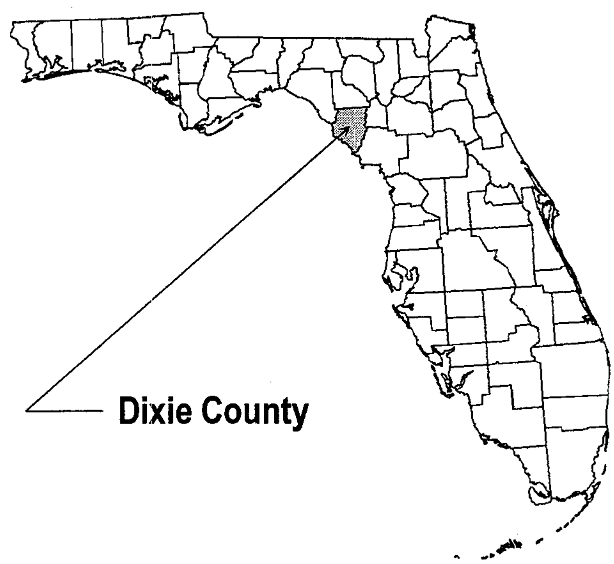
FLOOD INSURANCE STUDY

DIXIE COUNTY, FLORIDA
AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
CROSS CITY, TOWN OF	120074
DIXIE COUNTY (UNINCORPORATED AREAS)	120336
HORSESHOE BEACH, TOWN OF	120326



September 29, 2006

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
12029CV000A

NOTICE TO
FLOOD INSURANCE STUDY USERS

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

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

Initial Countywide FIS Effective Date: September 29, 2006

Revised Countywide FIS Date:

TABLE OF CONTENTS

TABLE OF CONTENTS – continued

Page

FIGURES

TABLES

EXHIBITS

FLOOD INSURANCE STUDY
DIXIE COUNTY, FLORIDA AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This countywide Flood Insurance Study (FIS) investigates the existence and severity of flood hazards in, or revises and updates previous FISs/Flood Insurance Rate Maps (FIRMs) for the geographic area of Dixie County, Florida, including: the Towns of Cross City and Horseshoe Beach, and the unincorporated areas of Dixie County (hereinafter referred to collectively as Dixie County).

This FIS aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This FIS has developed flood risk data for various areas of the county that will be used to establish actuarial flood insurance rates. This information will also be used by Dixie County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and will also be used by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

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

1.2 Authority and Acknowledgments

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

This FIS was prepared to include the unincorporated areas of, and incorporated communities within Dixie County in a countywide format. Information on the authority and acknowledgments for each jurisdiction included in this countywide FIS, as compiled from their previously printed FIS reports, is shown below.

Cross City, Town of:	the hydrologic and hydraulic analyses for the FIS dated March 16, 1982, and FIRM dated September 16, 1982, were performed by Gee & Jenson Engineers-Architects-Planners, Inc., for the Federal Emergency Management Agency (FEMA), under Contract No. H-4779. That study was completed in June 1980.

Dixie County (Unincorporated Areas):	the hydrologic and hydraulic analyses for the FIS dated May 2, 1983, and the FIRM dated November 2, 1983, were performed by Gee & Jenson Engineers-Architects-Planners, Inc., for FEMA, under Contract No. H-4779. That study was completed in February 1981.
Horseshoe Beach, Town of:	the hydrologic and hydraulic analyses for the FIRM dated November 12, 1983, were performed by Gee & Jenson Engineers-Architects-Planners, Inc., for FEMA, under Contract No. H-4779. That study was completed in January 1981.

For this countywide FIS, revised hydrologic and hydraulic analyses were prepared for FEMA by Dewberry & Davis LLC, as a subcontractor to URS Corporation under contract with the Suwannee River Water Management District (SRWMD), a FEMA Cooperating Technical Partner (CTP).

The digital base map files were derived from U.S. Geological Survey (USGS) Digital Orthophoto Quadrangles, produced at a scale of 1:12,000 from photography dated 2004.

The coordinate system used for the production of the digital FIRM is State Plane in the Florida North projection zone 0903, referenced to the North American Datum of 1983.

1.3 Coordination

The dates of the initial and preliminary or final CCO meetings held for Dixie County and the incorporated communities within its boundaries are shown in Table 1, "Initial and Final or PDCC Meetings".

TABLE 1 – INITIAL AND PRELIMINARY OR FINAL CCO MEETINGS

Community	For FIS Dated	Initial CCO Date	Preliminary or Final CCO Date
Cross City, Town of	March 16, 1982	May 4, 1978	May 14, 1981
Dixie County (Unincorporated Areas)	May 2, 1983	May 4, 1978	December 9, 1982
Horseshoe Beach, Town of	May 2, 1983	May 4, 1978	December 9, 1982

For this countywide FIS, a final meeting was held on November 30, 2005, and was attended by representatives of Dixie County, SRWMD, and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Dixie County, Florida.

As part of this countywide FIS, the Suwannee River was restudied from US 19 upstream to the confluence of the Santa Fe River. Limits of detailed study are indicated on the Flood Profiles (Exhibit 1) and on the FIRM (Exhibit 2).

This FIS also incorporates the determination of letters issued by FEMA resulting in map changes (Letters of Map Revisions [LOMR], Letters of Map Revision – based on Fill [LOMR-F], and Letter of Map Amendments [LOMA]. Previously issued Letter of Map Changes (LOMC) were reviewed countywide and the determination none could be incorporated into the FIRM due to scale limitations. Therefore, all previously issued LOMC in Gilchrist County will be reissued on the effective date of September 29, 2006, for the revised countywide FIRMs.

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

All or portions of numerous flooding sources in the county were studied by approximate methods. 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, the SRWMD, and Dixie County.

2.2 Community Description

Located on the North Florida Gulf Coast, Dixie County lies approximately 90 miles south of Tallahassee and 100 miles north of Tampa. It is bounded on the northwest by Taylor County, on the north by Lafayette County, and on the east by Gilchrist and Levy Counties. Major communities are Cross City, which is located in the central portion of the county and Horseshoe Beach on the Gulf Coast.

Dixie County encompasses an area of approximately 692 square miles, most of which is either in wildlife management preserve or owned by the Buckeye Cellulose Corporation and used for commercial logging purposes.

According to the 2000 Census, the population of Dixie County was 13,827. There was a 30.6-percent increase in population from the year 1990 to 2000.

The primary east-west artery serving the county is State Highway 55 (U.S. 19, 98, 27A), which provides interconnection to most of the coastal counties in the area.

County Road 349 and 351 are the major north-south roadways. County Routes 361 and 349 are other principal roadways.

Residential and commercial development is centered around Cross City with the coastal areas around Horseshoe Beach also being populated. The major industry in the county is centered around commercial logging and the manufacturing of cellulose base products.

The climate in Dixie County is subtropical with the mean annual temperature in the upper 60s and average winter temperatures varying between 50 and 60 degrees Fahrenheit. Temperatures in the summer months average in the low 80s, being moderated by sea breezes and frequent thunderstorms. Rainfall averages about 61 inches annually with the majority of the accumulation in July and September. Winds are generally southerly in summer months and northerly in winter months (National Oceanic and Atmospheric Administration, 1978).

The terrain of the county is generally low in elevation sloping gently from the large poorly drained swampy areas of elevations below 10 feet National Geodetic Vertical Datum (NGVD) to higher areas in the northern portion of the county that reach elevations approaching 60 feet NGVD.

The Steinhatchee River, which flows southwest forming the northwest boundary of the county, is approximately 30 miles in length and extends from the interior of Lafayette County to Deadman Bay.

The Suwannee River, which flows in a southerly direction, forms the eastern boundary of the county. The river originates in the interior of Georgia and extends approximately 220 miles to the Gulf of Mexico.

2.3 Principal Flood Problems

General flooding in Dixie County results from periods of intense rainfall producing ponding and sheet-runoff in the low, poorly drained areas. The floodplains of the Suwannee and Steinhatchee Rivers are also subject to flooding during high river stages. Coastal areas are subject to flooding and wave action associated with hurricanes and tropical storms.

The eastern portion of the county lies within the floodplains of the Suwannee River and has been subjected to several historical floods. Notable flooding in this area occurred in 1948, 1959, and 1973 from storms which USGS gage records at Wilcox, Florida, indicated had a magnitude that would occur on the average once in 200, 14, and 33 years, respectively (200-, 14-, and 33-year recurrence intervals).

The northwestern portion of the county lies within the floodplain of the Steinhatchee River, which has also been subjected to historical flooding. The most remembered of these floods occurred in September of 1964, when the rainfall associated with Hurricane Dora caused the banks to be overtopped. Water approximately one foot deep swept around both sides of the State Route 358 bridge at Steinhatchee.

Discharge records at the USGS gage near Cross City, Florida, indicated the recurrence interval for this storm to be in excess of 200 years. This flooding was the highest seen by any of the older residents along the river.

Coastal areas are subject to flooding and wave action resulting from hurricanes and tropical storms. The Suwannee and Steinhatchee Rivers are also a source of flooding during periods of heavy rainfall. Other low-lying, poorly drained areas in the county are subject to rainfall ponding.

Records of past coastal flooding in this area have been limited, primarily because of the undeveloped nature of the shoreline areas. However, Hurricane Alma in 1966 and Hurricane Agnes in 1972 did cause flooding of the low-lying areas in the region.

Recent flooding occurred during the spring of 1978, particularly in the northwest and southwest portions of the Town of Cross City. The local recording station (Cross City 2 WNW) indicated a total precipitation of 10 inches of rainfall during the 24-hour period of May 4, 1978, which is estimated to be about an 80-year precipitation event (an event expected to occur once in 80 years on the average).

The scope of this study does not include consideration of flooding caused by local drainage problems such as inadequate culvert sizes, obstructions, and the like.

2.4 Flood Protection Measures

Dixie County does not have any flood protection measures designed and constructed specifically for that purpose. However, some resistance to coastal storm surge flooding will result as a secondary benefit of the highways and logging trails along the shoreline areas.

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 FIS. 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 floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood 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 FIS. 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 the flooding sources studied in detail affecting the county.

Precountywide Analyses

Each incorporated community within, and the unincorporated areas of, Dixie County, has a previously printed FIS report. The hydrologic analyses described in those reports have been compiled and are summarized below.

The flows of the required frequencies for the Suwannee and Steinhatchee Rivers were based on statistical analyses of discharge records covering the 37-year period taken from the Wilcox, Florida, gage No. 02323500 on the Suwannee River and the 27-year period for the Cross City, Florida, gage No. 02324000 on the Steinhatchee River. This statistical analysis is the standard log-Pearson Type III method as recommended by the Water Resources Council (U.S. Water Resources Council, 1977).

For locations where no discharge records are available, or where discharge records are not sufficiently long to yield reliable results for statistical analysis, the gage analyses were extrapolated based on increases in drainage area.

