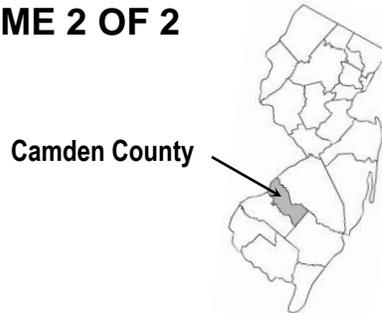


FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 2



CAMDEN COUNTY, NEW JERSEY (ALL JURISDICTIONS)

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
BOROUGH OF AUDUBON	340121	BOROUGH OF HI-NELLA	340530
BOROUGH OF AUDUBON PARK	340122	BOROUGH OF LAUREL SPRINGS	340547
BOROUGH OF BARRINGTON ¹	340579	BOROUGH OF LAWNSIDE	340502
BOROUGH OF BELLMAWR	340124	BOROUGH OF LINDENWOLD	340137
BOROUGH OF BERLIN	340125	BOROUGH OF MAGNOLIA	340138
TOWNSHIP OF BERLIN	340126	BOROUGH OF MOUNT OF MERCHANTVILLE ¹	340569
BOROUGH OF BROOKLAWN	340127	BOROUGH OF MOUNT EPHRAIM	340140
CITY OF CAMDEN	340128	BOROUGH OF OAKLYN	340141
TOWNSHIP OF CHERRY HILL	340129	TOWNSHIP OF PENNSAUKEN	340142
BOROUGH OF CHESILHURST	340397	BOROUGH OF PINE HILL	340143
BOROUGH OF CLEMENTON	340130	BOROUGH OF PINE VALLEY	340365
BOROUGH OF COLLINGSWOOD	340131	BOROUGH OF RUNNEMEDE	340144
BOROUGH OF GIBBSBORO	340545	BOROUGH OF SOMERDALE	340145
CITY OF GLOUCESTER	340132	BOROUGH OF STRATFORD	340146
TOWNSHIP OF GLOUCESTER	340133	BOROUGH OF TAVISTOCK	340544
TOWNSHIP OF HADDON	340134	TOWNSHIP OF VOORHEES	340538
BOROUGH OF HADDON HEIGHTS	340136	TOWNSHIP OF WATERFORD	340147
BOROUGH OF HADDONFIELD	340501	TOWNSHIP OF WINSLOW	349148
		BOROUGH OF WOODLYNNE	340149

¹No Special Flood Hazards Identified

REVISED:

AUGUST 17, 2016

FLOOD INSURANCE STUDY NUMBER
34007CV002C



FEMA

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 28, 2007

Revised Countywide FIS Dates: June 16, 2009 - to change Base Flood Elevations, to add Base Flood Elevations, to change Special Flood Hazard Areas, and to change zone designations.

August 17, 2016 – to update corporate limits, to increase Base Flood Elevations, to change Special Flood Hazard Areas, to incorporate new detailed coastal flood hazard analysis, to update roads and road names, to reflect updated topographic information, and to add floodway.

TABLE OF CONTENTS – Volume 1 – August 17, 2016

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
1.1 Purpose of Study	1
1.2 Authority and Acknowledgments	1
1.3 Coordination	6
2.0 <u>AREA STUDIED</u>	8
2.1 Scope of Study	8
2.2 Community Description	9
2.3 Principal Flood Problems	9
2.4 Flood Protection Measures	11
3.0 <u>ENGINEERING METHODS</u>	11
3.1 Riverine Hydrologic Analyses	12
3.2 Riverine Hydraulic Analyses	20
3.3 Coastal Analysis	24
3.4 Vertical Datum	30
4.0 <u>FLOODPLAIN MANAGEMENT APPLICATIONS</u>	31
4.1 Floodplain Boundaries	31
4.2 Floodways	33
5.0 <u>INSURANCE APPLICATIONS</u>	50
6.0 <u>FLOOD INSURANCE RATE MAP</u>	51
7.0 <u>OTHER STUDIES</u>	55
8.0 <u>LOCATION OF DATA</u>	55
9.0 <u>BIBLIOGRAPHY AND REFERENCES</u>	55

TABLE OF CONTENTS – Volume 1 – continued – August 17, 2016

	<u>Page</u>
<u>FIGURES</u>	
Figure 1 – Frequency Discharge Drainage Area Curves	15
Figure 2 – Transect Location Map	27
Figure 3 – Transect Schematic	29
Figure 4 – Floodway Schematic	34

<u>TABLES</u>	
Table 1 – Initial and Final CCO Meetings	7
Table 2 – Flooding Sources Studied by Detailed Methods	8
Table 3 – Summary of Discharges	16-20
Table 4 – Manning's "n" Values	23
Table 5 – Summary of Coastal Stillwater Elevations	25
Table 6 – Transect Data	28
Table 7 – Floodway Data	35-49
Table 8 – Community Map History	52-54

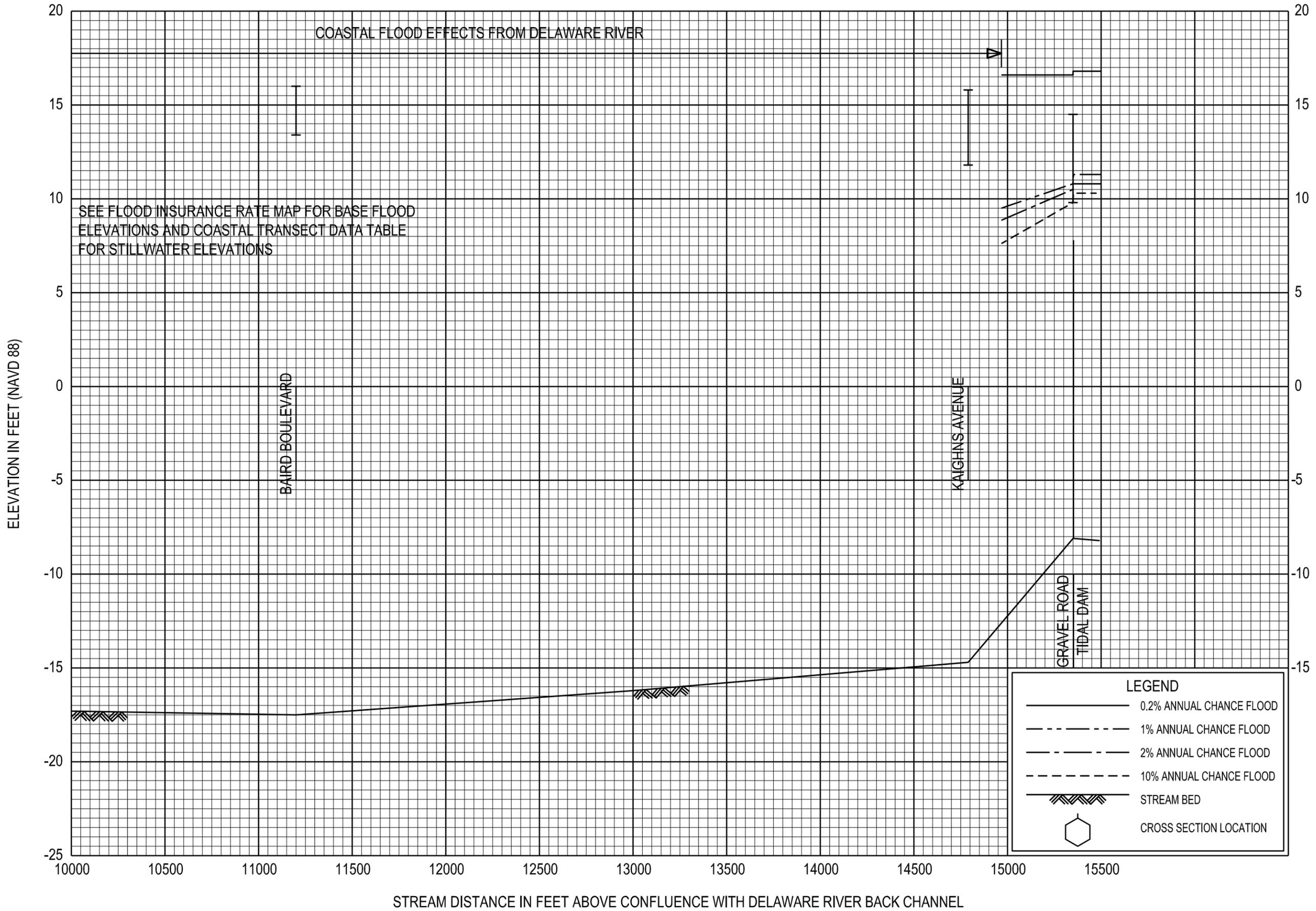
Table of Contents – Volume 2 – August 17, 2016

<u>EXHIBITS</u>	
Exhibit 1 – Flood Profiles	
Cooper River	Panels 01P-12P
Four Mile Branch	Panels 13P-21P
Great Egg Harbor River	Panels 22P-33P
Mason Run	Panels 34P-35P
Millard Creek	Panel 36P
Newton Creek	Panels 37P-40P
Nicholson Branch	Panel 41P
North Branch Big Timber Creek	Panels 42P-46P
North Branch Cooper River	Panels 47P-55P

TABLE OF CONTENTS – Volume 2 – continued – August 17, 2016

EXHIBITS - continued

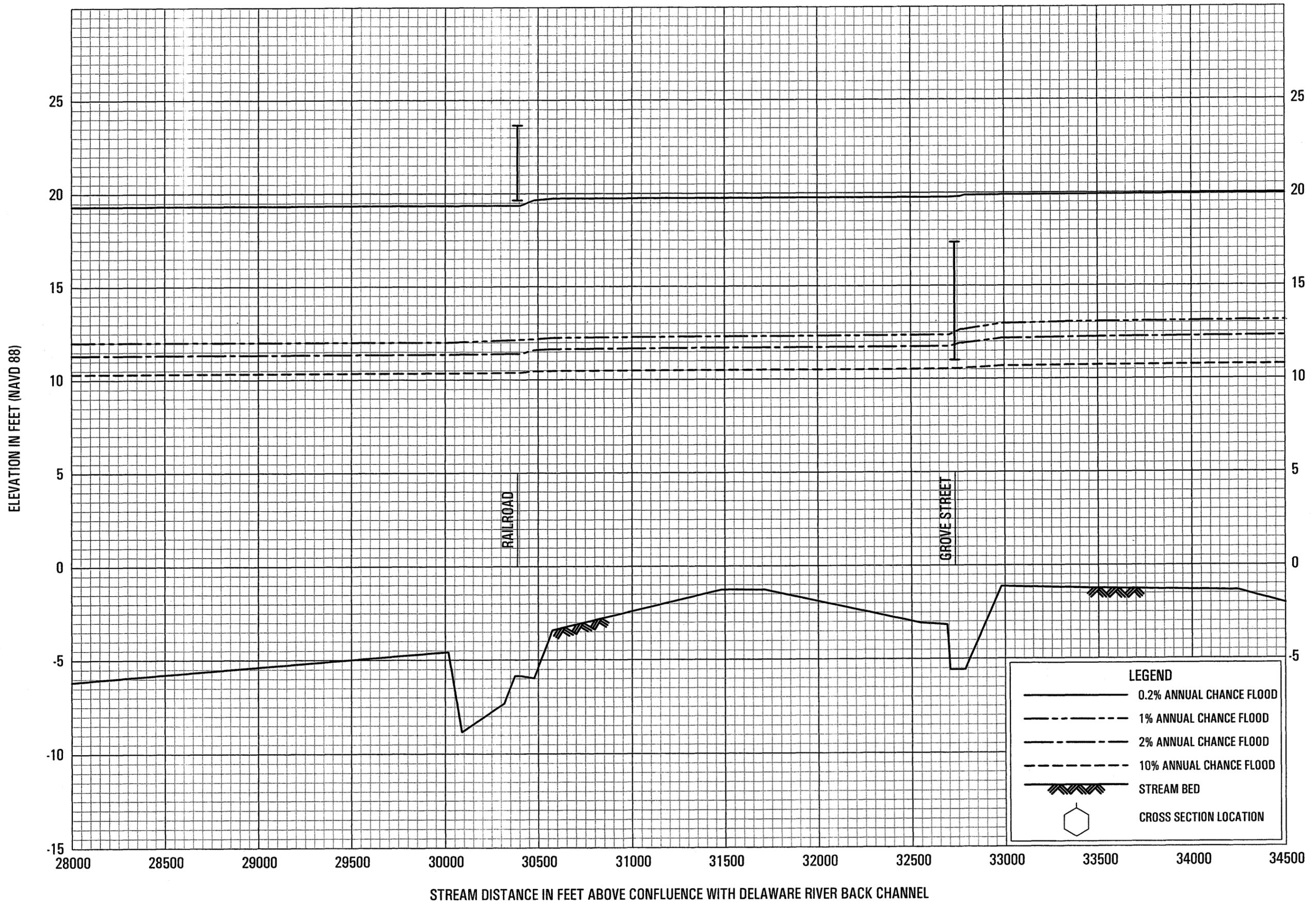
Exhibit 1 – Flood Profiles (continued)	
North Fork of Tributary No. 1 to Cooper River	Panel 56P
Pines Run	Panels 57P-59P
Pochack Creek	Panel 60P
Prossers Branch	Panels 61P-62P
Pump Branch	Panels 63P-69P
Signey Run	Panels 70P-71P
South Branch Big Timber Creek	Panels 72P-78P
South Branch Newton Creek	Panel 79P
South Branch Pennsauken Creek	Panels 80P-82P
Tindale Run	Panel 83P
Tributary No. 3 to Barton Run	Panels 84P-86P
Tributary No. 1 to Cooper River	Panels 87P-89P
Tributary No. 2 to Cooper River	Panel 90P
Tributary No. 3 to Cooper River	Panel 91P
Tributary No. 4 to Cooper River	Panels 92P
Tributary No. 1 to North Branch Cooper River	Panels 93P-94P
Tributary No. 2 to North Branch Cooper River	Panel 95P
Wildcat Branch	Panel 96P
Exhibit 2 – Flood Insurance Rate Map Index	
Flood Insurance Rate Map	



FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NEW JERSEY
 (ALL JURISDICTIONS)



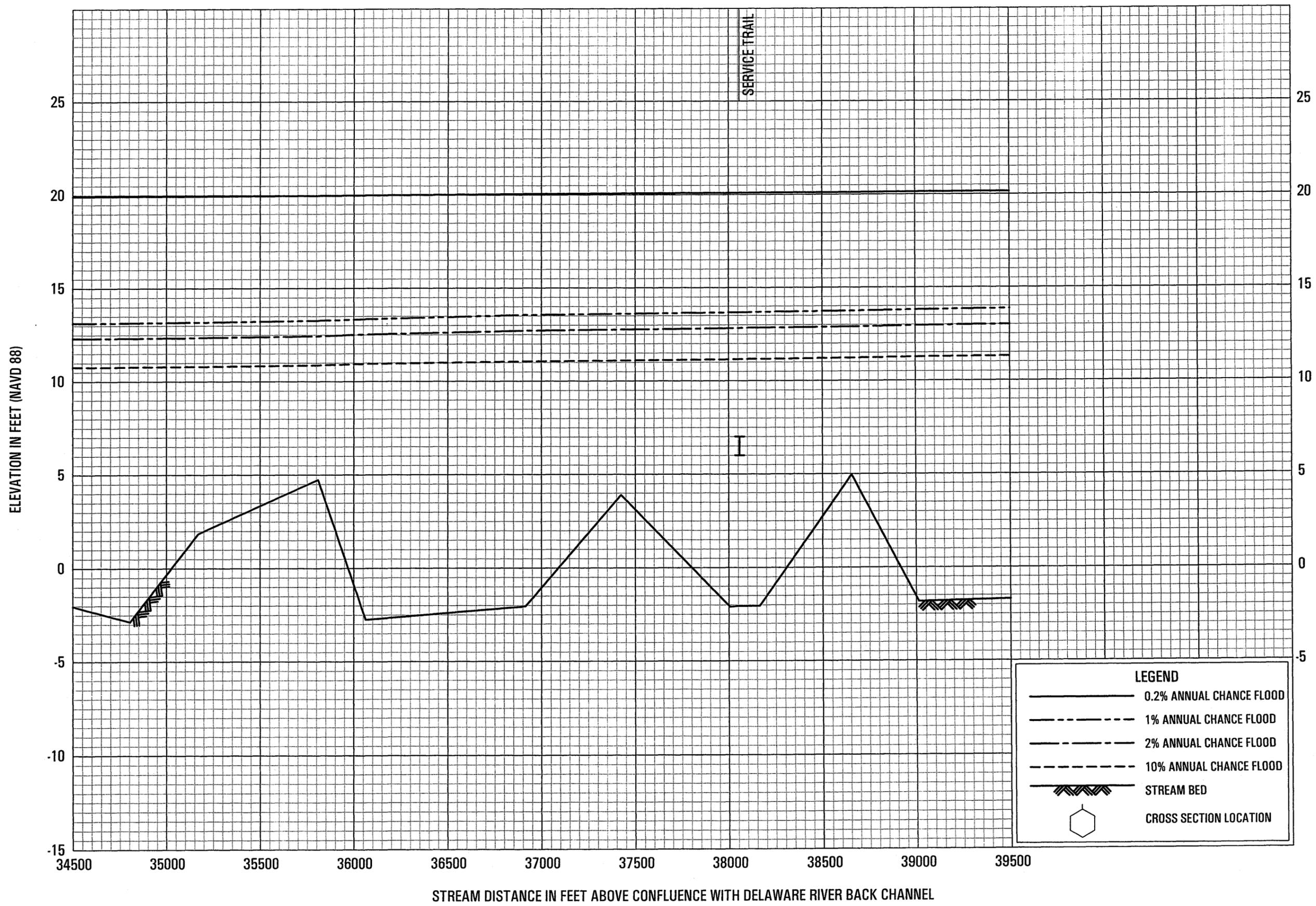
FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)



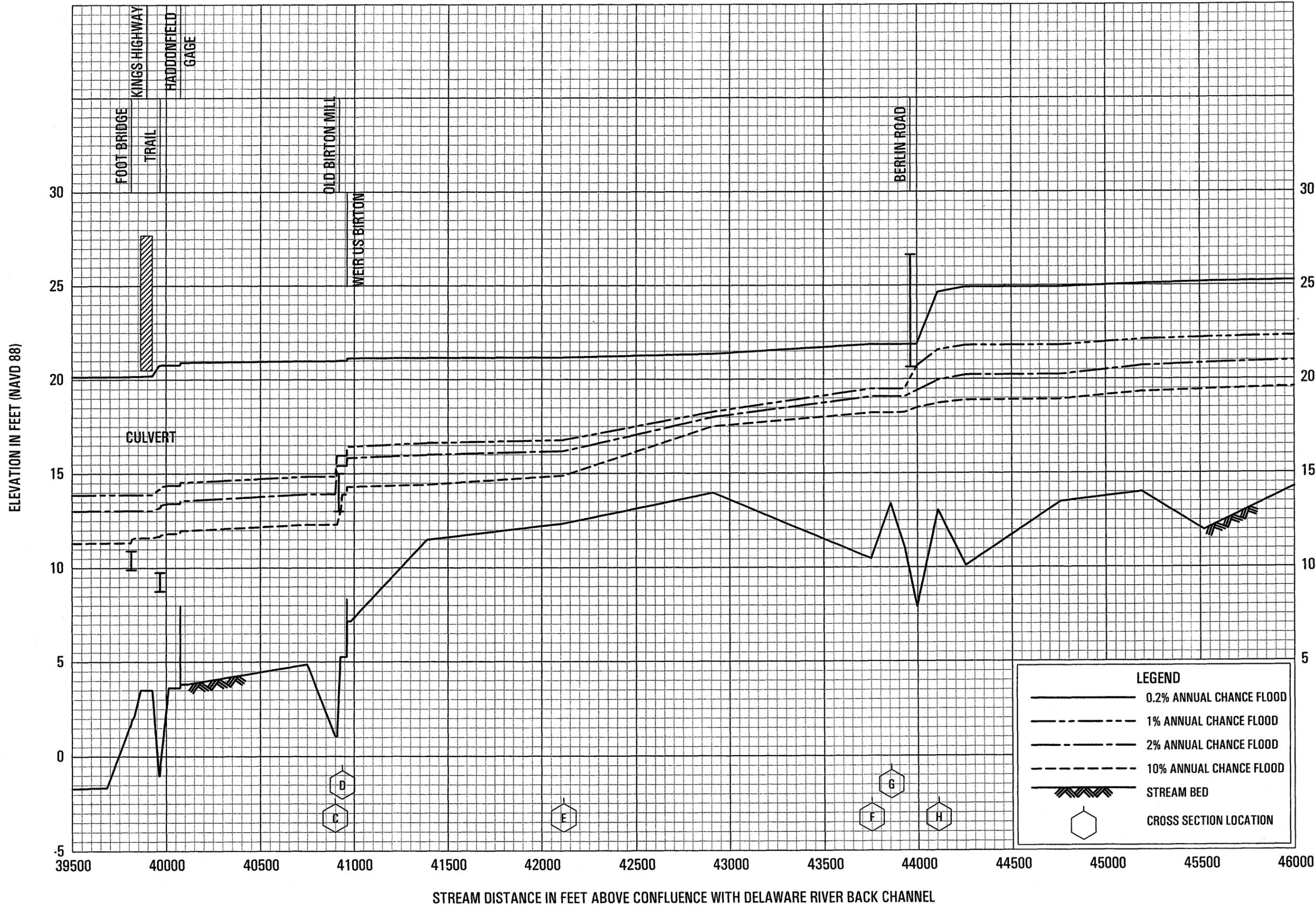
FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

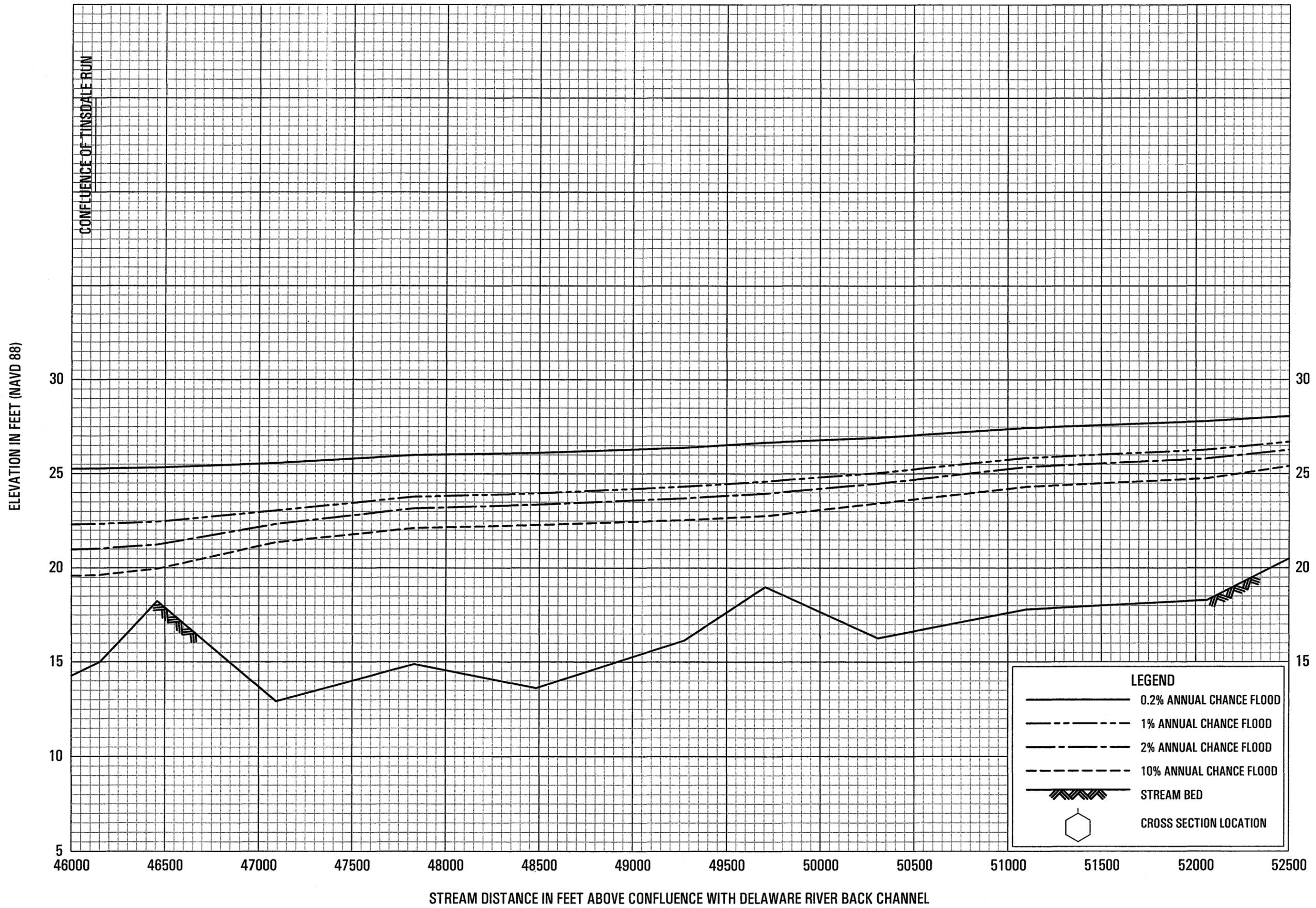
CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)



FLOOD PROFILES
COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



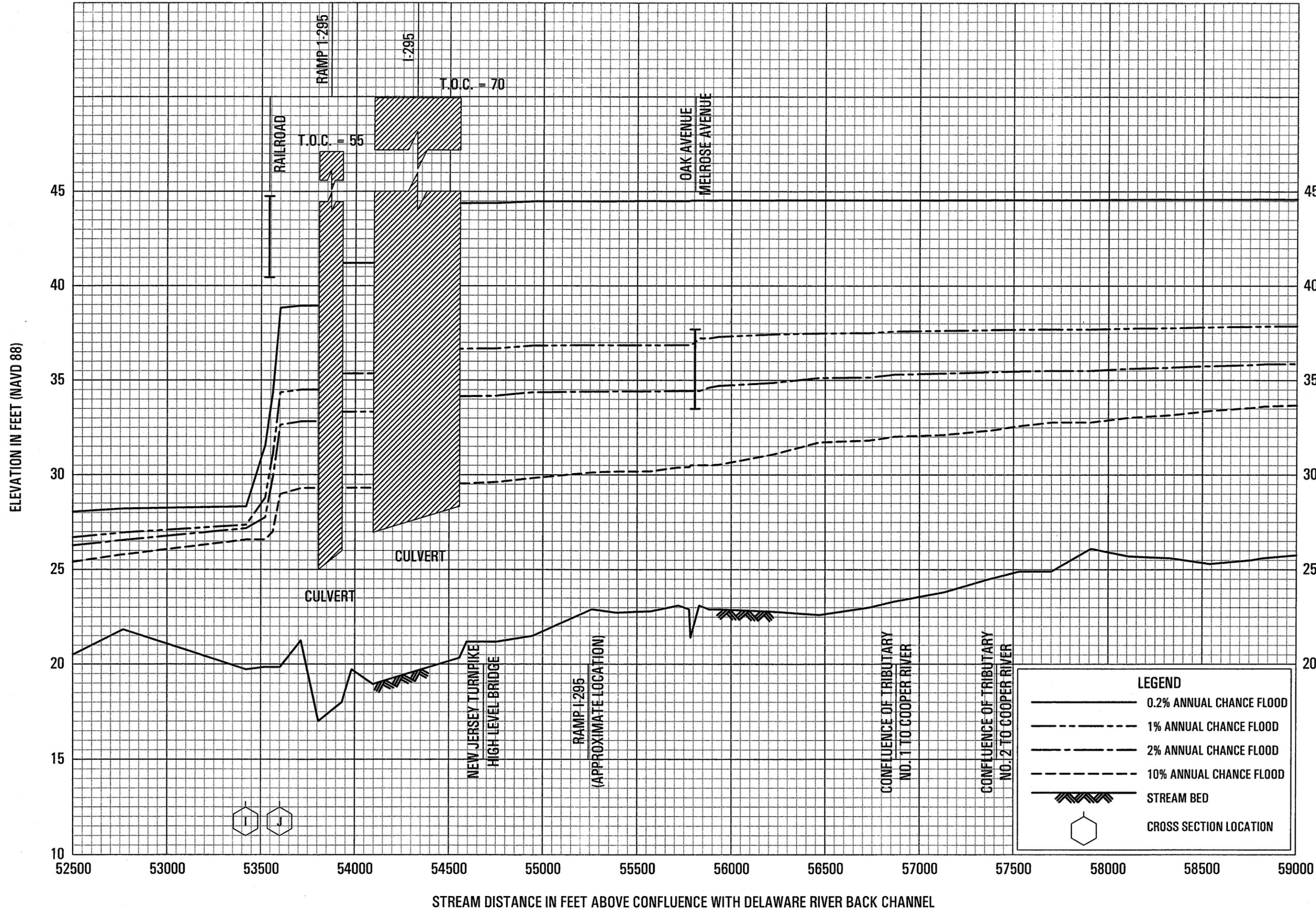
FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

