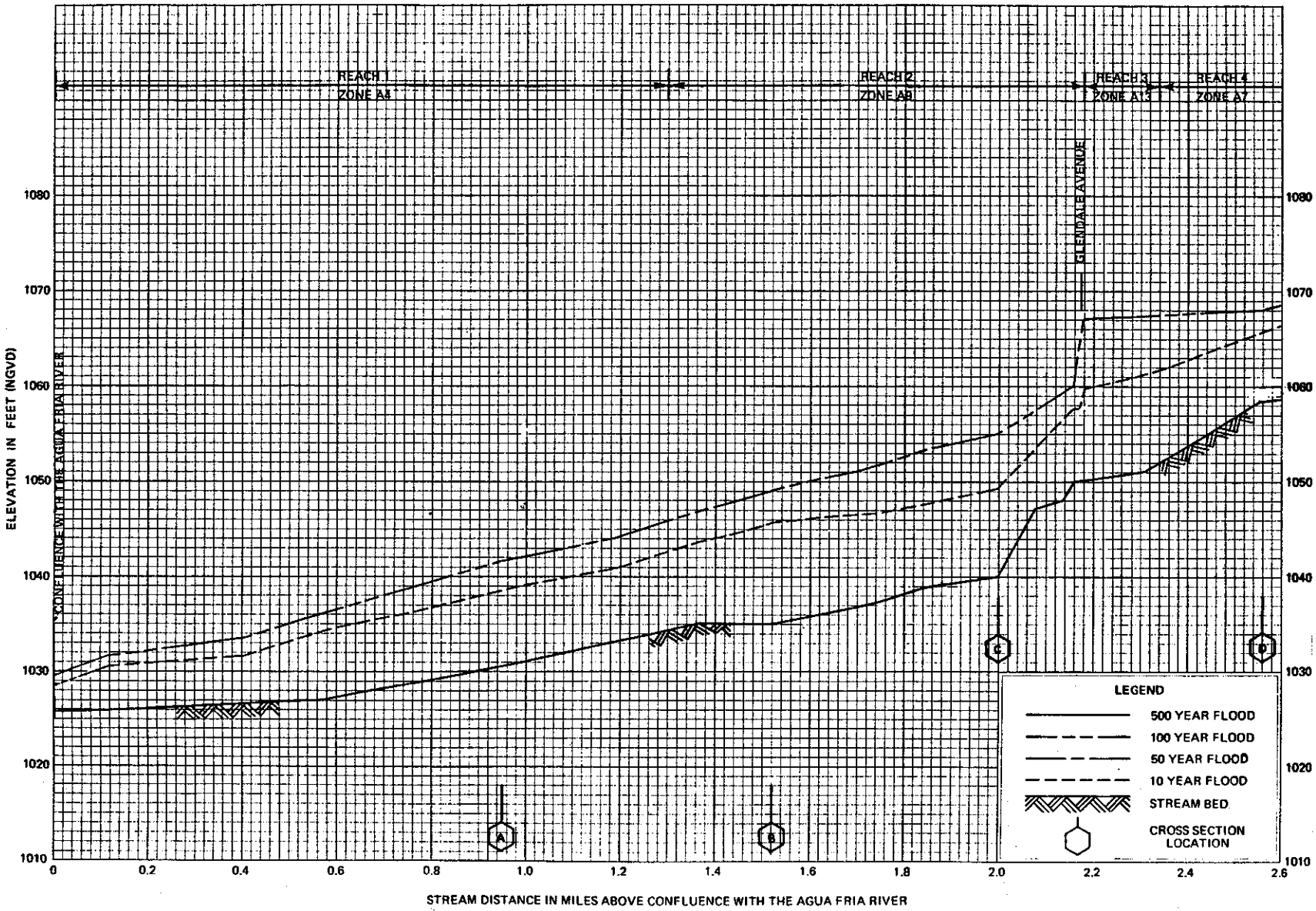
FLOOD PROFILES

AGUA FRIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

24P

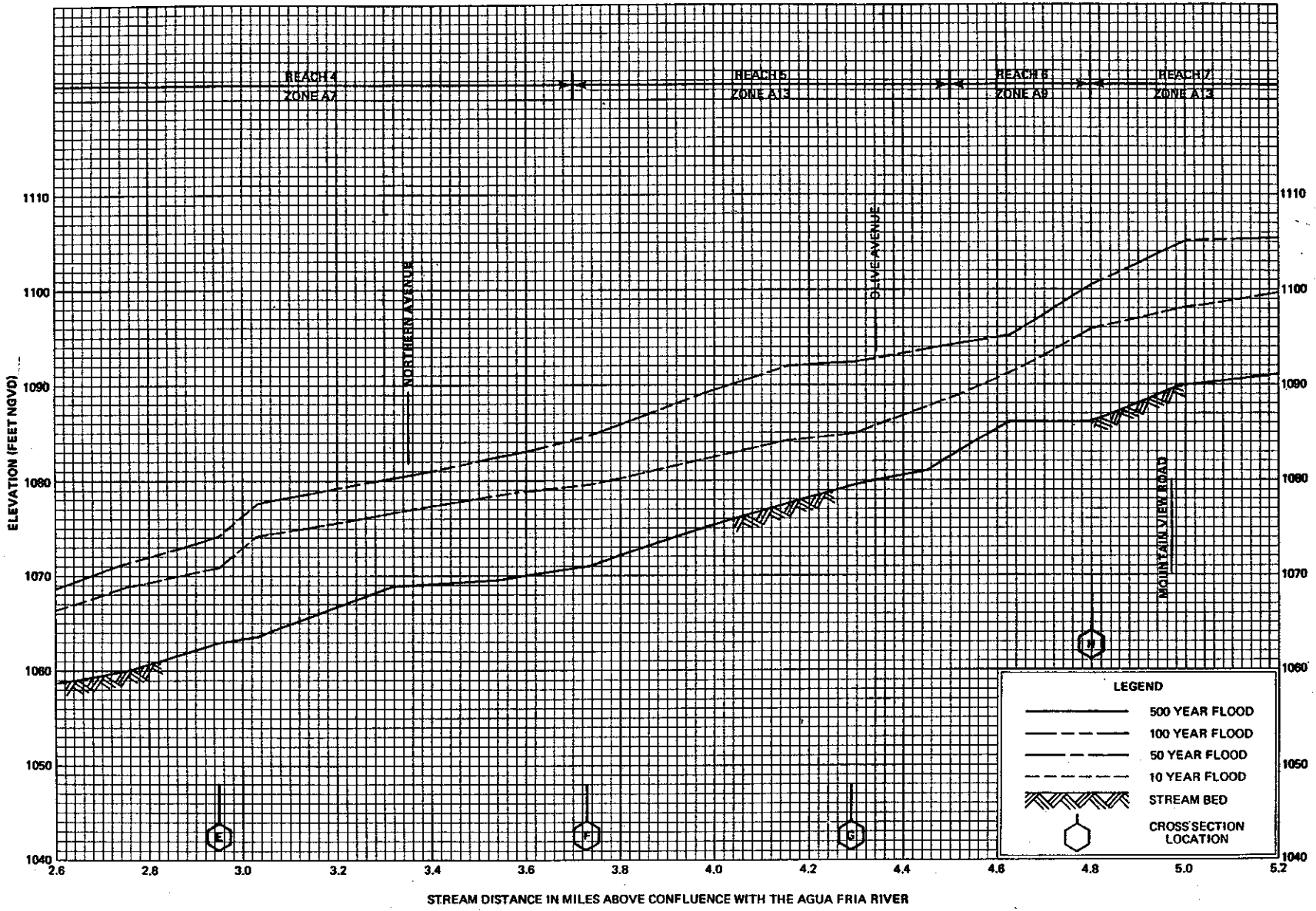


FLOOD PROFILES

NEW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



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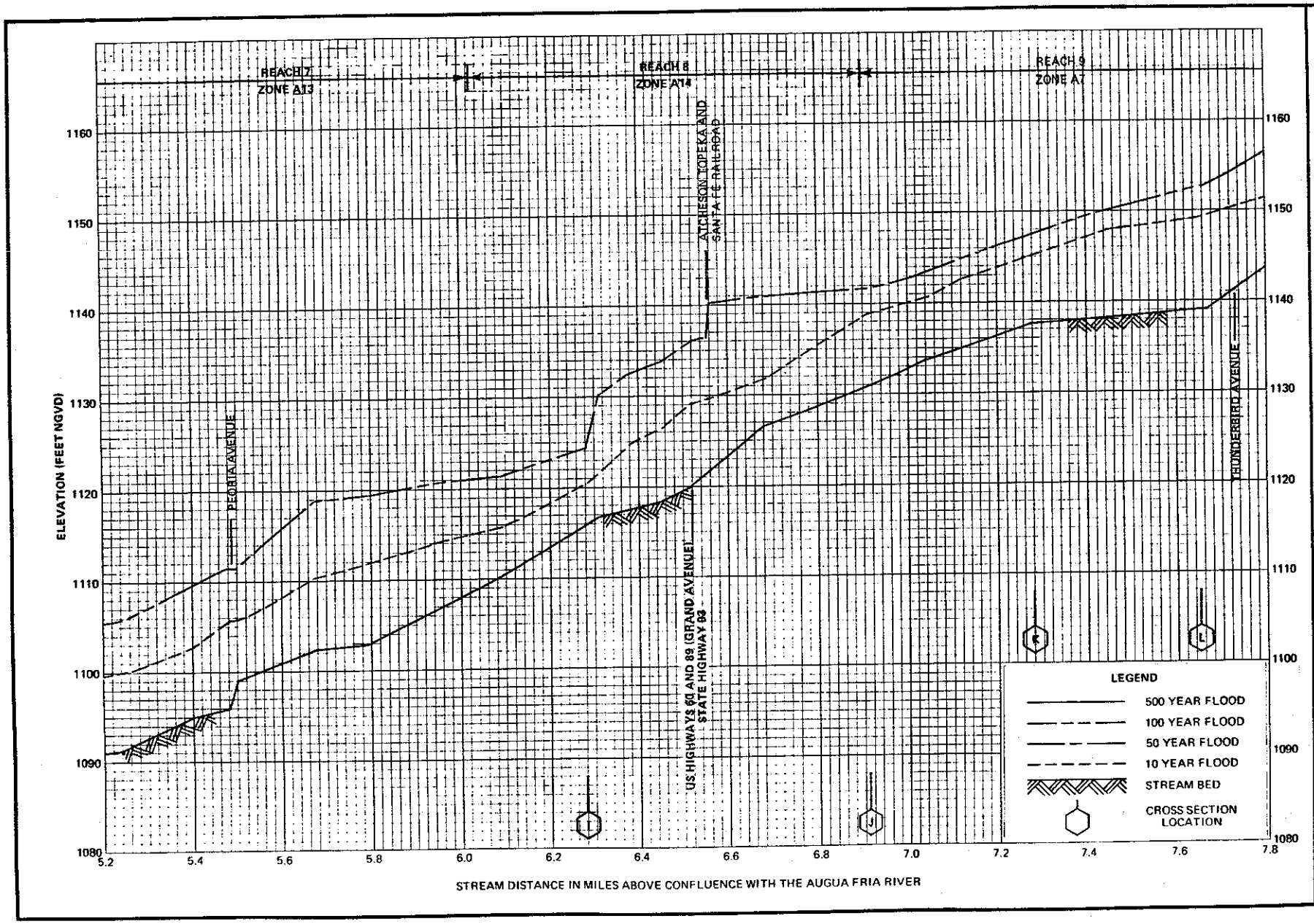
NEW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



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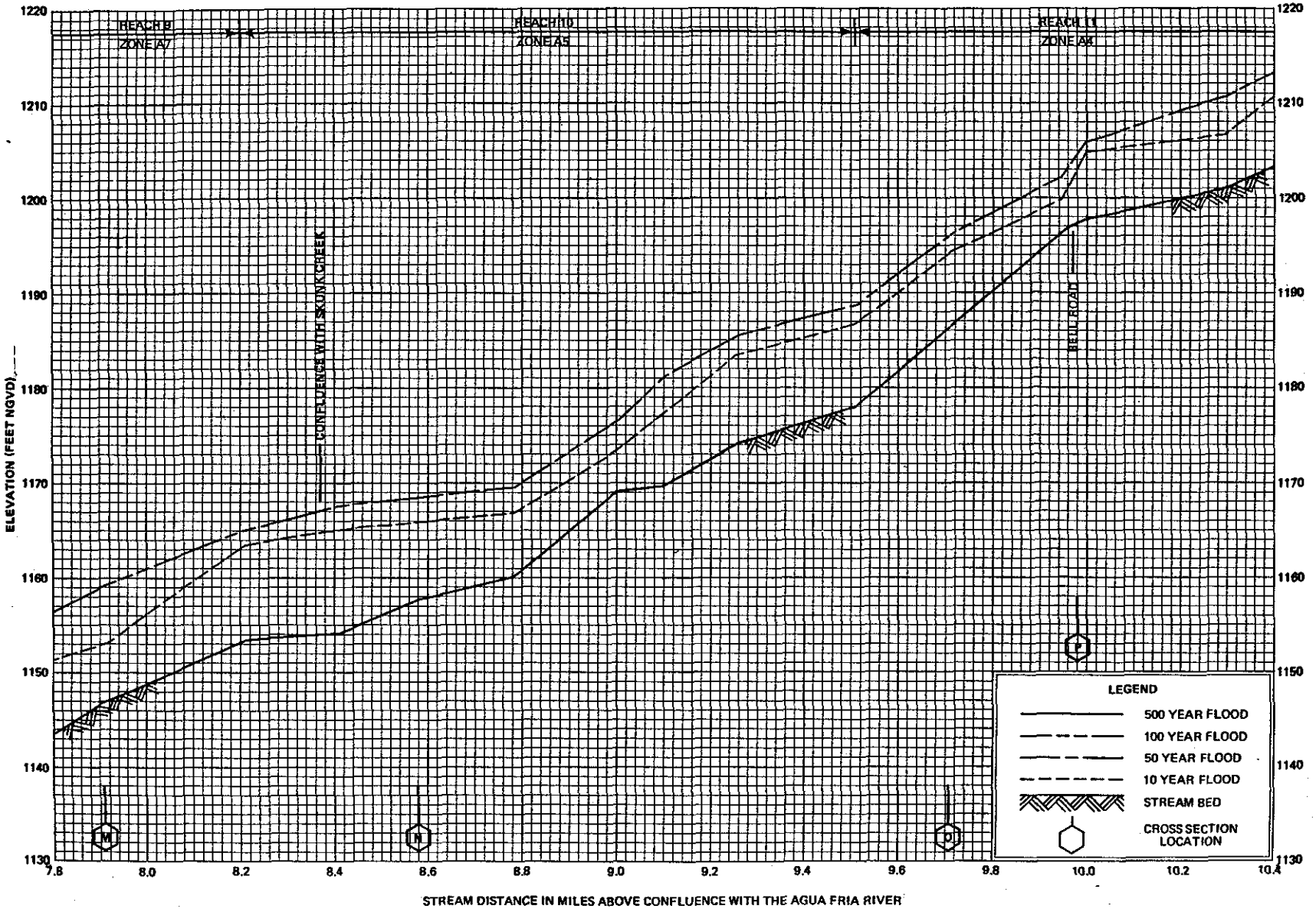
NEW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



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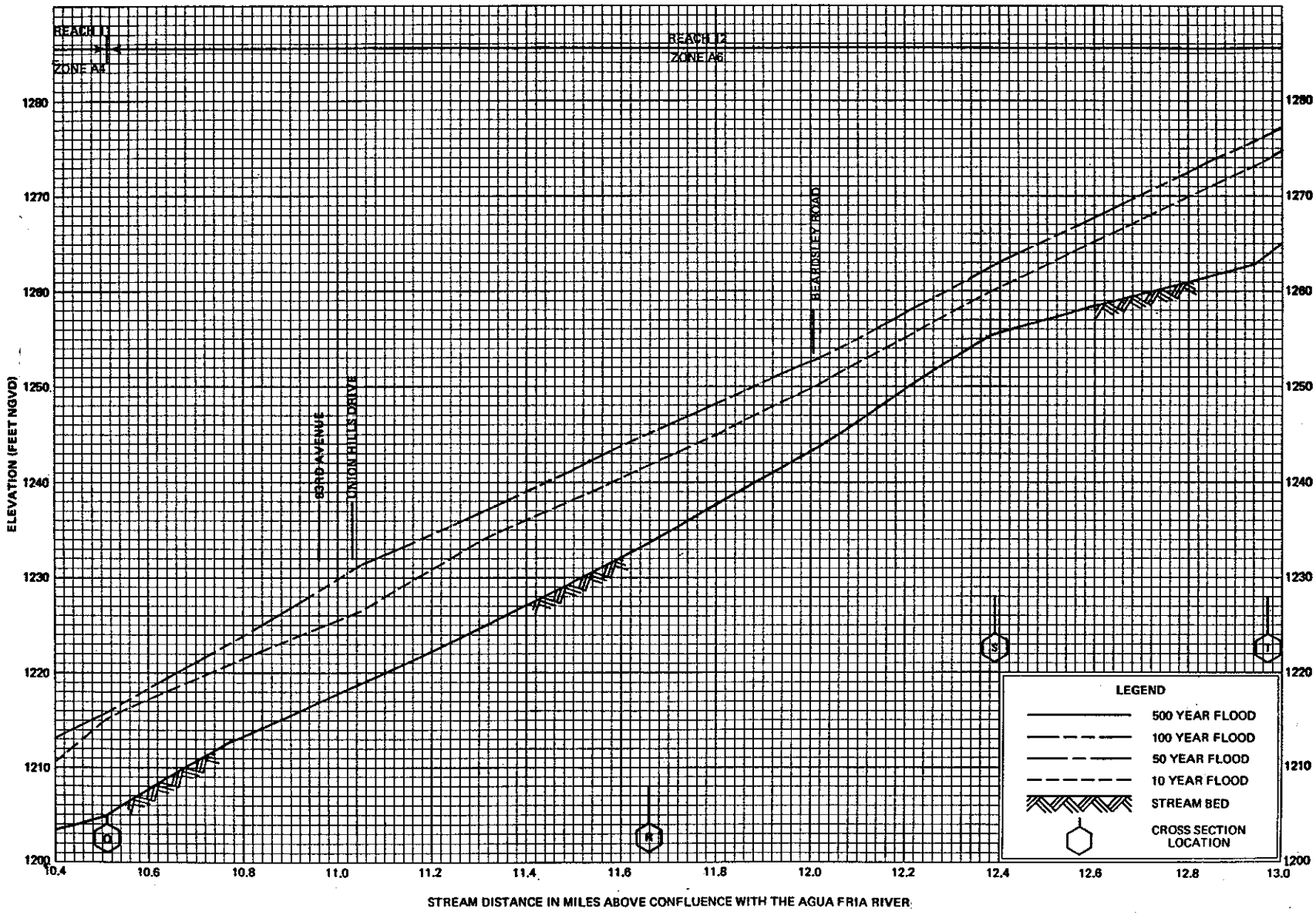
NEW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



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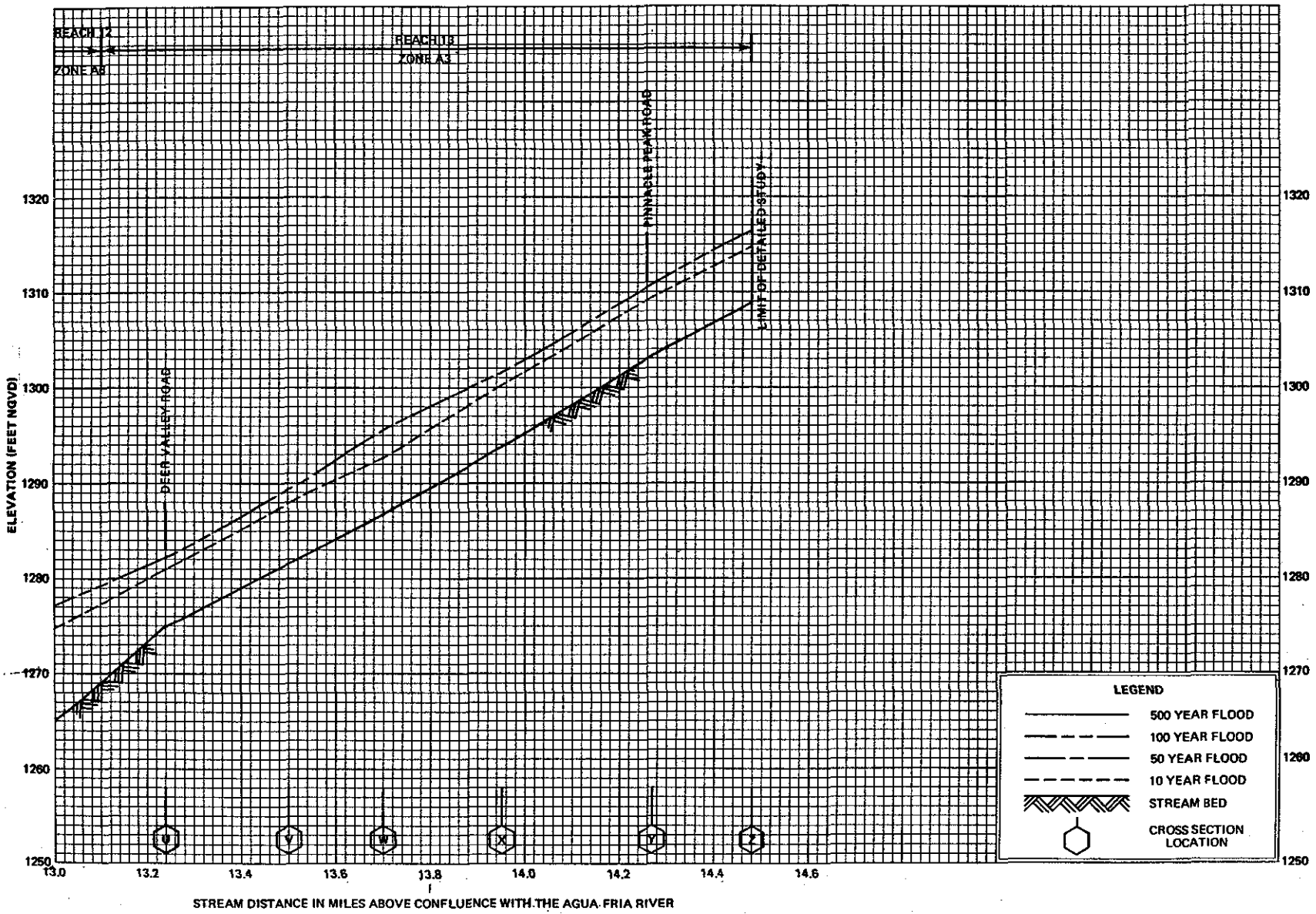
NEW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

29P



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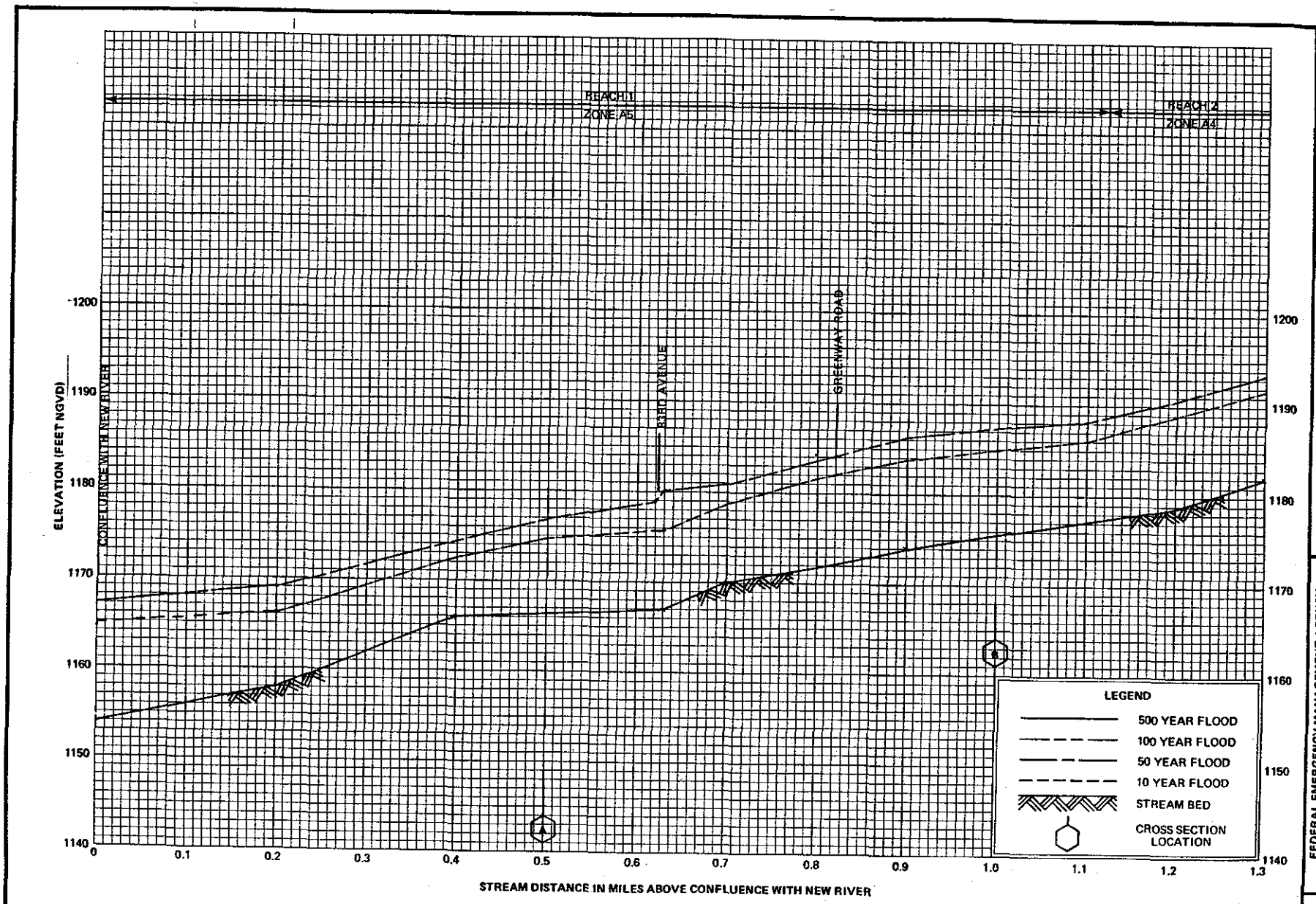
NEW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

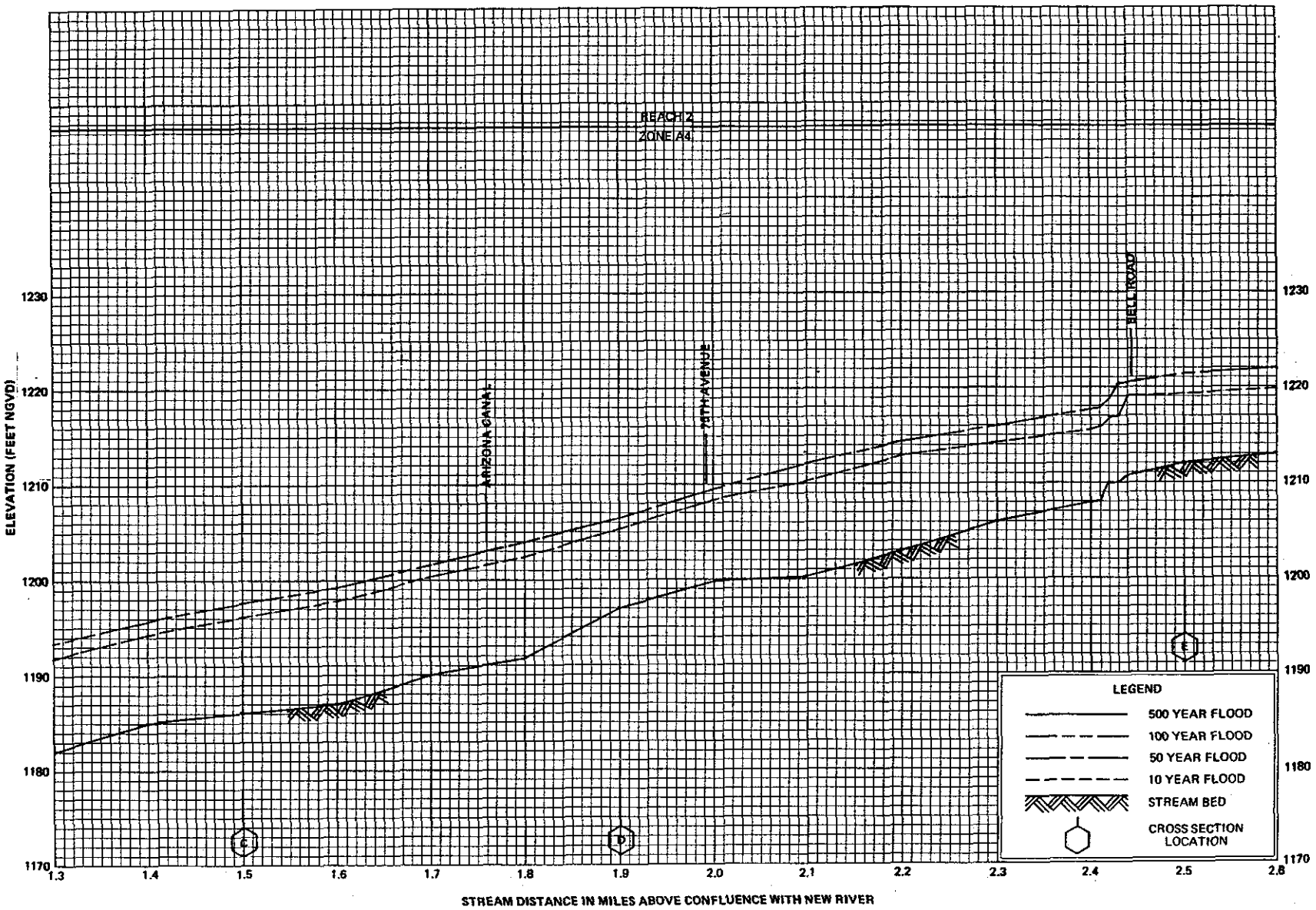


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

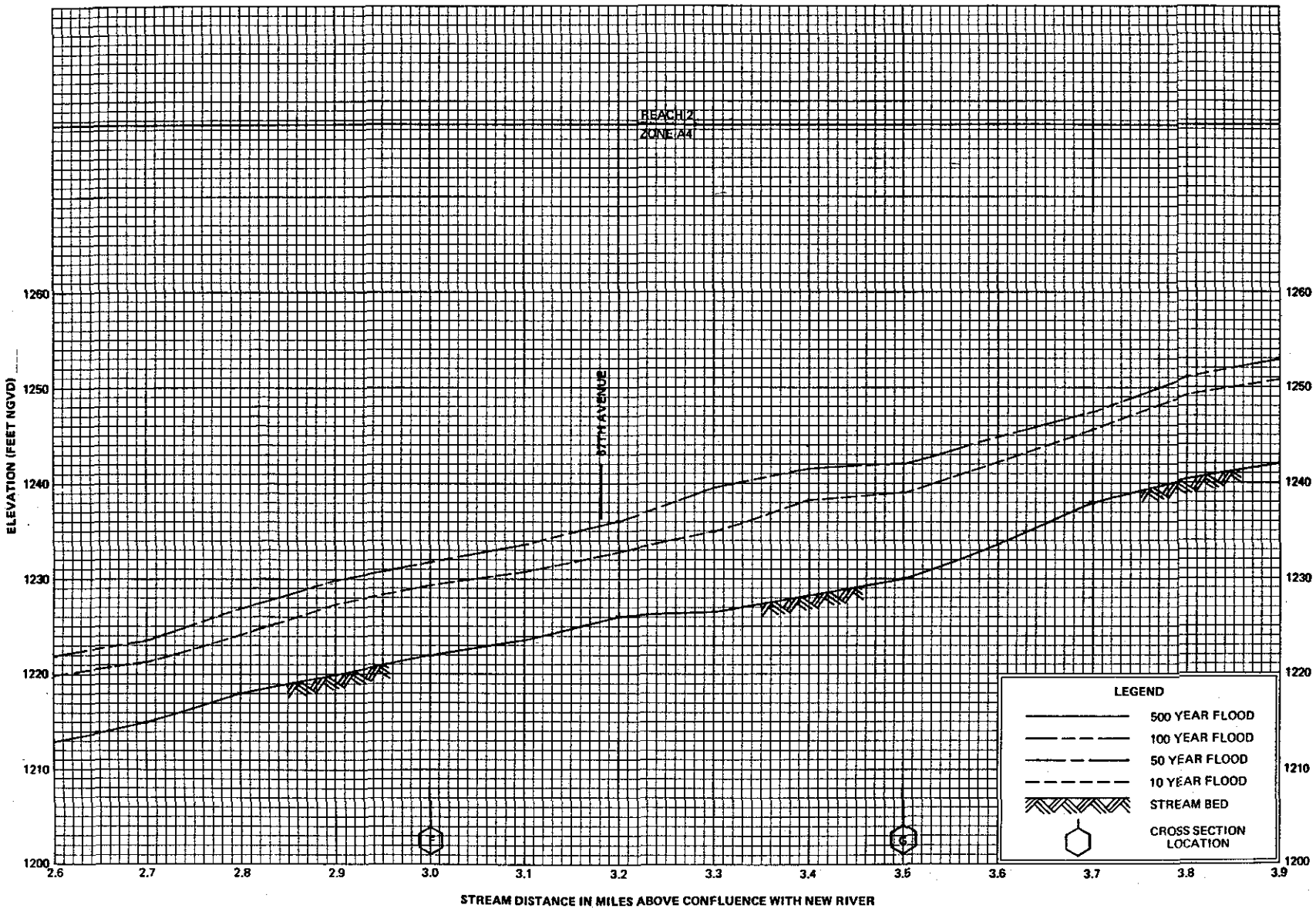


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

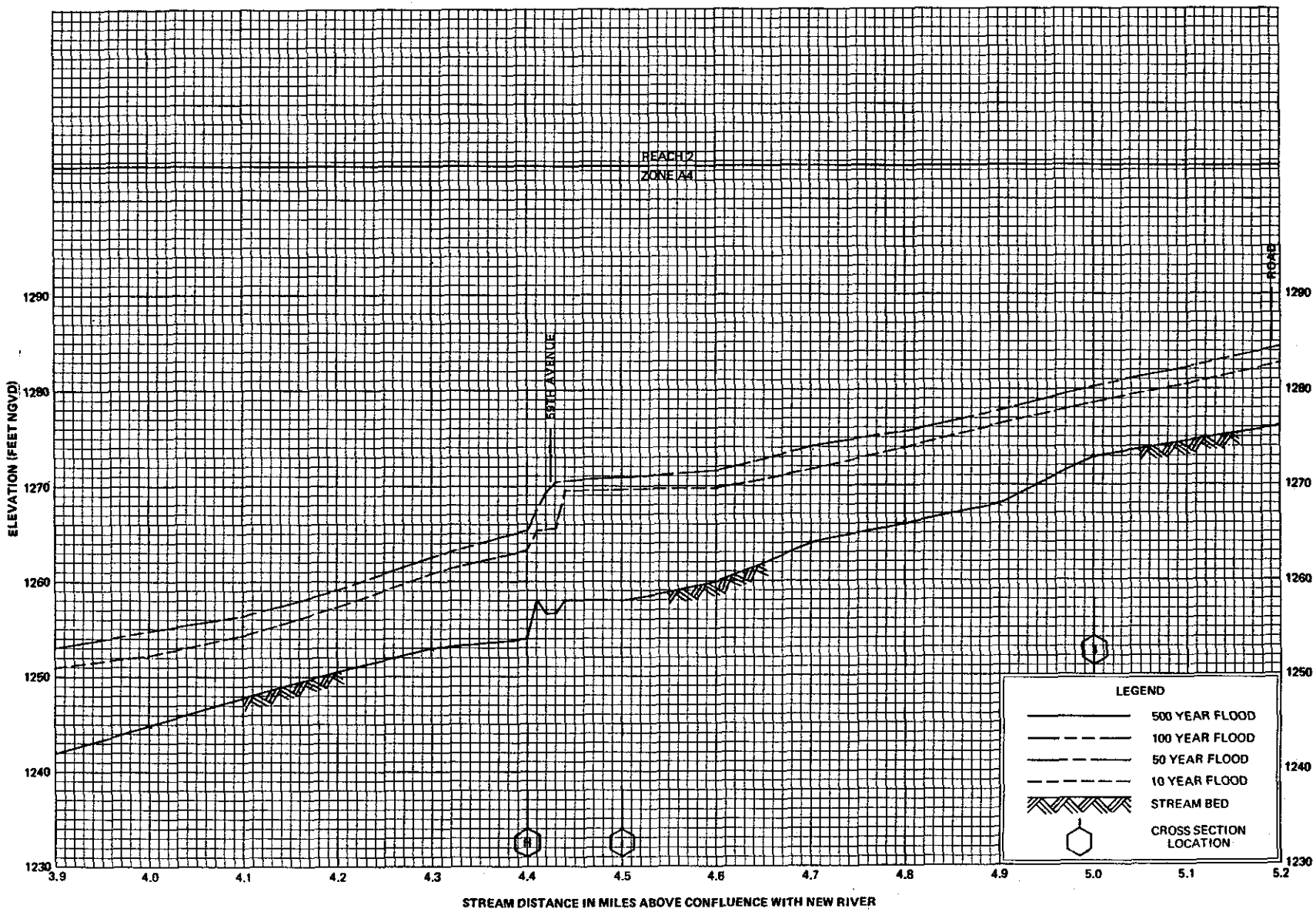


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



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SKUNK CREEK

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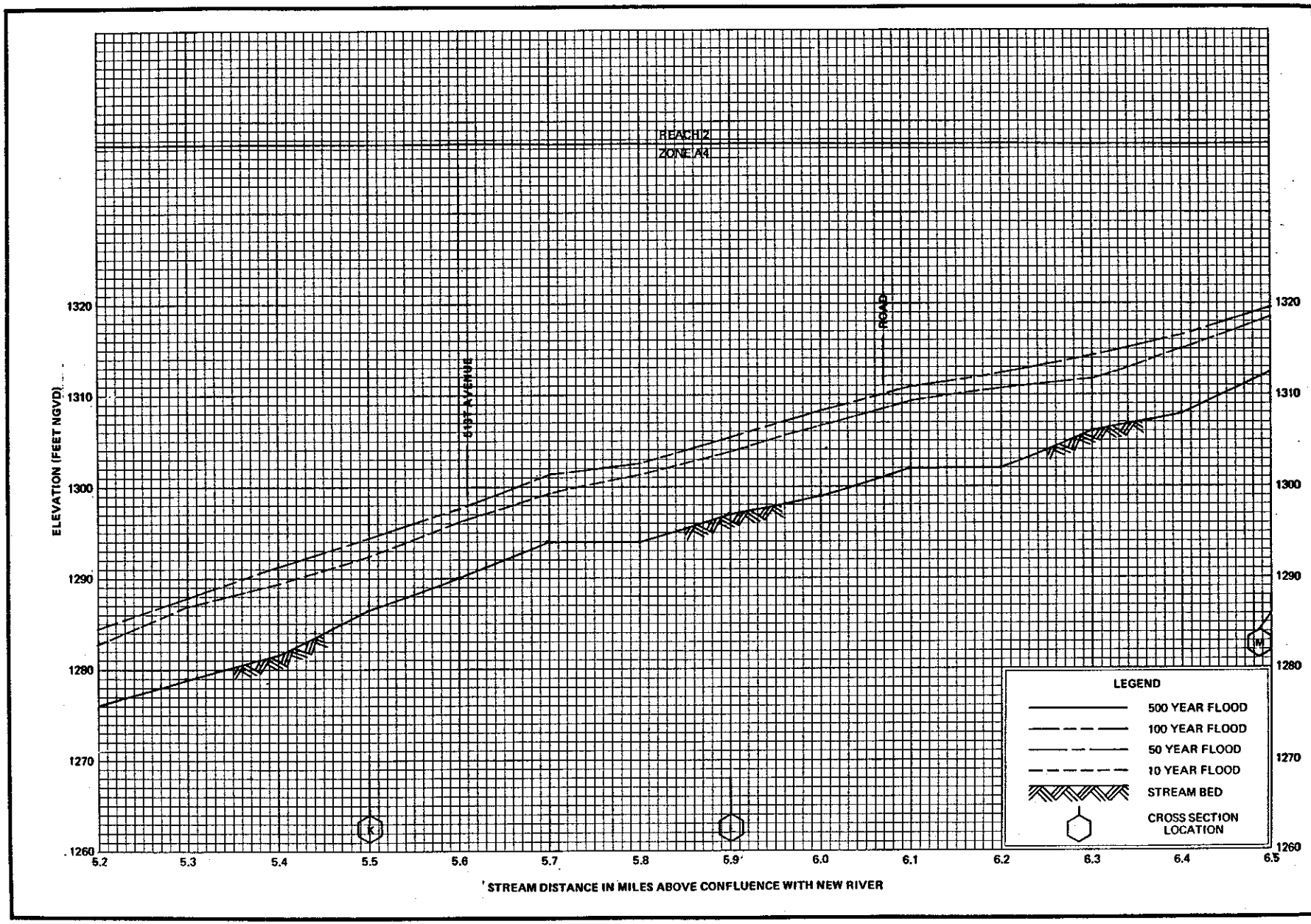
MARICOPA COUNTY, AZ



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SKUNK CREEK

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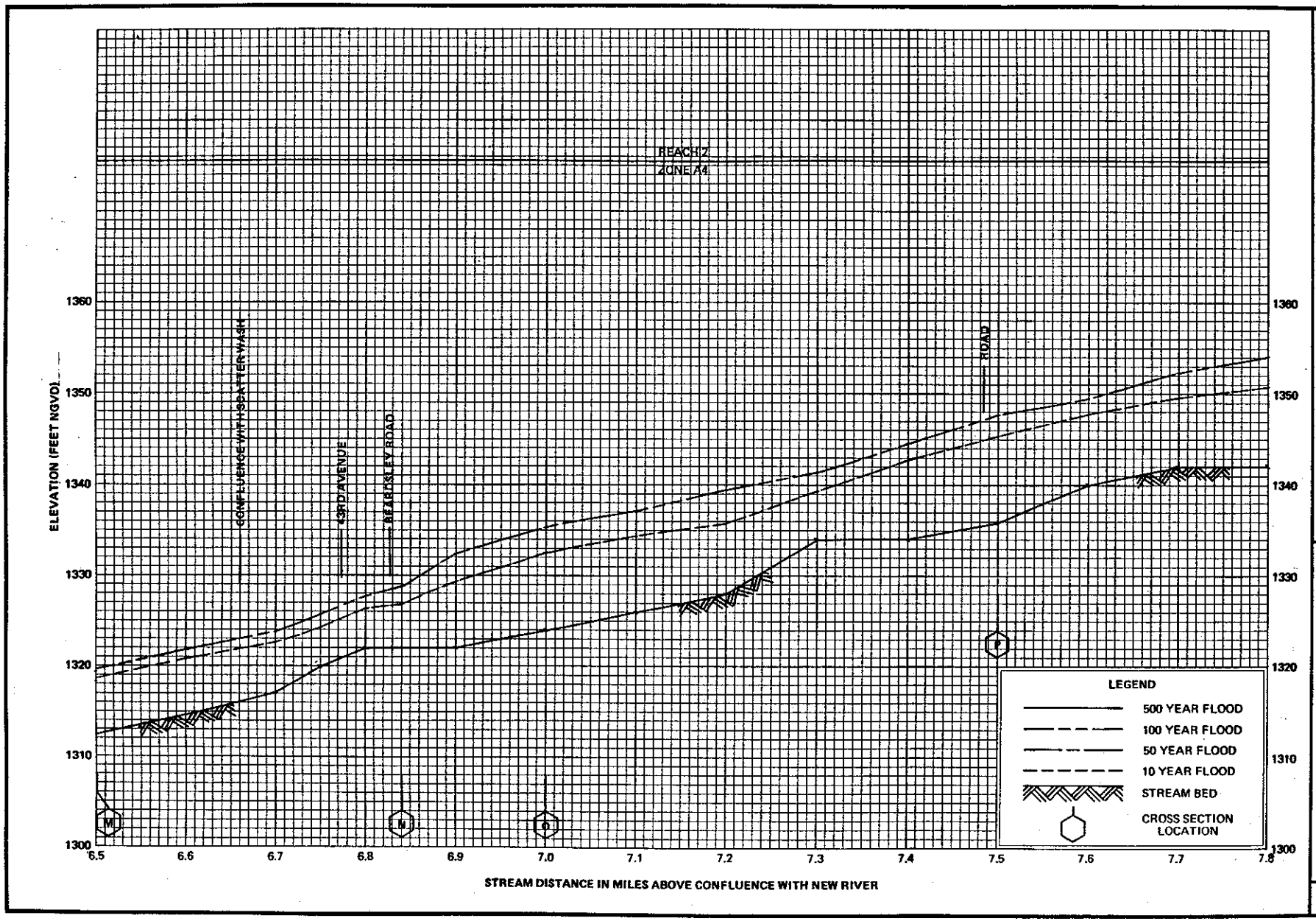
MARICOPA COUNTY, AZ



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SKUNK CREEK

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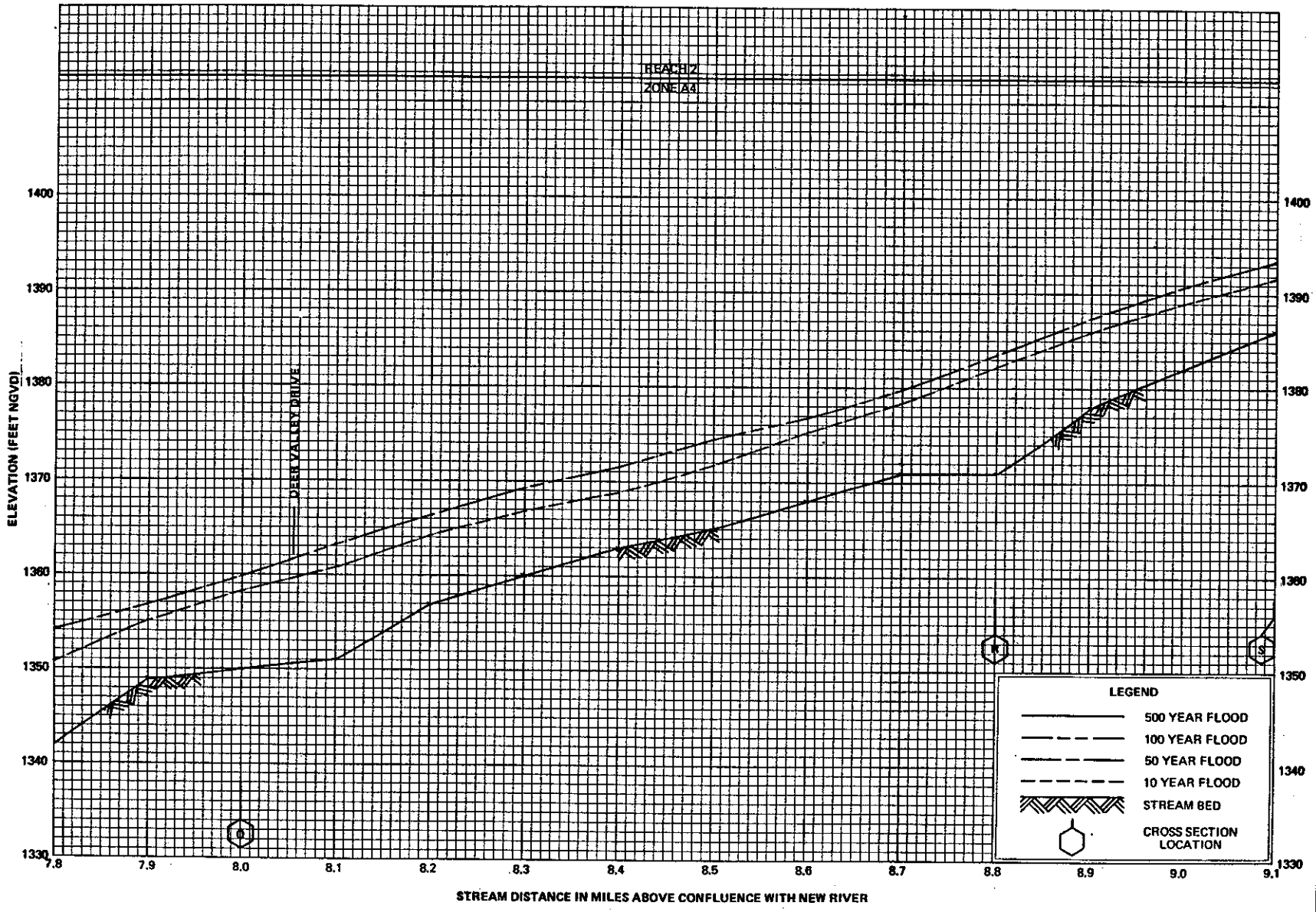
MARICOPA COUNTY, AZ



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SKUNK CREEK

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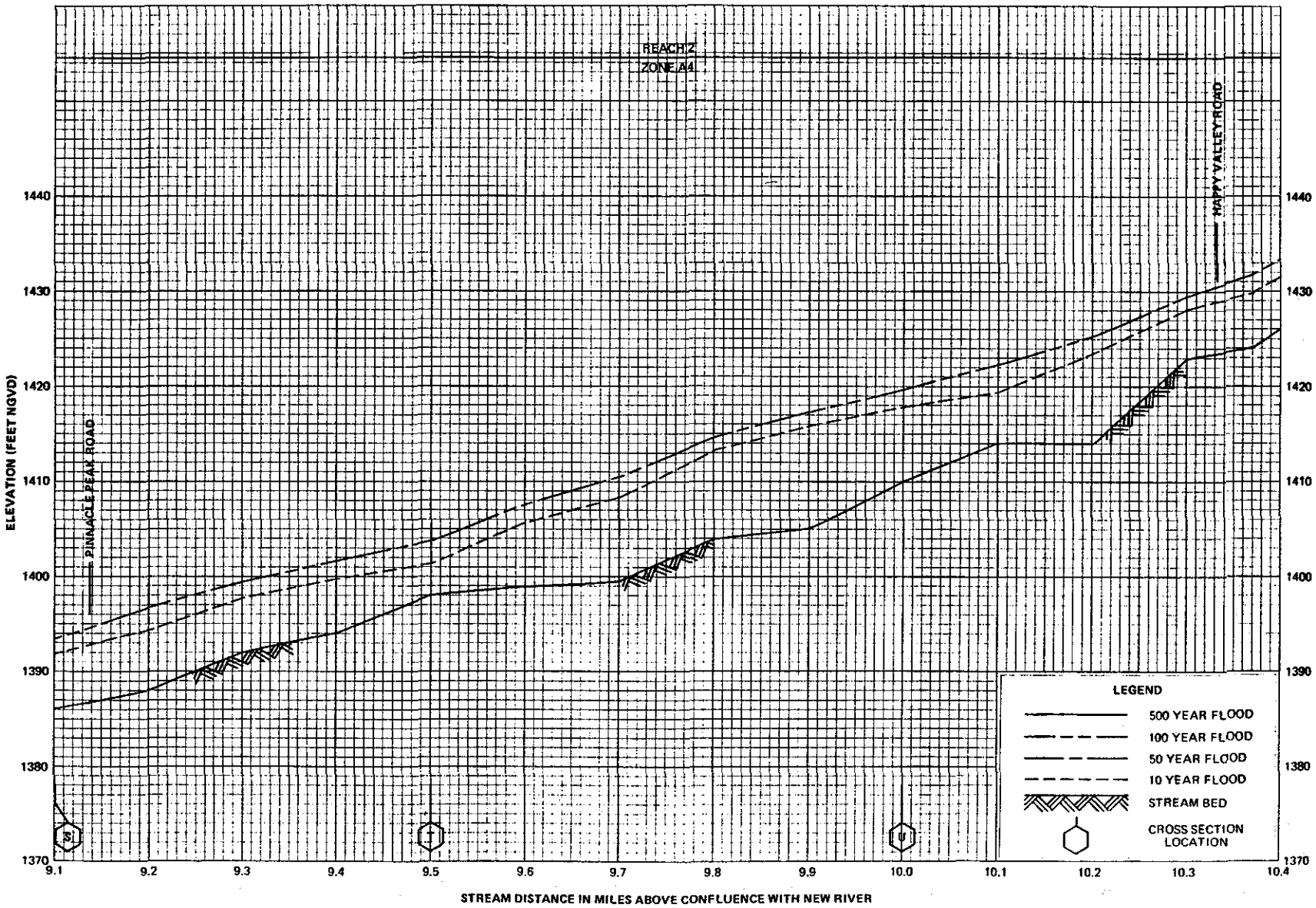
MARICOPA COUNTY, AZ



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SKUNK CREEK

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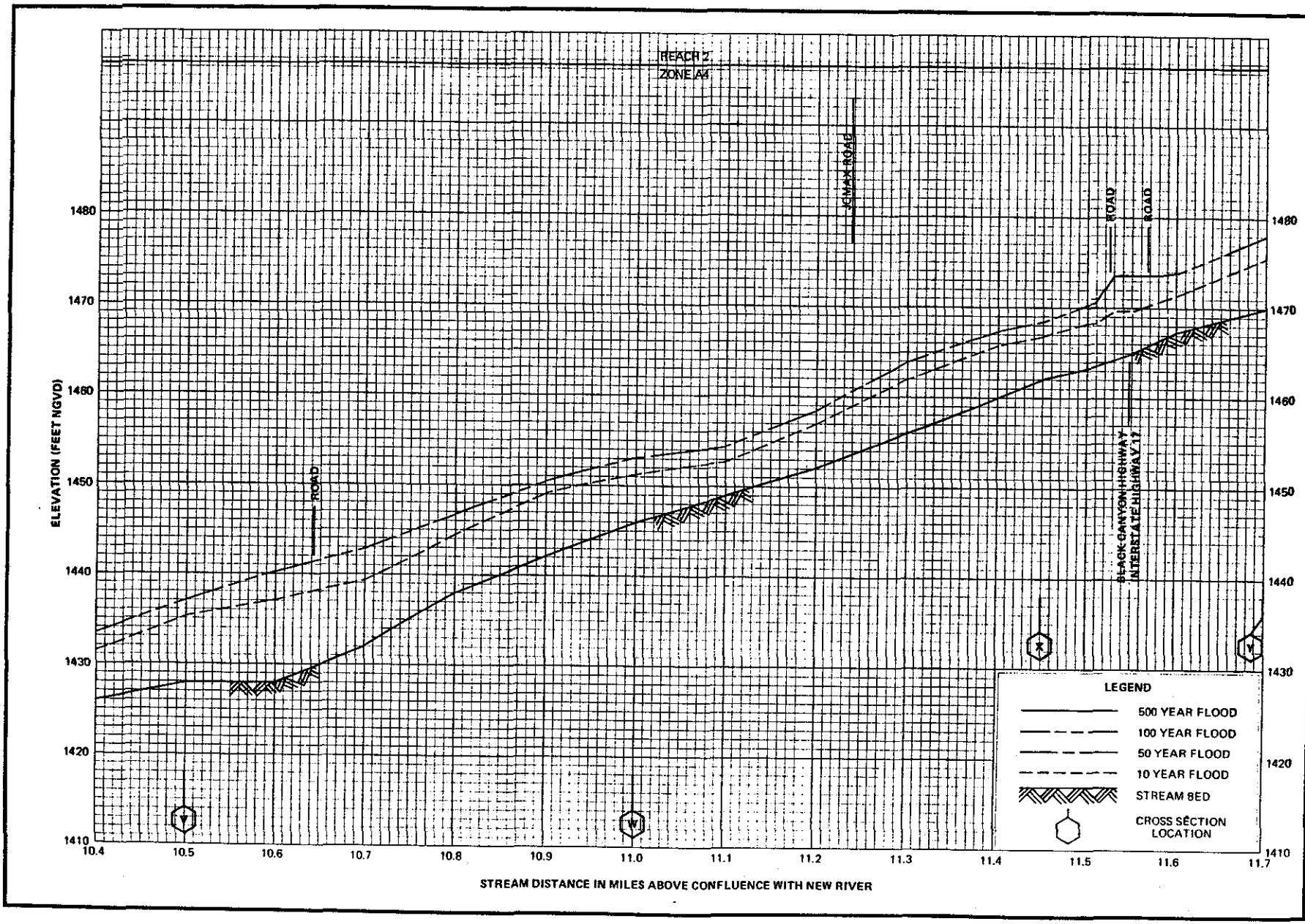
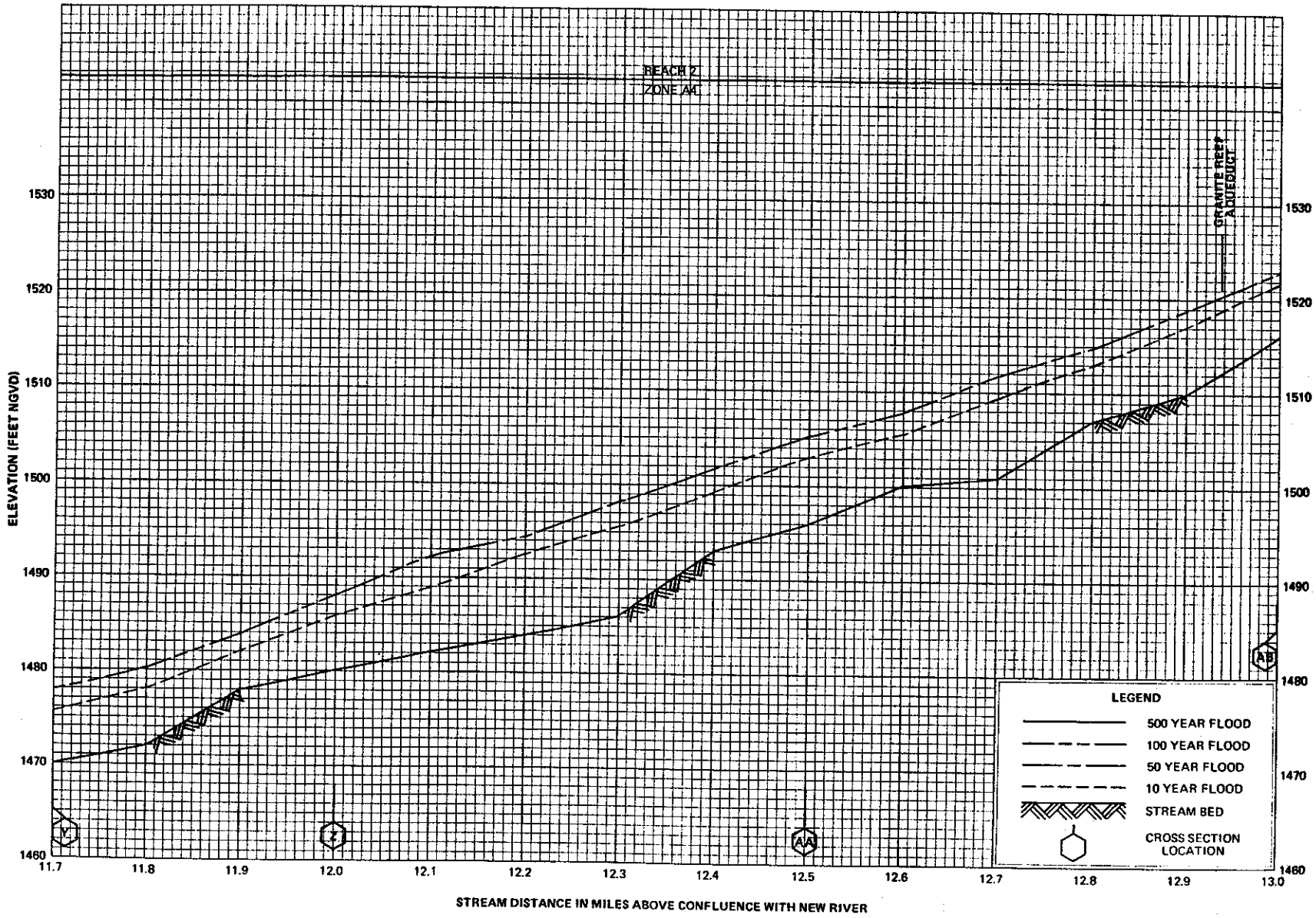