Rainfall frequency data contained in two reports were used to determine the rainfall amounts for various recurrence intervals for the study area (U.S. Department of Agriculture, 1978; U.S. Department of Commerce, 1964). The local recording station (Cross City 2 WNW) indicated a total precipitation of 10 inches of rainfall during the 24-hour period of May 4, 1978, which is estimated to be about an 80-year precipitation event (an event expected to occur once in 80 years on the average).

Coastal storm frequencies (number of occurrences per year) were determined using the Joint Probability Method as developed by Vance Myers (Environmental Science Services Administration, 1970). The Joint Probability Method enables one to create a number of simulated storms based on an analysis of historical records. Characteristics analyzed included the frequency at which storms enter the study area, and the probabilities associated with the size and intensity of a given storm.

A statistical analysis was performed to derive the probability distributions (range of parameter values versus their associated probabilities) for the principal parameters which describe a hurricane or tropical storm; these are the central barometric pressure (measures intensity of a storm), the radius to maximum winds (measures the lateral extent of a storm), the forward speed, and the direction of travel. An analysis was also performed to determine the frequency of which hurricanes and tropical storms penetrate the northwest Florida coast or pass offshore if parallel to the coast.

Publications utilized in the above analysis included "Tropical Cyclone Data Deck" (National Oceanic and Atmospheric Administration, 1973), "Tropical Cyclones of the North Atlantic" (National Oceanic and Atmospheric Administration, June 1978), "Some Climatological Characteristics of Hurricanes and Tropical Storms, Gulf and the East Coast of the United States" (National Oceanic and Atmospheric Administration, 1975), and "Meteorological Criteria for Standard Project, Hurricane and Probable Maximum Hurricane Windfields, Gulf and East Coasts of the United States" (National Oceanic and Atmospheric Administration, 1979), by the National Oceanic and Atmospheric Administration. The National Hurricane Research Project Report Nos. 5 and 33 (U.S. Weather Bureau, 1957; U.S. Weather Bureau, 1959) were also utilized in the analysis.

By combination of all parameters each with its associated probability, a large number of simulated storms can be numerically modeled, each with its own unique probability (Joint Probability). The probability of each resulting storm surge is then combined with the storm recurrence rate (frequency at which storms strike the coast) and the corresponding frequency (events of this surge height per year) for each surge determined. This procedure permits the simulation of many years of record, from which reliable estimates of flood recurrence intervals can be made. As a final step in the calculations, the astronomic tide of the study area was combined with the computed storm surge to yield recurrence intervals of total water level. Where the potential for generation of storm waves greater than one foot existed, an analysis of wave heights was also performed and the computed wave heights were combined with the total water level to yield base flood elevations. (This procedure is discussed in detail in Section 3.2). A summary of the parameters used for the study area is presented in Table 2, "Parameter Values for Surge Elevations."

Revised Analysis

A hydrologic analysis was performed on 7 USGS stream gaging station on the Suwannee River. In accordance with the Federal Emergency Management Agency Flood Hazard Mapping Program "*Map Modernization Guidelines and Specifications for Flood Hazard Mapping Partners Appendix C: Guidance for Riverine Flooding Analyses and Mapping*" (Appendix C) (FEMA, 2003), the analysis was performed using the *USGS PEAKFQ Program, Annual Flood Frequency Analysis Using Bulletin 17B Guidelines* (USGS, 1998). The PEAKFQ computer program was downloaded from the USGS web site. http://water.usgs.gov/software/peakfq.html and the peak flow data was acquired from http://nwis.waterdata.usgs.gov/fl/nwis/peak.

As specified in *C.1.2.1 Preliminary Hydrologic Analysis of Appendix C*, the results for the PEAKFQ analysis for those gaging stations with a systemic record of less than 50 years were weighted with the results of the USGS regional regression equation developed for the Suwannee River Water Management District in their 1996 report titled "*Regional RegressionEequation for the Suwannee River Water Management District from U.S. Geological Survey Water-Resource Investigations Report 96-4176*"(Report 96-4176)(Giese, G.L., Franklin, M.A., 1996). The regional regression equation is presented below:

$$Q_T = C_T DA^{B1_T} (LK + .6)^{B2_T}$$

where

Q_T is the discharge for a recurrence interval of T-years, in cubic feet per second.

C_T is the regression constant for the recurrence interval, T.

DA is the drainage area, in square miles.

LK is the percentage of the drainage area covered by lakes.

$B1_T$ and $B2_T$ are exponents for various recurrence intervals.

For the recurrence interval of 100 years (T)

$C_T = 584$

$B1_T = .543$

$B2_T = -.591$

Drainage area and percentage of drainage area covered by lake values for the individual stream gaging stations were taken from Appendix 1 of Report 96-4176.

The weighting equation from Report 96-4176 used for the analysis is presented below:

$$\mathrm{Log}Q_{wt} = (N \log Q_g + EY \log Q_r)/(N + EY)$$

where

Q_{wt} is the weighted estimate of the T-year flood at gaged site, in cubic feet per second.

Q_g is the T-year flood estimate for log-Pearson Type III frequency distribution of annual peaks at gaged site, in cubic feet per second.

CENTRAL PRESSURE DEPRESSION (Hg) PROBABILITY:	29.47	29.20	28.94	28.67	28.41	28.14	27.88	27.61
ENTERING EXITING PARALLEL	31% 32% 26%	31% 32% 26%	12% 07% 07%	07% 07% 12%	07% 11% 11%	05% 07% 10%	02% 04% 04%	05% 0% 04%
STORM RADIUS (Nautical Miles) PROBABILITY	15.0 37%			22.5 43%			30.0 20%	
FORWARD SPEED (KNOTS)	6.0			11.5			17.0	
PROBABILITY: ENTERING EXITING PARALLEL	 24% 55% 41%			 36% 32% 40%			 40% 13% 19%	
CROSSING ANGLE[1] PROBABILITY	80 06%	120 24%	160 24%		200 23%		240 23%	
FREQUENCY OF OCCURRENCE	Landfalling/Existing = .0035/N.M./Year Alongshore = 0011 Storms/N.M./Year							

[1]Degrees from north

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL AND INCORPORATED AREAS

PARAMETER VALUES FOR SURGE ELEVATIONS

Q_r is the regional flood estimate for the gaged site, in cubic feet per second.

N is the number of annual peaks used to compute Q_g in years.

EY is the accuracy of the regional flood estimate, in equivalent years.

It should be noted that USGS stream gaging station 0232000 Suwannee River at Luraville, Fl was not included as part this analysis due to temporal nature of the peak flow data. The data provided by the USGS website gives a total of 22 peak flows values. The data consists of records from 1928 through 1937, 1948, 1959, 1964, 1966, 1973, 1997, 1998, and 2000 through 2003. With 10 pre-1940 data points and only 7 data points for the past 38 years, it was not possible to determine if the systemic records for stream gaging station 2320000 constituted an unbiased and representative sample of the population of all possible annual peaks for the site.

A review of the PEAKFQ analysis found that all of the previous computed flood discharges (as shown in Table 3) fall within the PEAKFQ 95- and 5 percent confidence limits of the recent estimates. In accordance with Appendix C of FEMAs "*Map Modernization Guidelines and Specifications for Flood Hazard Mapping Partners*, it is recommended that the previous flood discharge as shown in Table 3 remain unchanged. Therefore, the discharges listed in Table 3 will be utilized for this FIS.

TABLE 3 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES cfs)*			
		10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT
STEINHATCHEE RIVER					
Deadman Bay	590	7,600	13,950	17,270	26,620
U.S. 1998 and A. H. 27	380	5,960	11,230	14,045	22,090
USGS gage near Cross City	350	5,700	10,830	13,580	21,490
SUWANNEE RIVER					
Mouth	9,940	41,465	62,910	72,905	98,310
Wilcox	9,640	41,465	62,910	72,905	98,310

*cubic feet per second

Table 4, "Summary of Stillwater Elevations," summarizes the 1-percent annual chance flood elevations for ponding areas studied in detail in the Town of Cross City.

TABLE 4 – SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION (feet NAVD) 10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT
Ponding Area 1	*	*	39.3	*
Ponding Area 2	*	*	38.3	*
Ponding Area 3	*	*	41.3	*
Ponding Area 4	*	*	42.3	*
Ponding Area 5	*	*	40.3	*
Ponding Area 6	*	*	40.3	*
Ponding Area 7	*	*	38.3	*
Ponding Area 8	*	*	36.3	*
Ponding Area 9	*	*	36.3	*
Ponding Area 10	*	*	36.3	*
Ponding Area 11	*	*	37.3	*
Ponding Area 12	*	*	39.3	*
Ponding Area 13	*	*	39.3	*
Ponding Area 14	*	*	Varies	*
Ponding Area 15	*	*	36.3	*
Ponding Area 16	*	*	34.3	*
Ponding Area 17	*	*	35.3	*
Ponding Area 18	*	*	36.3	*
Ponding Area 19	*	*	35.3	*

*Data not available

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the source studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. For construction and/or floodplain management purposes, users are encouraged to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

Precountywide Analyses

Each incorporated community within, and the unincorporated areas of, Dixie County, has a previously printed FIS report. The hydraulic analyses described in those reports have been compiled and are summarized below.

Cross sections for the water elevation analyses of the Suwannee and Steinhatchee Rivers were obtained by Aerial Survey Methods from photography flown in 1979 for upland areas and by field measurement below the water surface. Bridges were field checked to confirm elevation data and structural geometry.

Channel roughness factors (the "n" factor for Manning's formula) used in the hydraulic computations, were chosen based on aerial photography and field observations of the streams and floodplain areas. This measure of roughness for the main channel of the Suwannee River ranges from 0.033 to 0.039 with floodplain roughness values ranging from 0.05 to 0.15 for all floods.

Roughness values for the main channel of the Steinhatchee River range from 0.033 to 0.066 with floodplain roughness values ranging from 0.08 to 0.12 for all floods.

The acceptability of the above hydraulic factors, cross sections, and hydraulic structure data was checked using these computations and comparing the results to known historic storms and the resulting flood elevations.

Water-surface elevations of floods of the selected recurrence intervals were computed through use of the USACE HEC-2 step-backwater computer program (USACE, 1976). Flood profiles were drawn showing water-surface elevations for floods of the selected recurrence intervals. The starting water-surface elevations at the mouth of the Suwannee and Steinhatchee Rivers used in these calculations were determined from the slope/area method.