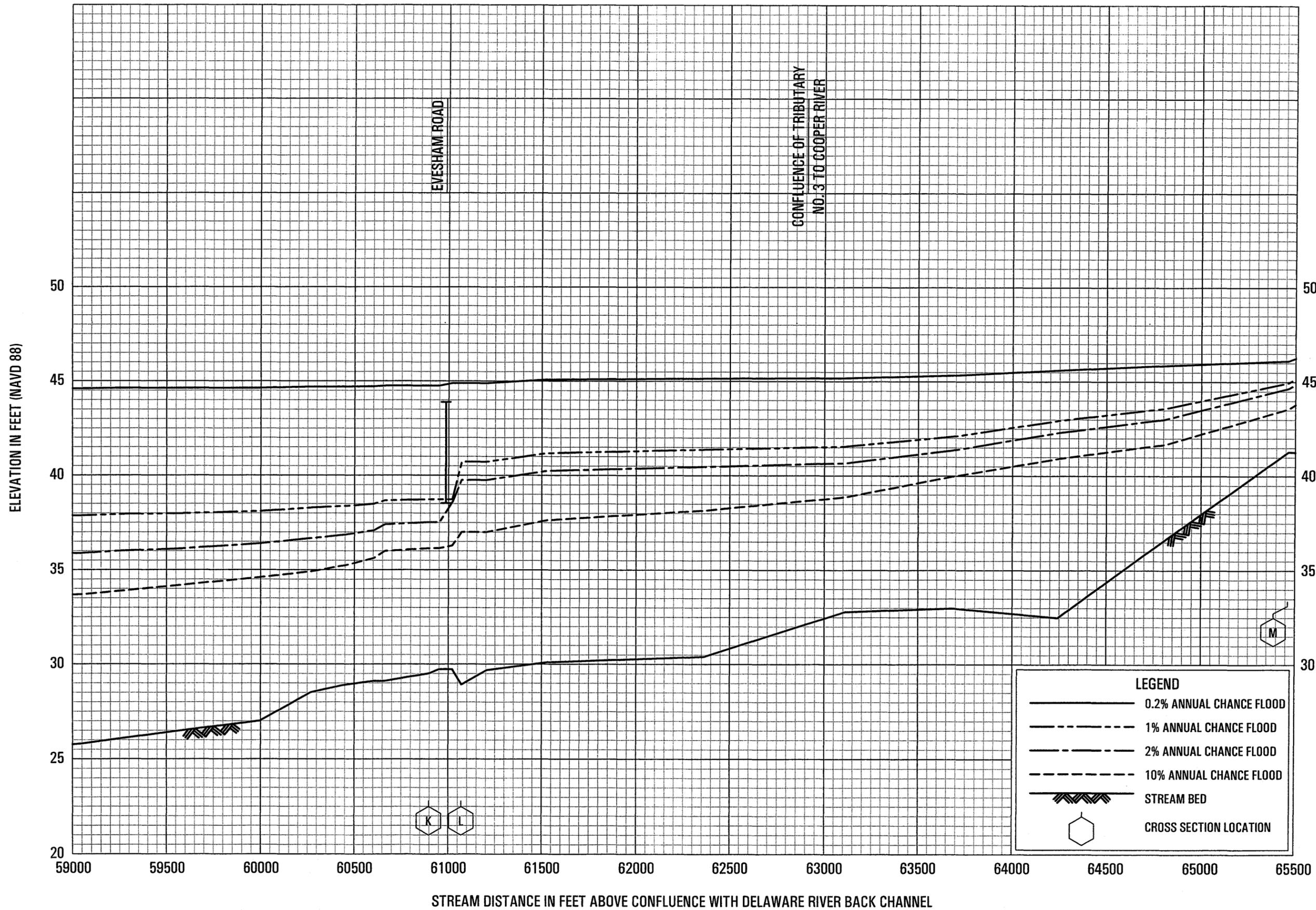
(ALL JURISDICTIONS)



FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
 CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

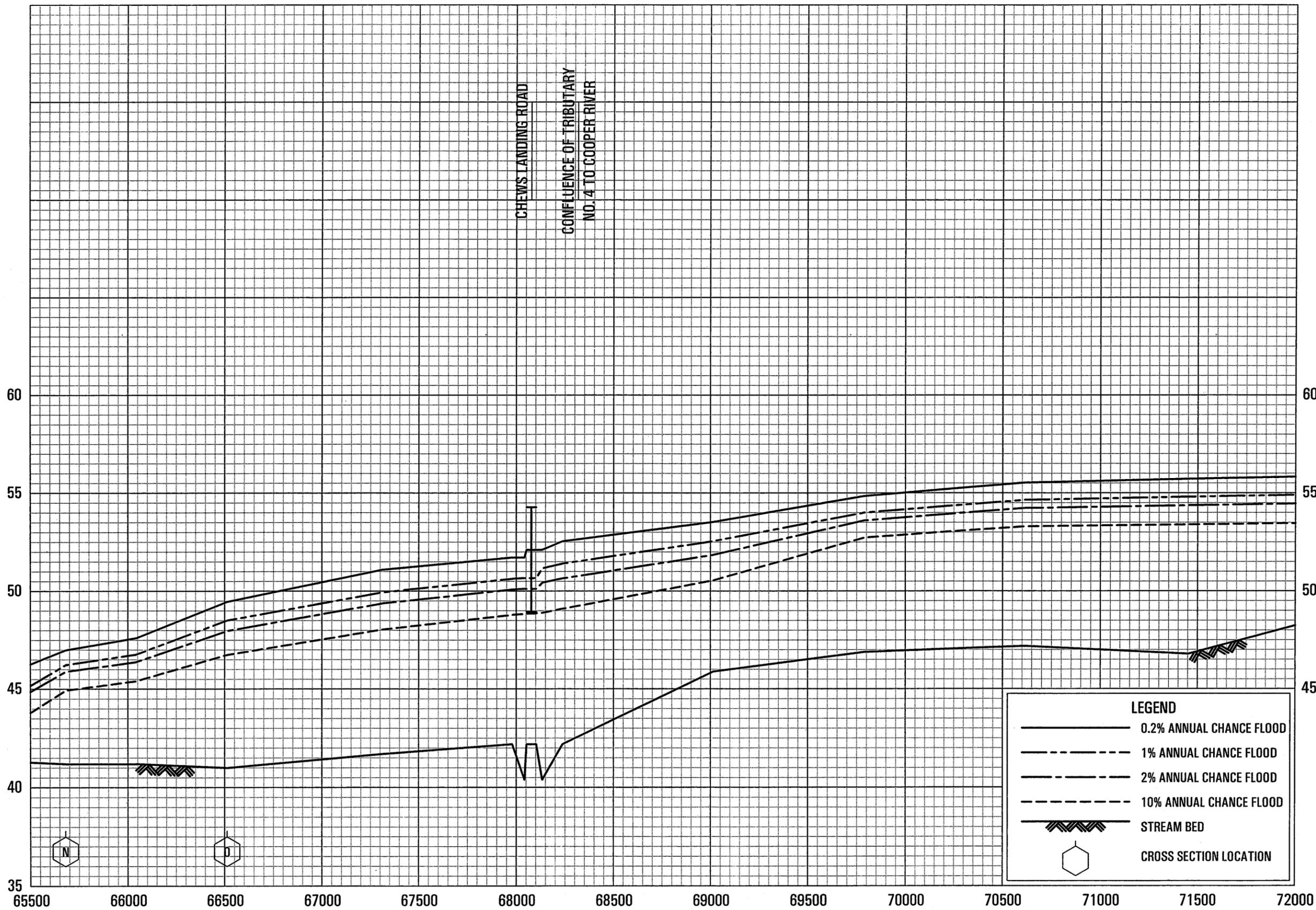


FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

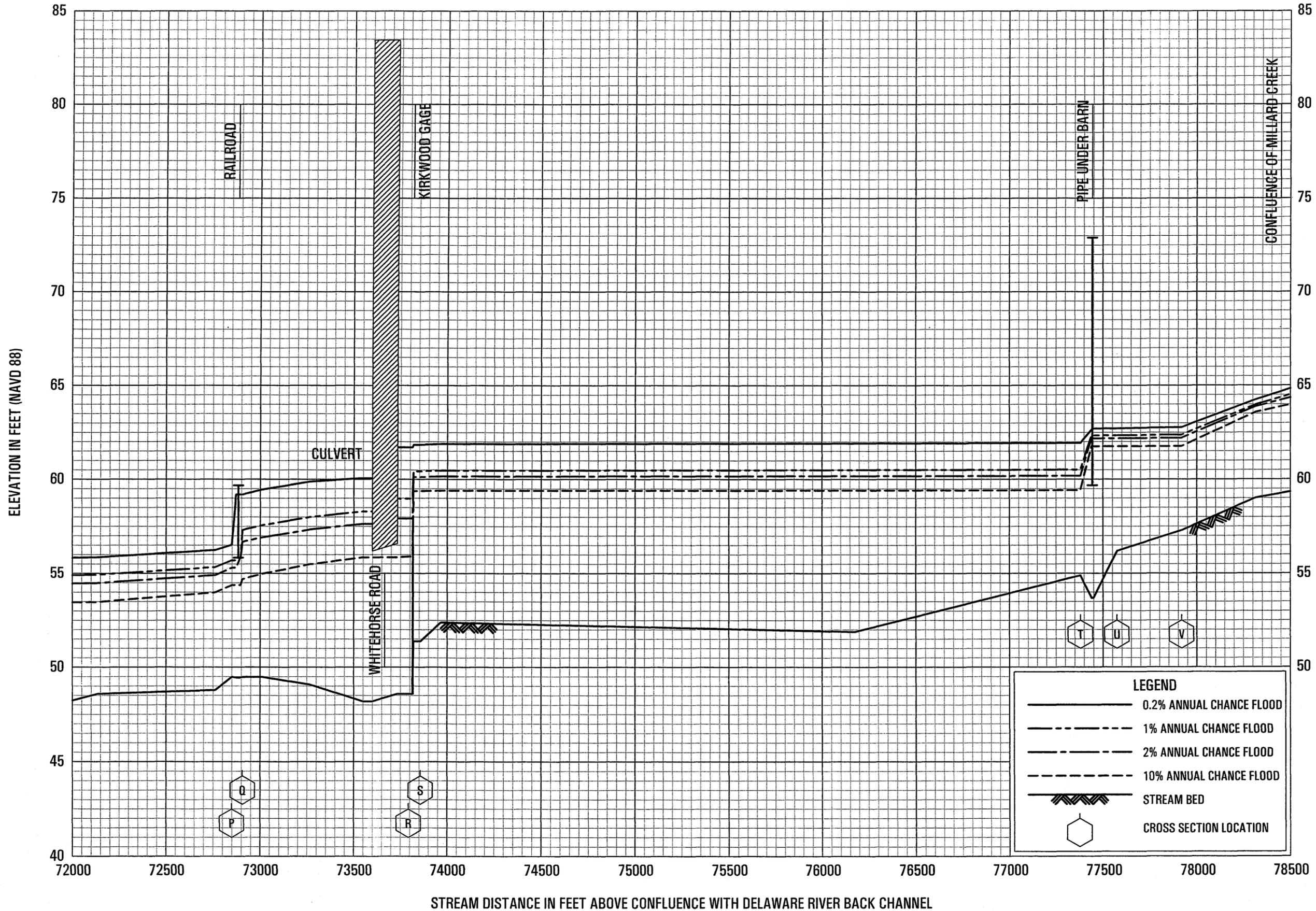
ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH DELAWARE RIVER BACK CHANNEL

FLOOD PROFILES
COOPER RIVER

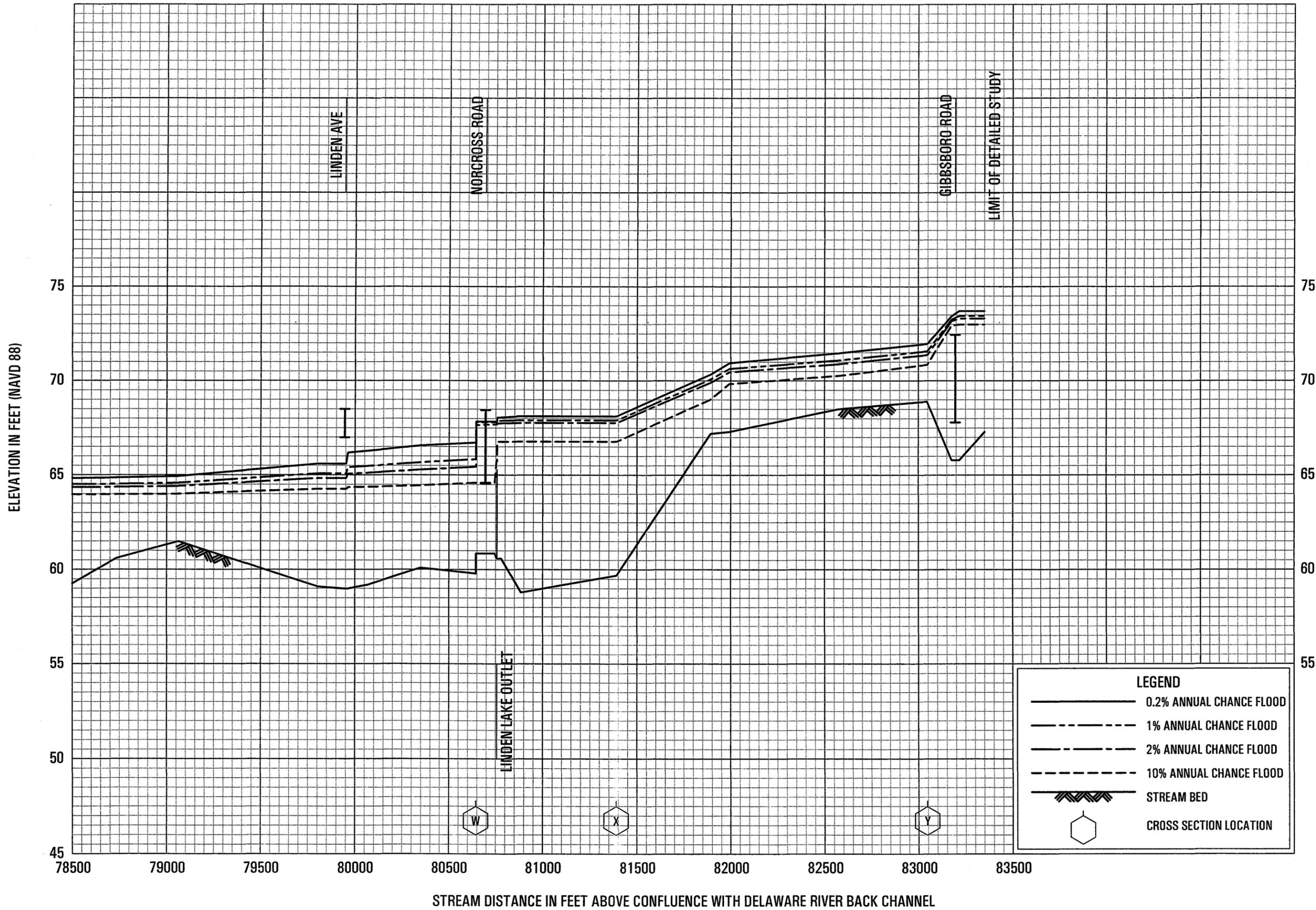
FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
 CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)



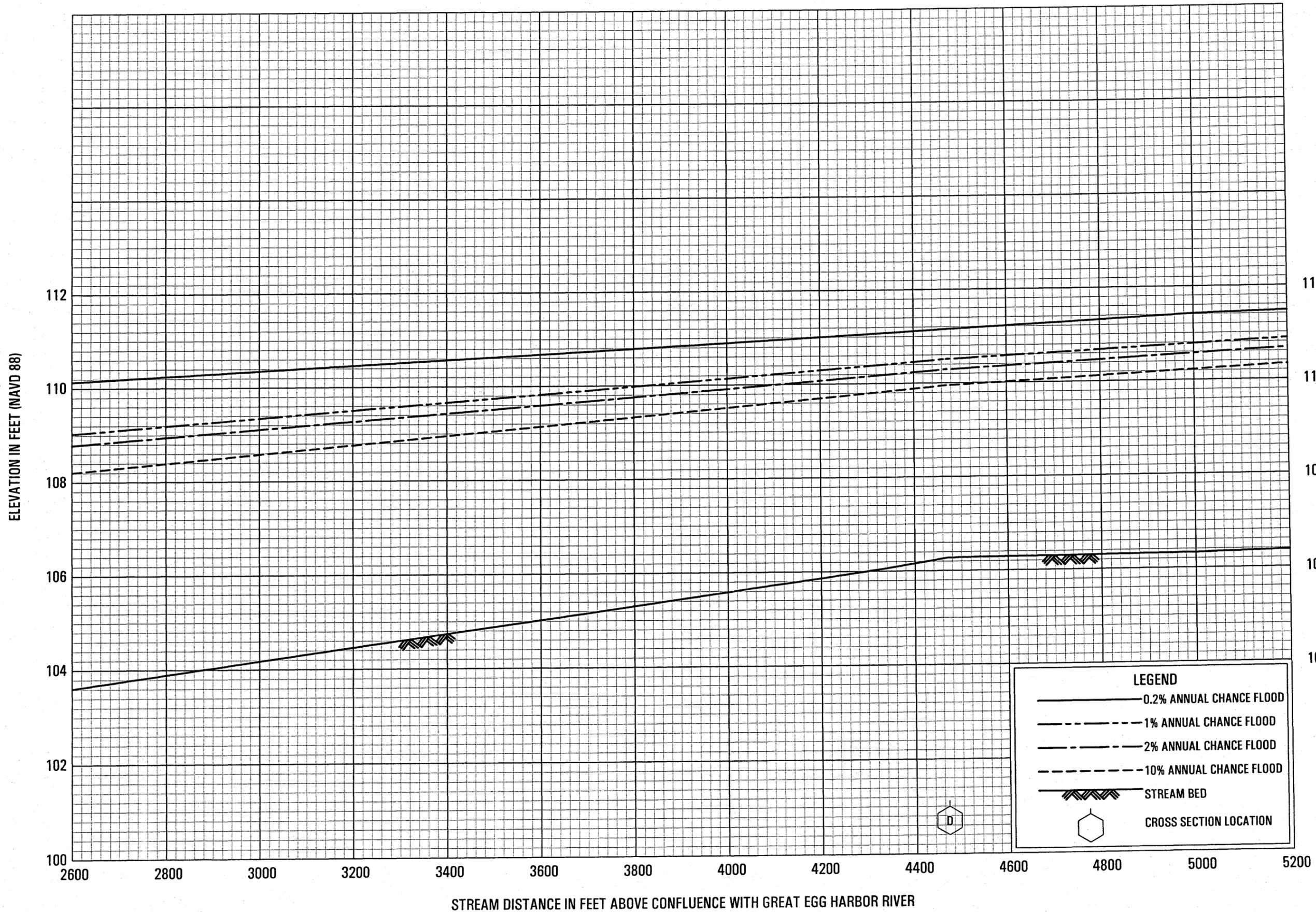
FLOOD PROFILES

COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

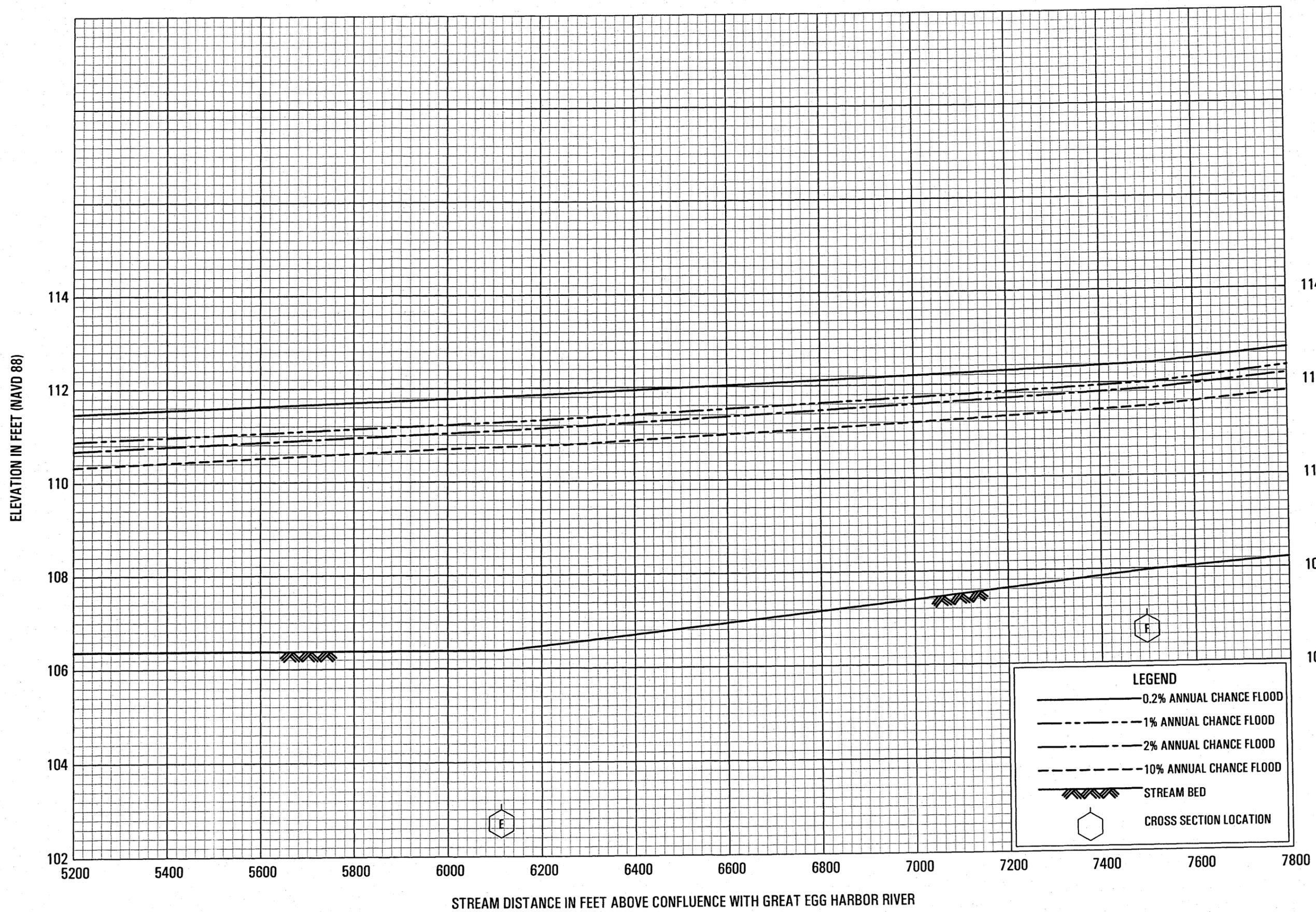
CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)



FLOOD PROFILES
FOUR MILE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

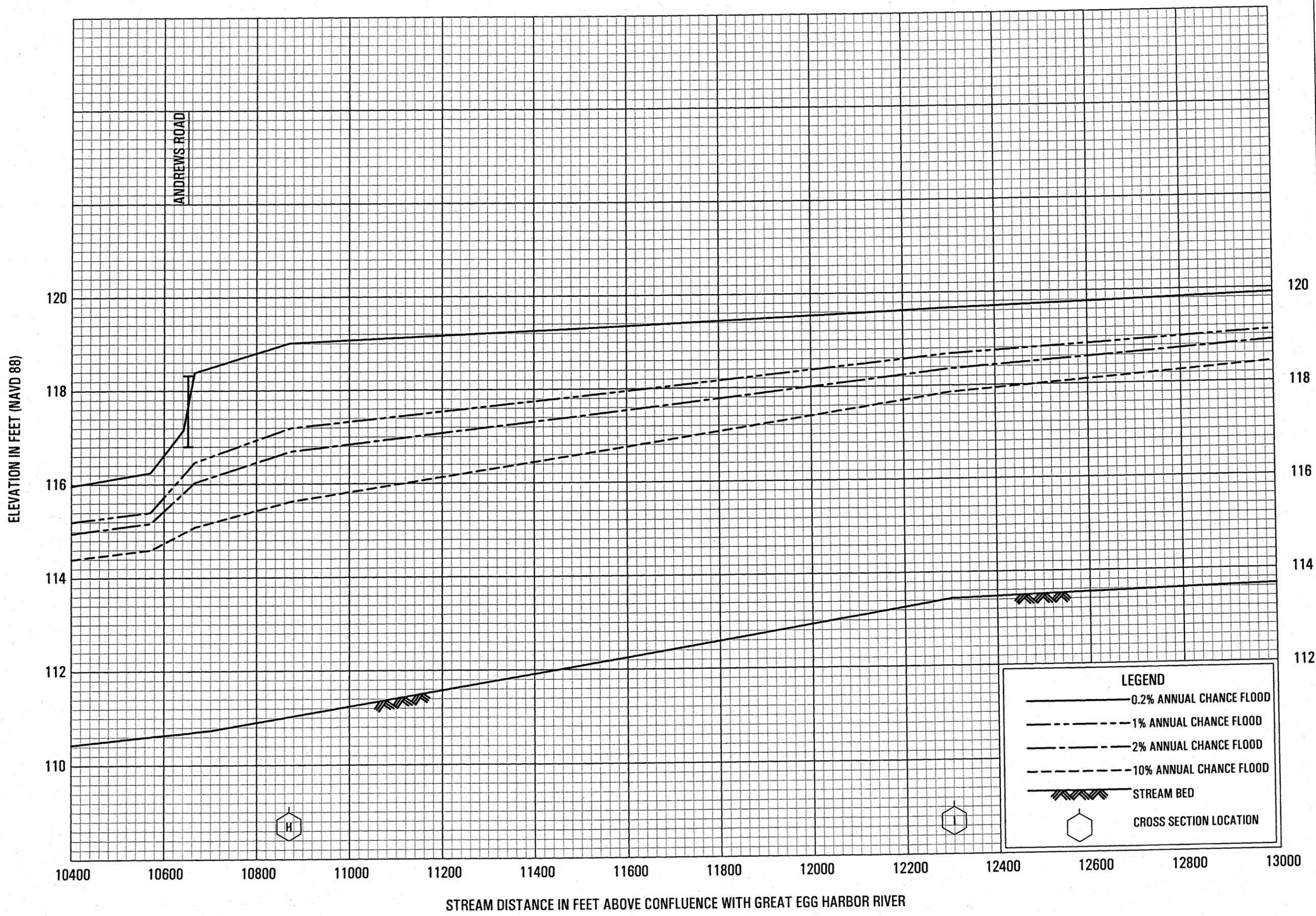


FLOOD PROFILES

FOUR MILE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

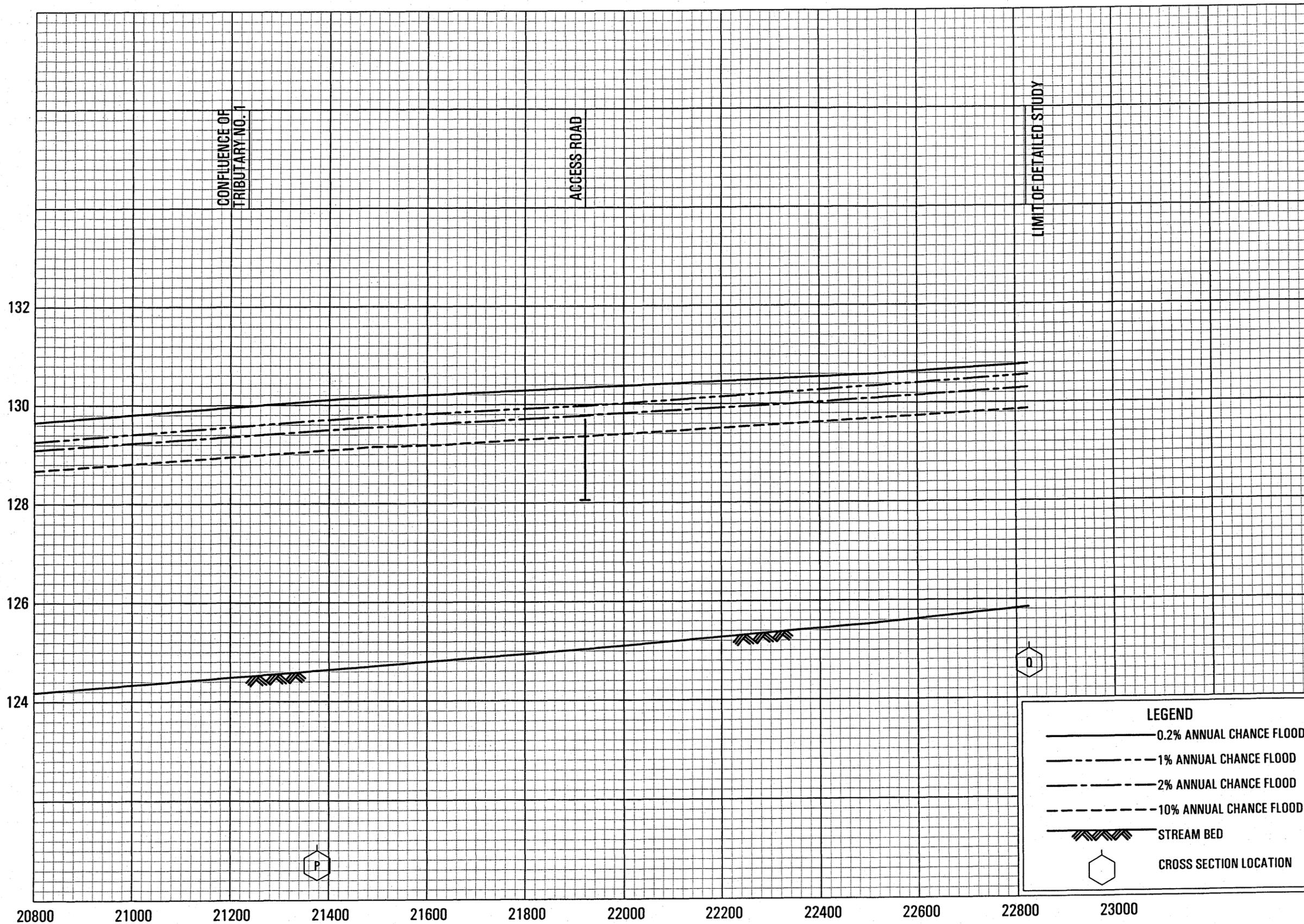
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
FOUR MILE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)