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

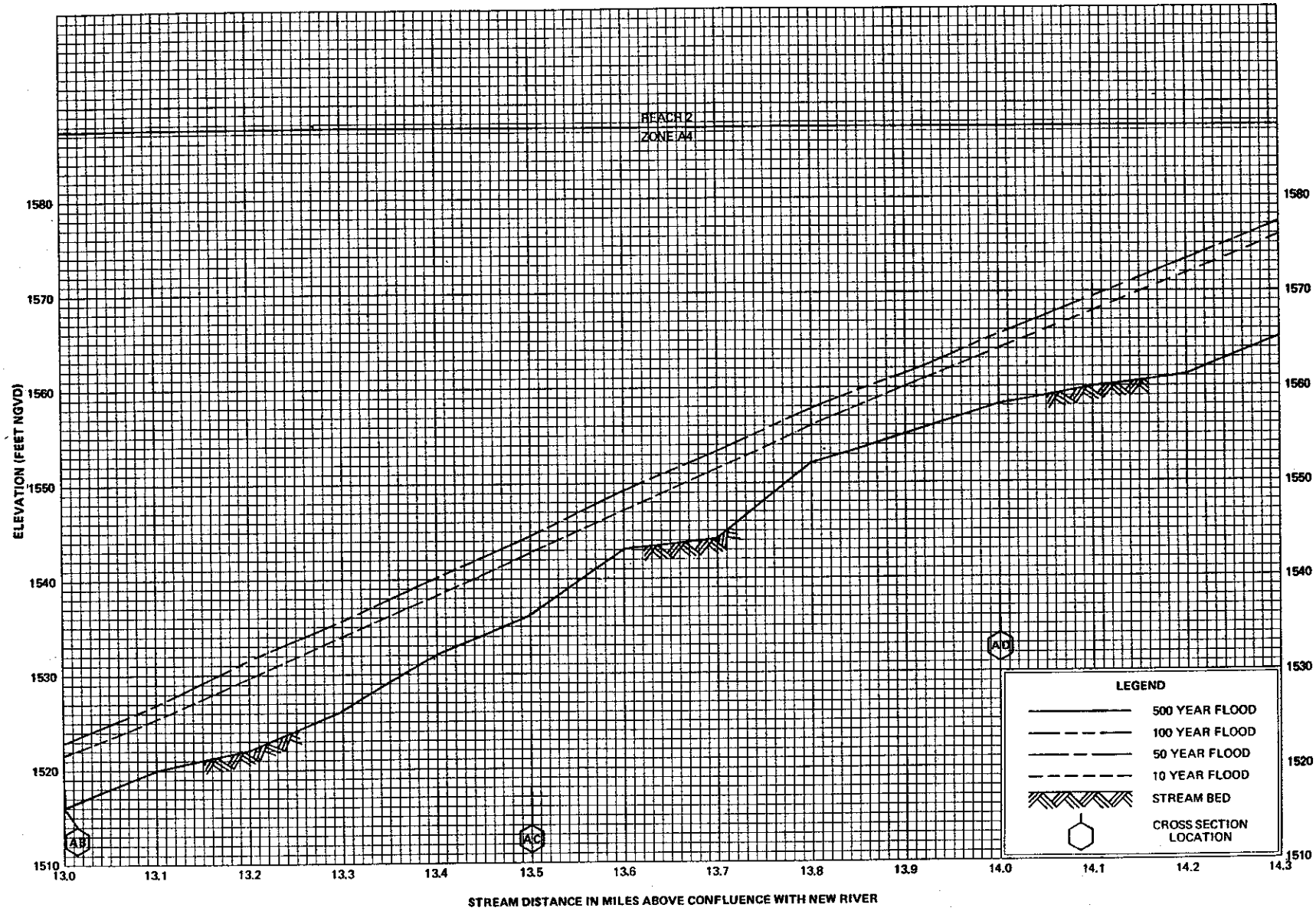


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

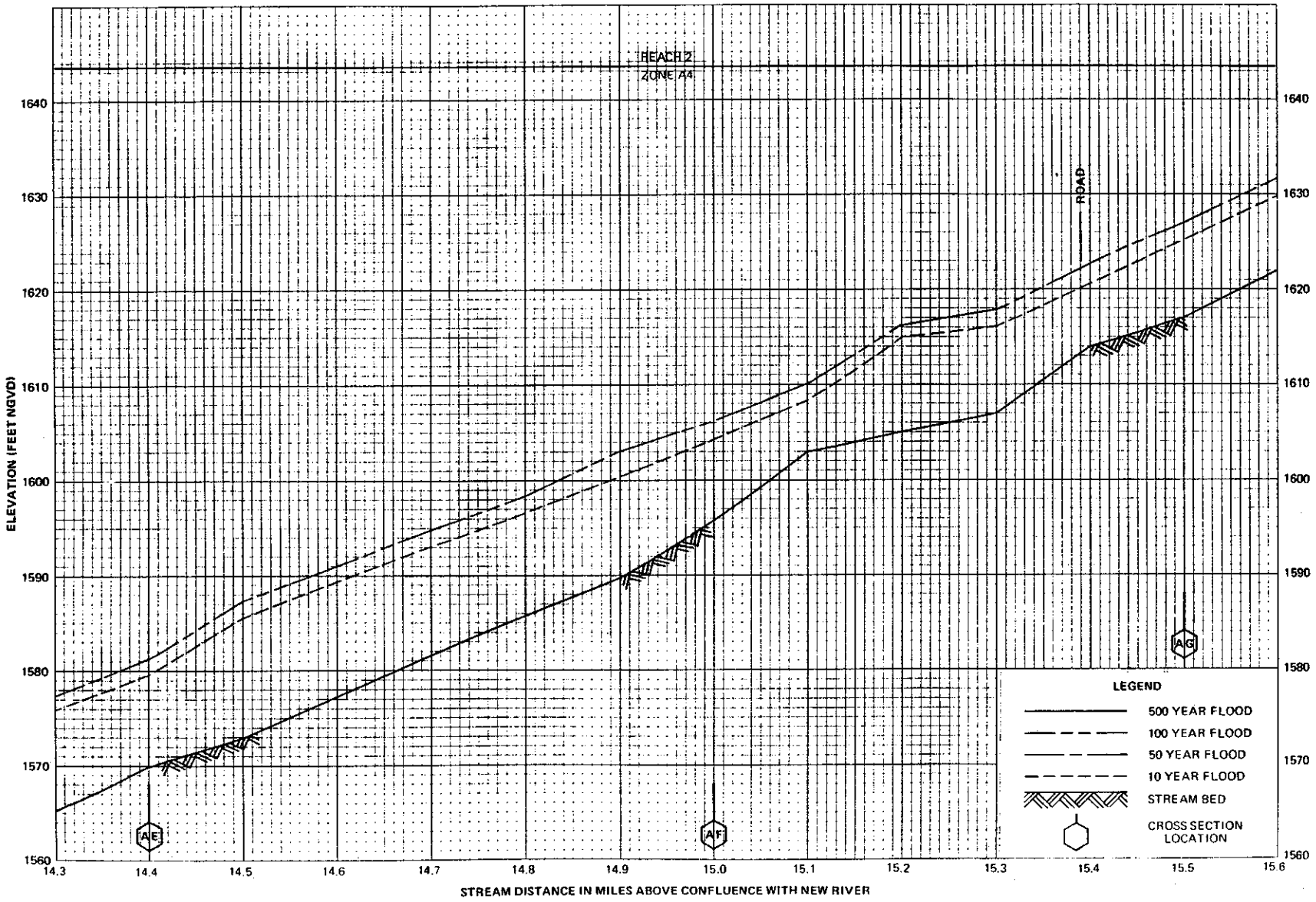


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

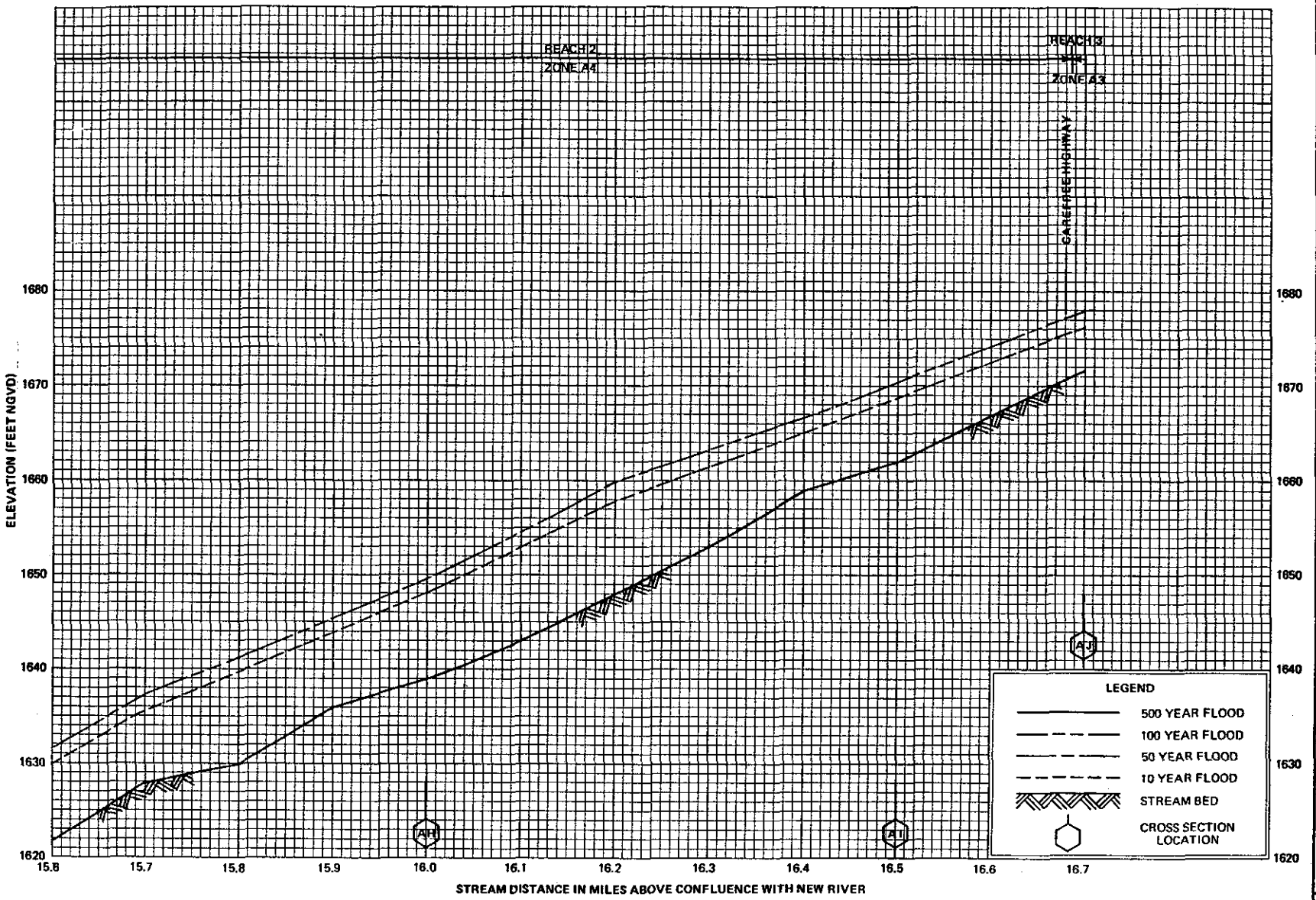


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

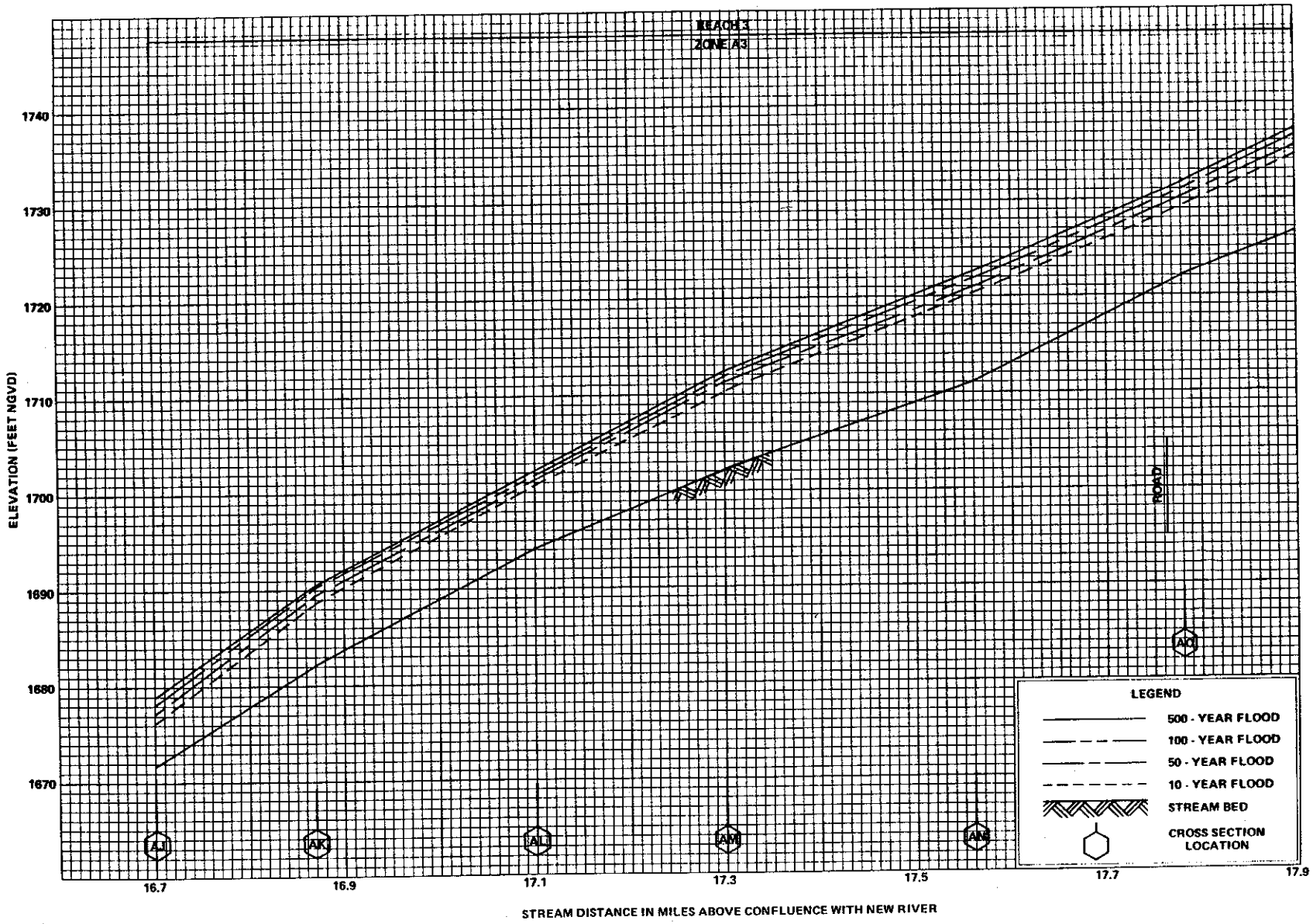


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

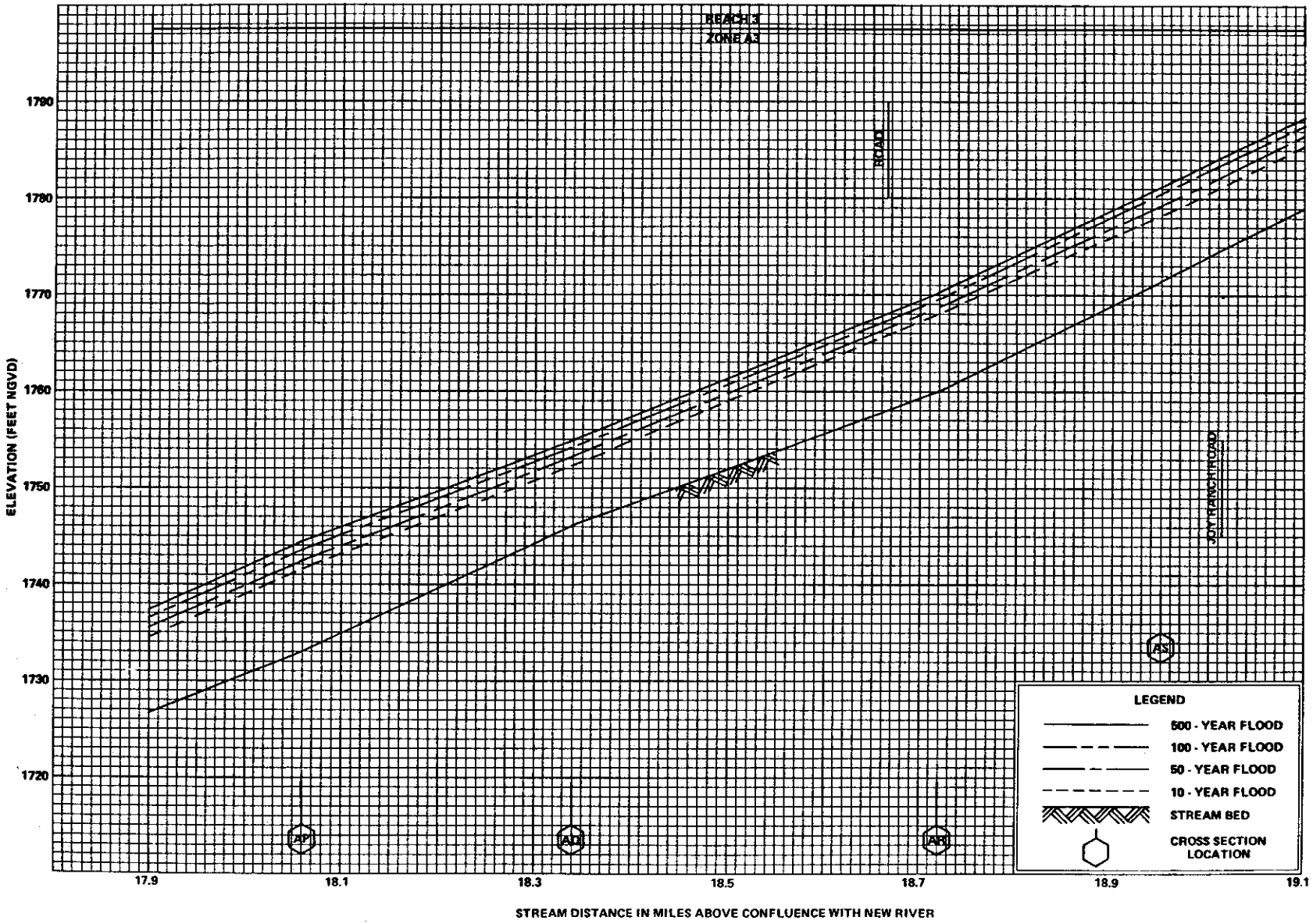


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

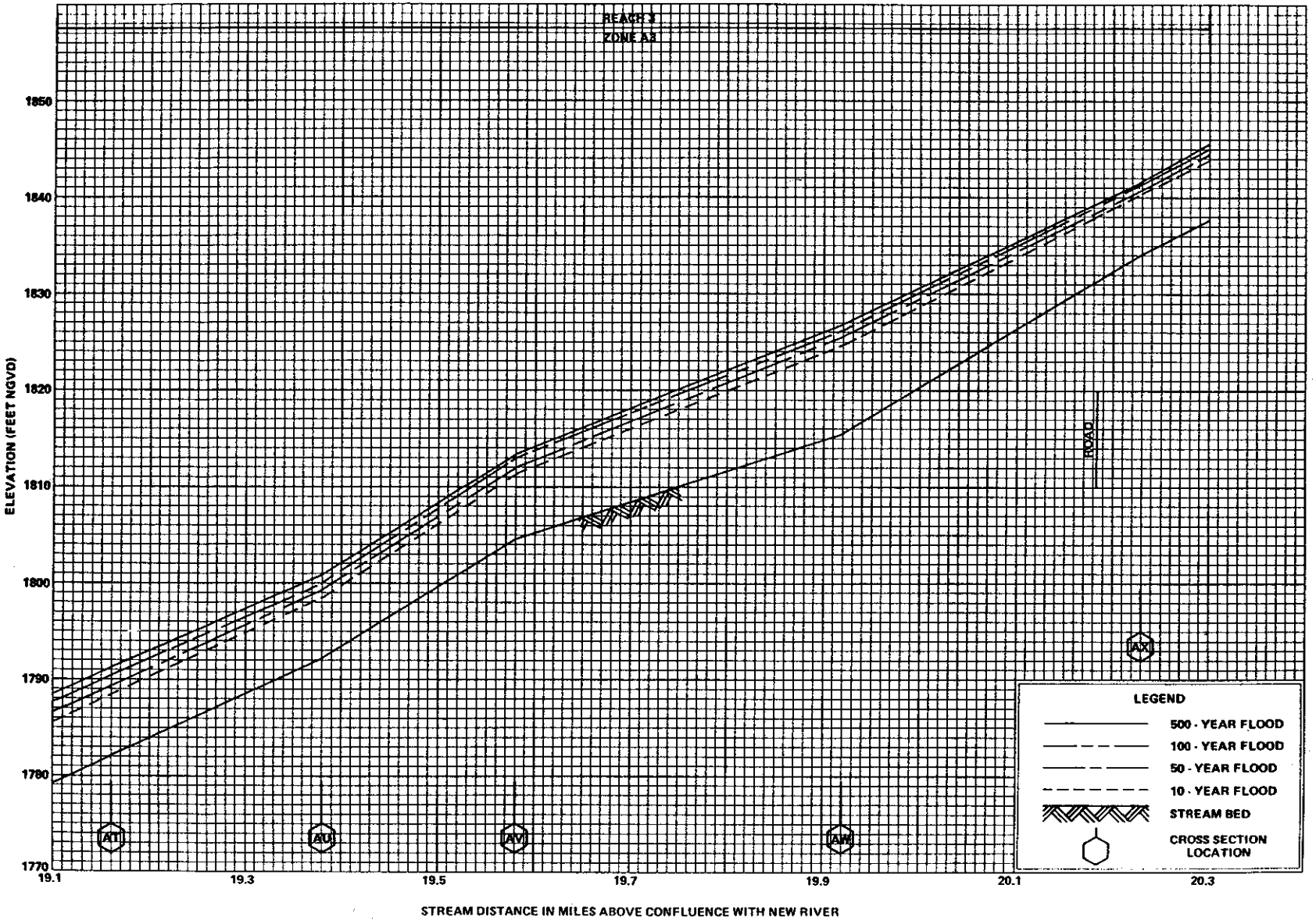


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

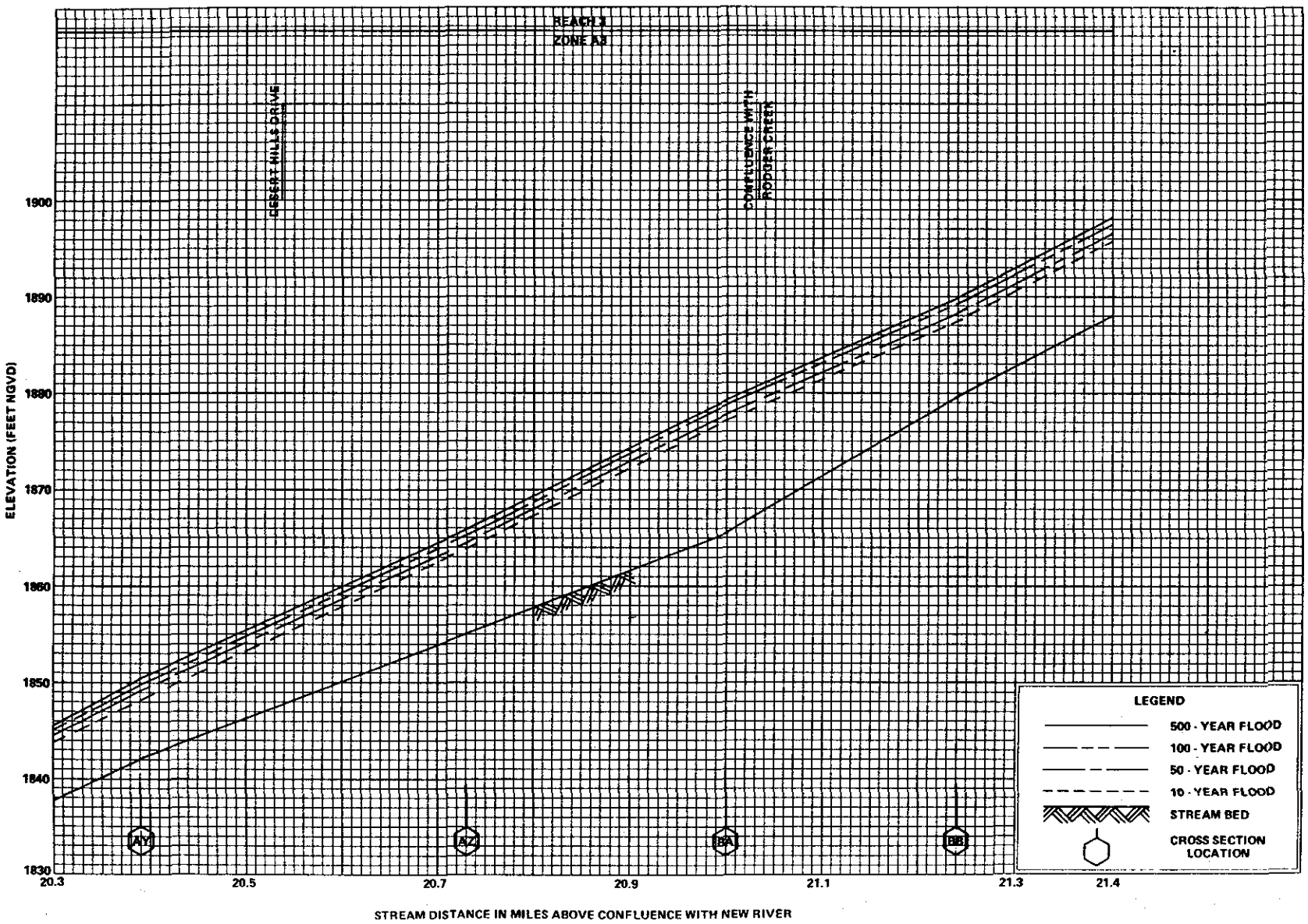


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

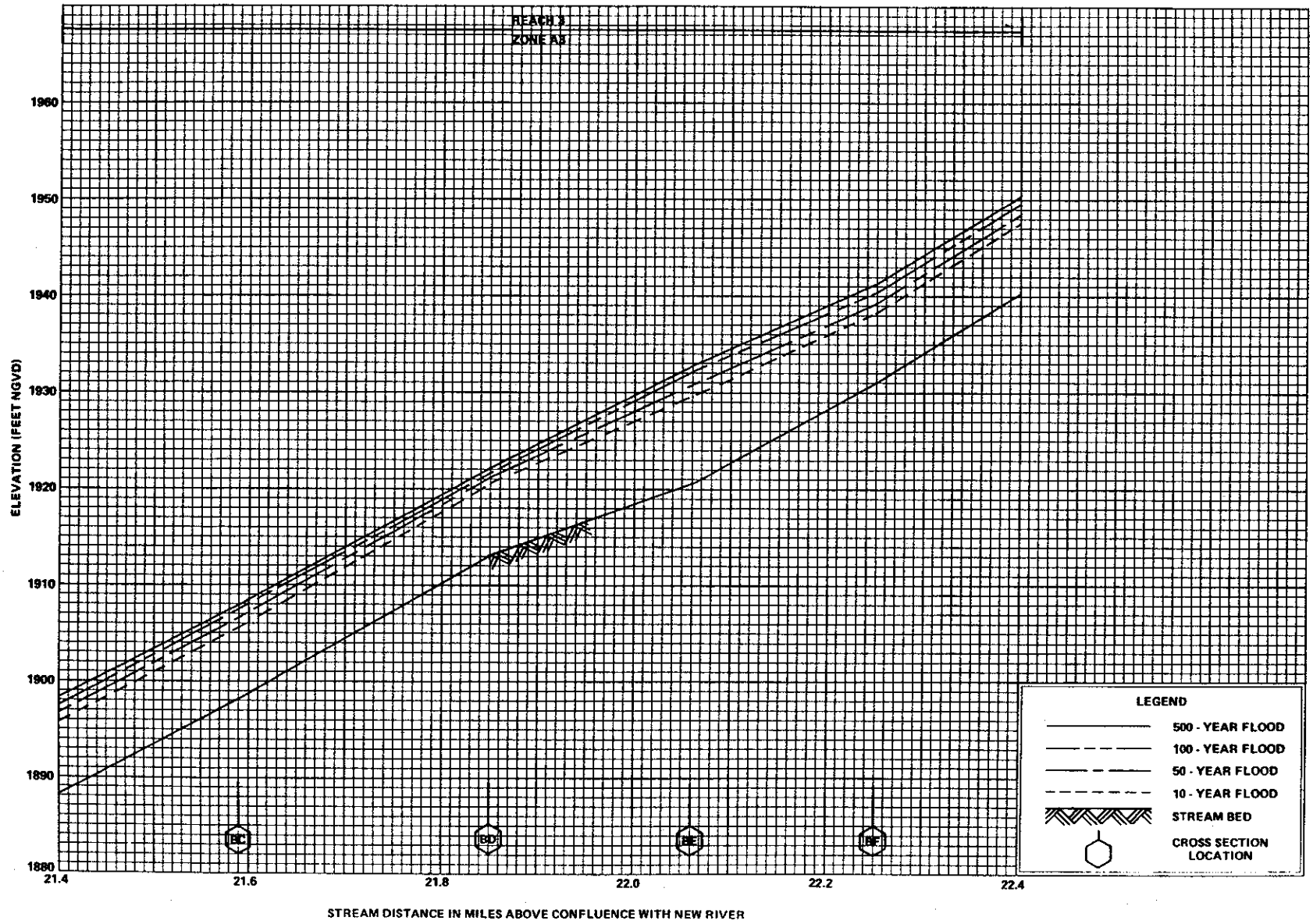


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

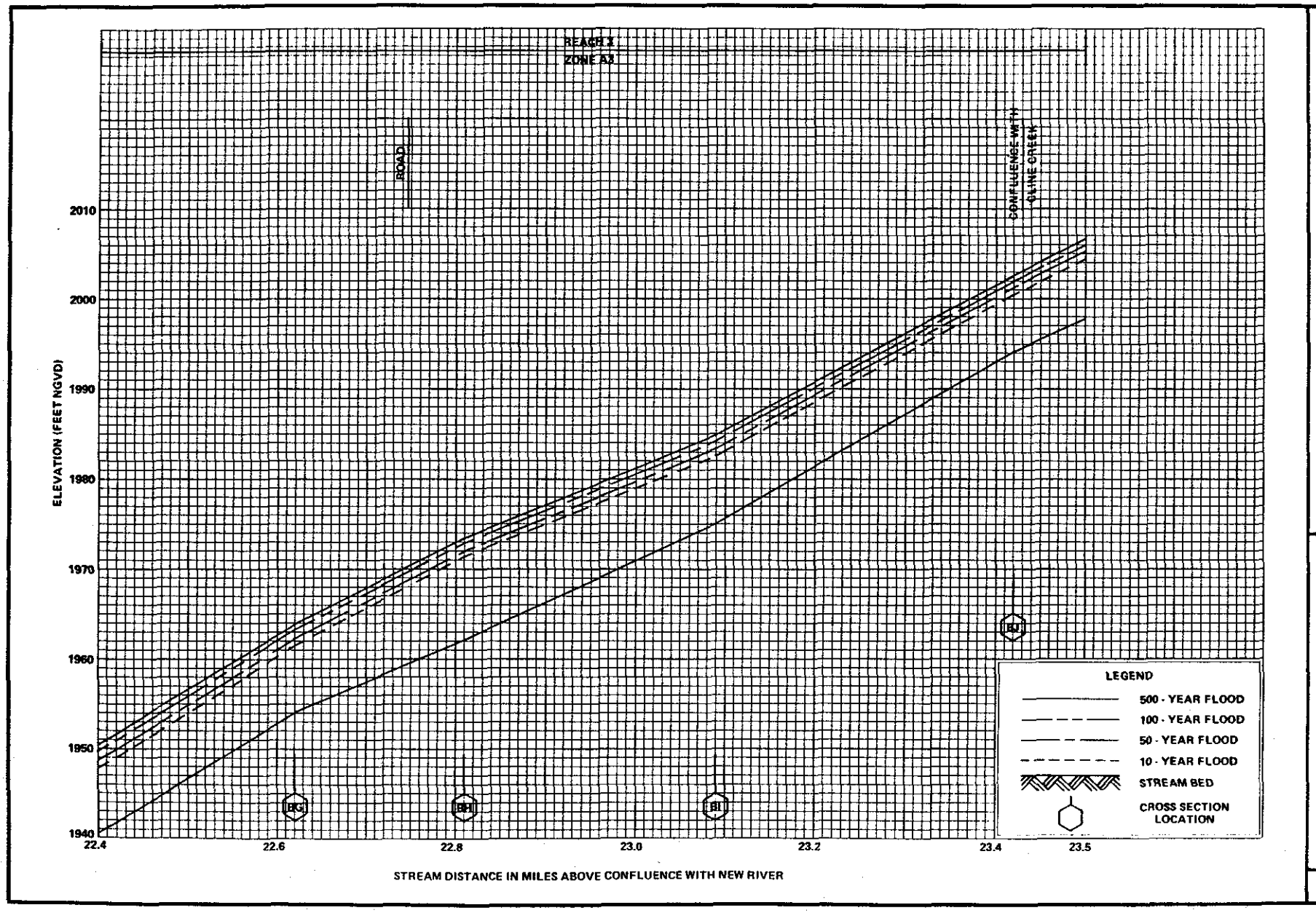


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

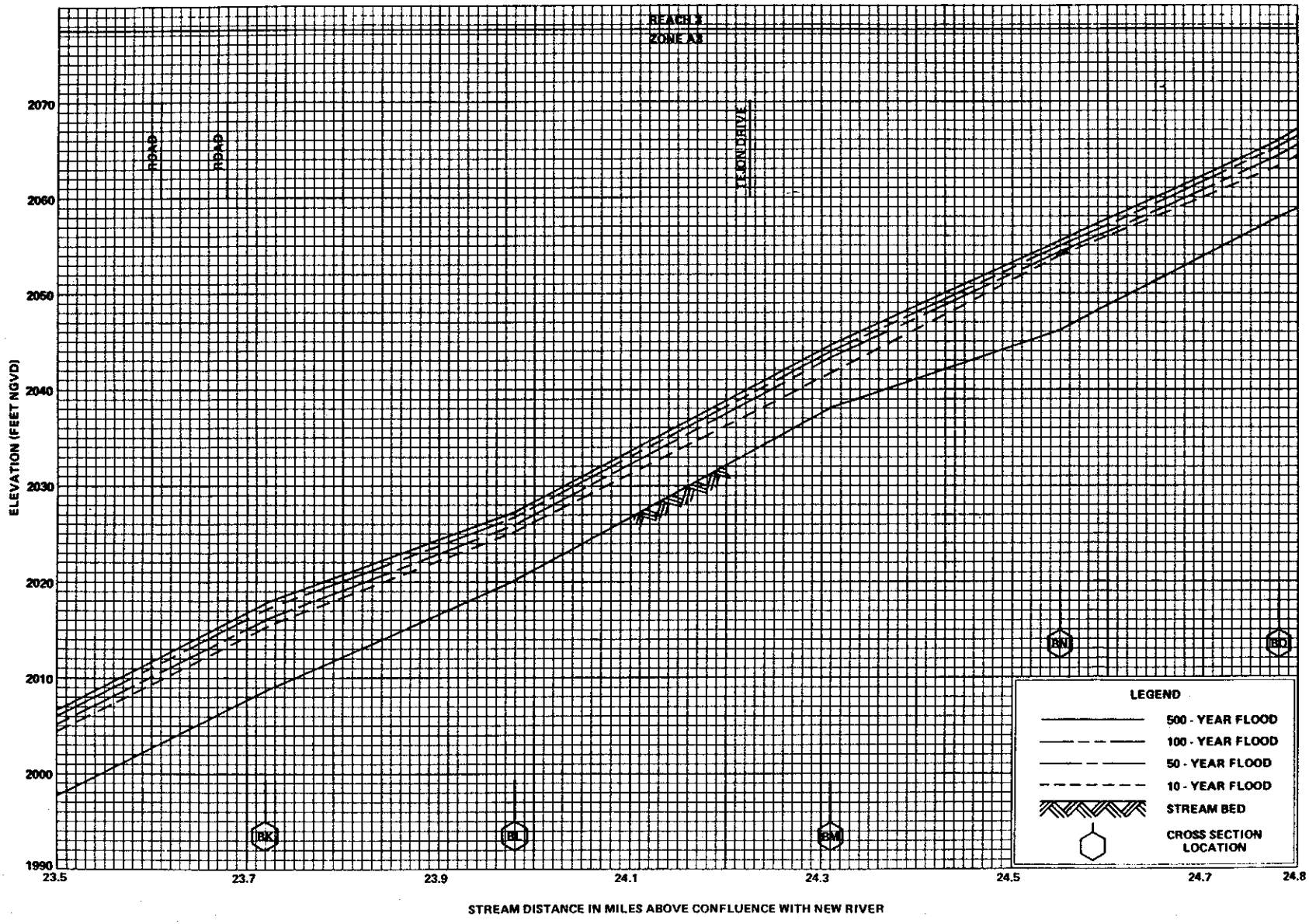


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

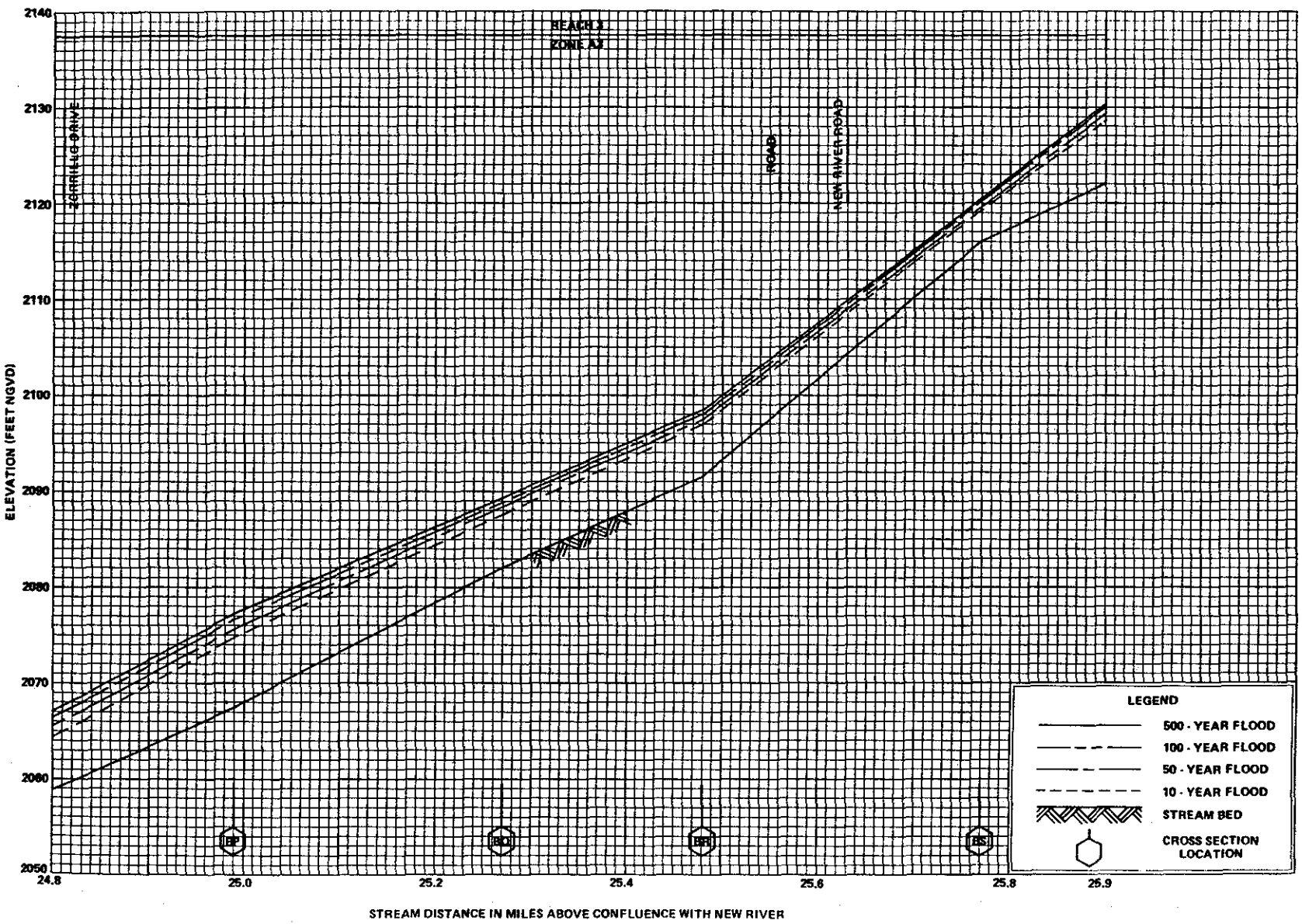


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

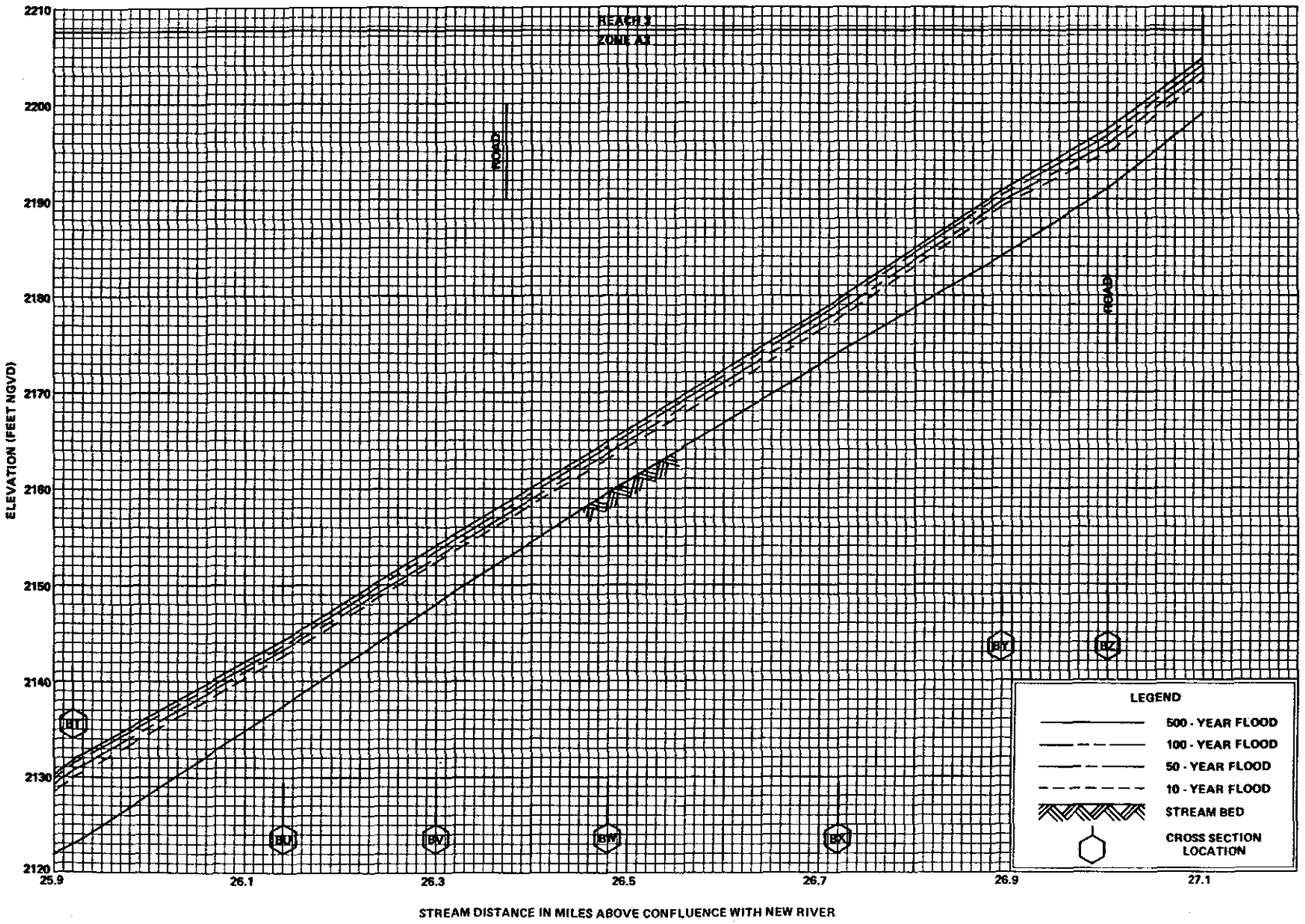


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

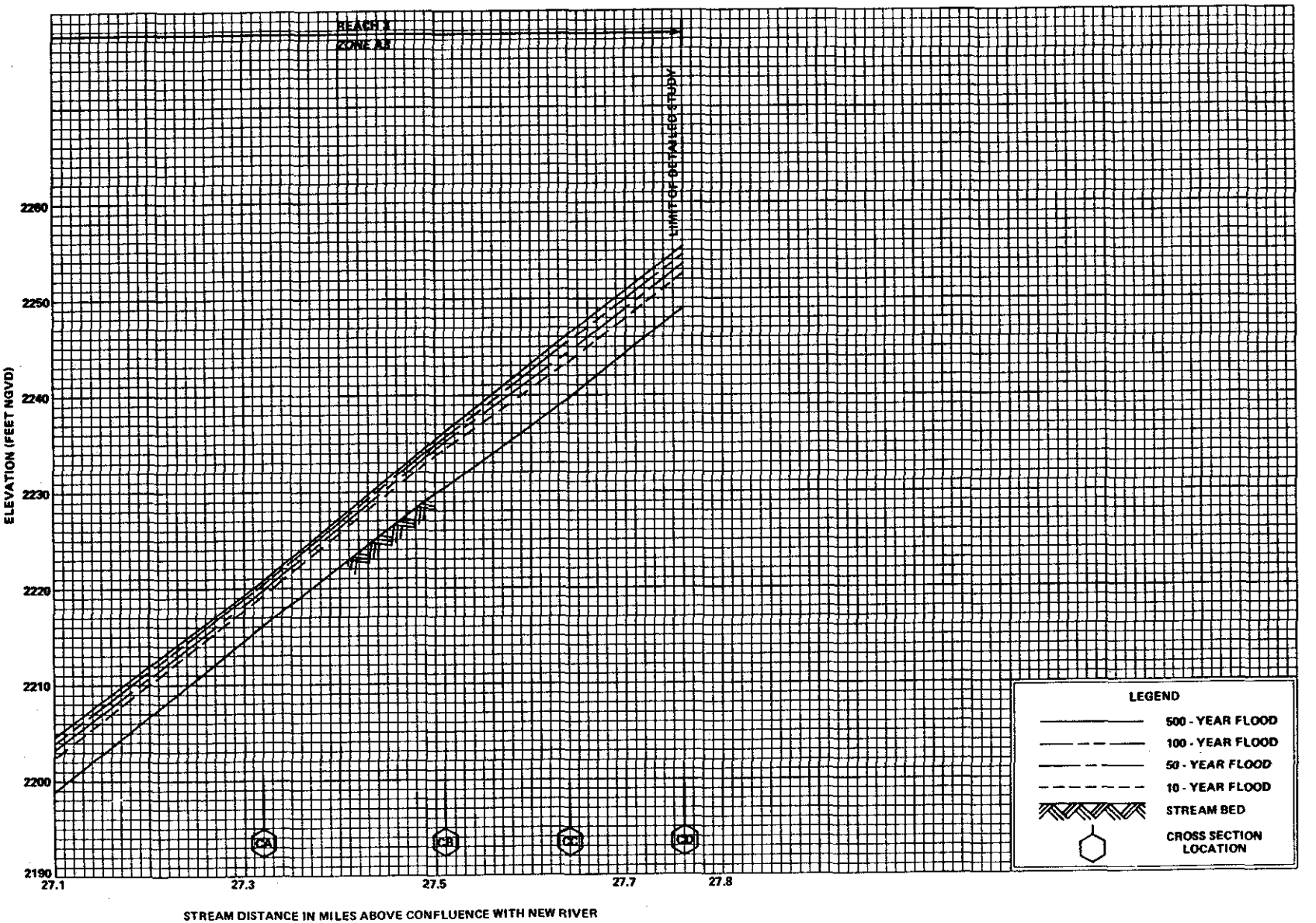


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

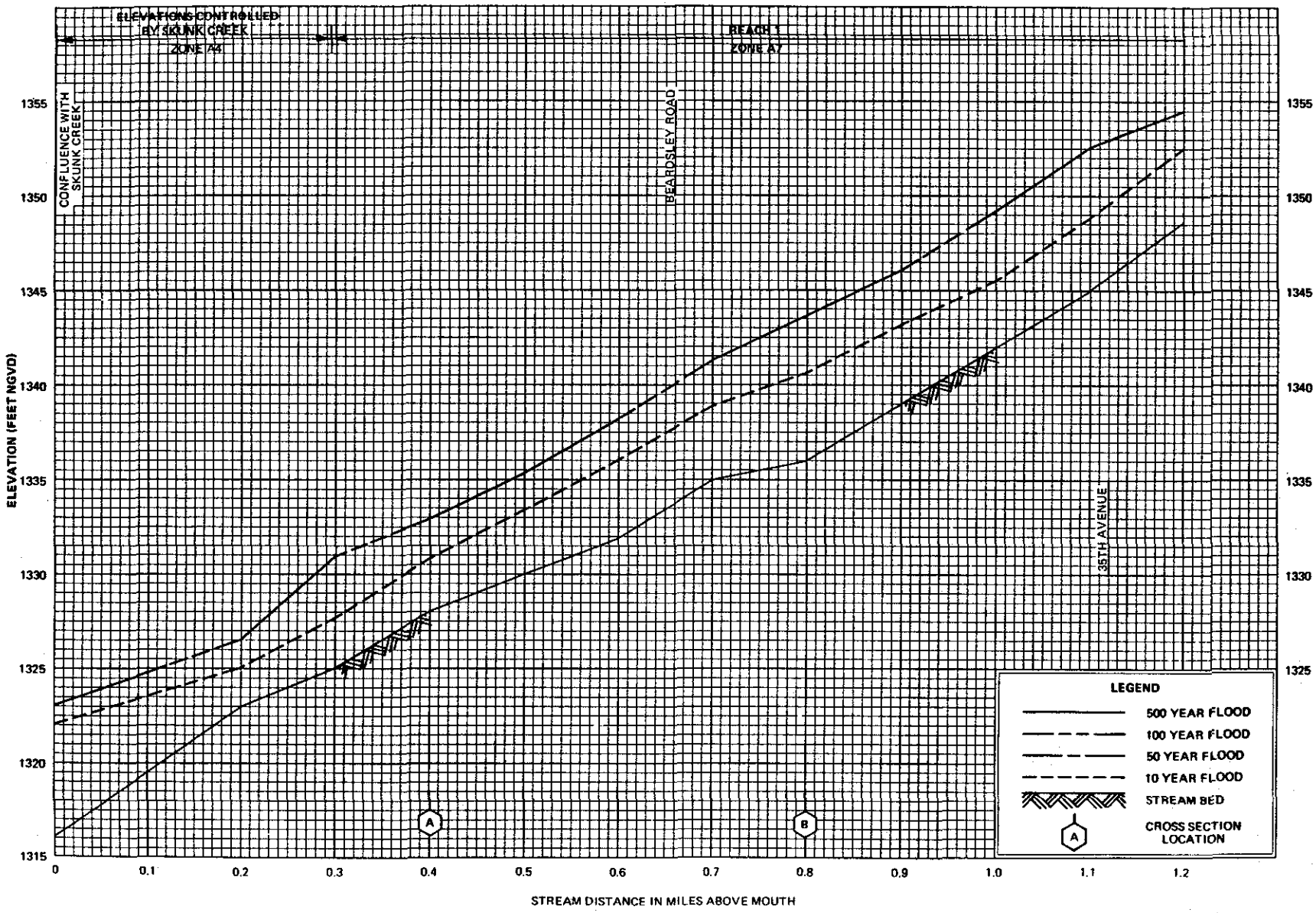


FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

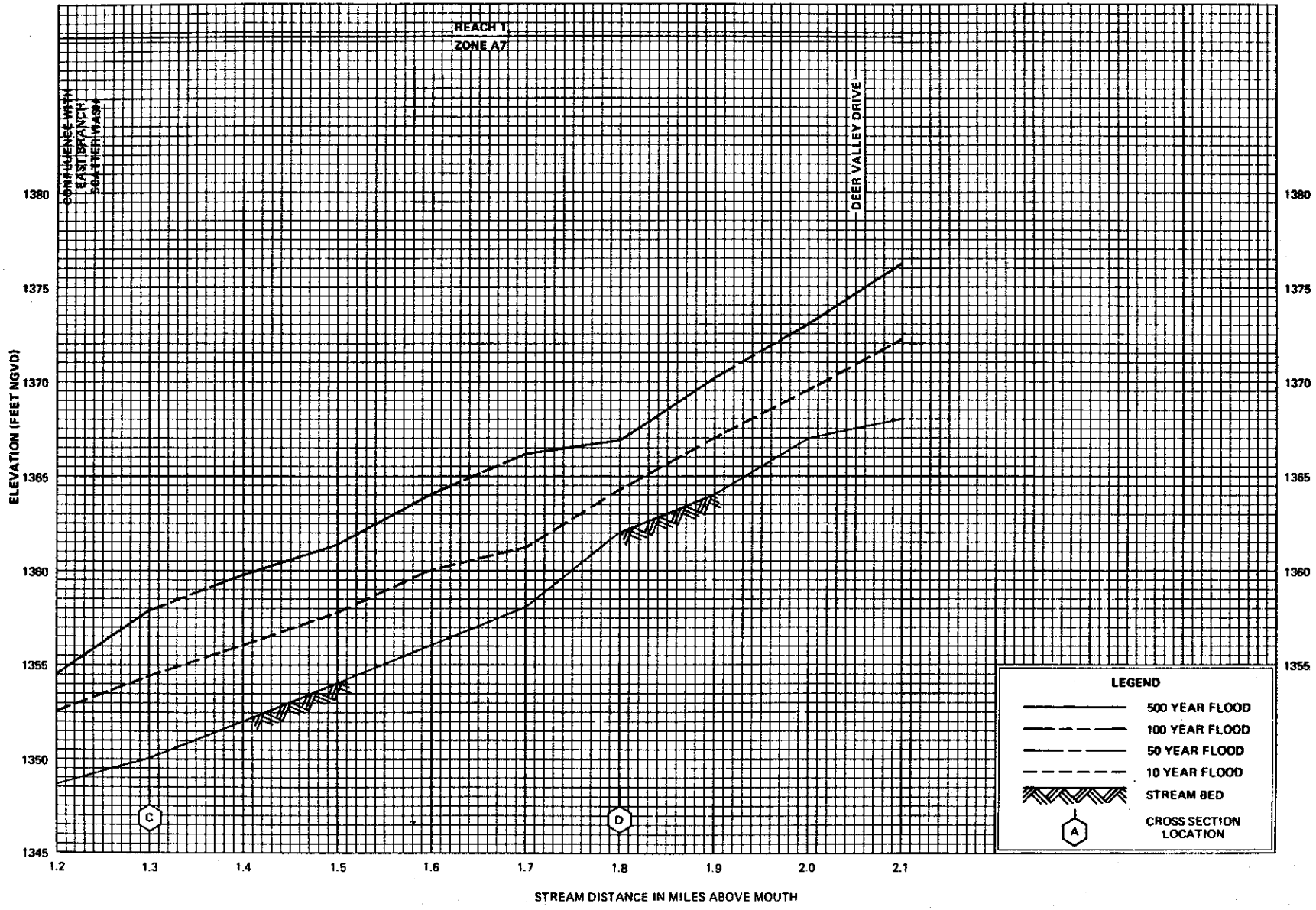


FLOOD PROFILES

SCATTER WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

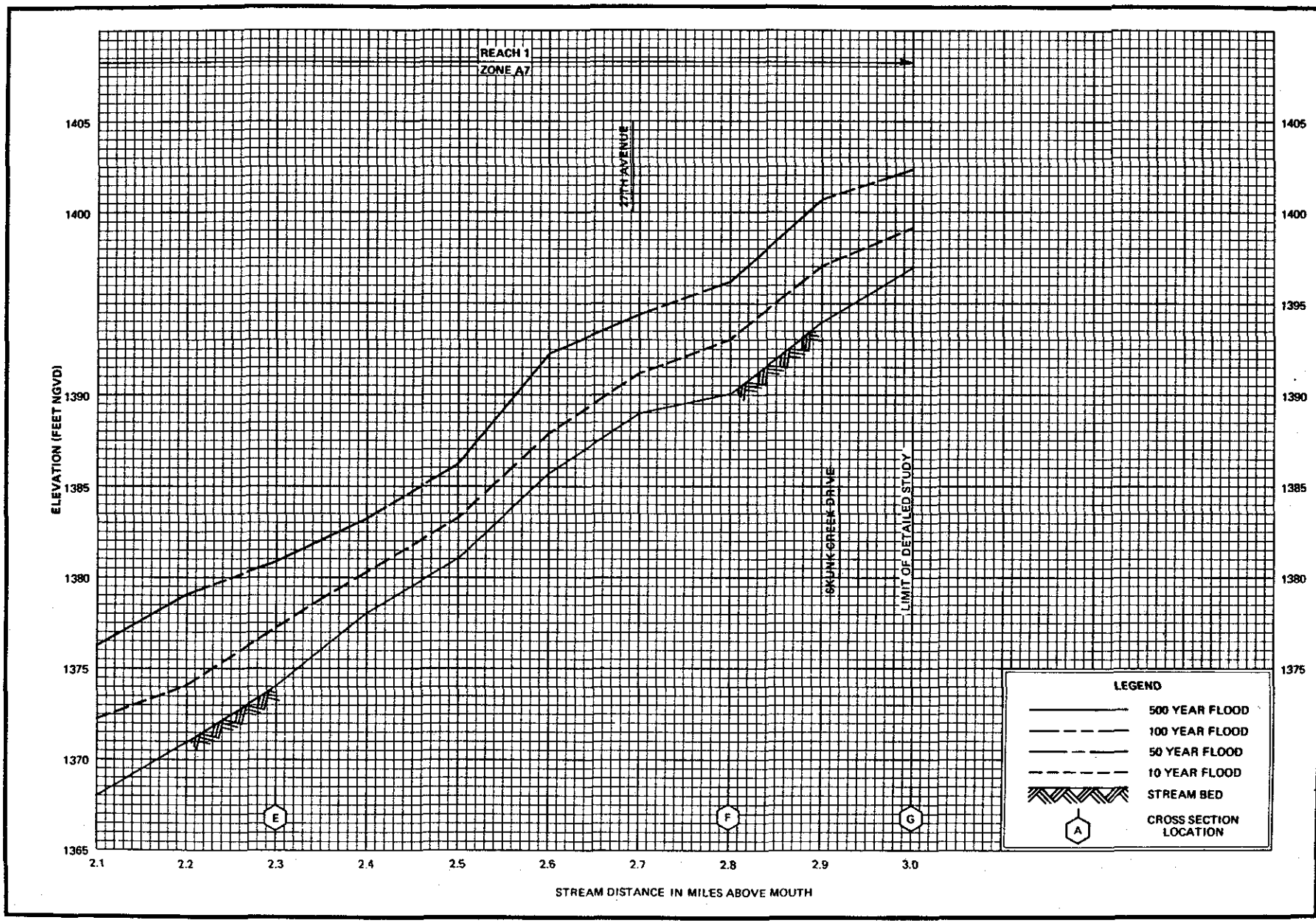


FLOOD PROFILES

SCATTER WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

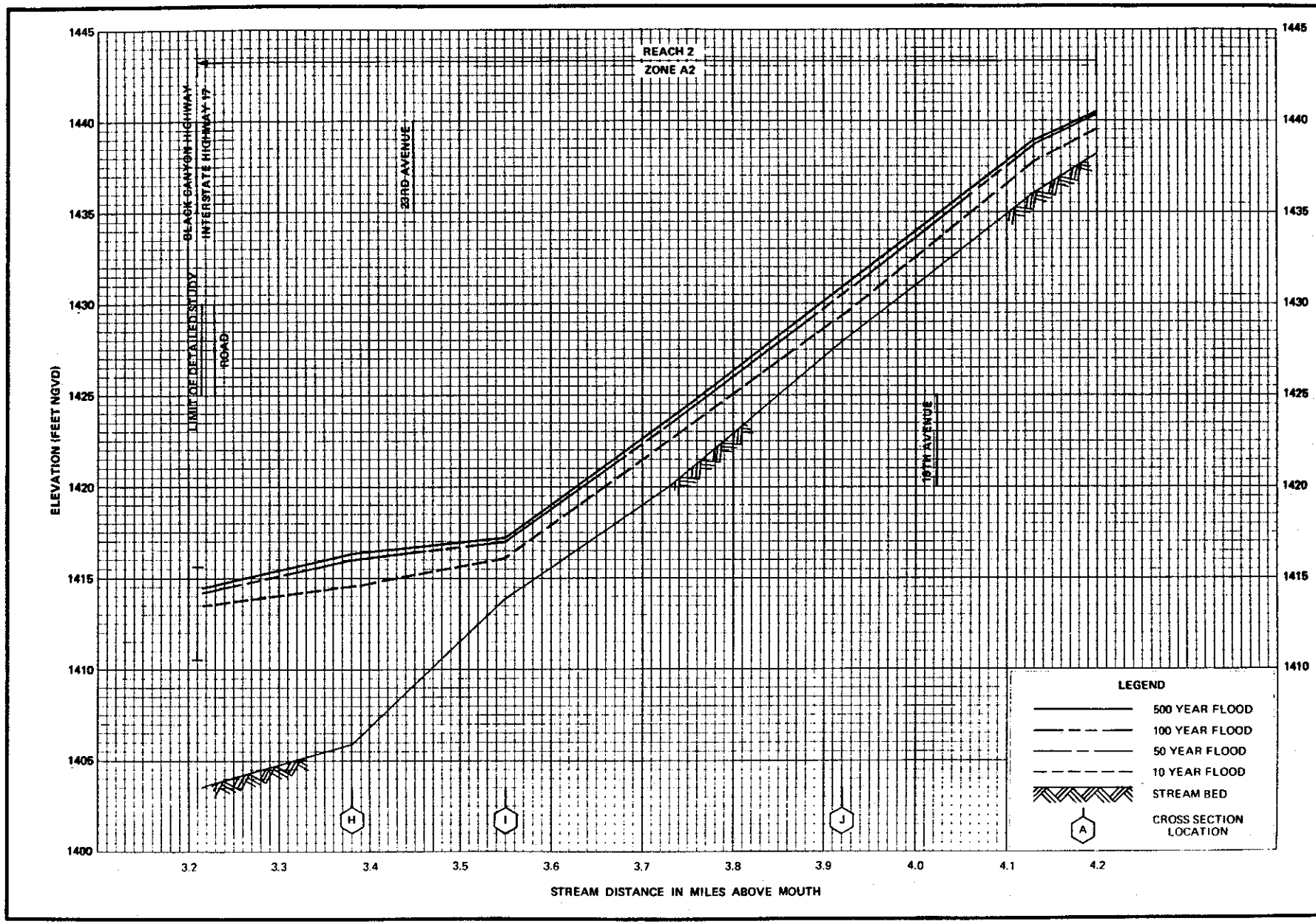


FLOOD PROFILES

SCATTER WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



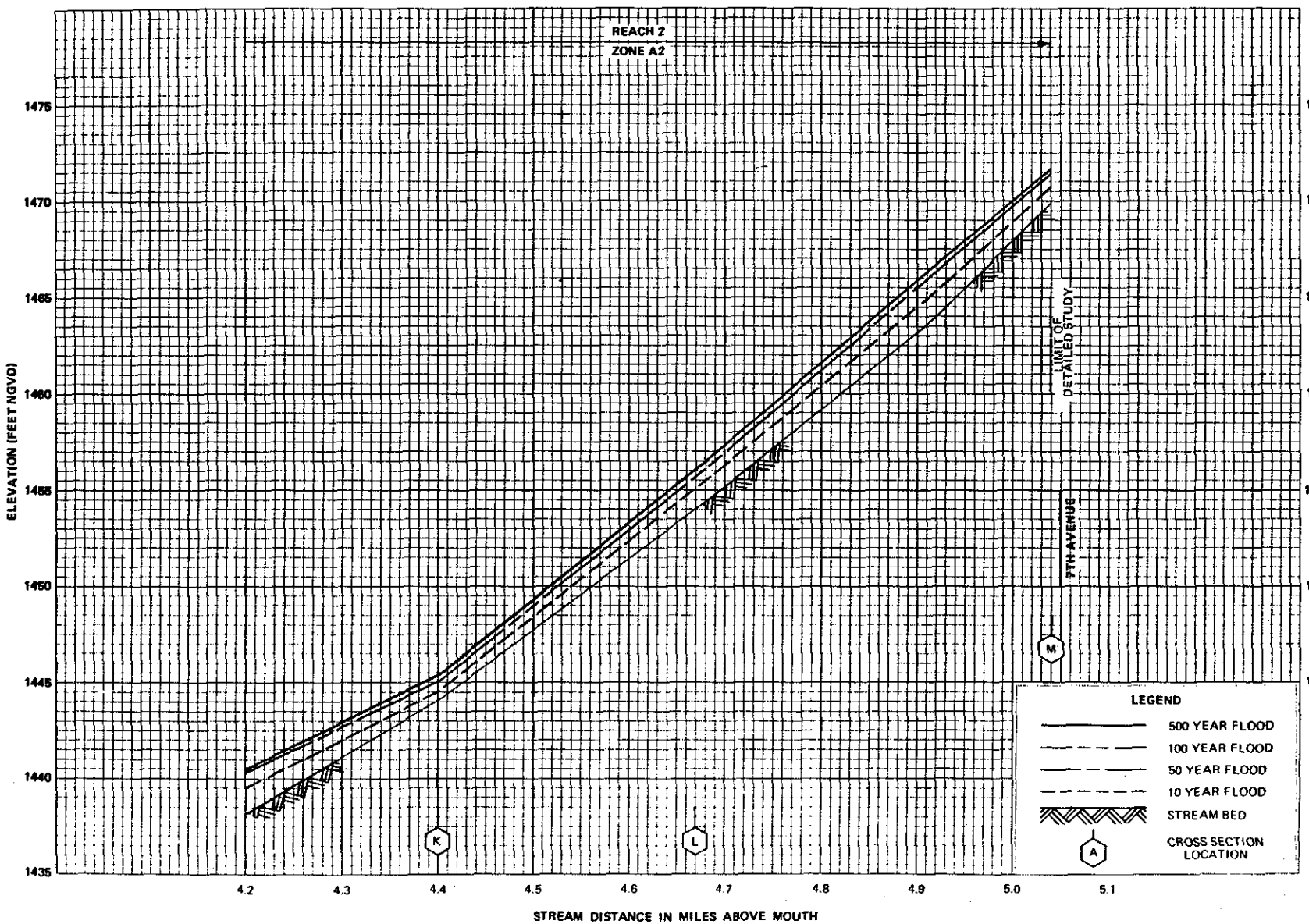
FLOOD PROFILES

SCATTER WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

57P

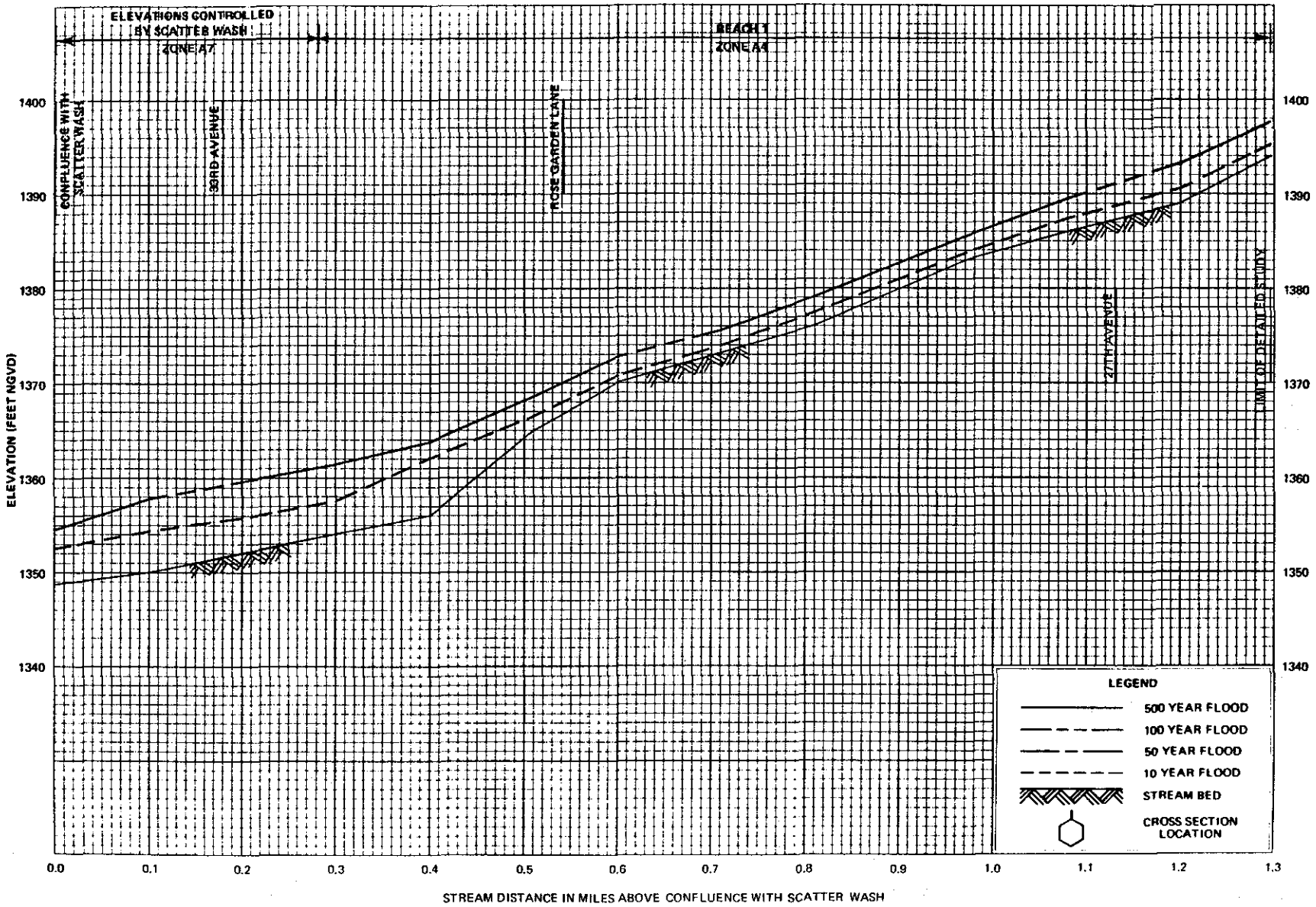


FLOOD PROFILES

SCATTER WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

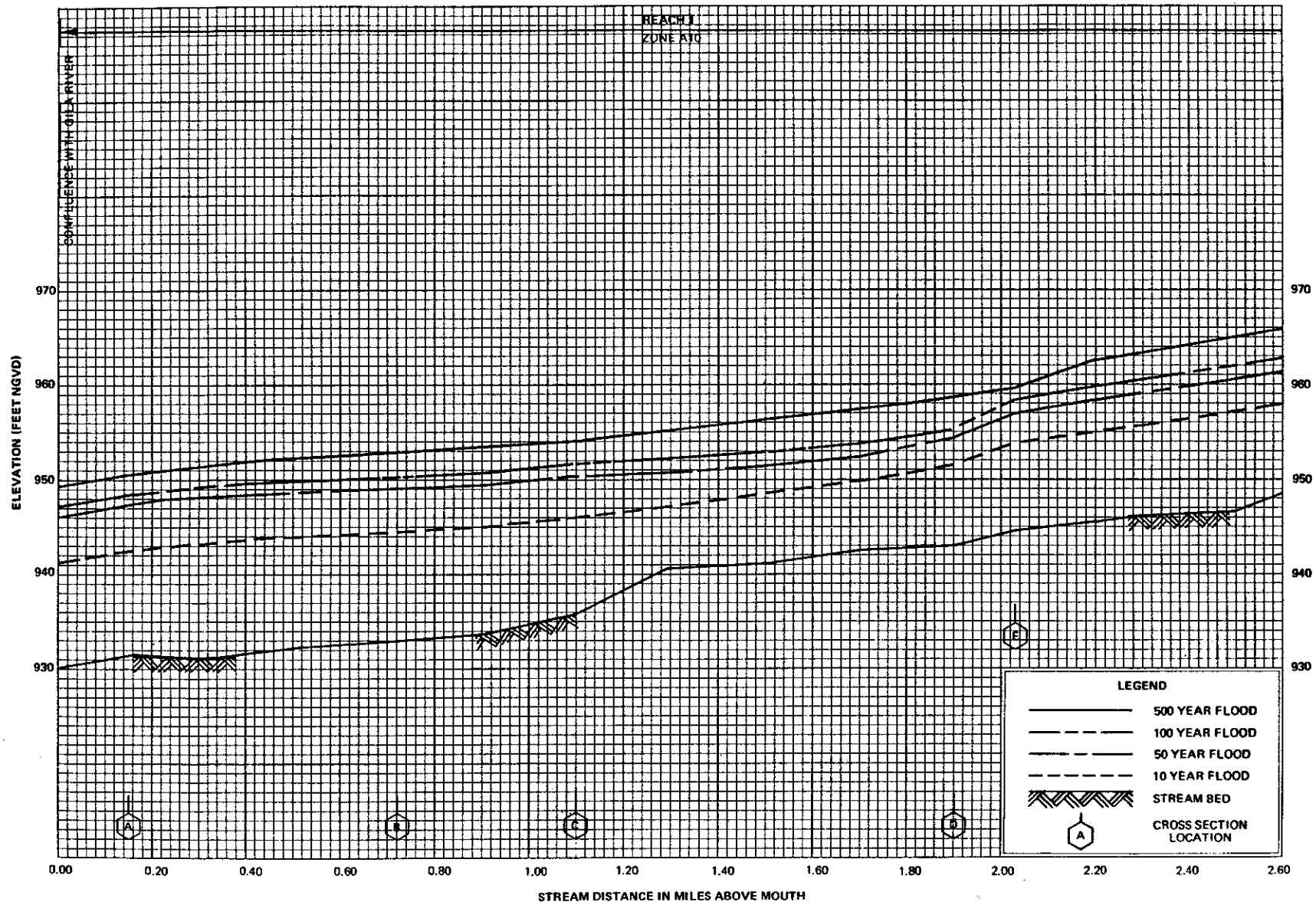


FLOOD PROFILES

EAST BRANCH SCATTER WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



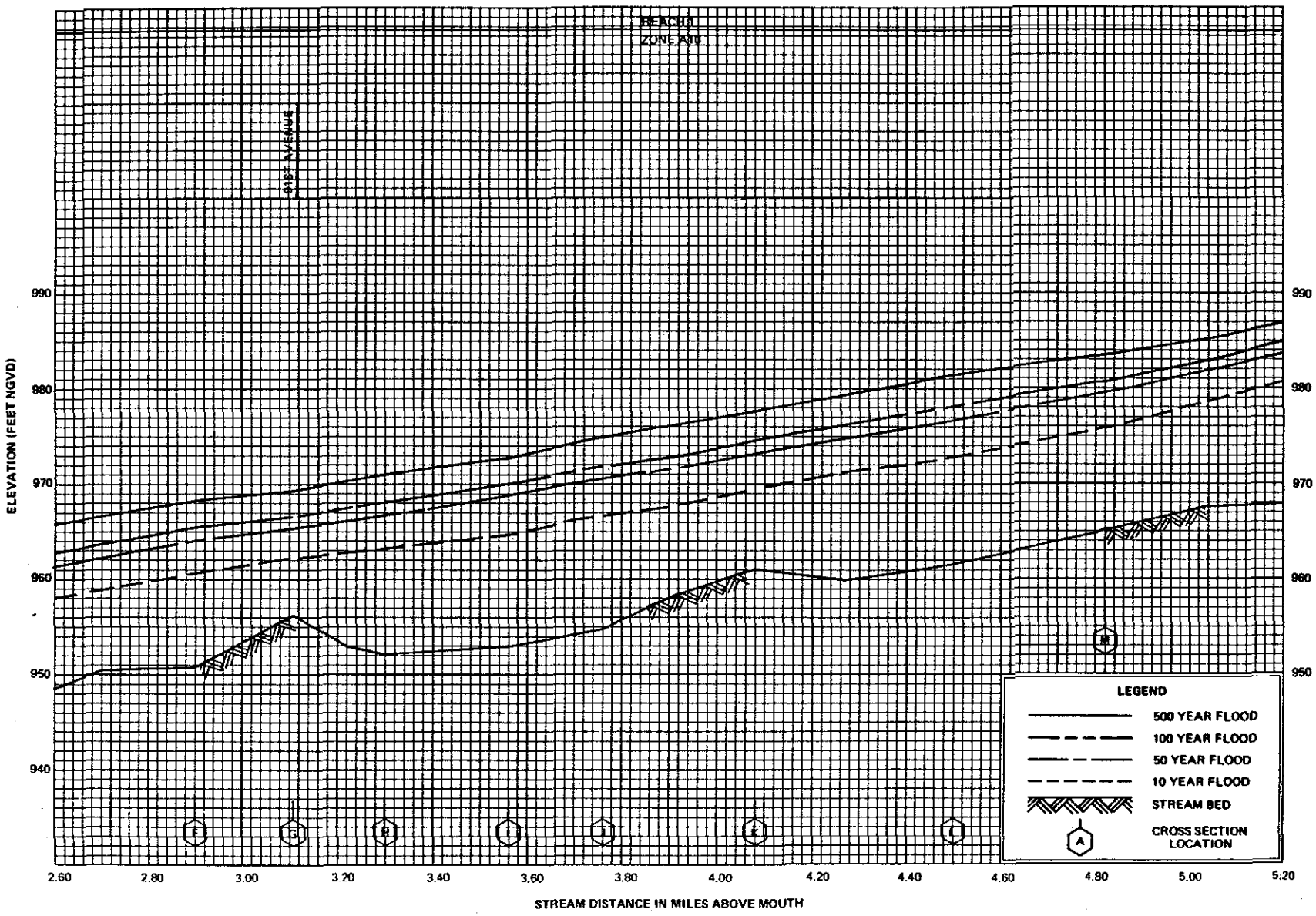
FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