Located on the Gulf of Mexico, the coastline areas of Dixie County are primarily subject to coastal storm surge flooding from hurricanes and tropical storms. Detailed hydraulic analyses of the shoreline characteristics were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. The U.S. Department of Housing and Urban Development's Standard Coastal Storm Surge Model (U.S. Department of Housing and Urban Development, March 1979; U.S. Department of Housing and Urban Development, April 1979) was utilized to determine these flood levels. This model is a numerical hydrodynamic computer model which calculates the coastal storm surges previously described in Section 3.1. Before applying the numerical model to the study area, several recent hurricanes which have affected the west coast of Florida were simulated for verification purposes. Surge elevations computed by the numerical model were compared to recorded tide gage heights at St. Marks and Cedar Key, Florida. The results are shown below.

Location	Storm	Computed by Numerical Model Plus Predicted Tide	Observed
St. Marks	Hurricane Alma 1966	4.7	4.3[(a)]
	Hurricane Agnes 1972	7.1	7.2[(a)]
Cedar Key	Hurricane Alma 1966	5.9	5.4[(b)]
	Hurricane Agnes 1972	5.6	5.7[(b)]

Source: (a) Data from tide gage station, USACE, Mobile, Alabama.
(b) Data from tide gage station, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Survey.

The numerical model for this region consisted of five nautical mile square grids extending 200 nautical miles in the north-south direction, and 200 nautical miles in the east-west direction. Water depths for the offshore regions were taken from selected National Ocean Service, Hydrographic Surveys with various dates and scales, and National ocean Survey Bathymetric contour intervals at 2, 10, and 50 meters depending on depth (National Oceanic and Atmospheric Administration, Selected NOS Hydrographic Surveys; National Oceanic and Atmospheric Administration, National Survey Bathymetric Maps). Additional topographic sources were utilized in conjunction with the storm surge model (USGS, 2-degree Series topographic quadrangles scale 1:250,000; USGS, 7.5-minute Series topographic quadrangles scale 1"=2,000').

Because of the coarse grid resolution, an additional analysis of inland surge reduction was performed utilizing a finer grid and varying both duration and storm direction. The inland reductions for Dixie County varied from 0.0 to 1.4 feet per mile inland, depending on ground slope, vegetation, and development characteristics.

Revised Analysis

The HEC-2 computer files for the Suwannee River were converted to HEC-RAS files by the SRWMD prior to this revised analysis. For this revised analysis the SRWMD HEC-RAS files incorporated new field survey at the following road crossings:

<u>Suwannee River</u>

- US Route 19
- CSX Railroad
- County Highway 340

All of the above field surveys were established with vertical control in NAVD 1988 datum. Also all of the NGVD 1929 elevation data in the input HEC-RAS files from the SRWMD were converted to NAVD 88. Therefore, the input and output of the revised HEC-RAS files now reflect elevations in NAVD 88.

Qualifying bench marks within a given jurisdiction that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical and have a vertical stability classification of A, B, or C are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier.

Bench marks cataloged by the NGS and entered into the NSRS vary widely in vertical stability classification. NSRS vertical stability classifications are as follows:

- Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)

- Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)

- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)

- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

In addition to NSRS bench marks, the FIRM may also show vertical control monuments established by a local jurisdiction; these monuments will be shown on the FIRM with the appropriate designations. Local monuments will only be placed on the FIRM if the community has requested that they be included, and if the monuments meet the aforementioned NSRS inclusion criteria.

To obtain current elevation, description, and/or location information for bench marks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their Web site at www.ngs.noaa.gov.

3.3 Wave Height Analysis

The methodology for analyzing the effects of wave heights associated with coastal storm surge flooding is described in the National Academy of Sciences report (National Academy of Sciences, 1977). This method is based on the following major concepts. First, depth-limited waves in shallow water reach a maximum breaking height that is equal to 0.78 times the stillwater depth. The wave crest elevation is 70 percent of the total wave height plus the stillwater elevation. The second major concept is that wave height may be diminished due to the presence of obstructions such as sand dunes, dikes and seawalls, buildings and vegetation. The amount of energy dissipation is a function of the physical characteristics of the obstruction and is determined by procedures prescribed in the National Academy of Sciences' 1977 report. The third major concept is that wave height can be regenerated in open fetch areas due to the transfer of wind energy to the water. This added energy is related to fetch length and depth.

The analysis included the effects of hurricane-induced surge—both the open coast surge and its inland propagation were studied. In addition, the added effects of wave heights were also considered in the meeting of the FEMA representatives with the community. The following areas were studied by detailed methods: the entire length of the county's Gulf of Mexico shoreline, the Steinhatchee River from its mouth to the Lafayette/Dixie County line, and the Suwannee River from its mouth to the county line.

Wave heights were computed along transects (cross-section lines) that were located along the coastal areas, as illustrated in Figure 1, "Transect Location Map" in accordance with the Users Manual for Wave Height Analysis (FEMA, 1981). The transects were located with consideration given to the physical and cultural

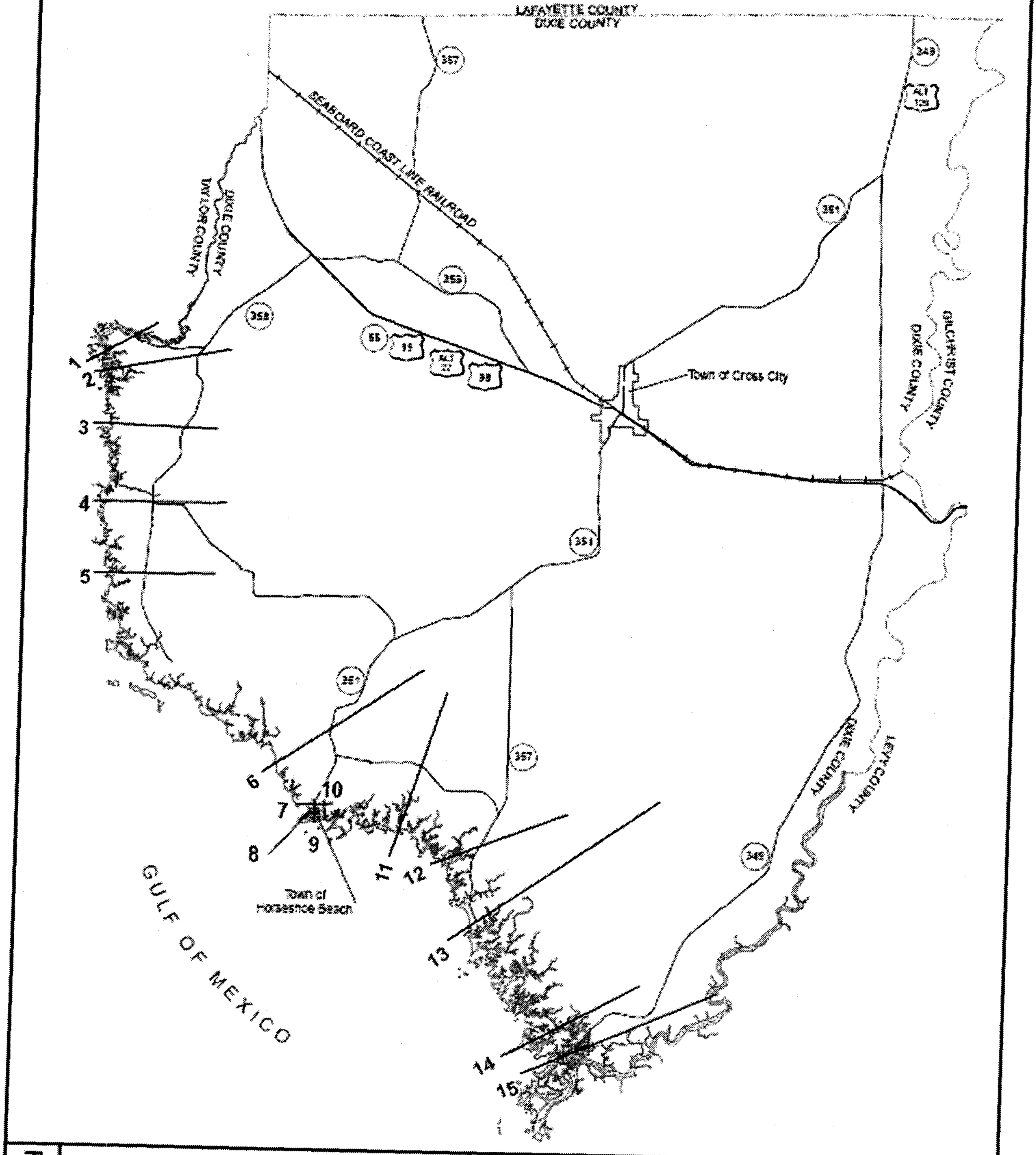


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

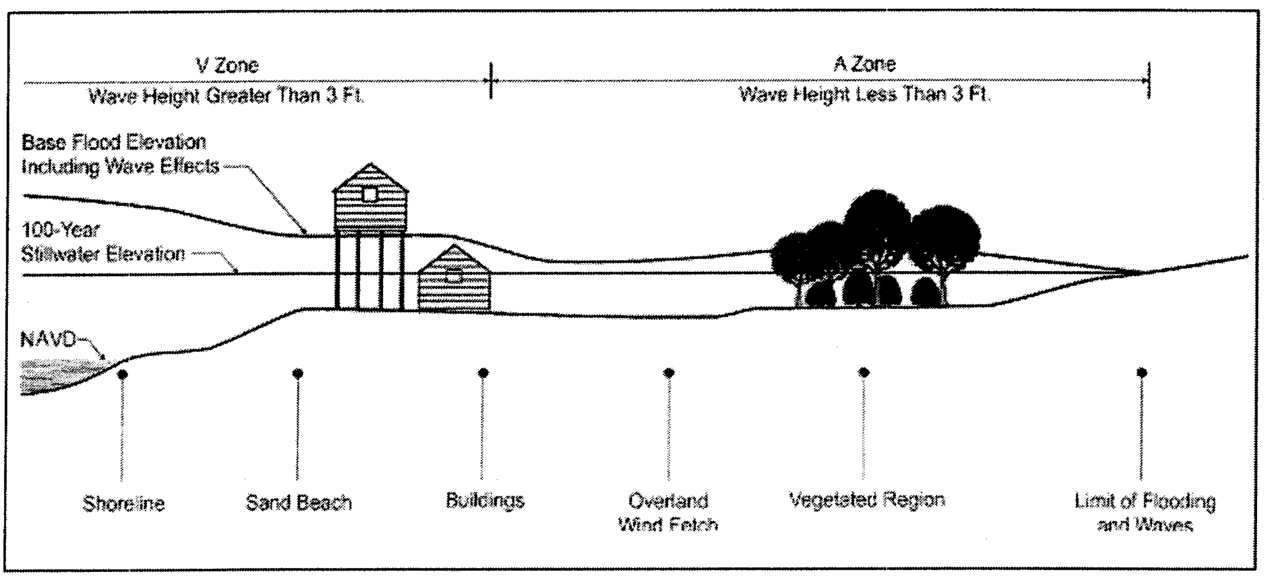
DIXIE COUNTY, FL

TRANSECT LOCATION MAP

characteristics of the land so that they would closely represent conditions in their locality. Transects were spaced close together in areas of complex topography and dense development. In areas having more uniform characteristics, they were spaced at larger intervals. It was also necessary to locate transects in areas where unique flooding existed and in areas where computed wave heights varied significantly between adjacent transects.