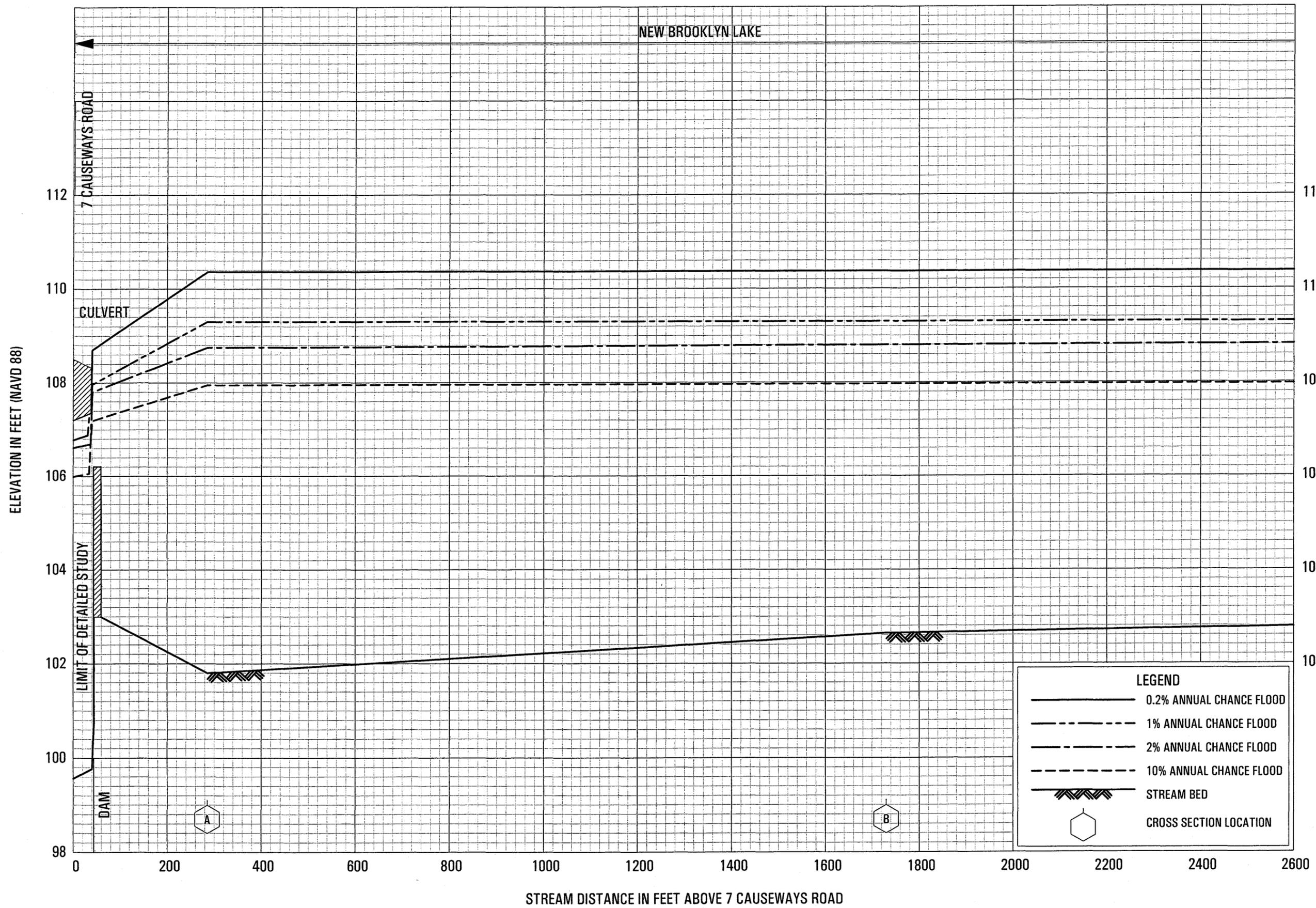
132
130
128
126
124

FLOOD PROFILES
FOUR MILE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

21P

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH GREAT EGG HARBOR RIVER

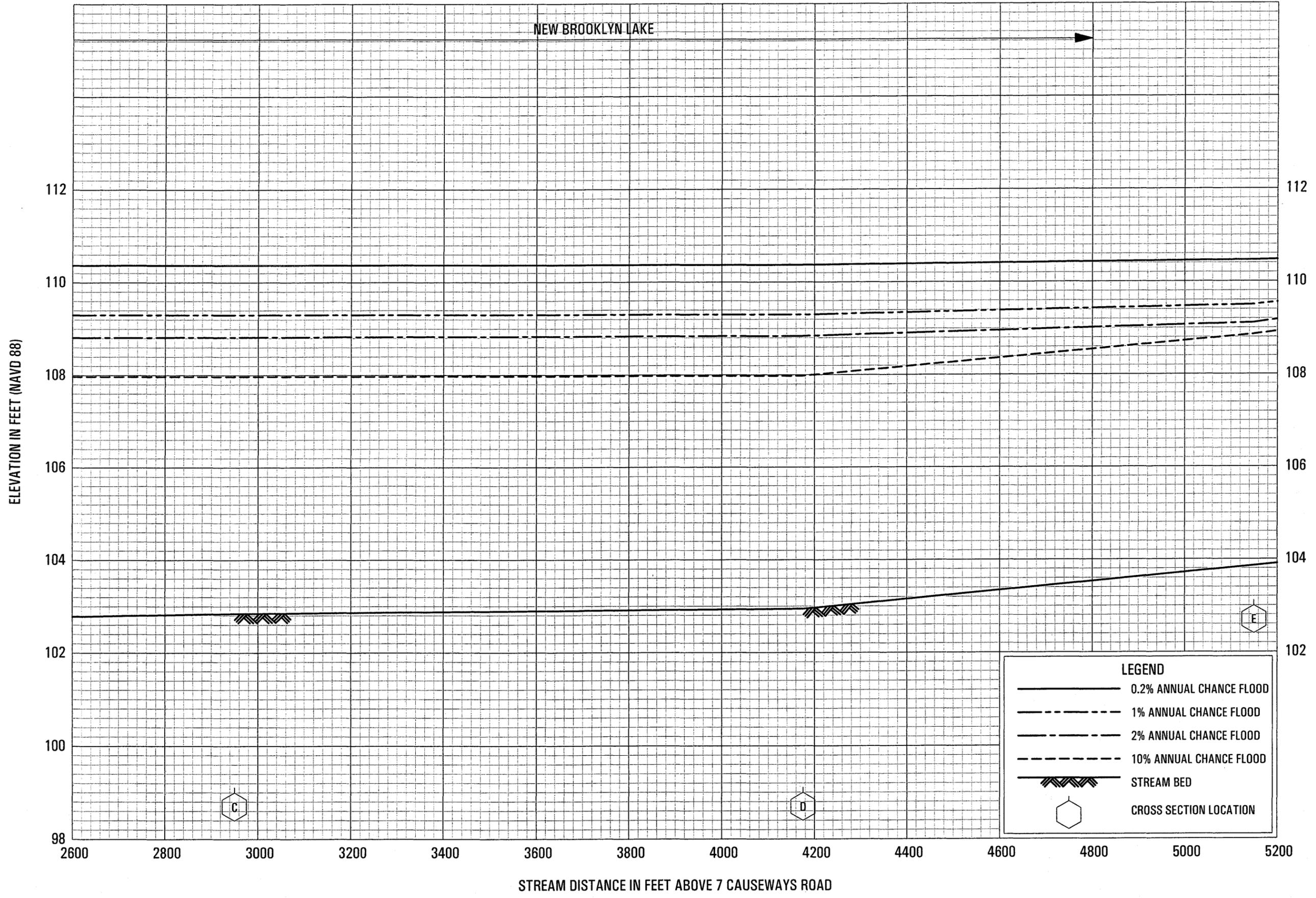


FLOOD PROFILES

GREAT EGG HARBOR RIVER

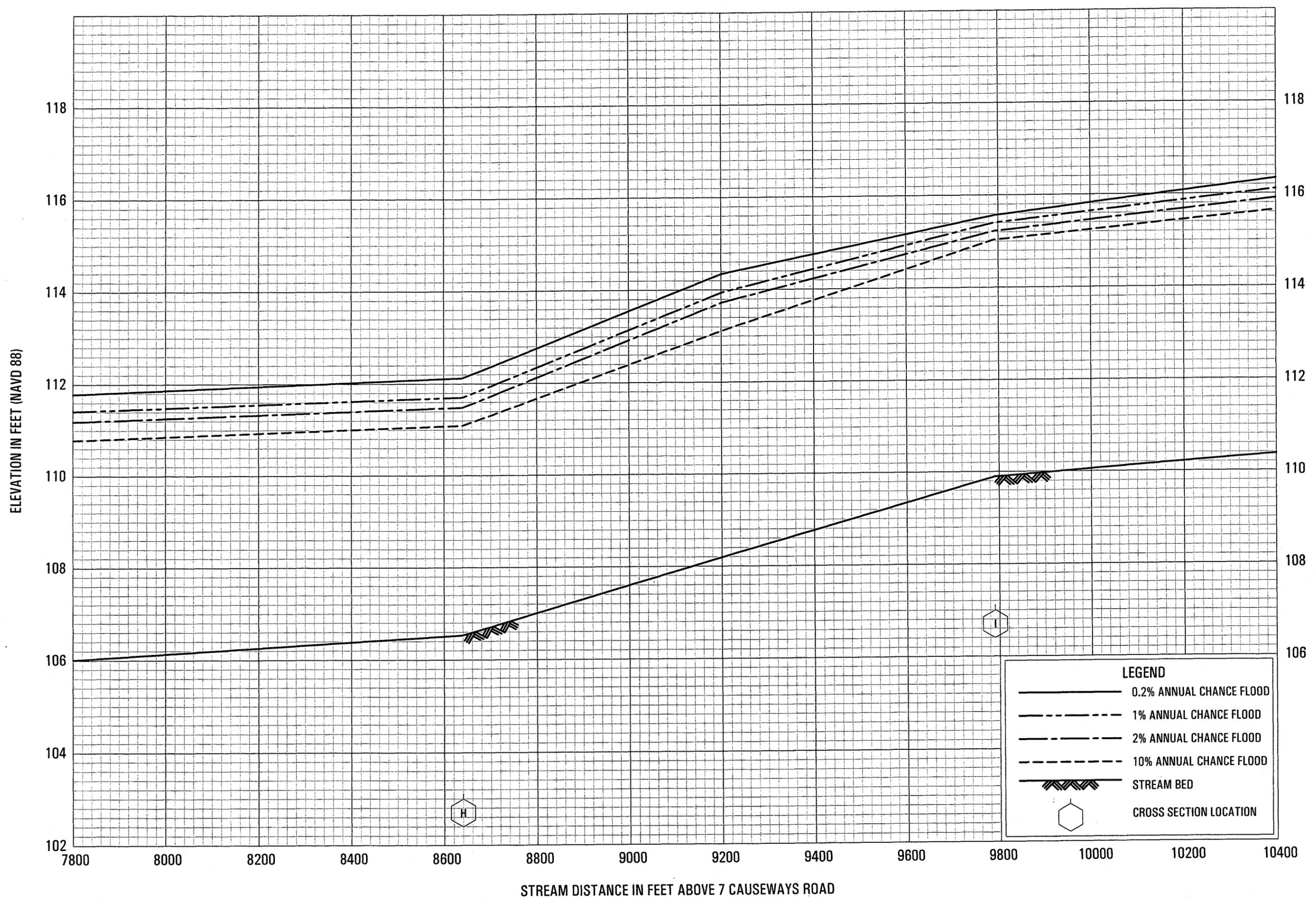
FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

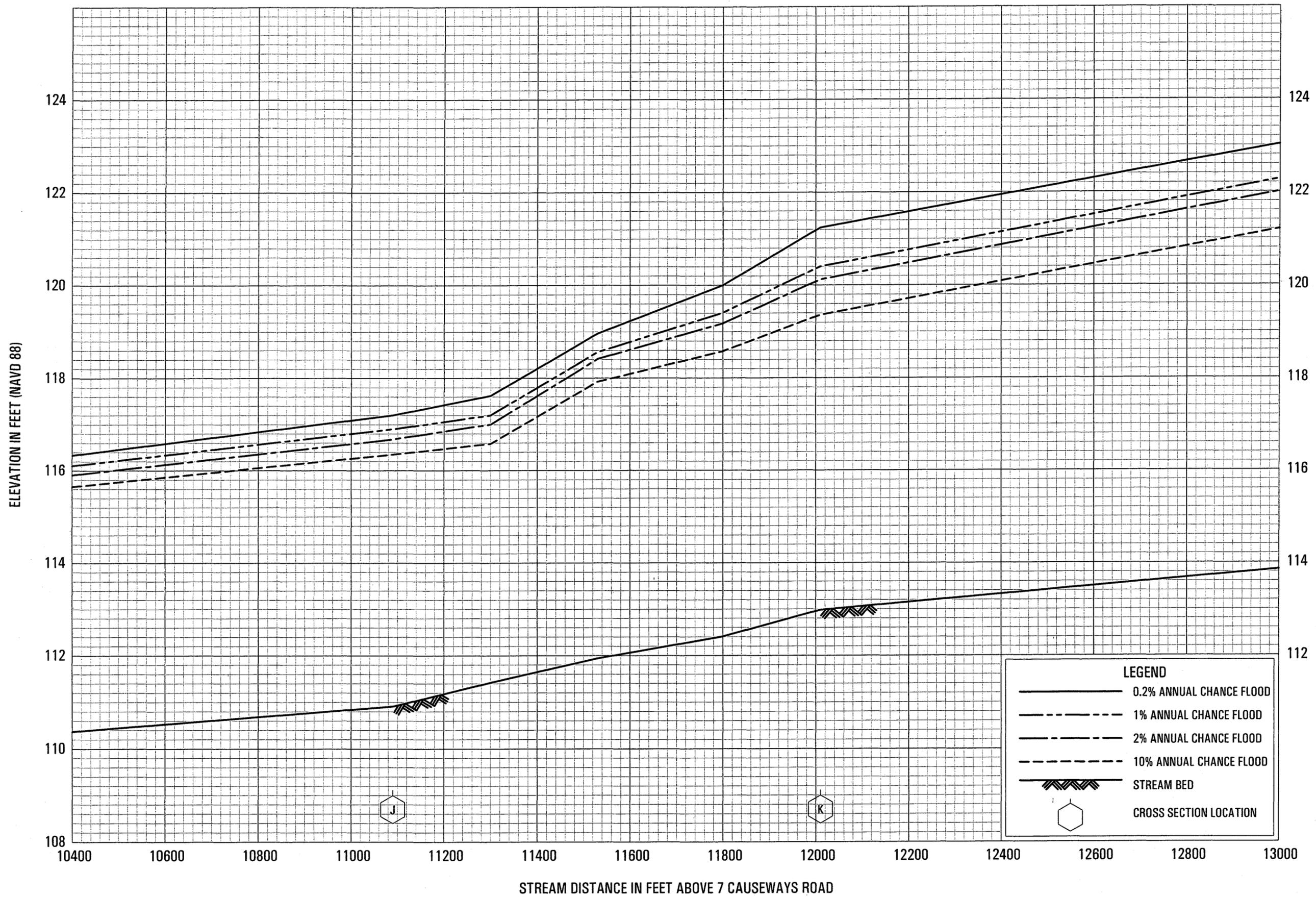


FLOOD PROFILES

GREAT EGG HARBOR RIVER

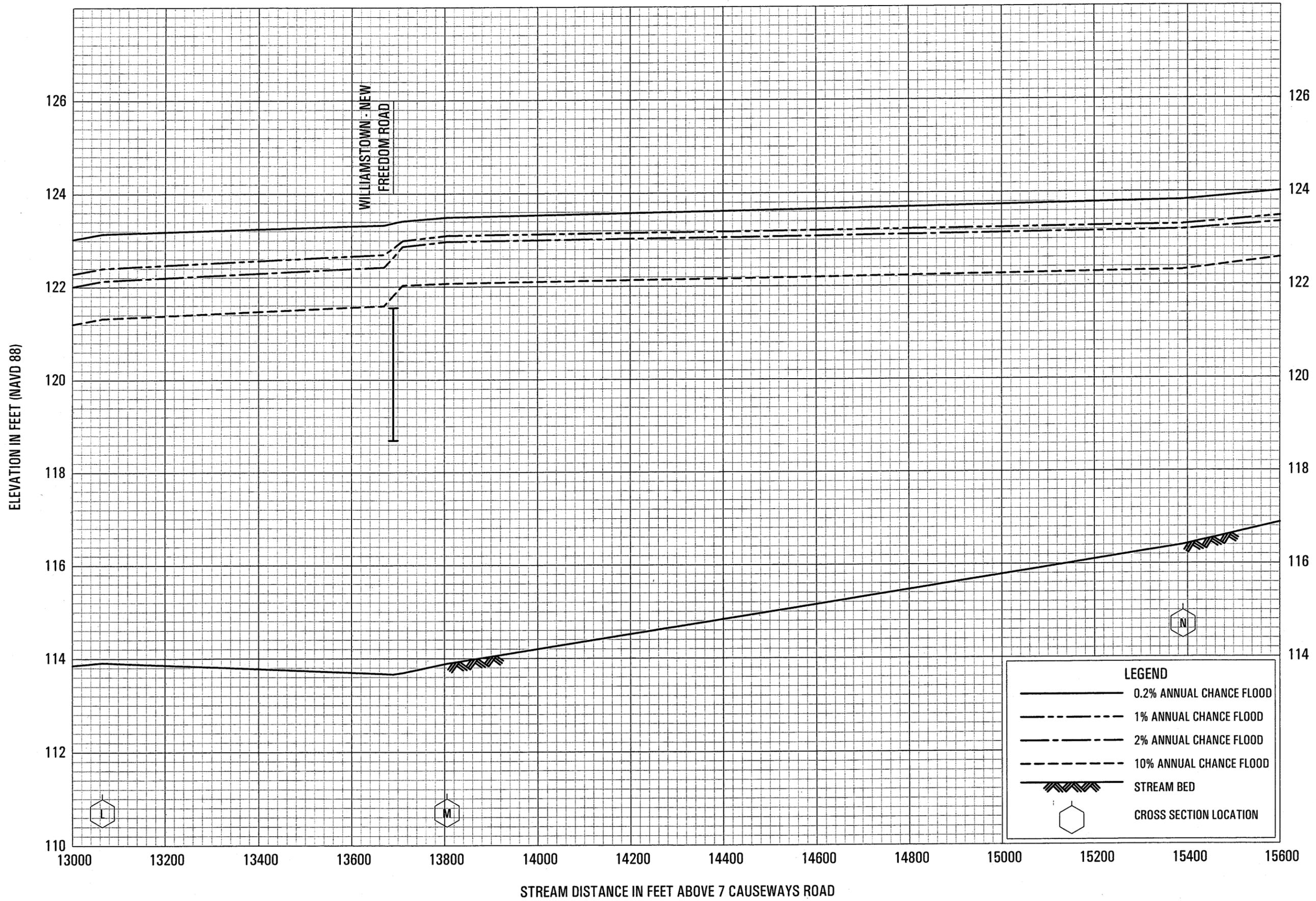
FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



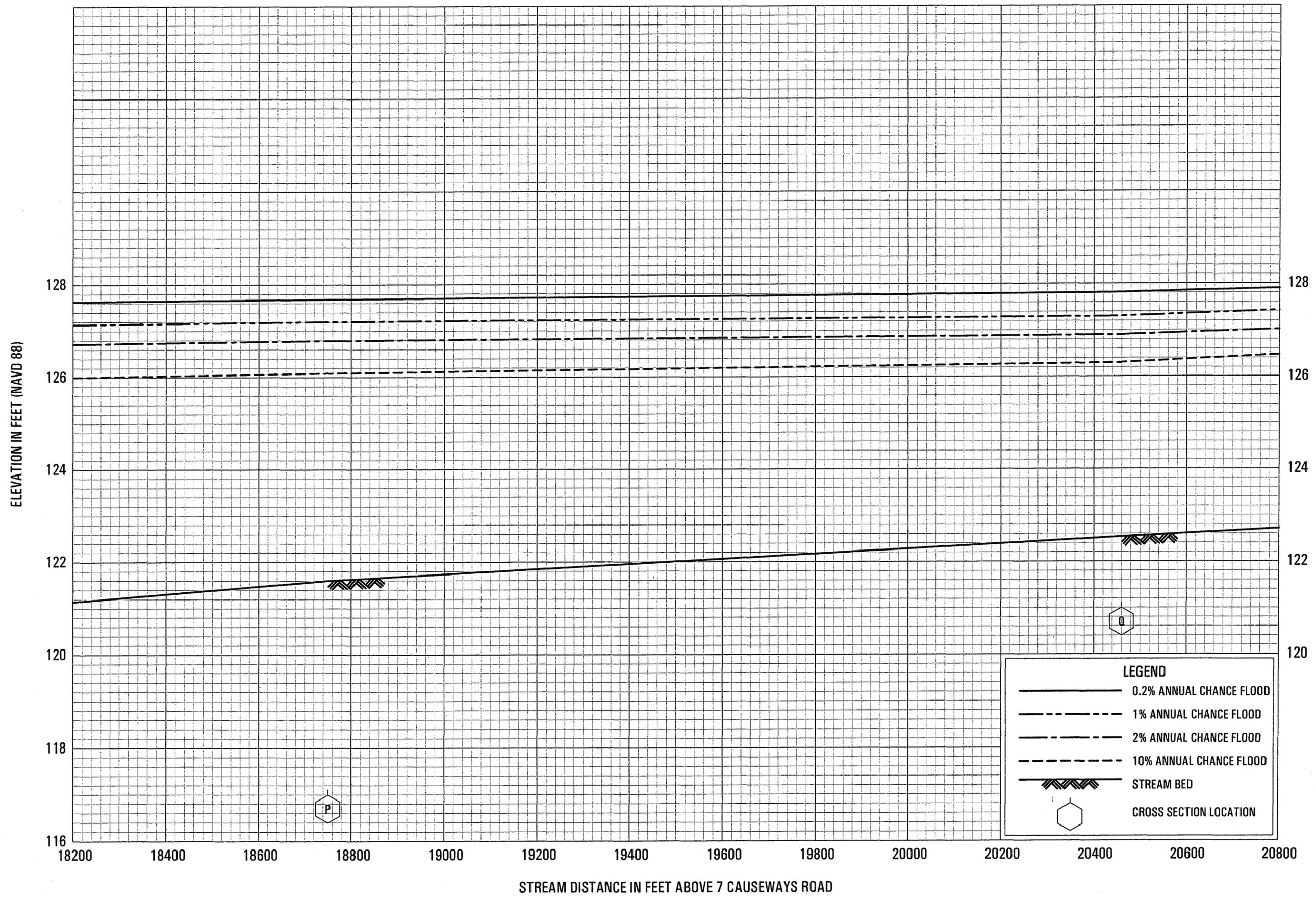
FLOOD PROFILES

GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)