60P



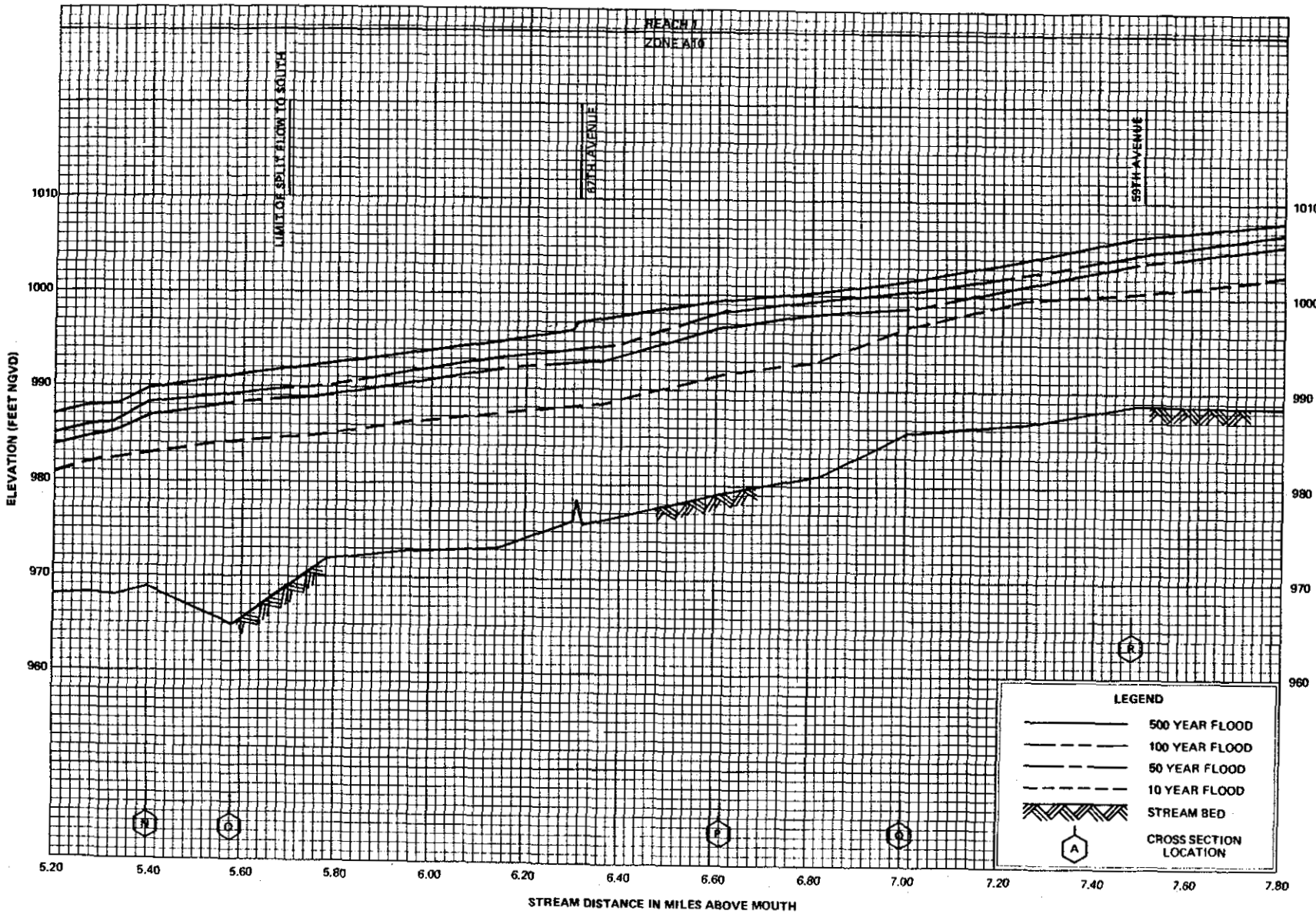
FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

61P



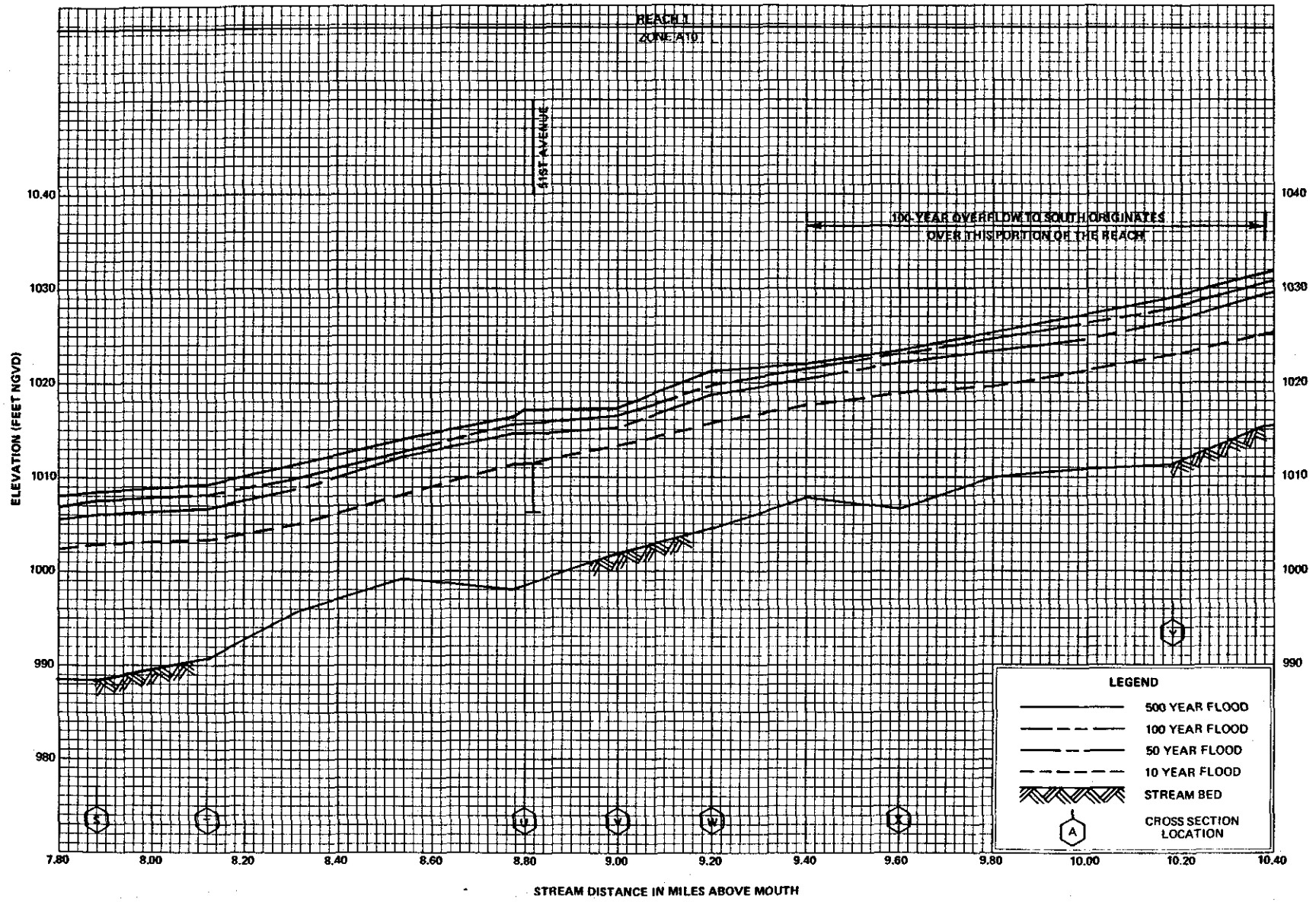
FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

62P

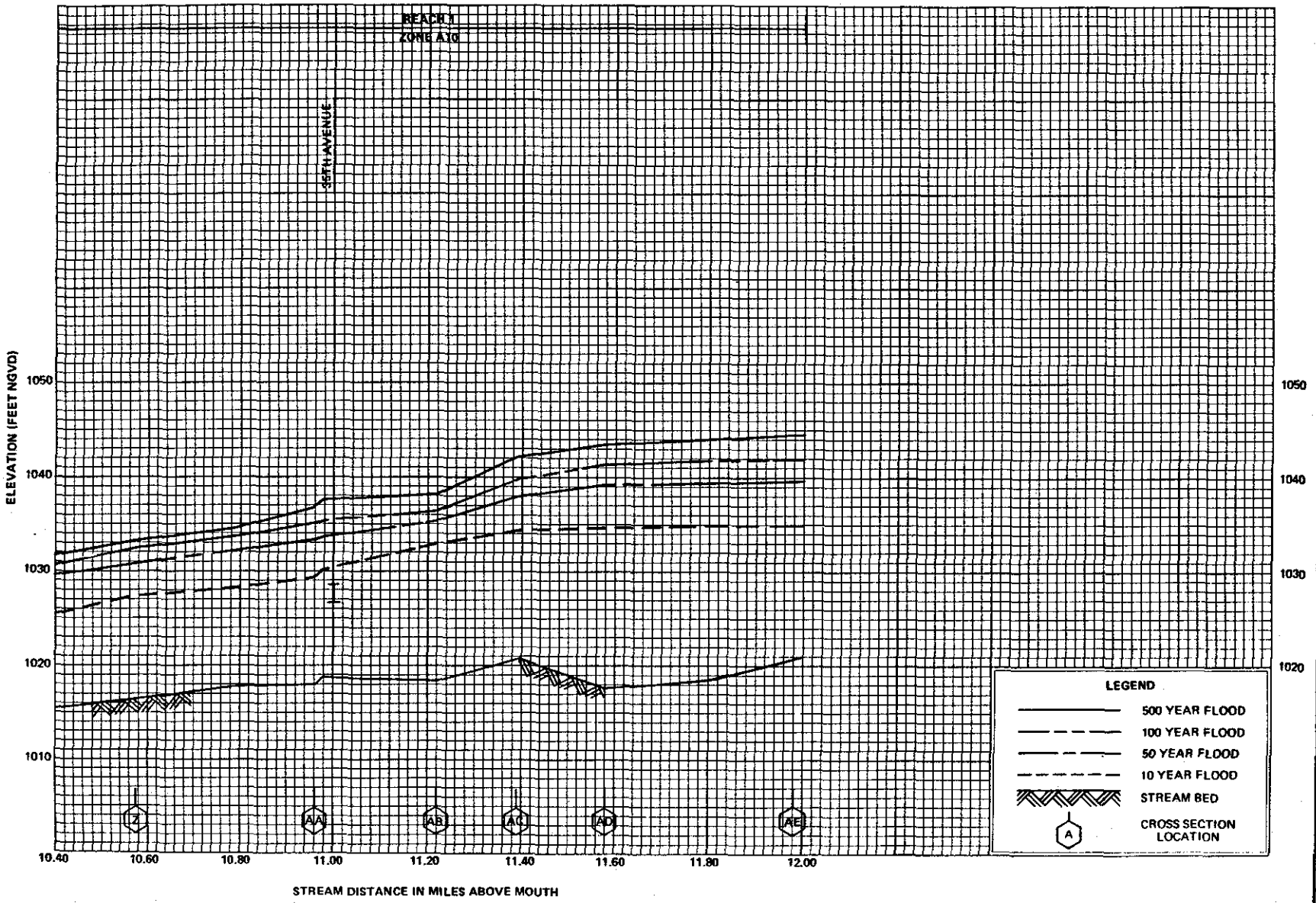


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

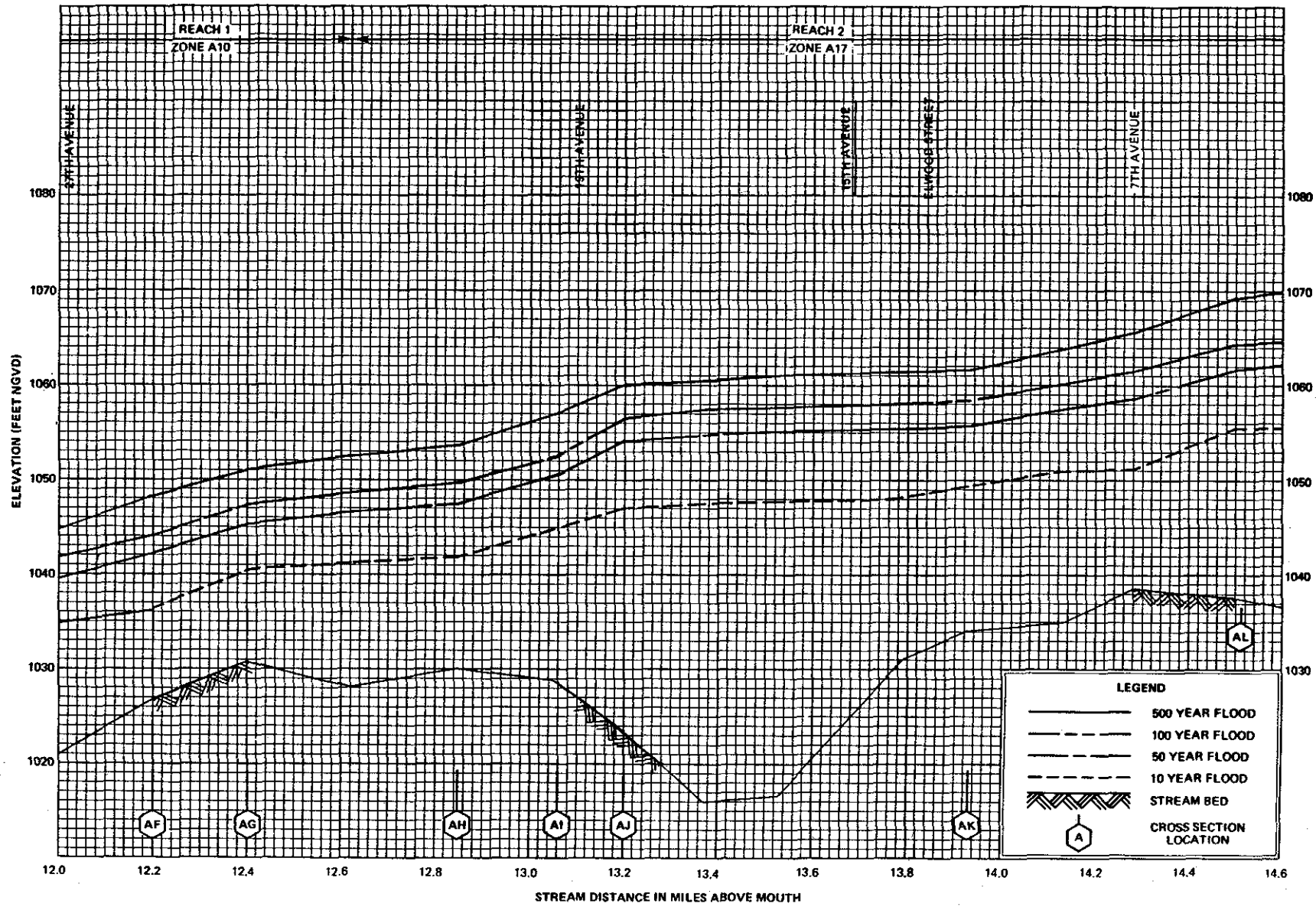


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

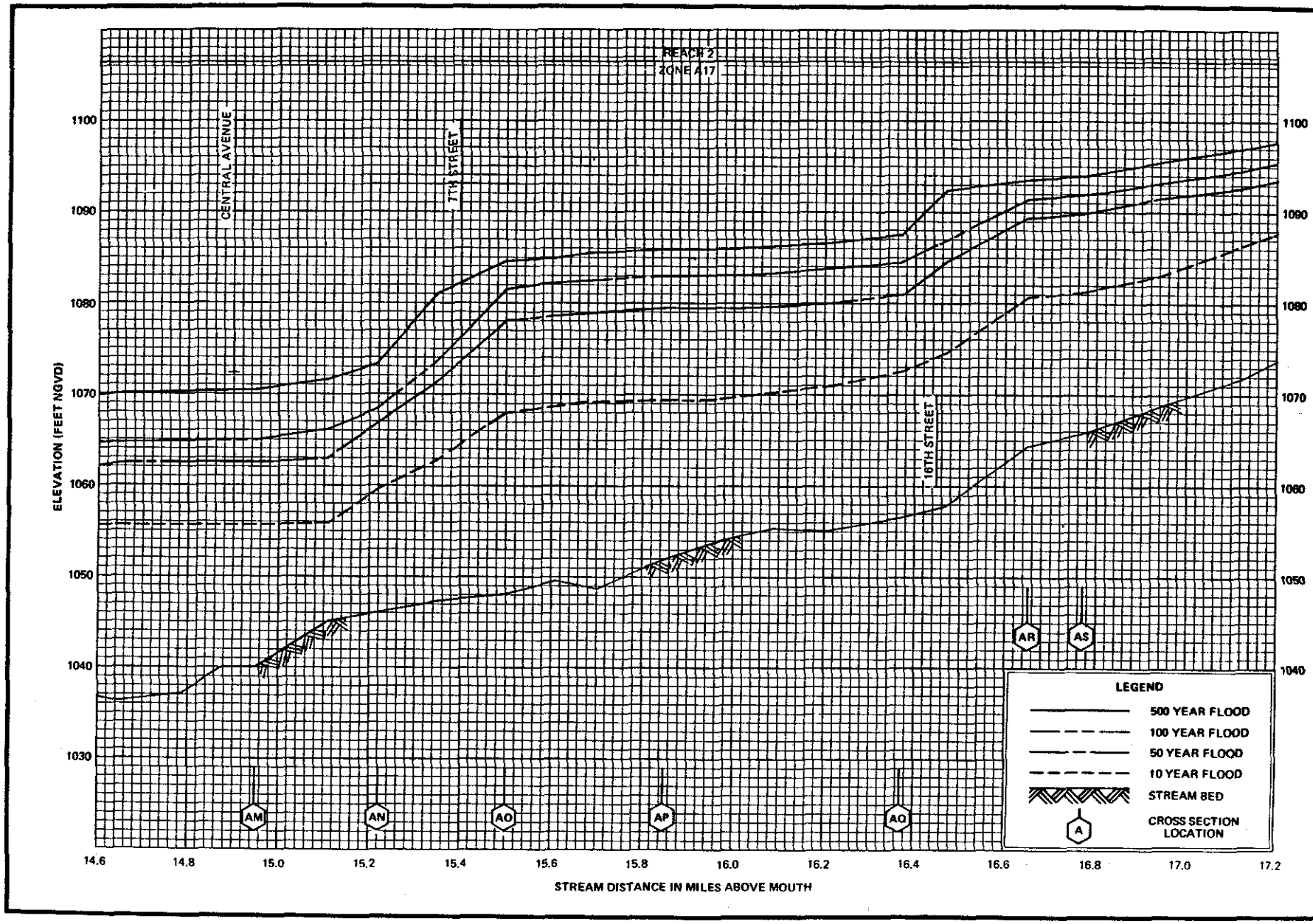


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



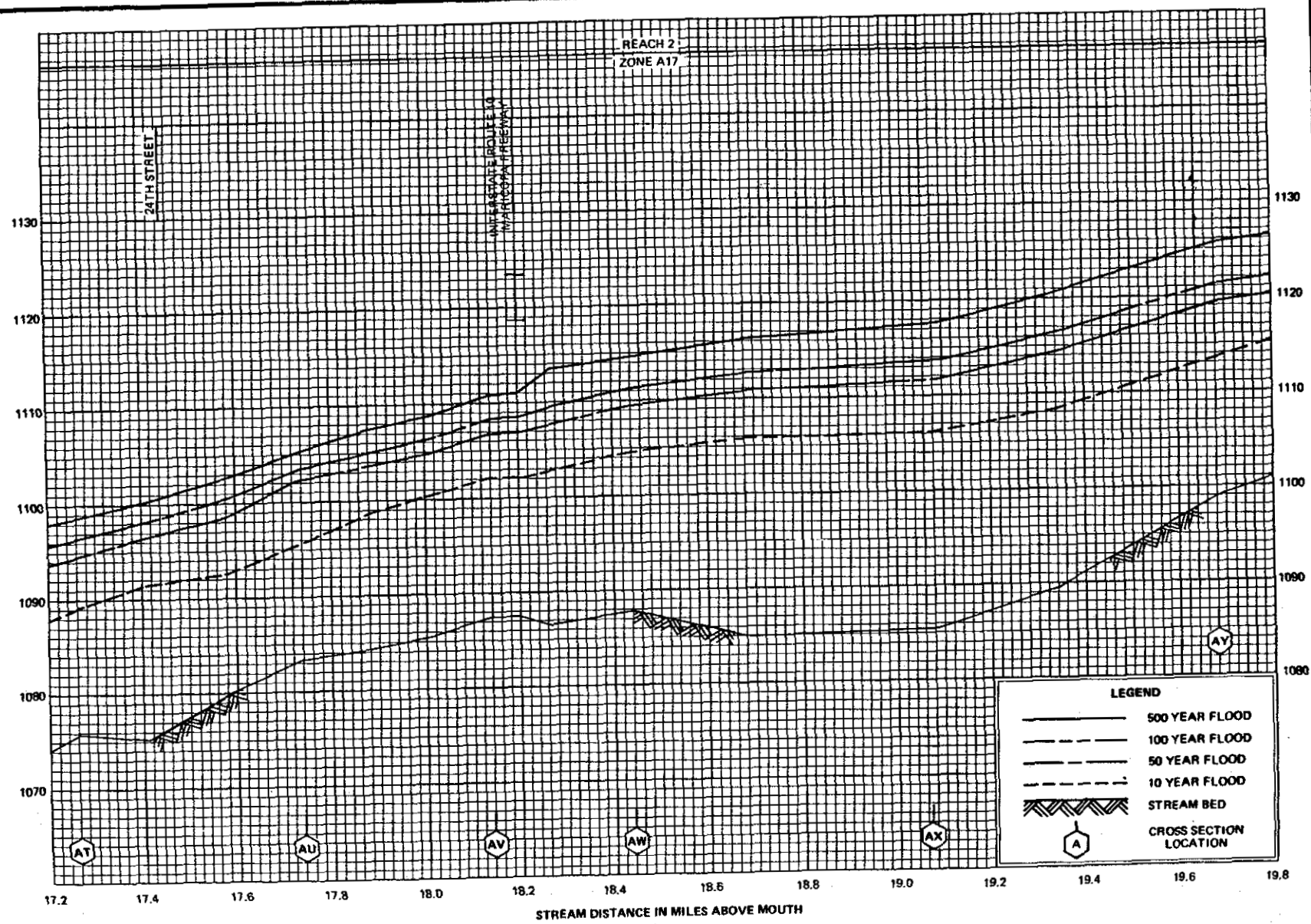
FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

66P

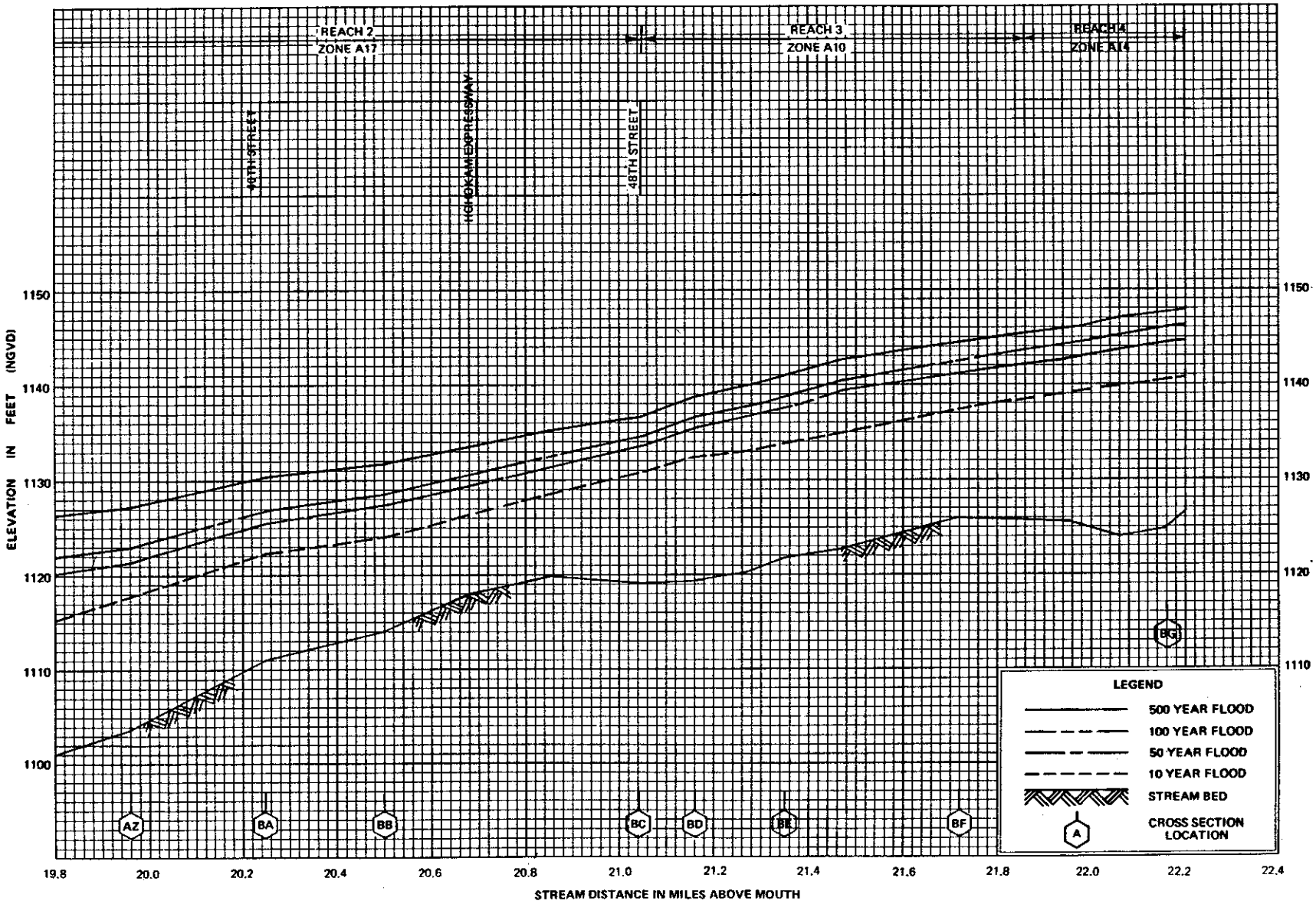


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

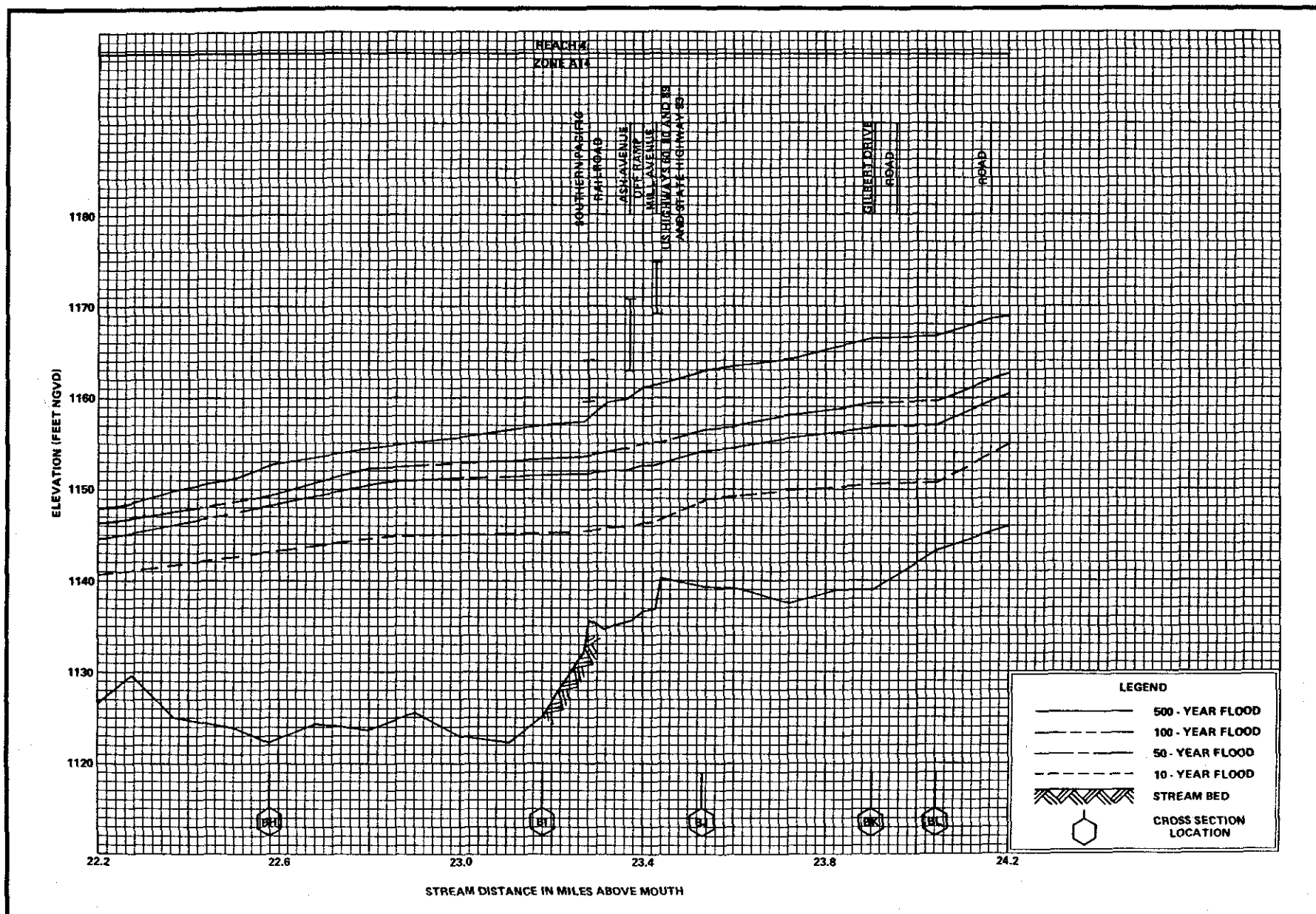


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

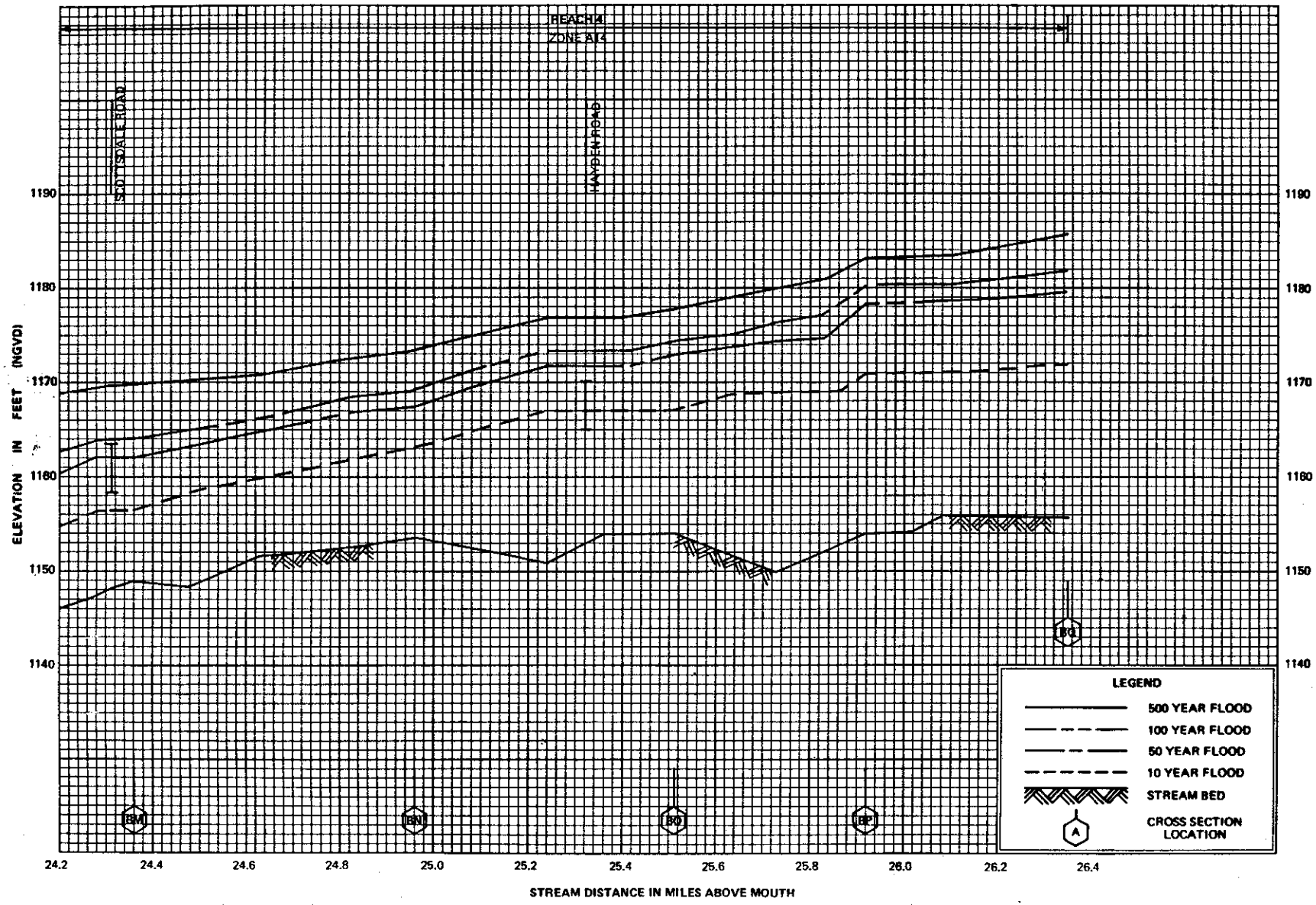


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

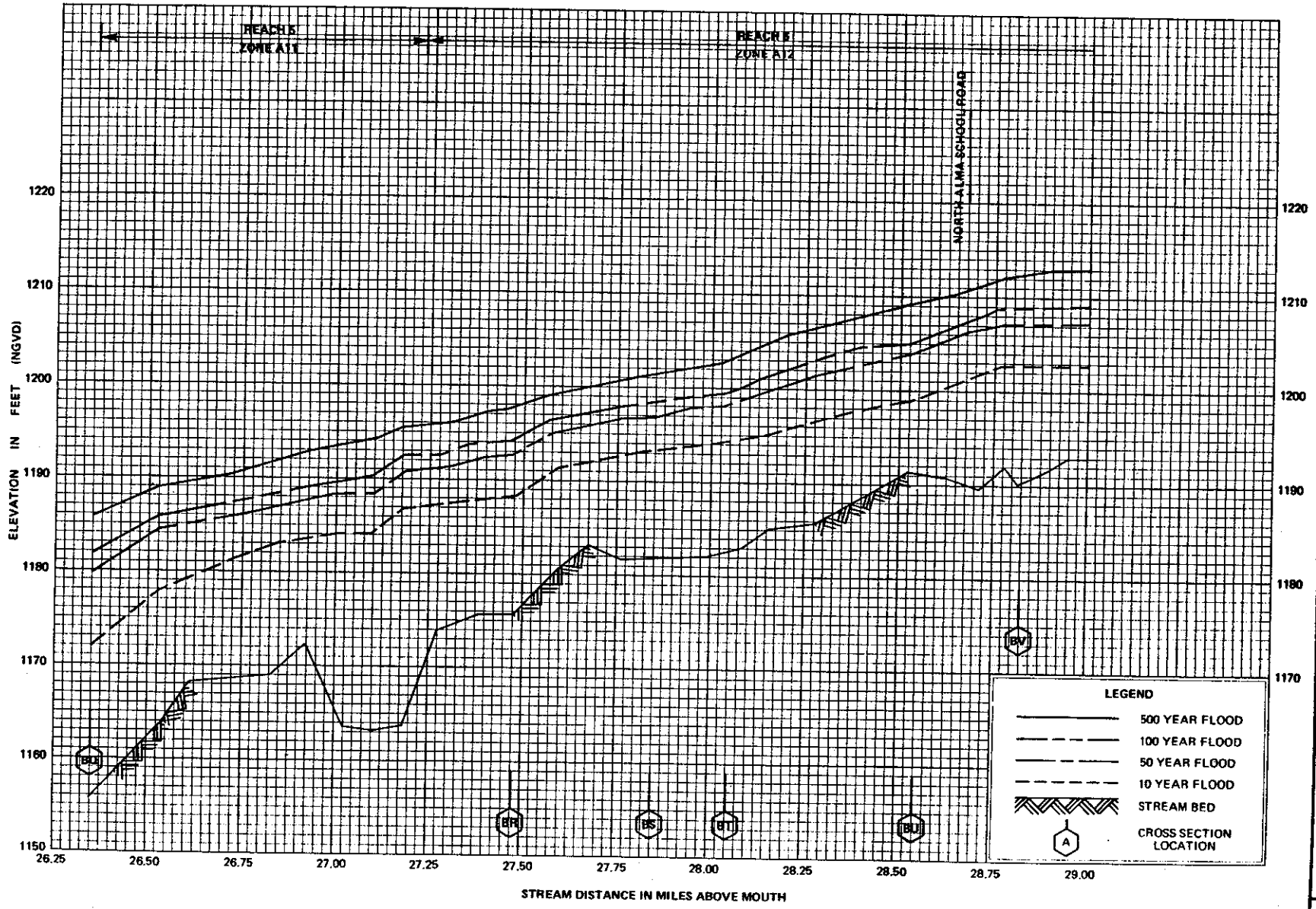


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

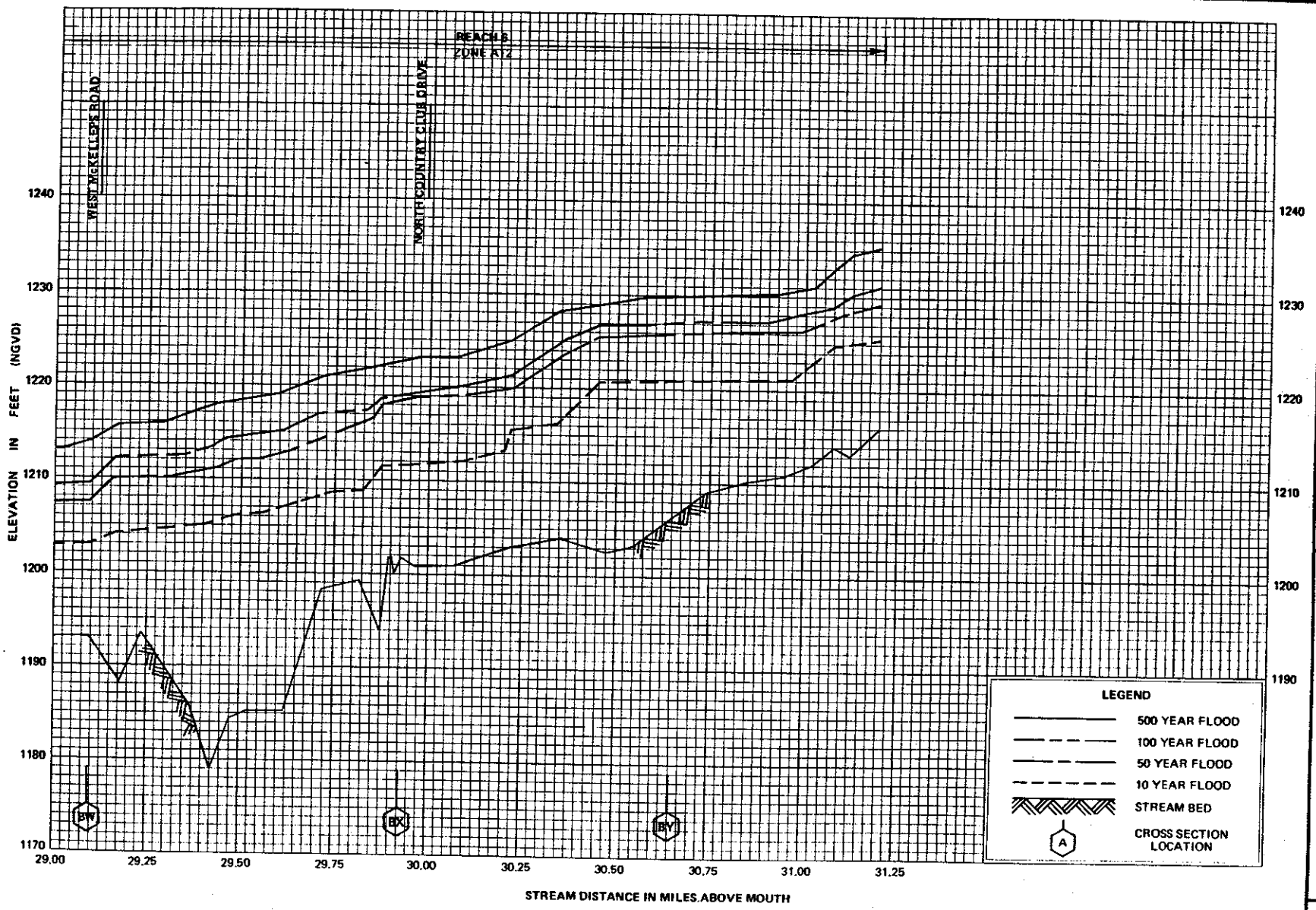


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

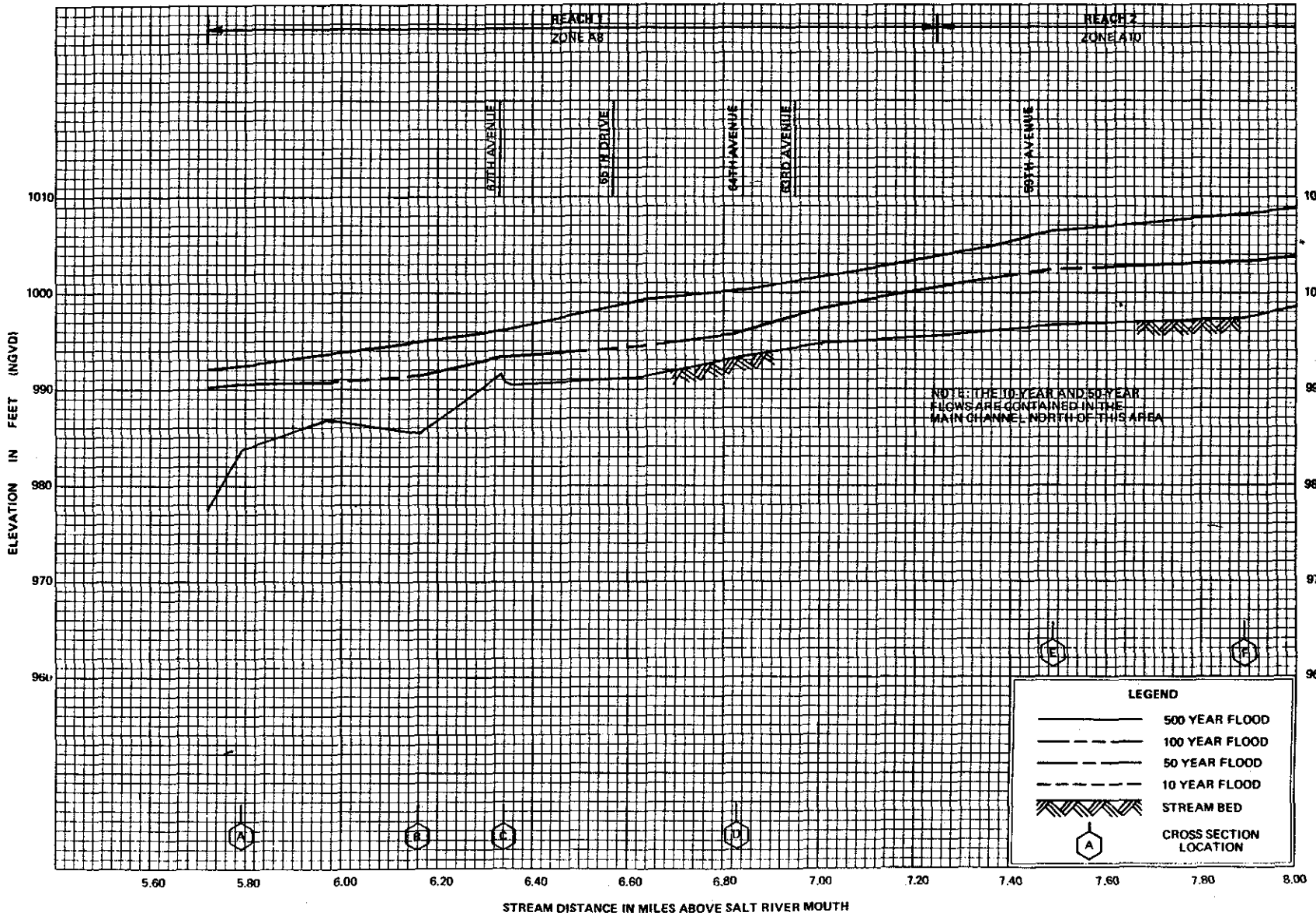


FLOOD PROFILES

SALT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

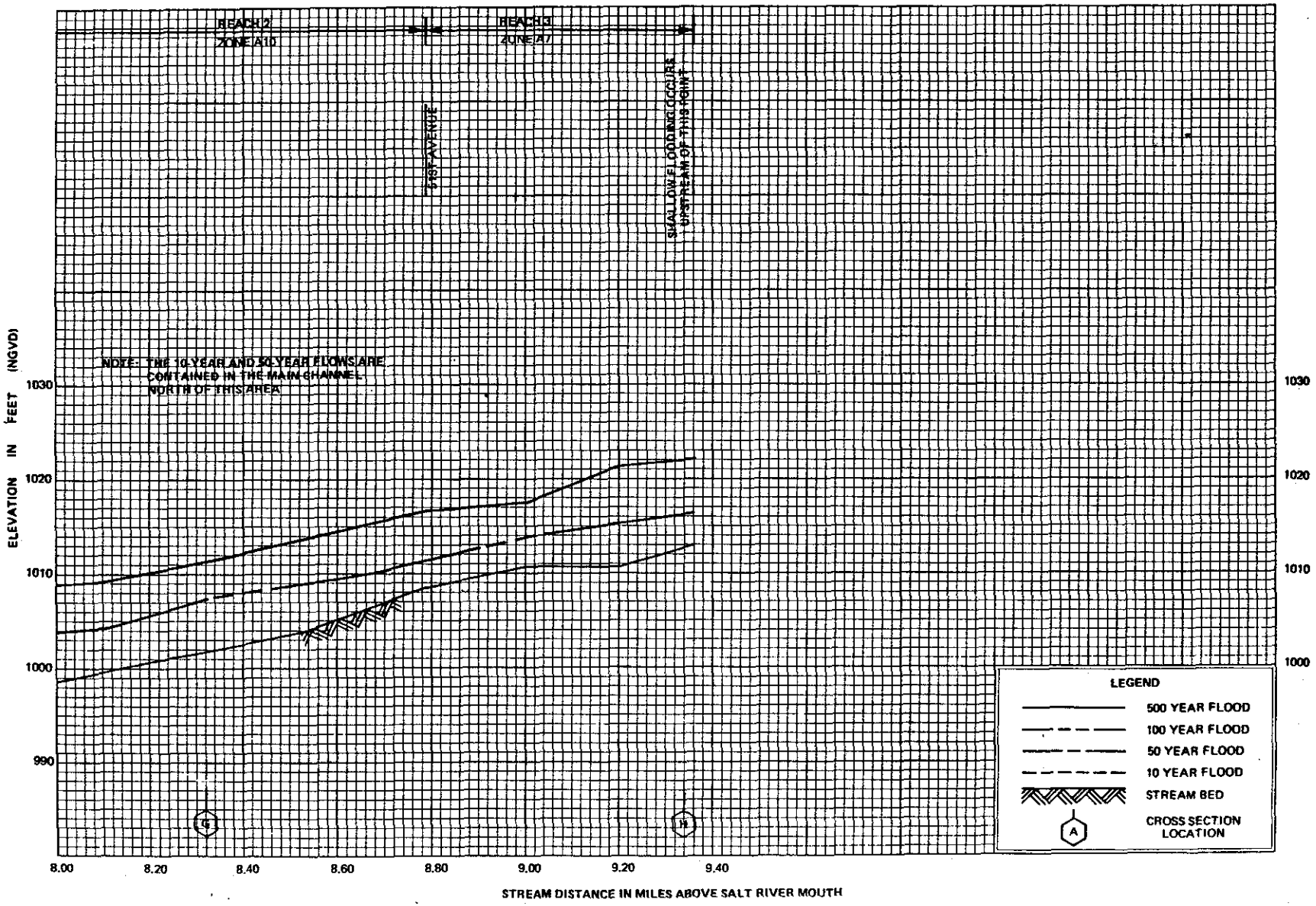


FLOOD PROFILES

SALT RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

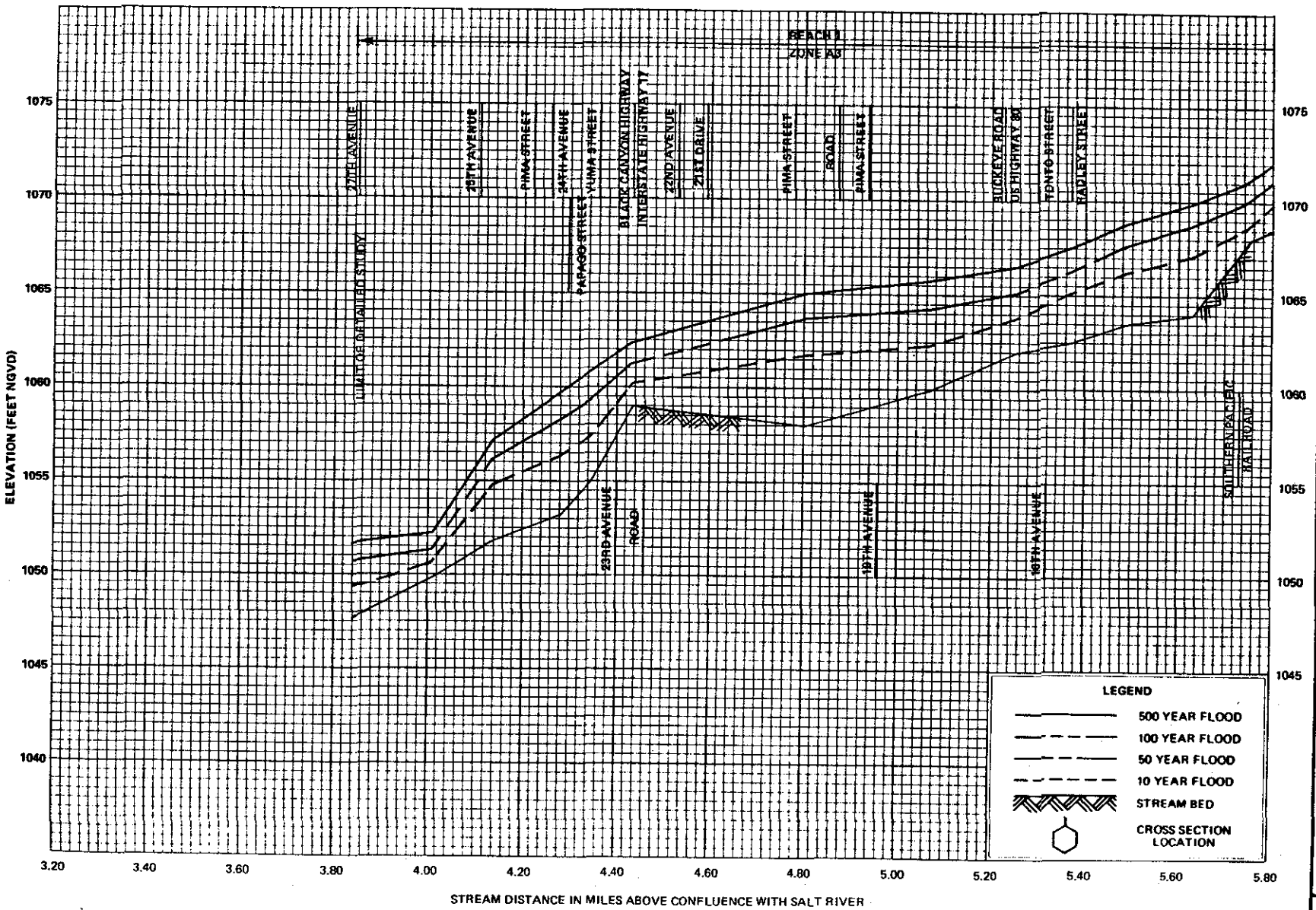


FLOOD PROFILES

SALT RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

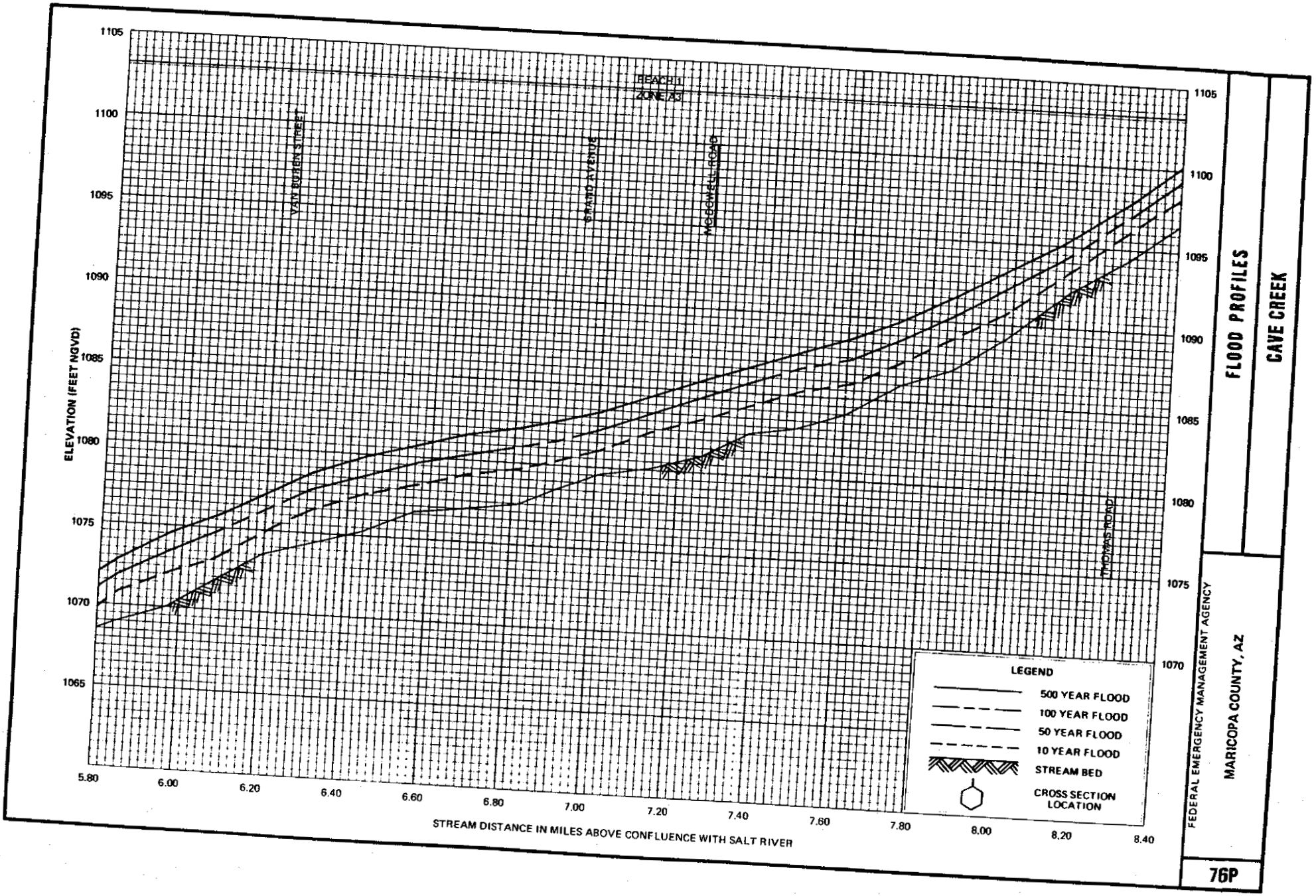


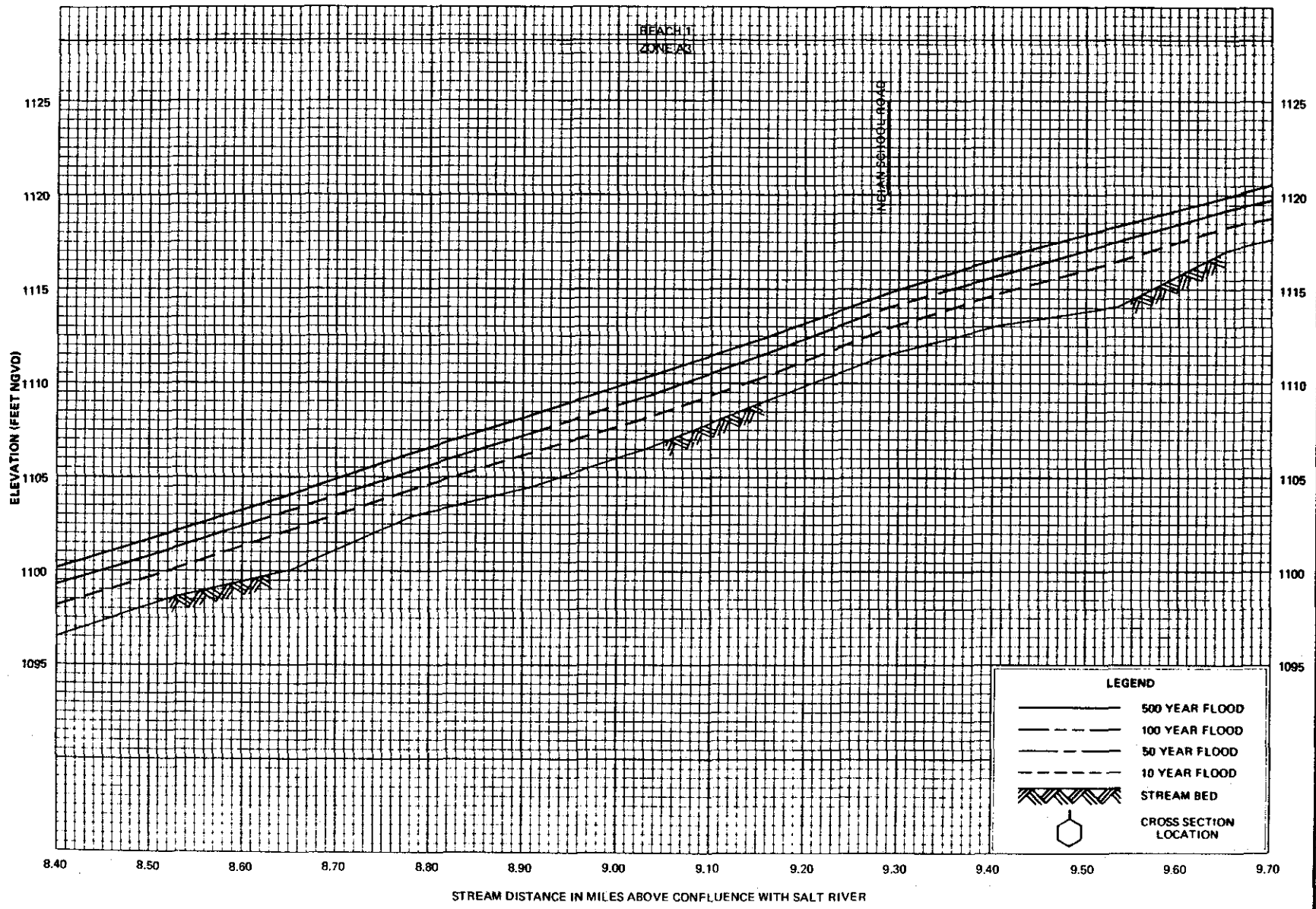
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ


REACH 1
ZONE A3
VAN BUREN STREET
GRAND AVENUE
MCDOWELL ROAD
THOMAS ROAD
ELEVATION (FEET NGVD)
1105
1100
1095
1090
1085
1080
1075
1070
1065
5.80
6.00
6.20
6.40
6.60
6.80
7.00
7.20
7.40
7.60
7.80
8.00
8.20
8.40
STREAM DISTANCE IN MILES ABOVE CONFLUENCE WITH SALT RIVER
LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
CROSS SECTION LOCATION
FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
FLOOD PROFILES
CAVE CREEK
76P



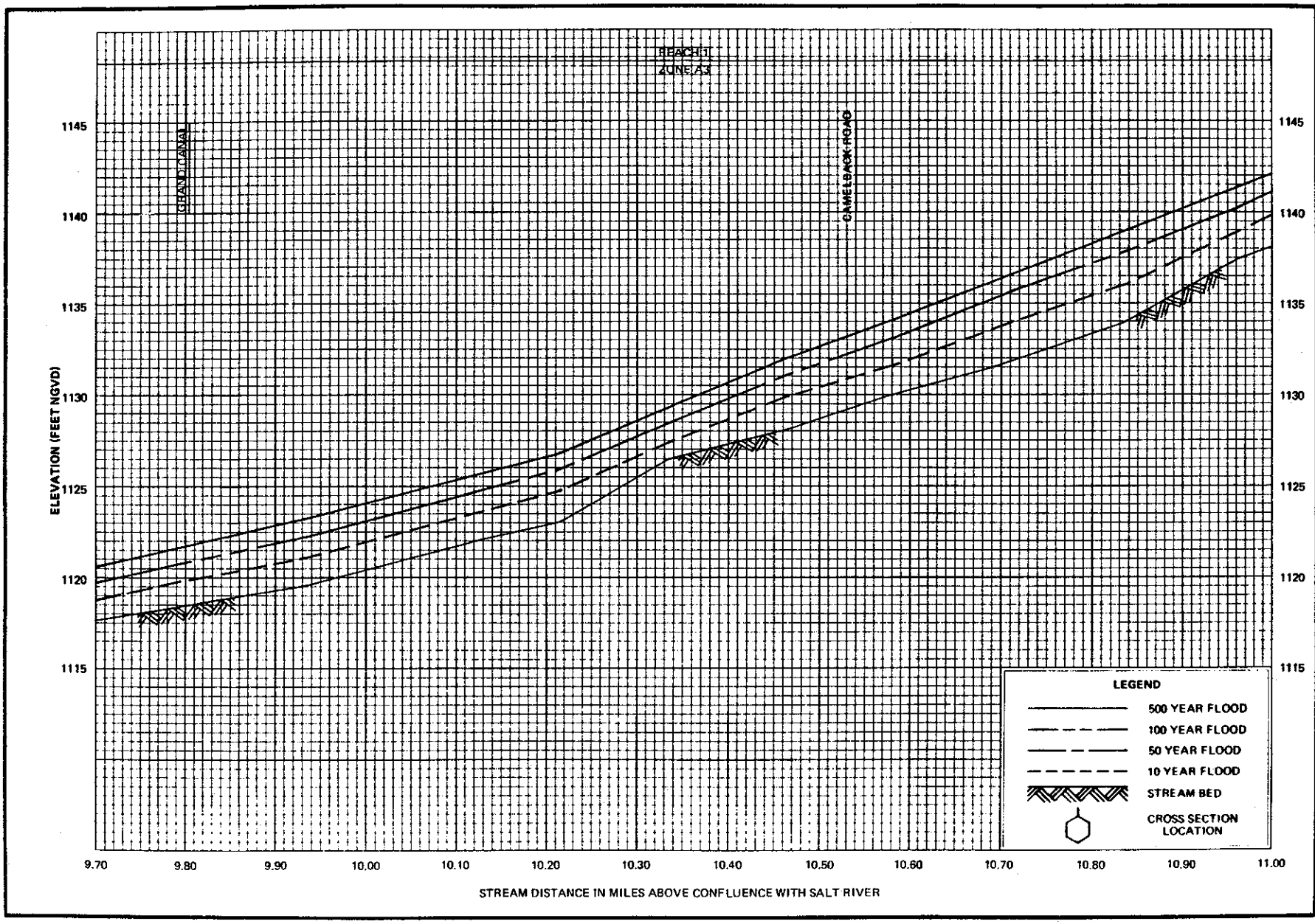
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