The transects were continued inland until the wave was dissipated or until flooding from another source with equal or greater elevation was reached. Along each transect, wave heights and elevations were computed considering the combined effects of changes in ground elevation, vegetation and physical features. The stillwater elevations for the 1-percent annual chance flood were used as the starting elevations for these computations. Wave heights were calculated to the nearest 0.1 foot, and wave elevations were determined at whole-foot increments along the transects. Areas with a wave component 3 feet or greater were designated as velocity zones. Other areas subject to wave action were designated as A Zones with base flood elevations adjusted to include wave crest elevations.

Figure 2 is a profile for a hypothetical transect showing the effects of energy dissipation on a wave as it moves inland. This figure shows the wave elevations being diminished by obstructions, such as buildings, vegetation, and rising ground elevations and being increased by open, unobstructed wind fetches. Actual wave conditions in Dixie County may not necessarily include all the situations illustrated in Figure 2.



HYPOTHETICAL TRANSECT SCHEMATIC Figure 2

A listing of the transect locations, starting stillwater surge elevations and initial wave crest elevations is provided in Table 4, "Transect Locations, Stillwater Starting Elevations, and Maximum Wave Crest Elevations." Table 5, "Transect Data", summarizes the flood elevation differences, FHF's, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community.

TABLE 5 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS AND MAXIMUM WAVE CREST ELEVATIONS

		ELEVATION (feet NAVD)	
TRANSECT	LOCATION	1-PERCENT STILLWATER	MAXIMUM 1-PERCENT WAVE CREST
1	Dixie County - approximately 1.00 mile south of the Steinhatchee River, Gulf of Mexico	13.0	20.5
2	Dixie County - approximately 1.50 miles south of the Steinhatchee River, Gulf of Mexico	12.9	20.3
3	Dixie County - approximately 3.00 miles south of the Steinhatchee River, Gulf of Mexico	12.9	20.3
4	Dixie County - approximately 5.50 miles south of the Steinhatchee River, Gulf of Mexico	12.8	20.2
5	Dixie County - approximately 0.25 of a mile north of Buck Creek, Gulf of Mexico	13.0	18.9
6	Dixie County - approximately 2 miles north of Horseshoe Beach, Gulf of Mexico	13.3	20.9

TABLE 5 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS AND MAXIMUM WAVE CREST ELEVATIONS - continued

TRANSECT	LOCATION	ELEVATION (feet NAVD) 1-PERCENT STILLWATER	MAXIMUM 1-PERCENT WAVE CREST
7	Horseshoe Beach - located approximately 750 feet north of East 1st Avenue	13.3	20.9
8	Horseshoe Beach - at West 5th Avenue	13.3	18.8
9	Horseshoe Beach - approximately 200 feet east of 3rd Street	13.3	20.9
10	Horseshoe Beach - approximately 1,200 feet east of 1st Street	13.3	20.9
11	Dixie County - approximately 3.50 miles east of Horseshoe Beach, Gulf of Mexico	13.3	20.9
12	Dixie County - approximately 1.50 miles north of Shired Island, Gulf of Mexico	13.3	20.9
13	Dixie County - approximately 1 mile south of Shired Island, Gulf of Mexico	13.3	20.9
14	Dixie County - approximately 3 miles north of Alligator Pass (Suwannee River), Gulf of Mexico	12.8	20.2
15	Dixie County - at Suwannee, Gulf of Mexico	12.8	20.2

TABLE 6 - TRANSECT DATA

FLOODING SOURCE	STILLWATER ELEVATION (feet NAVD*) 10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT	ZONE	BASE FLOOD ELEVATION (feet NAVD*)[1]
GULF OF MEXICO						
Transect 1	7.7	11.5	13.0	16.0	VE	20-15
	7.1	10.9	12.4	15.4	AE	14-12
Transect 2	7.6	11.4	12.9	15.9	VE	20-14
	5.7	9.5	11.0	14.0	AE	14-10
Transect 3	7.6	11.4	12.9	15.9	VE	20-15
	7.4	11.2	12.7	15.7	AE	14-12
Transect 4	7.5	11.2	12.8	15.6	VE	20-15
	5.7	9.4	11.0	13.8	AE	14-11
Transect 5	7.2	10.6	12.0	14.9	VE	19-15
	4.5	7.9	9.3	12.2	AE	14-9
Transect 6	7.5	11.7	13.3	16.3	VE	21-15
	4.5	8.7	10.3	13.3	AE	14-10
Transect 7	7.5	11.7	13.3	16.3	VE	21-17
	7.5	11.7	13.3	16.3	AE	15
Transect 8	7.5	11.7	13.3	16.3	VE	21-17
	7.5	11.7	13.3	16.3	AE	15
Transect 9	7.5	11.7	13.3	16.3	VE	21-17
	7.5	11.7	13.3	16.3	AE	15
Transect 10	7.5	11.7	13.3	16.3	VE	21-17
	7.5	11.7	13.3	16.3	AE	15
Transect 11	7.5	11.7	13.3	16.3	VE	21-15
	4.2	8.4	10.0	13.0	AE	14-10
Transect 12	7.5	11.7	13.3	16.3	VE	21-15
	3.5	7.7	9.3	12.3	AE	14-9
Transect 13	7.4	11.7	13.3	16.3	VE	21-15
	3.4	7.7	9.3	12.3	AE	14-9
Transect 14	7.4	11.2	12.8	15.6	VE	20-14
	4.5	8.3	9.9	12.7	AE	13-9
Transect 15	7.4	11.2	12.8	15.6	VE	20-14
	3.9	7.7	9.3	12.1	AE	13-9

[1]Because of map scale limitations, the maximum wave elevation may not be shown on the FIRM.
*North American Vertical Datum of 1988

Wave elevations between transects were interpolated using the cited sources. Factors affecting wave elevations between transects were identified and considered in relation to their effect upon wave elevations. The results showed that wave action was not appreciably reduced over the tidal marsh areas bordering the Gulf of Mexico. However, a significant decrease in height did occur in the wooded swamp areas.

Ground elevations for wave calculations were taken from aerial topographic maps (1979) with a contour interval of one foot and a scale of 1"=500' (Abrams Aerial Survey Corporation of Florida, scale 1"=500', 1979).

Ground elevations for wave calculations were taken from USGS 7.5-minute quadrangles with a contour interval of five feet for transects 1, 2, 4, 6, 7, 8, 9, 10, and 11, and from aerial transects with a scale of 1"=800' flown in 1979 with spot elevations for transects 3 and 5 (USGS, 7.5 minute series, topographic quadrangles; Abrams Aerial Survey Corporation of Florida, scale 1"=800', 1979).

Coefficients for inland wave height reduction (transmission coefficients) were determined from aerial photography (1979) and by field inspection (1981). Fetch factors for wave build-up in unobstructed wind fetches were determined from the above sources and from standard tables and figures.

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 FIRM (Exhibit 2).

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

3.4 Vertical Datum

All FISs and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FISs and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the finalization of the North American Vertical Datum of 1988 (NAVD 88), many FIS reports and FIRMs are being prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD 88. Structure and ground elevations in the community must, therefore, be referenced to NAVD 88. It is important to note that adjacent communities may be referenced to NGVD 29. This may results in differences in base flood elevations across corporate limits between the communities.

Prior versions of the FIS report and FIRM were referenced to NGVD 29. When a datum conversion is effected for an FIS report and FIRM, the Flood Profiles, base flood elevations (BFEs) and ERMs reflect new datum values. To compare structure and ground elevations to 1% annual chance flood elevations shown in the FIS and on the FIRM, the subject structure and ground elevation must be referenced to the new datum values.

As noted above, the elevations shown in the FIS report and on the FIRM for Dixie County and Incorporated Areas are referenced to NAVD 88. Ground, structure, and flood elevations may be compared and/or referenced to NGVD 29 by applying a standard conversion factor. The conversion factor to NGVD 29 is -0.67. The BFEs shown on the FIRM represent whole-foot rounded values. For example, a BFE of 102.4 will appear as 102 on the FIRM and 102.6 will appear as 103. Therefore, users that wish to convert the elevations in the FIS to NGVD 29 should apply the stated conversion factor to elevations shown on the Flood Profiles and supporting data tables in the FIS report, which are shown at a minimum to the nearest 0.1 foot.

For more information on NAVD 88, see Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, FEMA Publication FIA-20/June 1992, or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles, Floodway Data tables, and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance flood is employed to indicate additional areas of flood risk in the county. For the streams studied in detail, the 1- and 0.2-percent annual chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between transects, the boundaries were interpolated using USGS topographic quadrangles at a scale of 1"=2,000' (USGS, 7.5 minute series topographic quadrangles). In cases where the 1- and 0.2-percent annual chance flood boundaries are close together, only the 1-percent annual chance boundary has been shown.

Aerial topographic maps at a scale of 1"=500' with one foot contour intervals (Abrams Aerial Survey Corporation of Florida, scale 1"=500', 1979) were used to delineate the flood boundaries.

The 1- and 0.2-percent annual chance floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, and VE), and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent annual chance floodplain boundaries are close together, only the 1-percent annual chance floodplain boundary has been shown. Small areas within the floodplain 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.

For the streams studied by approximate methods, only the 1-percent annual chance floodplain boundary is shown on the FIRM (Exhibit 2).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent annual chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent annual chance 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 FIS 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 floodway presented in this FIS report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (Table 7). The computed floodways are shown on the FIRM (Exhibit 2). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent-annual-chance flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 3.