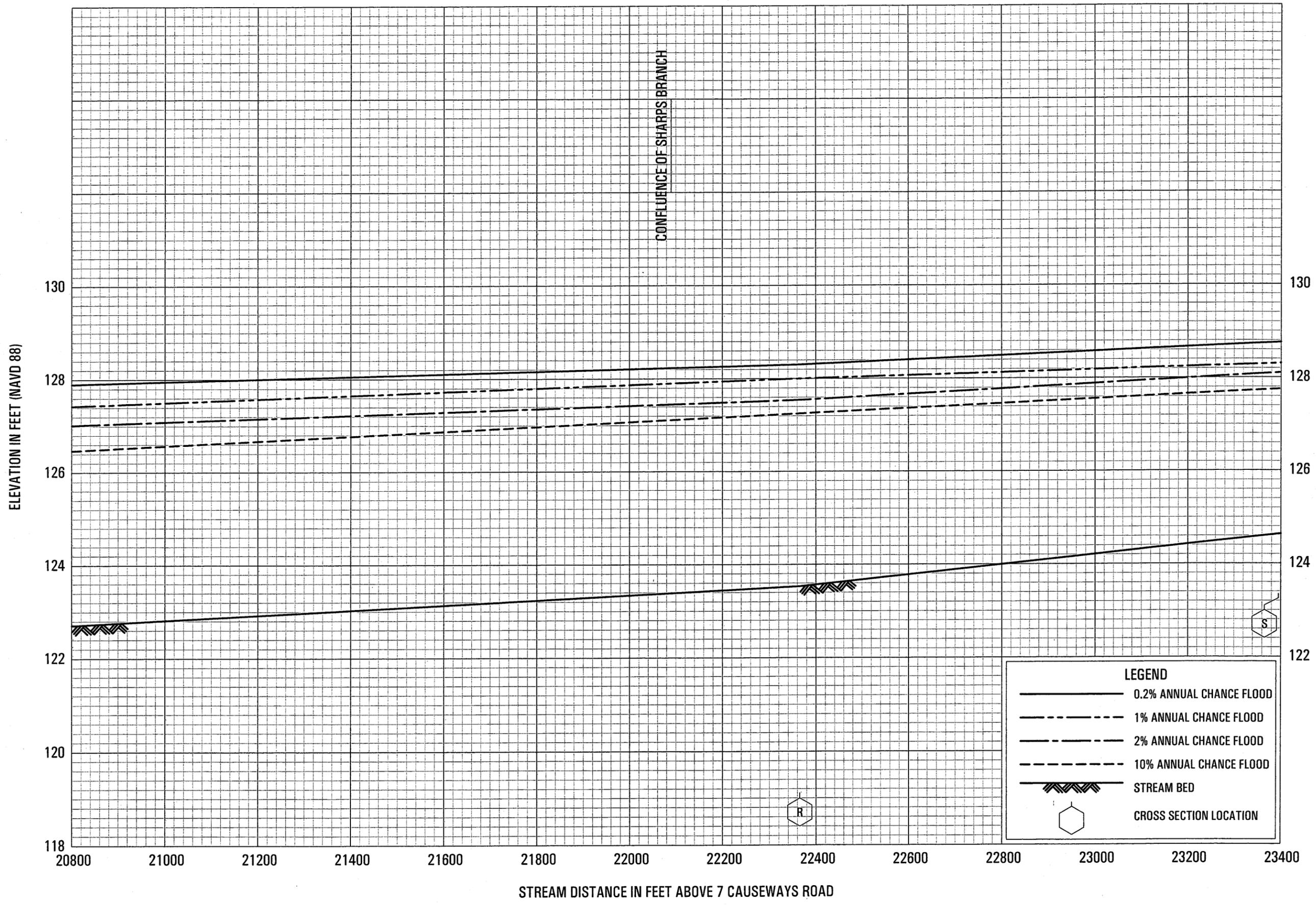


FLOOD PROFILES

GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



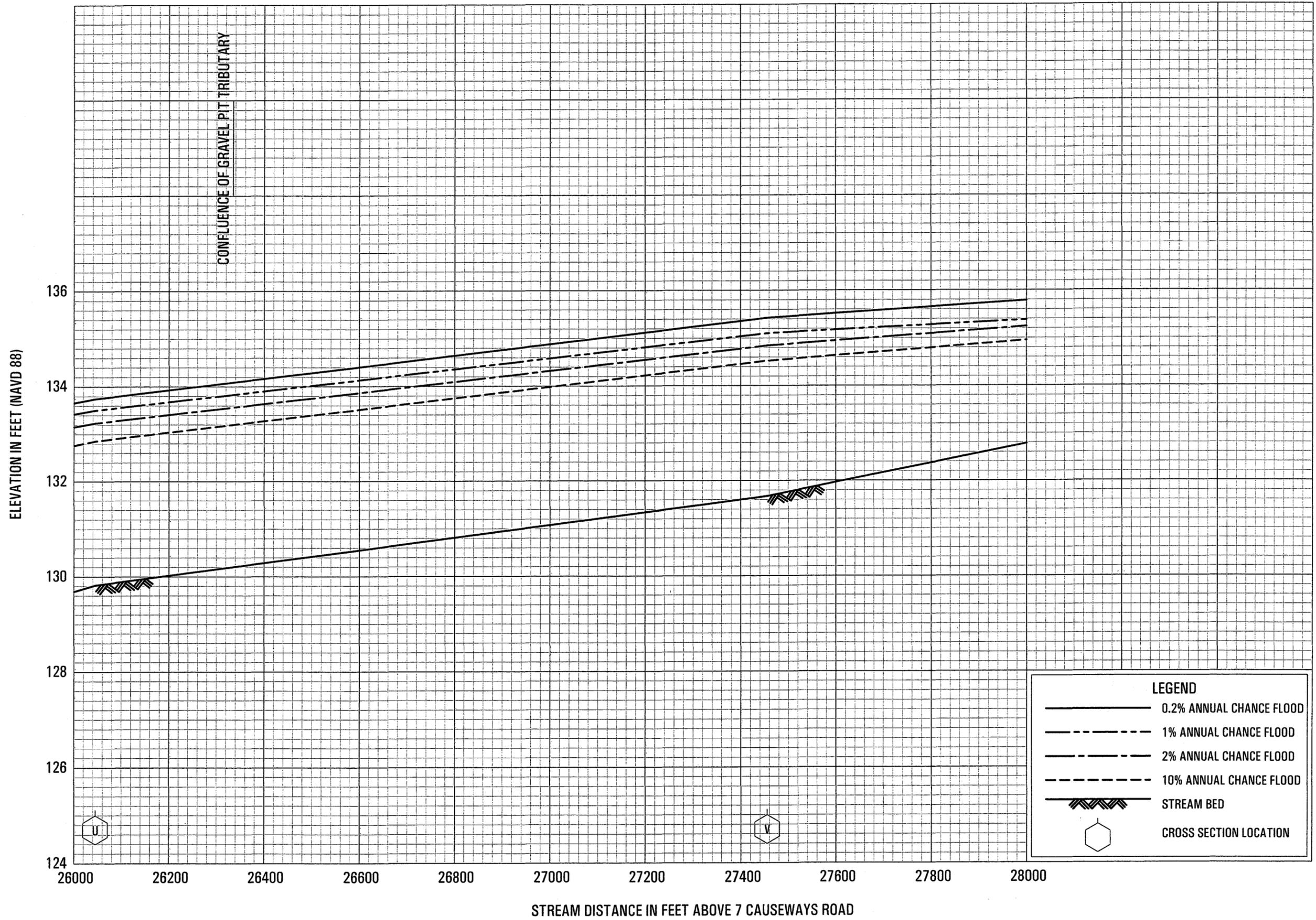
FLOOD PROFILES

GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)



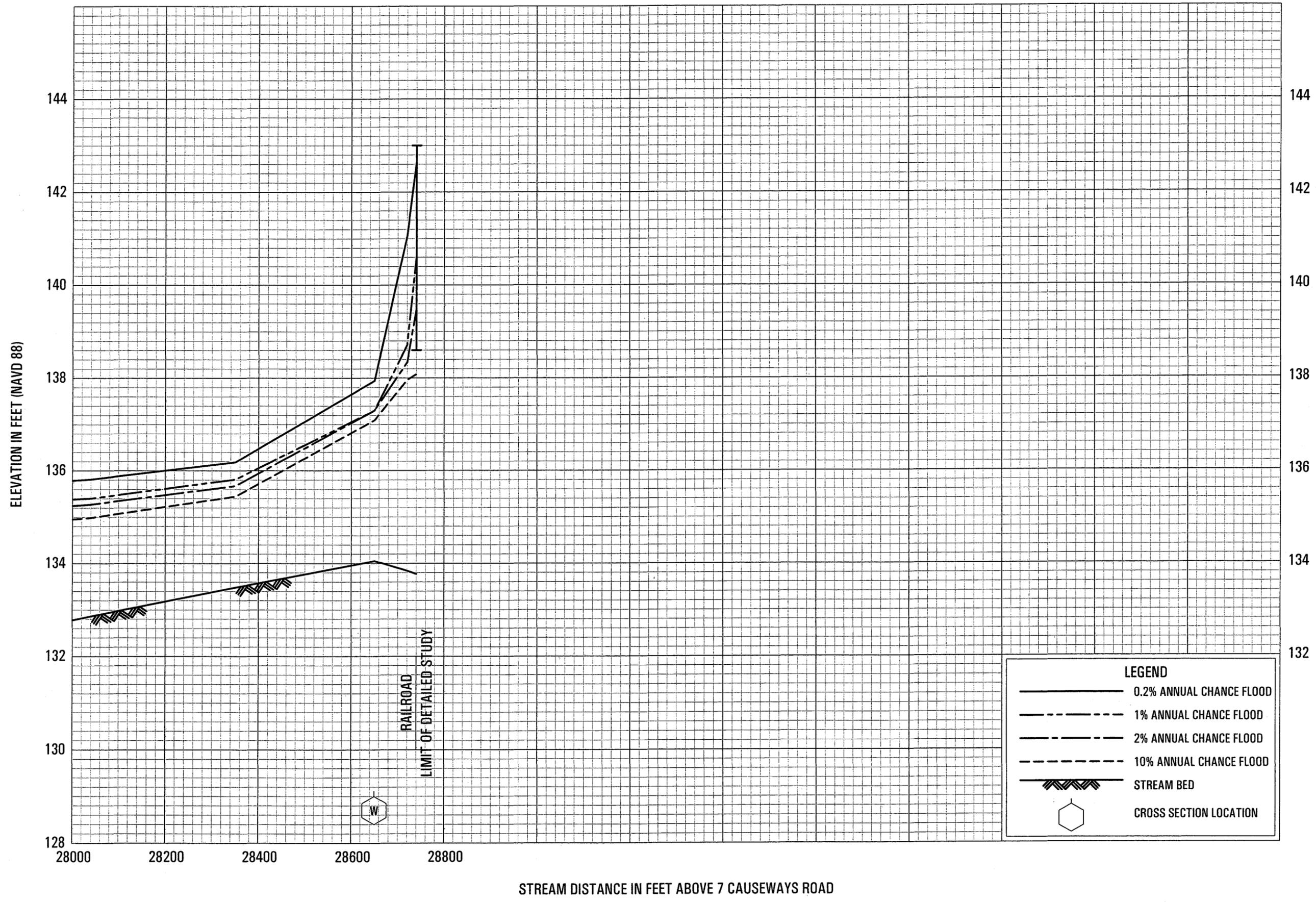
FLOOD PROFILES

GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

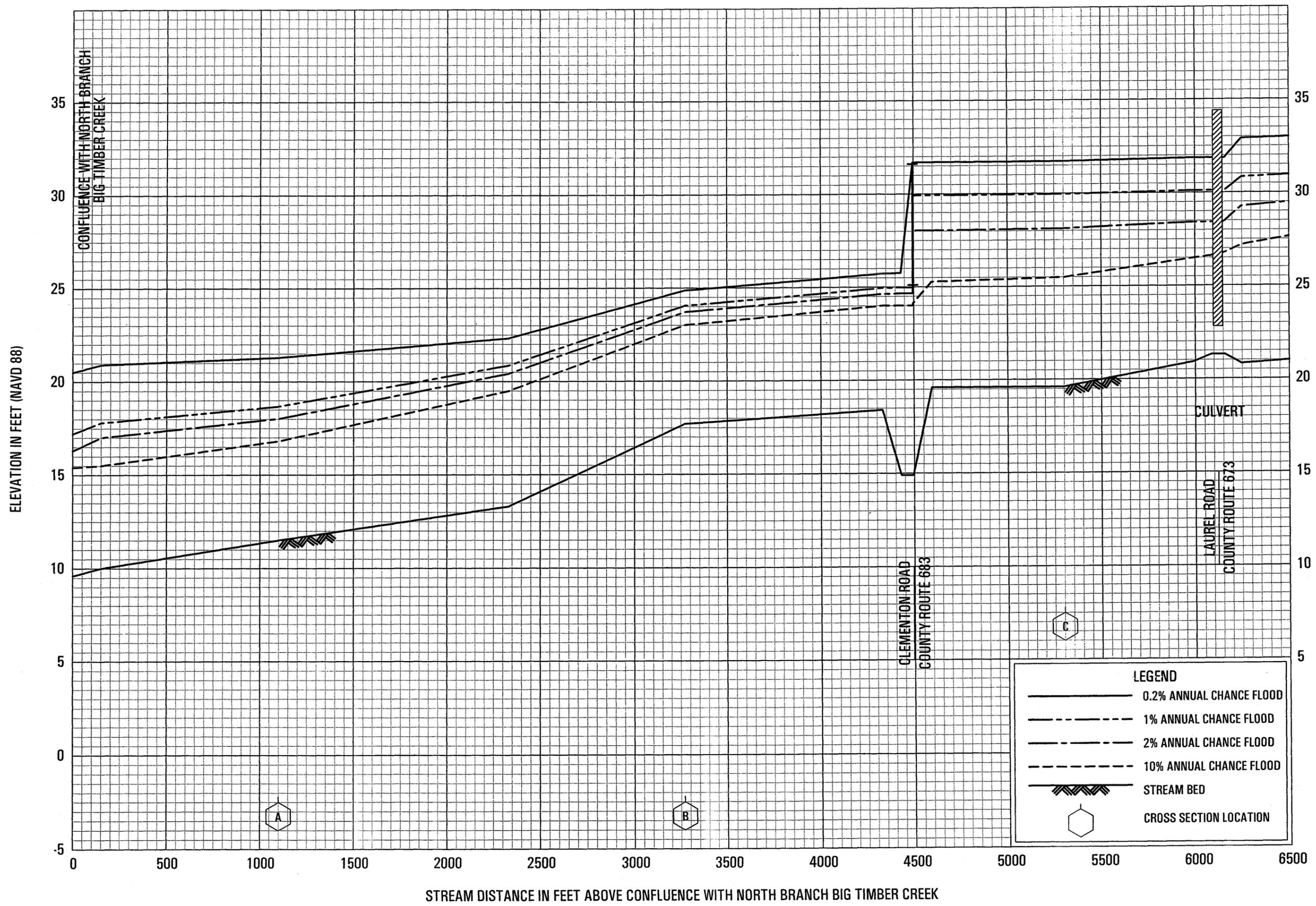
CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)



FLOOD PROFILES
GREAT EGG HARBOR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

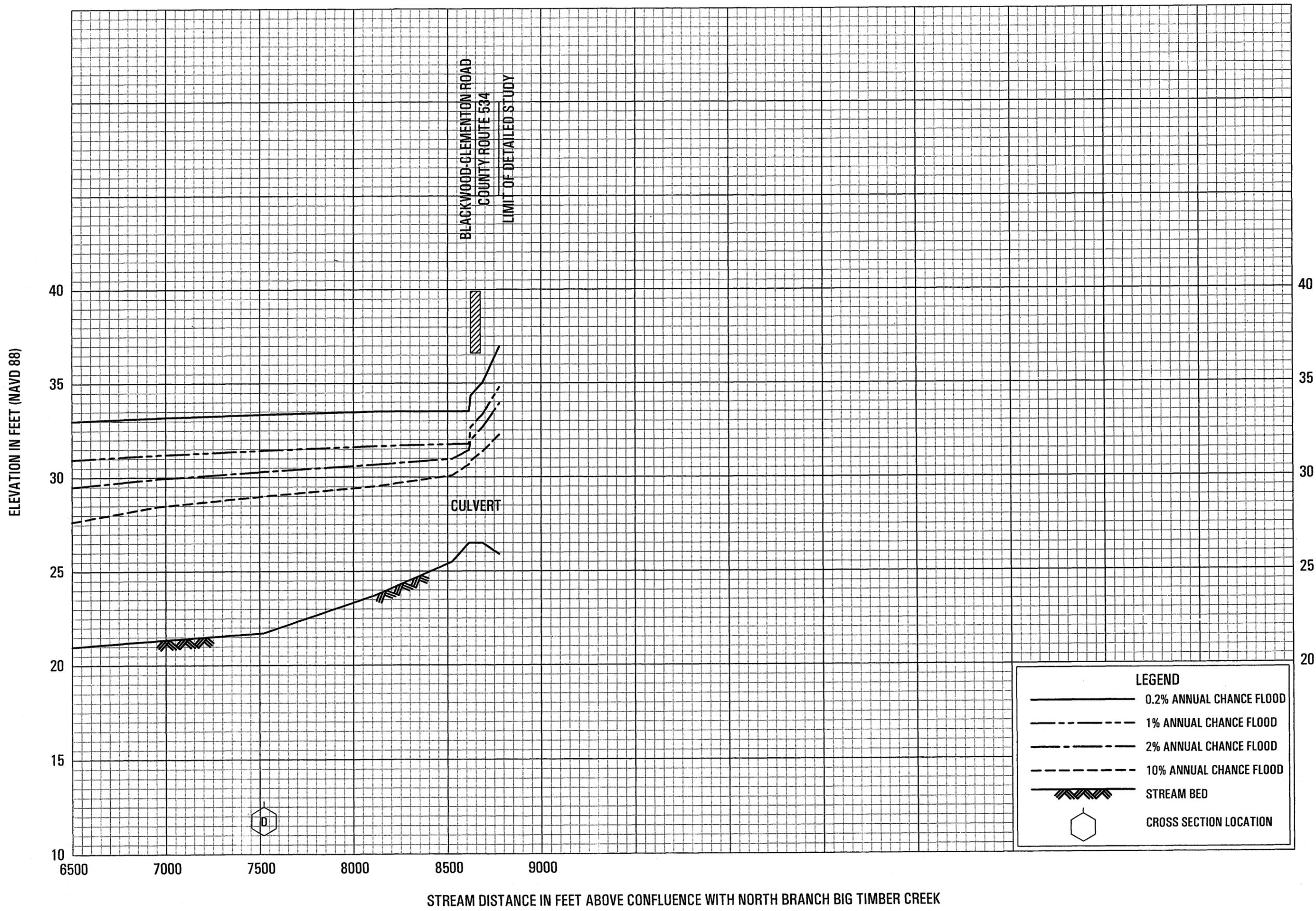


FLOOD PROFILES

MASON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

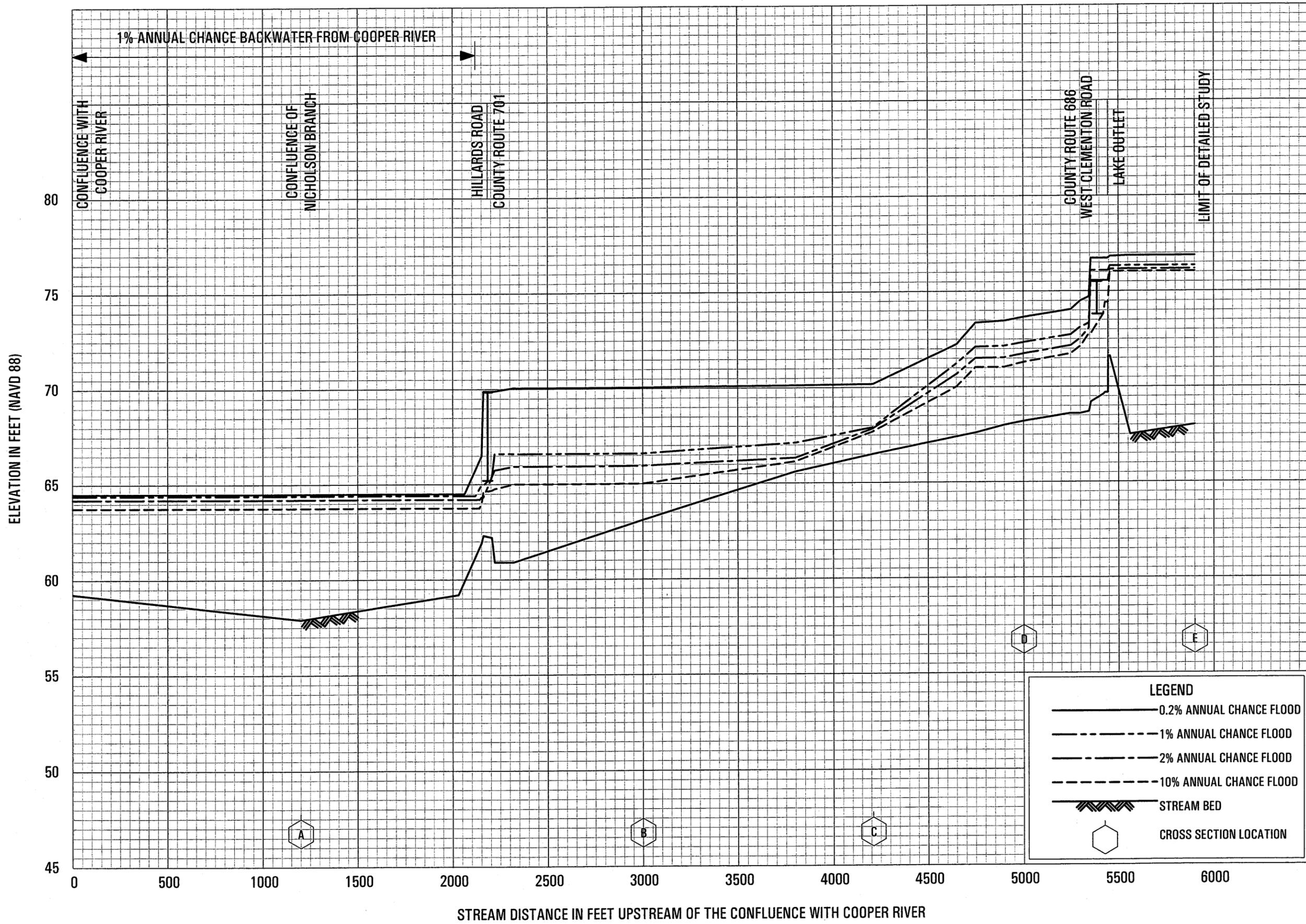


FLOOD PROFILES

MASON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

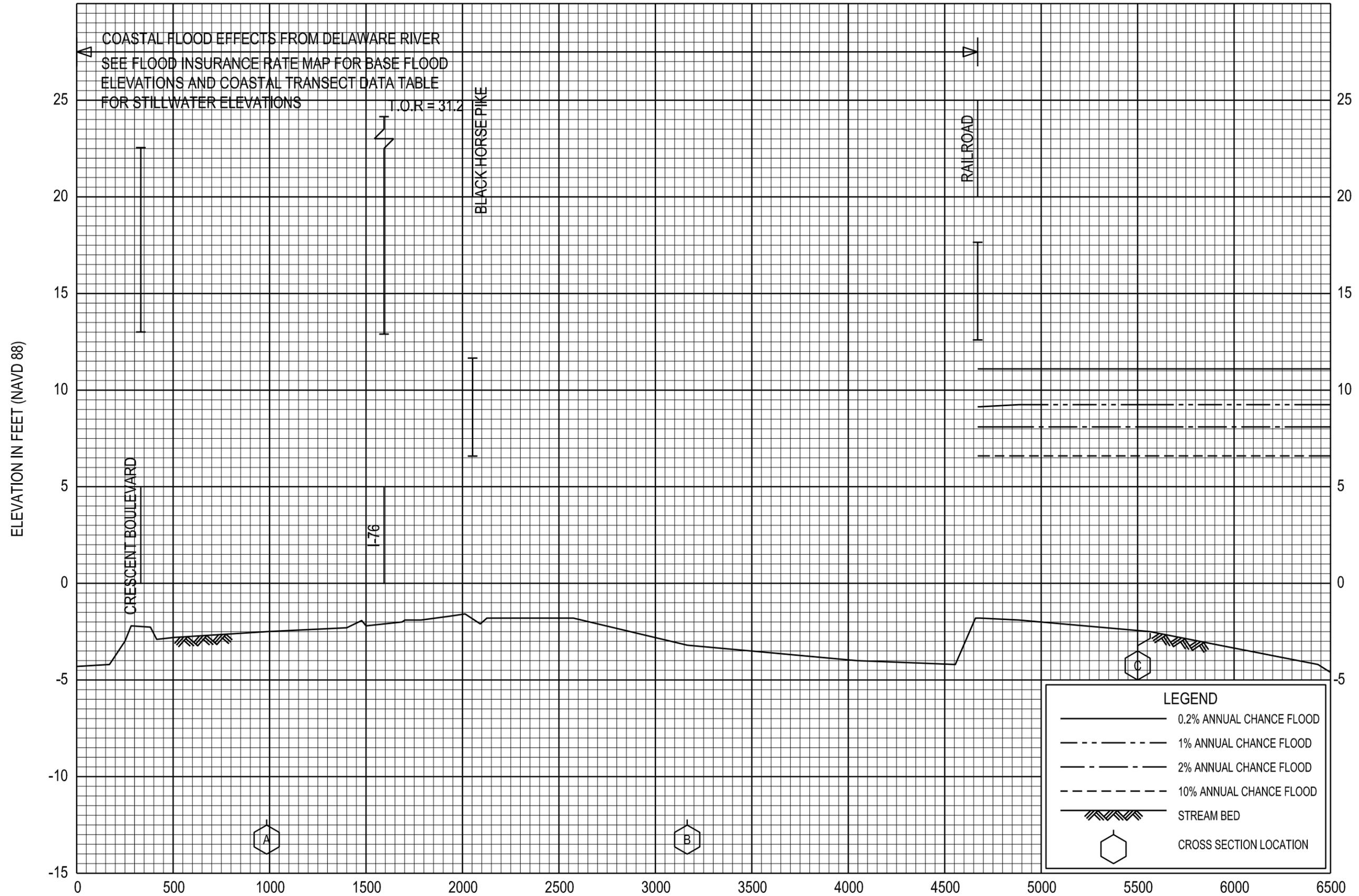


FLOOD PROFILES

MILLARD CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

**CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)**

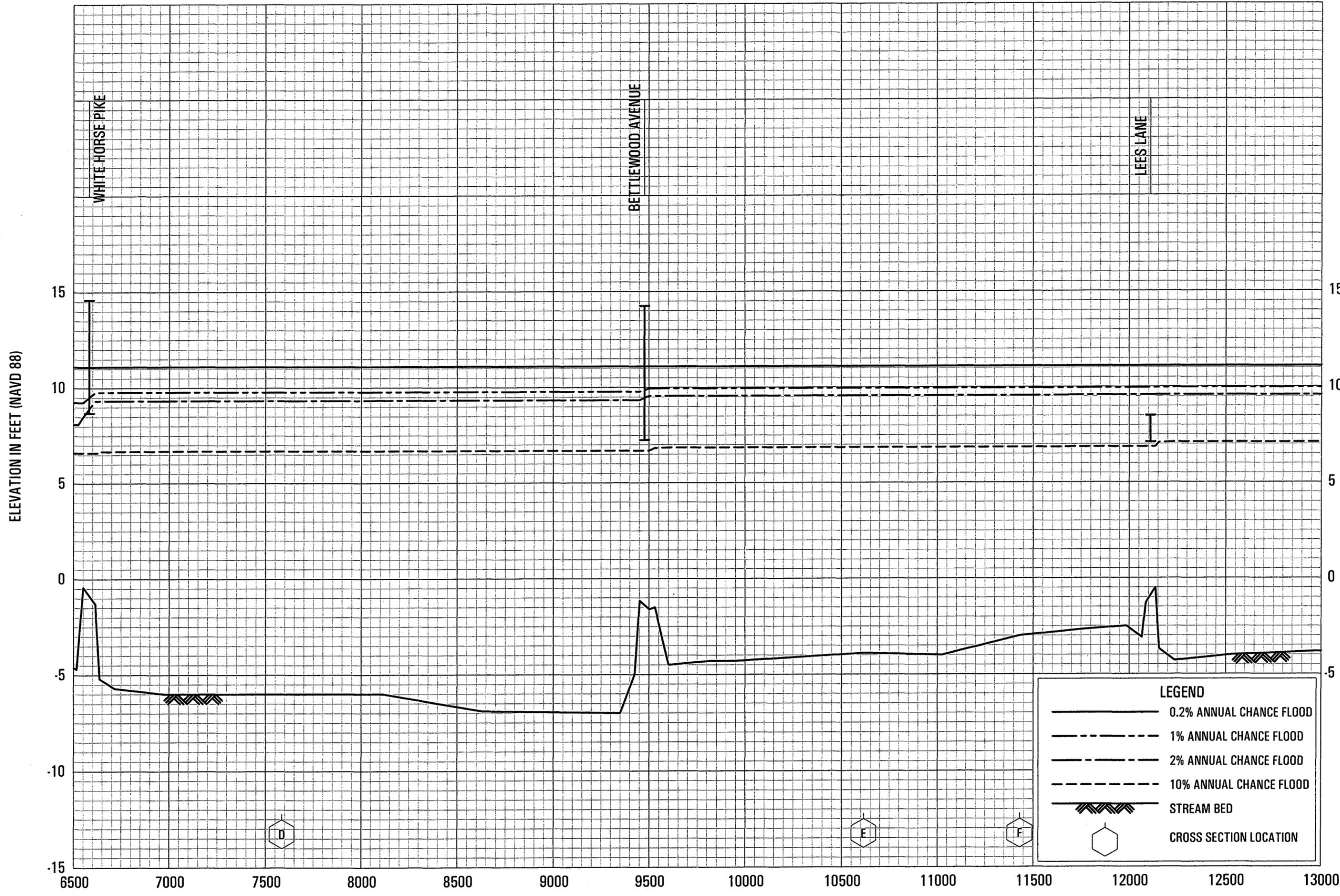


STREAM DISTANCE IN FEET ABOVE LIMIT OF FLOODWAY *
*LIMIT OF FLOODWAY IS APPROXIMATELY 330 FEET DOWNSTREAM OF CRESCENT BOULEVARD