77P

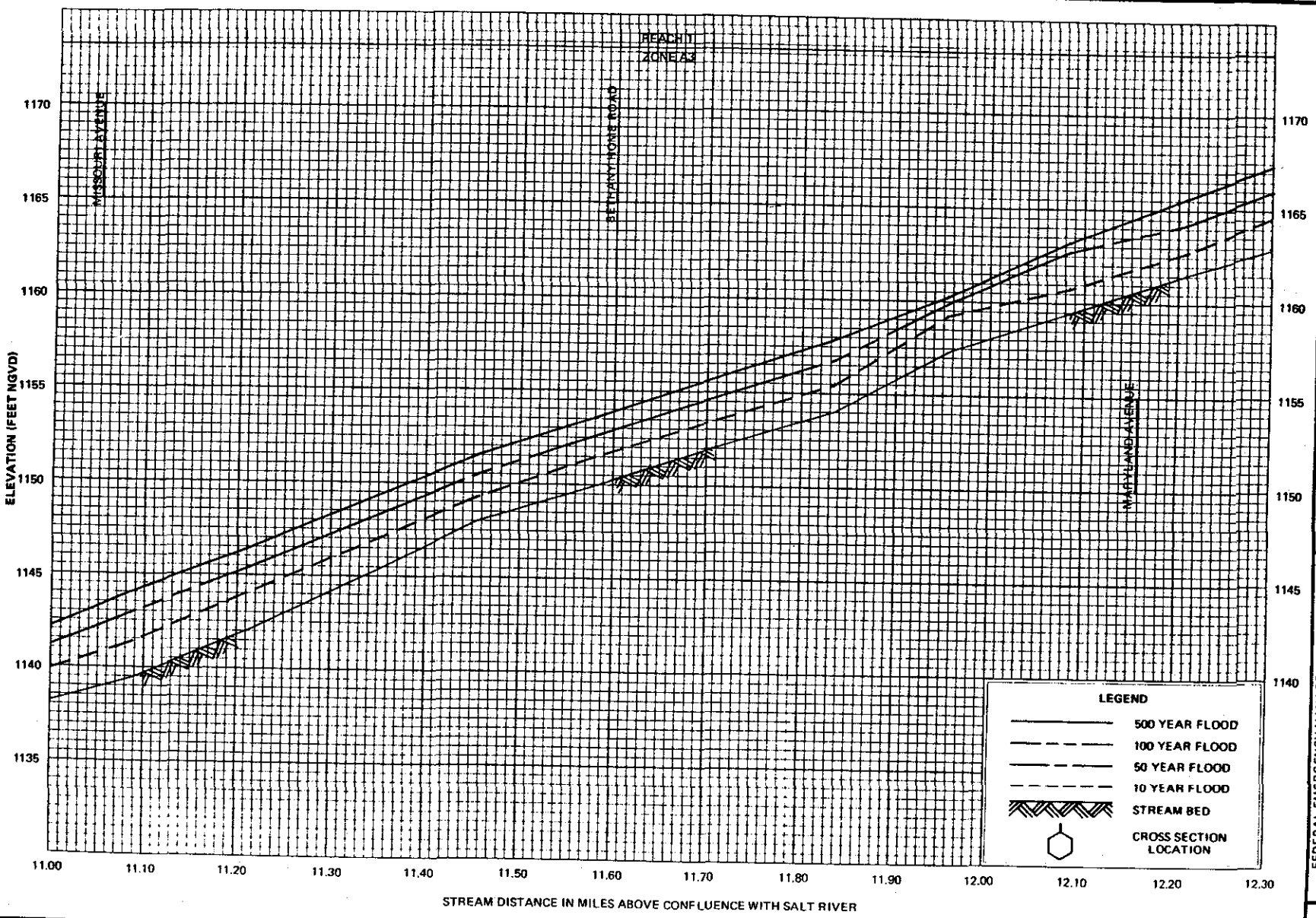


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

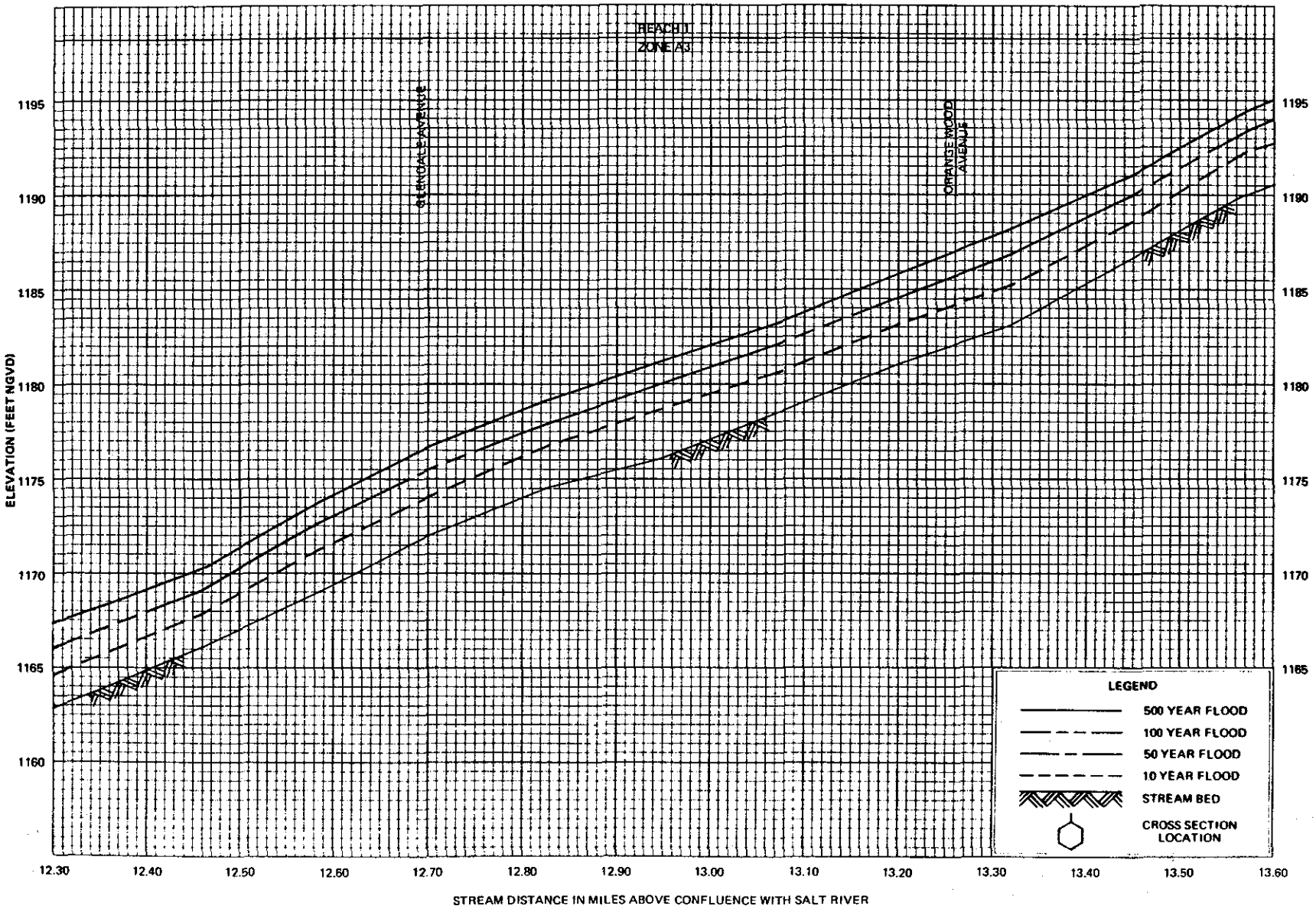


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



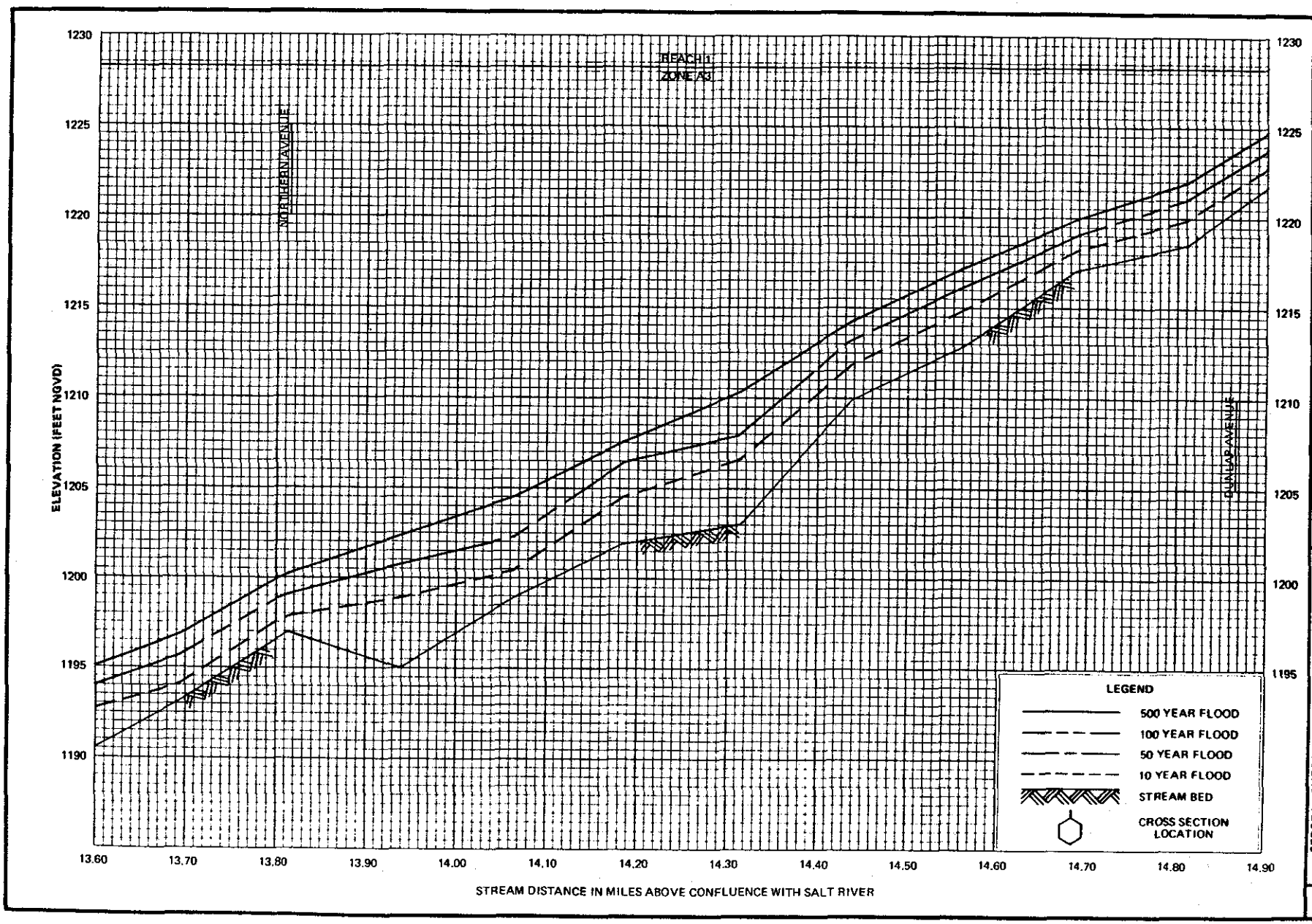
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

80P



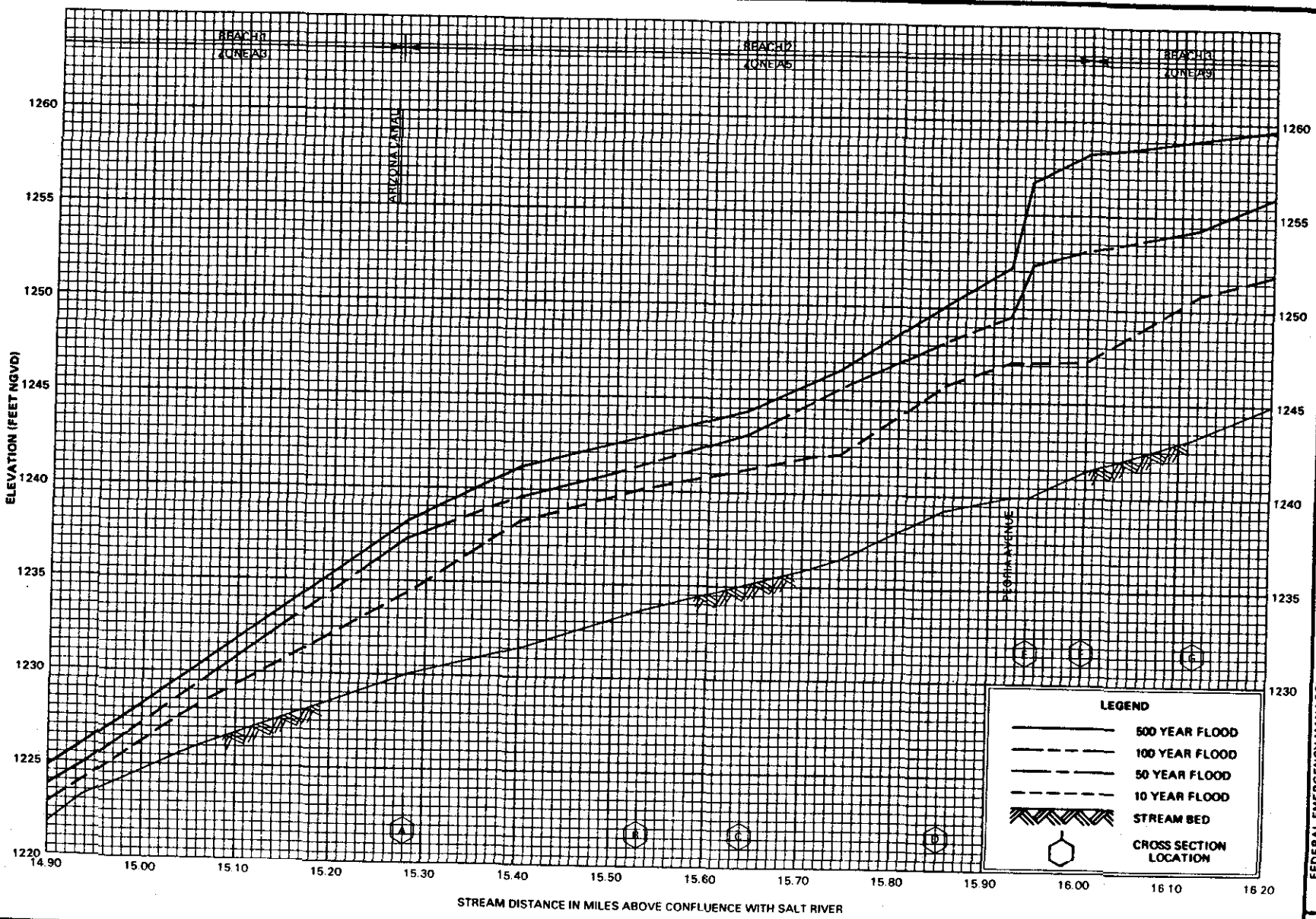
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

81P



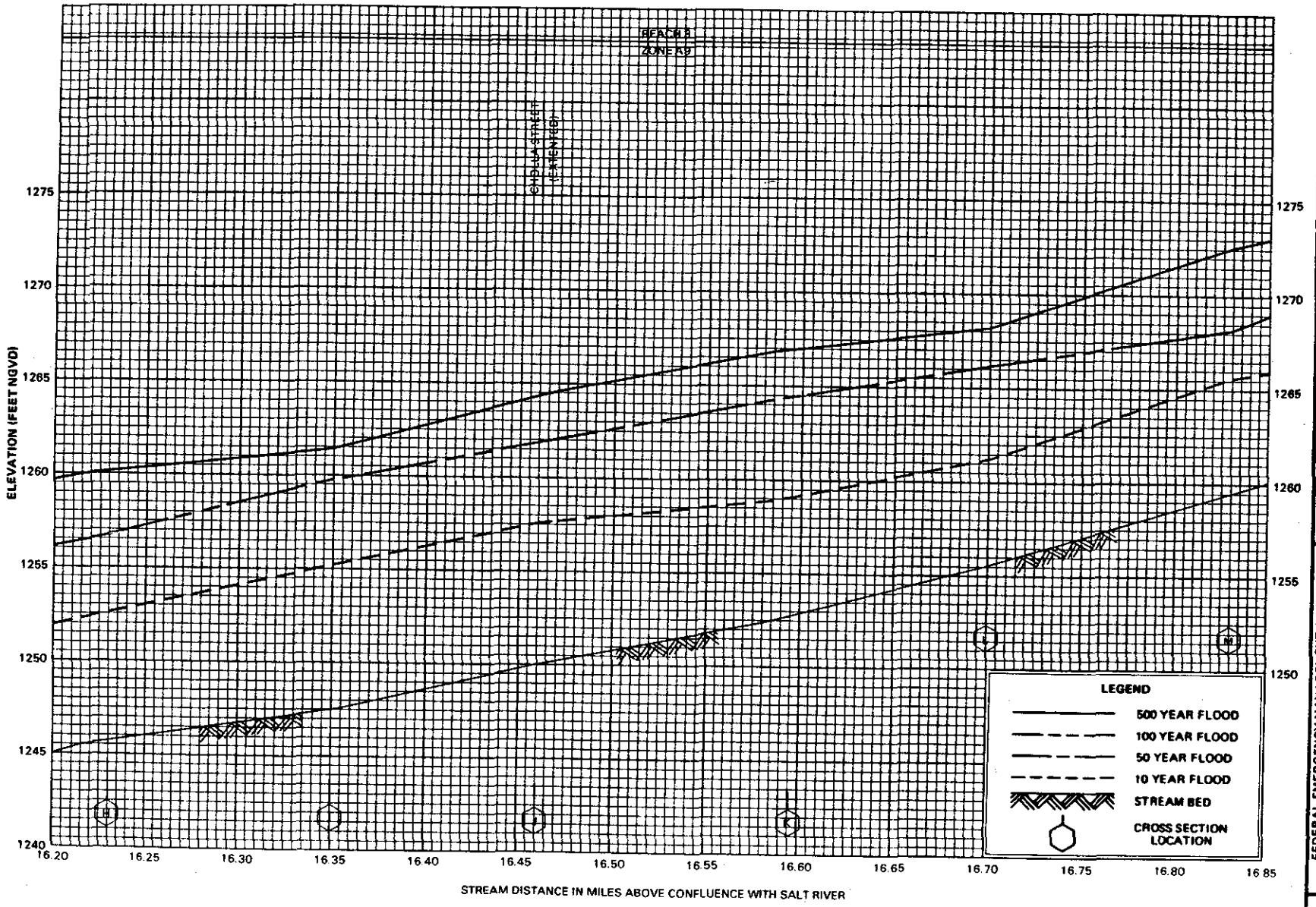
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

82P



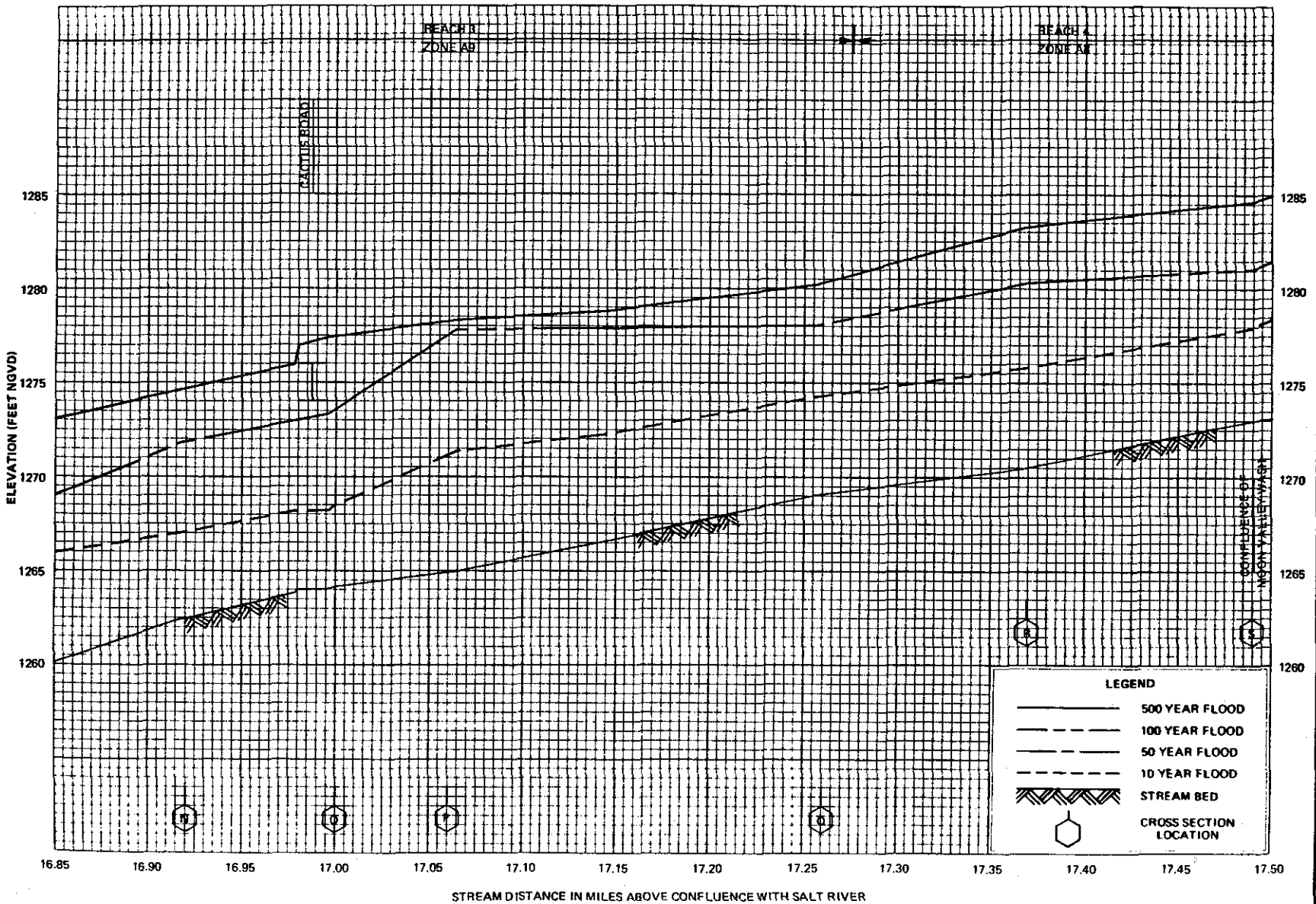
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

83P



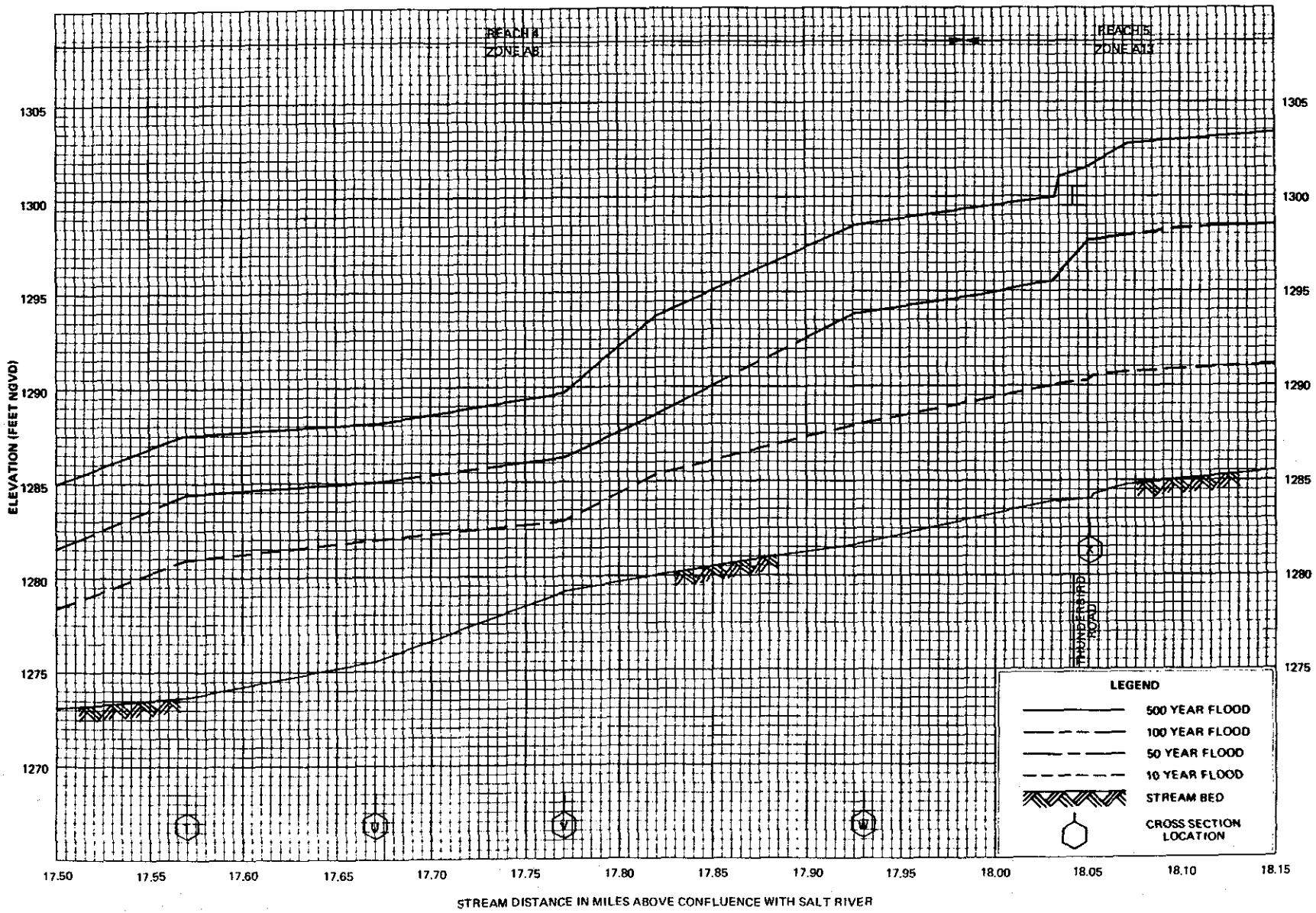
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

84P



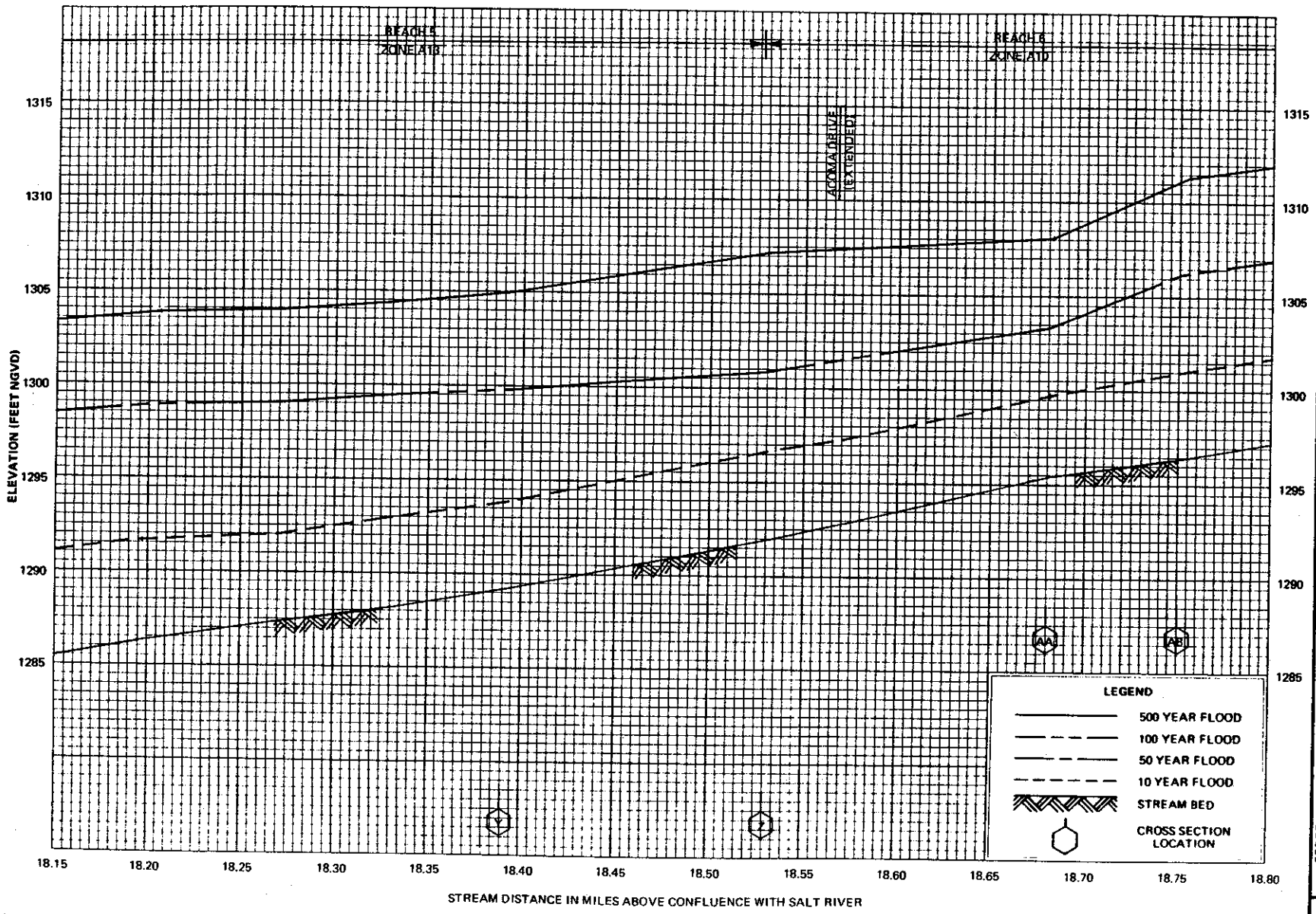
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

85P



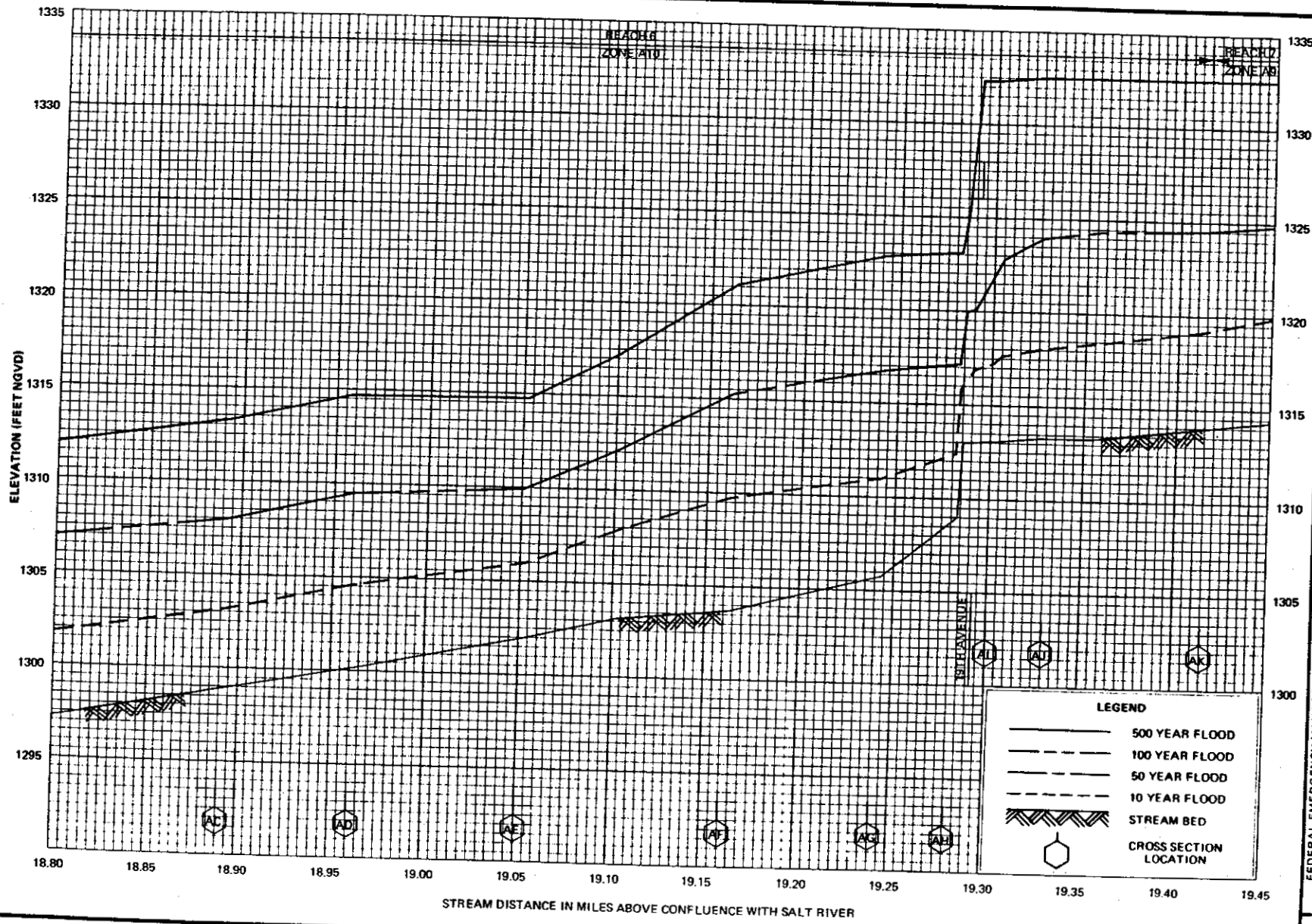
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

86P

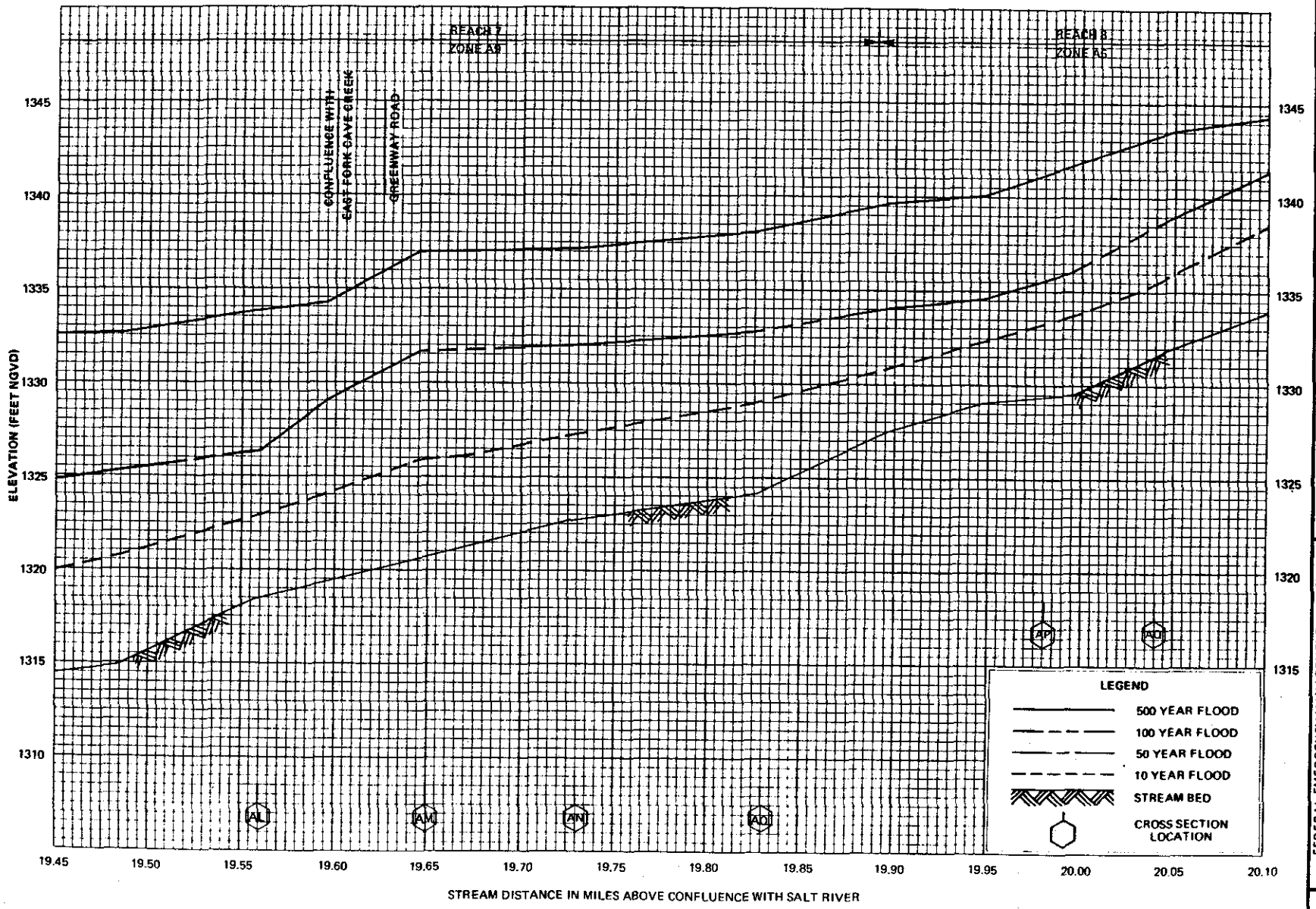


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

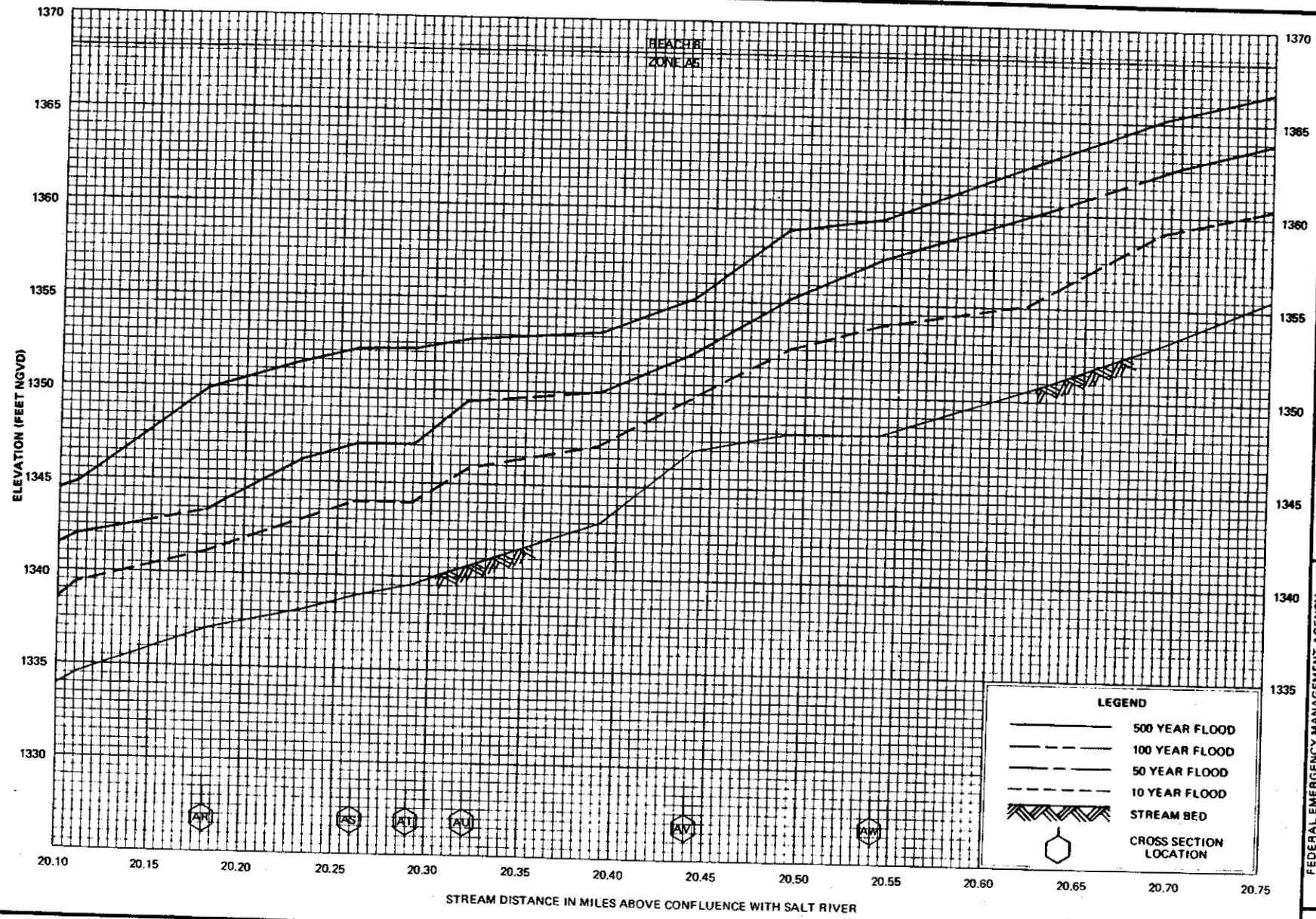


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

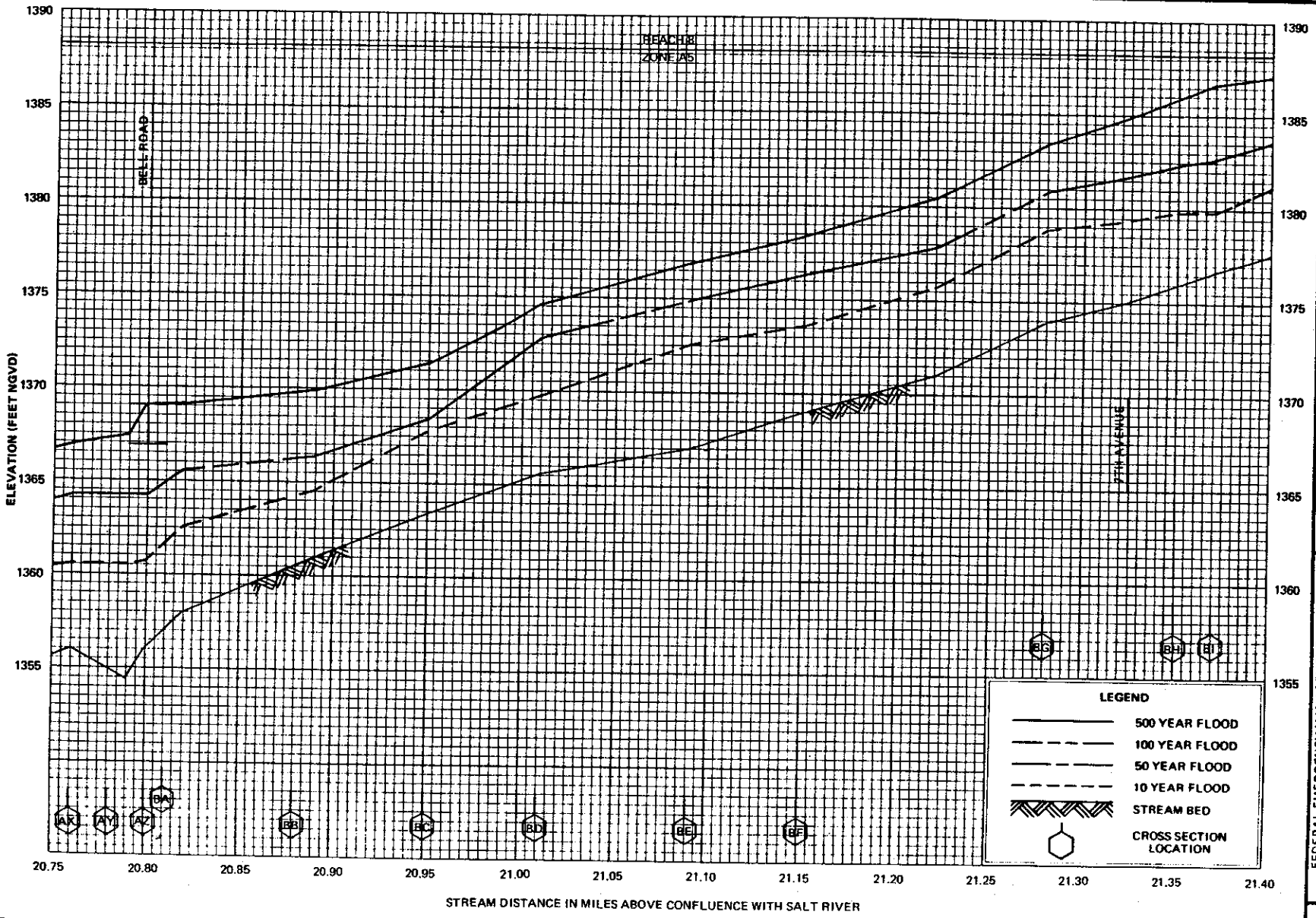


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

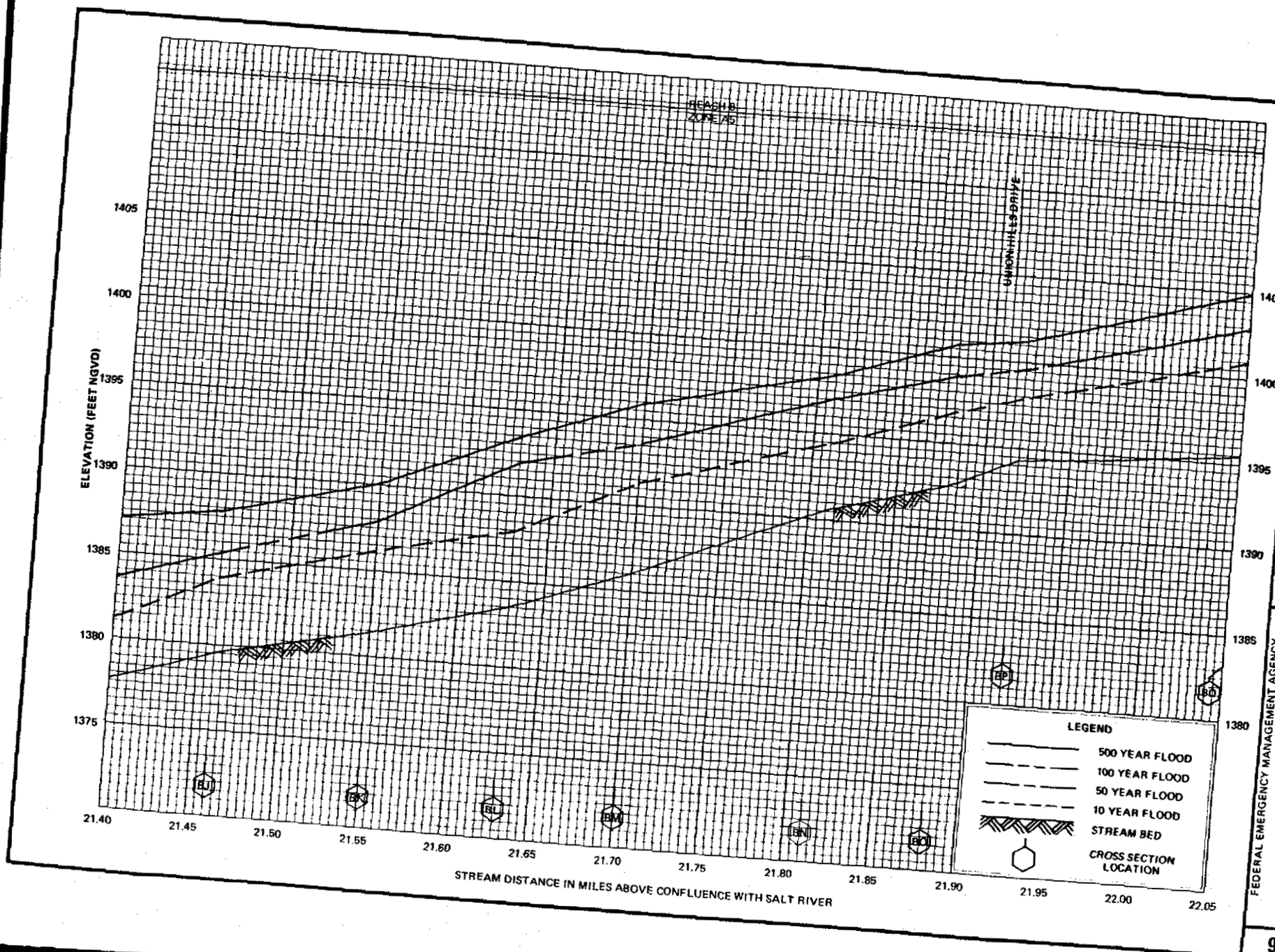


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

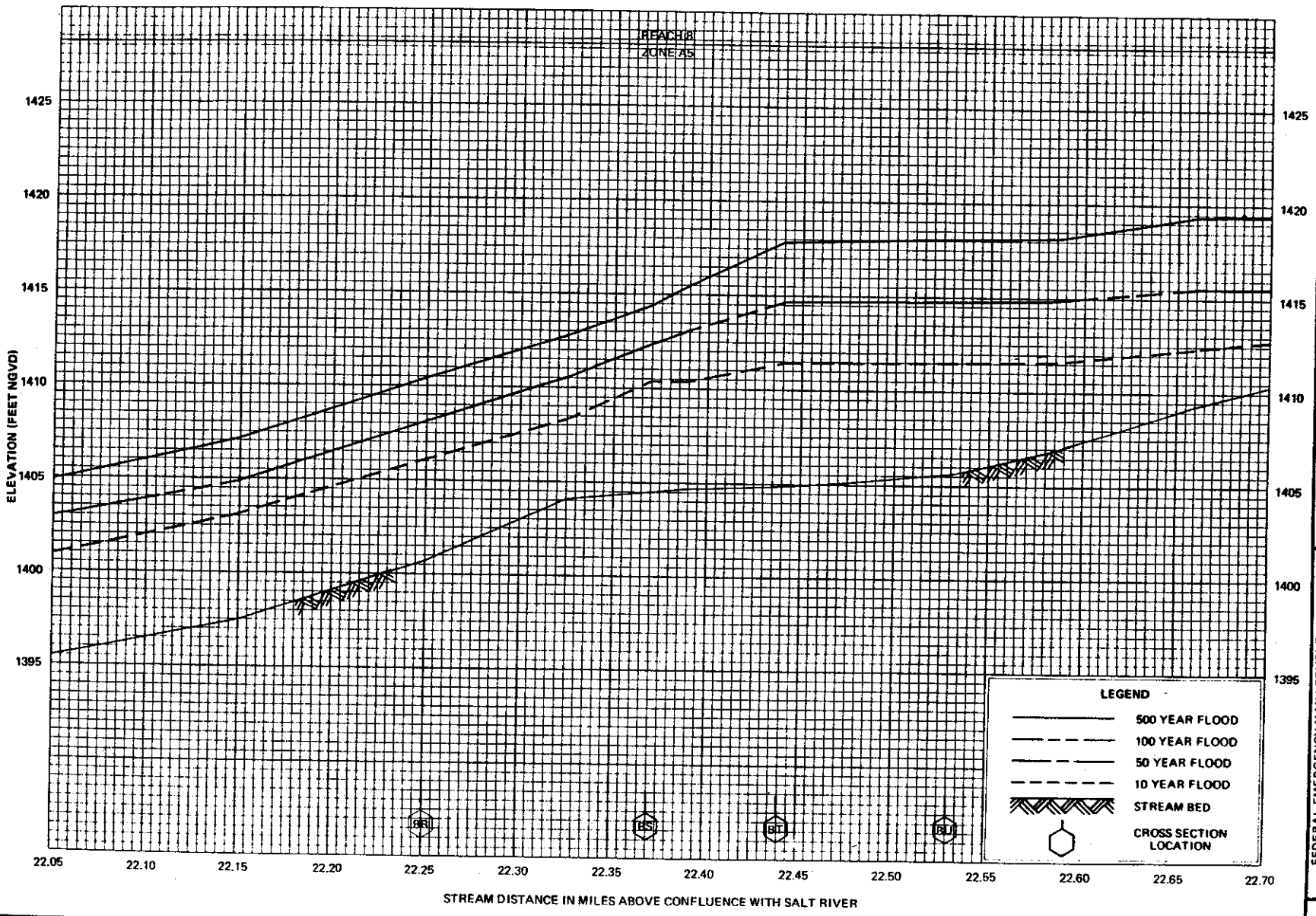


FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

FLOOD PROFILES

CAVE CREEK

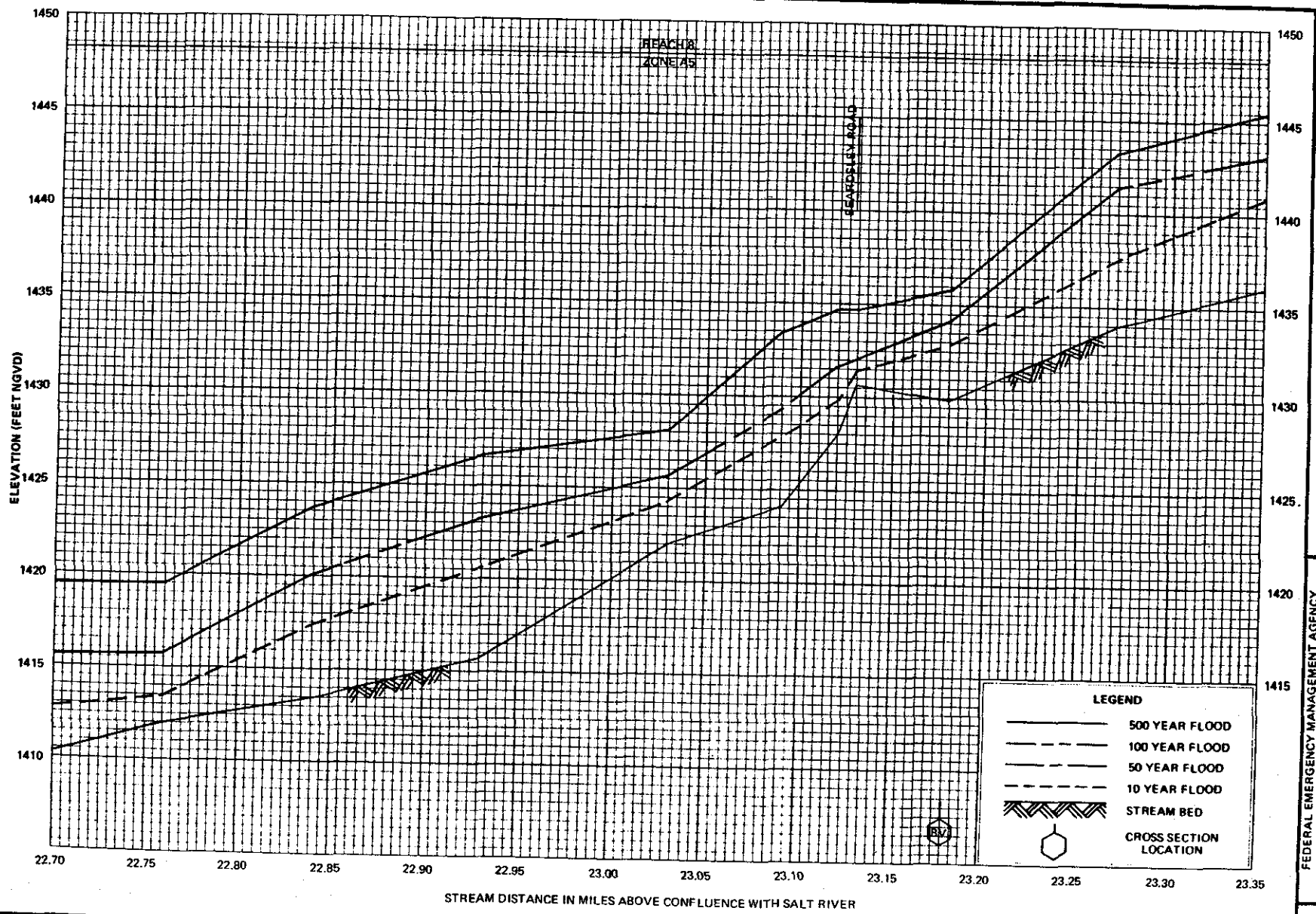


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

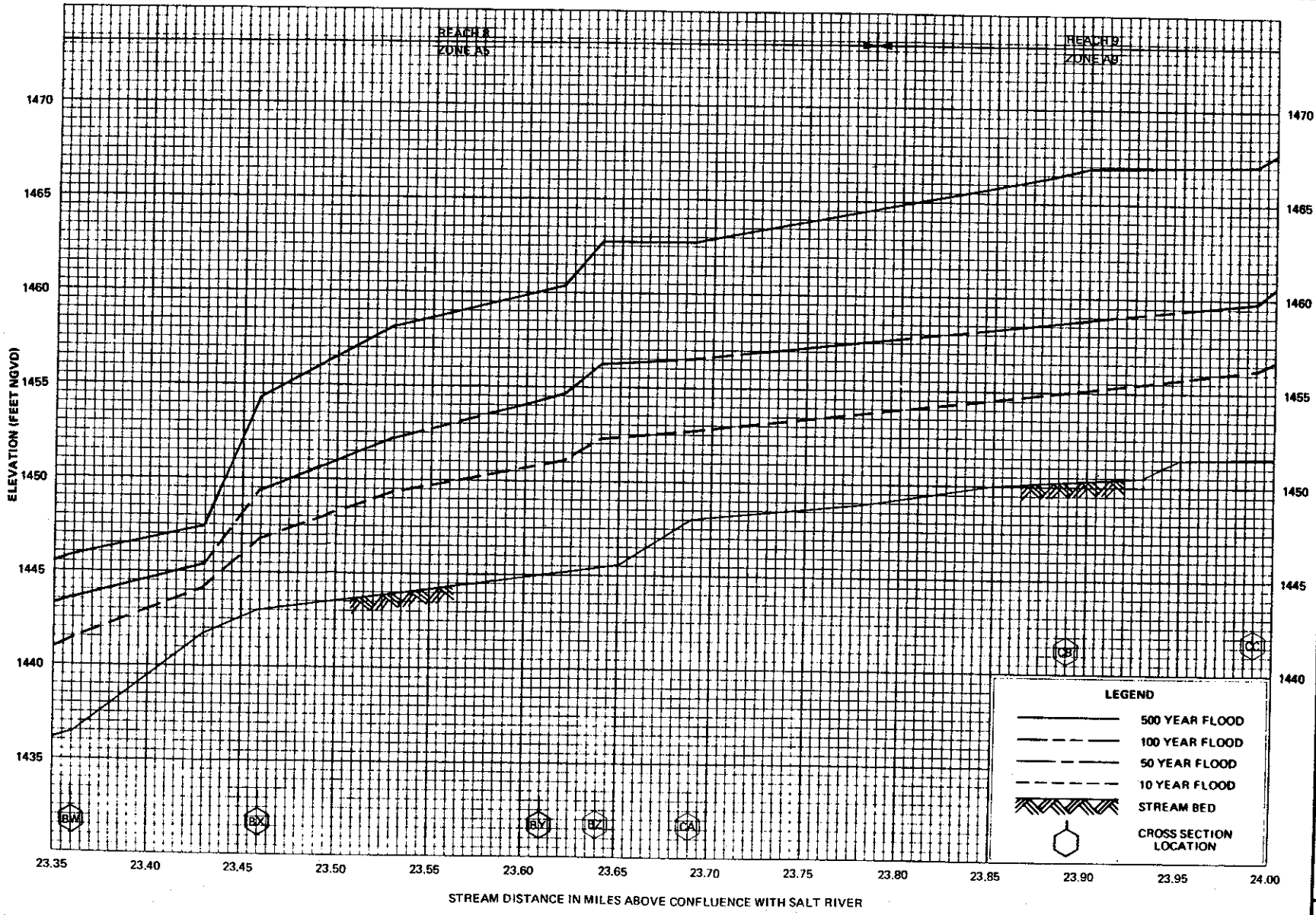


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

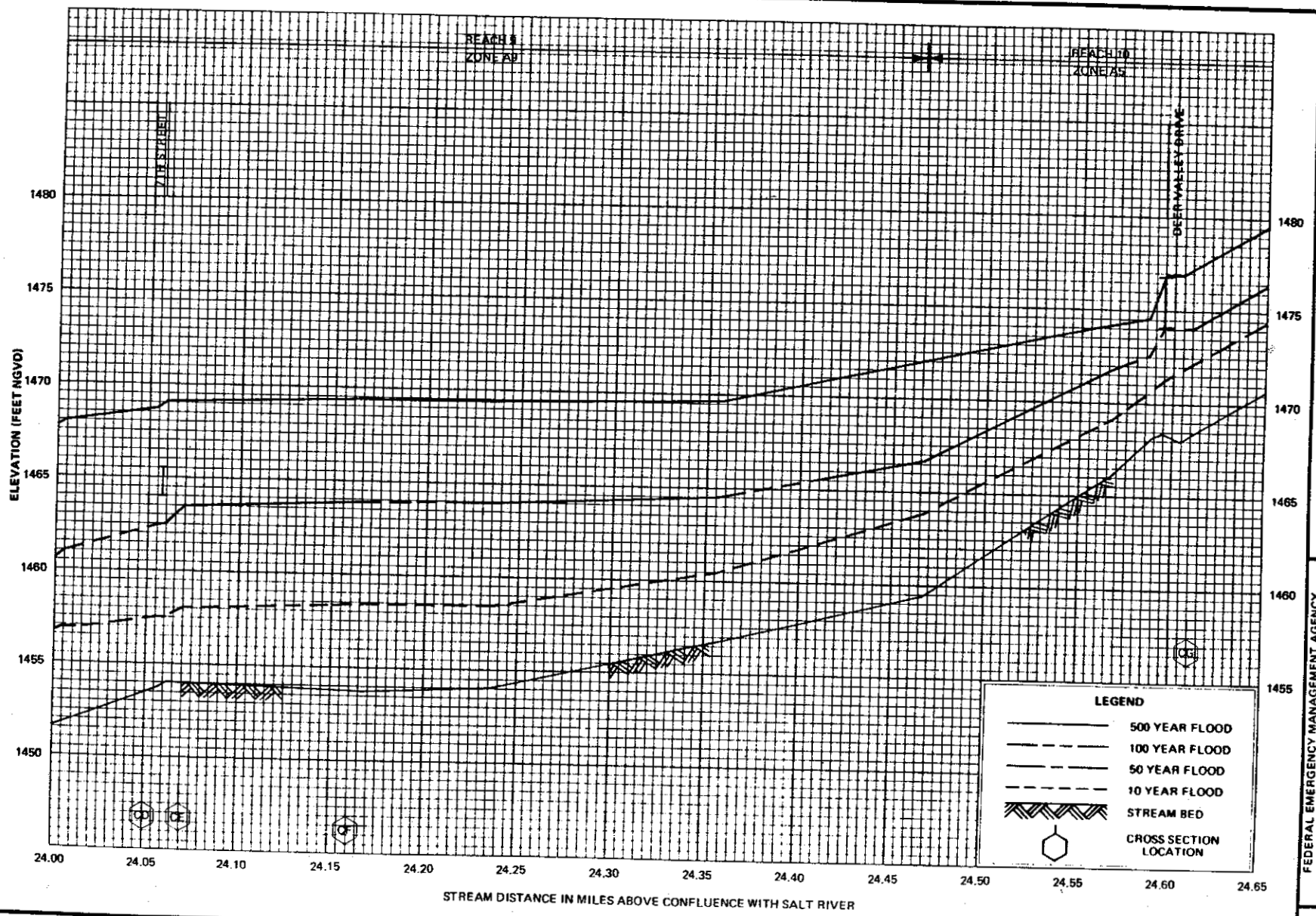


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

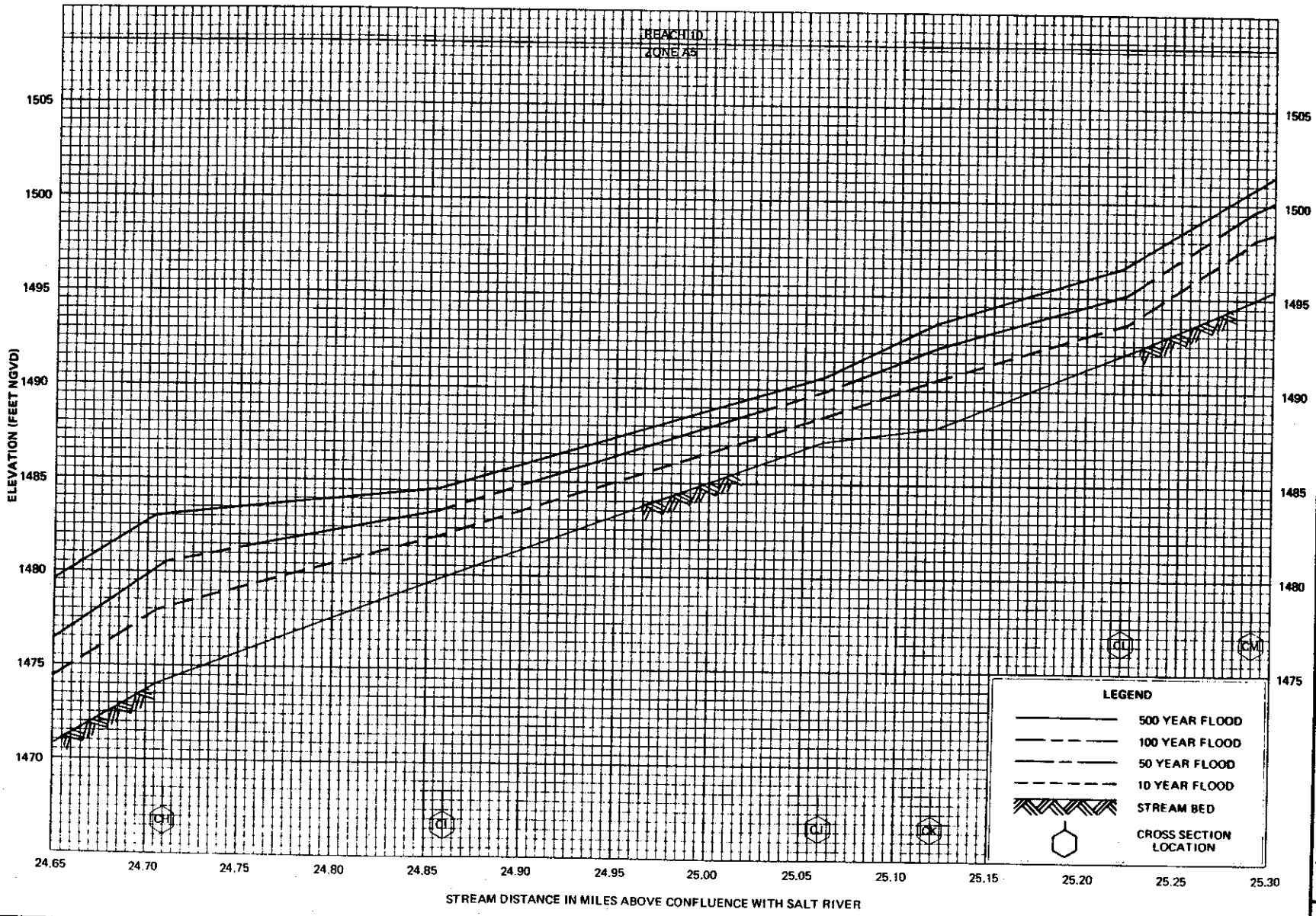


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

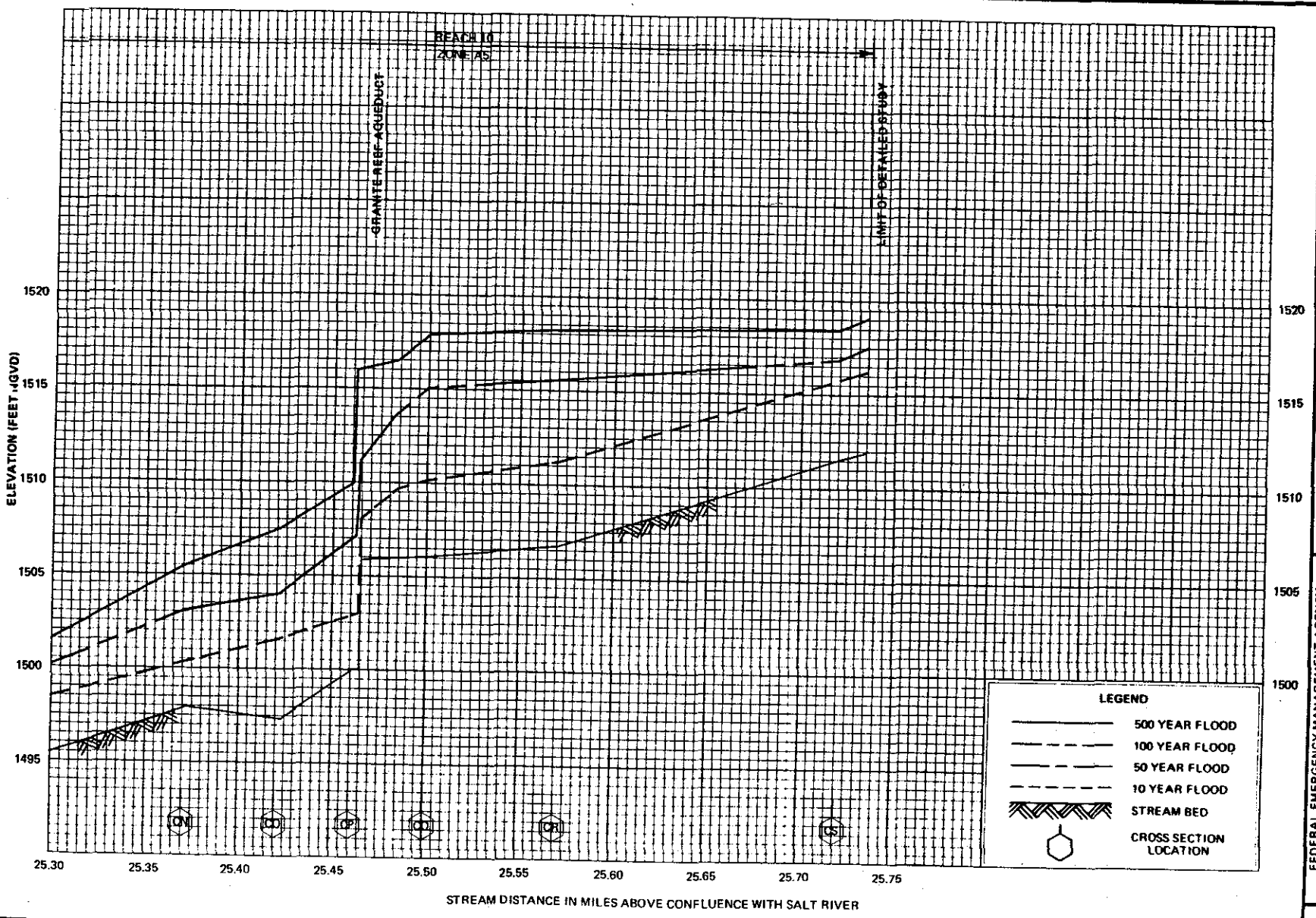


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



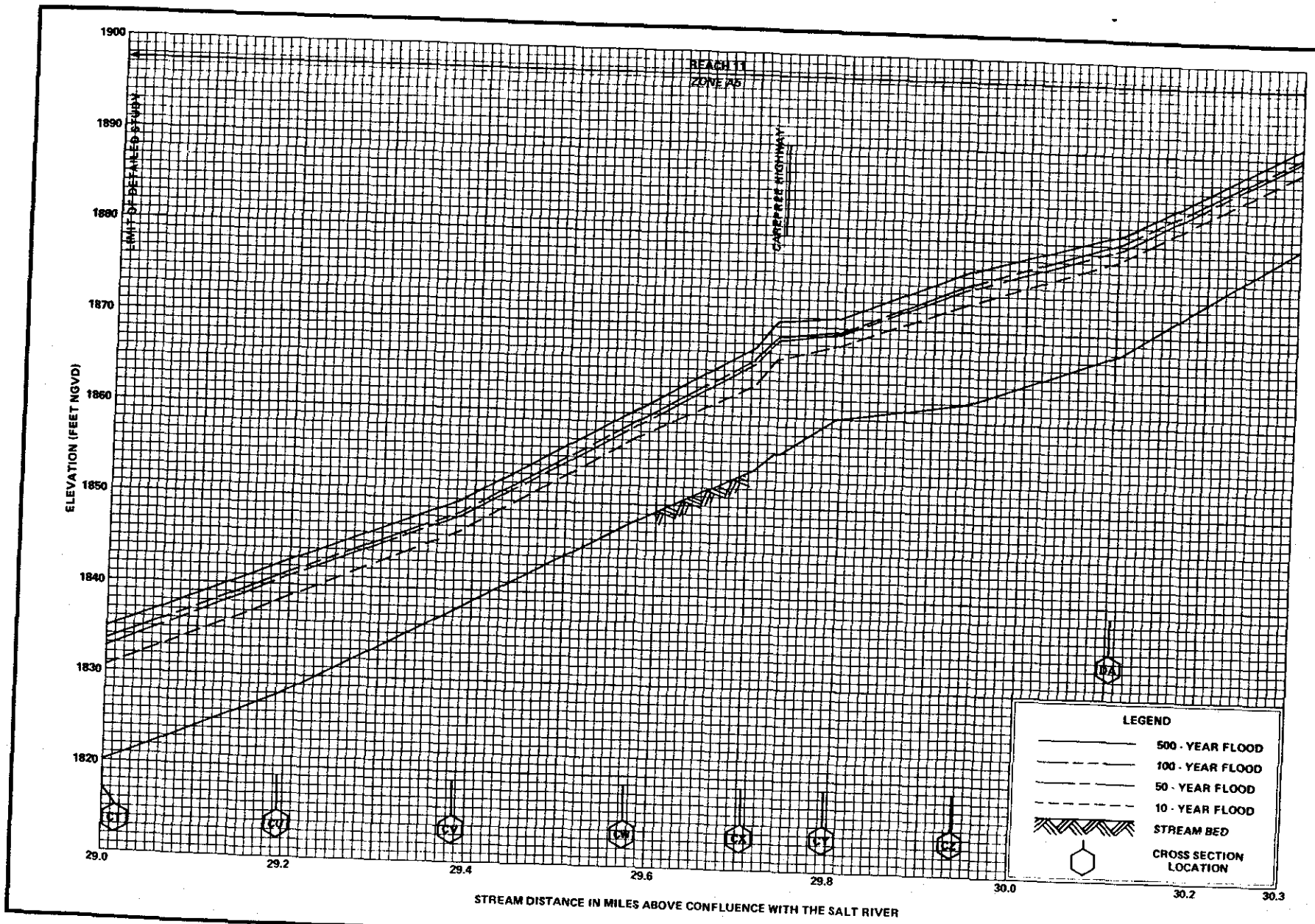
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