Portions of the floodways for the Suwannee River extend beyond the county boundary.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Suwannee River								
A	15.40	7,091/6,779	63,554	1.1	9.5	9.5	10.2	0.7
B	17.65	7,807/4,439	68,689	1.0	10.5	10.5	11.3	0.8
C	21.49	4,847/3,817	47,700	1.4	12.4	12.4	13.2	0.8
D	26.54	3,531/421	45,494	1.5	15.1	15.1	15.9	0.8
E	28.07	4,688/4,354	60,145	1.1	15.7	15.7	16.6	0.9
F	35.90	760/565	35,724	1.9	19.5	19.5	20.2	0.7
G	36.10	5,907/696	78,605	0.9	20.5	20.5	21.2	0.7
H	38.90	4,330/330	53,938	1.2	21.1	21.1	22.0	0.9
I	39.76	5,888/2,292	78,788	0.9	22.1	22.1	23.0	0.9
J	41.97	4,100/1,992	65,250	1.0	22.6	22.6	23.6	1.0
K	44.31	4,185/384	62,896	1.1	23.3	23.3	24.2	0.9
L	47.35	4,624/3,036	65,427	1.0	24.2	24.2	25.1	0.9
M	50.53	6,161/3,674	76,832	0.9	25.1	25.1	26.0	0.9
N	52.03	7,711/6,816	80,665	0.8	25.5	25.5	26.5	1.0
O	53.94	6,679/2,087	98,065	0.7	26.1	26.1	27.0	0.9
P	55.31	4,513/2,608	68,139	1.0	26.4	26.4	27.3	0.9
Q	56.53	5,756/5,528	67,209	1.0	26.7	26.7	27.6	0.9
R	58.20	6,223/1,055	57,231	1.2	27.6	27.6	28.5	0.9
S	59.56	2,863/0	65,330	1.0	28.1	28.1	29.0	0.9

[1]Miles above mouth

[2]Width/Width within County boundary

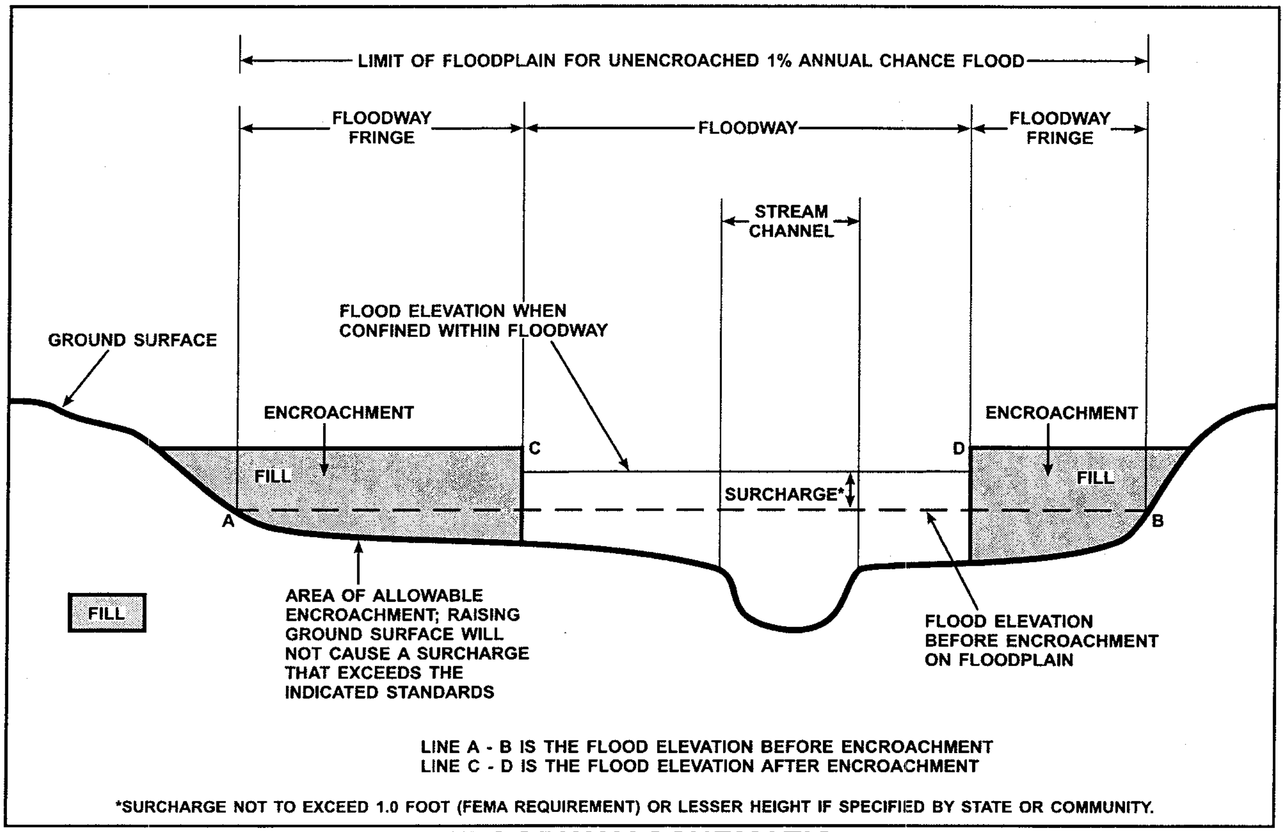
TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL AND INCORPORATED AREAS

FLOODWAY DATA

SUWANNEE RIVER



FLOODWAY SCHEMATIC Figure 3

5.0 INSURANCE APPLICATIONS

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

Zone A

Zone A is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the FIS by detailed methods. In most instances, whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 1-percent annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AO

Zone AO is the flood insurance rate zone that corresponds to the areas of 1-percent annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.

Zone AR

Area of special flood hazard formerly protected from the 1-percent annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1-percent annual chance or greater flood event.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 1-percent annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or depths are shown within this zone.

Zone V

Zone V is the flood insurance rate zone that corresponds to the 1-percent annual chance coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no base flood elevations are shown within this zone.

Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 1-percent annual chance coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent annual chance floodplain, areas within the 0.2-percent annual chance floodplain, and to areas of 1-percent annual chance flooding where average depths are less than 1 foot, areas of 1-percent annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent annual chance flood by levees. No base flood elevations or depths are shown within this zone.

Zone X (Future Base flood) is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined based on future-conditions hydrology. No BFEs or base flood depths are shown within this zone.

Zone D

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

6.0 FLOOD INSURANCE RATE MAP

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

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 1-percent annual chance floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1- and 0.2-percent annual chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The current FIRM presents flooding information for the entire geographic area of Dixie County. Previously, separate Flood Hazard Boundary Maps and/or FIRMs were prepared for each identified flood-prone incorporated community and the unincorporated areas of the county. This countywide FIRM also includes flood hazard information that was presented separately on Flood Boundary and Floodway Maps (FBFMs), where applicable. Historical data relating to the maps prepared for each community, up to and including this countywide FIS, are presented in Table 8, "Community Map History."

7.0 OTHER STUDIES

The National Oceanic and Atmospheric Administration has published a report titled "Storm Tide Frequency Analysis for the Gulf Coast of Florida, from Cape San Blas to St. Petersburg Beach" (National Oceanic and Atmospheric Administration, April 1975).

In this report, storm tide height frequency distributions are developed in the Dixie County area of the Gulf Coast by computing storm tides from a set of climatologically representative hurricanes using the National Weather Service hydrodynamics storm surge model (National Oceanic and Atmospheric Administration, 1974). Tide levels computed are for stillwater only.

A previous study was prepared for the U.S. Department of Housing and Urban Development, Federal Insurance Administration, using approximate study methods. Flood Hazard Boundary Map No. H01 (FIA, 1976) was prepared from this study.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Cross City, Town of	September 13, 1974	January 30, 1978	September 16, 1982	September 29, 2006
Dixie County (Unincorporated Areas)	November 11, 1977	None	November 2, 1983	September 29, 2006
Horseshoe Beach, Town of	August 30, 1974	None	November 2, 1983	September 29, 2006

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

A FIS has been prepared for Gilchrist County and incorporated areas (FEMA, 2006), Lafayette County and incorporated areas (FEMA, 2006), Levy County (unincorporated areas) (FEMA, September 1, 1983, FIS; March 1, 1984, FIRM), and Taylor County (FEMA, August 16, 1995).

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Dixie County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS Reports, FHBMs, FBFMs, and FIRMs for all of the incorporated and unincorporated jurisdictions within Dixie County.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this FIS can be obtained by contacting FEMA, Federal Insurance and Mitigation Division, Koger Center - Rutgers Building, 3003 Chamblee Tucker Road, Atlanta, Georgia 30341.

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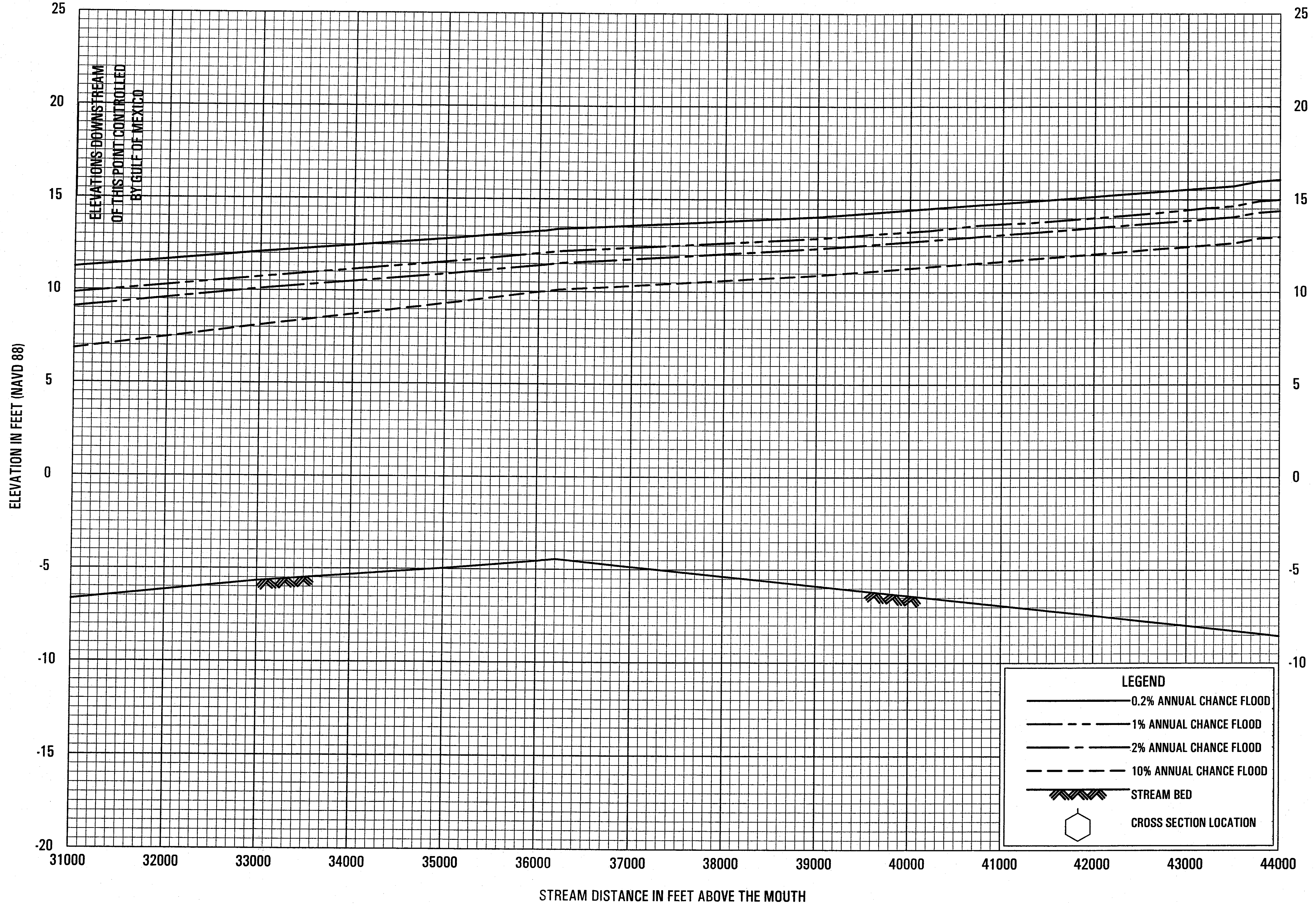