FLOOD PROFILES

NEWTON CREEK

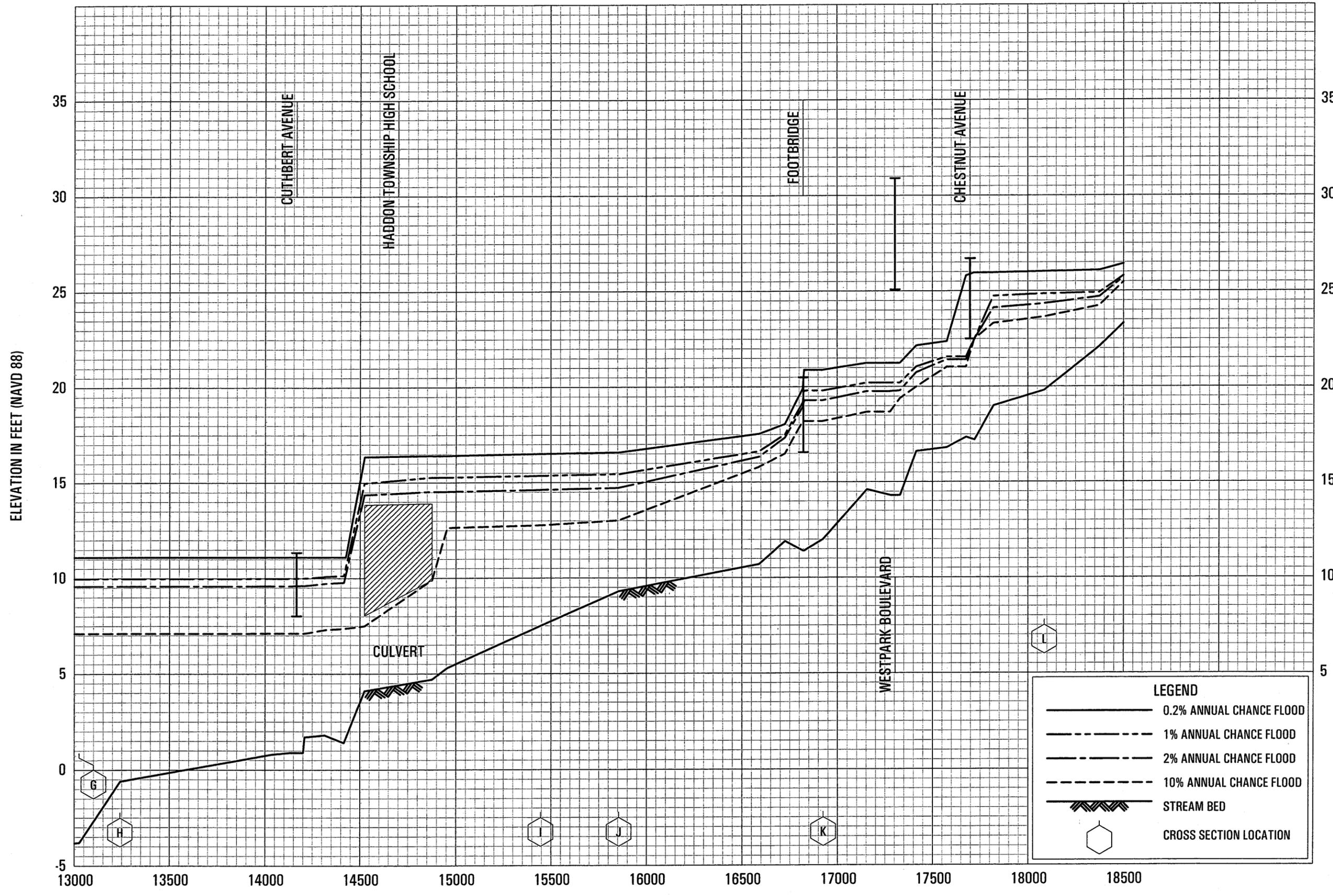
FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



STREAM DISTANCE IN FEET ABOVE LIMIT OF FLOODWAY *
 *LIMIT OF FLOODWAY IS APPROXIMATELY 330 FEET DOWNSTREAM OF CRESCENT BOULEVARD

FLOOD PROFILES
 NEWTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
 CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)



*LIMIT OF FLOODWAY IS APPROXIMATELY 330 FEET DOWNSTREAM OF CRESCENT BOULEVARD

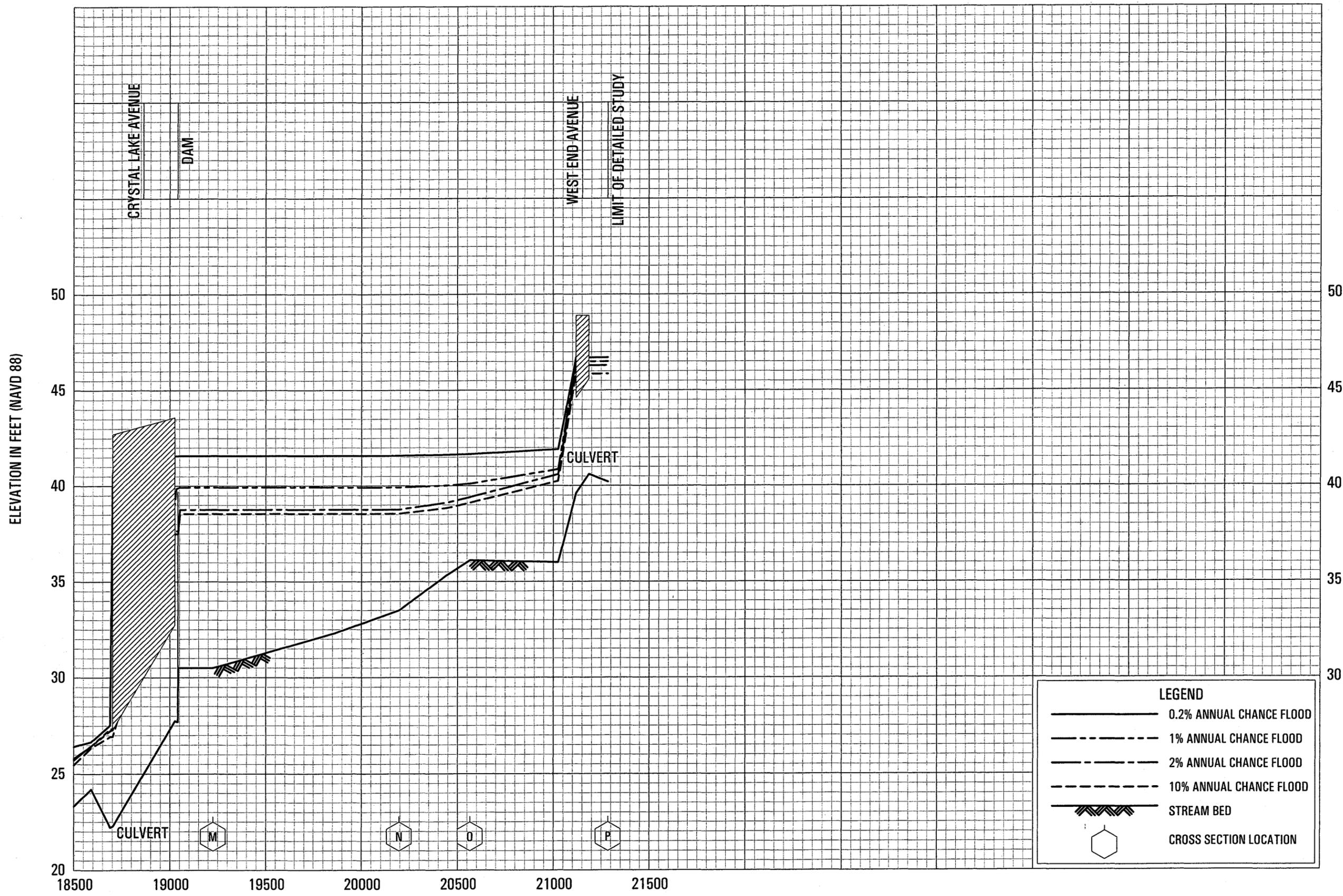
FLOOD PROFILES

NEWTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

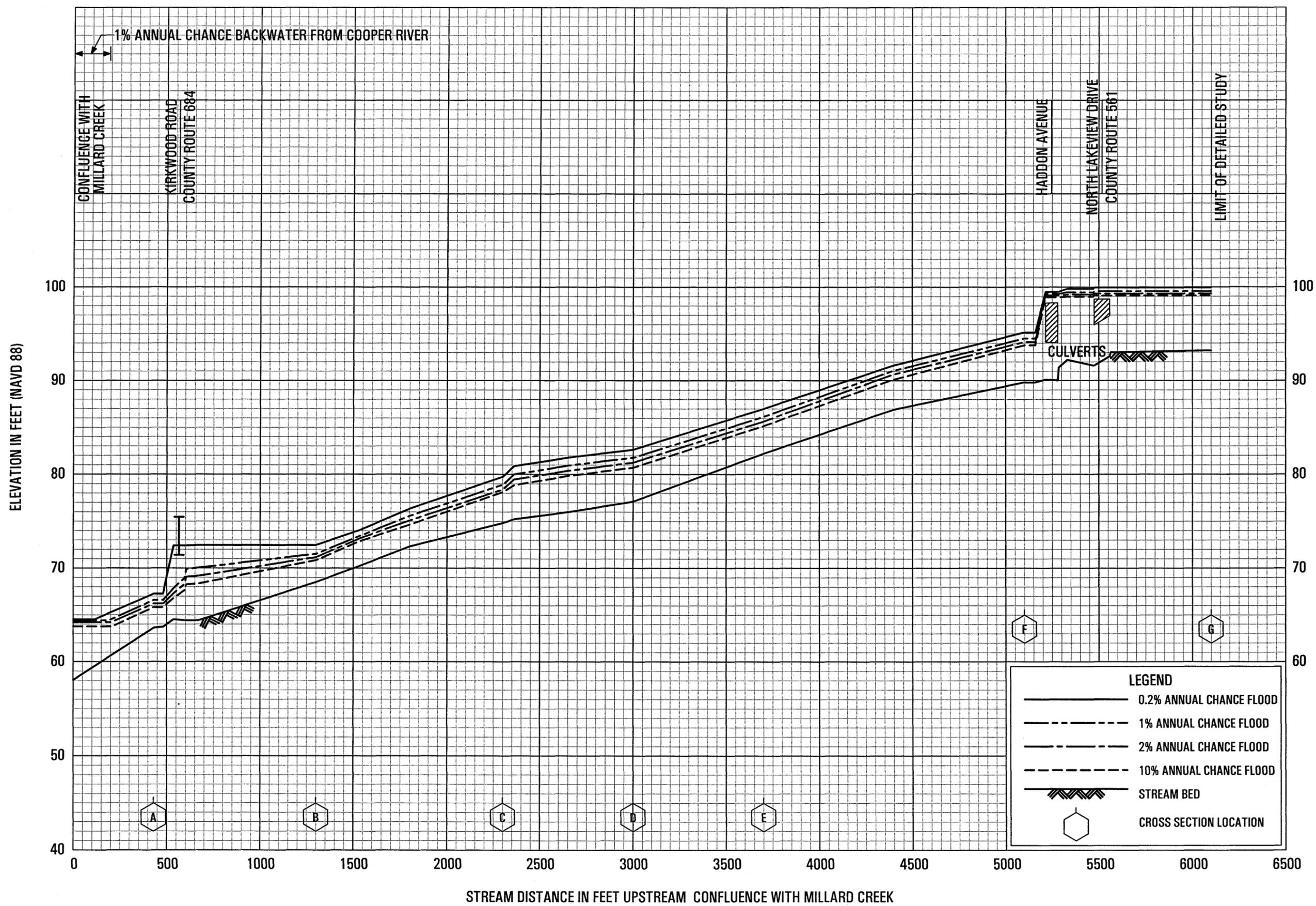
(ALL JURISDICTIONS)



*LIMIT OF FLOODWAY IS APPROXIMATELY 330 FEET DOWNSTREAM OF CRESCENT BOULEVARD

FLOOD PROFILES
NEWTON CREEK

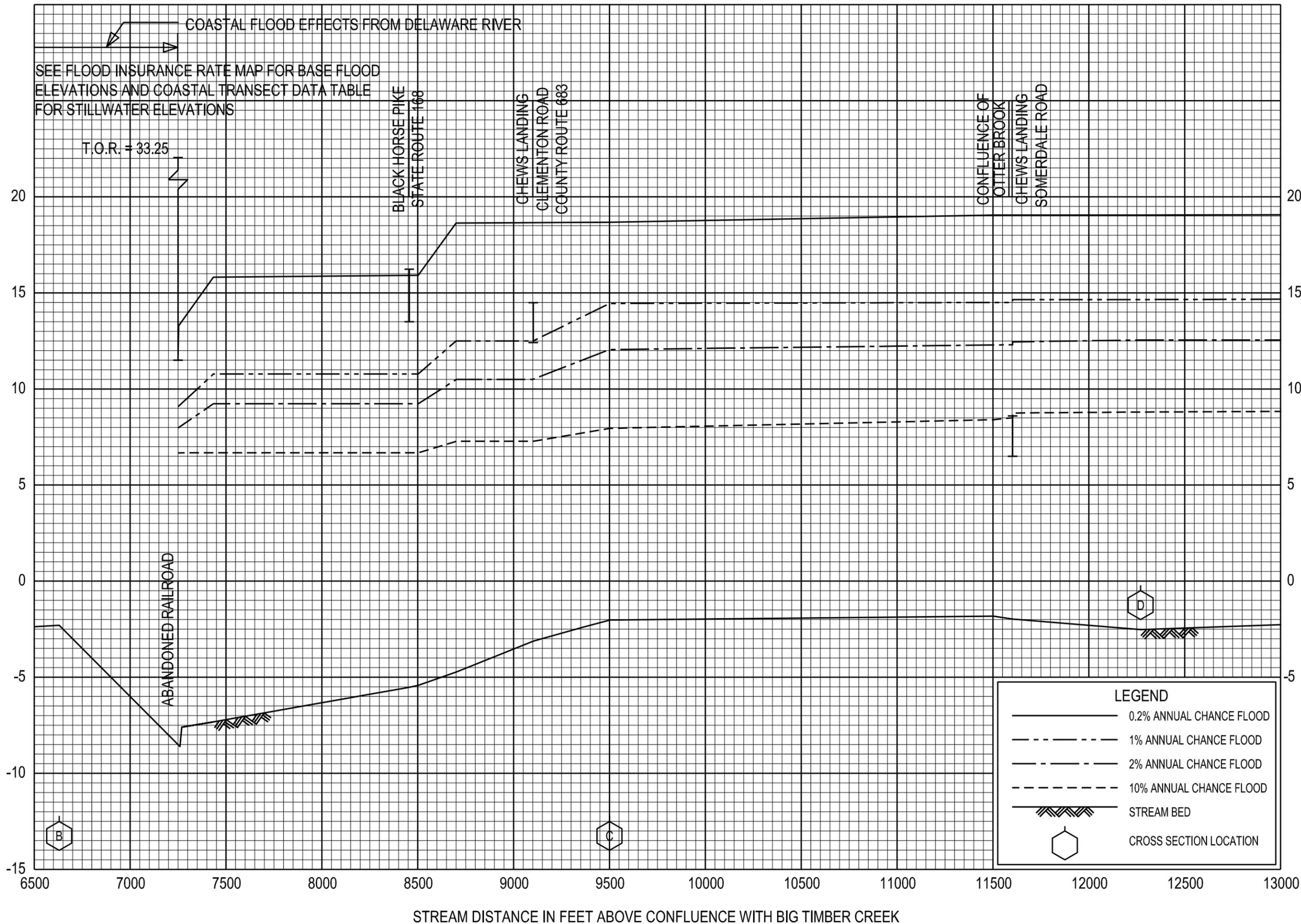
FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
NICHOLSON BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)

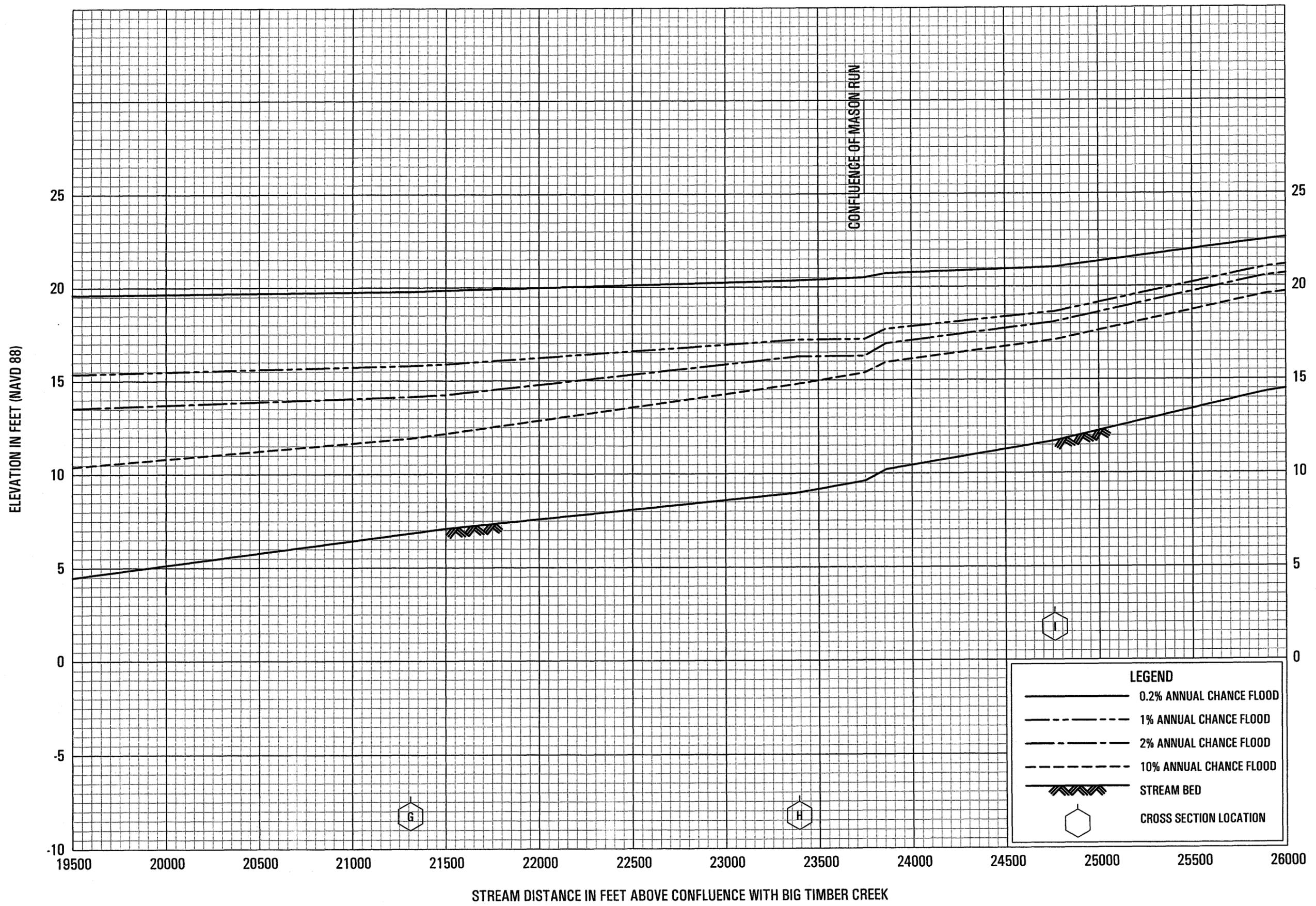


FLOOD PROFILES

NORTH BRANCH BIG TIMBER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



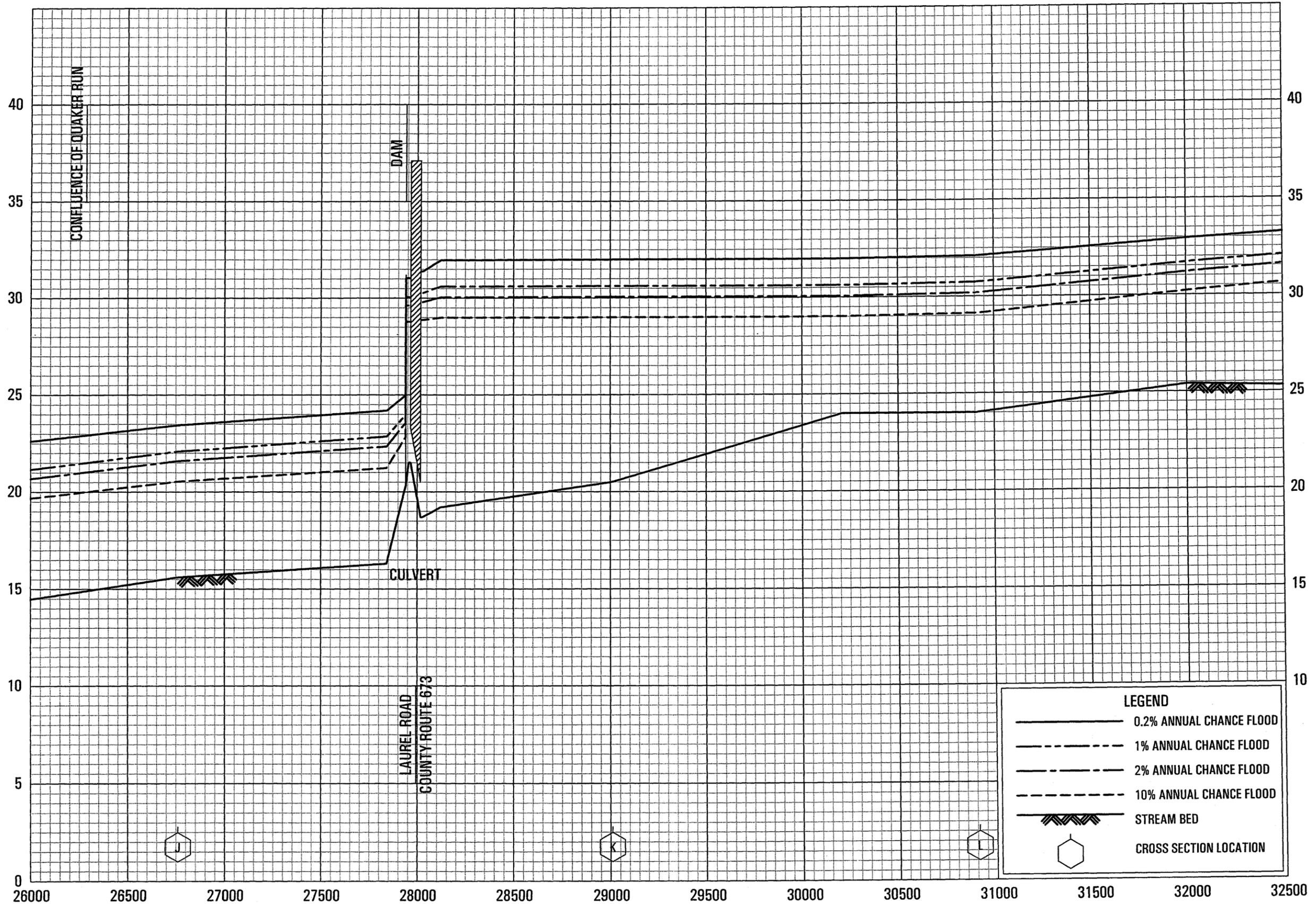
FLOOD PROFILES

NORTH BRANCH BIG TIMBER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH BIG TIMBER CREEK

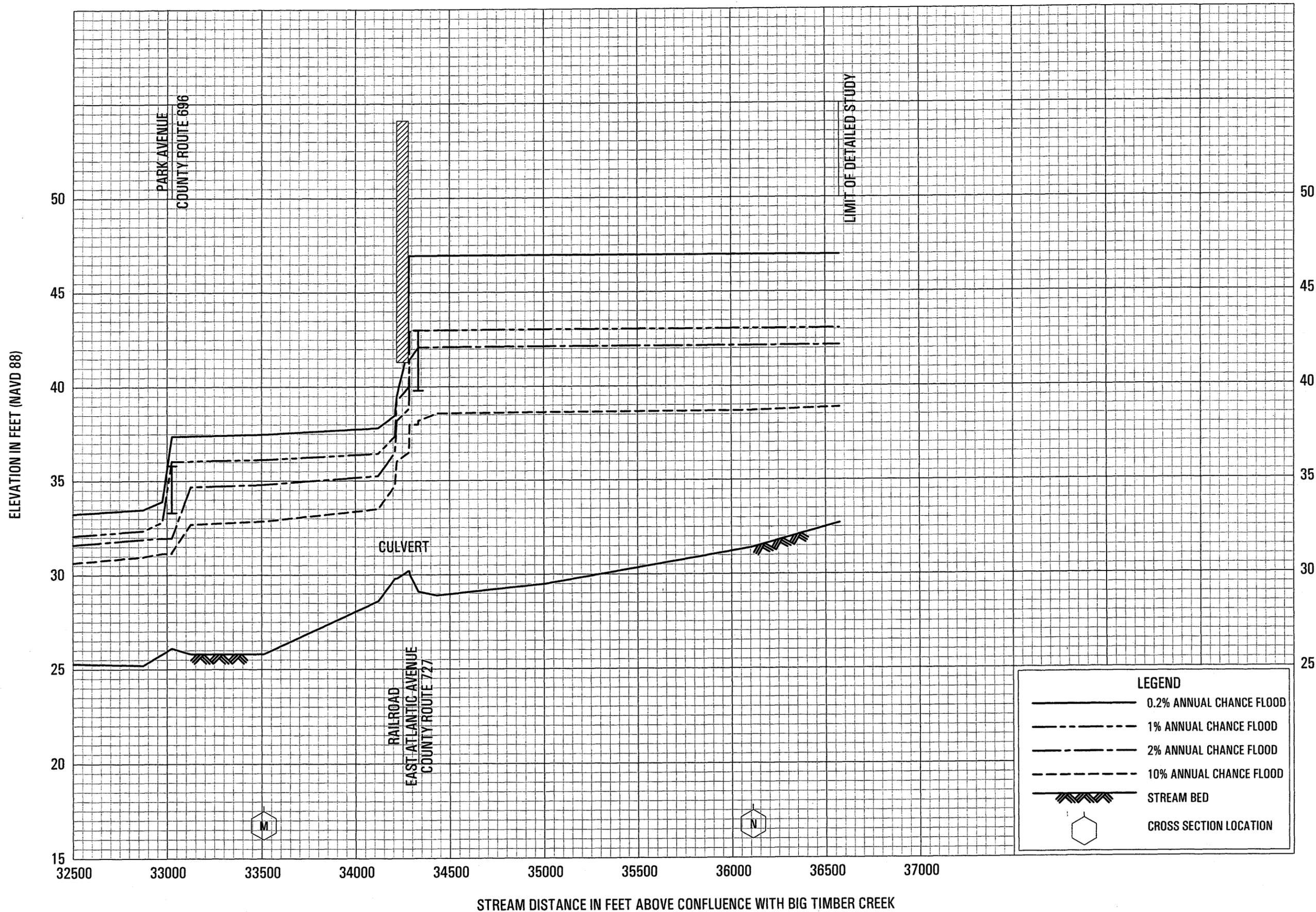
FLOOD PROFILES

NORTH BRANCH BIG TIMBER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

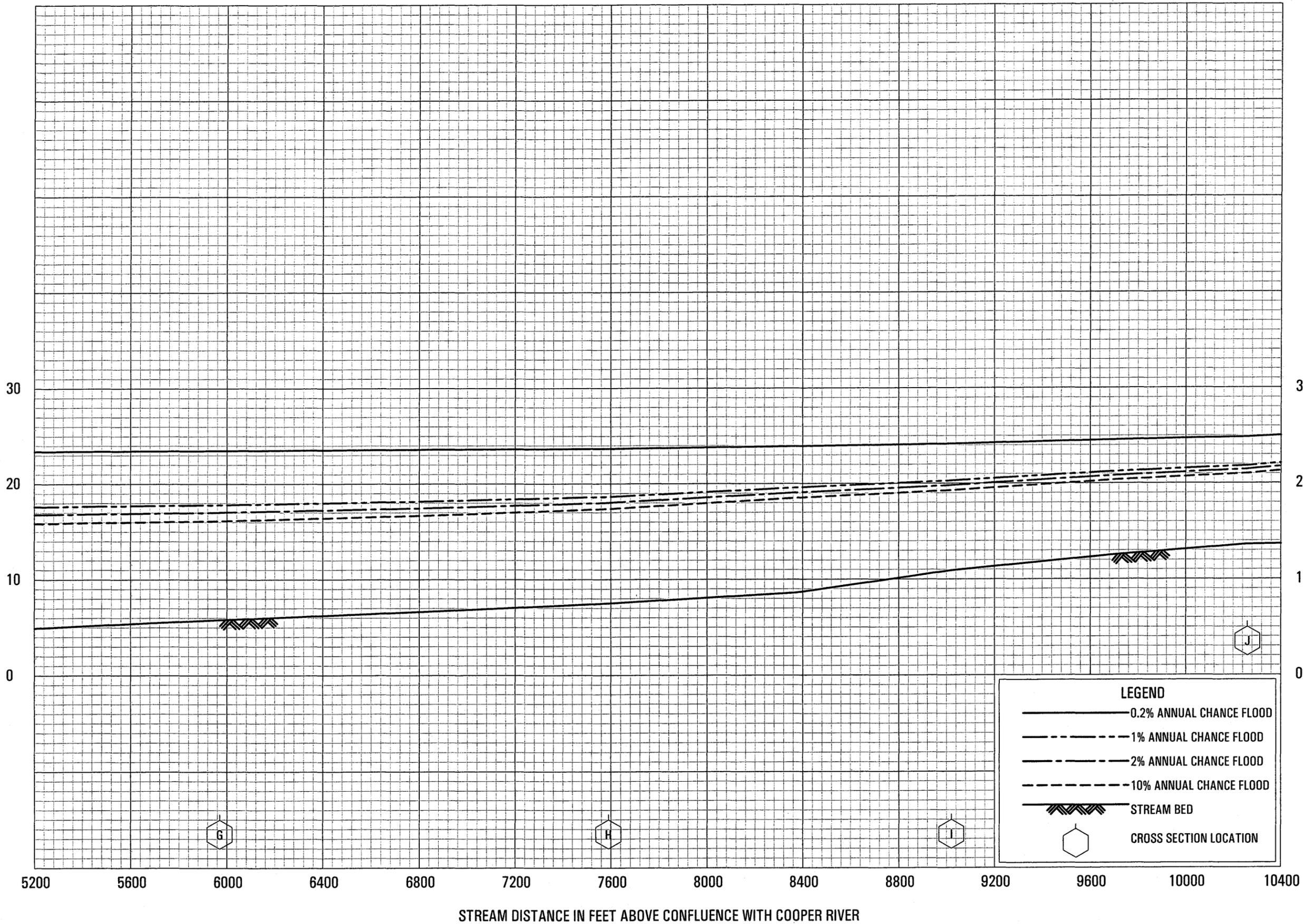
(ALL JURISDICTIONS)