97P

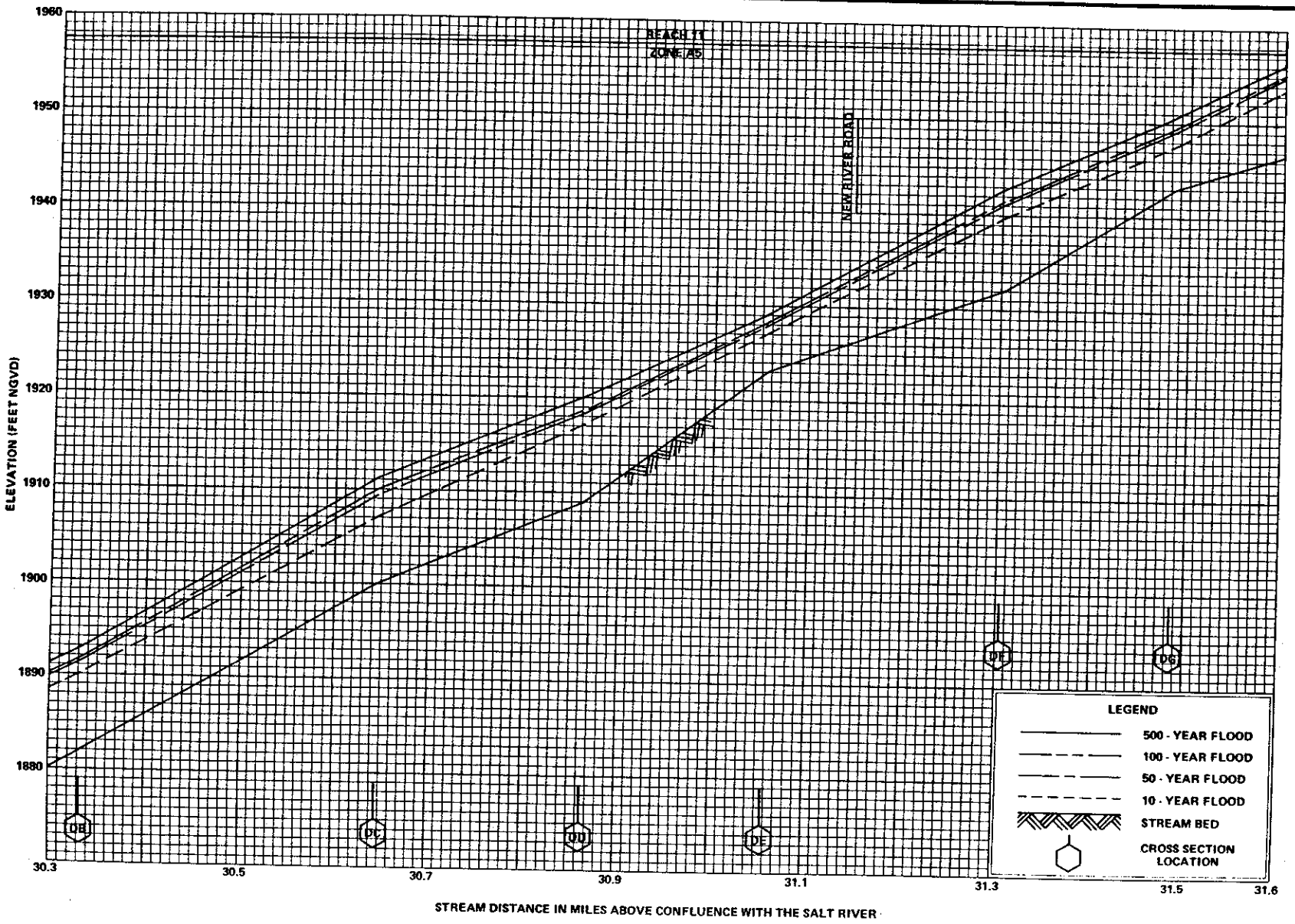


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

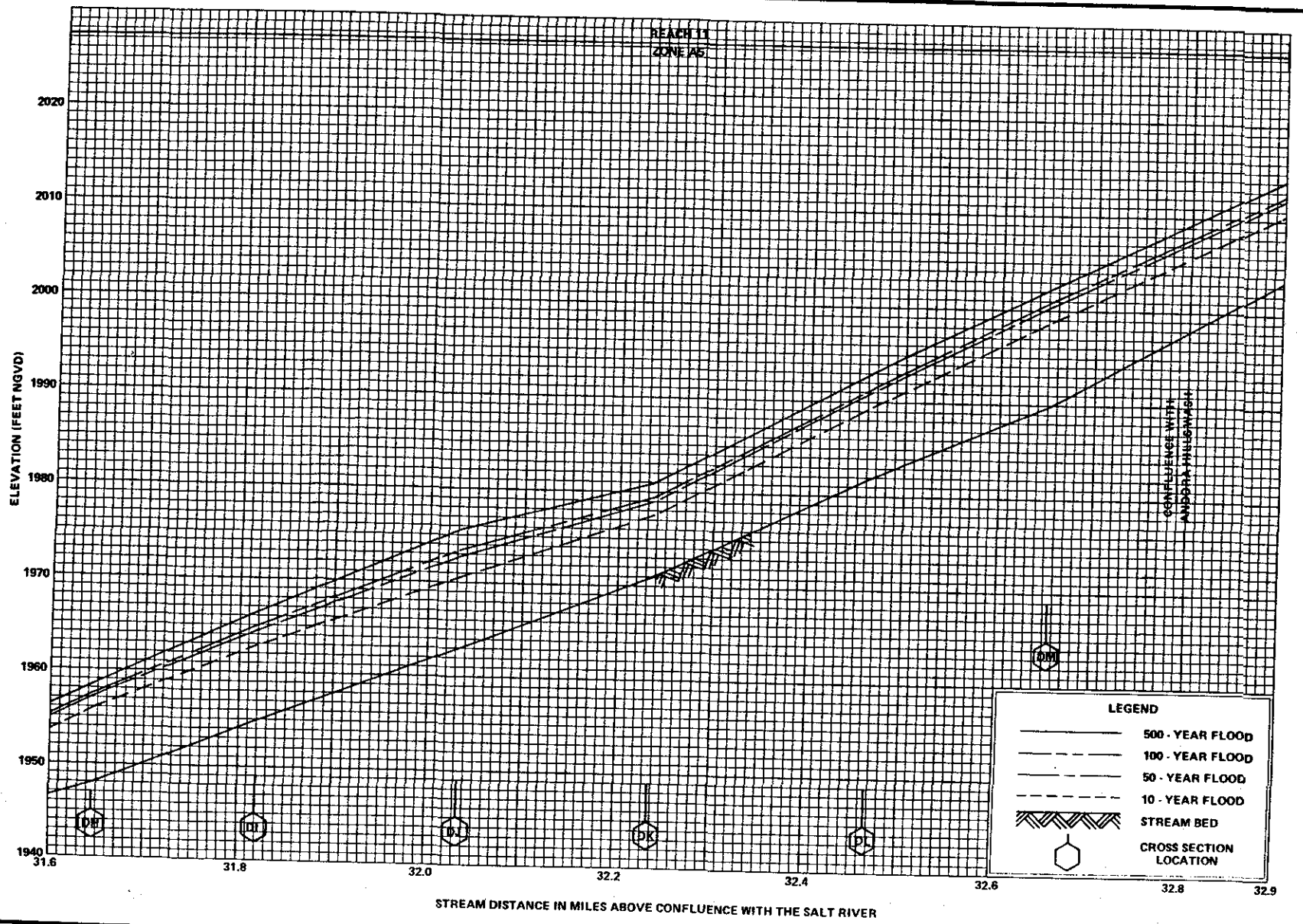


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



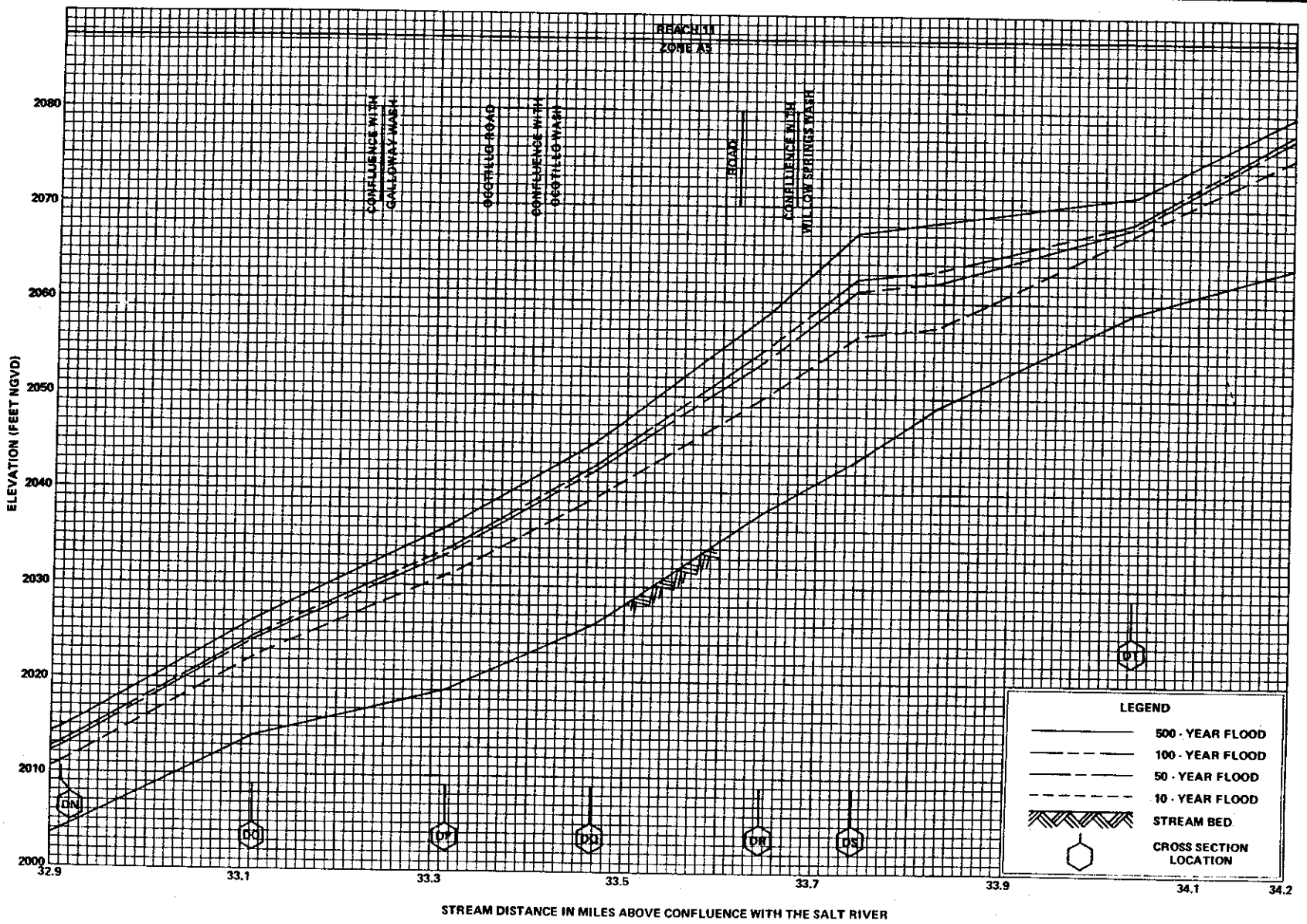
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

100P

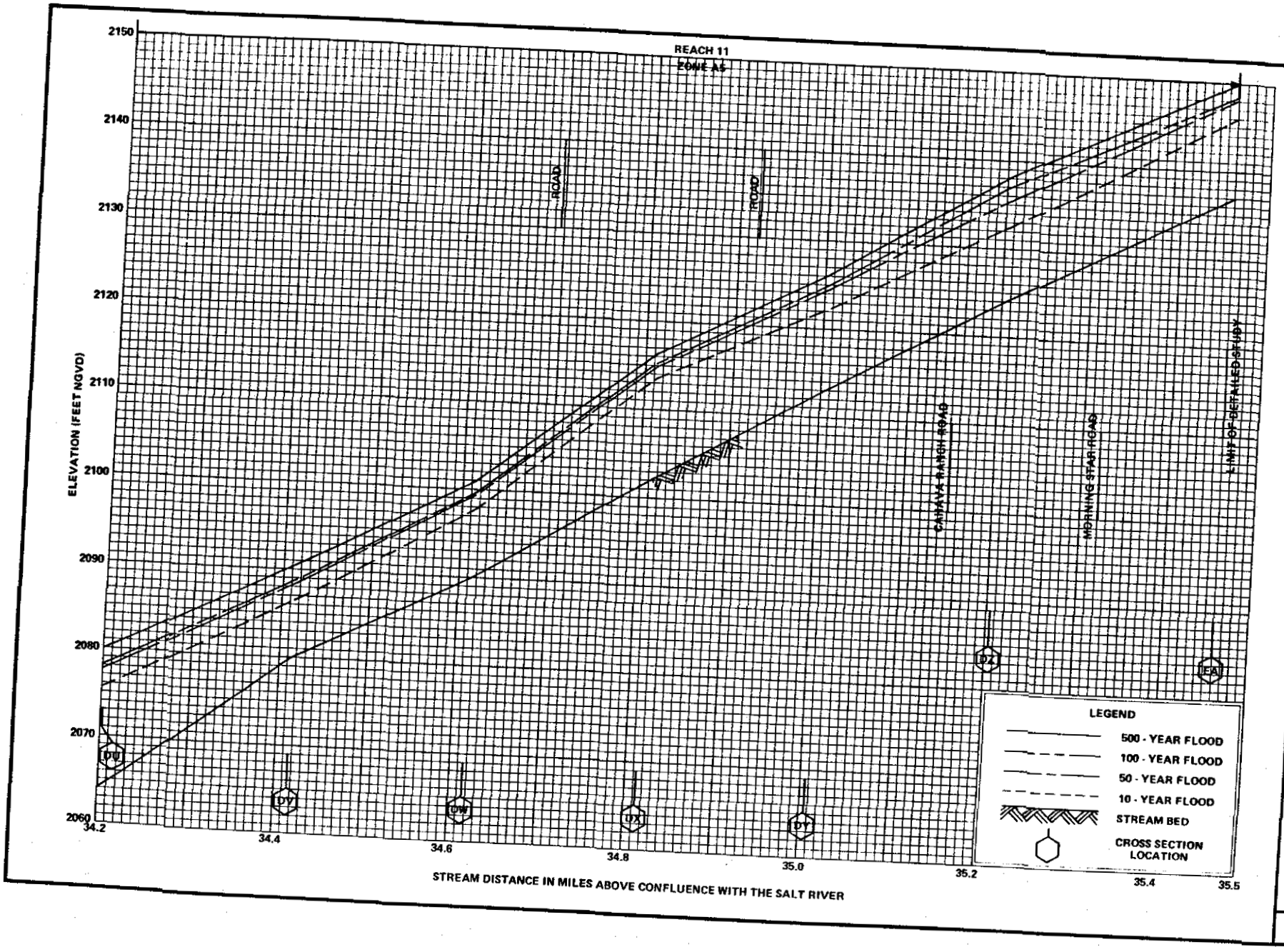


FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



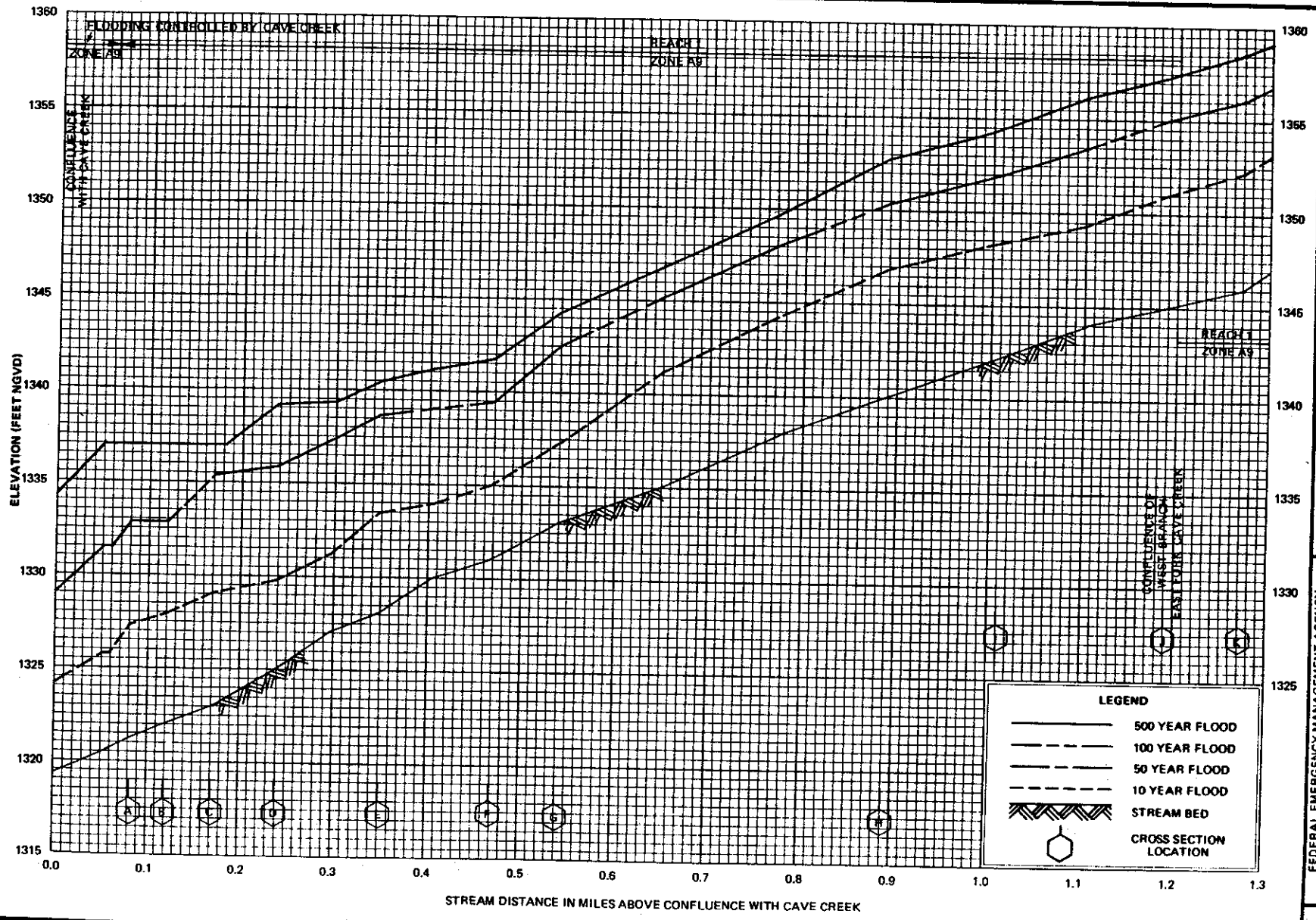
FLOOD PROFILES

CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

102P

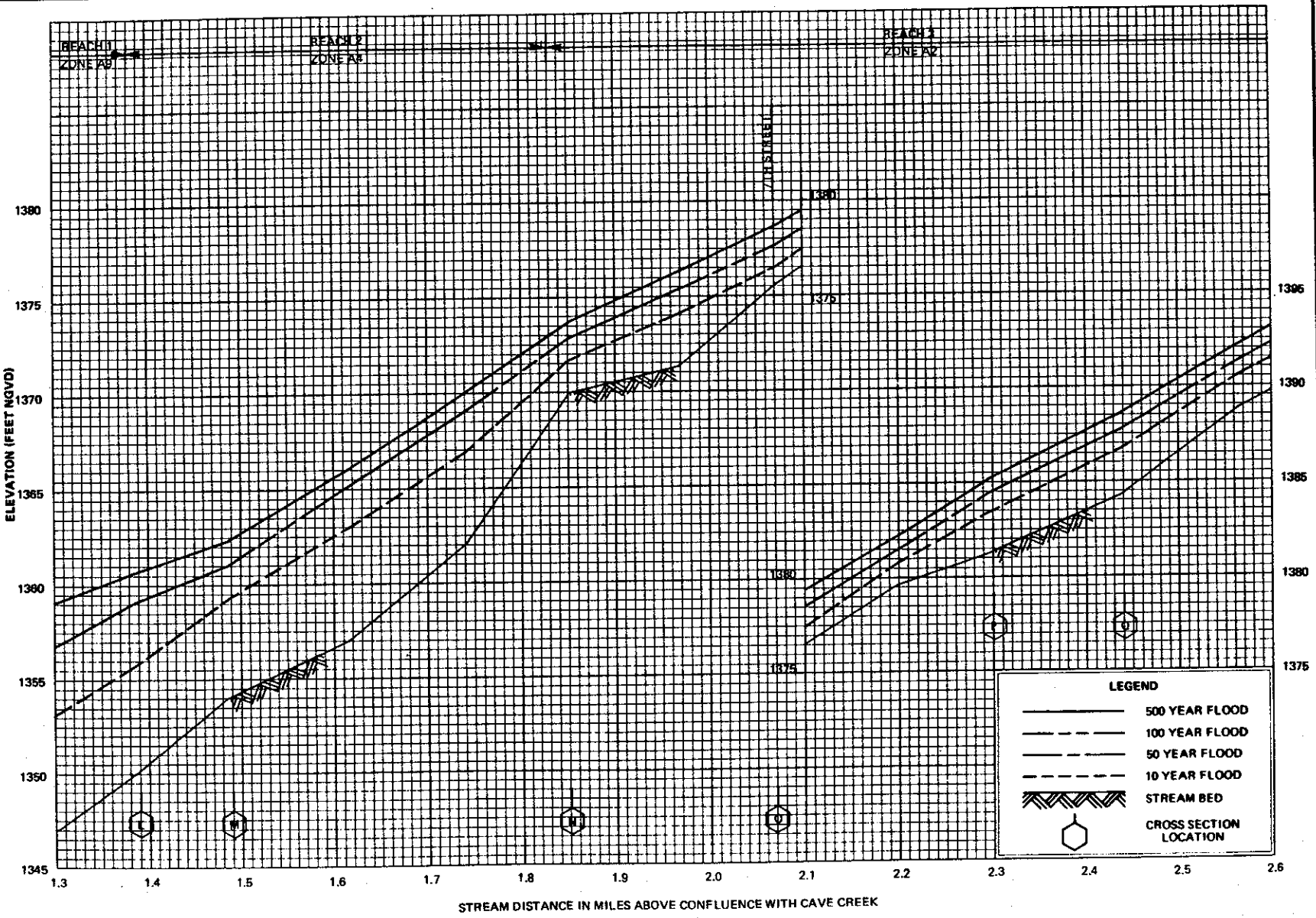


FLOOD PROFILES

EAST FORK CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



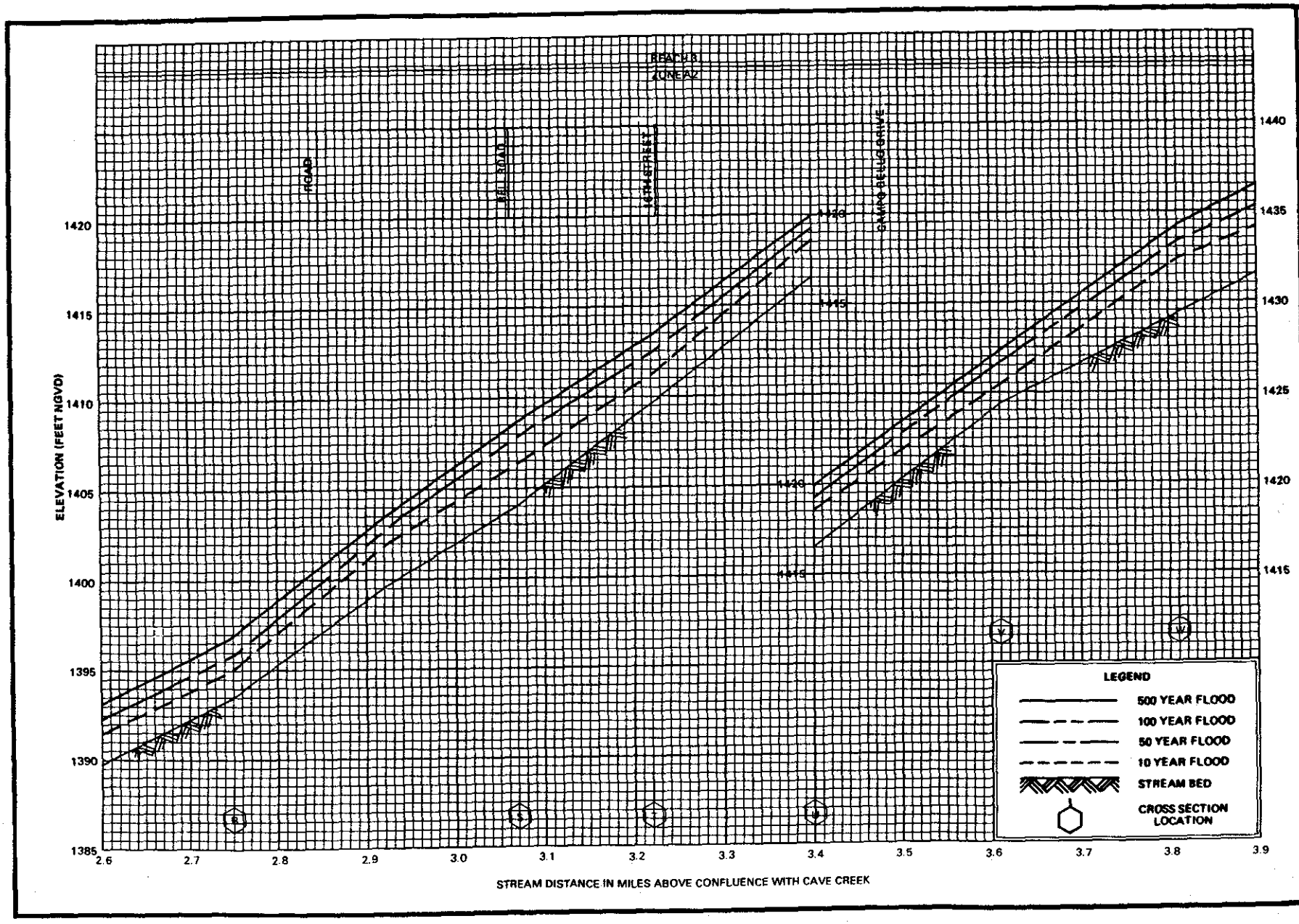
FLOOD PROFILES

EAST FORK CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

104P



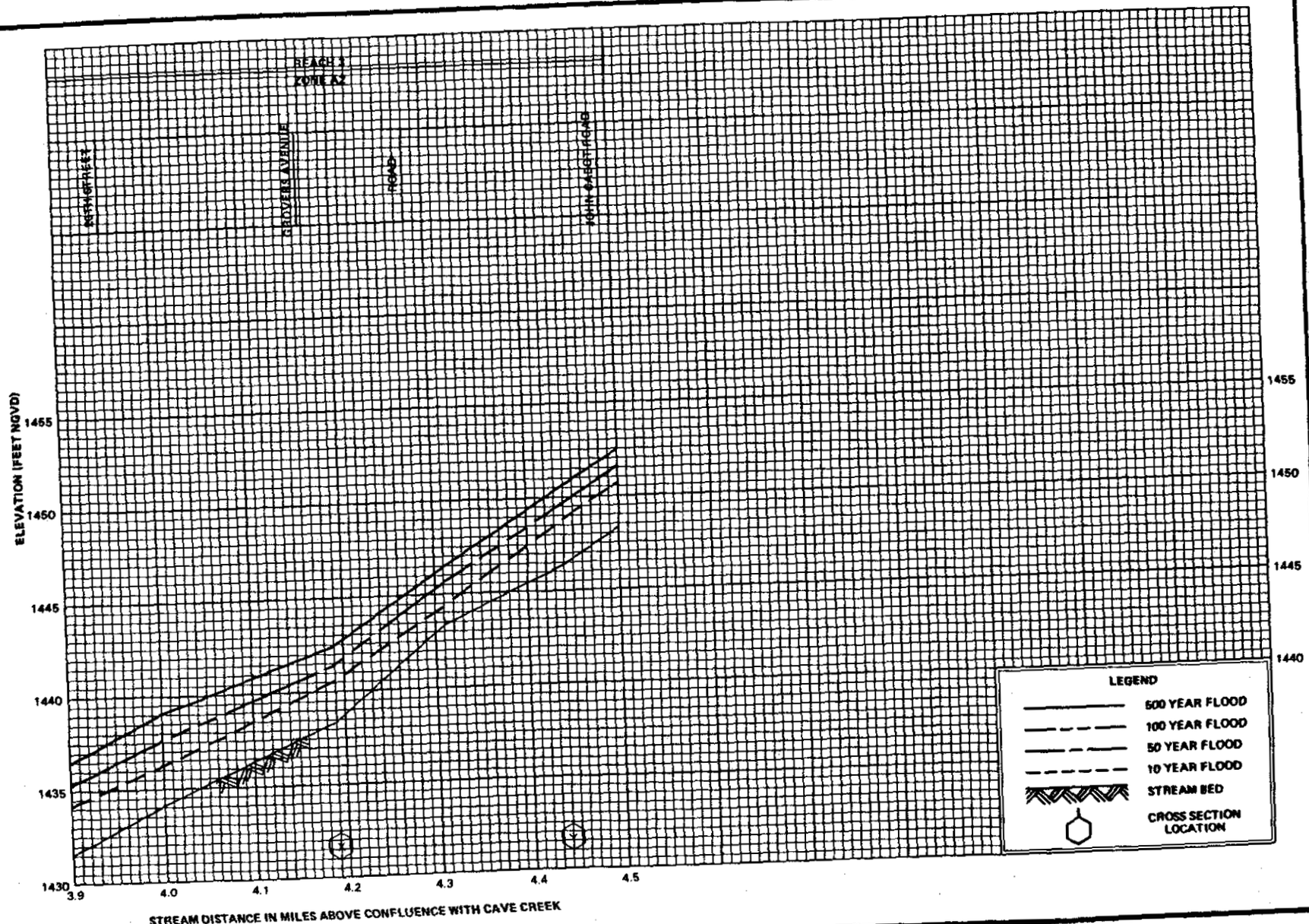
FLOOD PROFILES

EAST FORK CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

105P



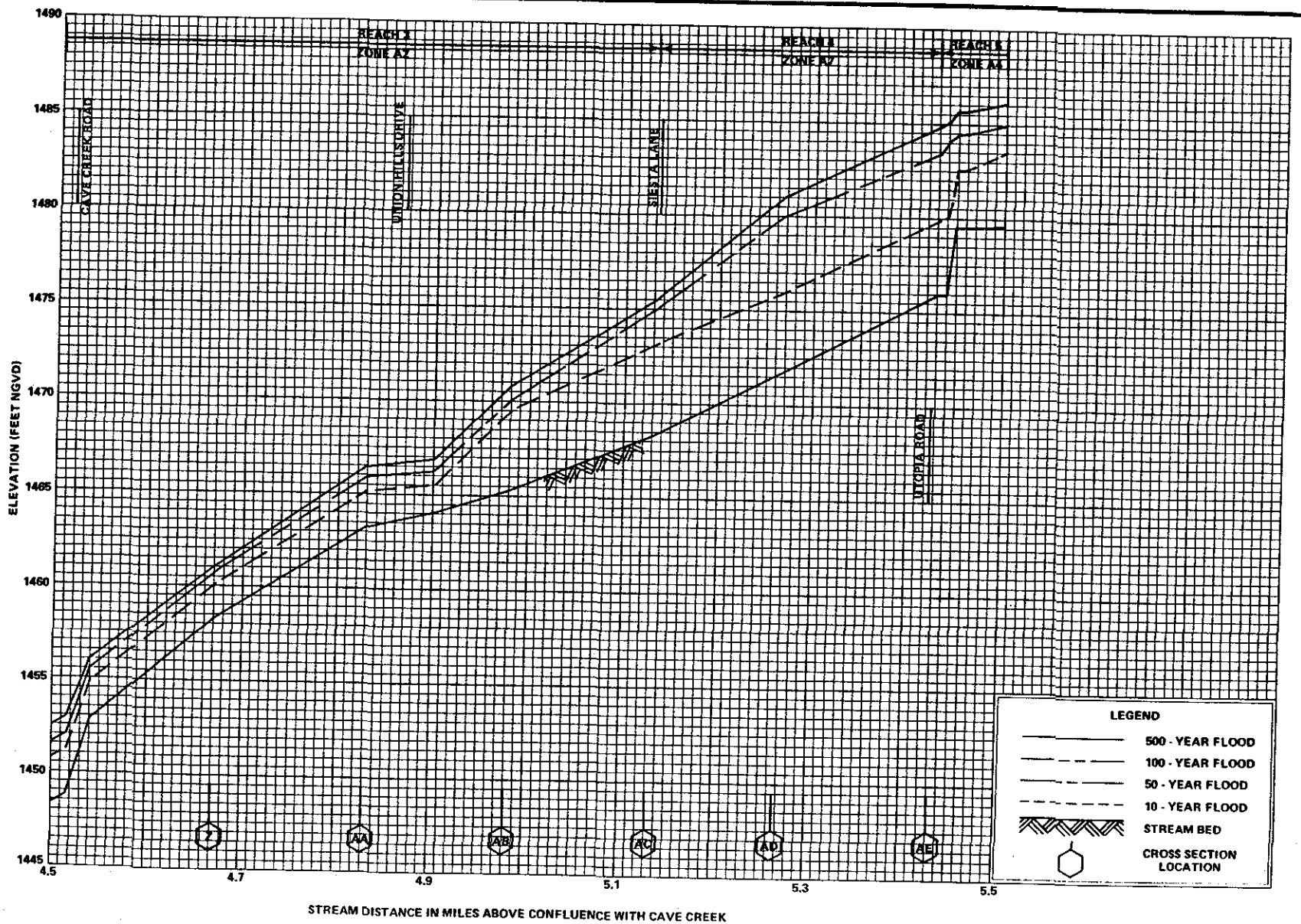
FLOOD PROFILES

EAST FORK CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

106P

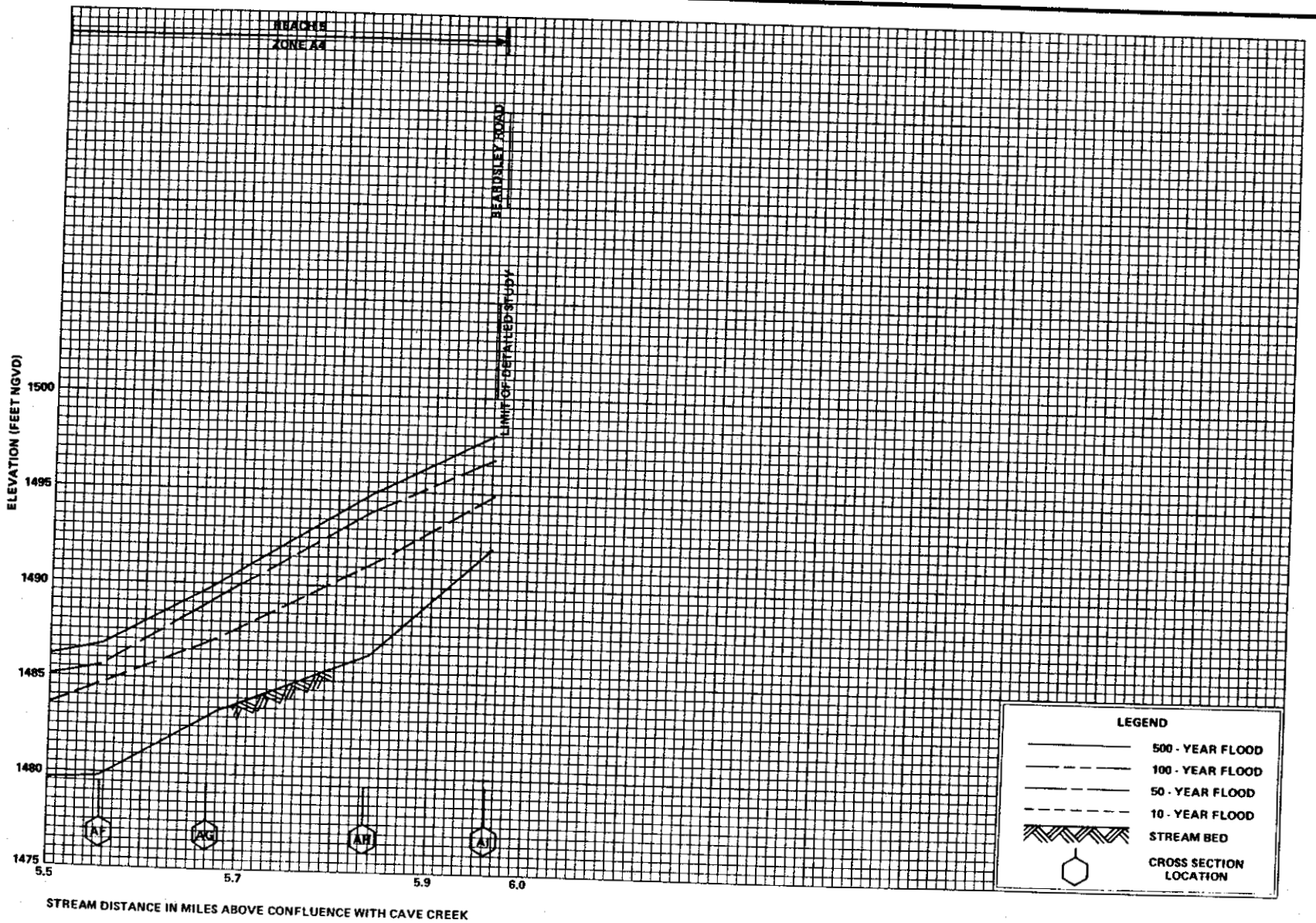


FLOOD PROFILES

EAST FORK CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

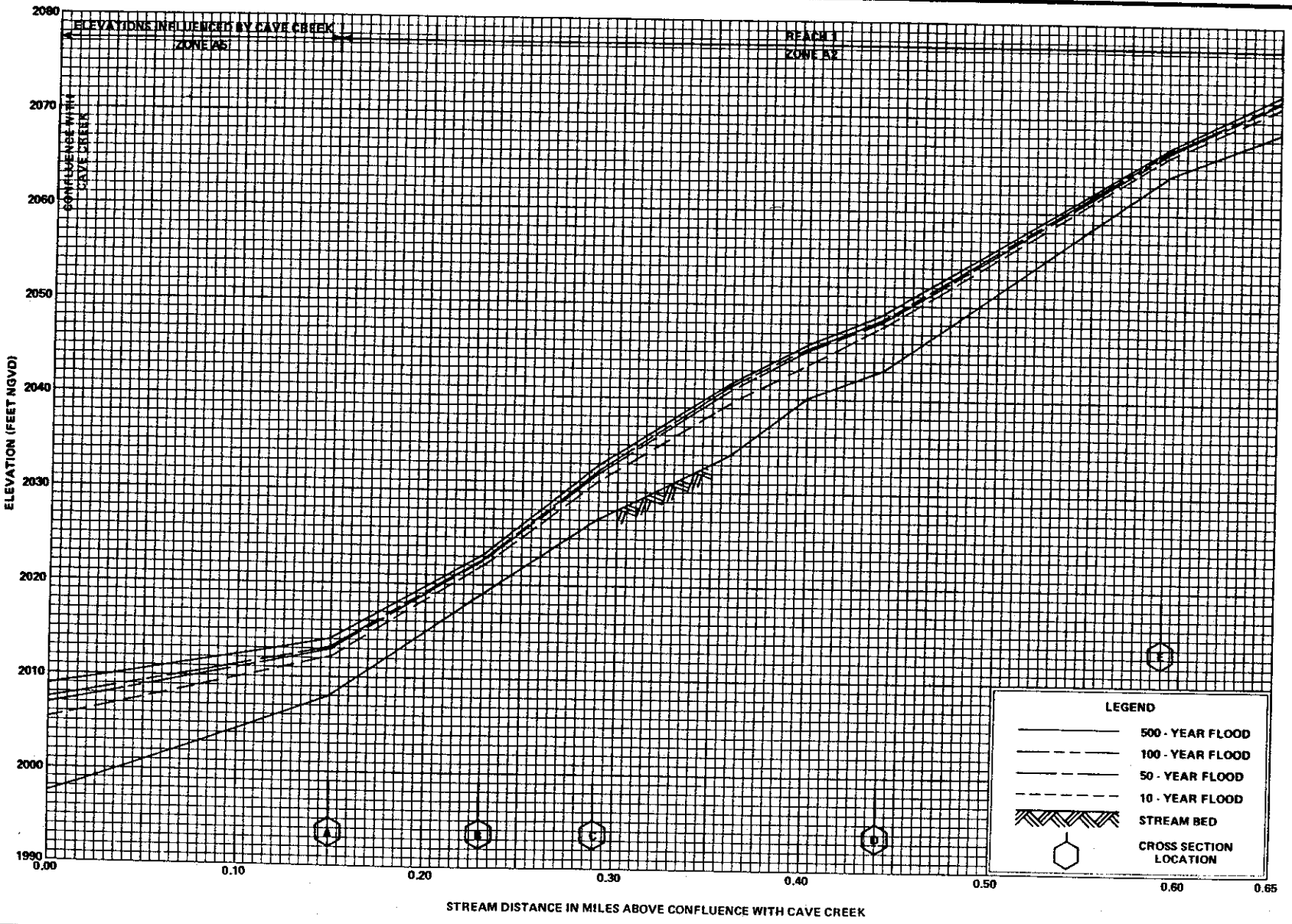


FLOOD PROFILES

EAST FORK CAVE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

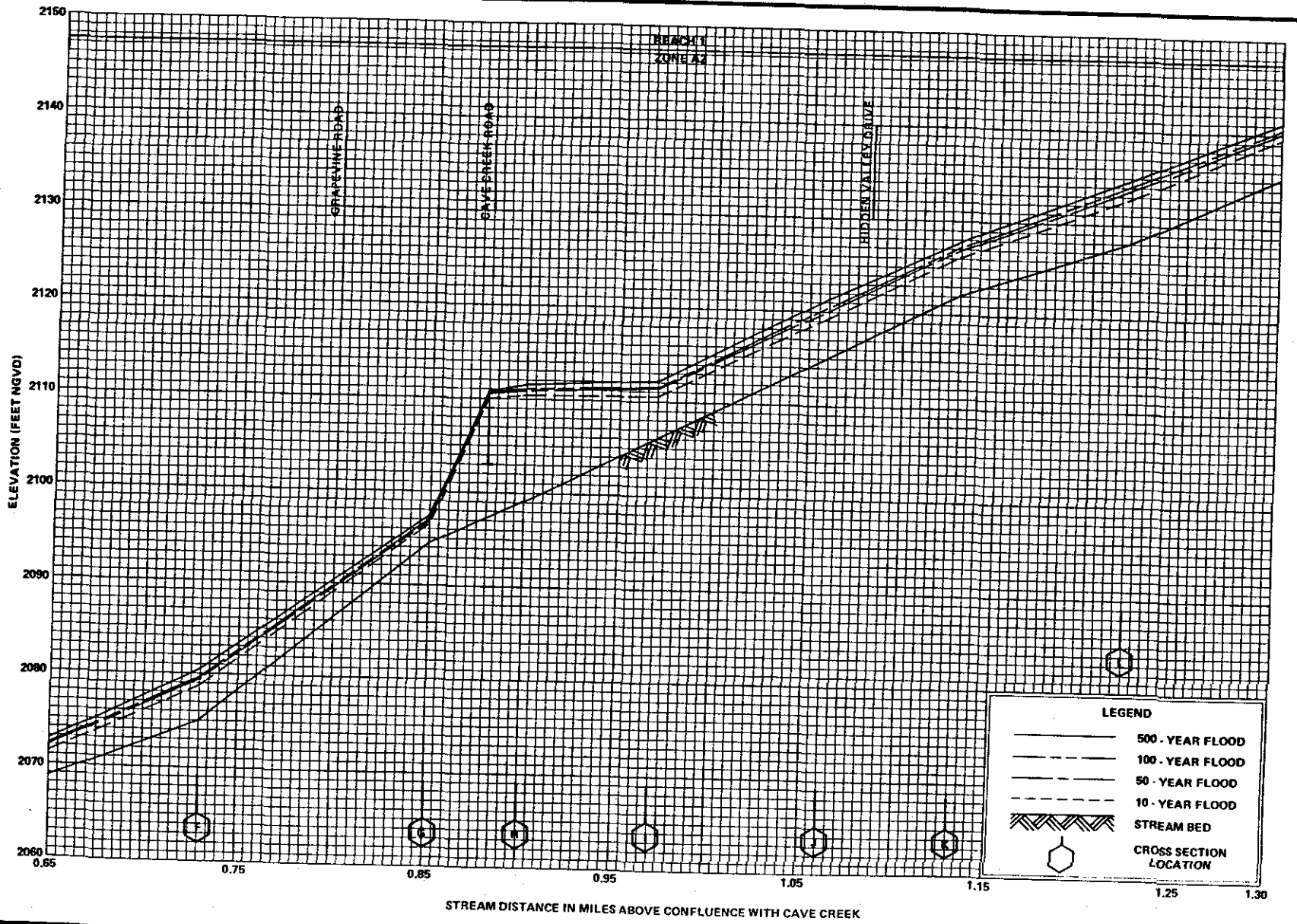


FLOOD PROFILES

ANDORA HILLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

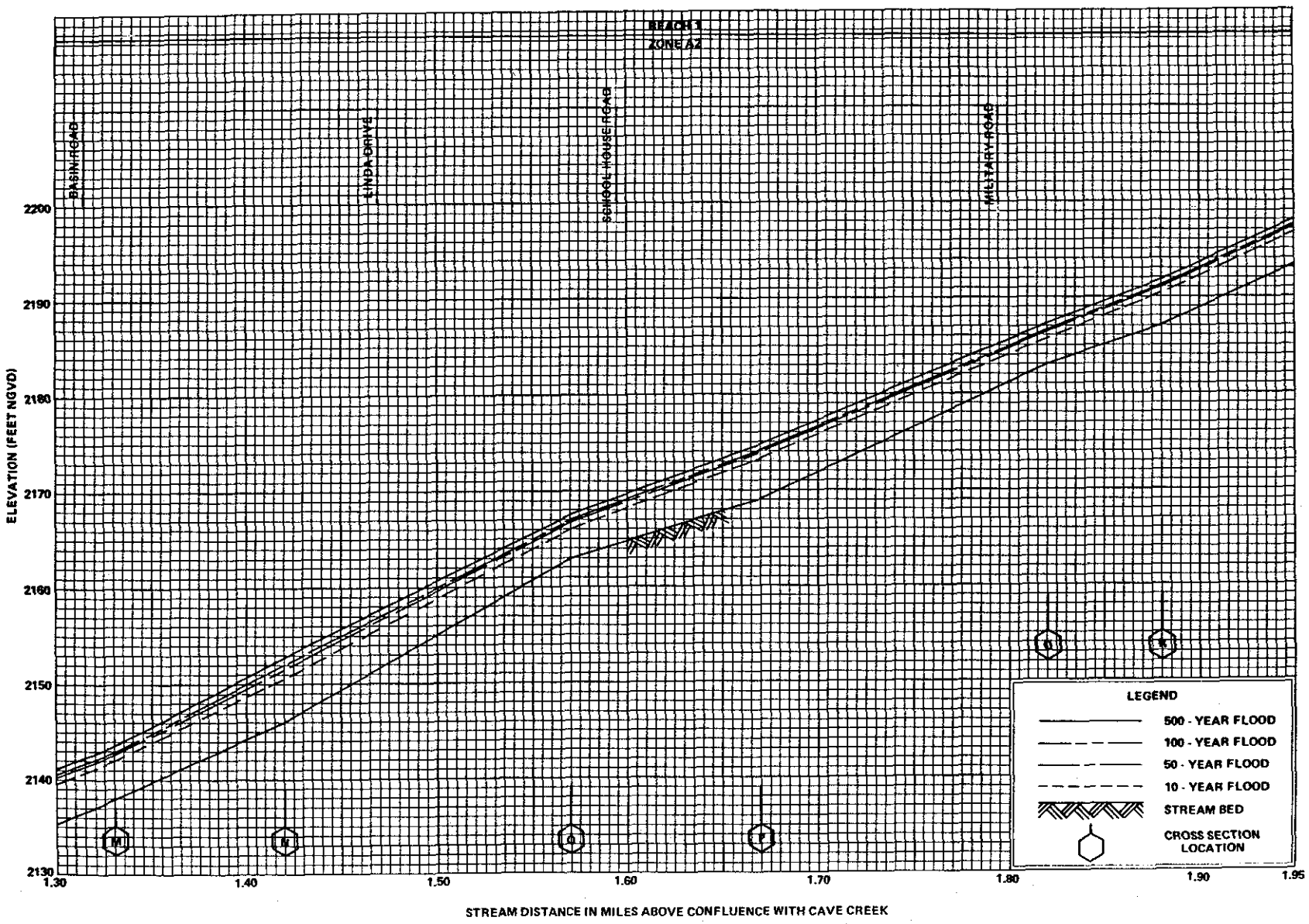


FLOOD PROFILES

ANDORA HILLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

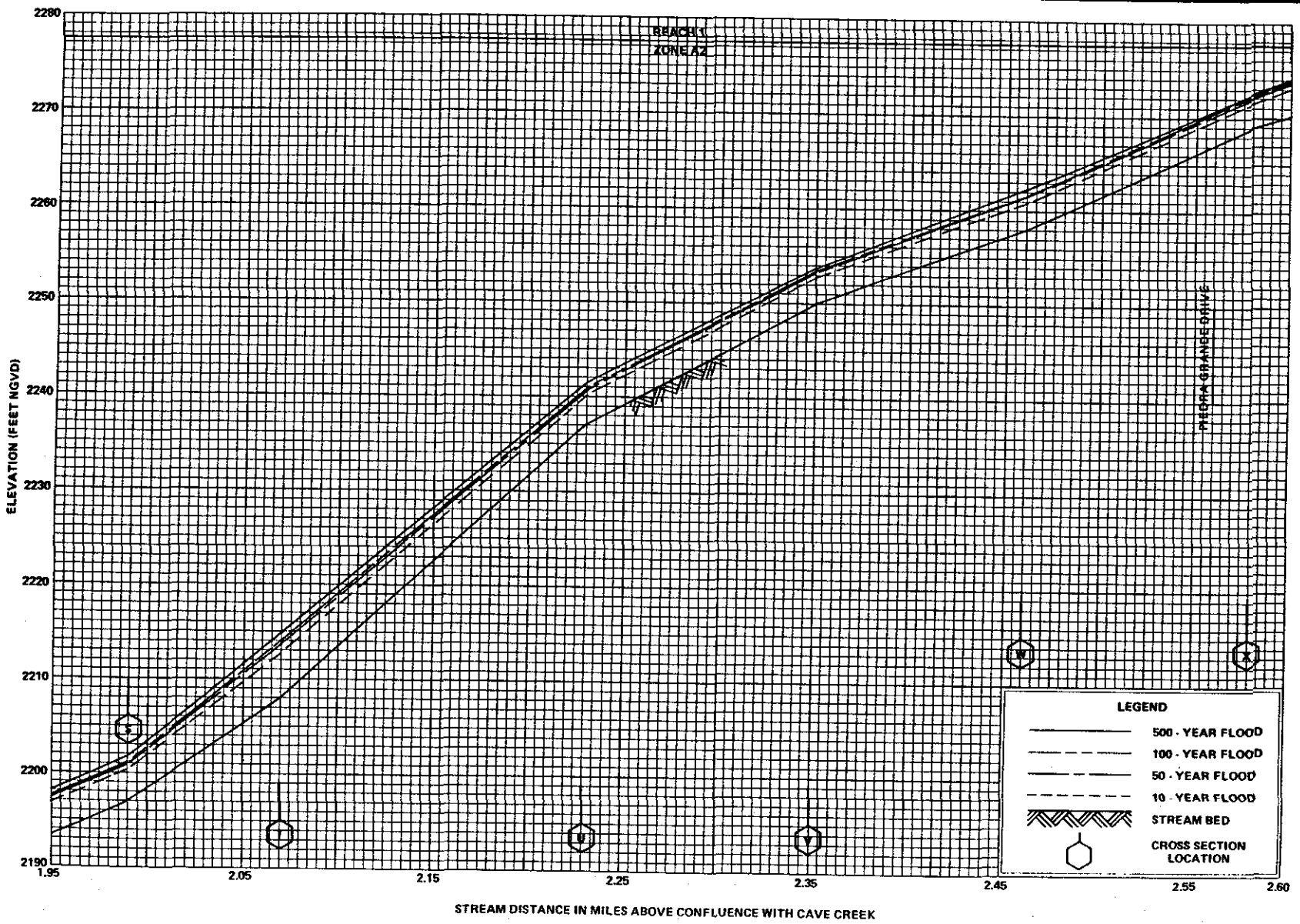


FLOOD PROFILES

ANDORA HILLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



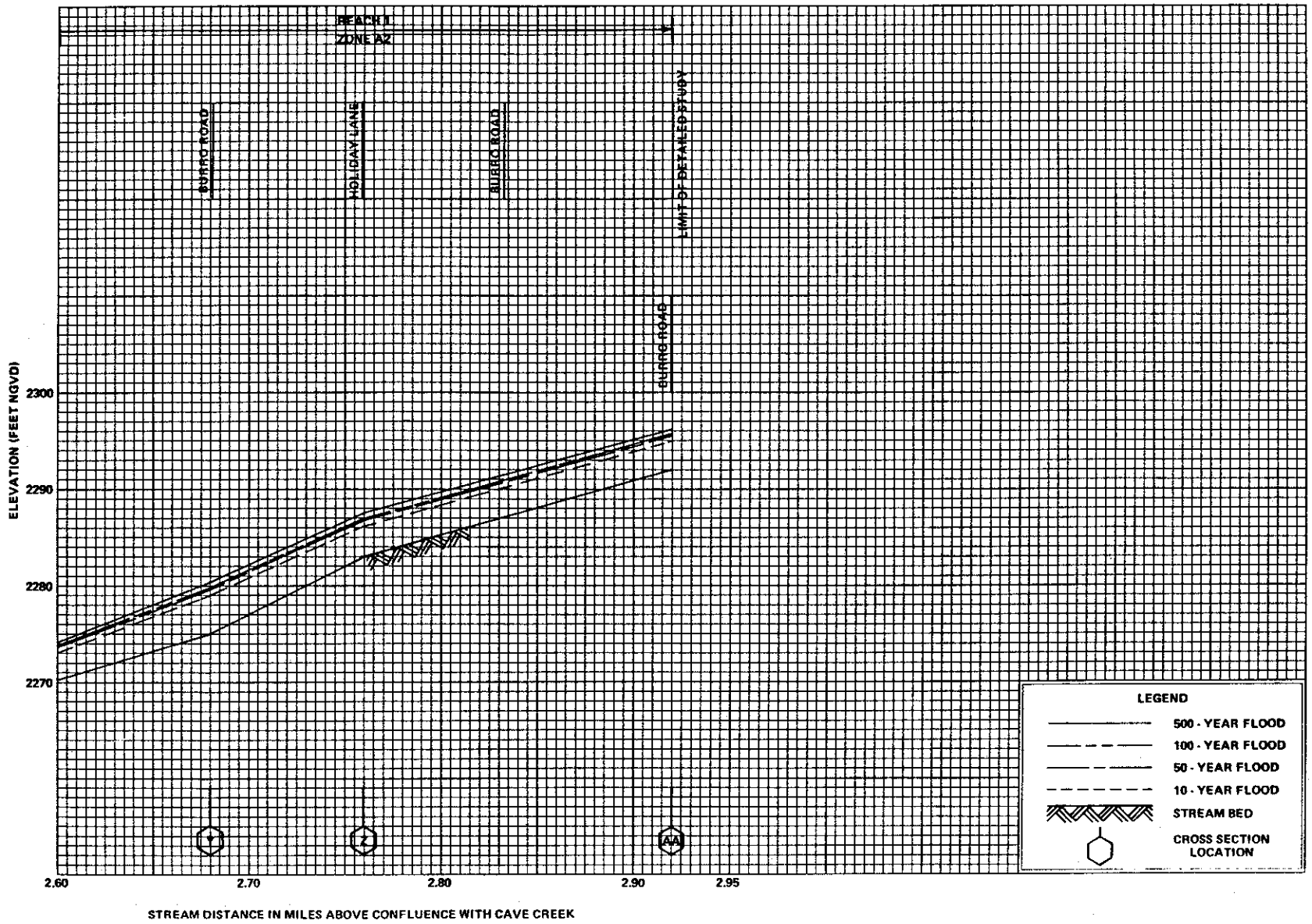
FLOOD PROFILES

ANDORA HILLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

112P

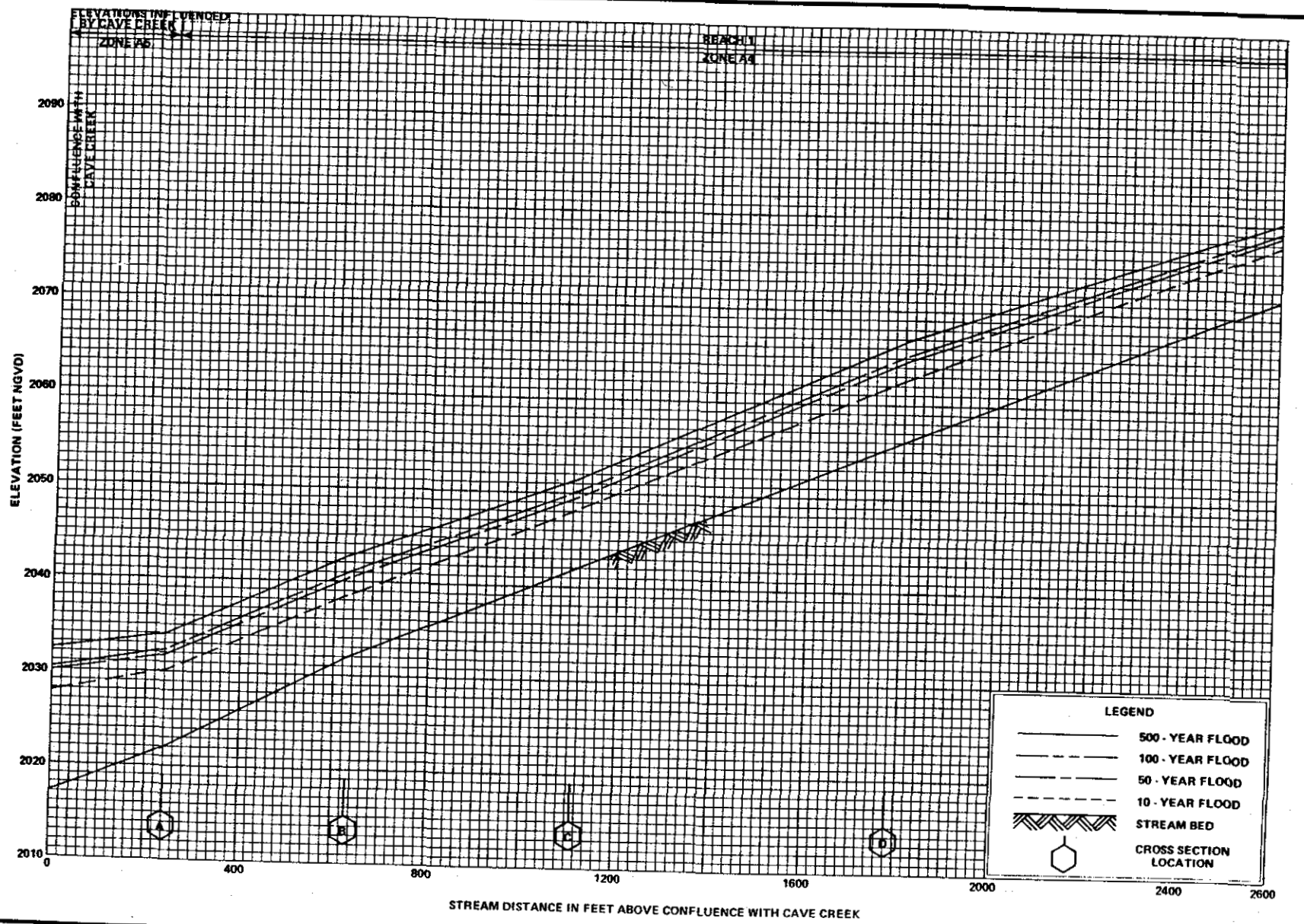


FLOOD PROFILES

ANDORA HILLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

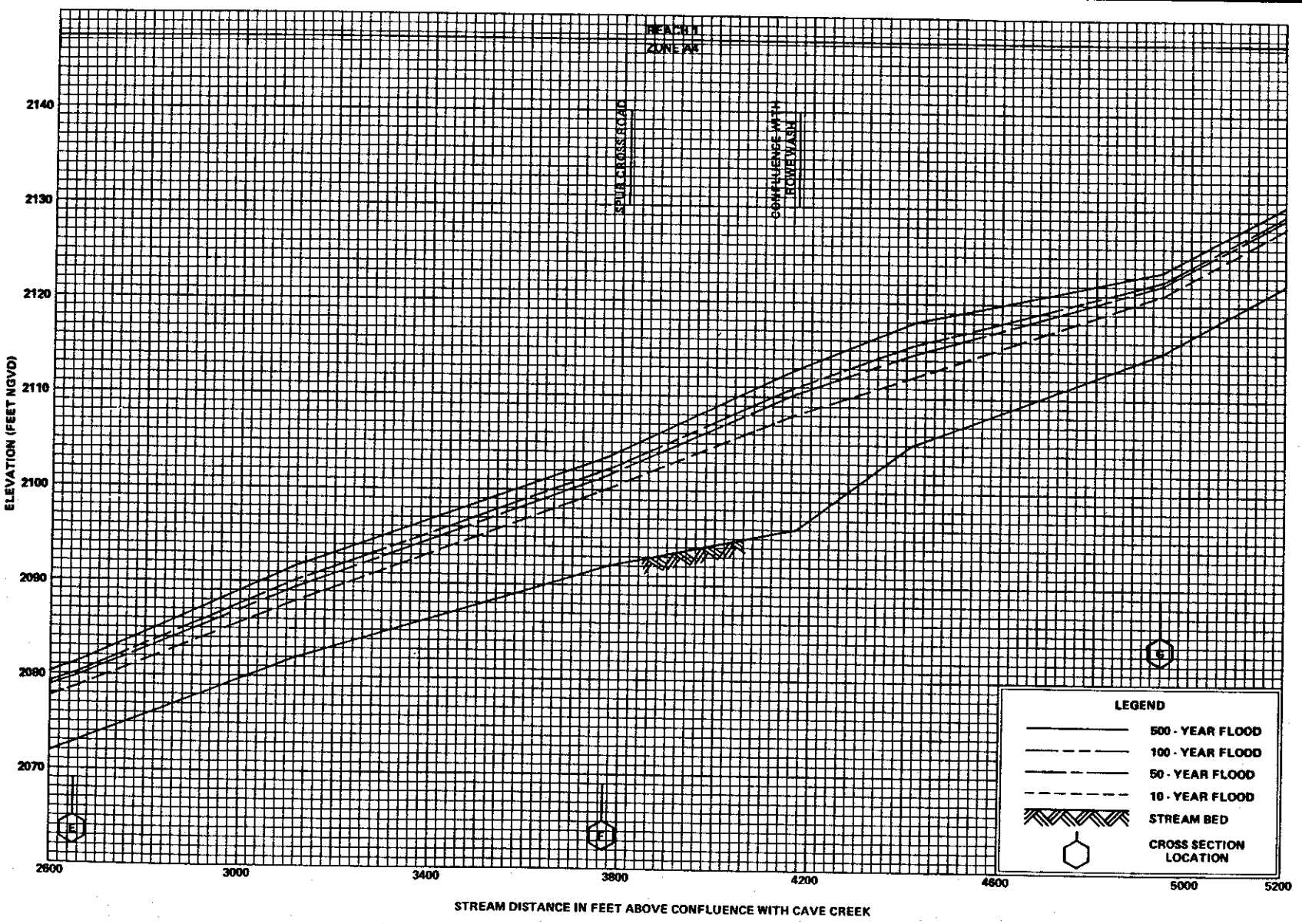


FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



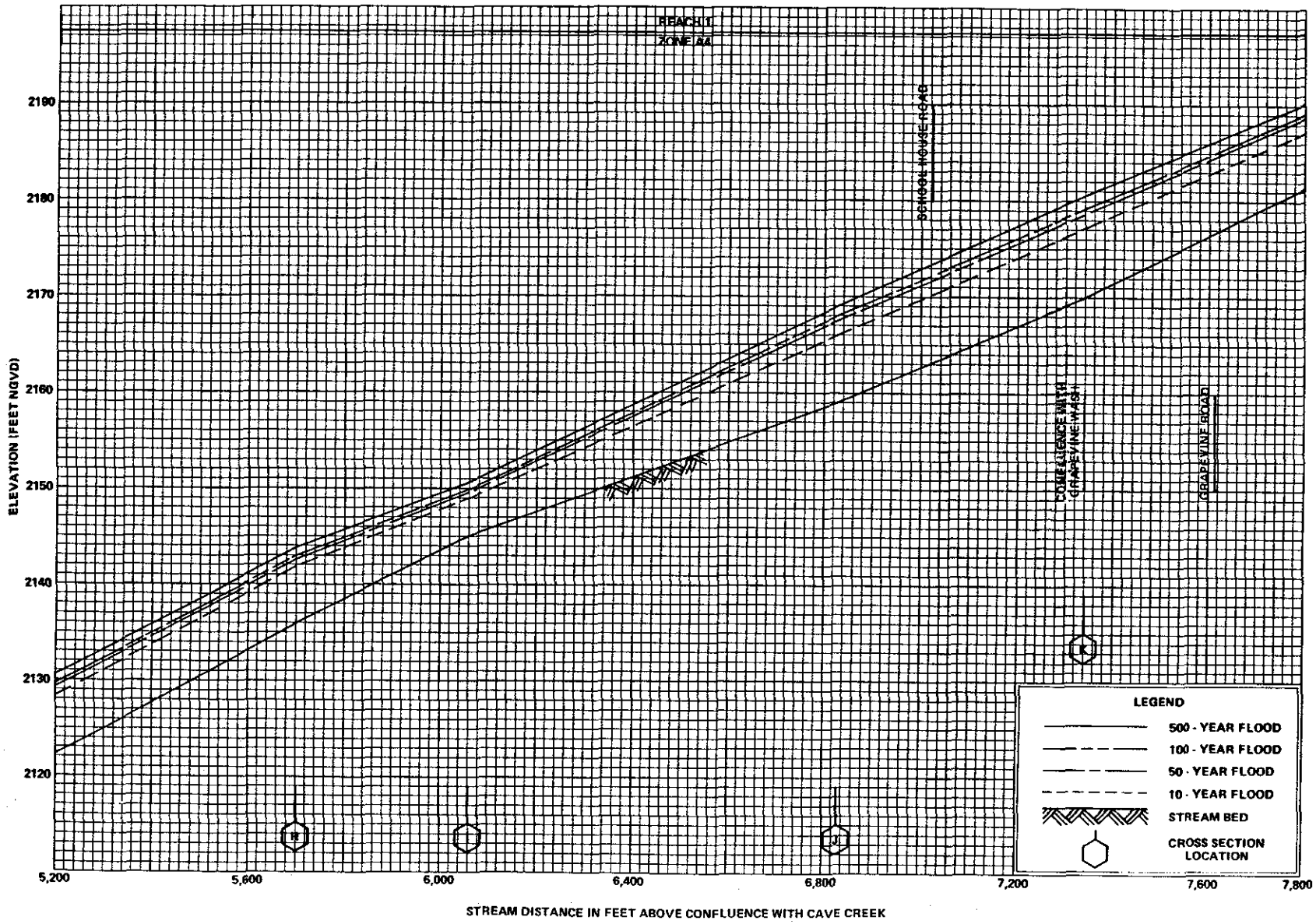
FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