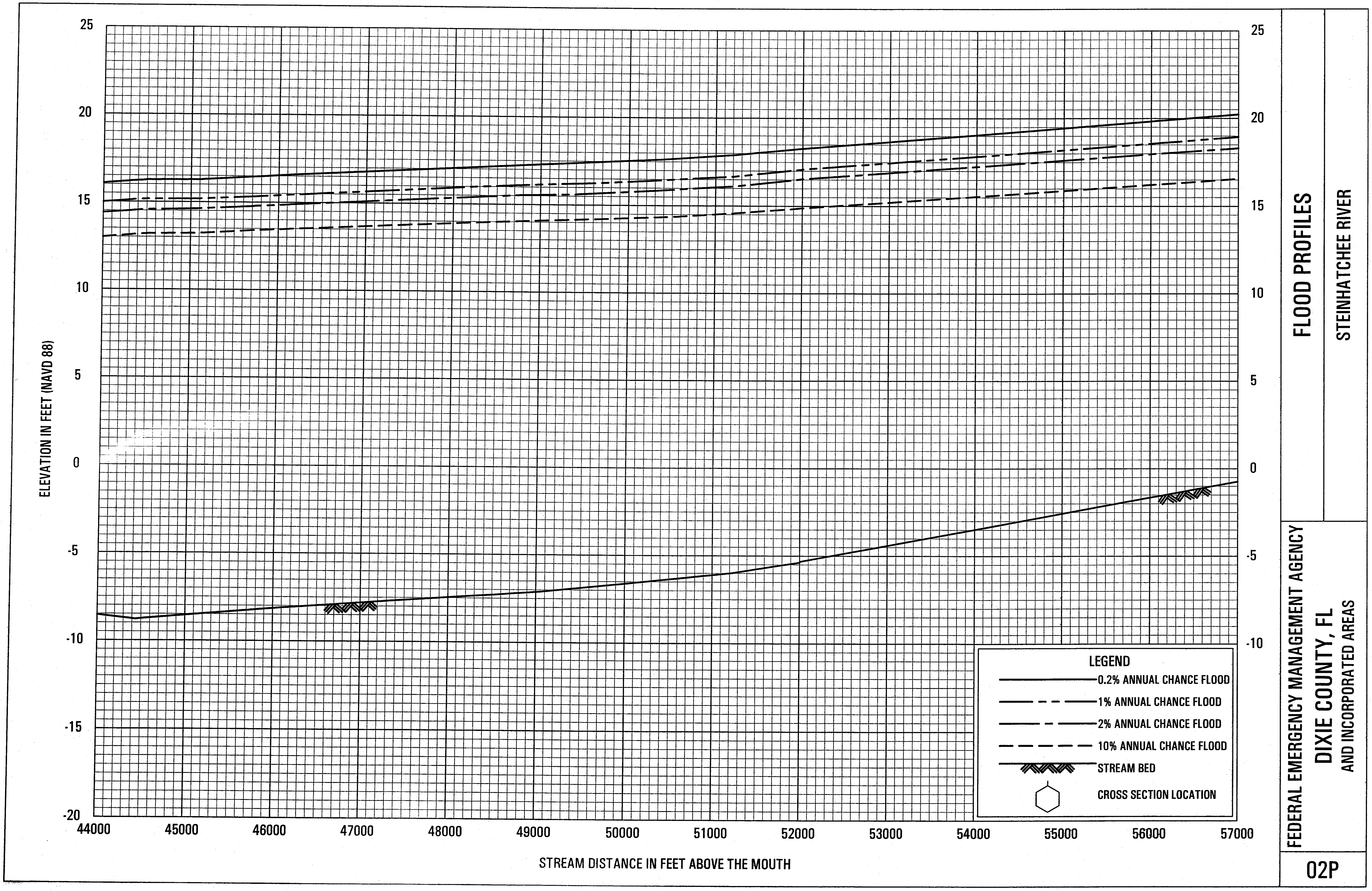
FLOOD PROFILES

STEINHATCHEE RIVER

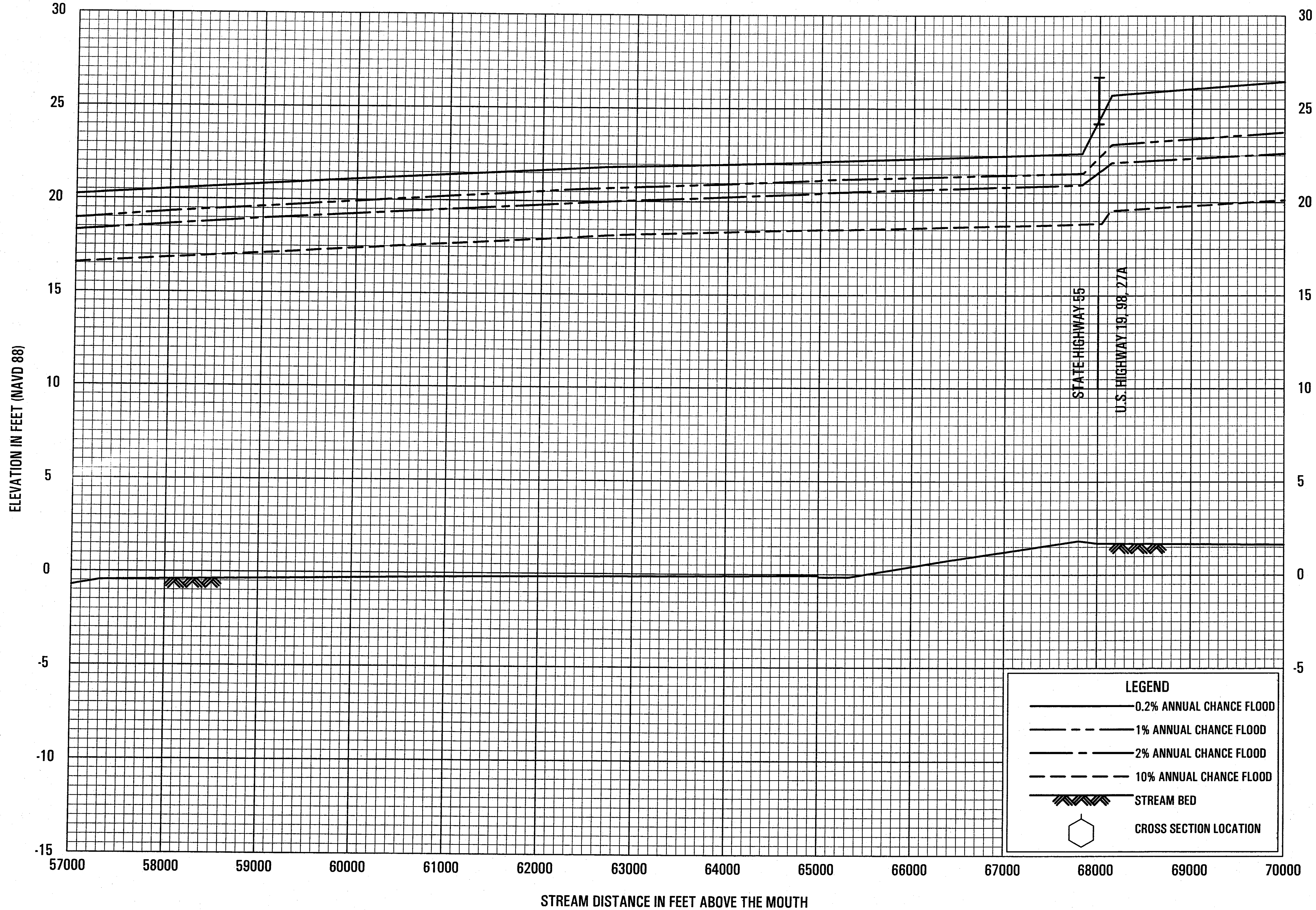
FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL
AND INCORPORATED AREAS

01P



ELEVATION IN FEET (NAVD 88)
25
20
15
10
5
0
-5
-10
-15
-20
44000
45000
46000
47000
48000
49000
50000
51000
52000
53000
54000
55000
56000
57000
STREAM DISTANCE IN FEET ABOVE THE MOUTH
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
FLOOD PROFILES
STEINHATCHEE RIVER
FEDERAL EMERGENCY MANAGEMENT AGENCY
DIXIE COUNTY, FL
AND INCORPORATED AREAS
02P