FLOOD PROFILES
NORTH BRANCH BIG TIMBER CREEK

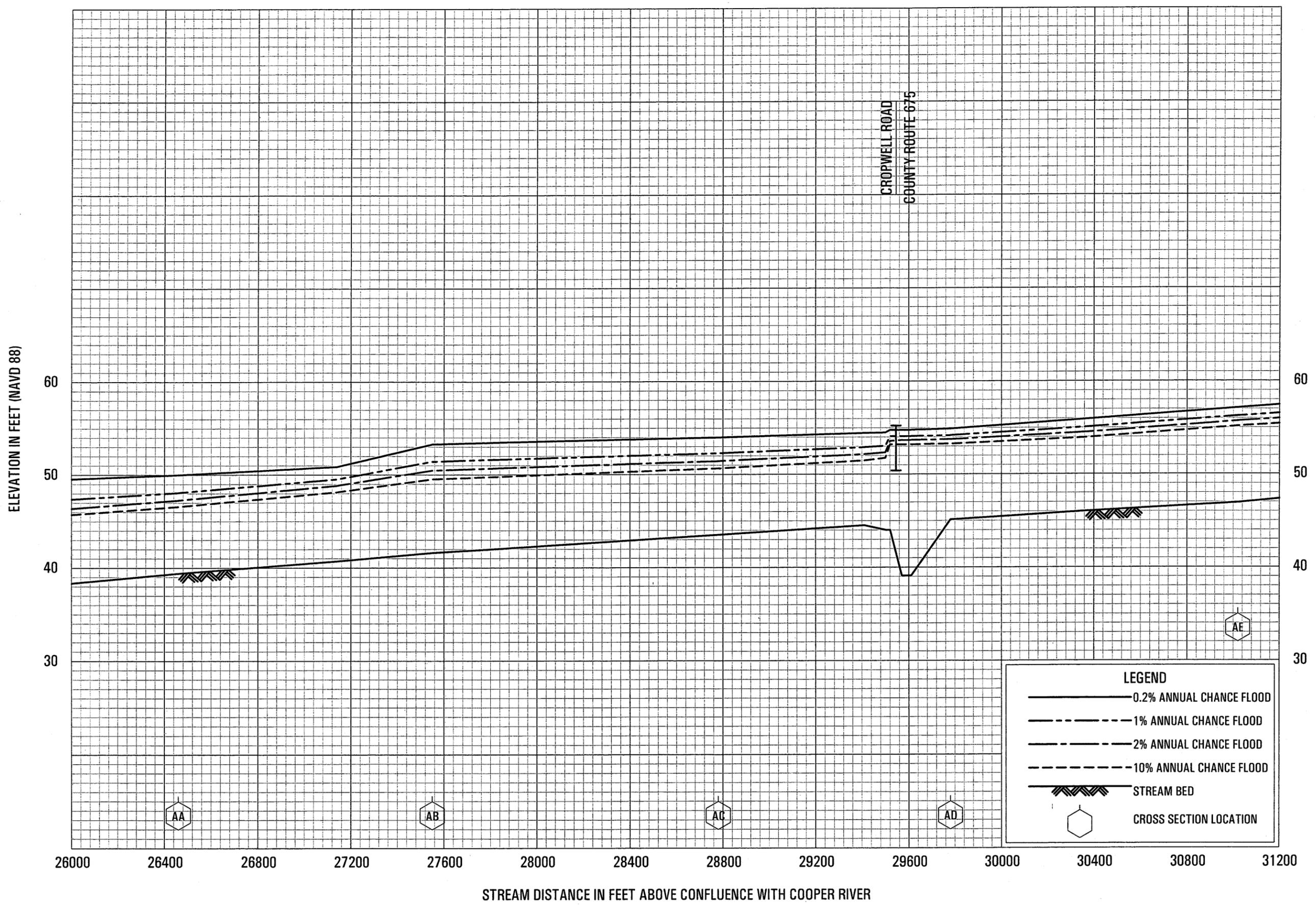
FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES
NORTH BRANCH COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



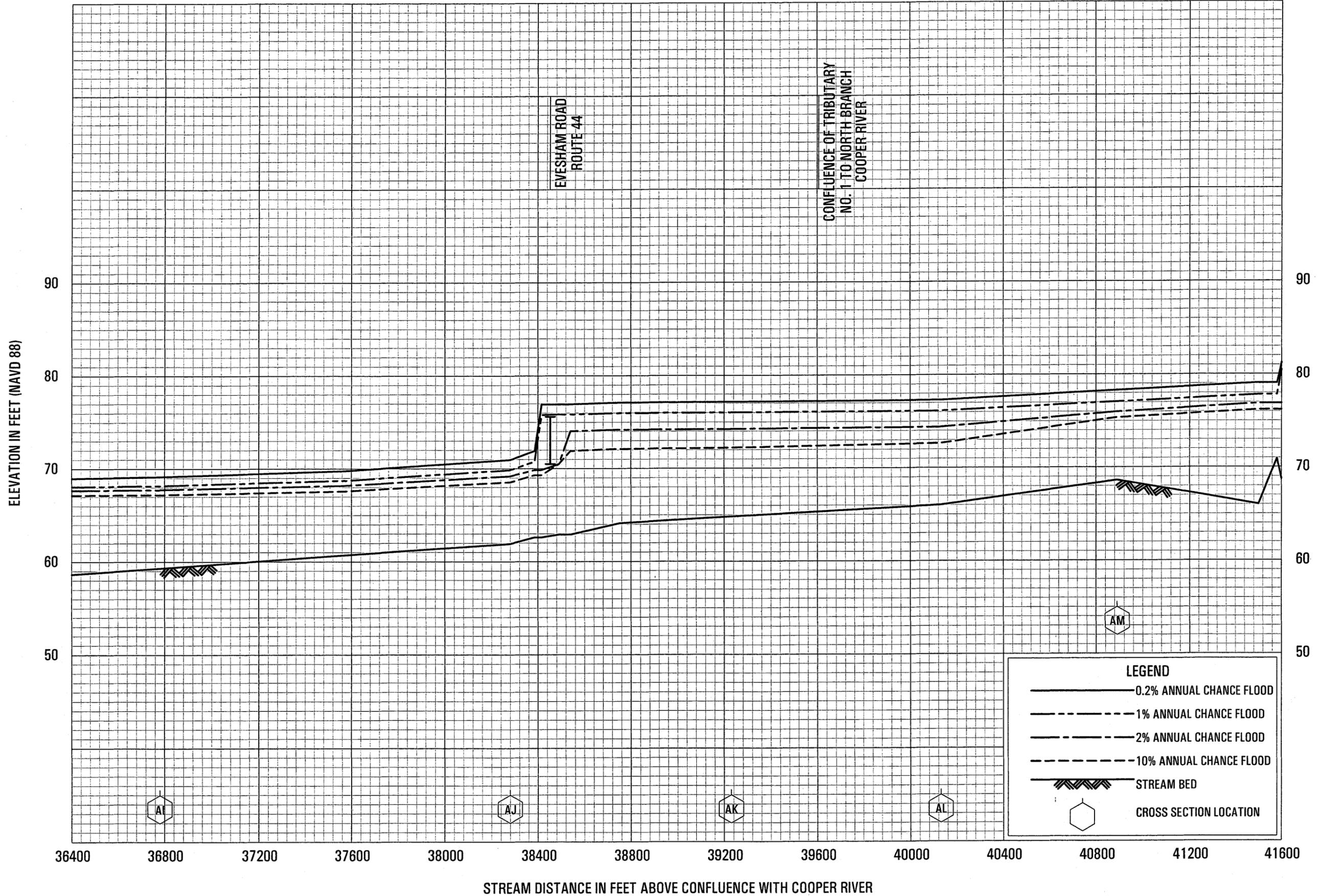
FLOOD PROFILES

NORTH BRANCH COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)



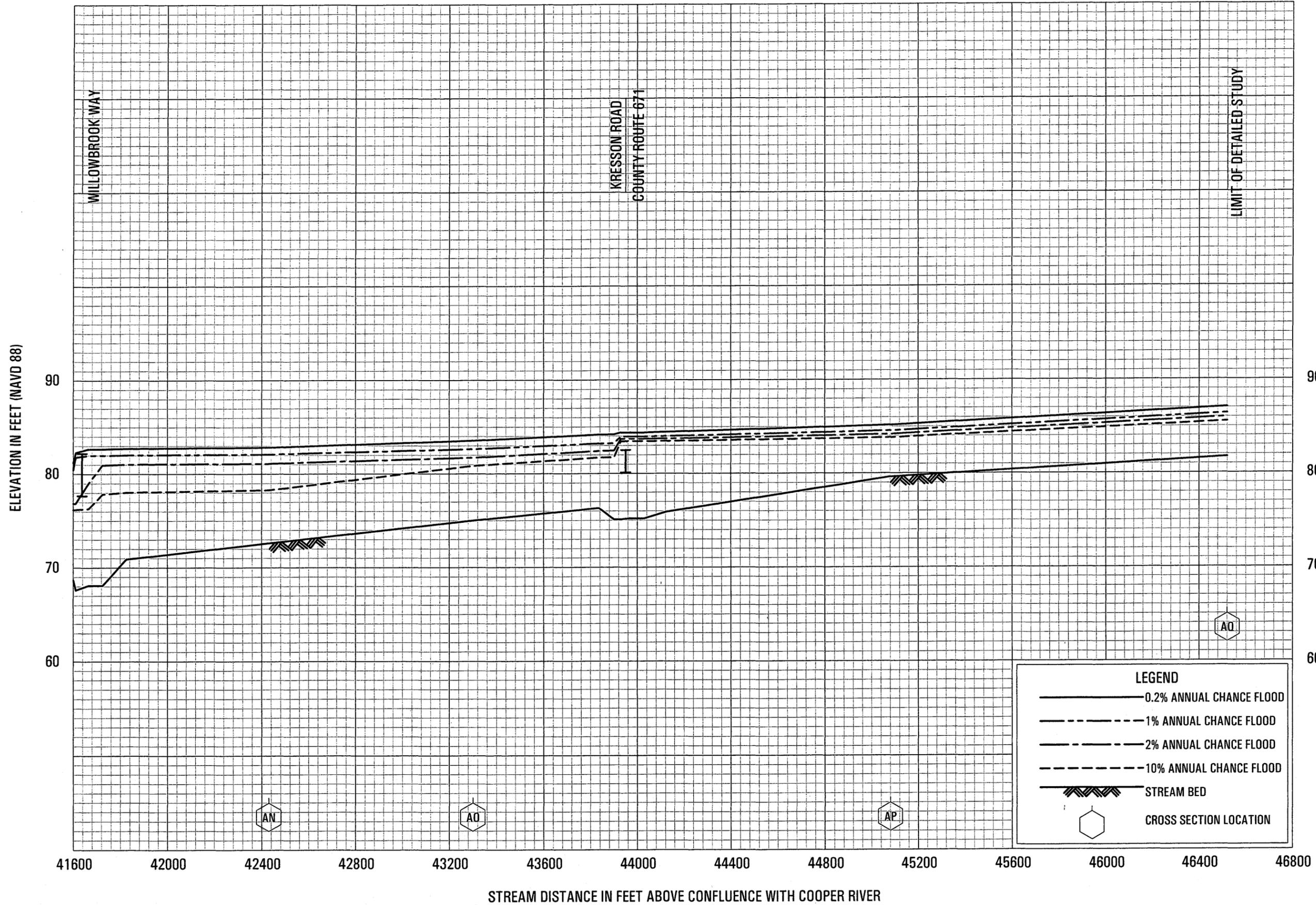
FLOOD PROFILES

NORTH BRANCH COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

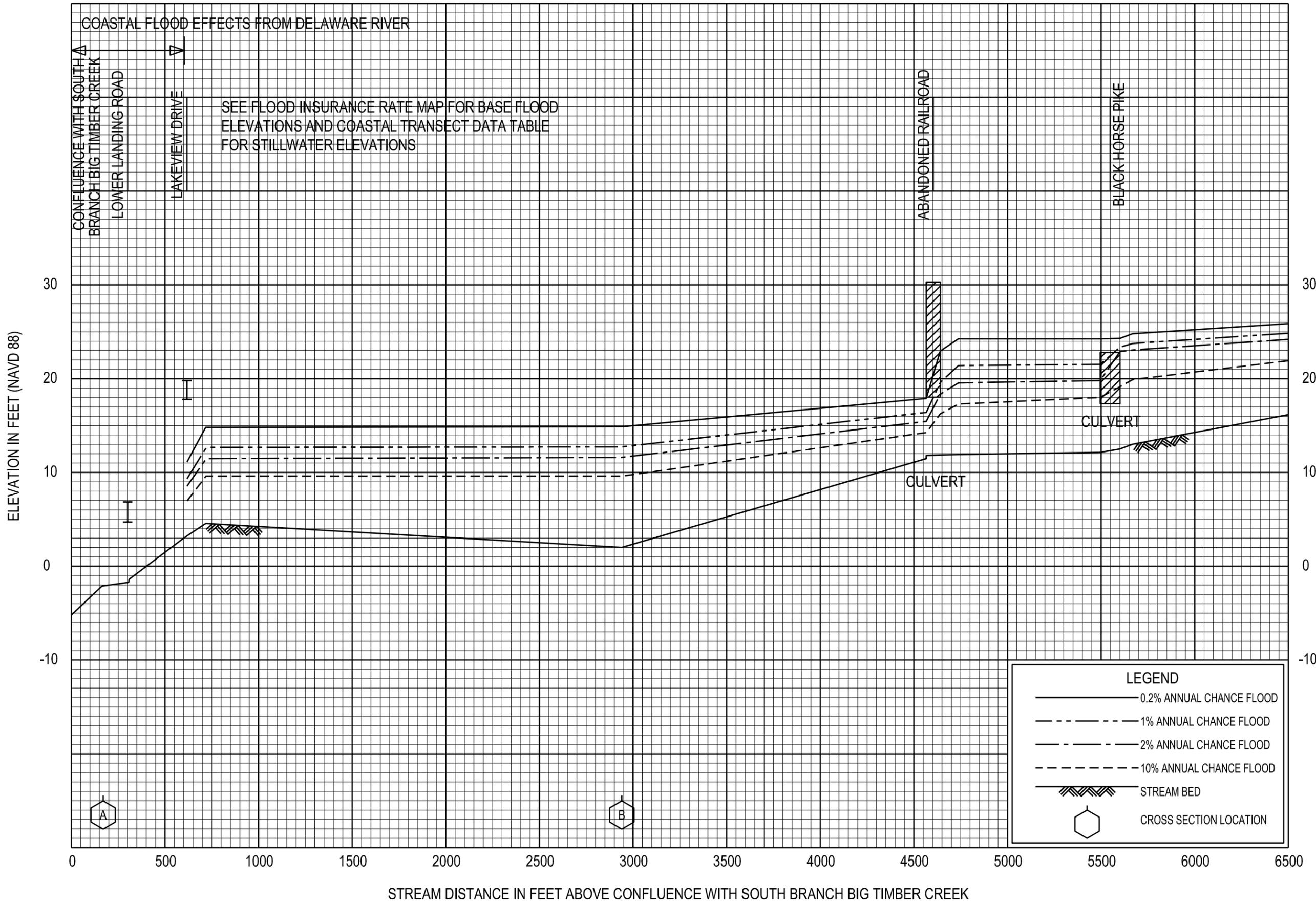
(ALL JURISDICTIONS)



FLOOD PROFILES

NORTH BRANCH COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

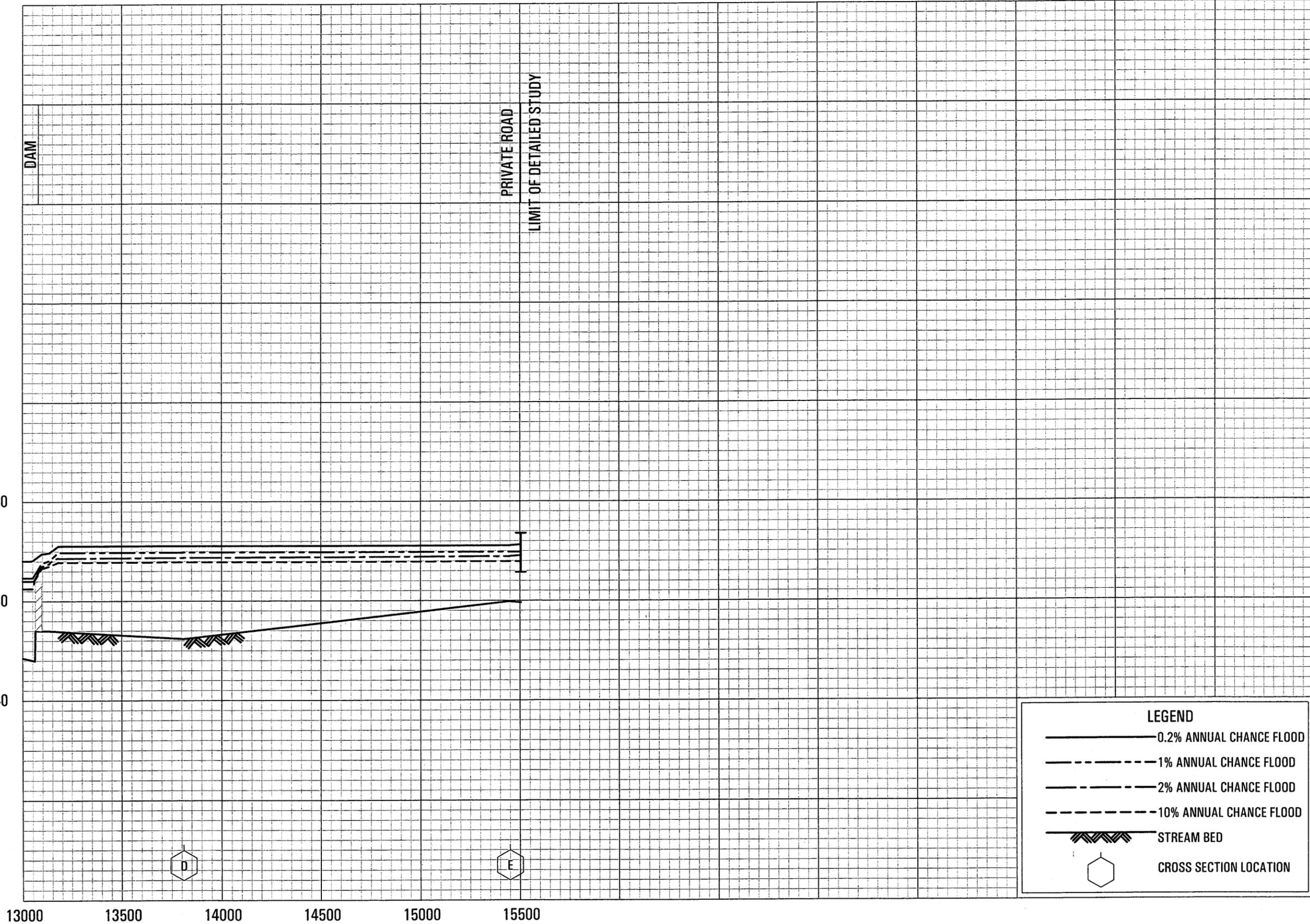


FLOOD PROFILES

PINES RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH SOUTH BRANCH BIG TIMBER CREEK

LEGEND

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

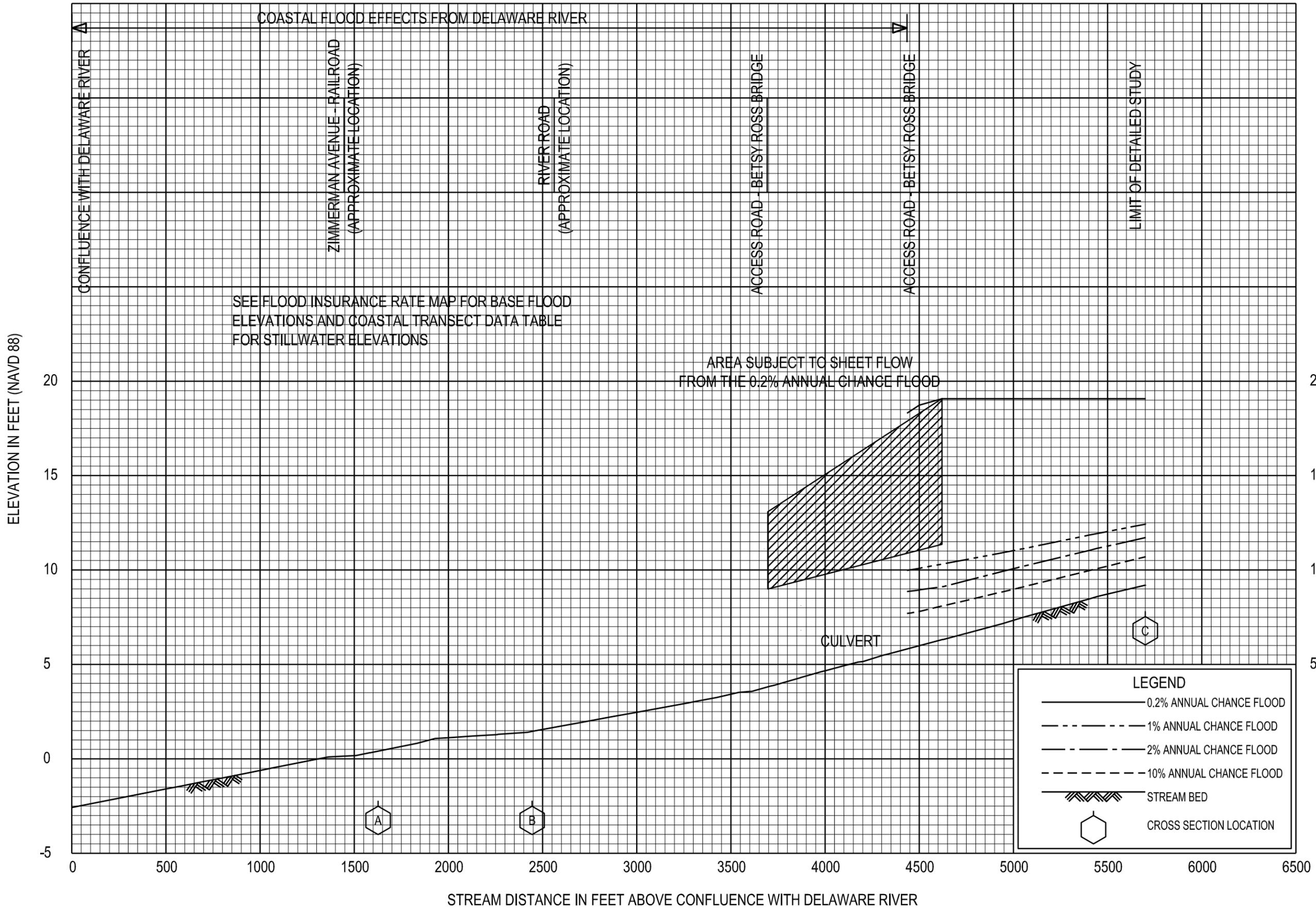
FLOOD PROFILES

PINES RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

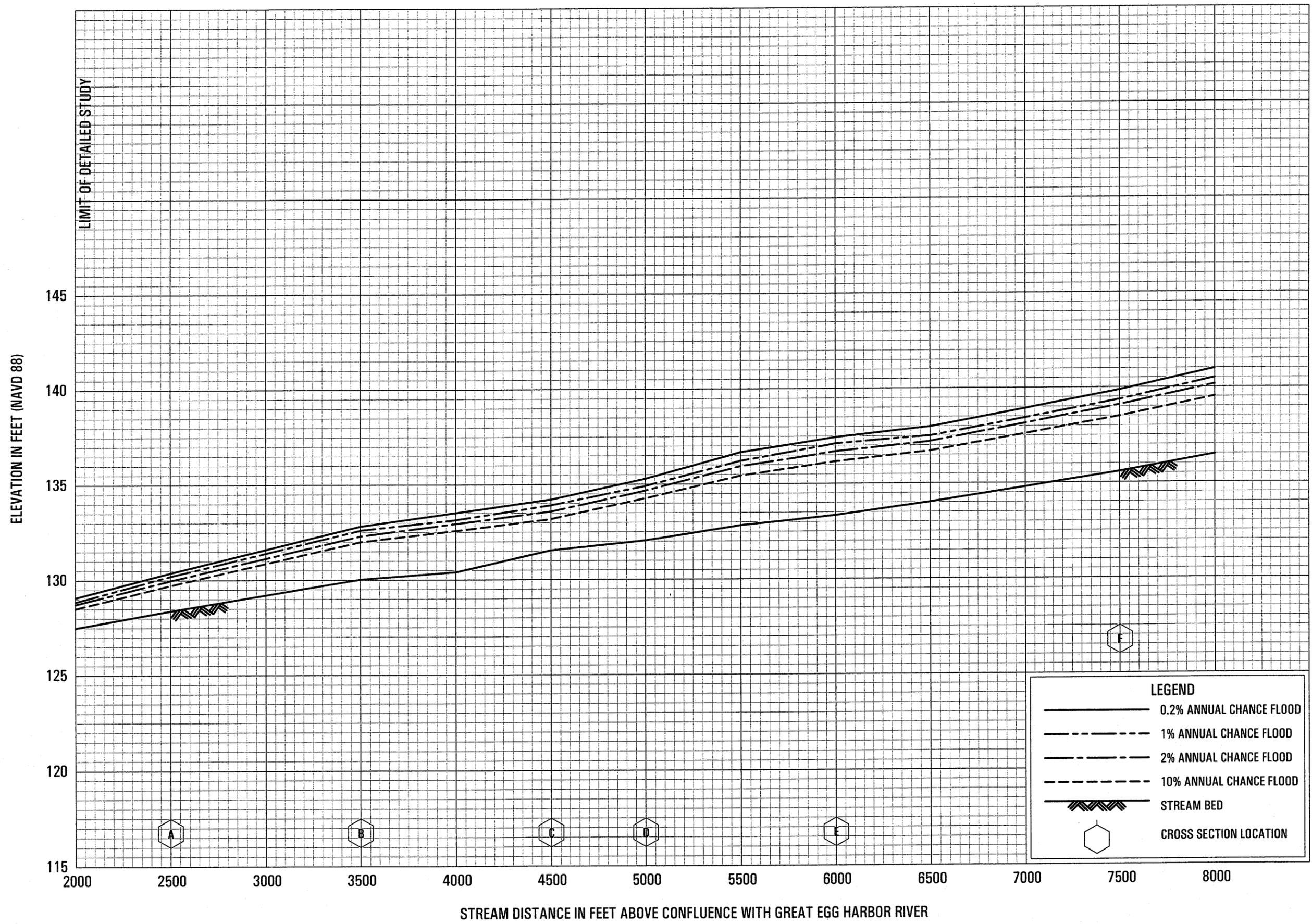
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

59P



FLOOD PROFILES
POCHACK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
PROSSERS BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)