115P

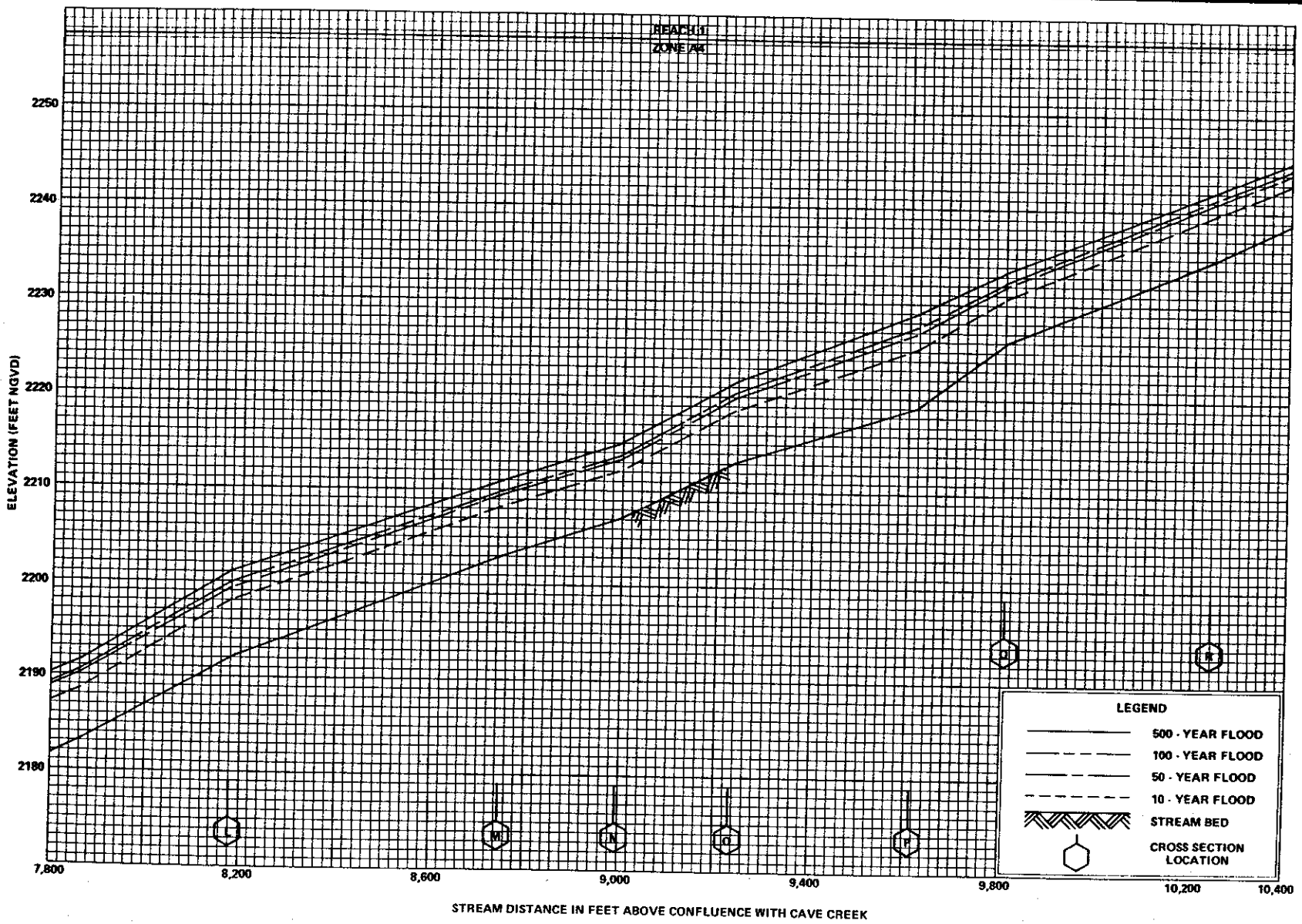


FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

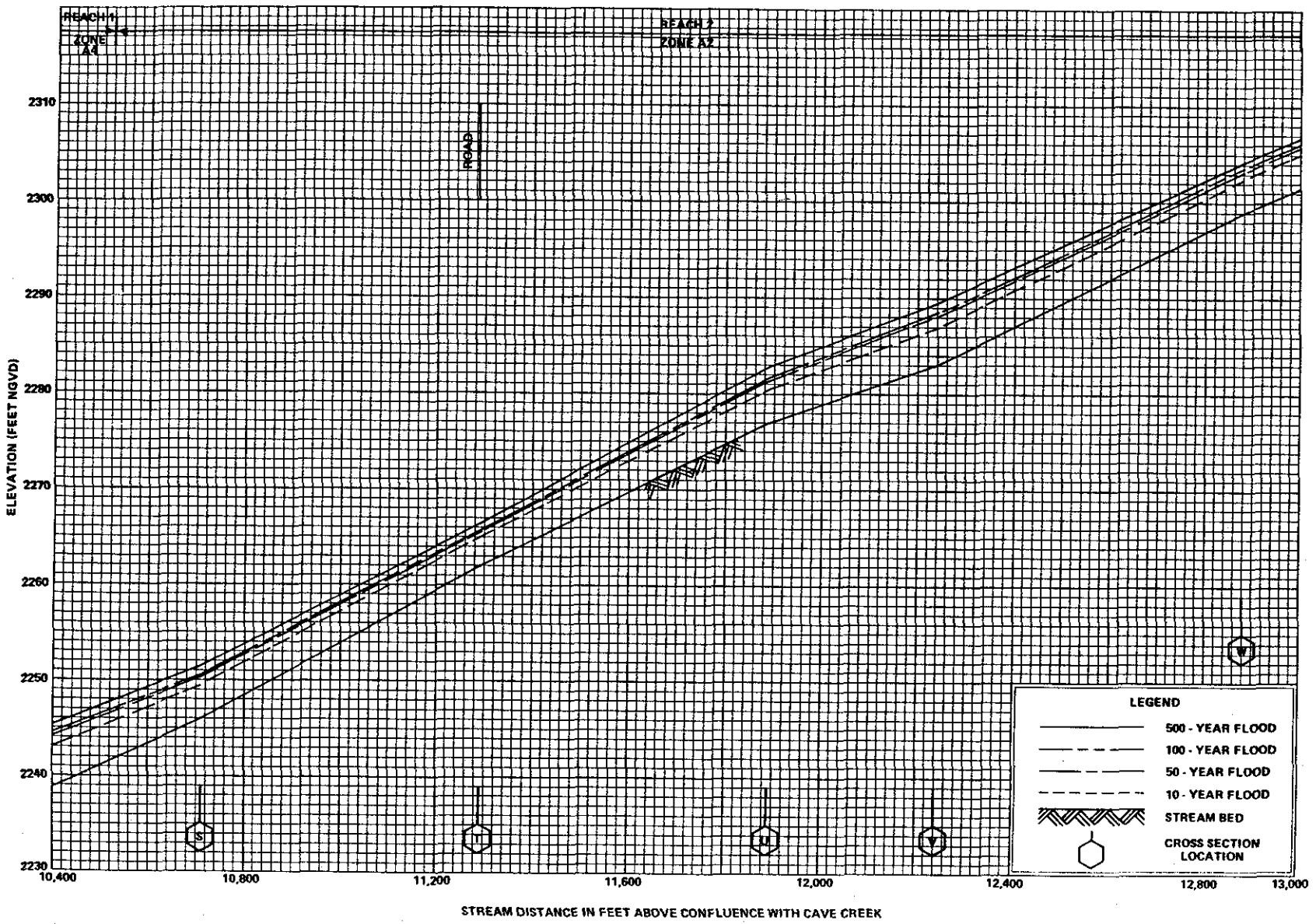


FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

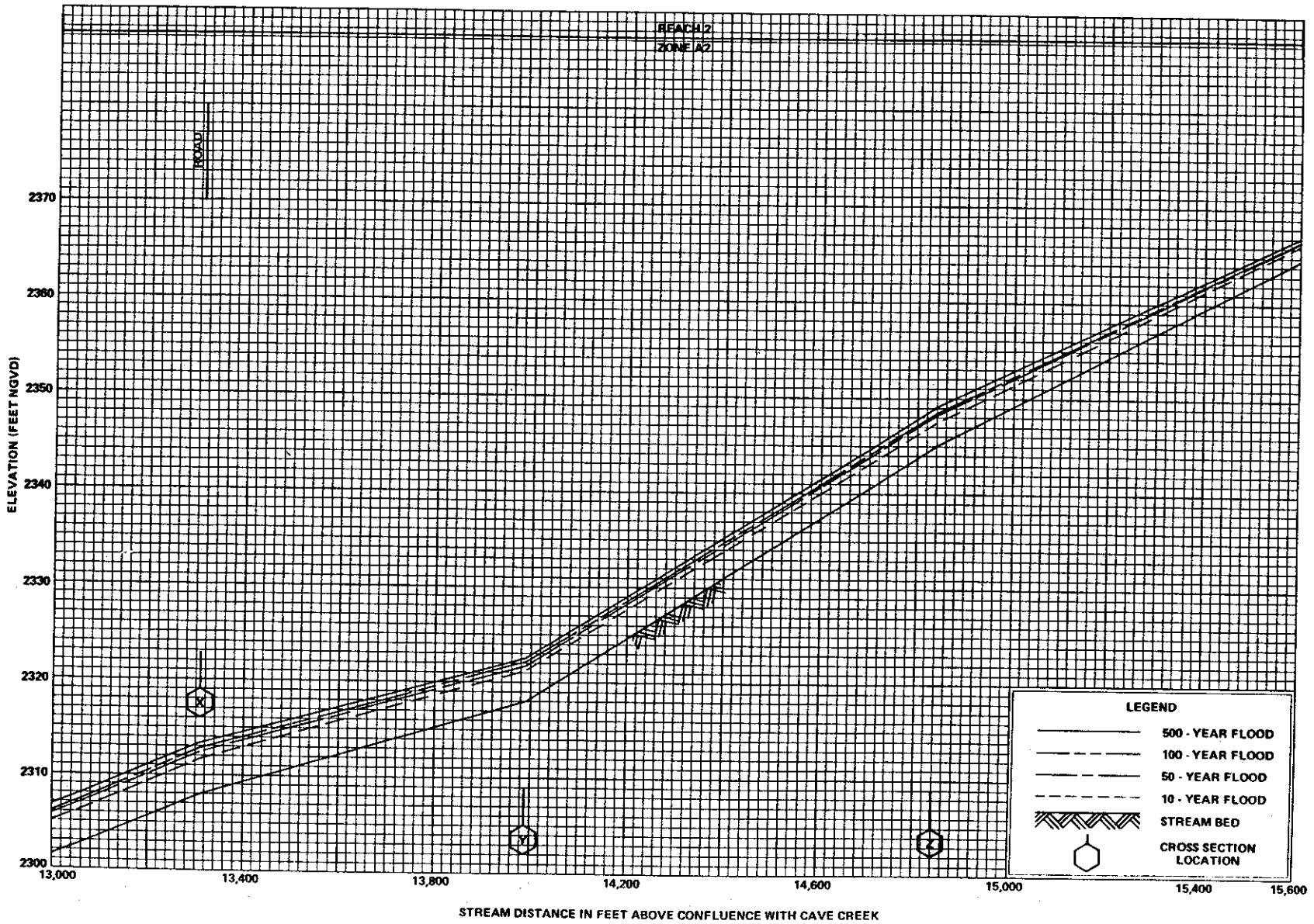


FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

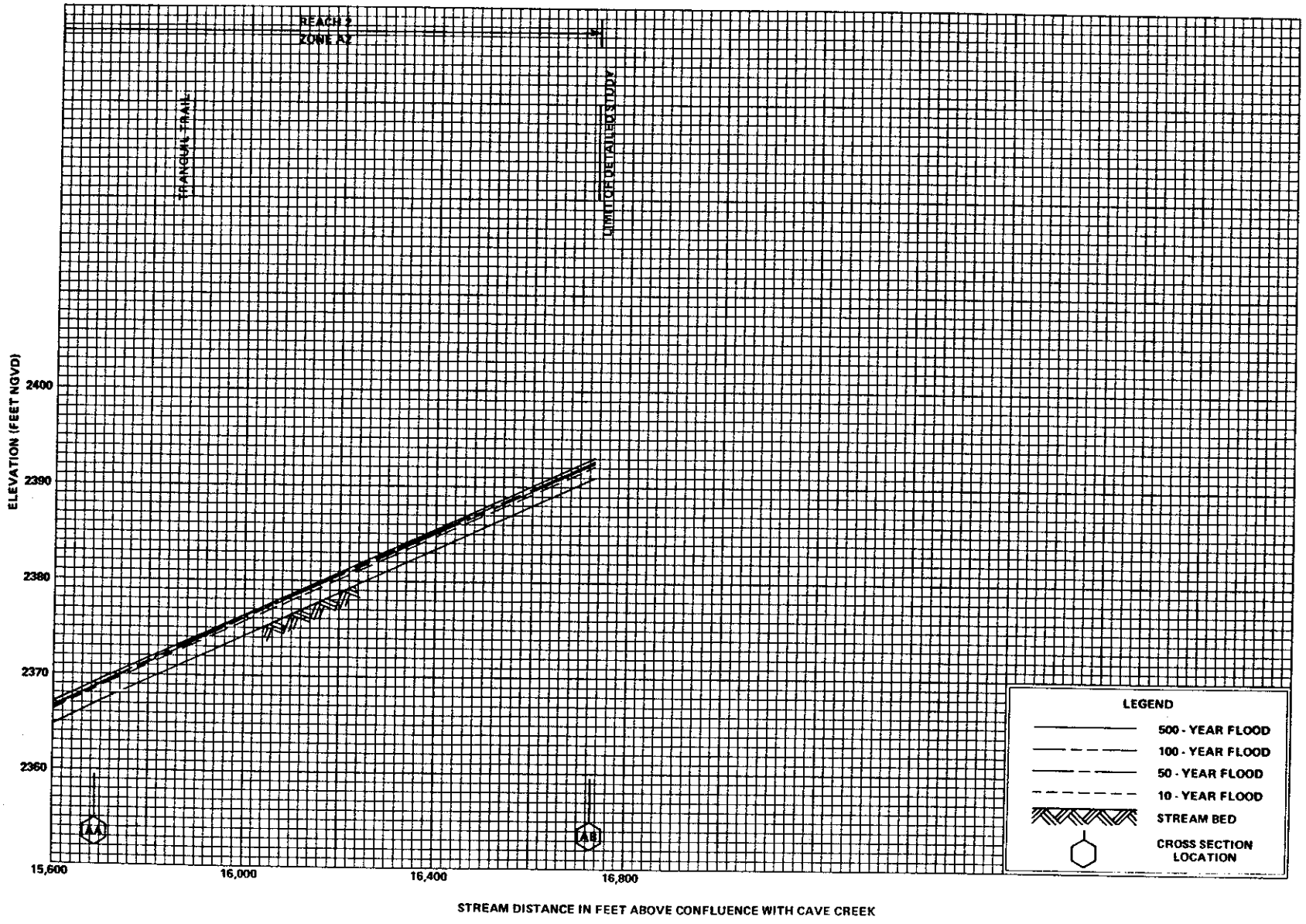


FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



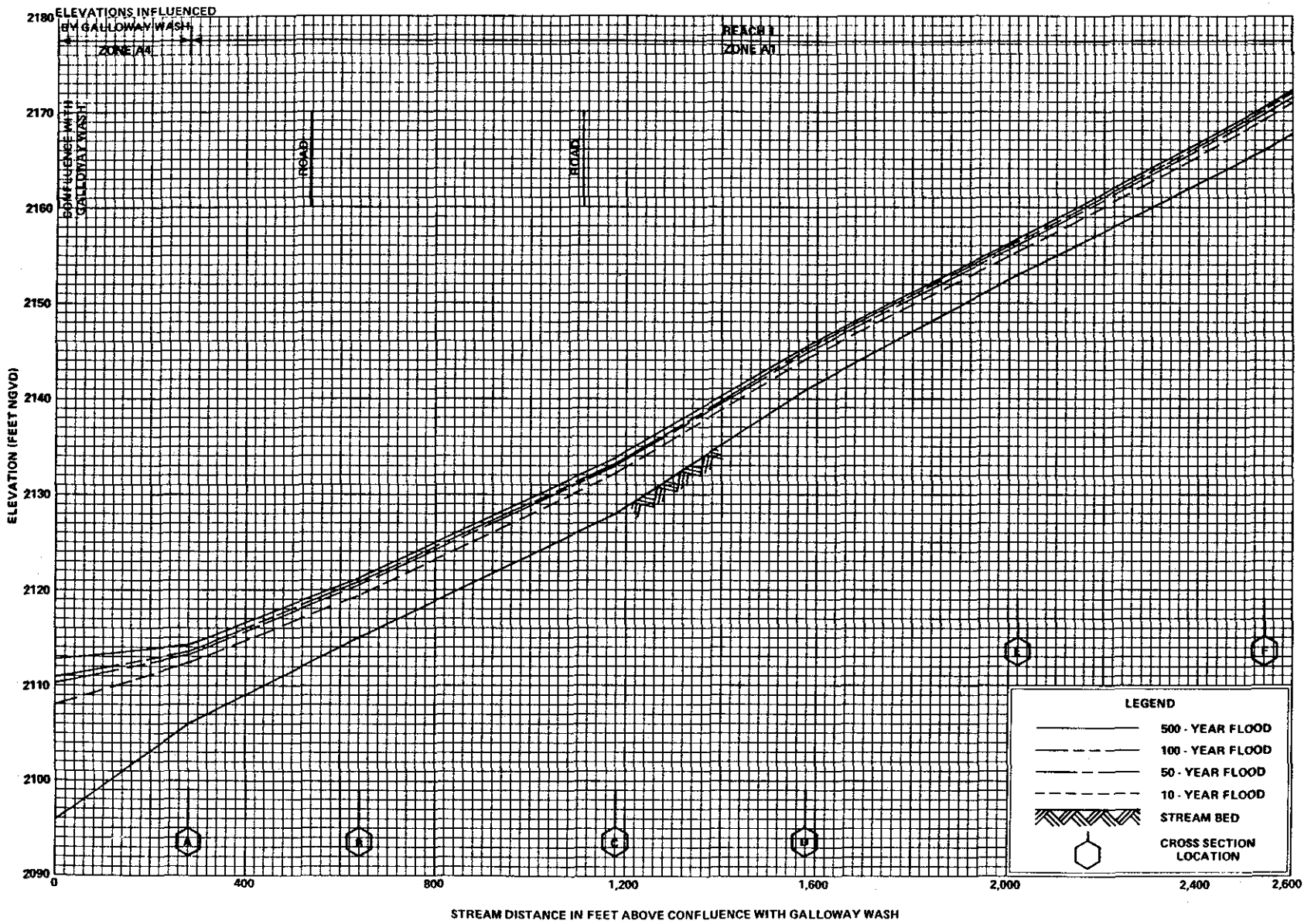
FLOOD PROFILES

GALLOWAY WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

120P



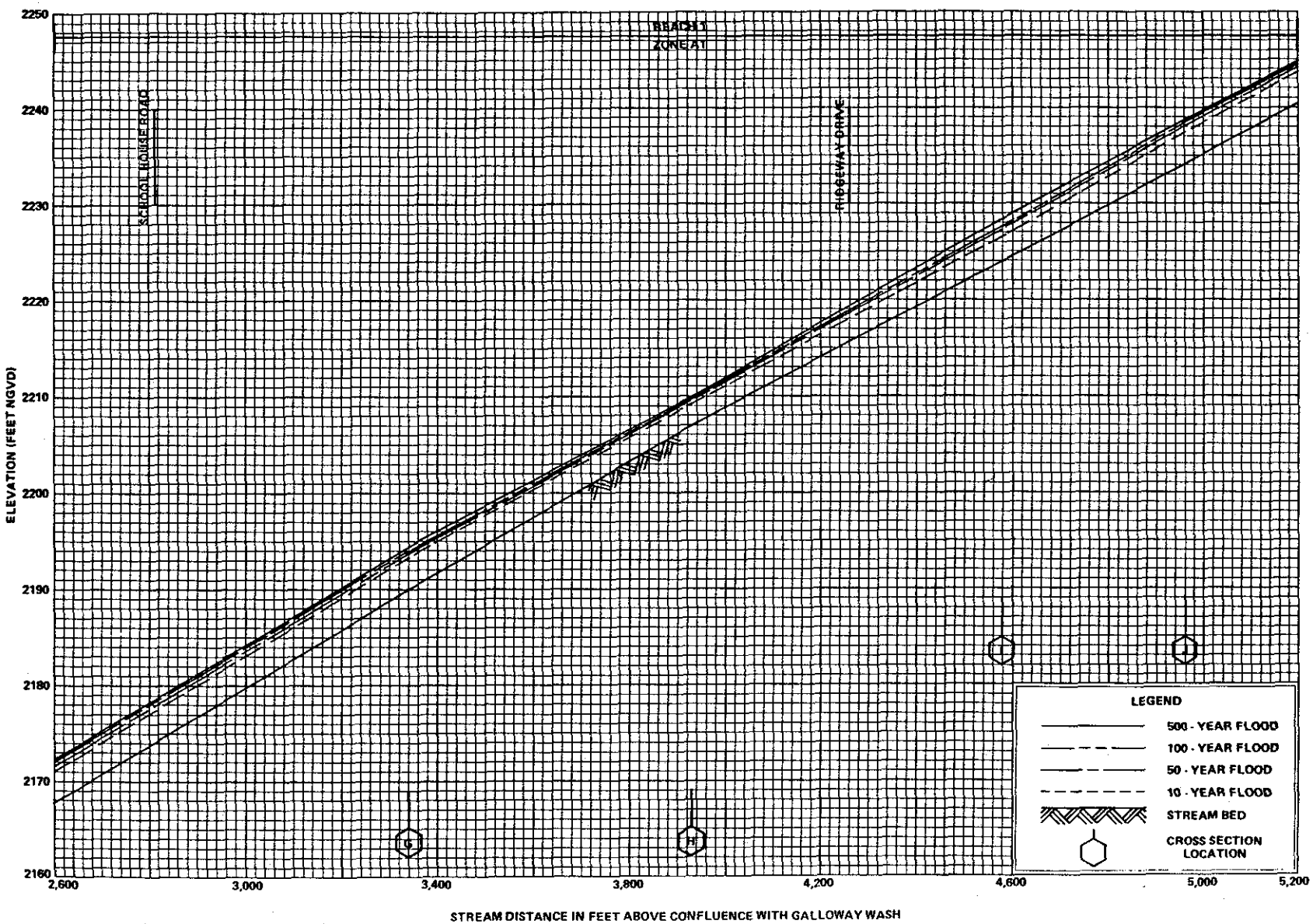
FLOOD PROFILES

ROWE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

121P

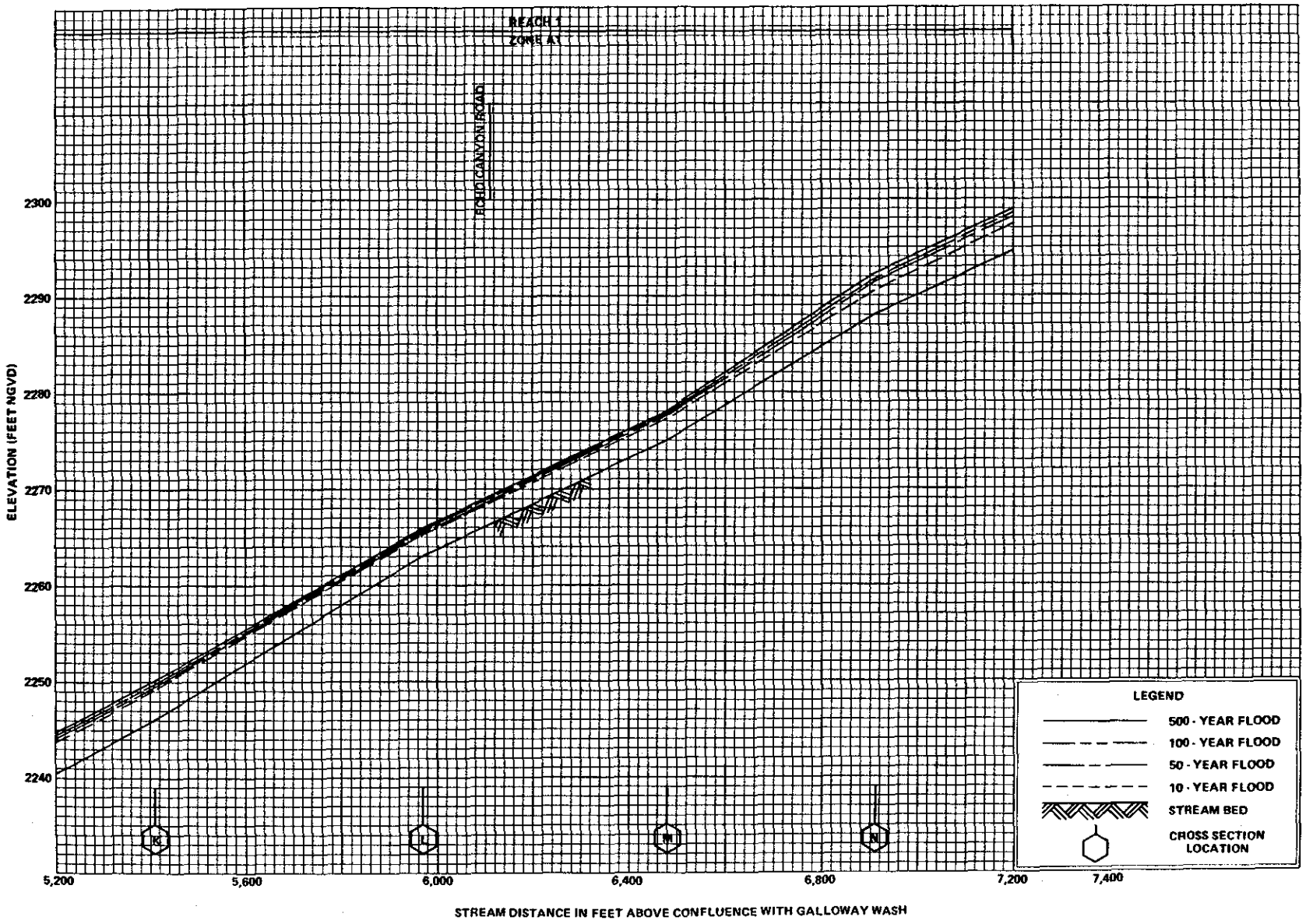


FLOOD PROFILES

ROWE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



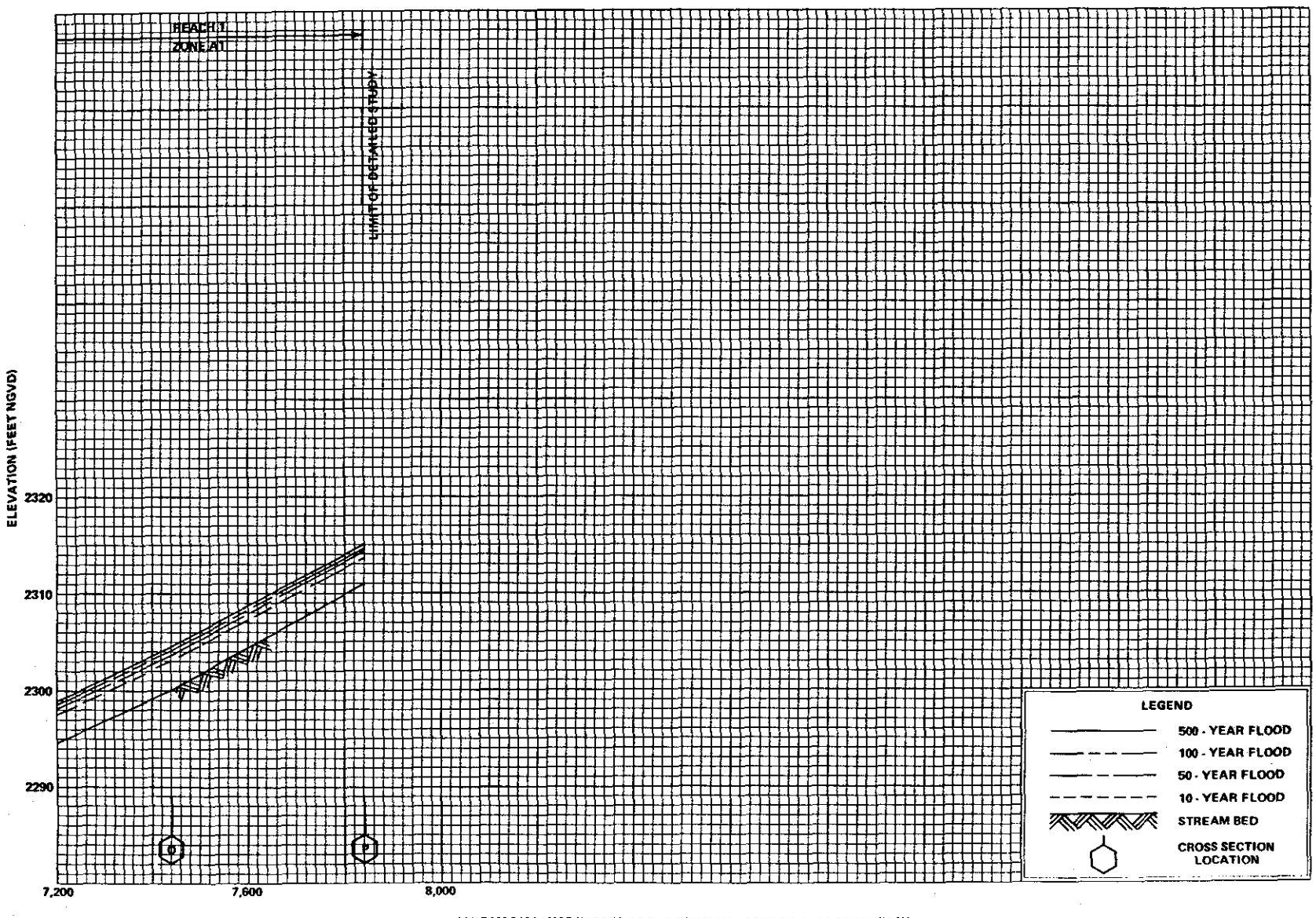
FLOOD PROFILES

ROWE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

123P

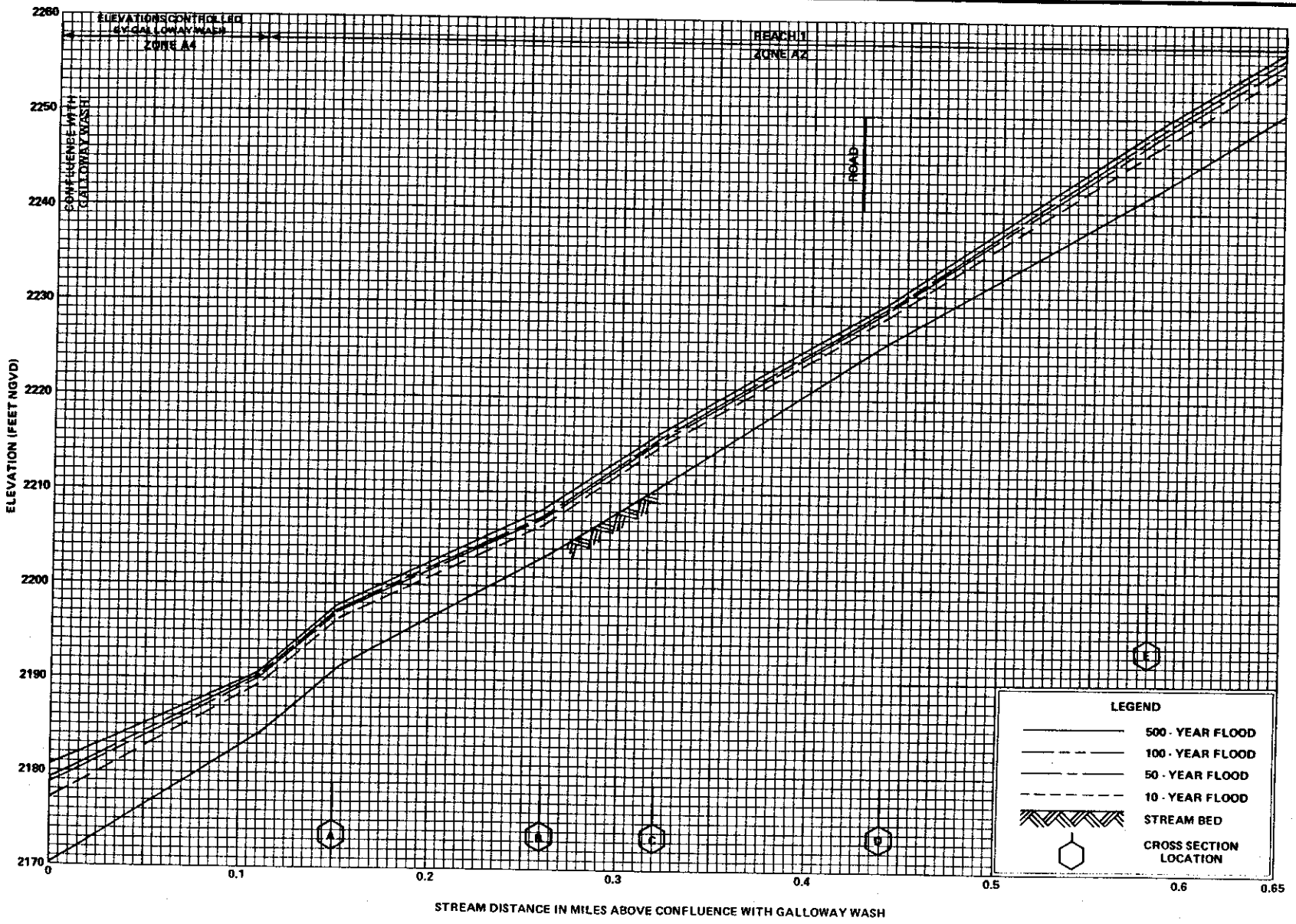


FLOOD PROFILES

ROWE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

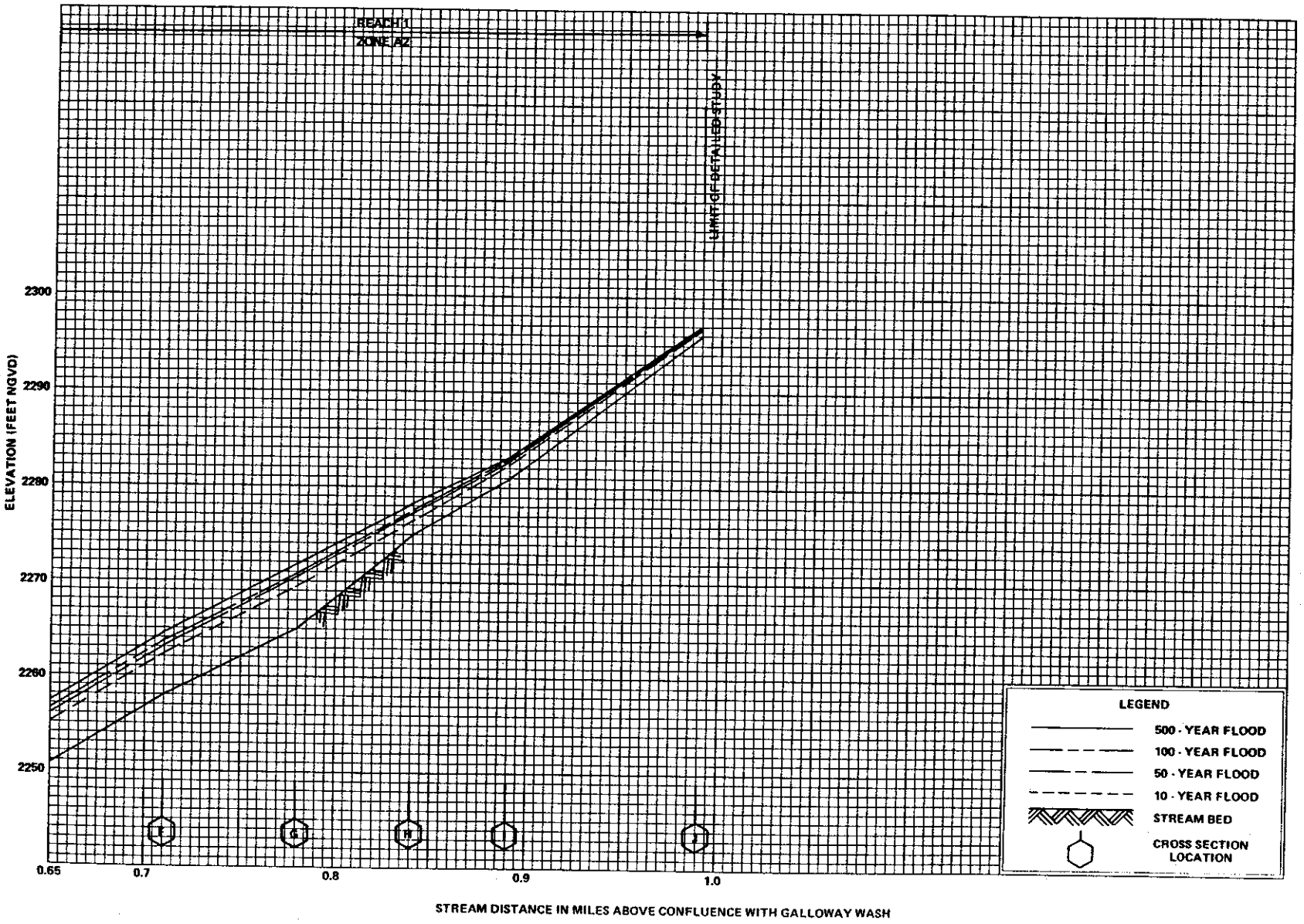


FLOOD PROFILES

GRAPEVINE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

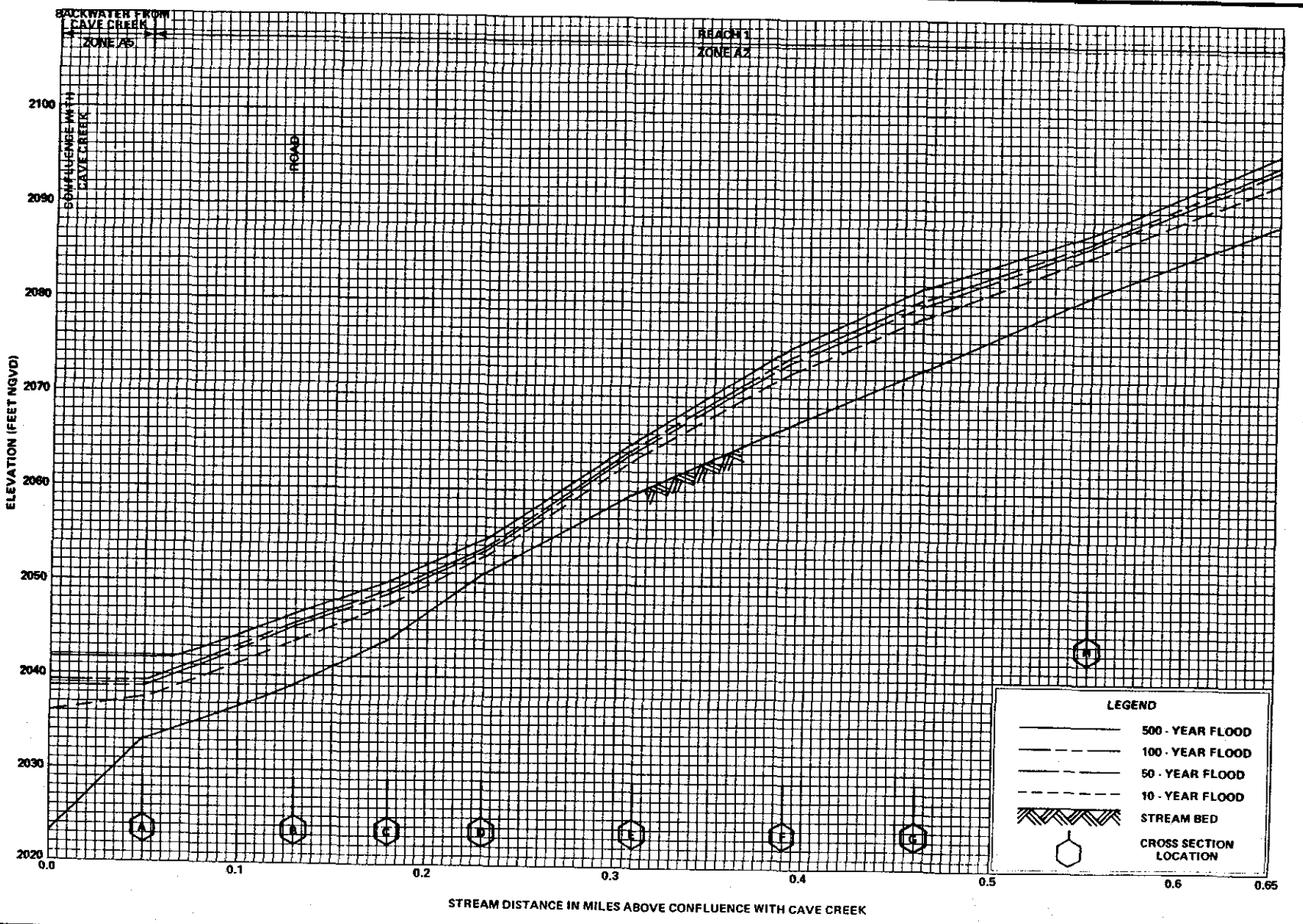


FLOOD PROFILES

GRAPEVINE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

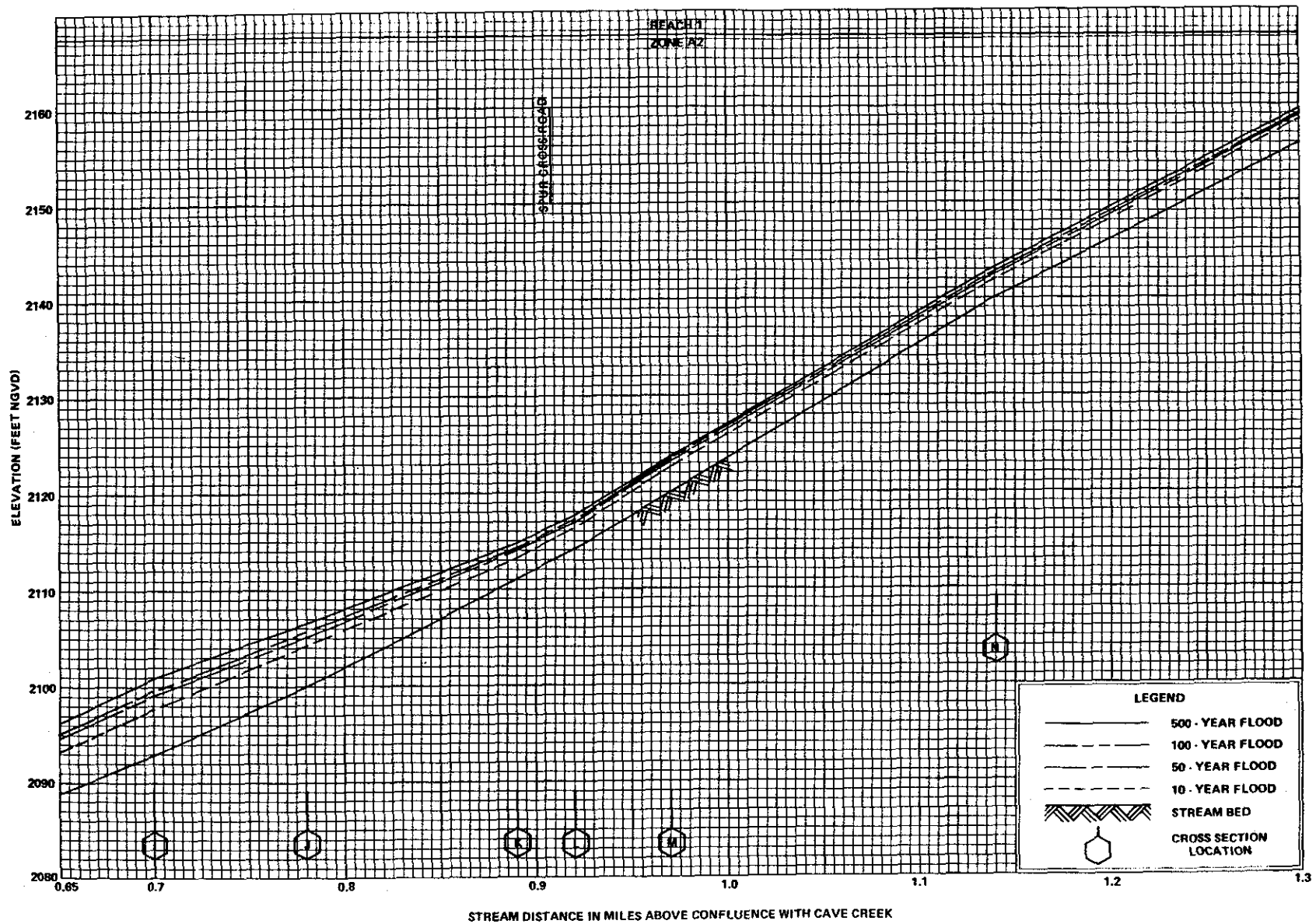


FLOOD PROFILES

OCOTILLO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

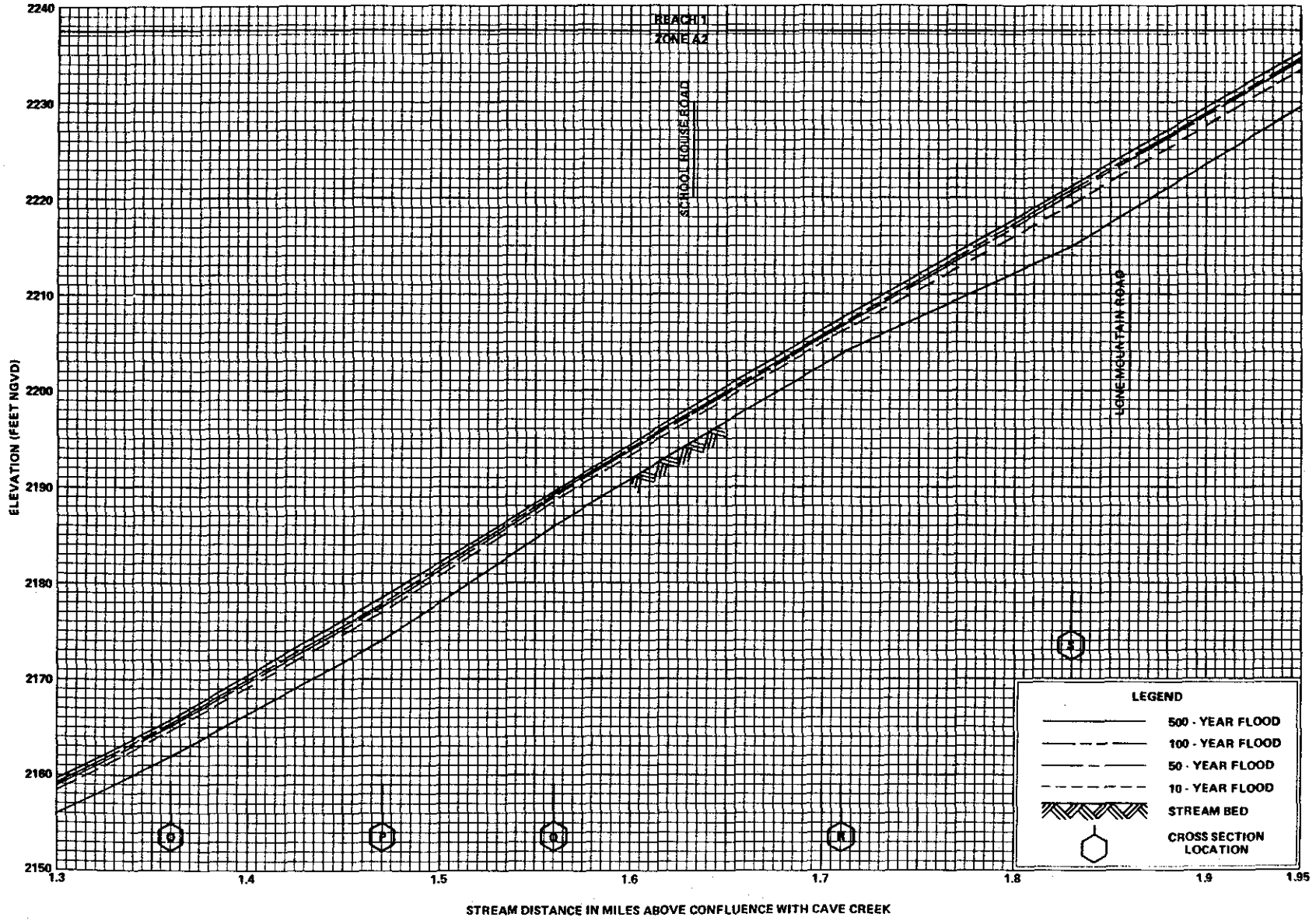


FLOOD PROFILES

OCOTILLO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

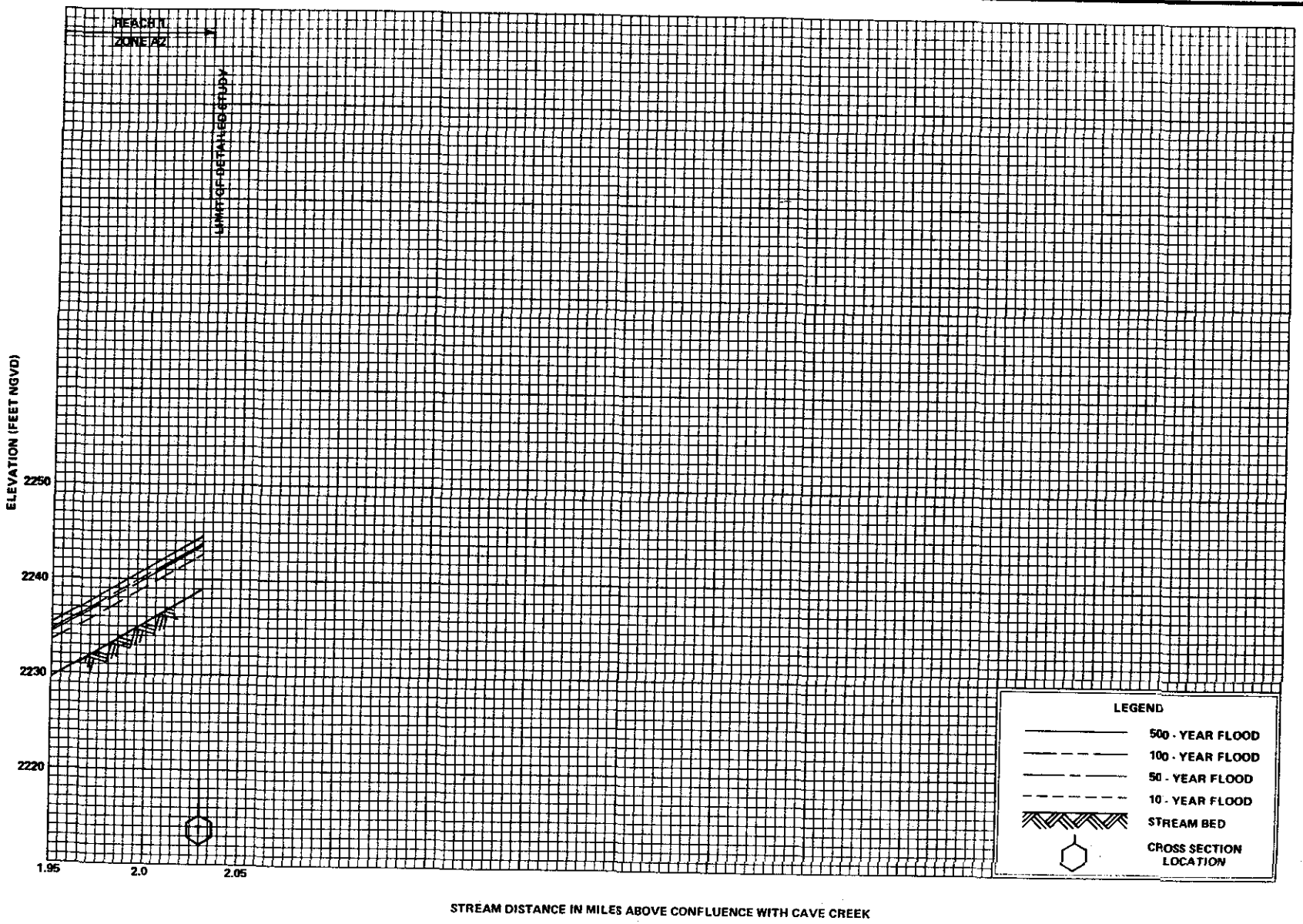


FLOOD PROFILES

OCOTILLO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

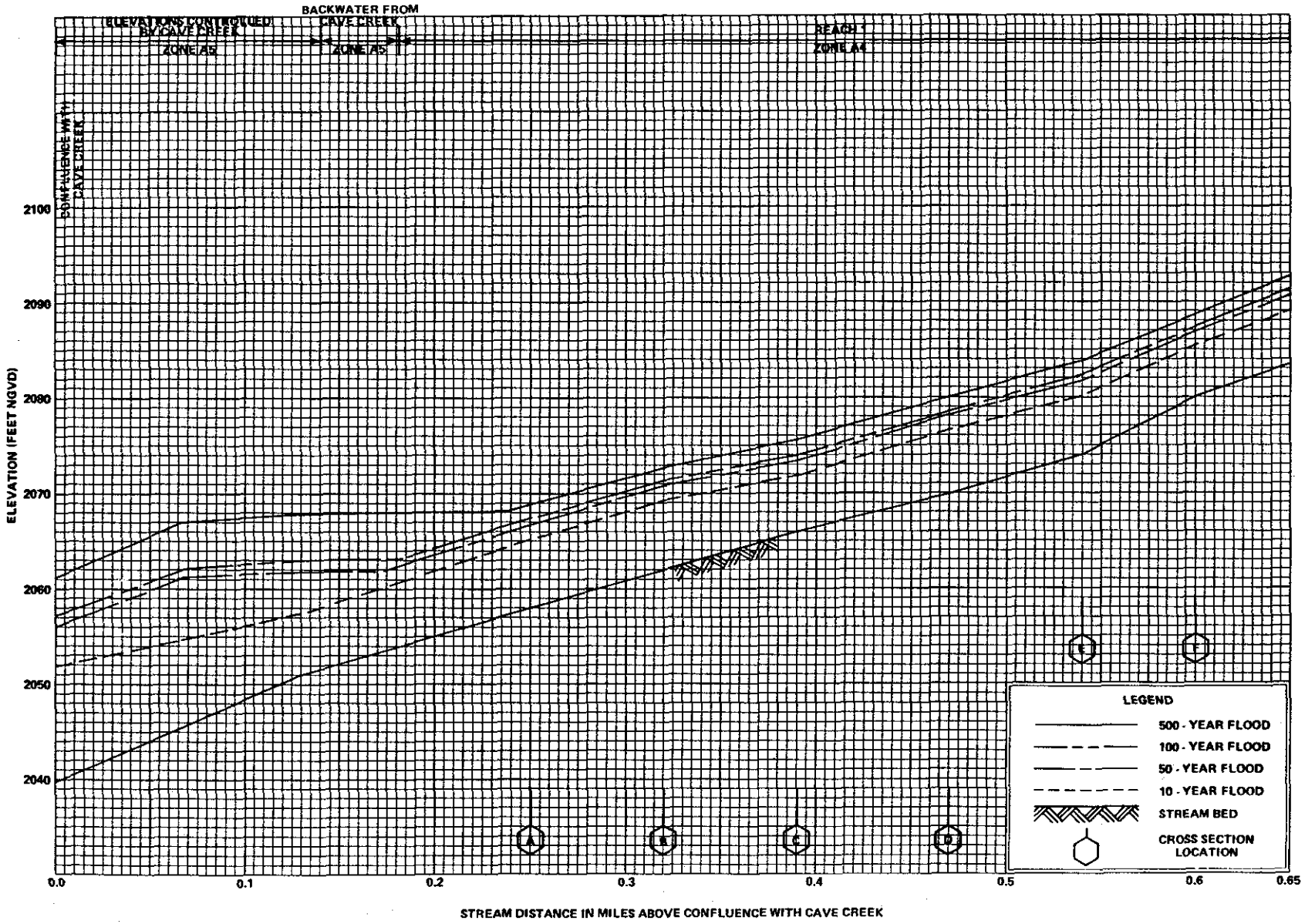


FLOOD PROFILES

OCOTILLO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

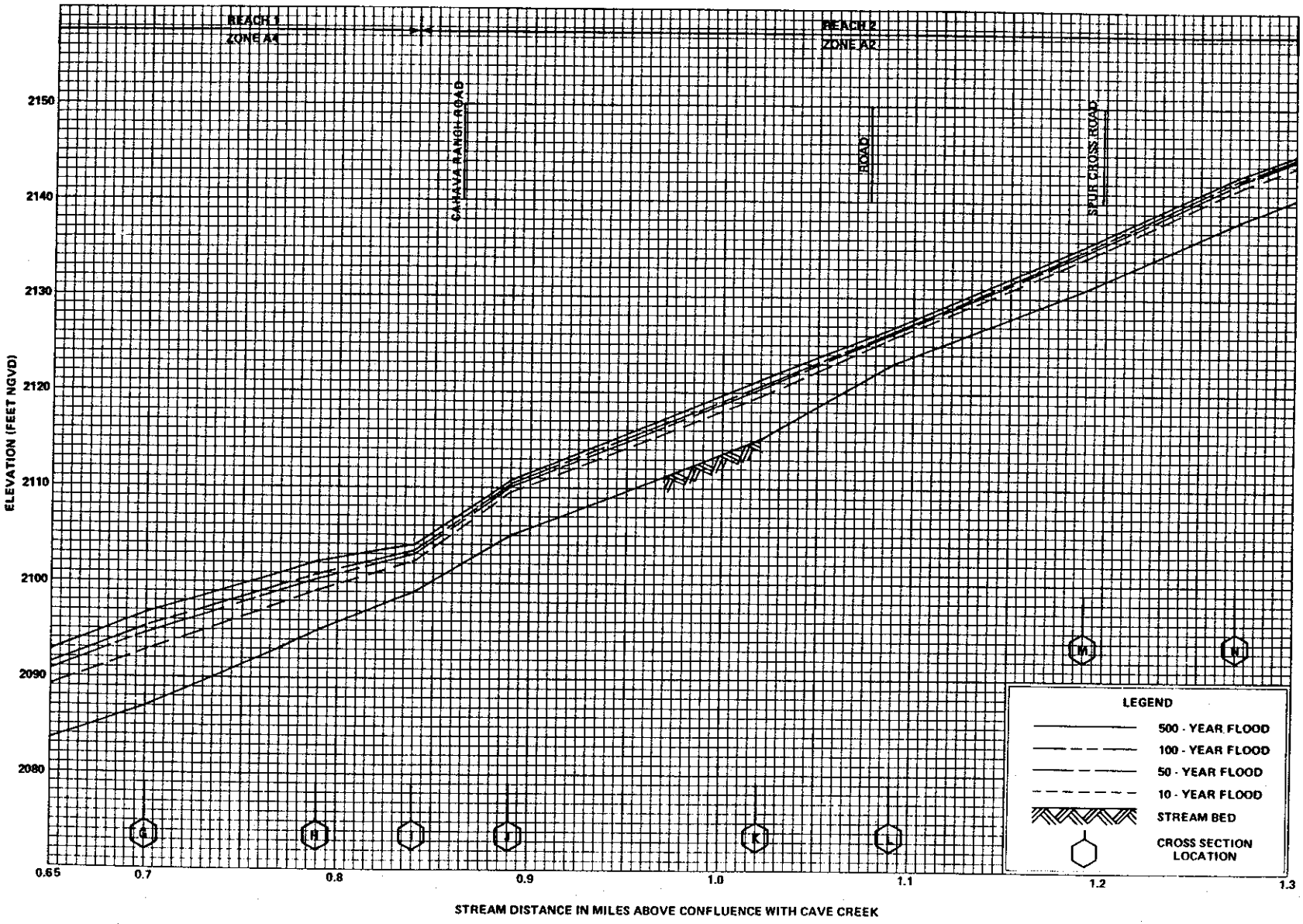


FLOOD PROFILES

WILLOW SPRINGS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

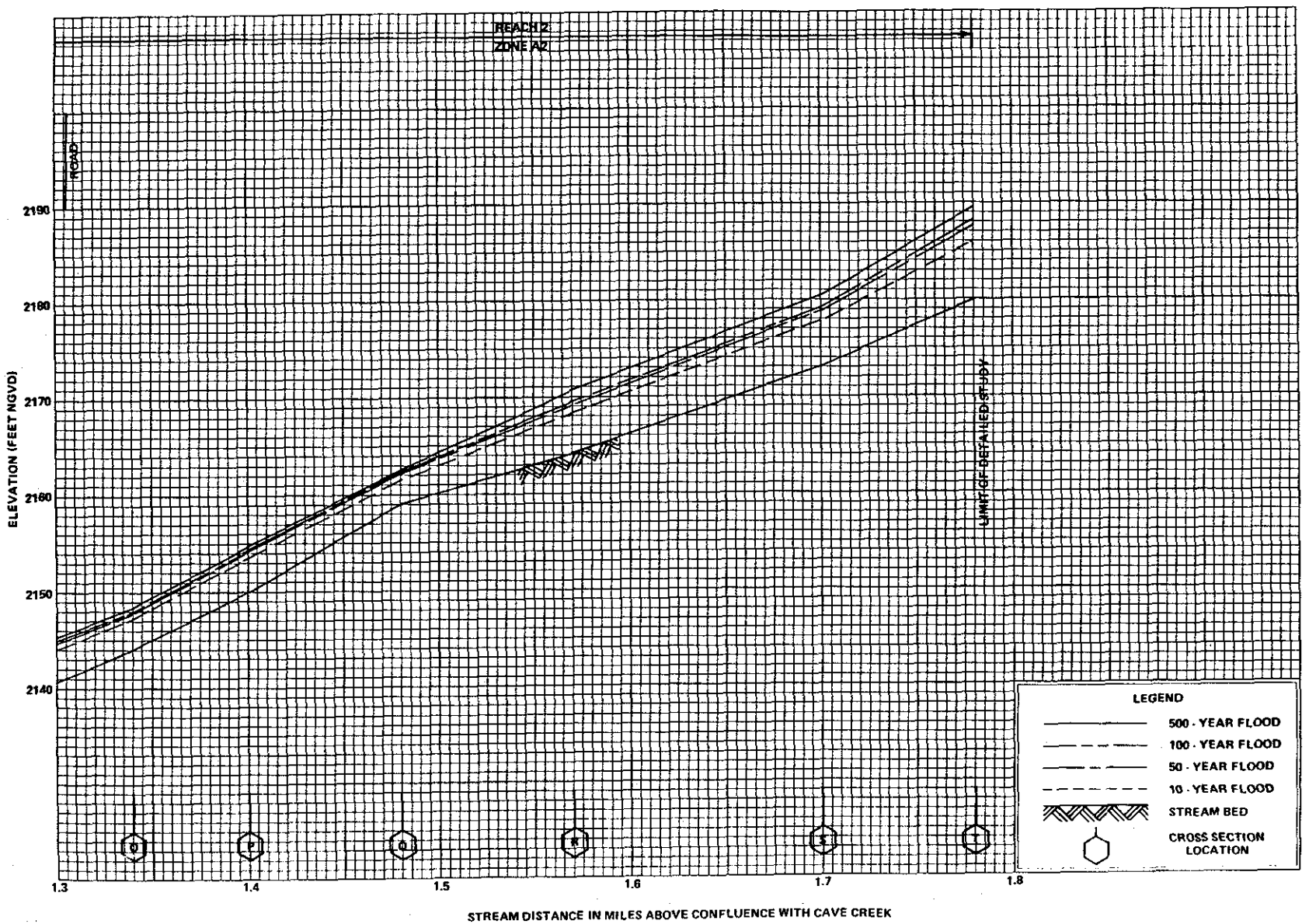


FLOOD PROFILES

WILLOW SPRINGS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

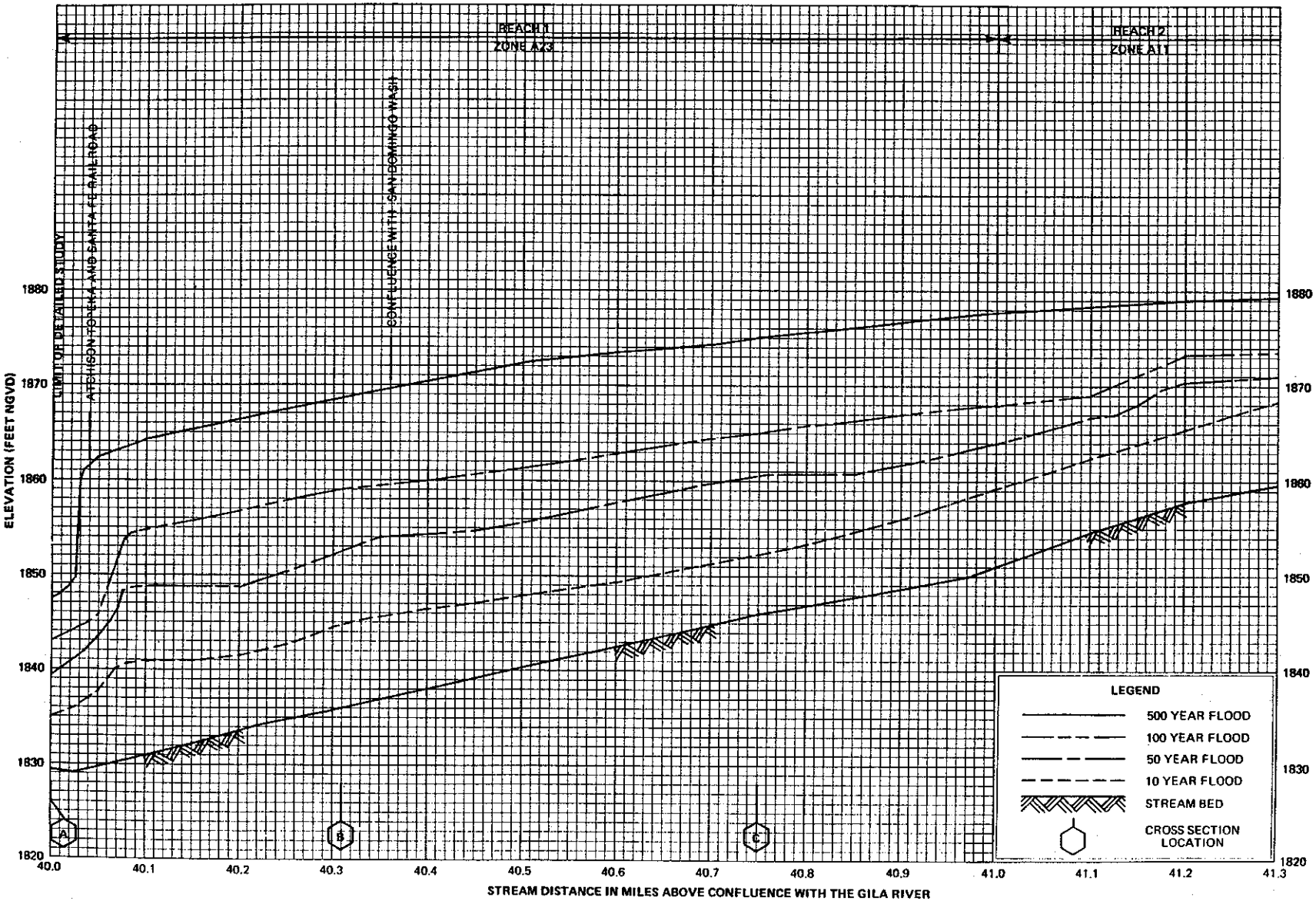


FLOOD PROFILES

WILLOW SPRINGS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

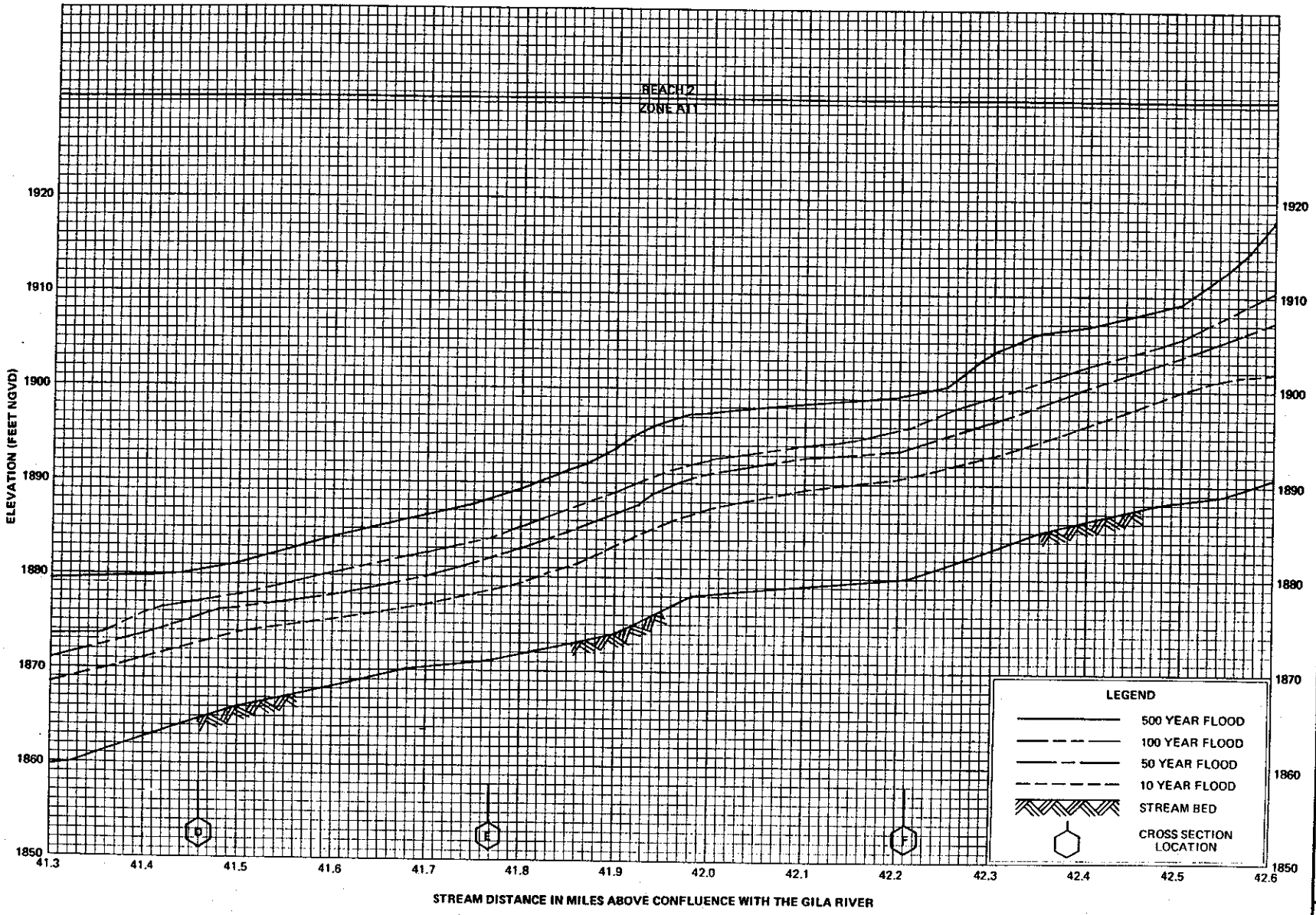


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