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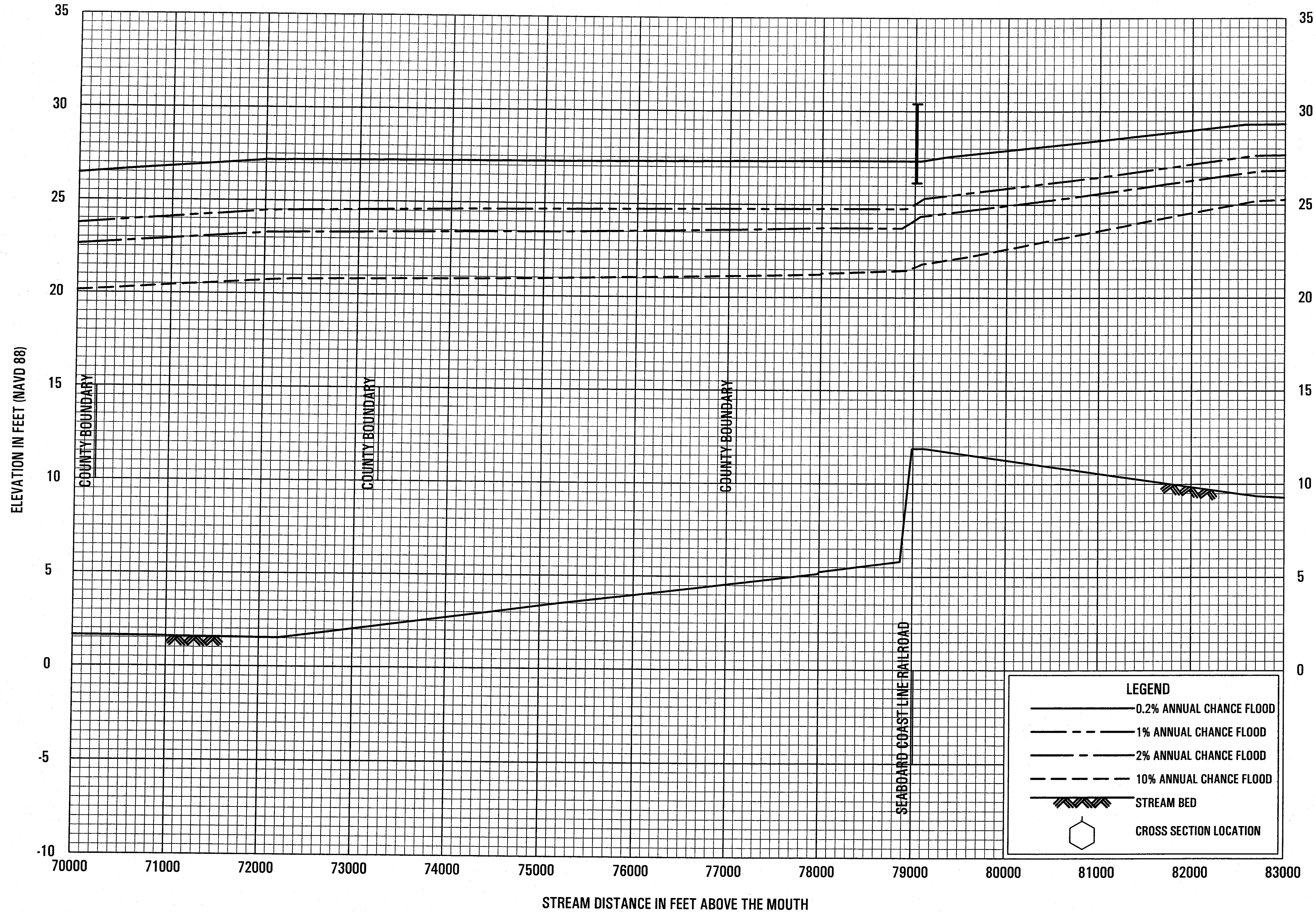
AND INCORPORATED AREAS

03P



FLOOD PROFILES

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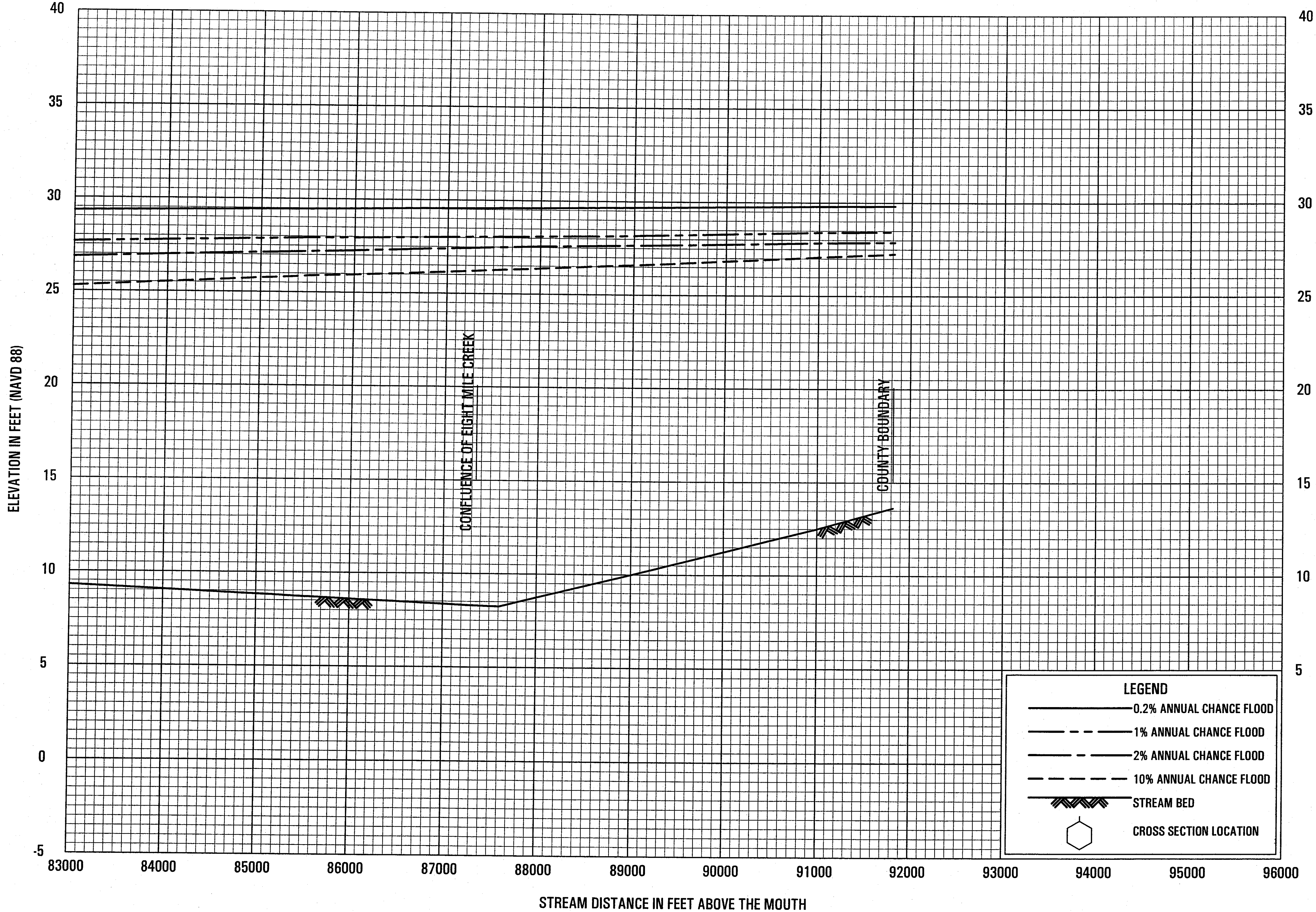
FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL

AND INCORPORATED AREAS

04P



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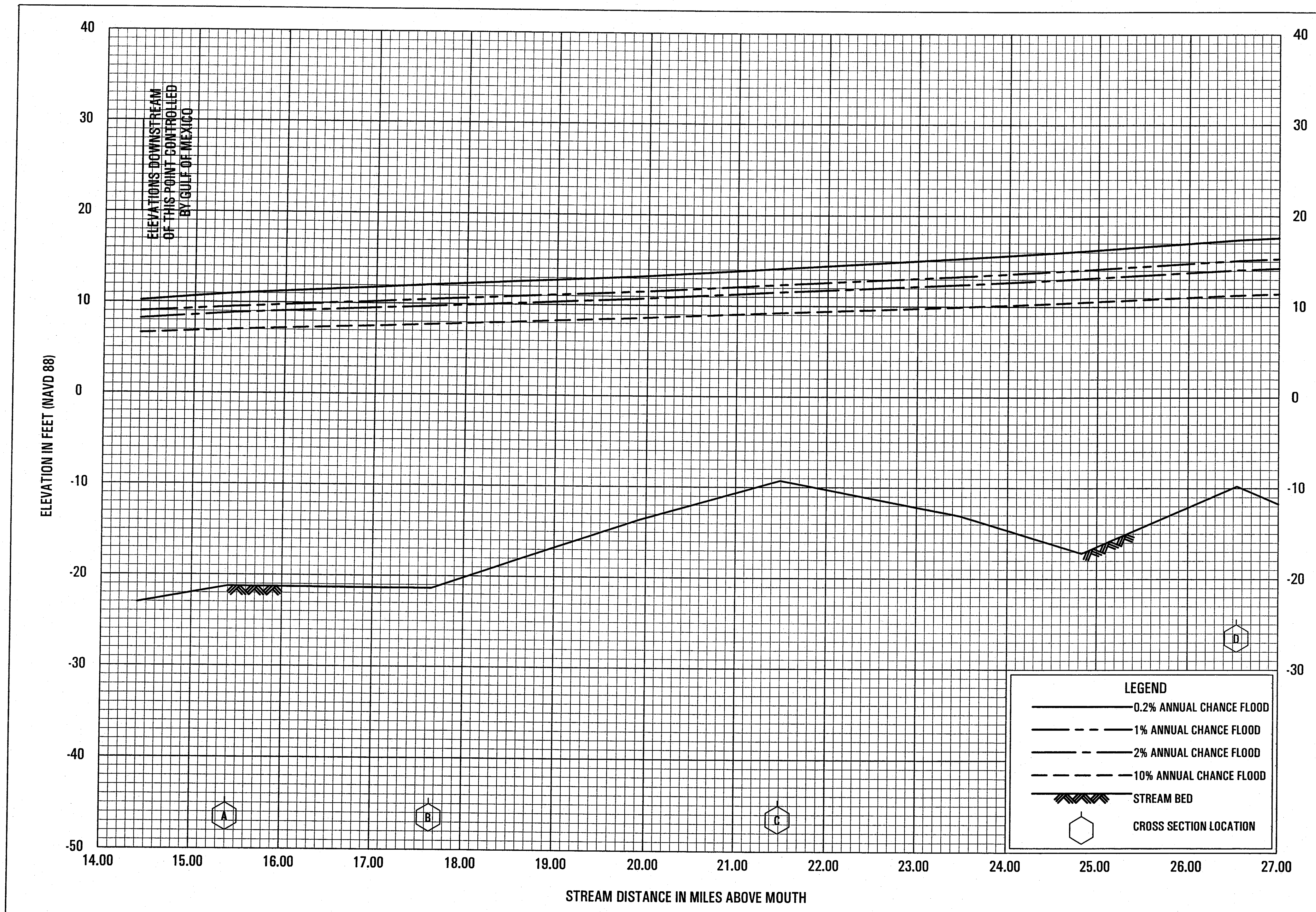
DIXIE COUNTY, FL