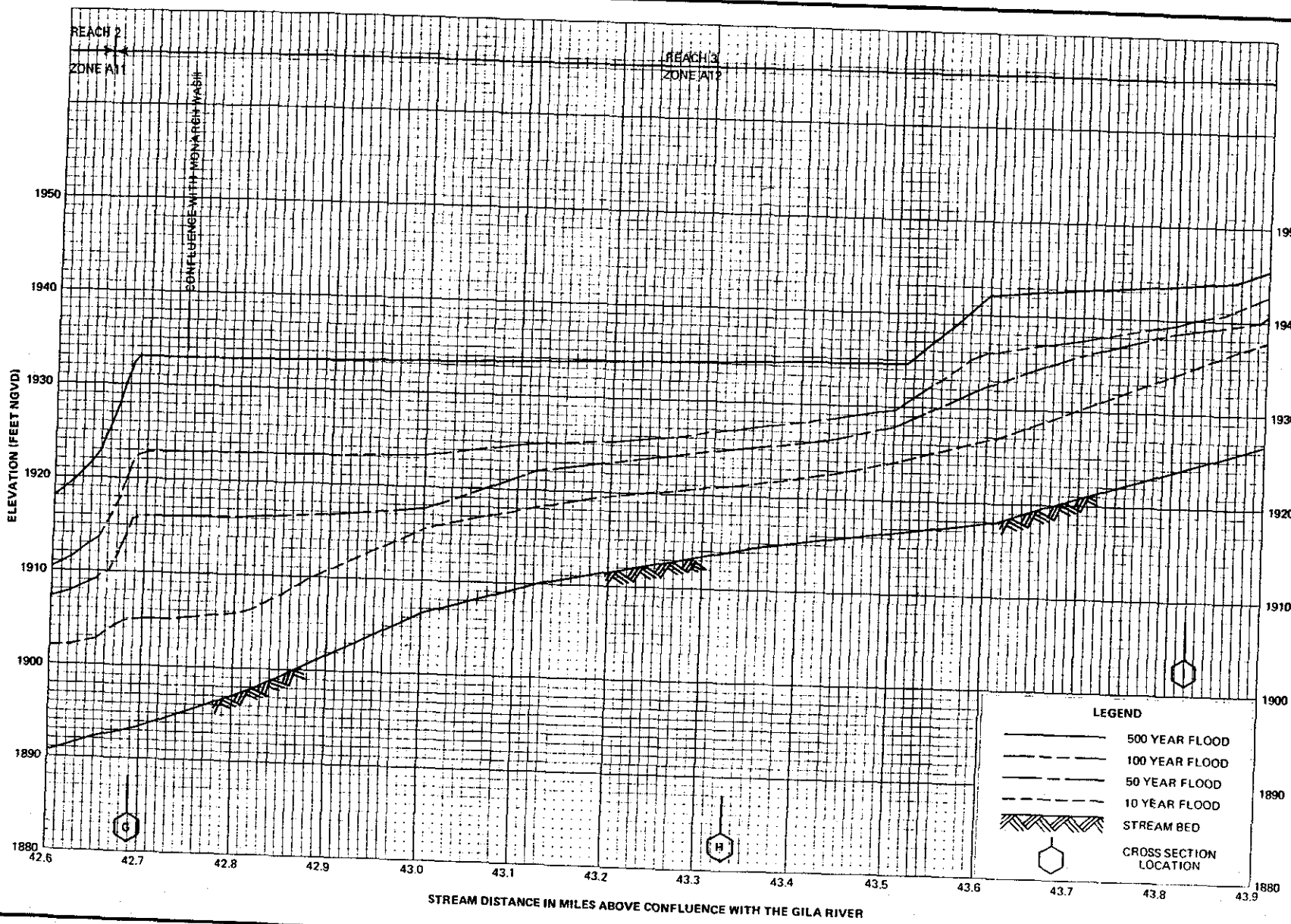


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

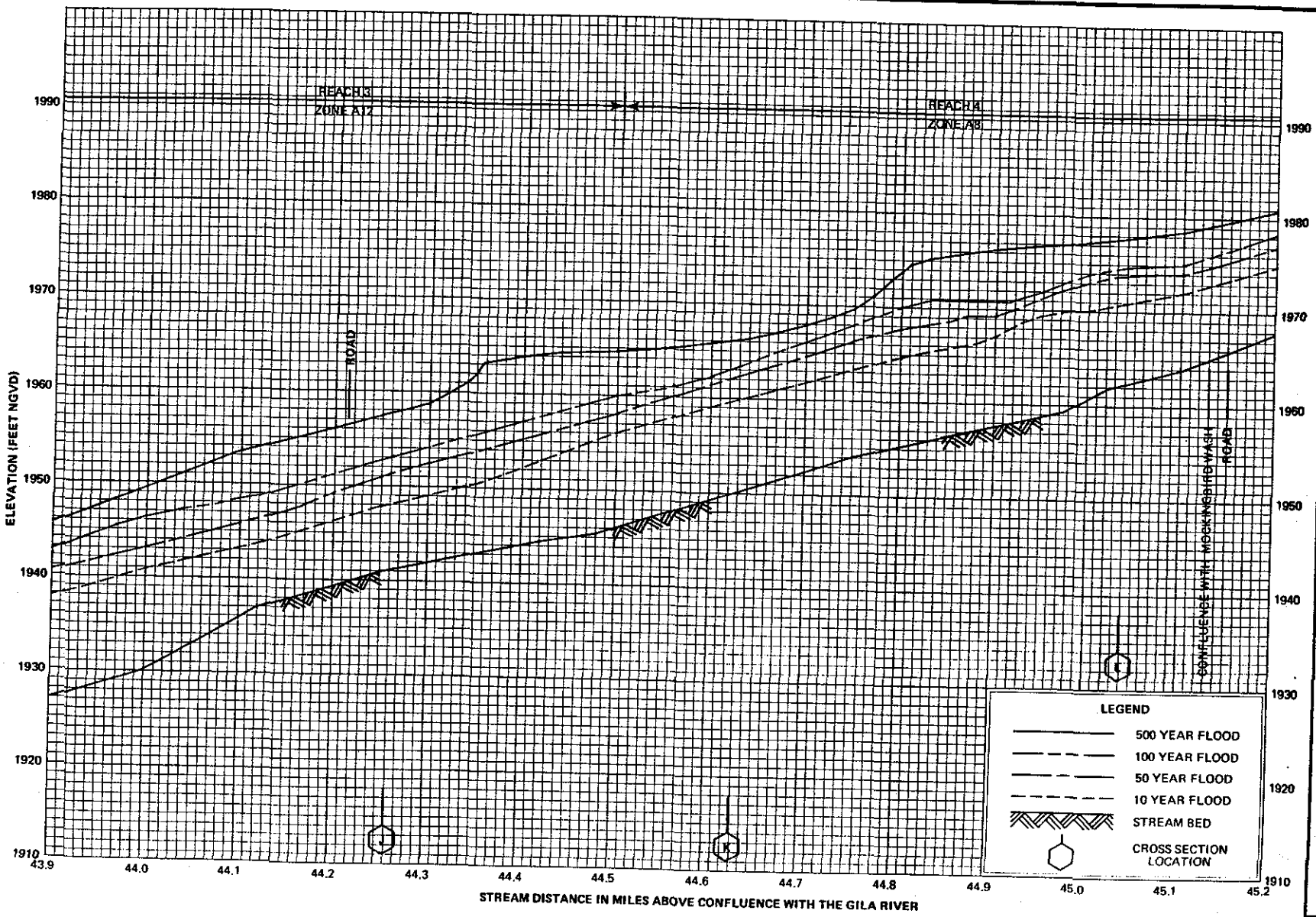


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

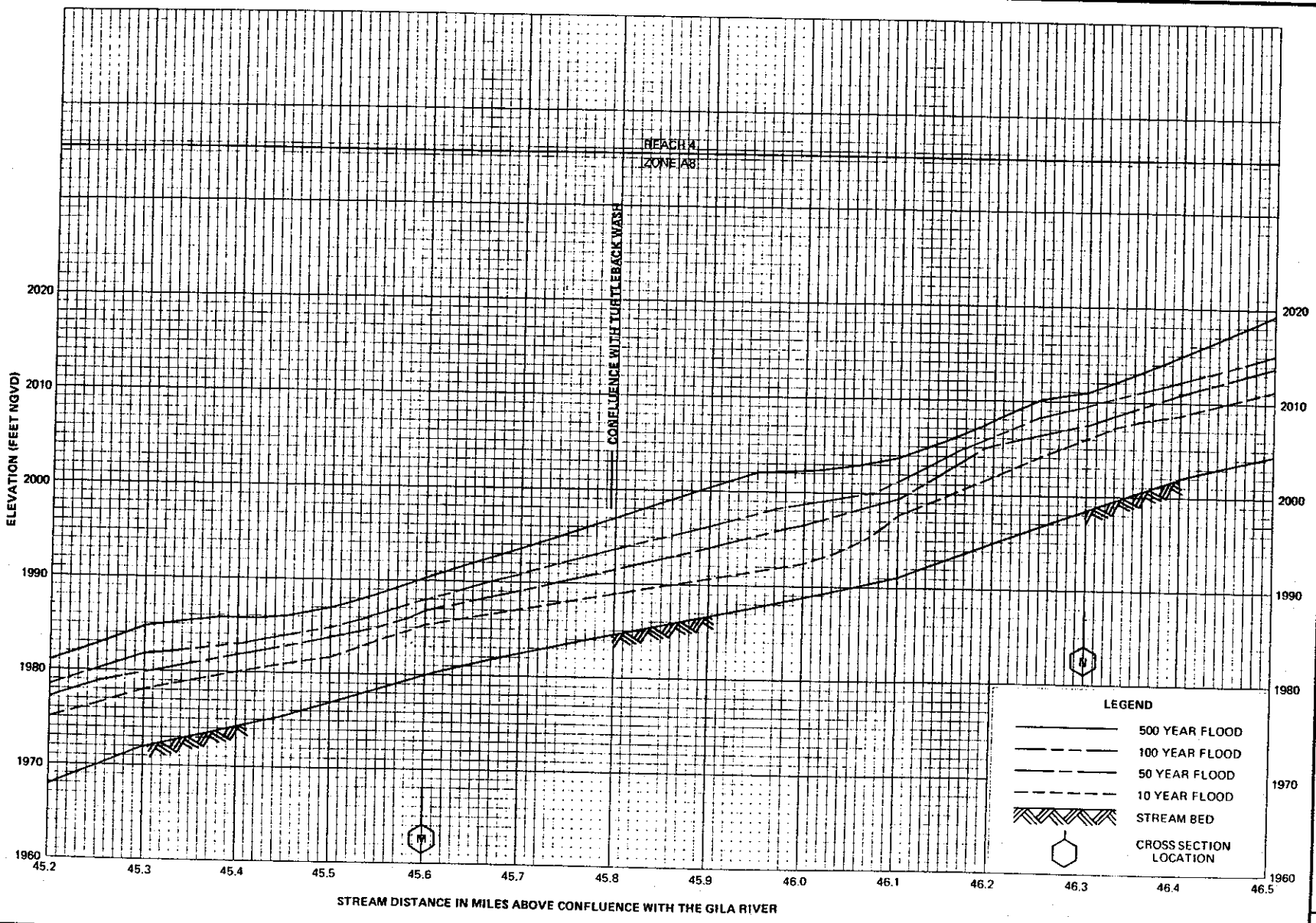


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

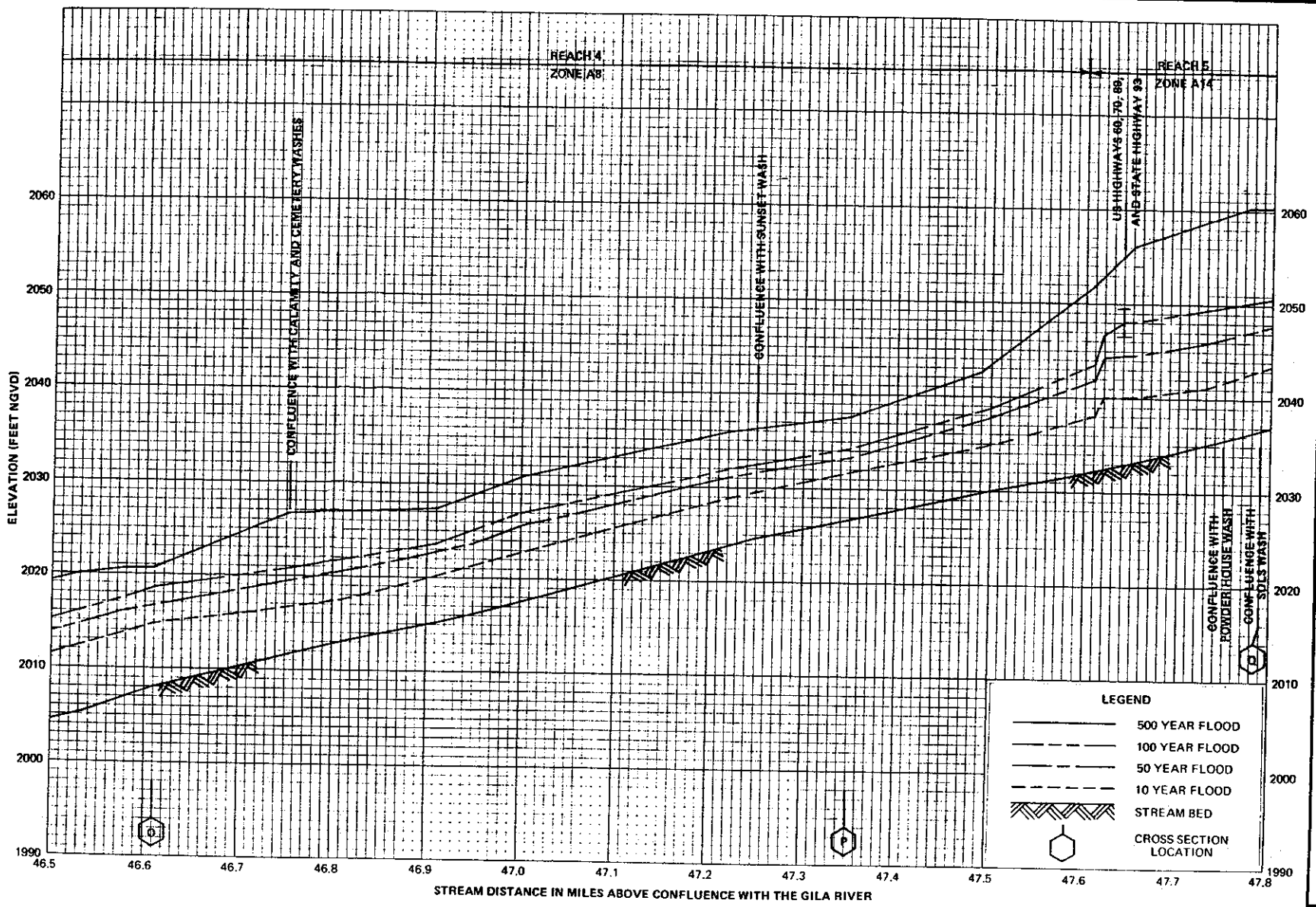


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

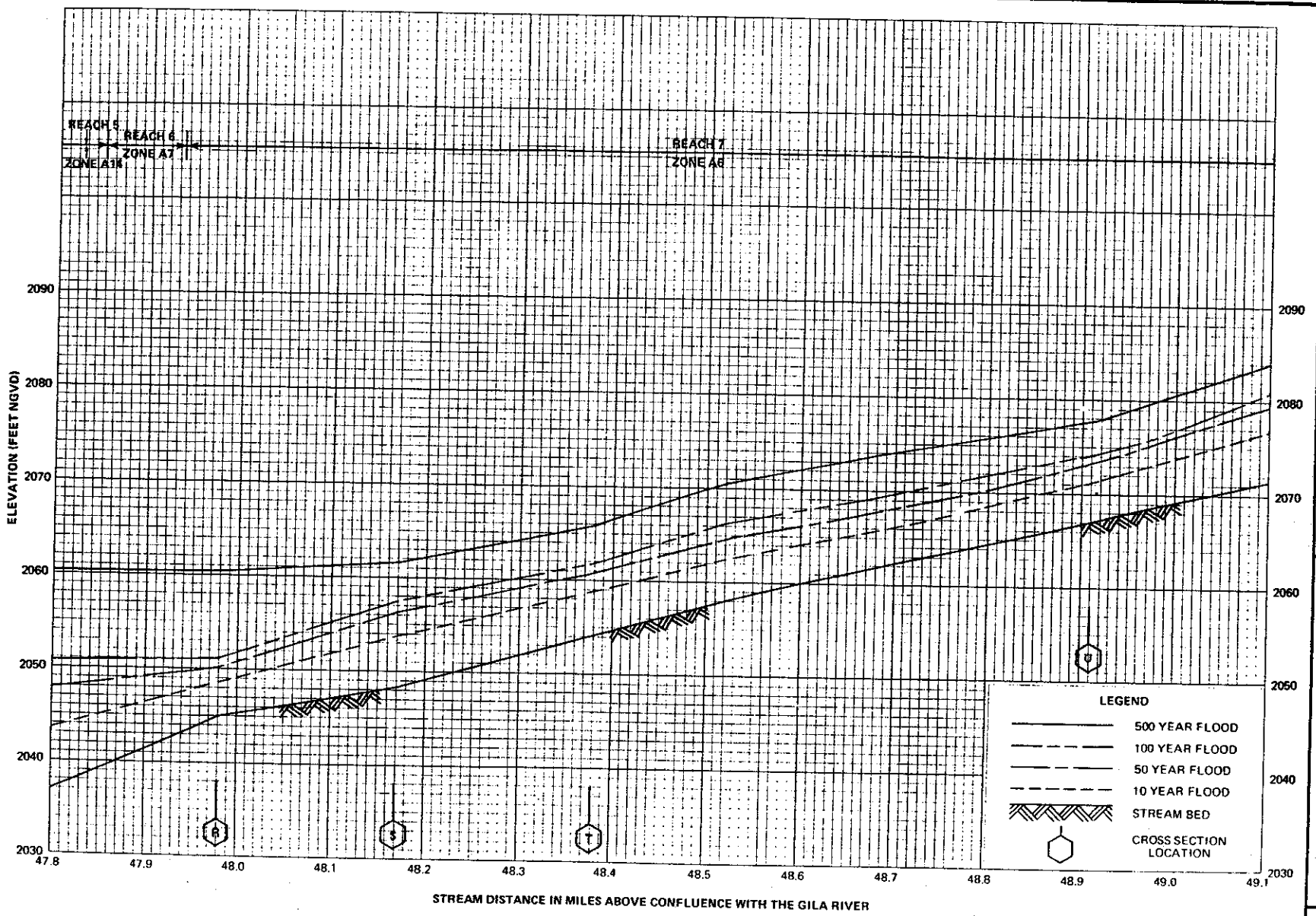


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

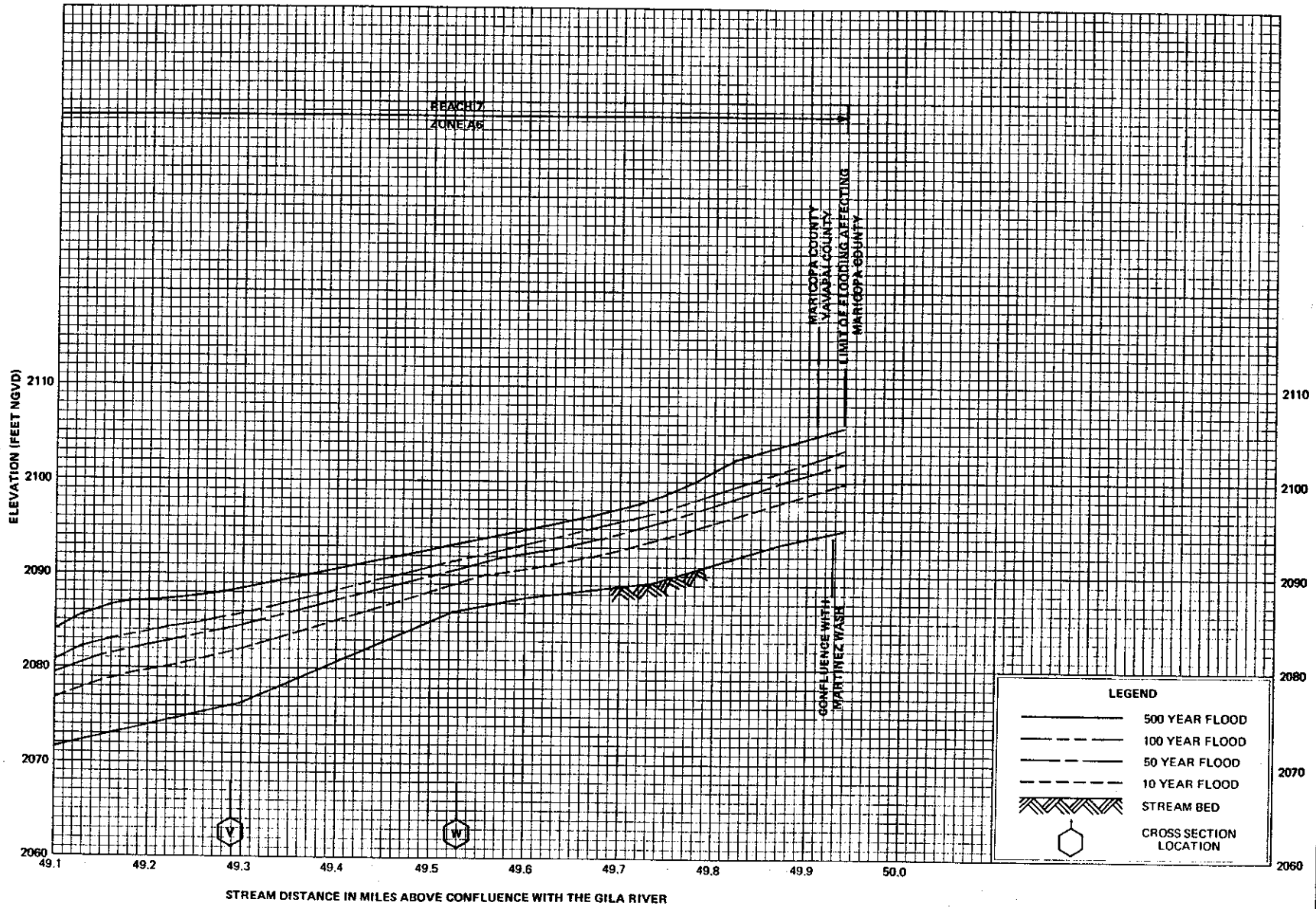


FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



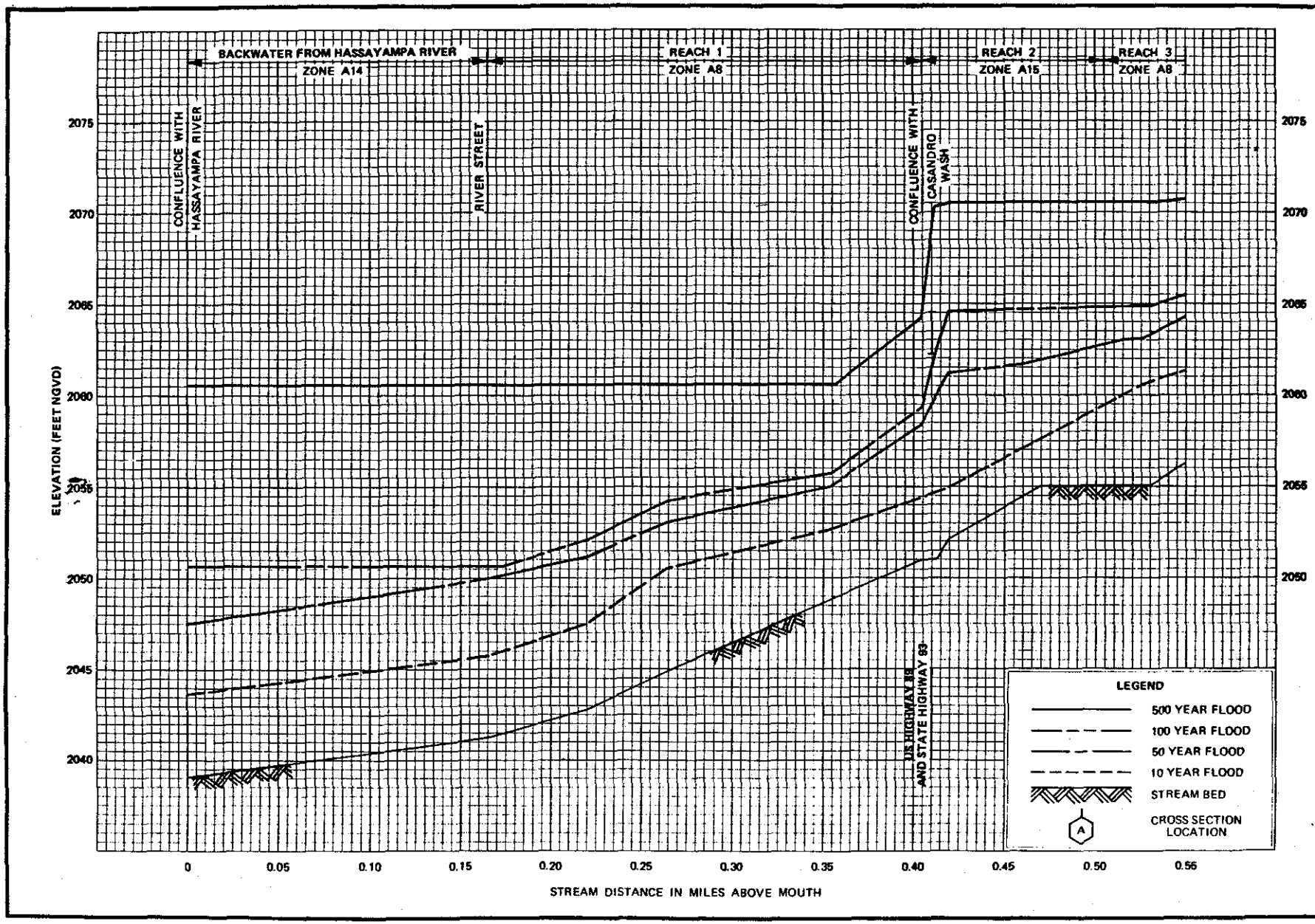
FLOOD PROFILES

HASSAYAMPA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

141P

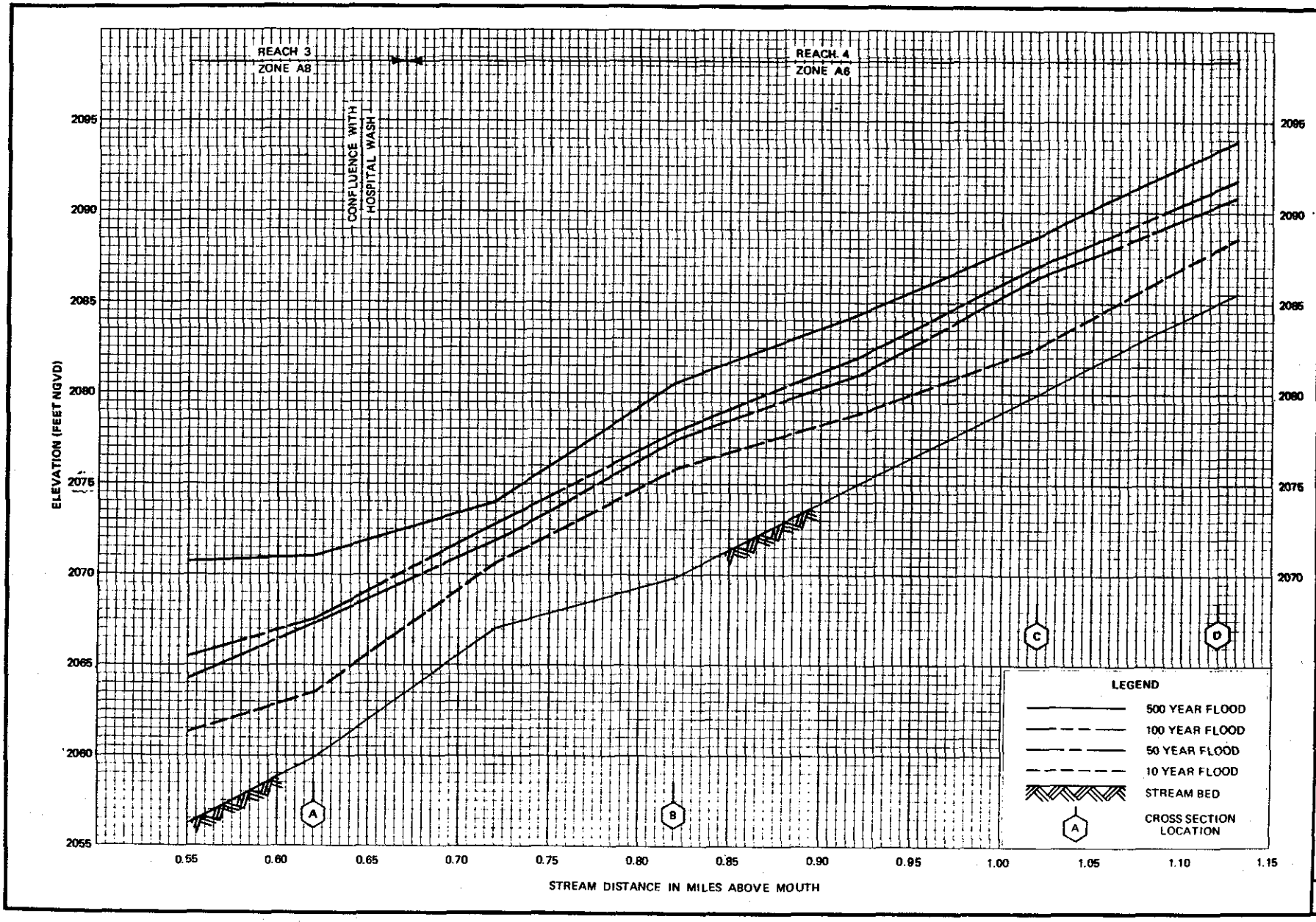


FLOOD PROFILES

SOLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



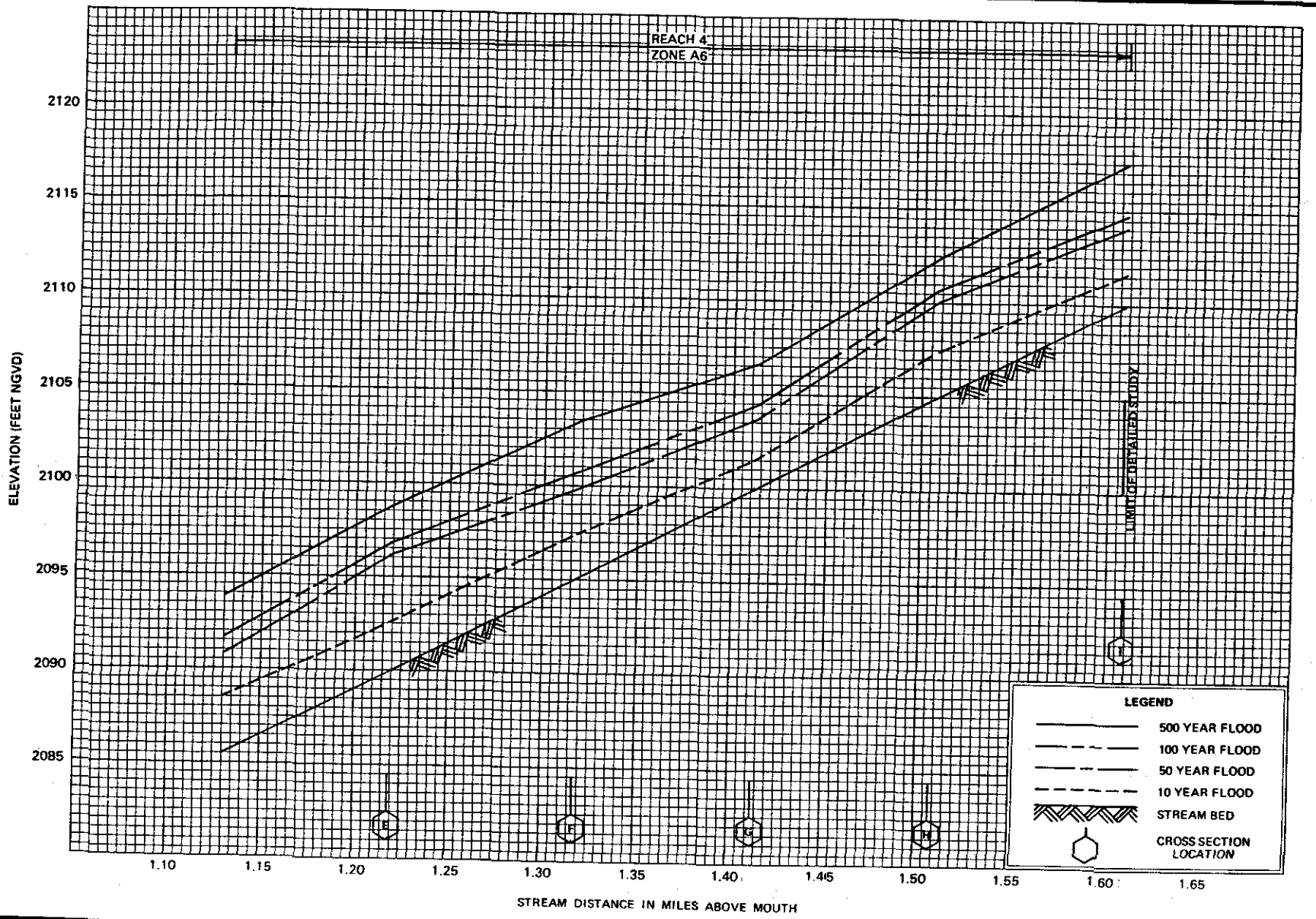
FLOOD PROFILES

SOLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

143P

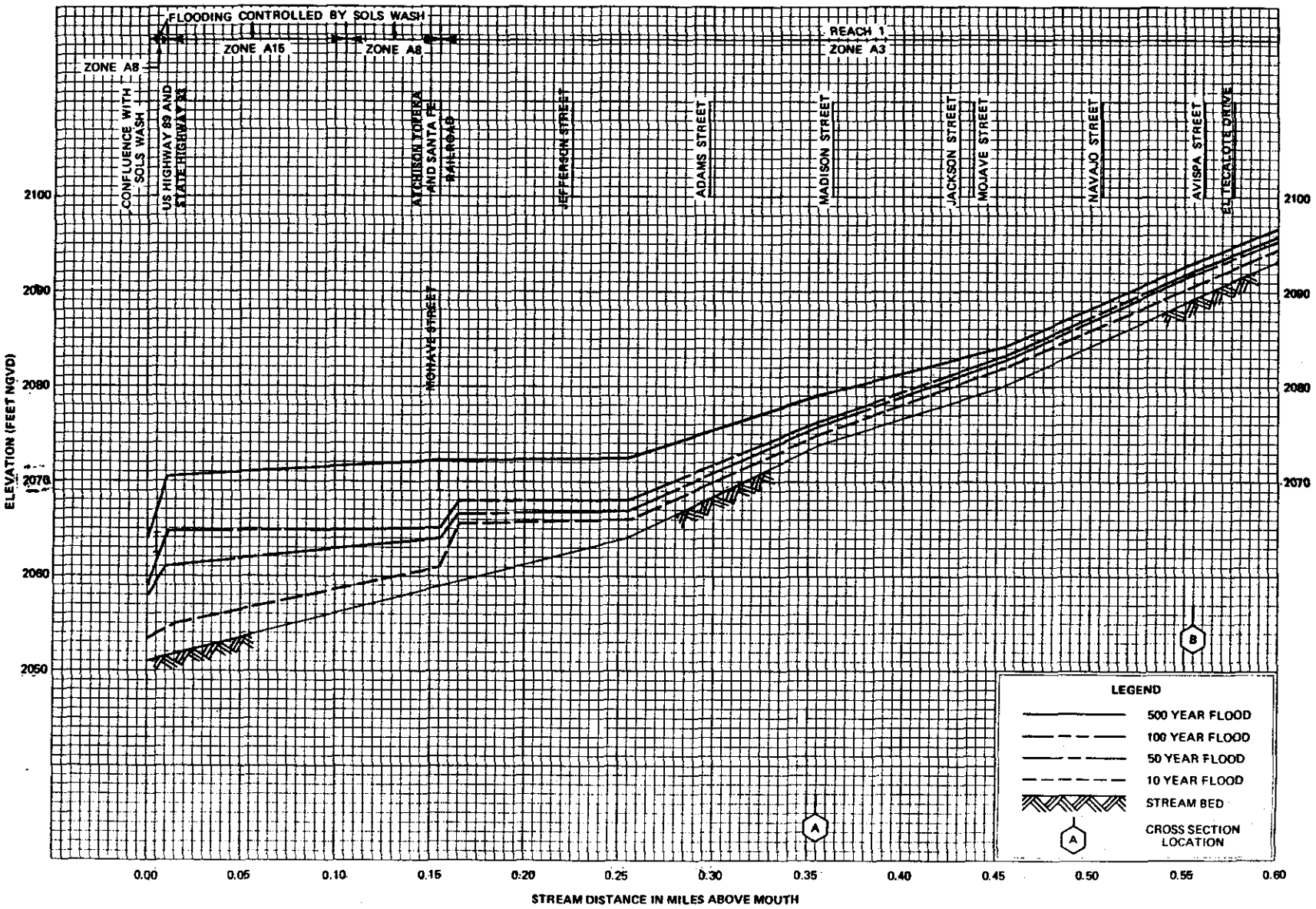


FLOOD PROFILES

SOLS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

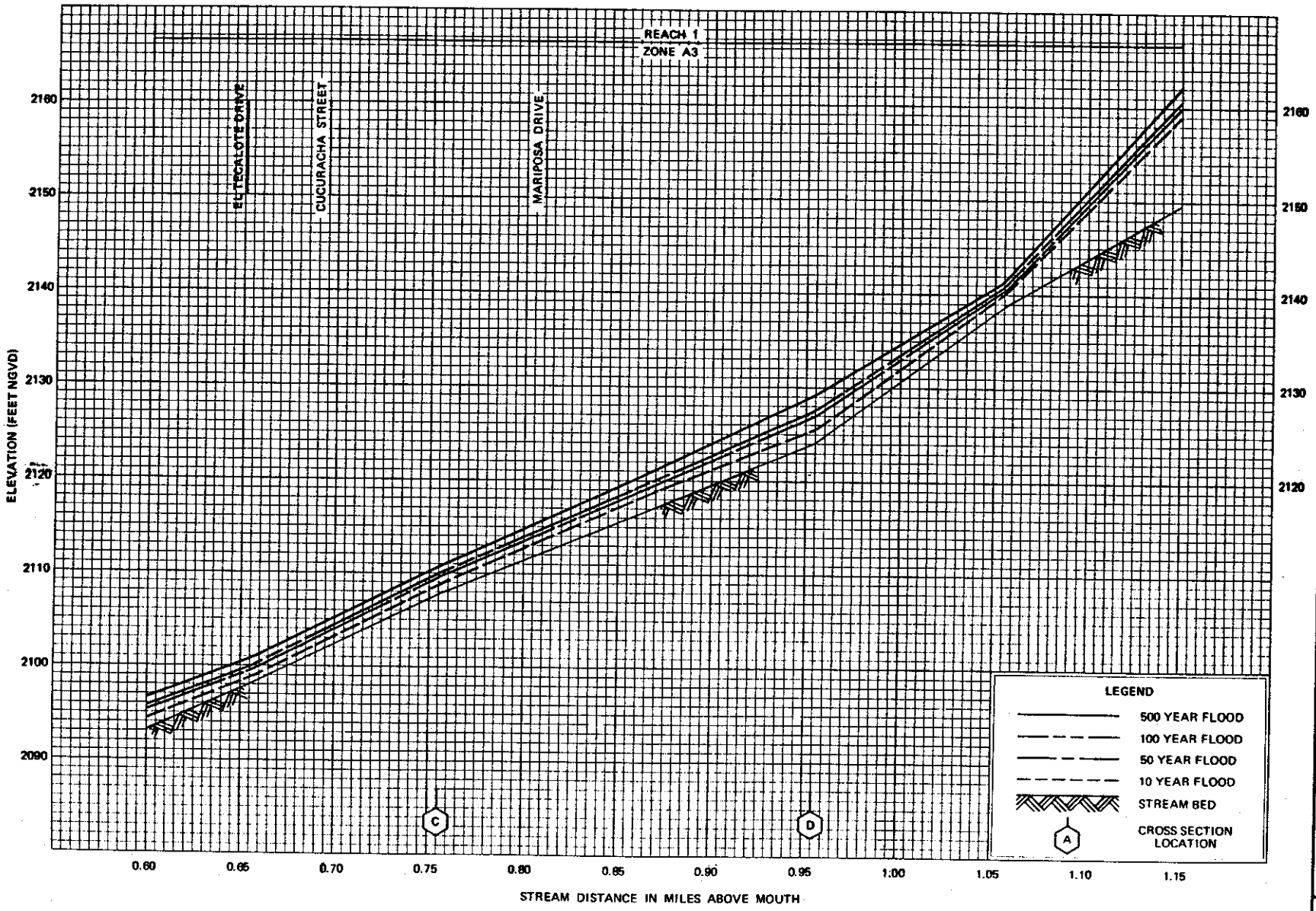


FLOOD PROFILES

CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



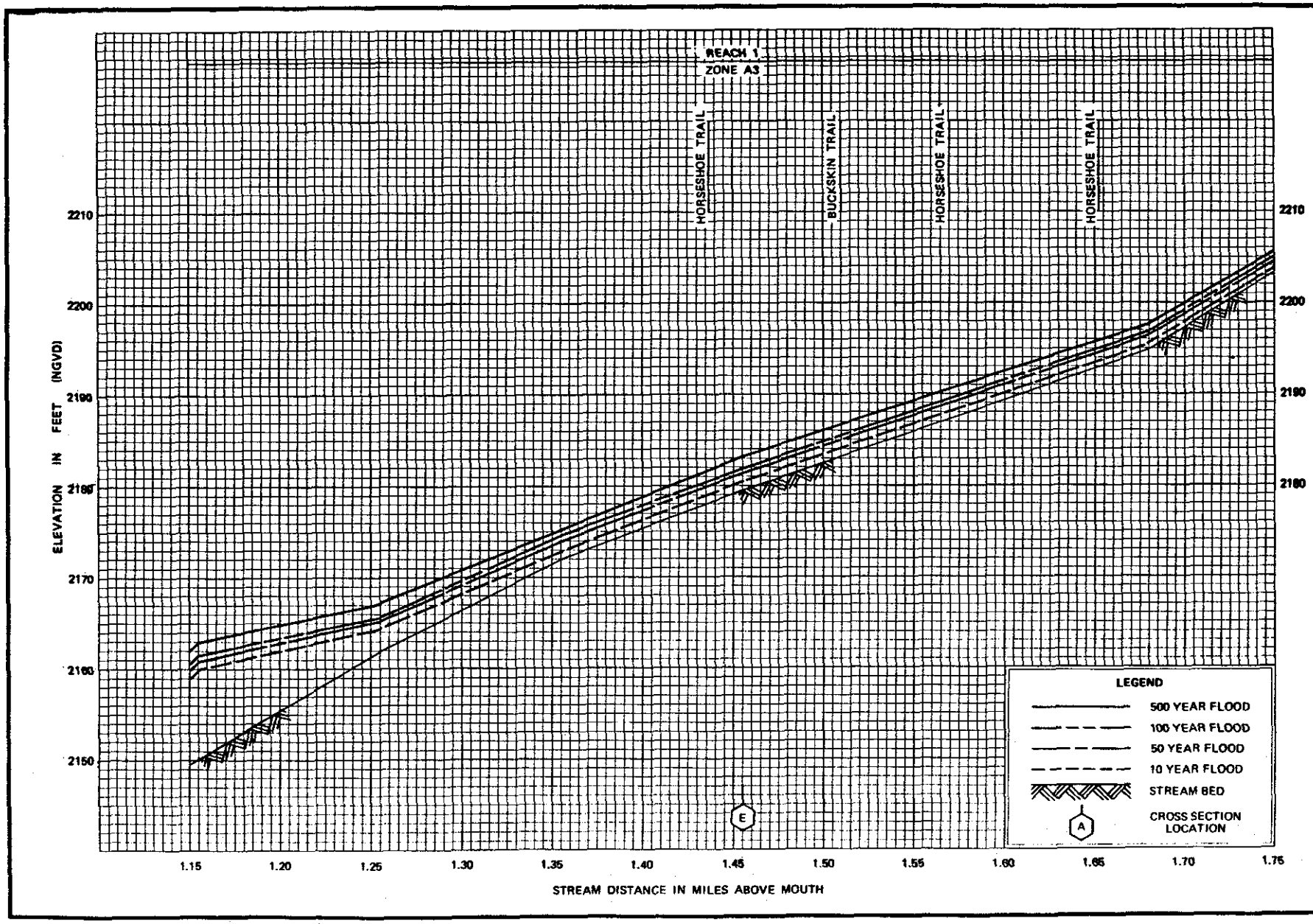
FLOOD PROFILES

CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

146P

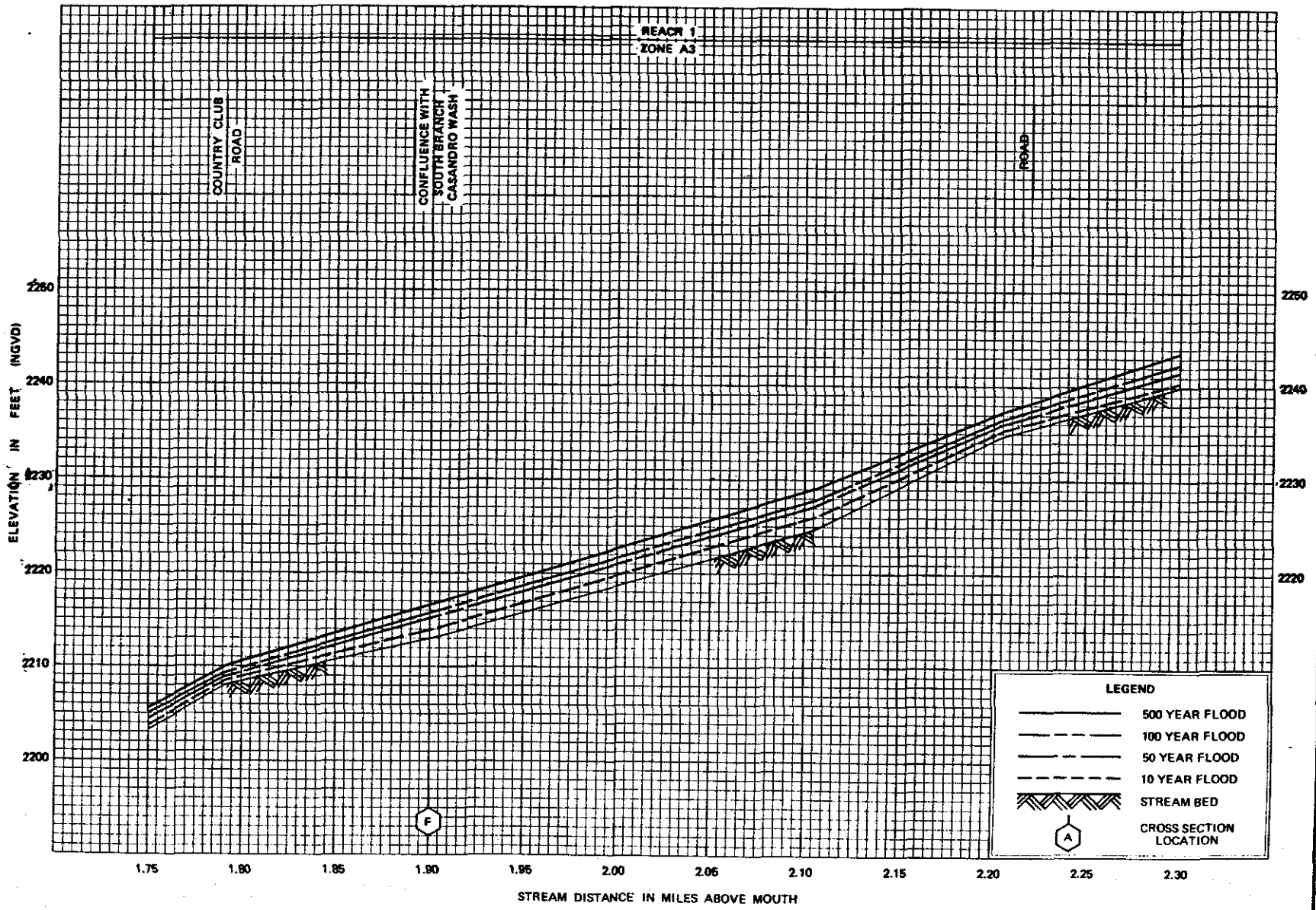


FLOOD PROFILES

CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



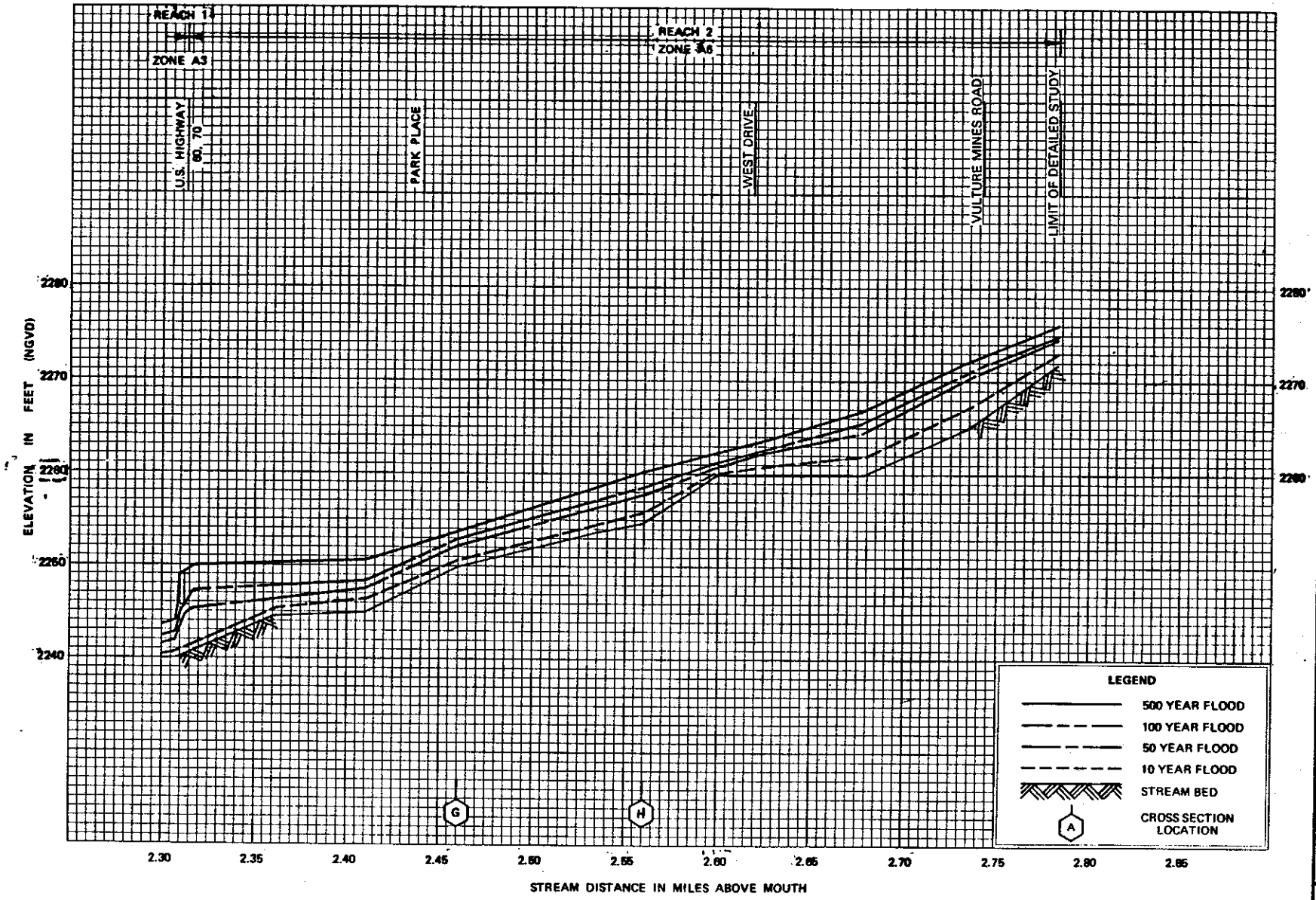
FLOOD PROFILES

CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

148P



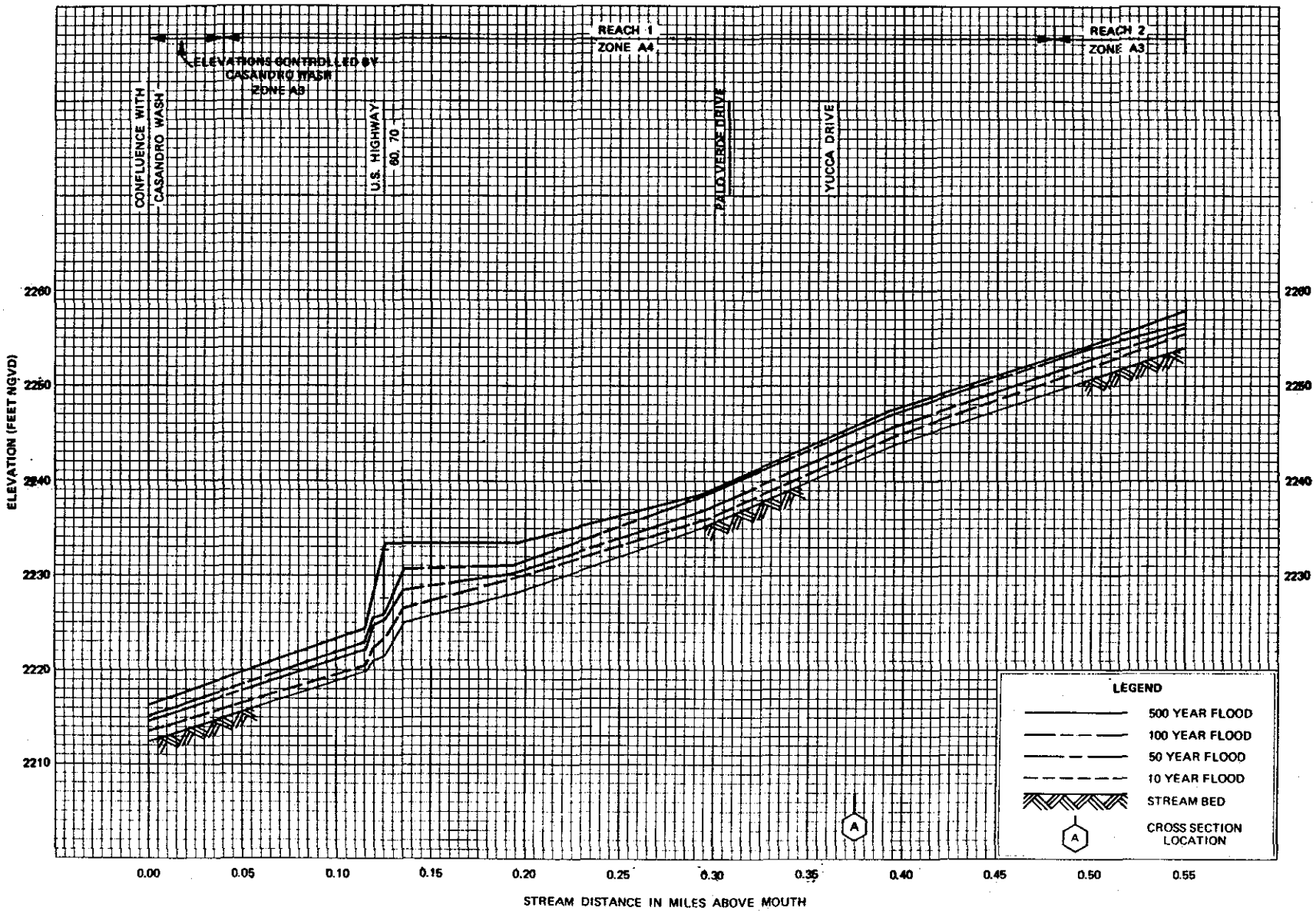
FLOOD PROFILES

CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

149P



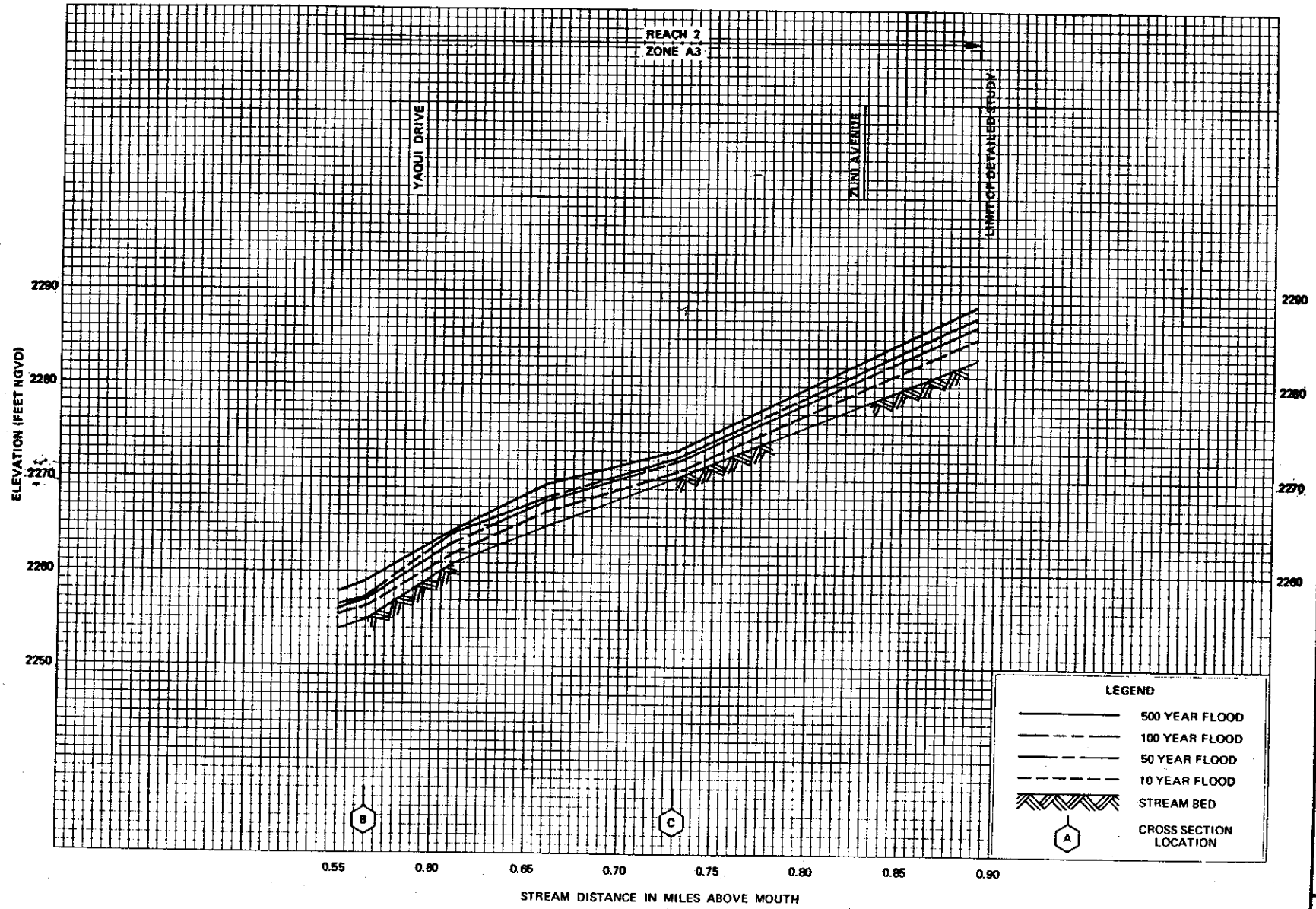
FLOOD PROFILES

SOUTH BRANCH CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

150P



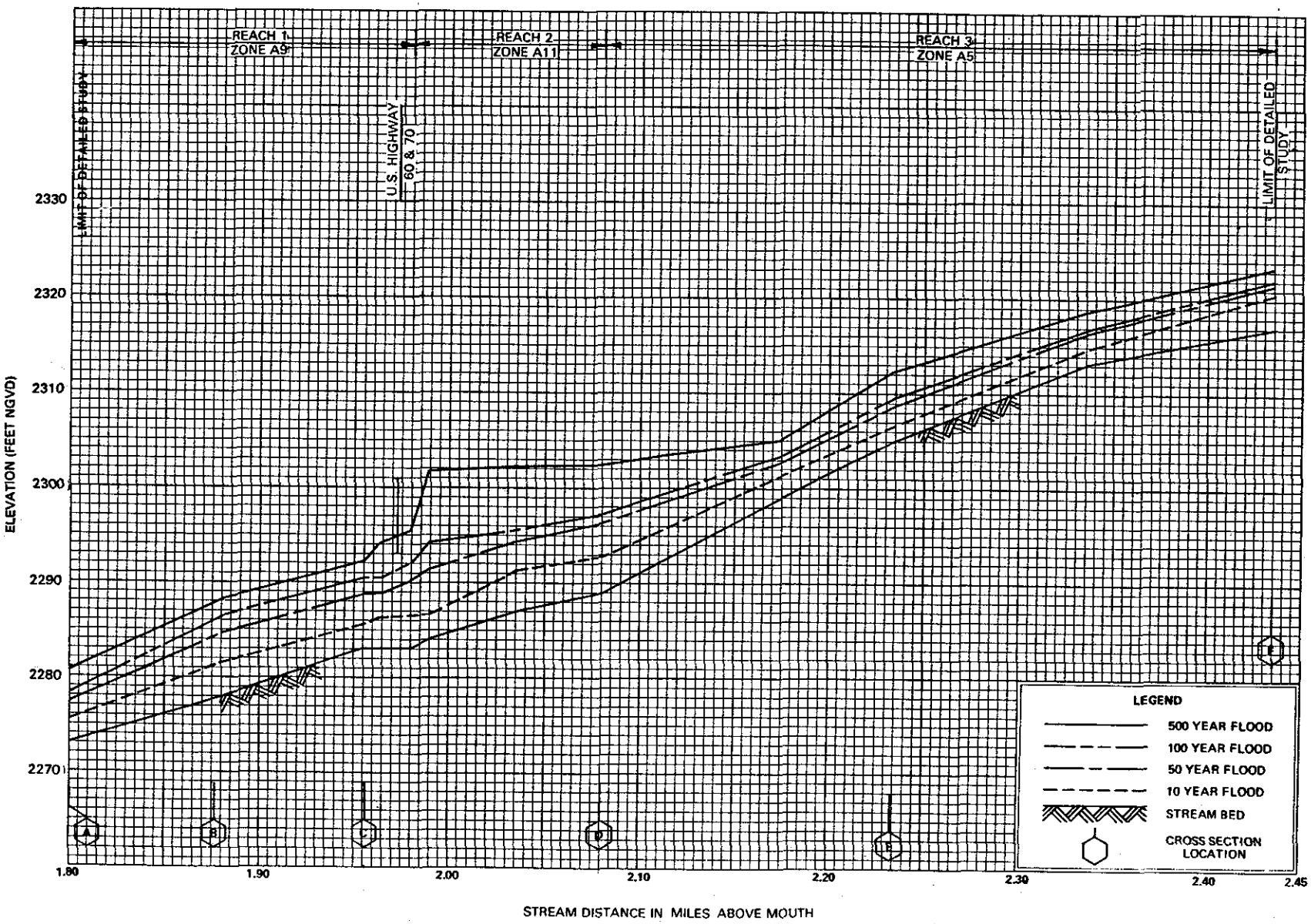
FLOOD PROFILES

SOUTH BRANCH CASANDRO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

151P



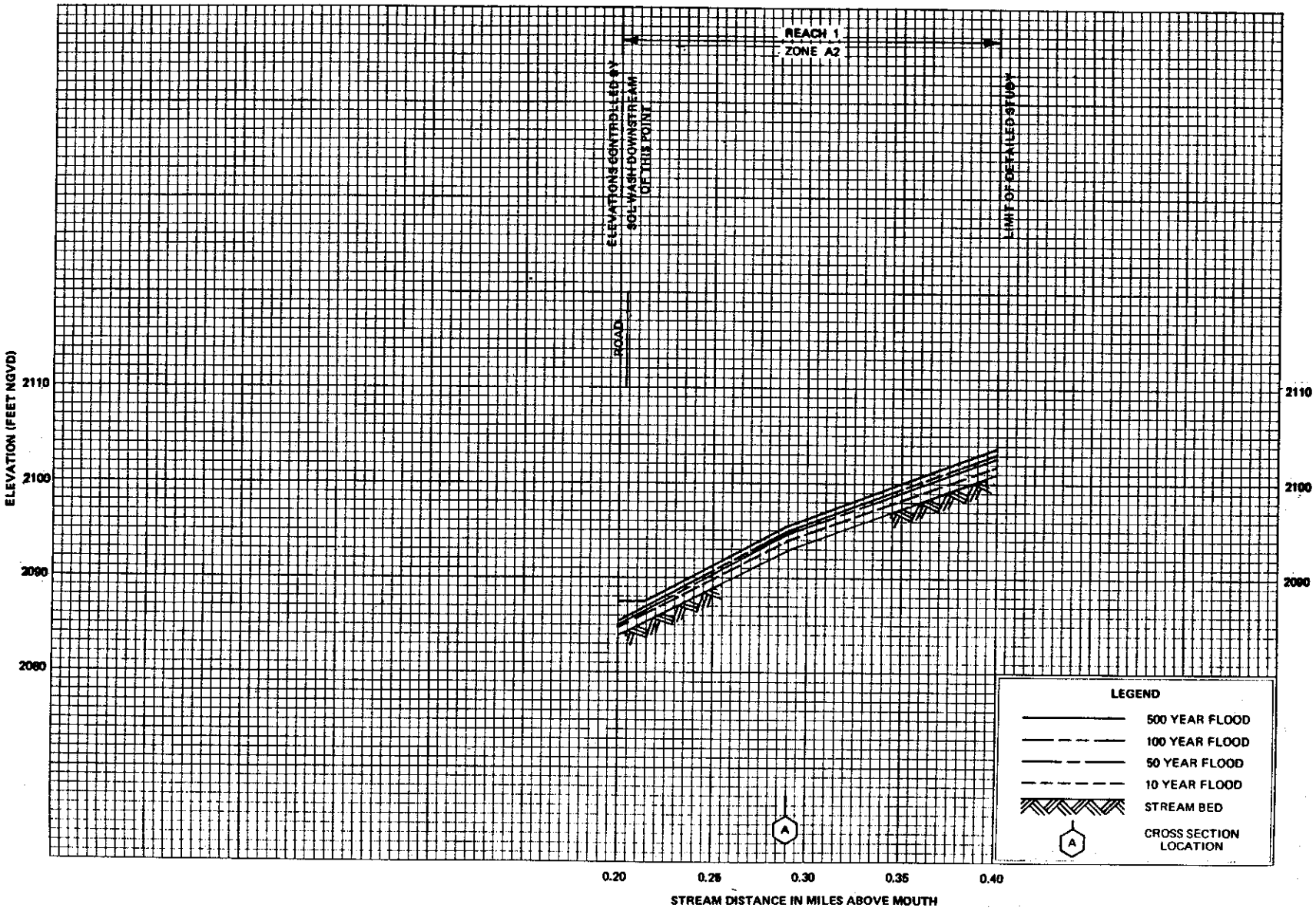
FLOOD PROFILES

FLYING "E" WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

152P

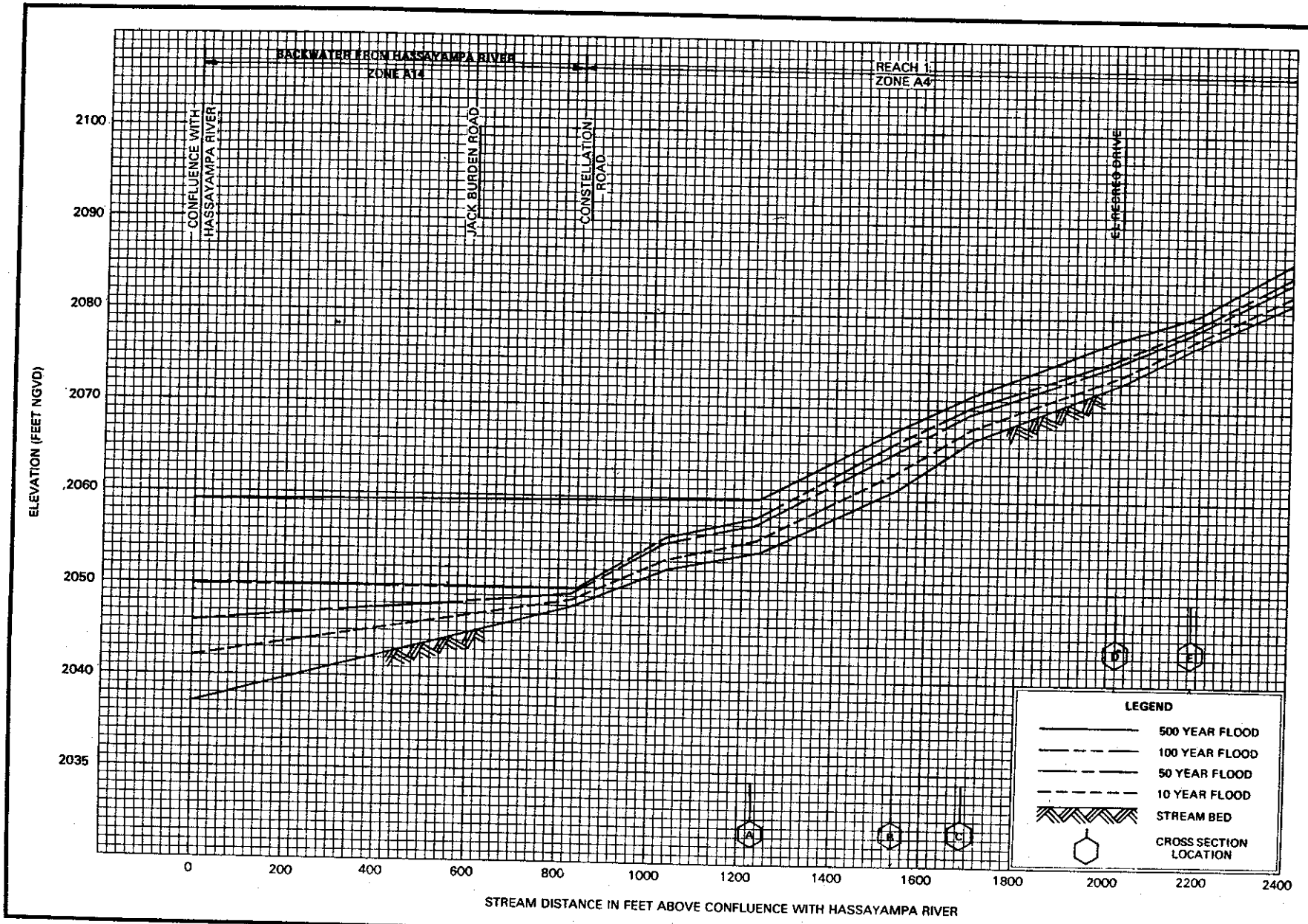


FLOOD PROFILES

HOSPITAL WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