AND INCORPORATED AREAS

05P



FLOOD PROFILES

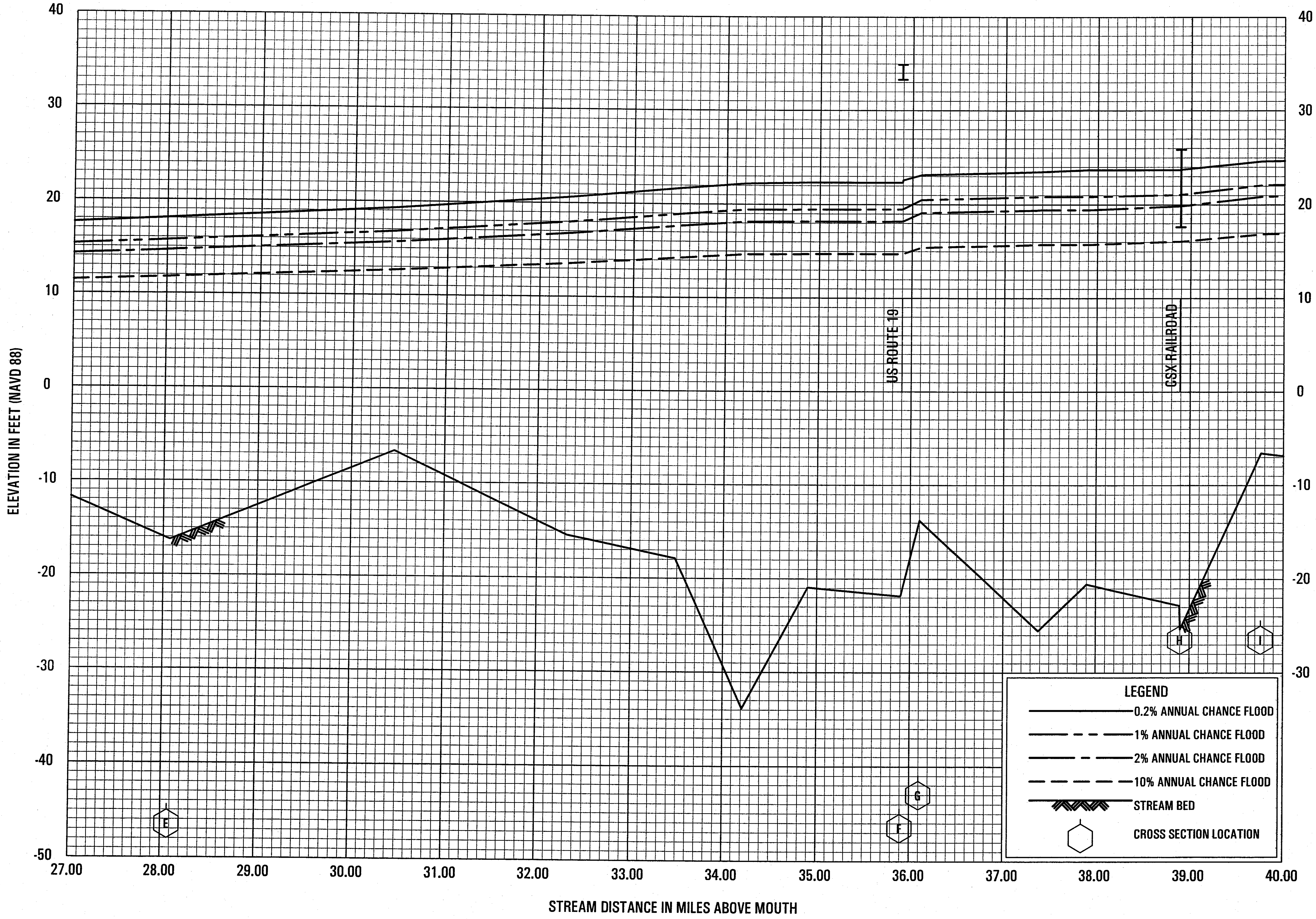
SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL

AND INCORPORATED AREAS

06P



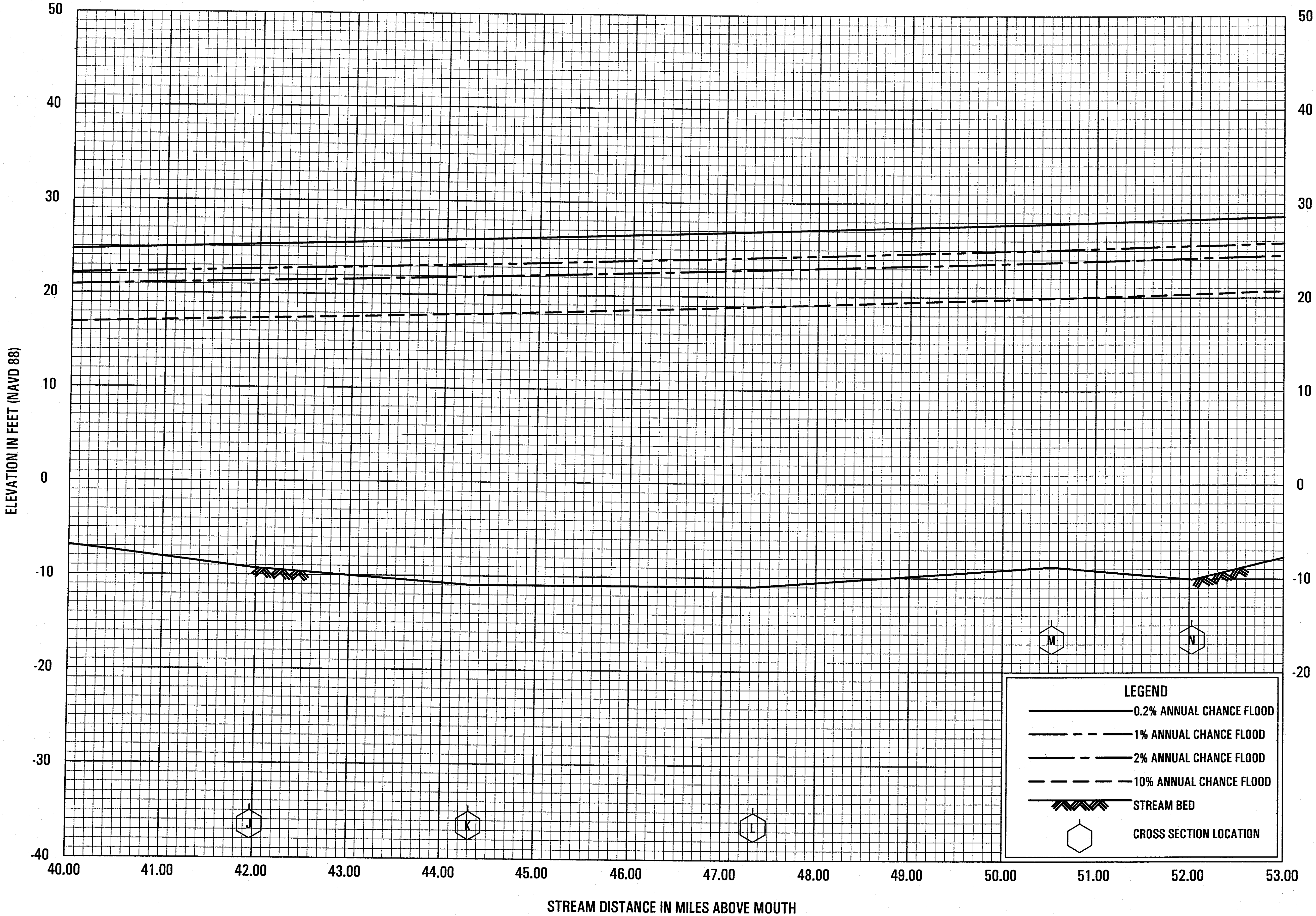
FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL
AND INCORPORATED AREAS

07P



FLOOD PROFILES

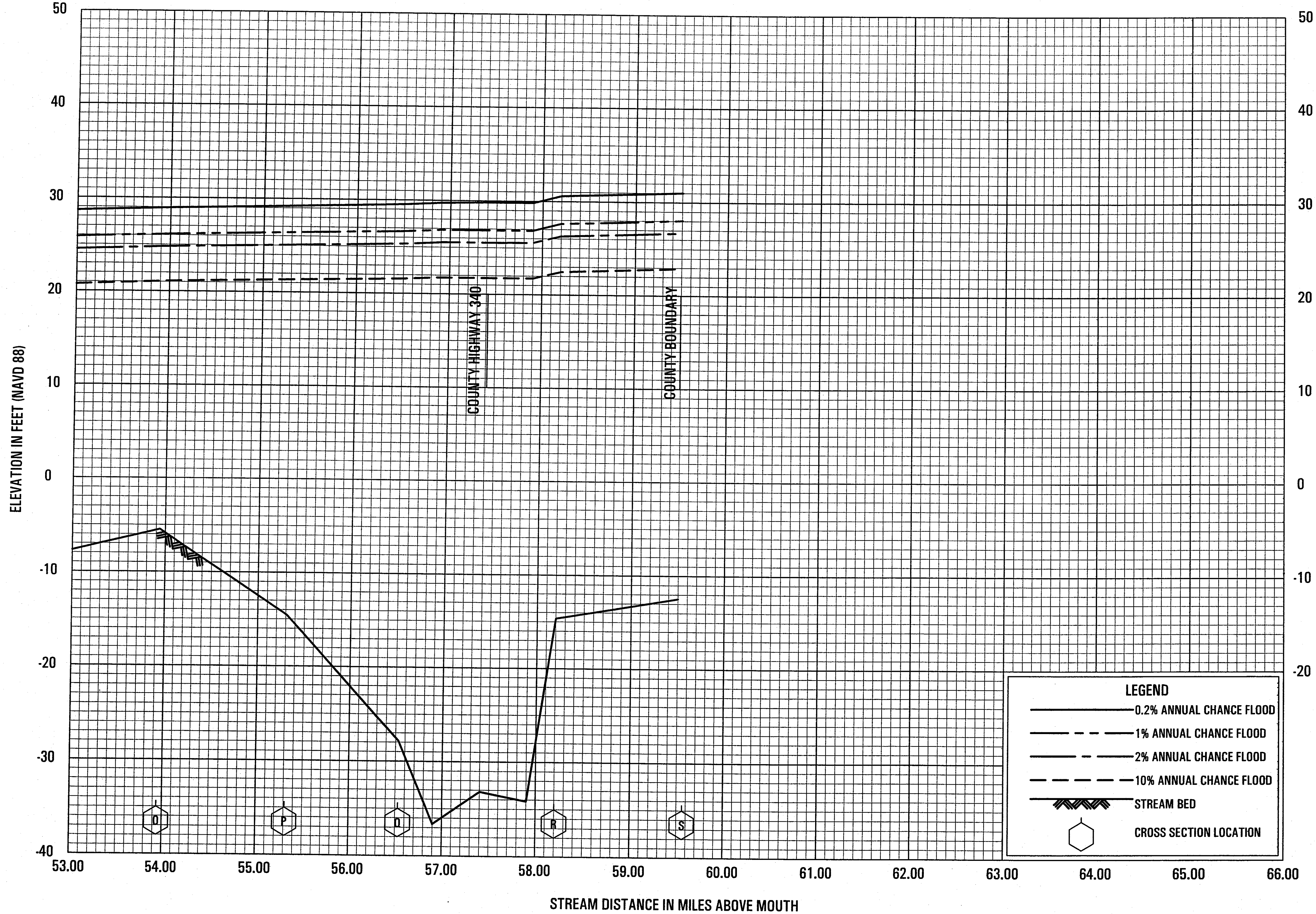
SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL

AND INCORPORATED AREAS

08P



FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DIXIE COUNTY, FL

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09P