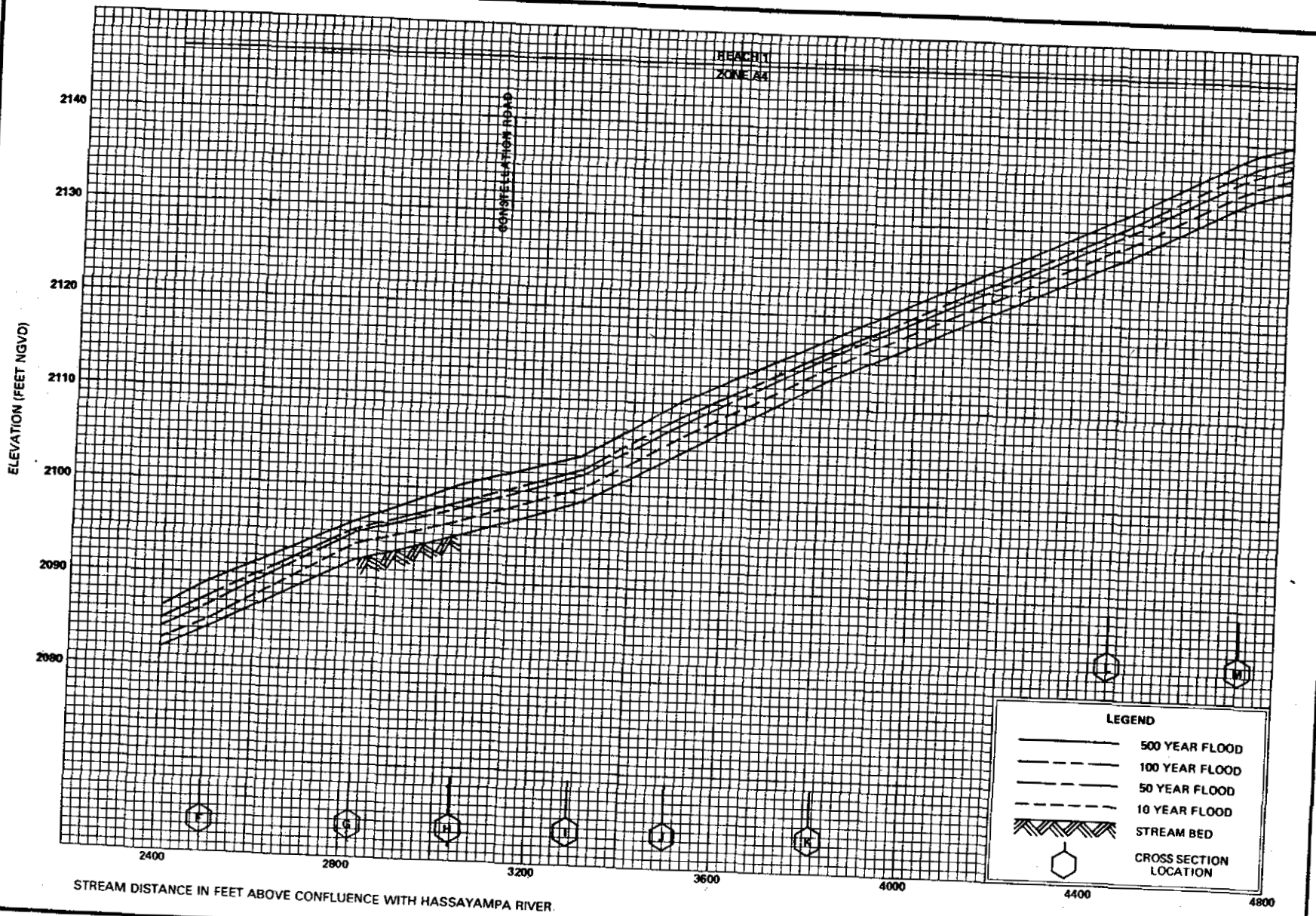
FLOOD PROFILES

POWDER HOUSE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

154P



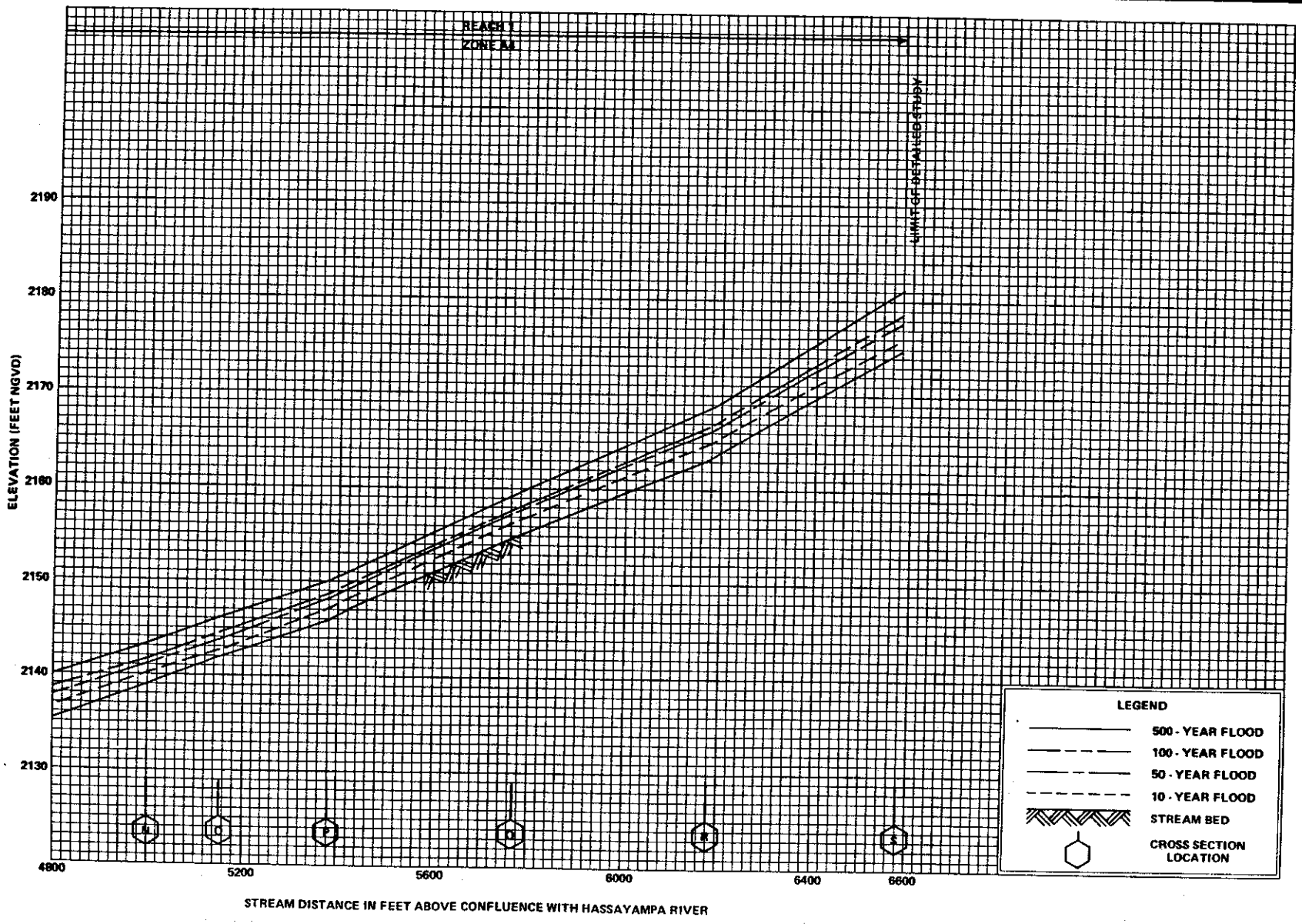
FLOOD PROFILES

POWDER HOUSE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

155P

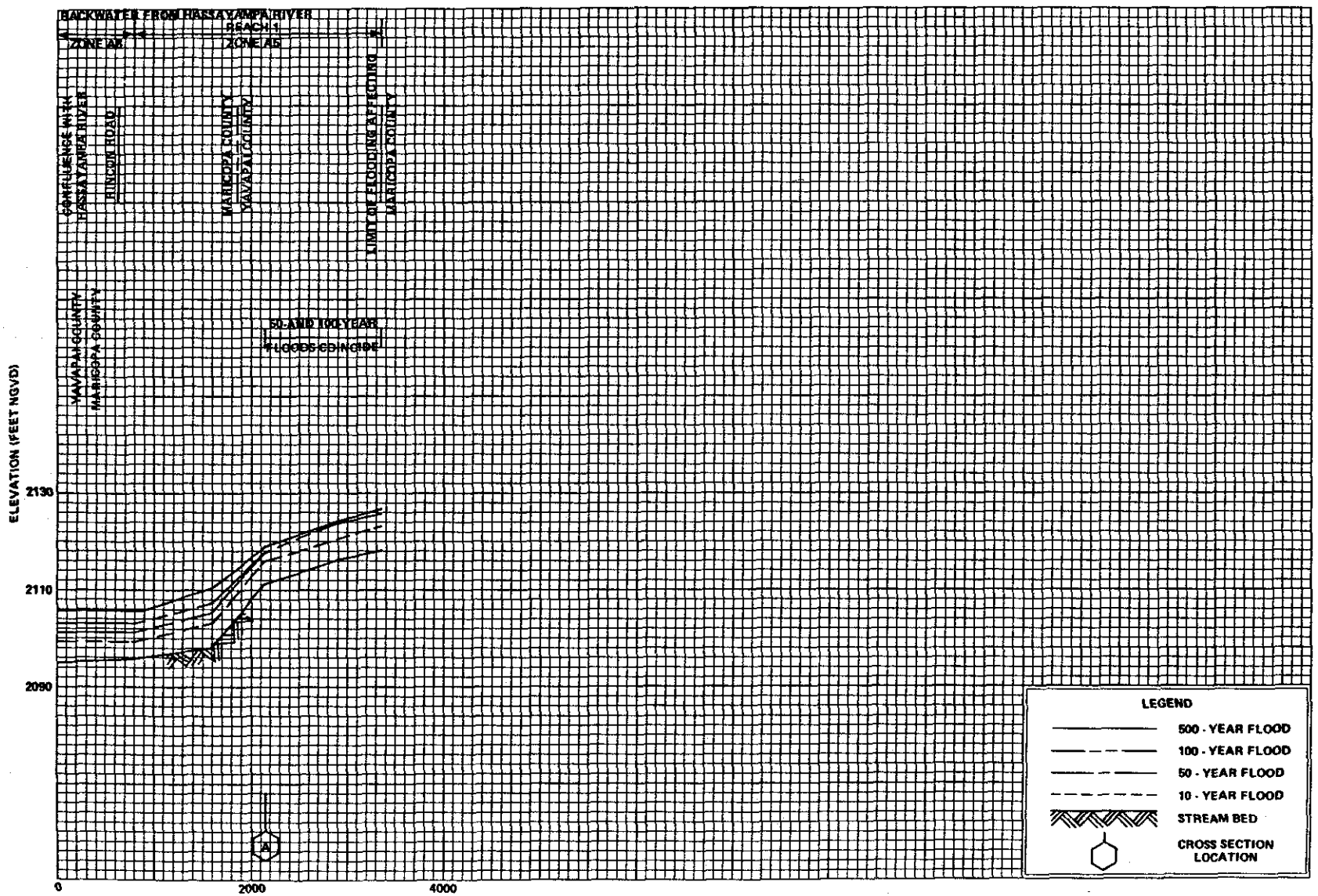


FLOOD PROFILES

POWDER HOUSE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

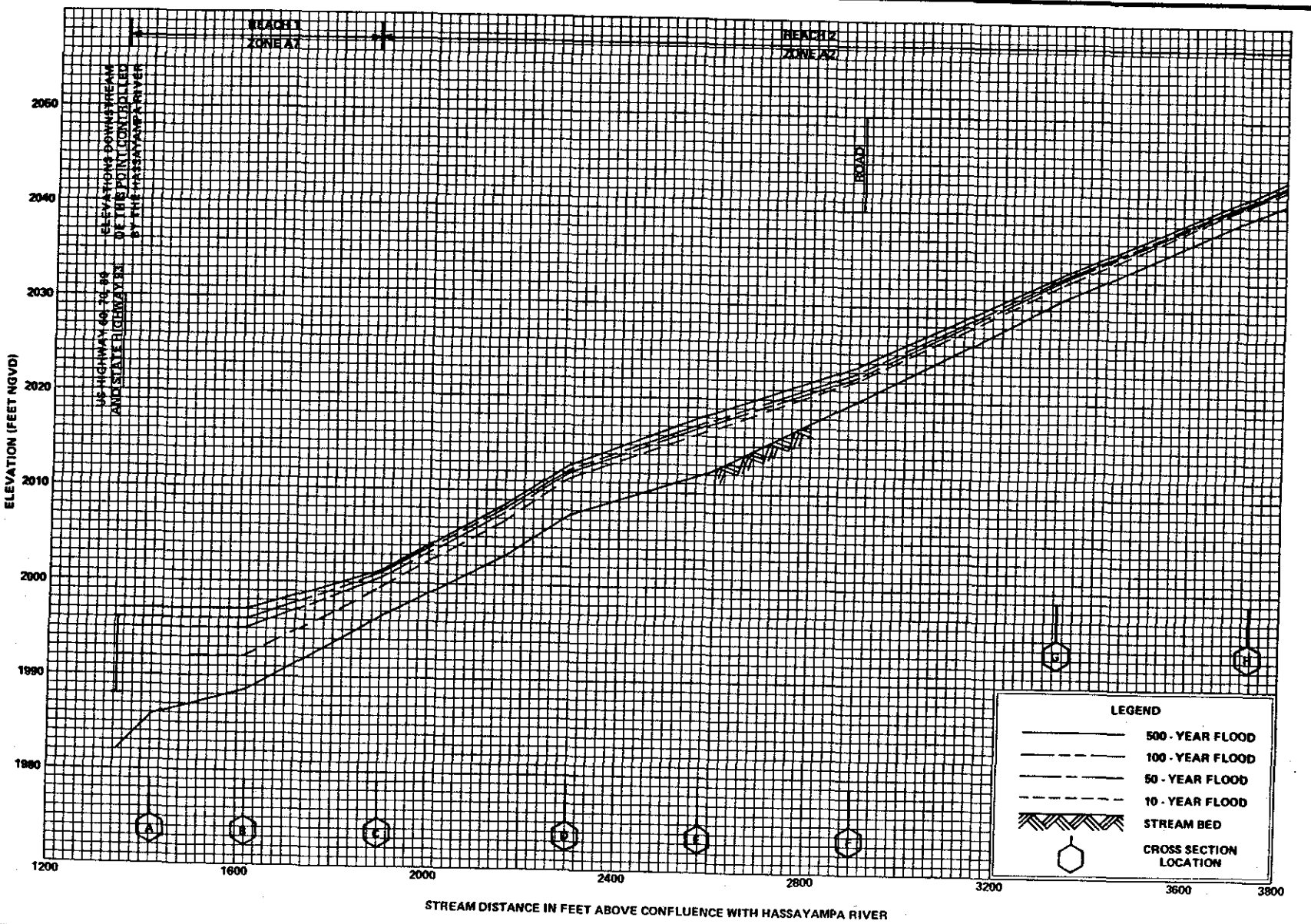


FLOOD PROFILES

MARTINEZ WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



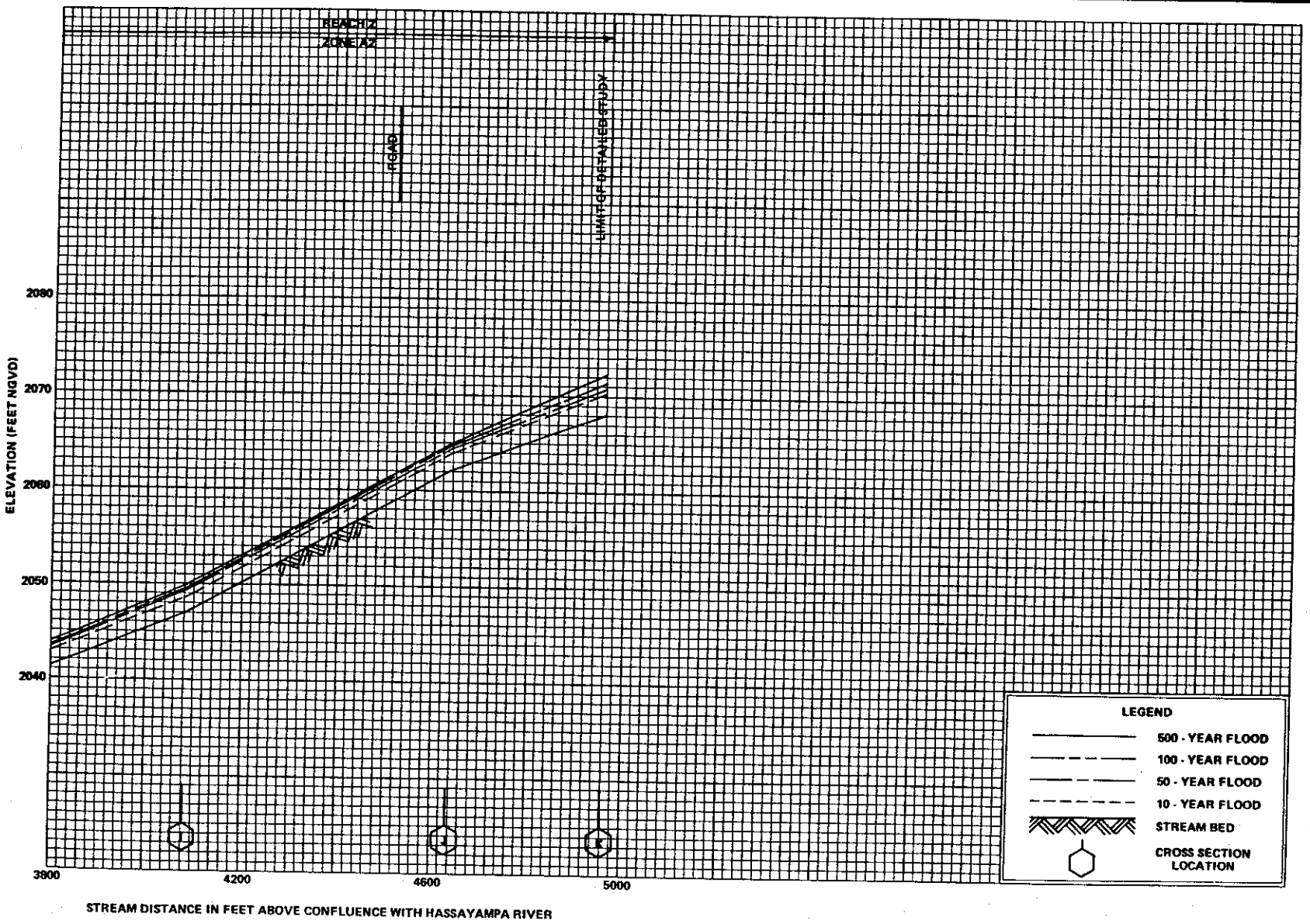
FLOOD PROFILES

MOCKINGBIRD WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

158P

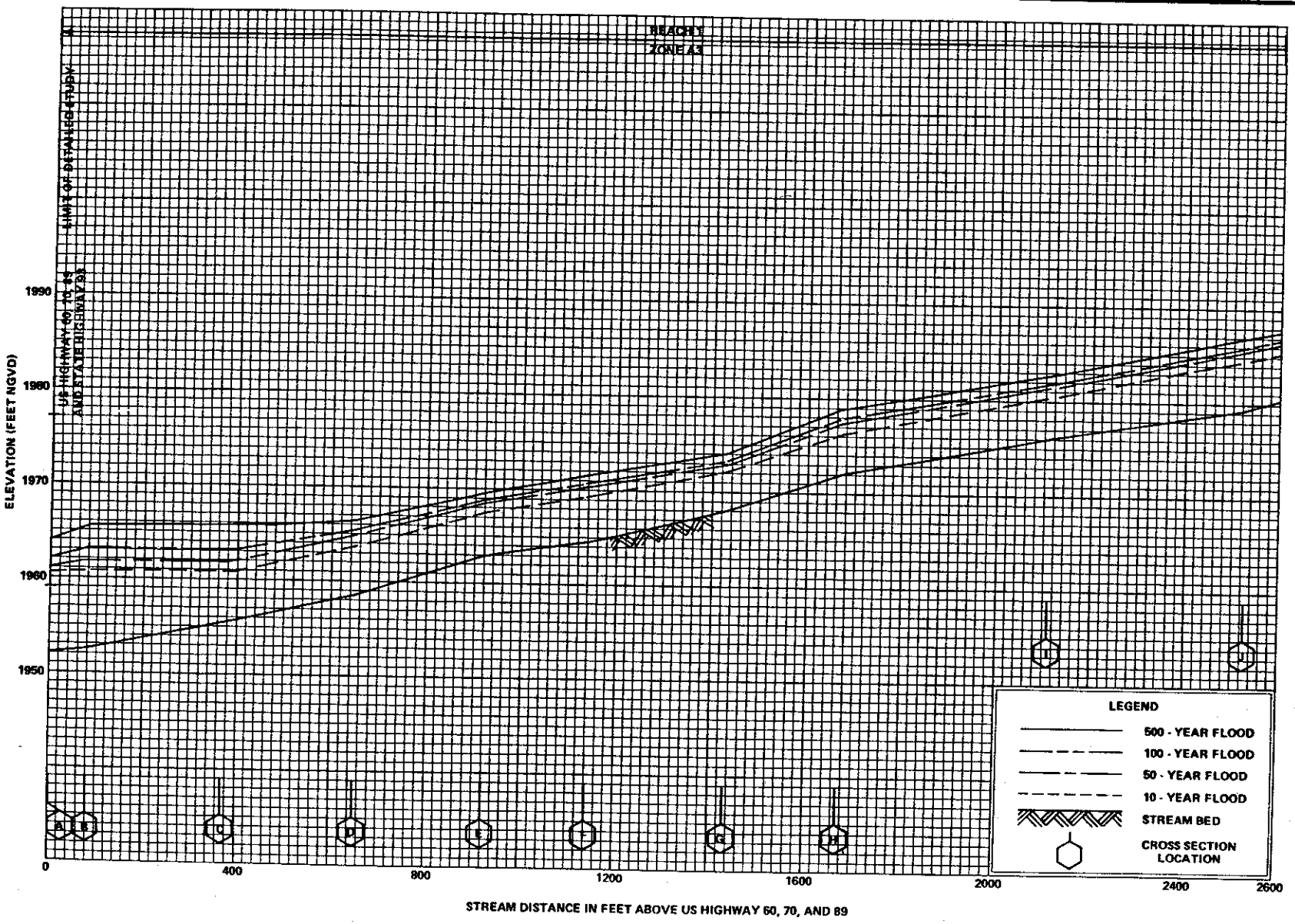


FLOOD PROFILES

MOCKINGBIRD WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



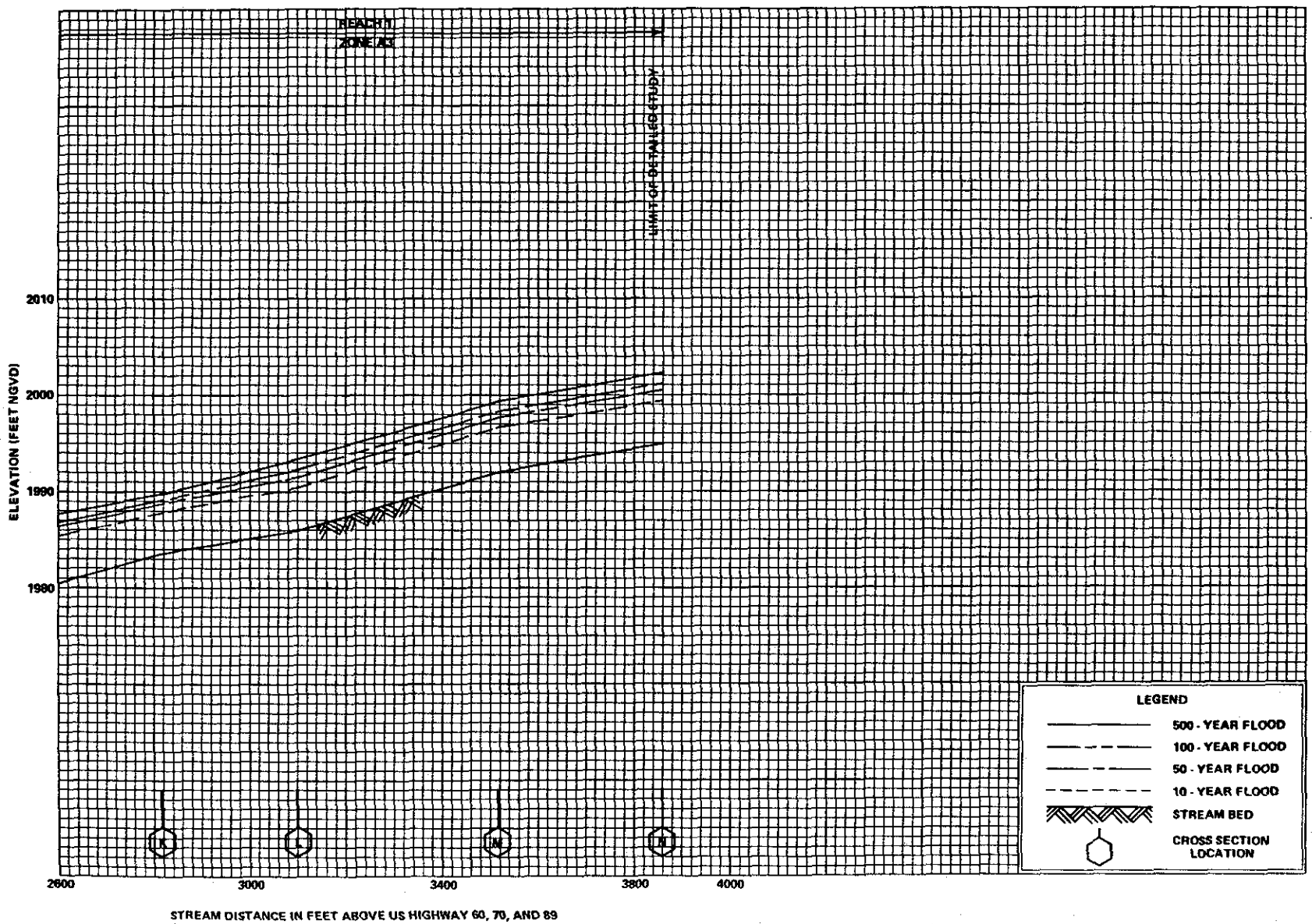
FLOOD PROFILES

LITTLE SAN DOMINGO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

160P

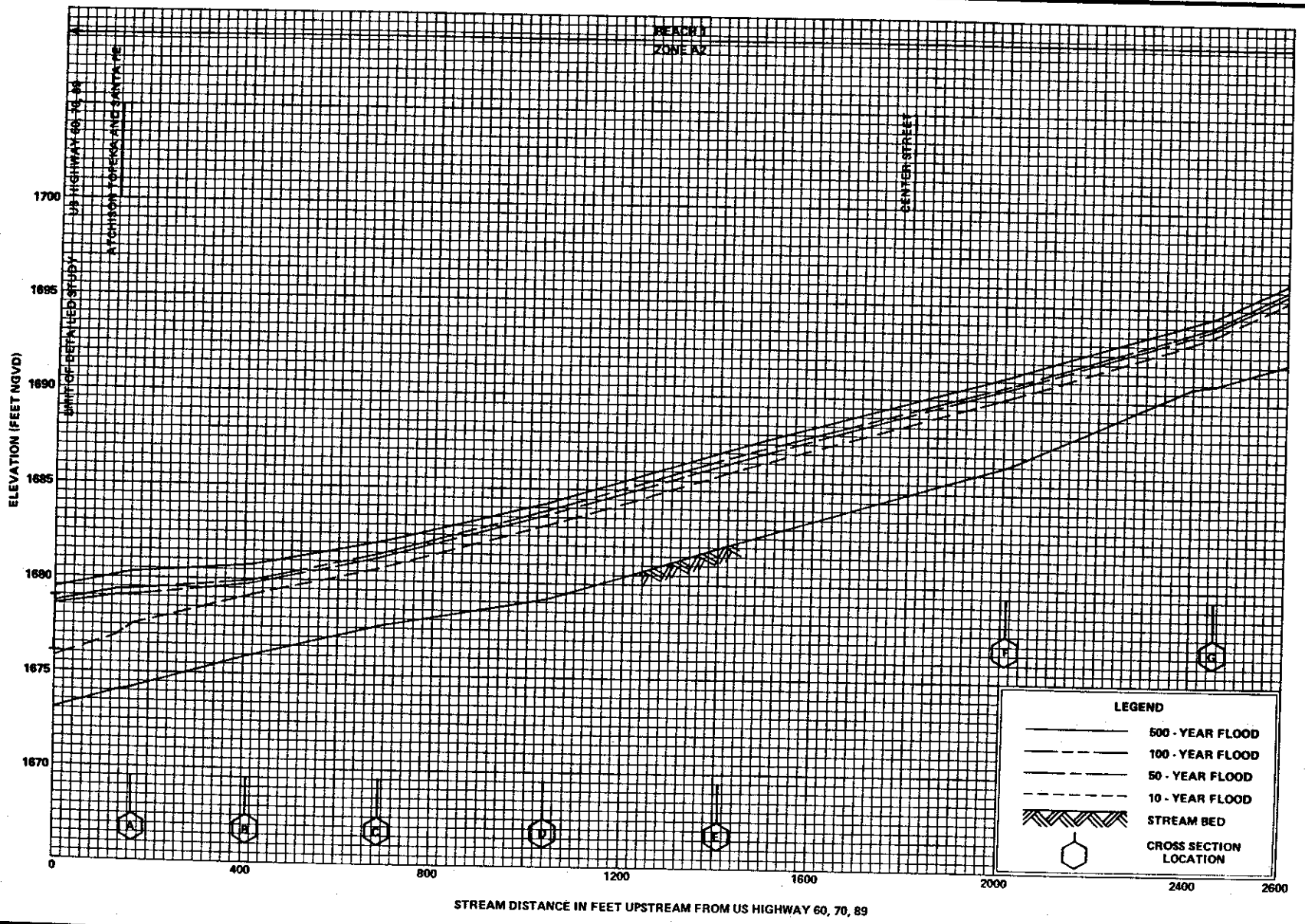


FLOOD PROFILES

LITTLE SAN DOMINGO WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

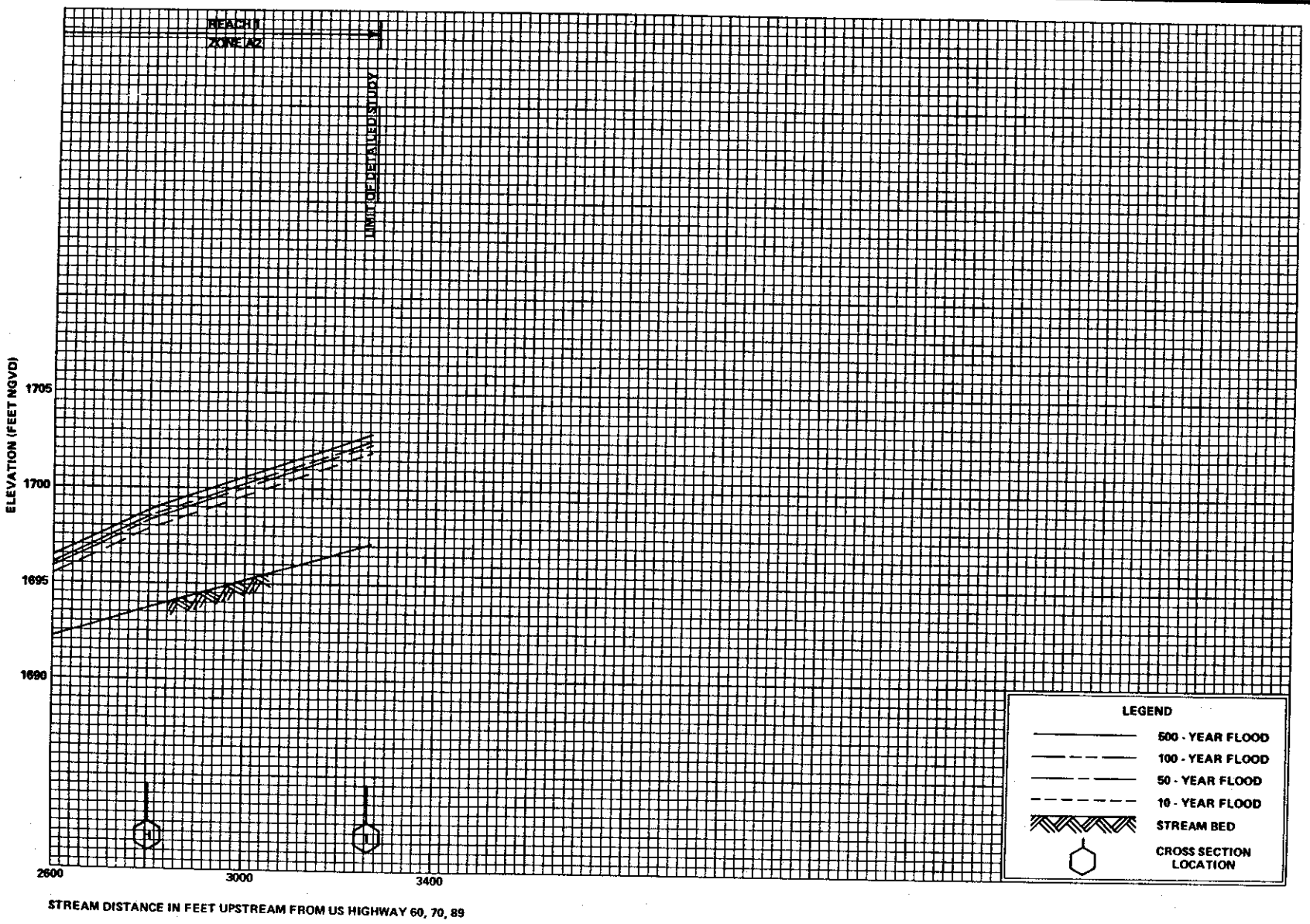


FLOOD PROFILES

WITTMANN DRAINAGE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

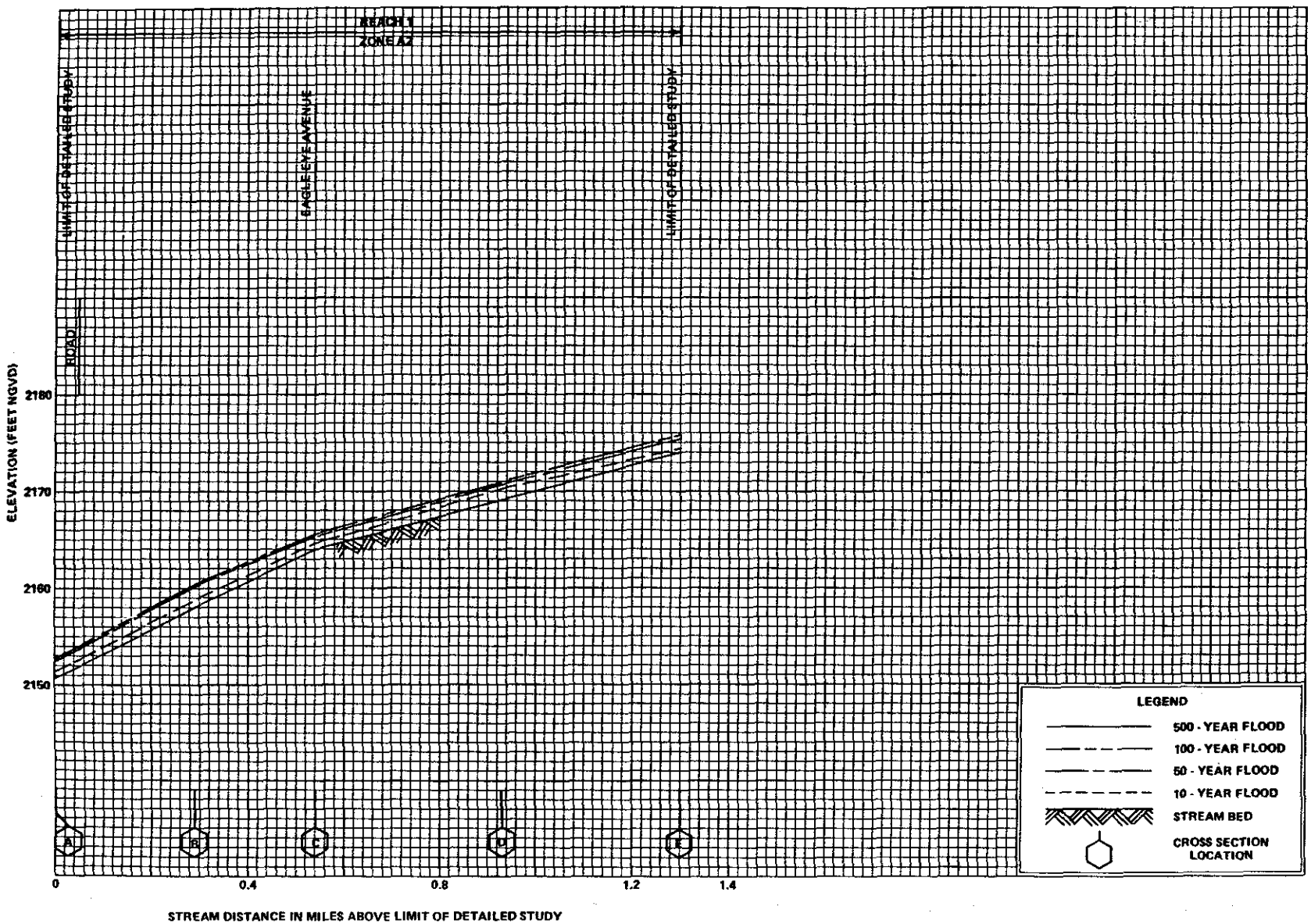


FLOOD PROFILES

WITTMANN DRAINAGE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

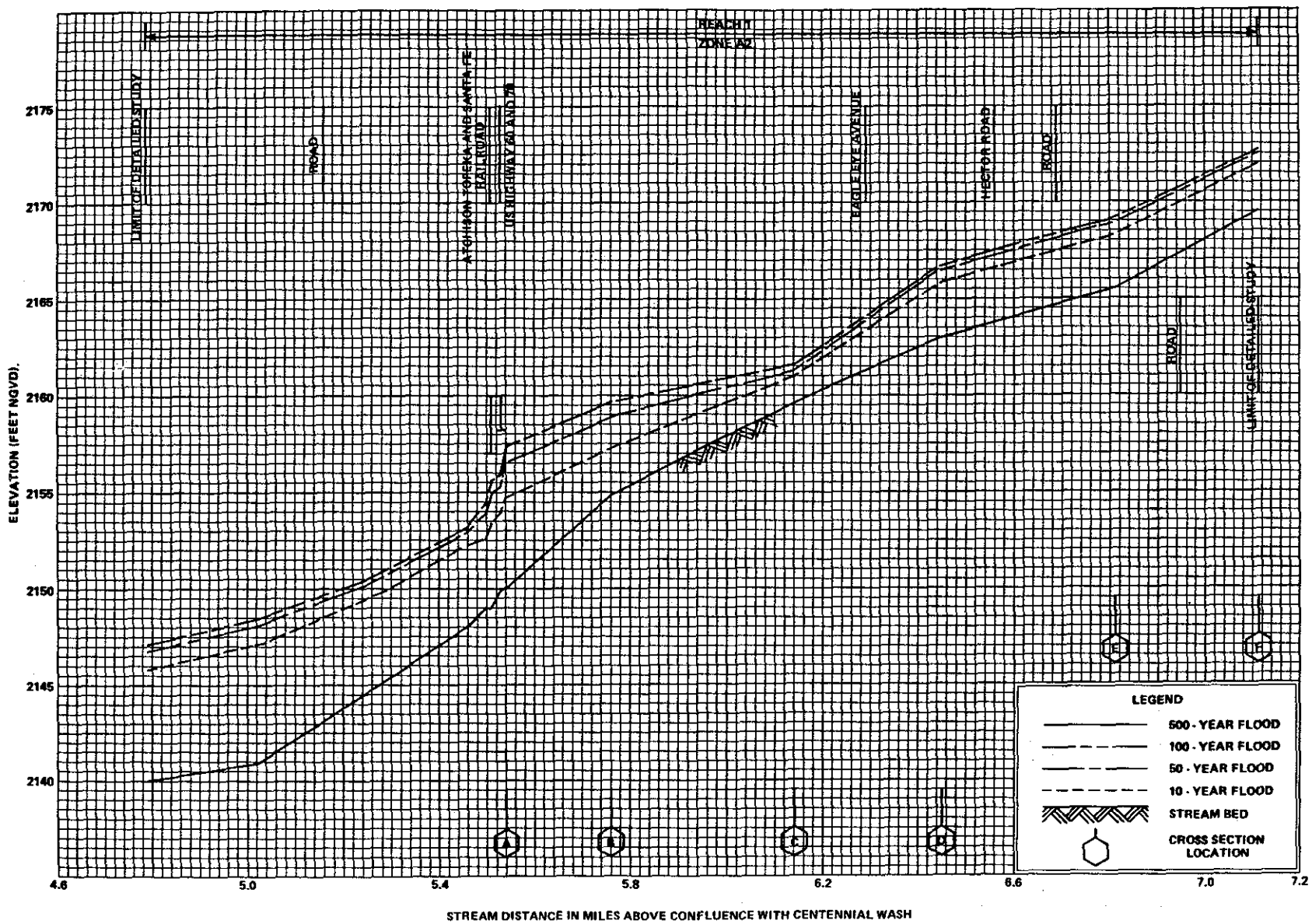


FLOOD PROFILES

AGUILA FARM CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



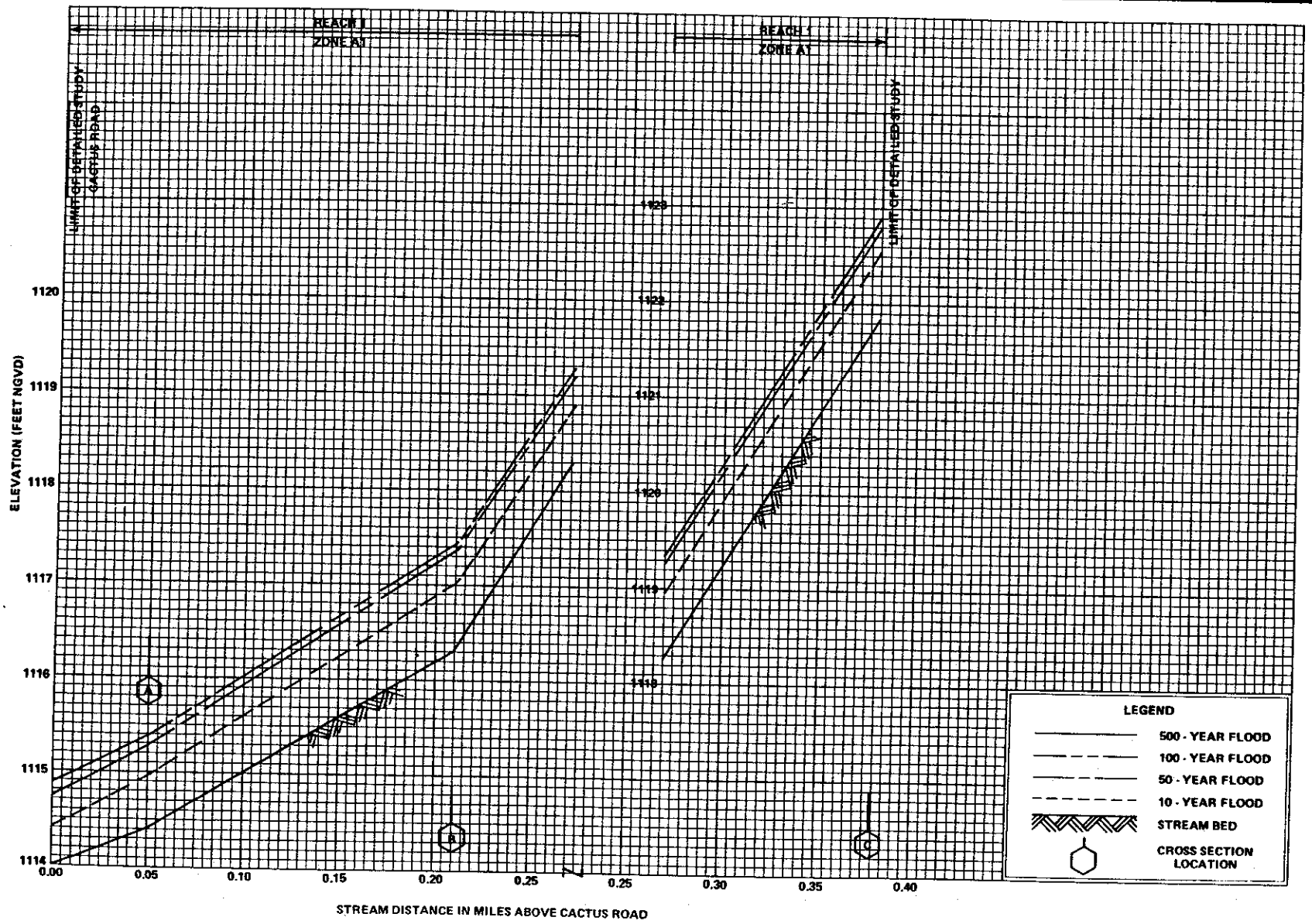
FLOOD PROFILES

GRASS WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

165P

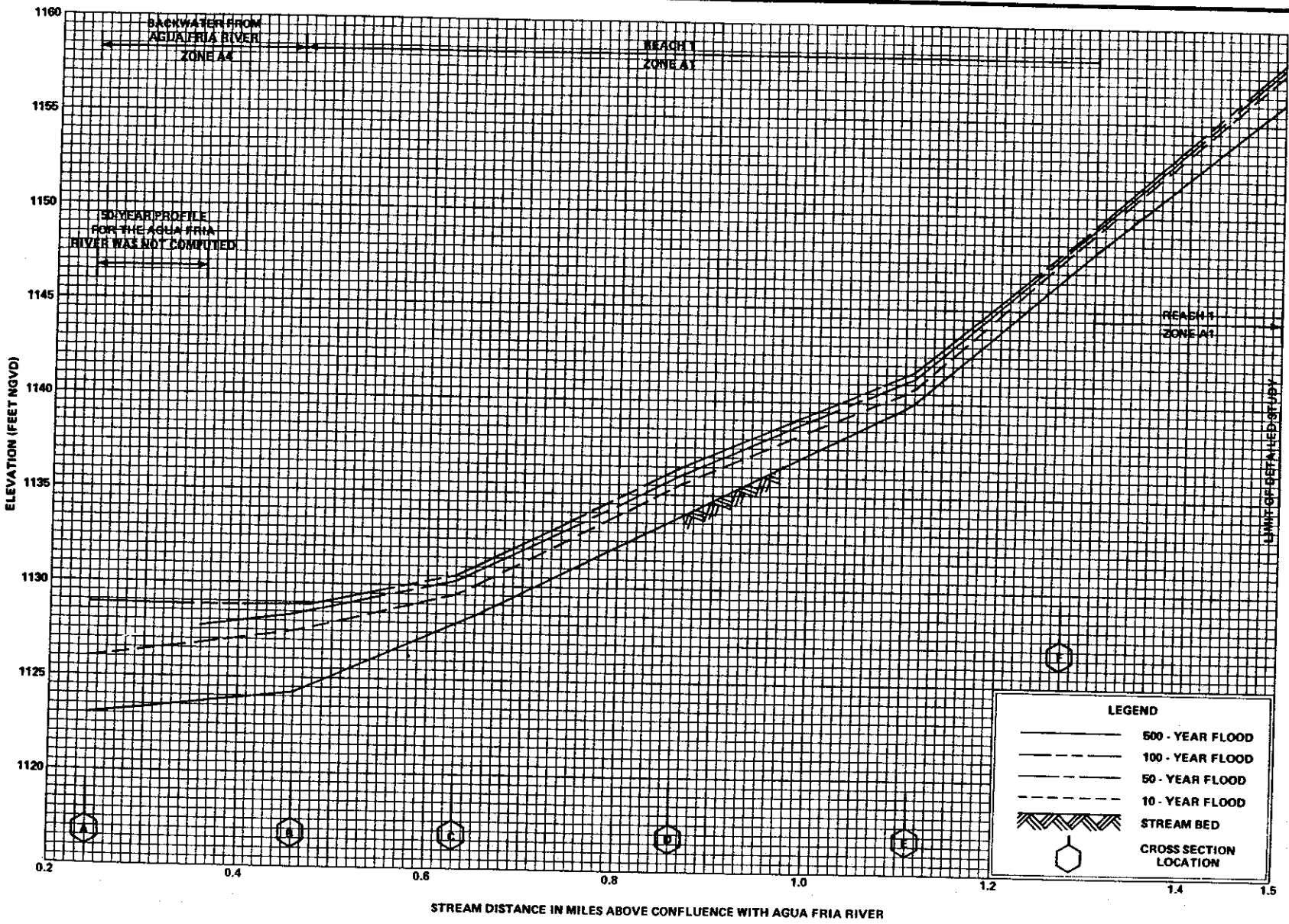


FLOOD PROFILES

LOWER EL MIRAGE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

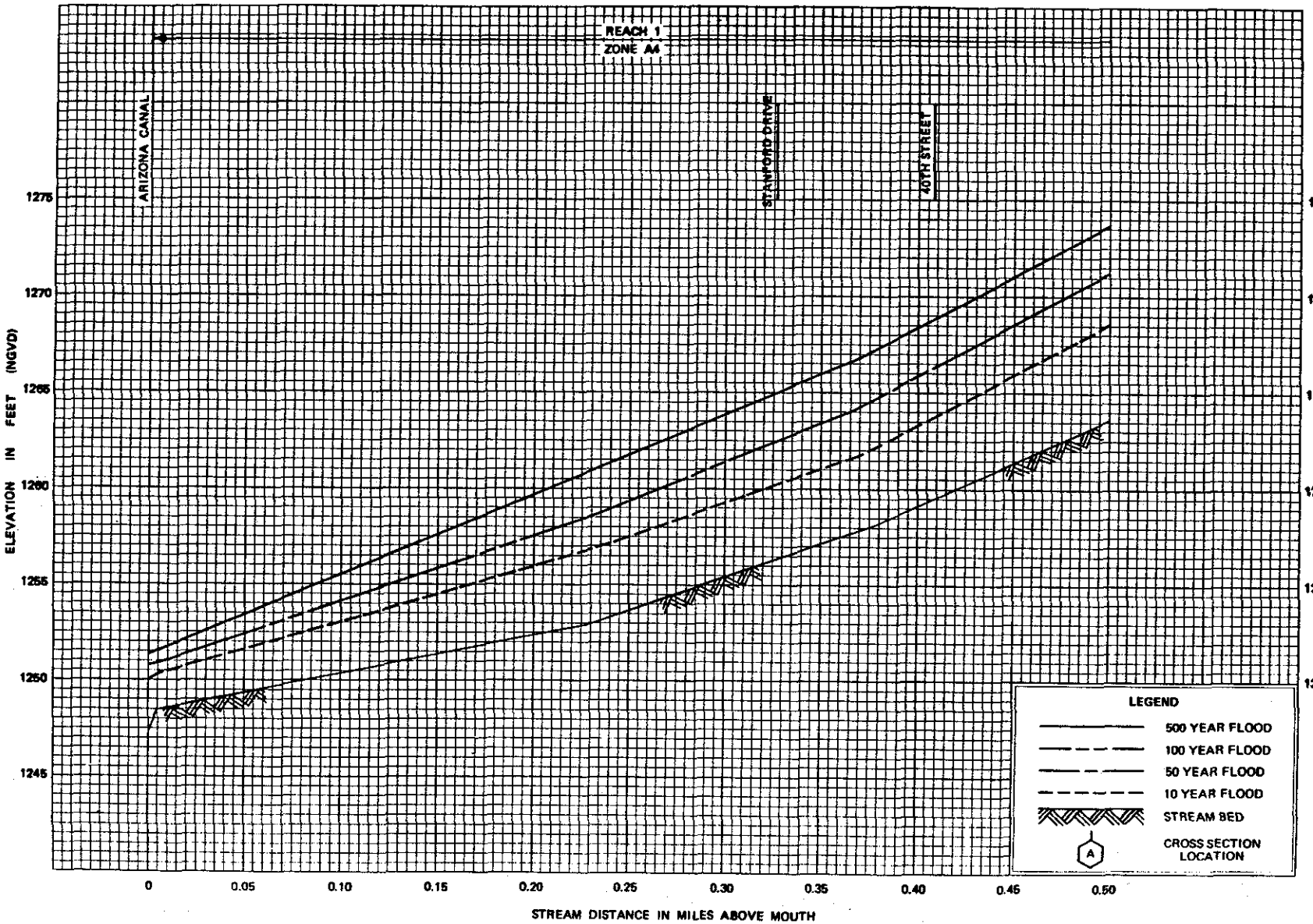


FLOOD PROFILES

ATCHISON TOPEKA & SANTA FE RAILWAY (AT EL MIRAGE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ



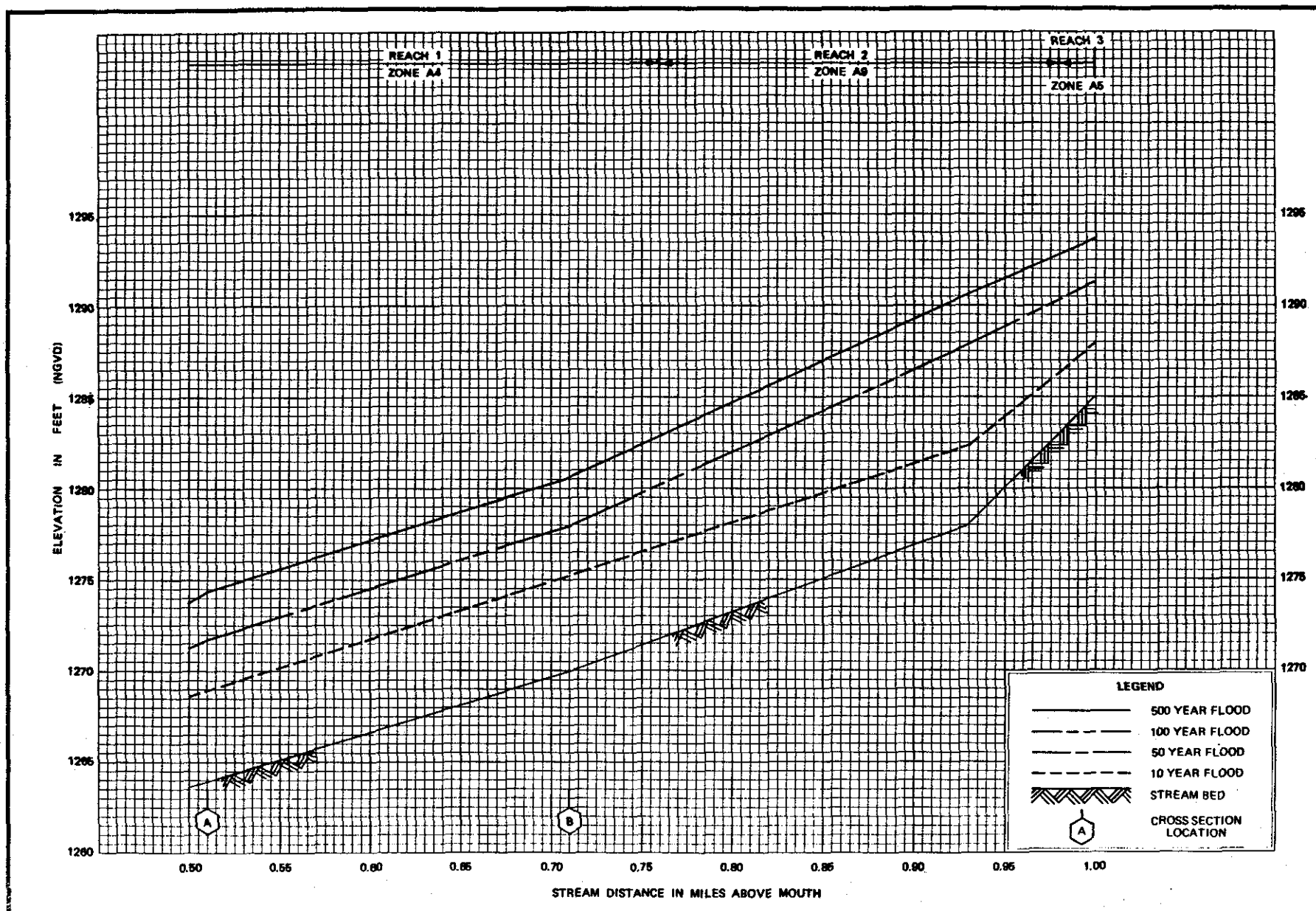
FLOOD PROFILES

ECHO CANYON WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

168P



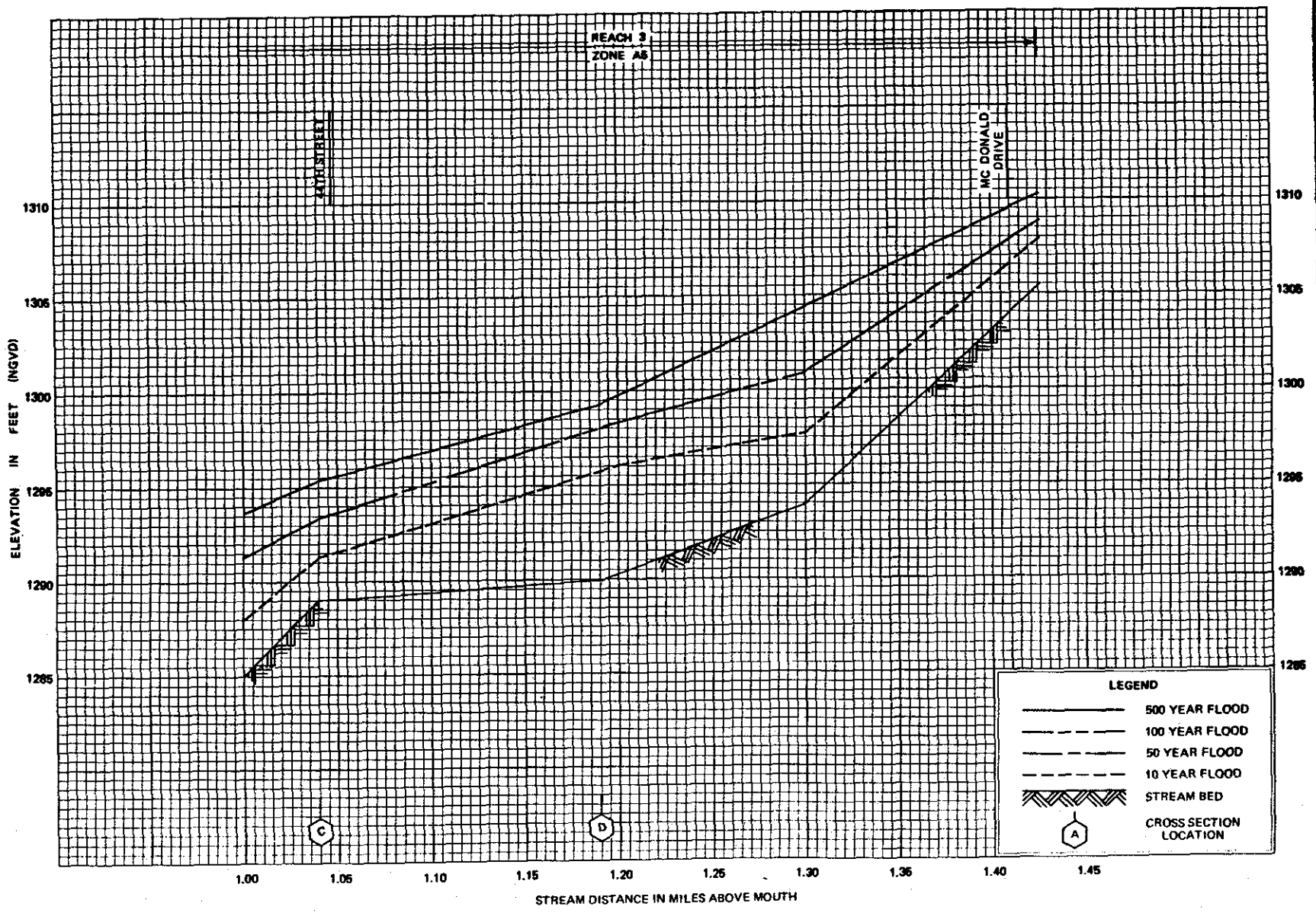
FLOOD PROFILES

ECHO CANYON WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

169P



FLOOD PROFILES

ECHO CANYON WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

170P