145
140
135
130
125

8000 8500 9000 9500

DRIVEWAY

LIMIT OF DETAILED STUDY

CULVERT

G

H

LEGEND

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

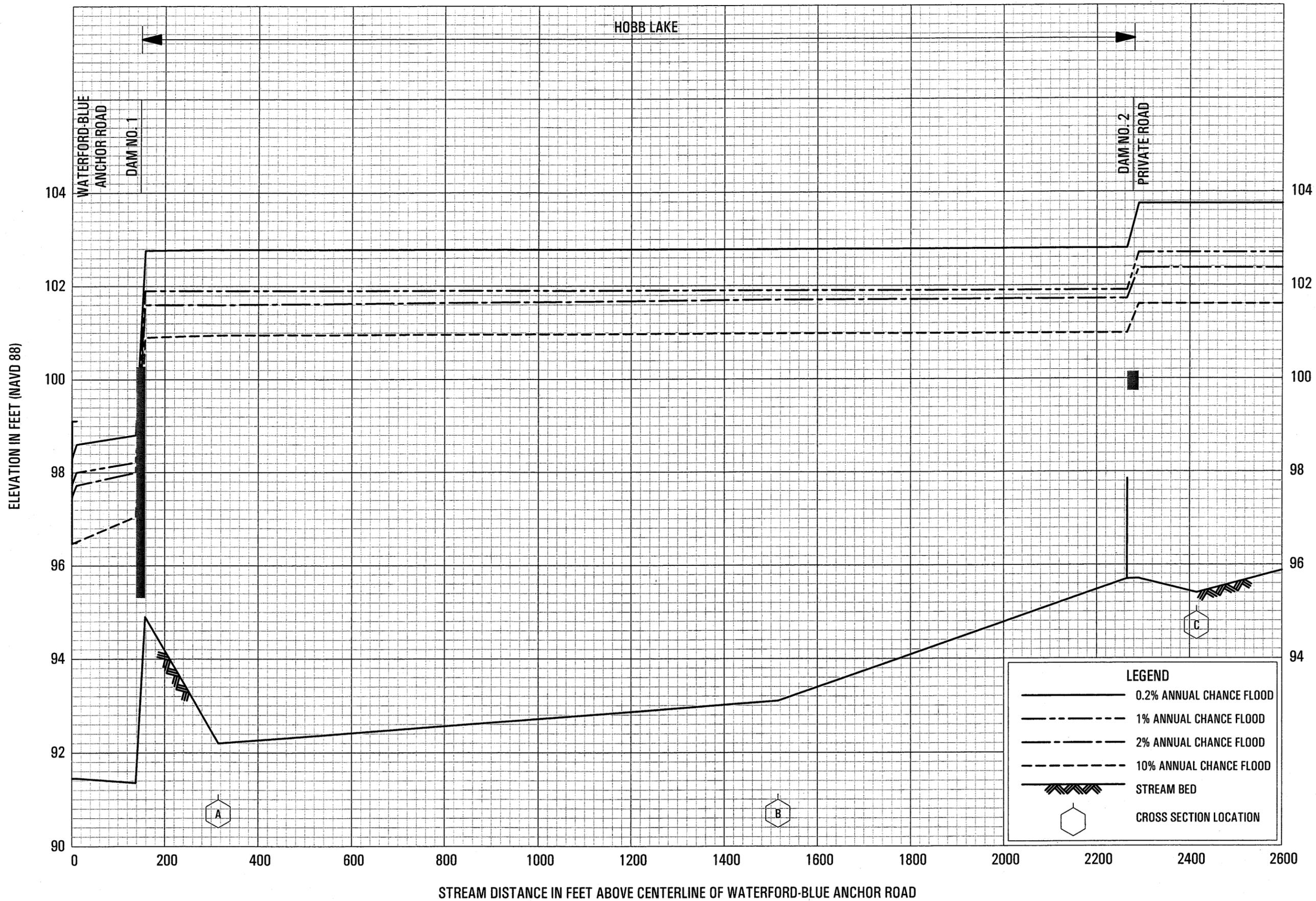
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH GREAT EGG HARBOR RIVER

145
140
135

FLOOD PROFILES
PROSSERS BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

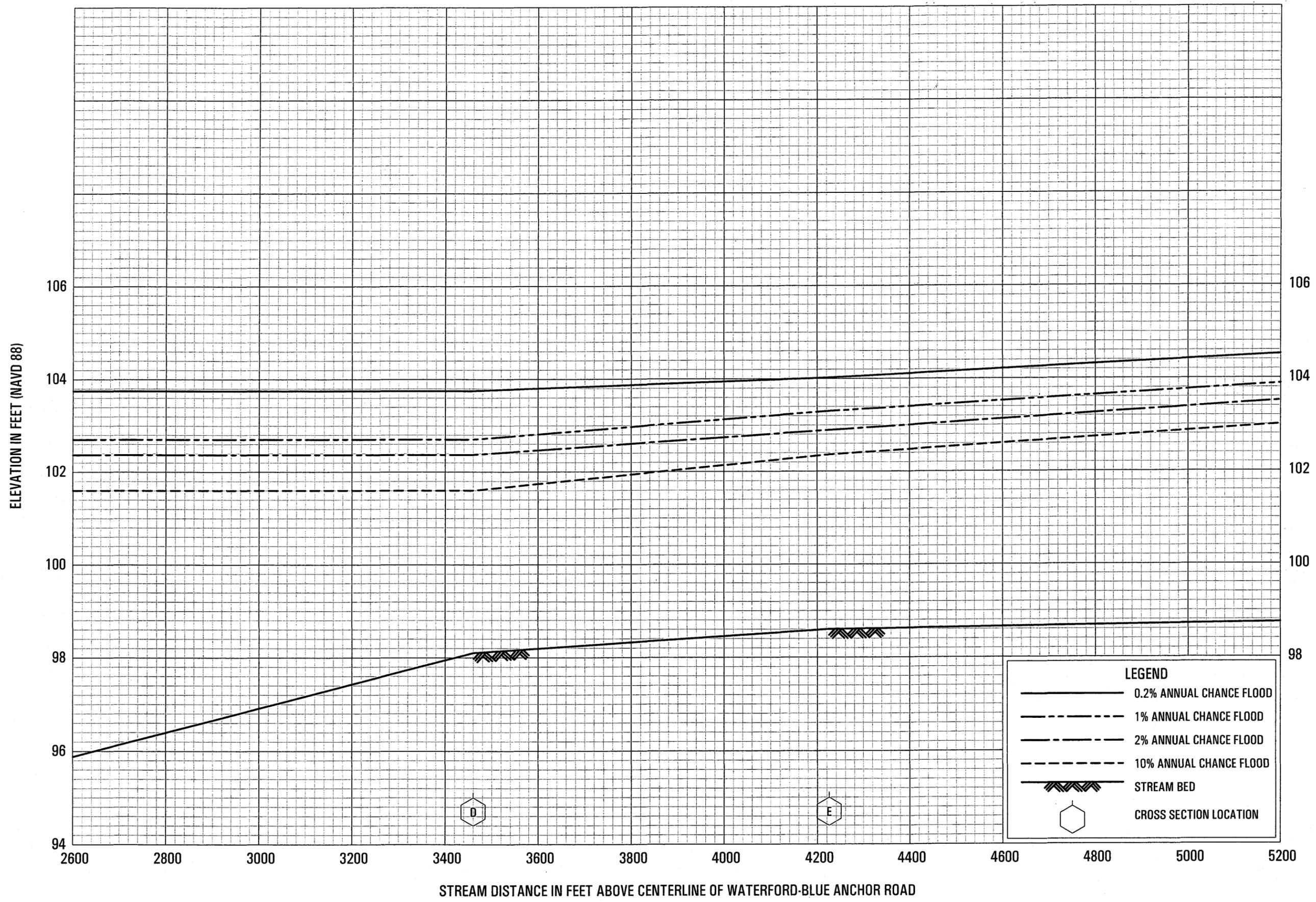
62P



FLOOD PROFILES

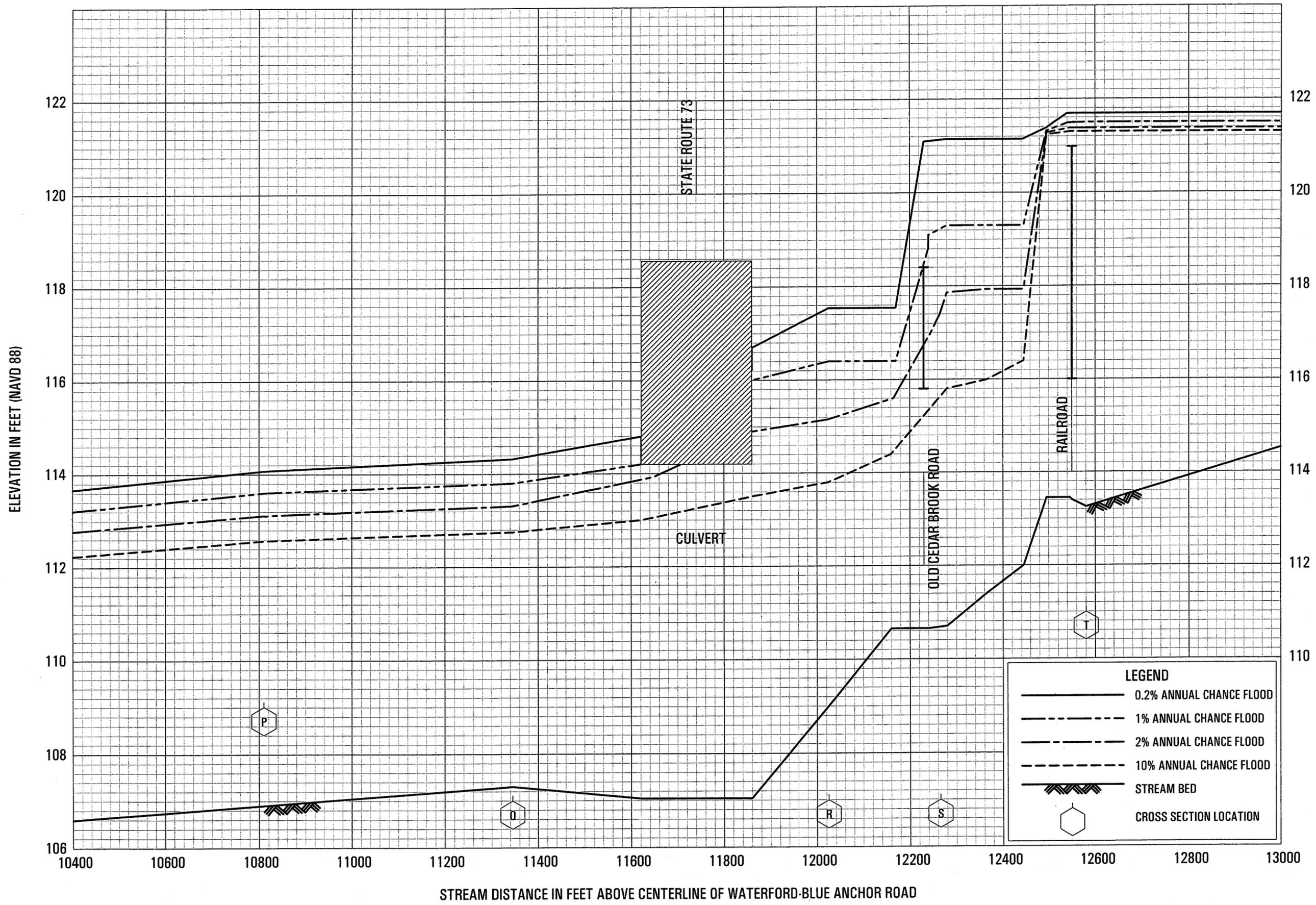
PUMP BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)



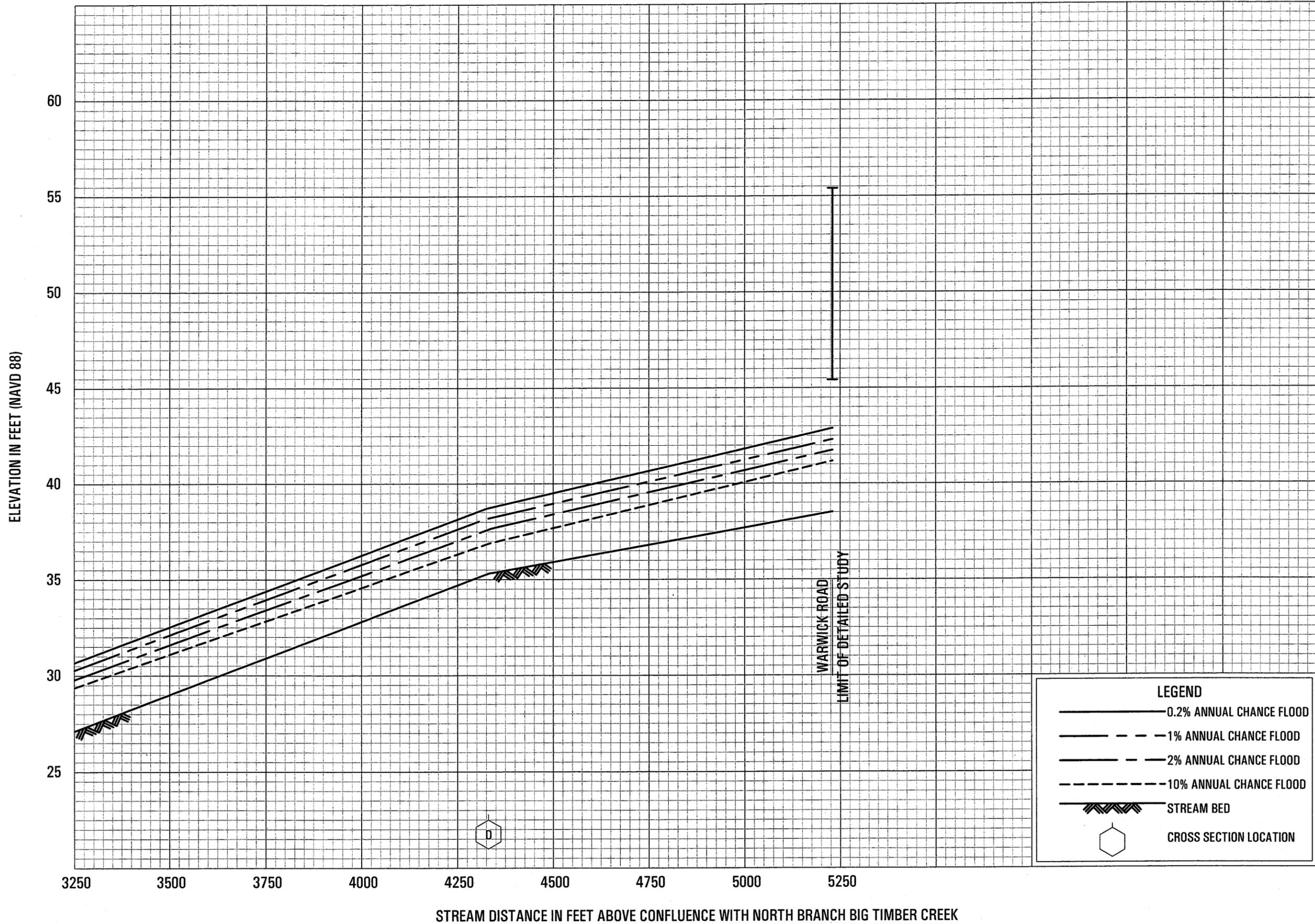
FLOOD PROFILES
PUMP BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



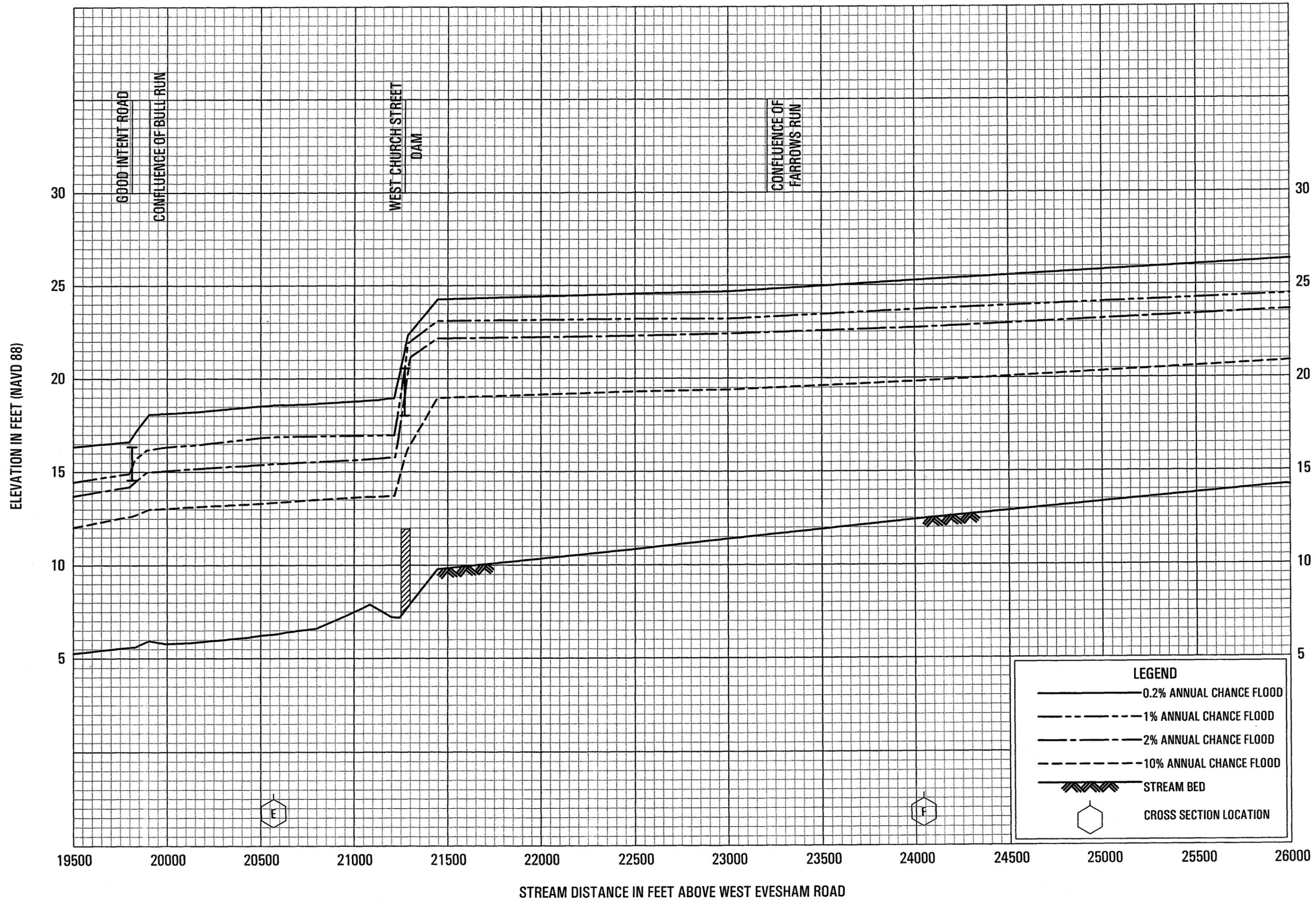
FLOOD PROFILES
PUMP BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
SIGNHEY RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

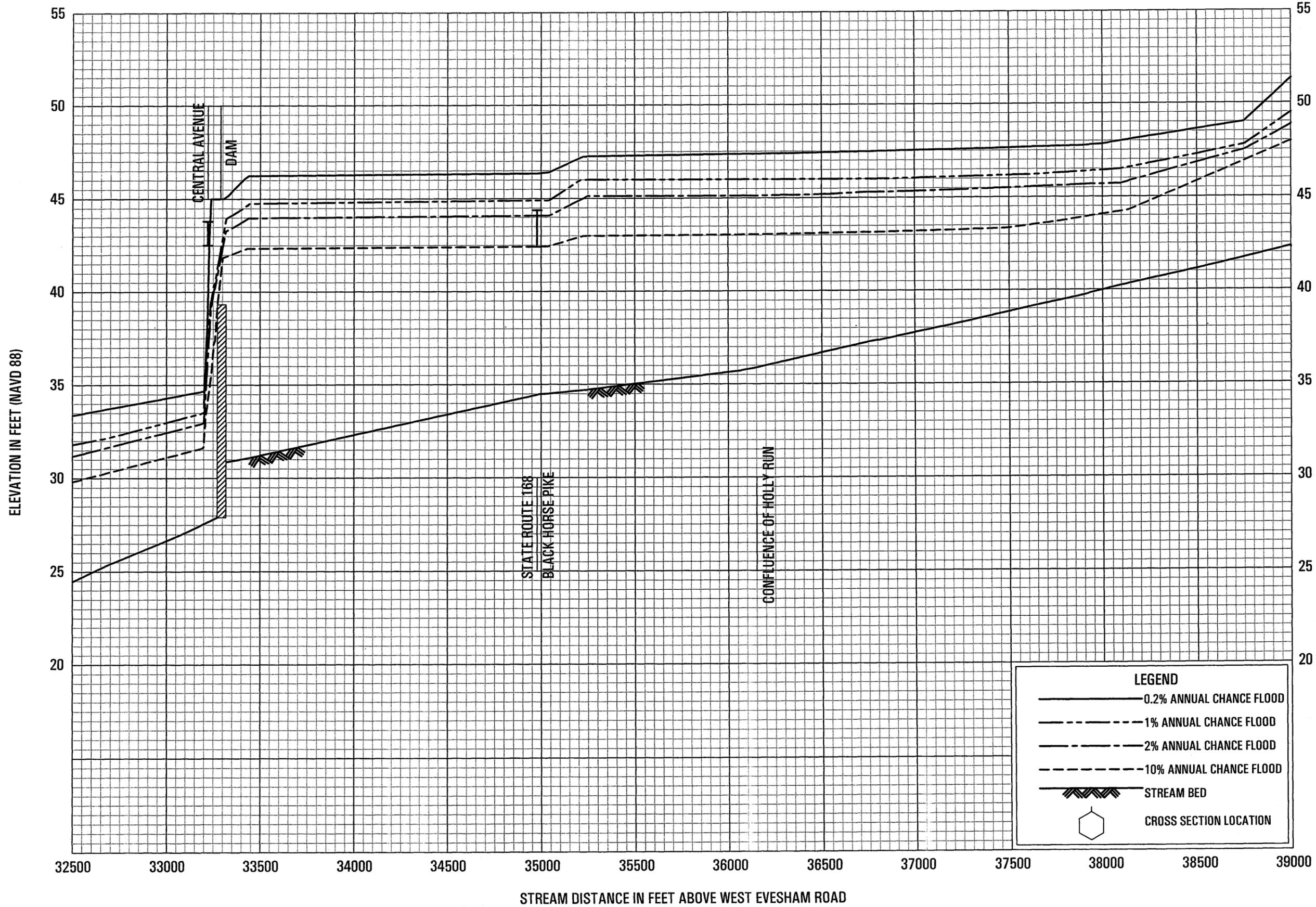


FLOOD PROFILES

SOUTH BRANCH BIG TIMBER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

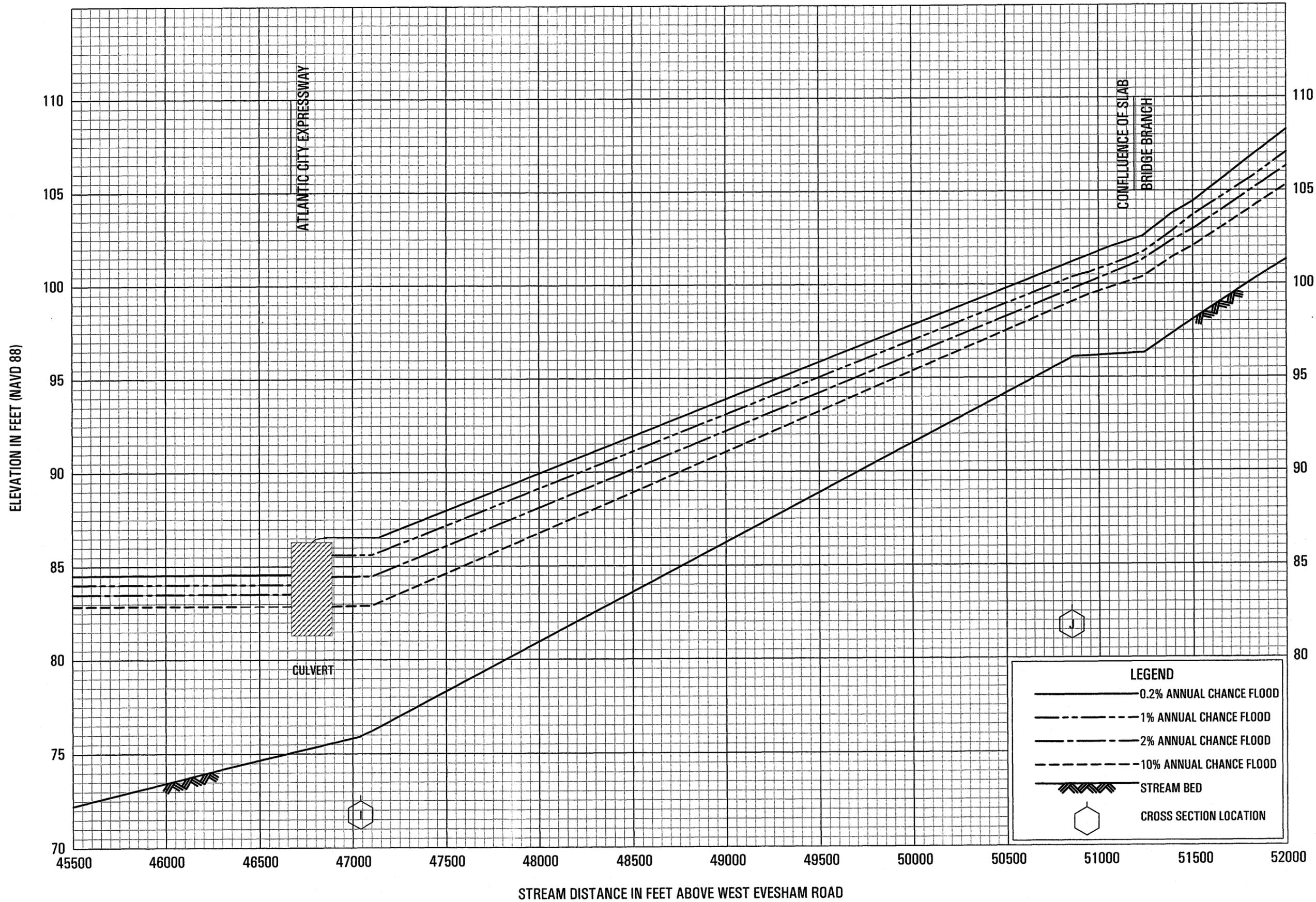
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES

SOUTH BRANCH BIG TIMBER CREEK

**FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)**

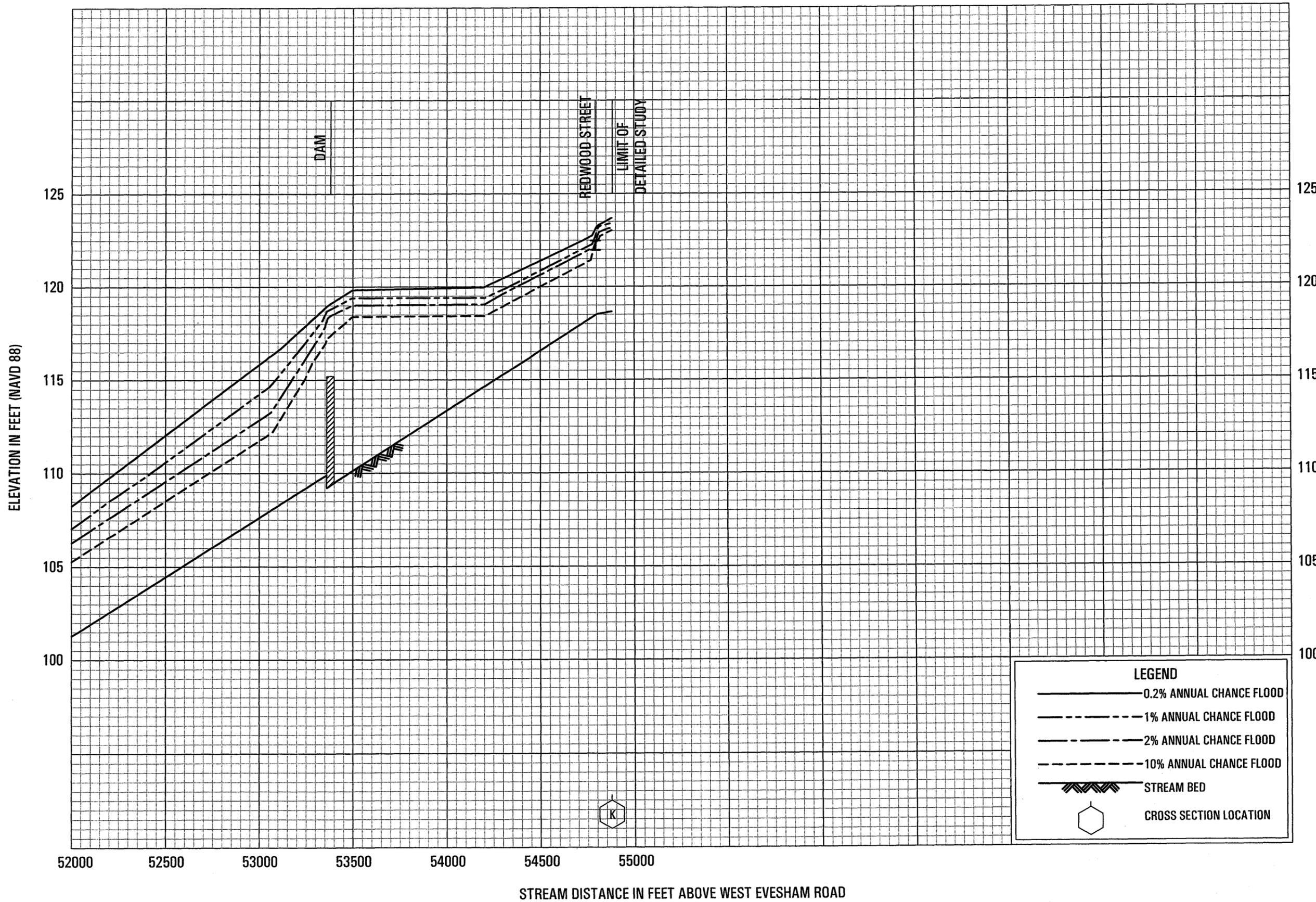


FLOOD PROFILES

SOUTH BRANCH BIG TIMBER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

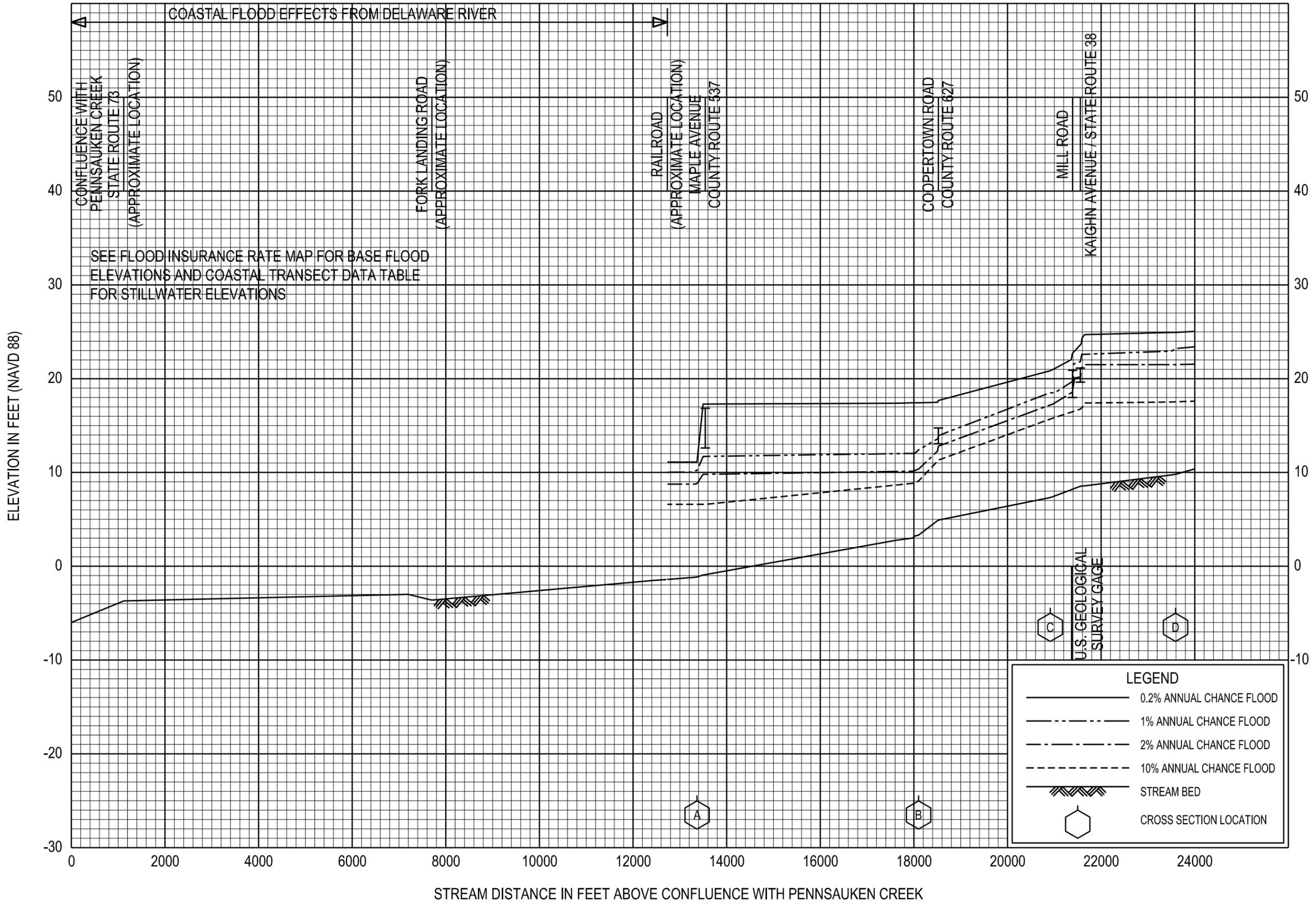
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES

SOUTH BRANCH BIG TIMBER CREEK

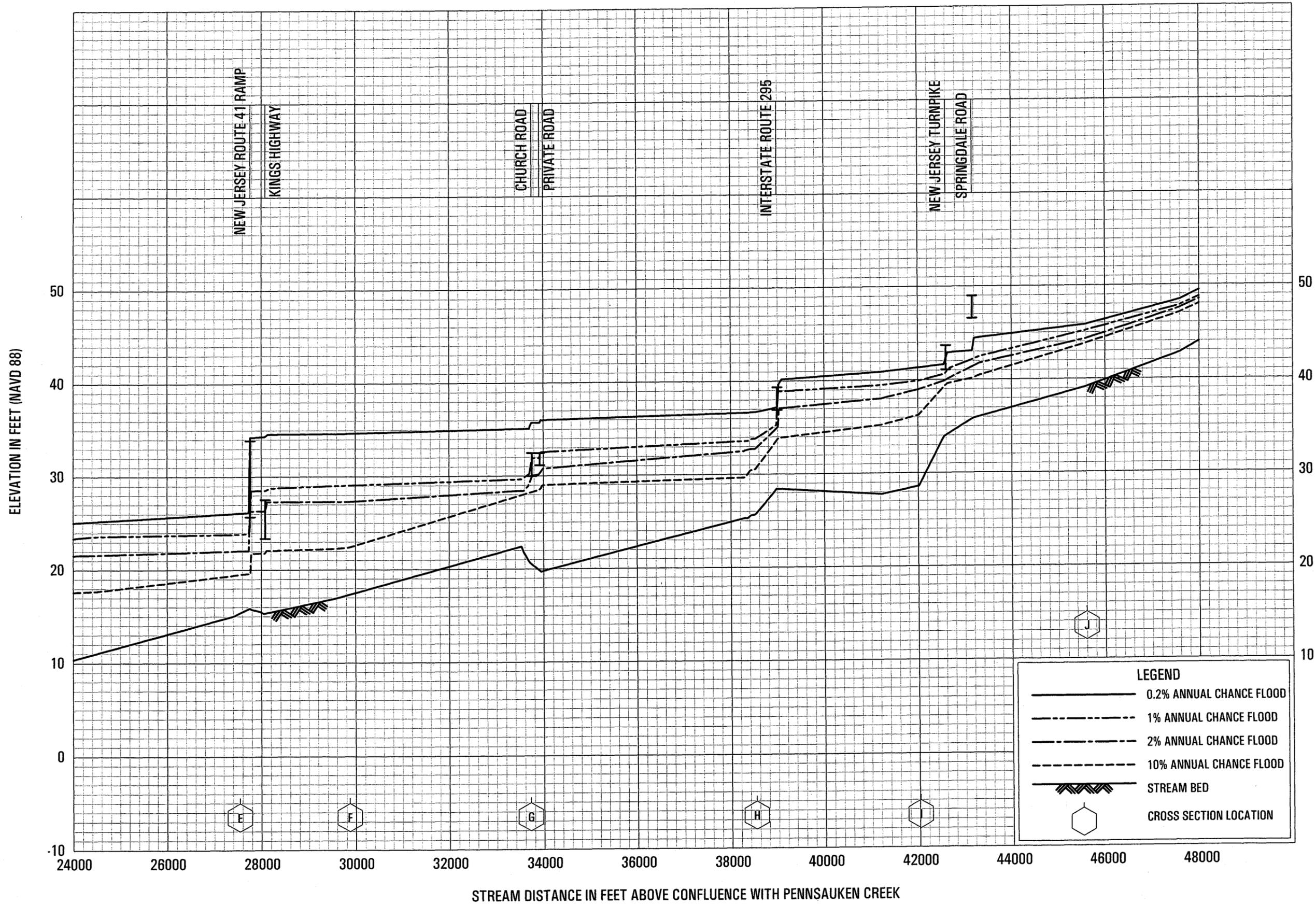
FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)



FLOOD PROFILES

SOUTH BRANCH PENNSAUKEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

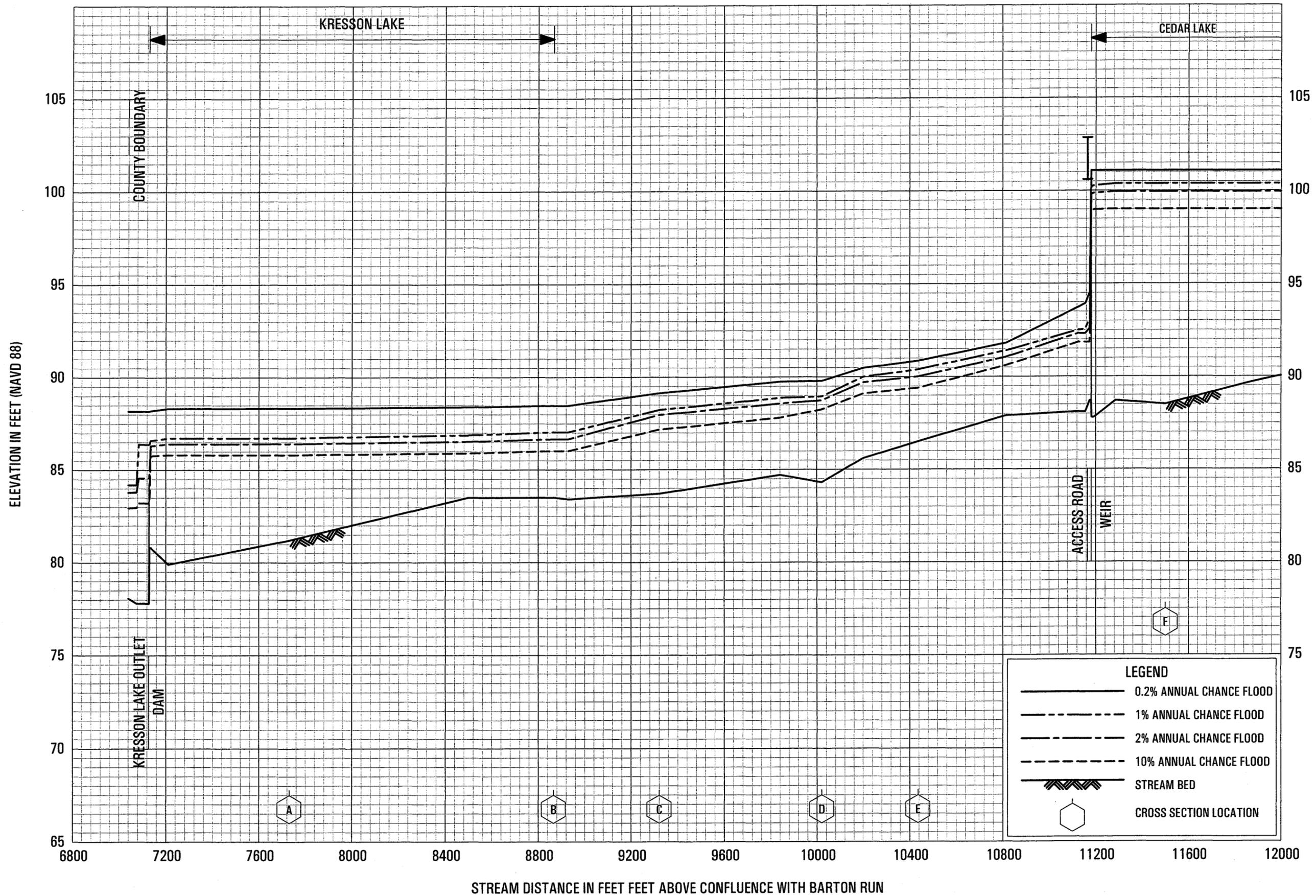


FLOOD PROFILES

SOUTH BRANCH PENNSAUKEN CREEK

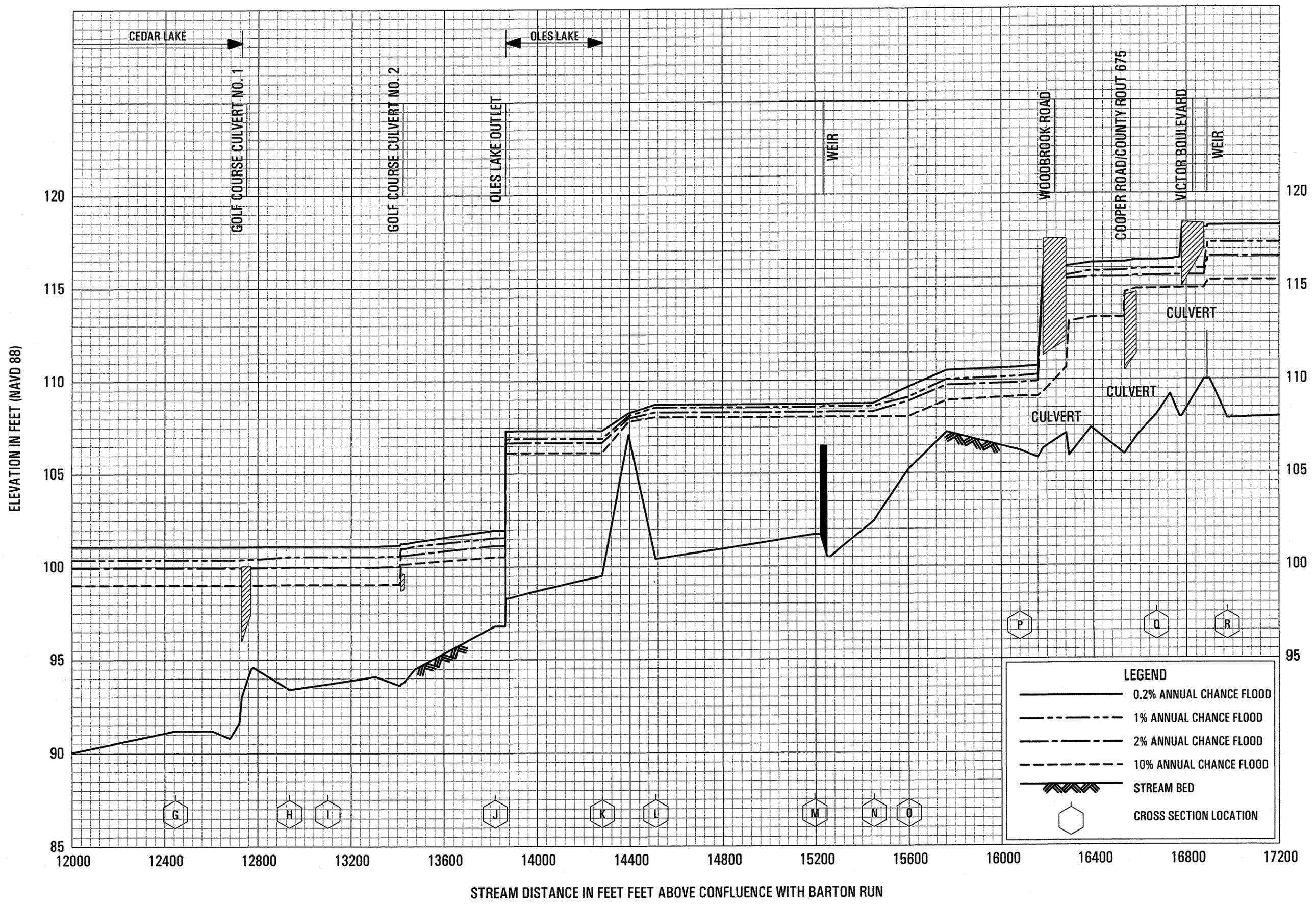
FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
 TRIBUTARY NO. 3 TO BARTON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY
 CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

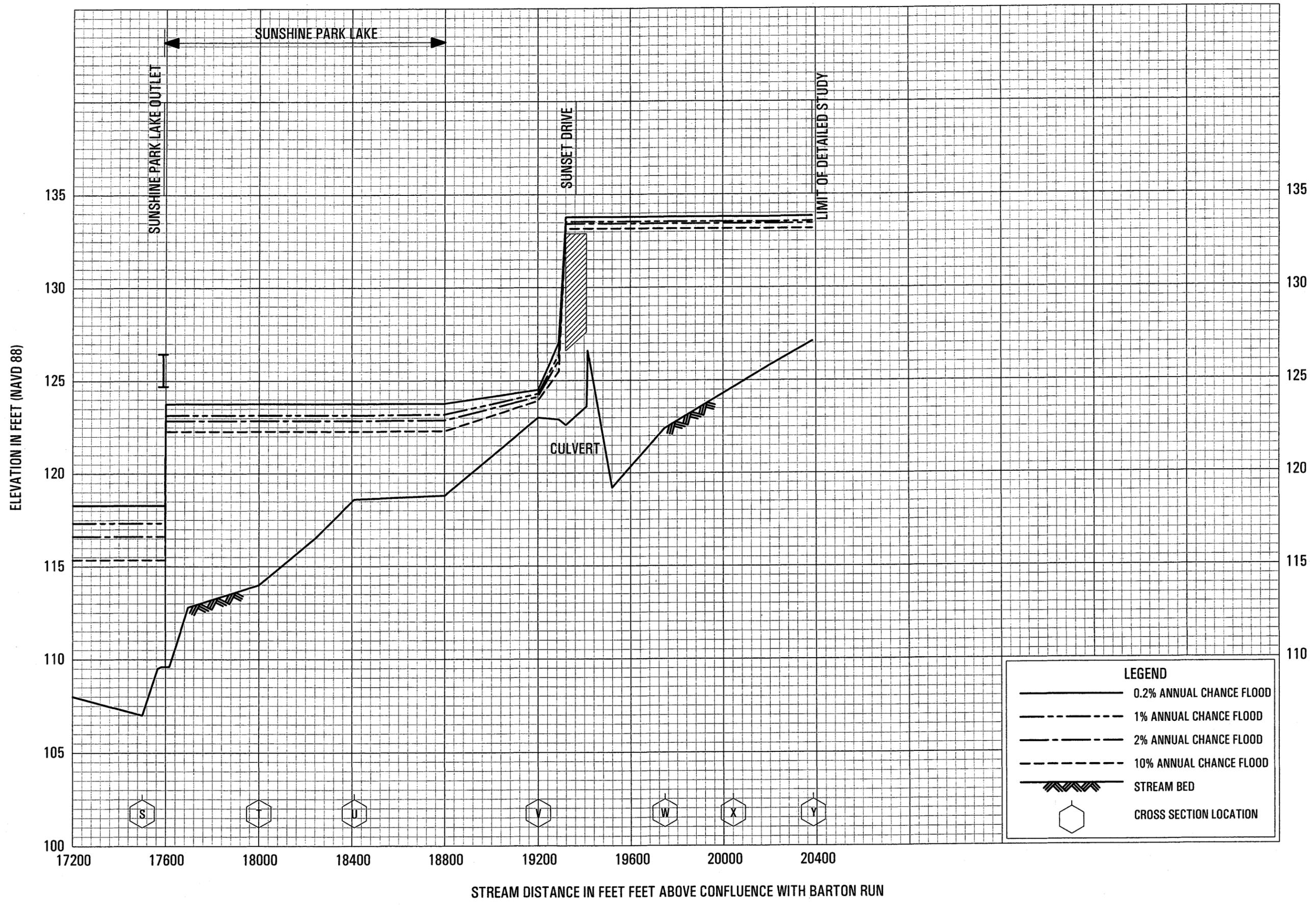


FLOOD PROFILES

TRIBUTARY NO. 3 TO BARTON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)

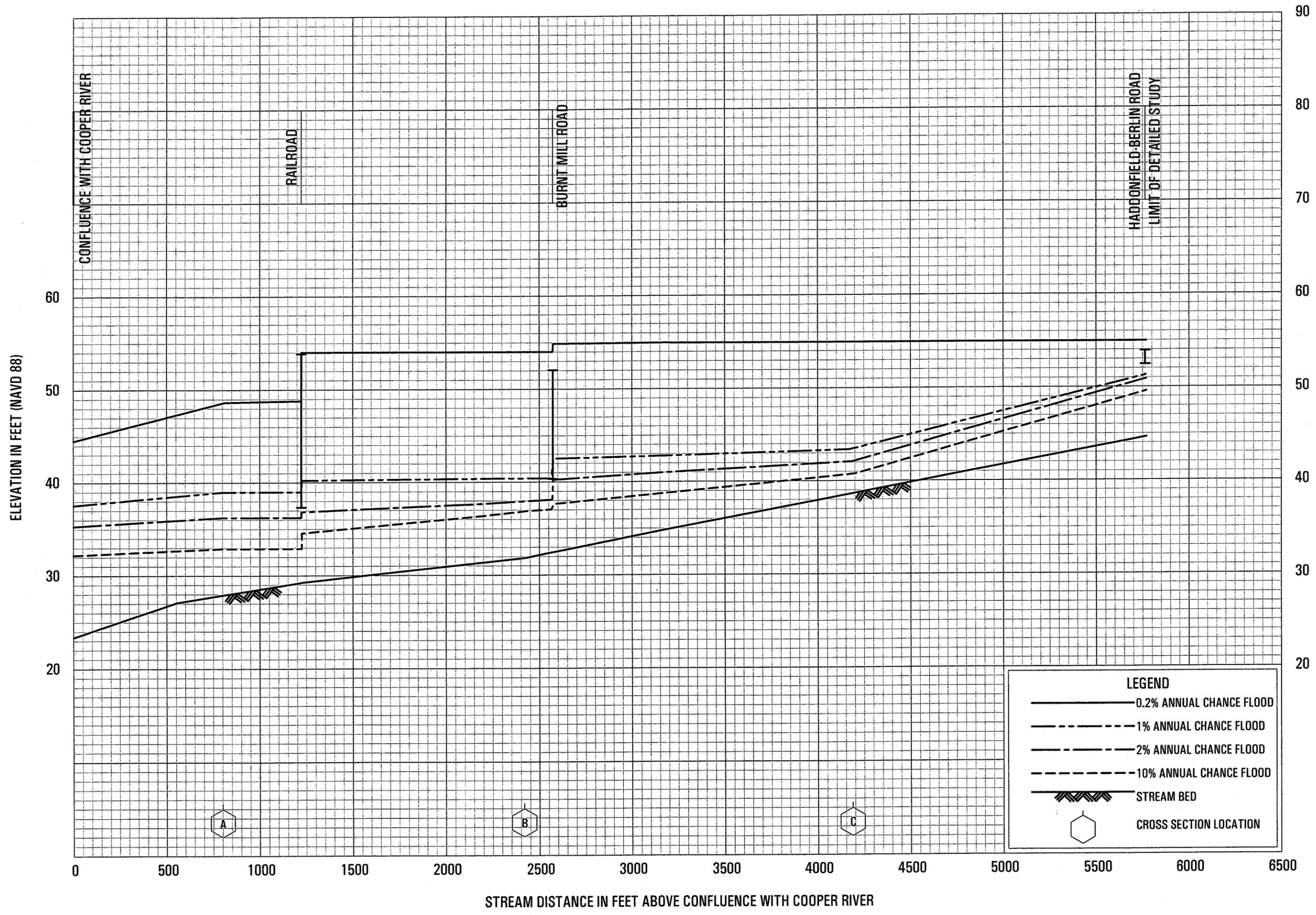


FLOOD PROFILES

TRIBUTARY NO. 3 TO BARTON RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

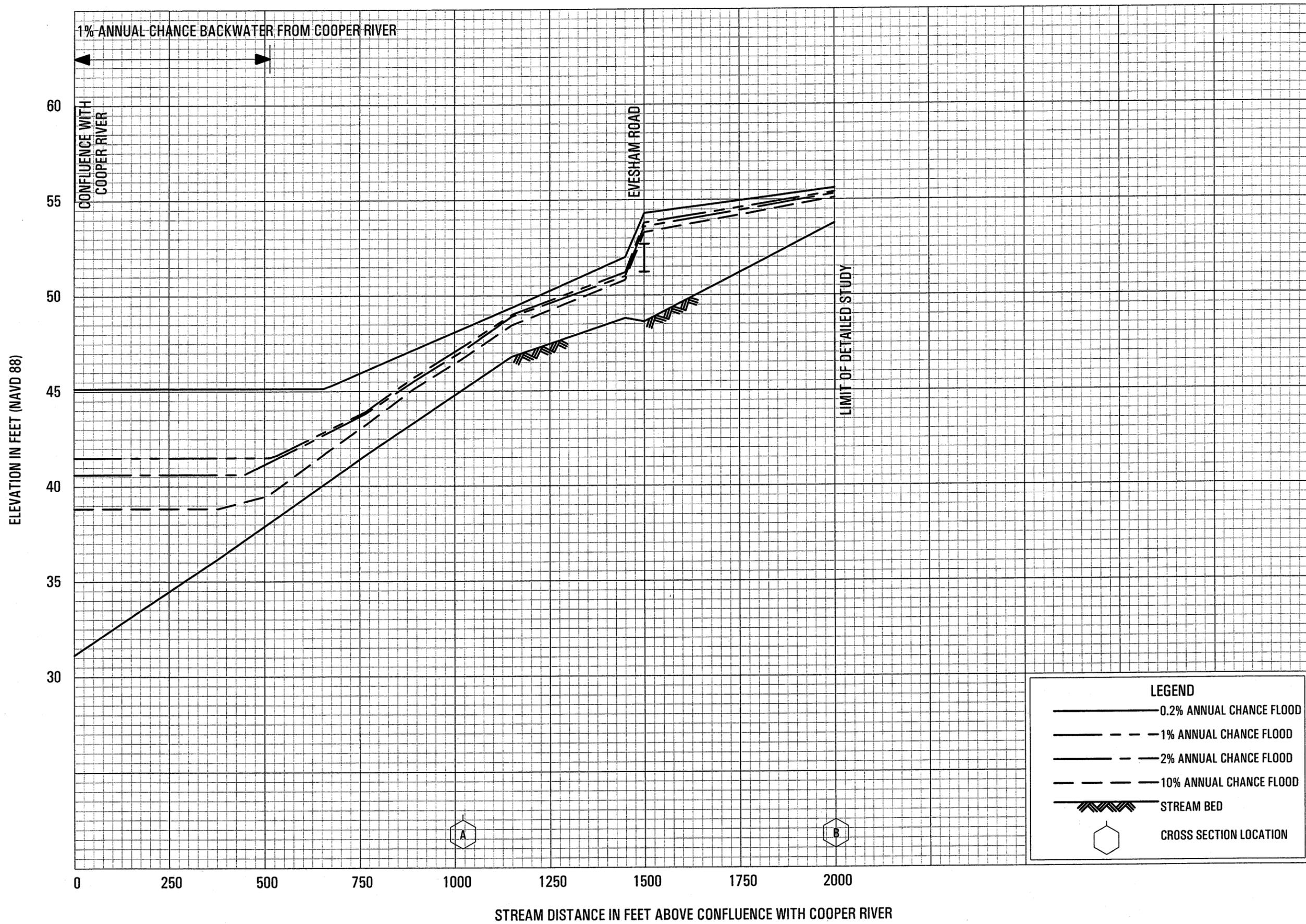
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES

TRIBUTARY NO. 1 TO COOPER RIVER

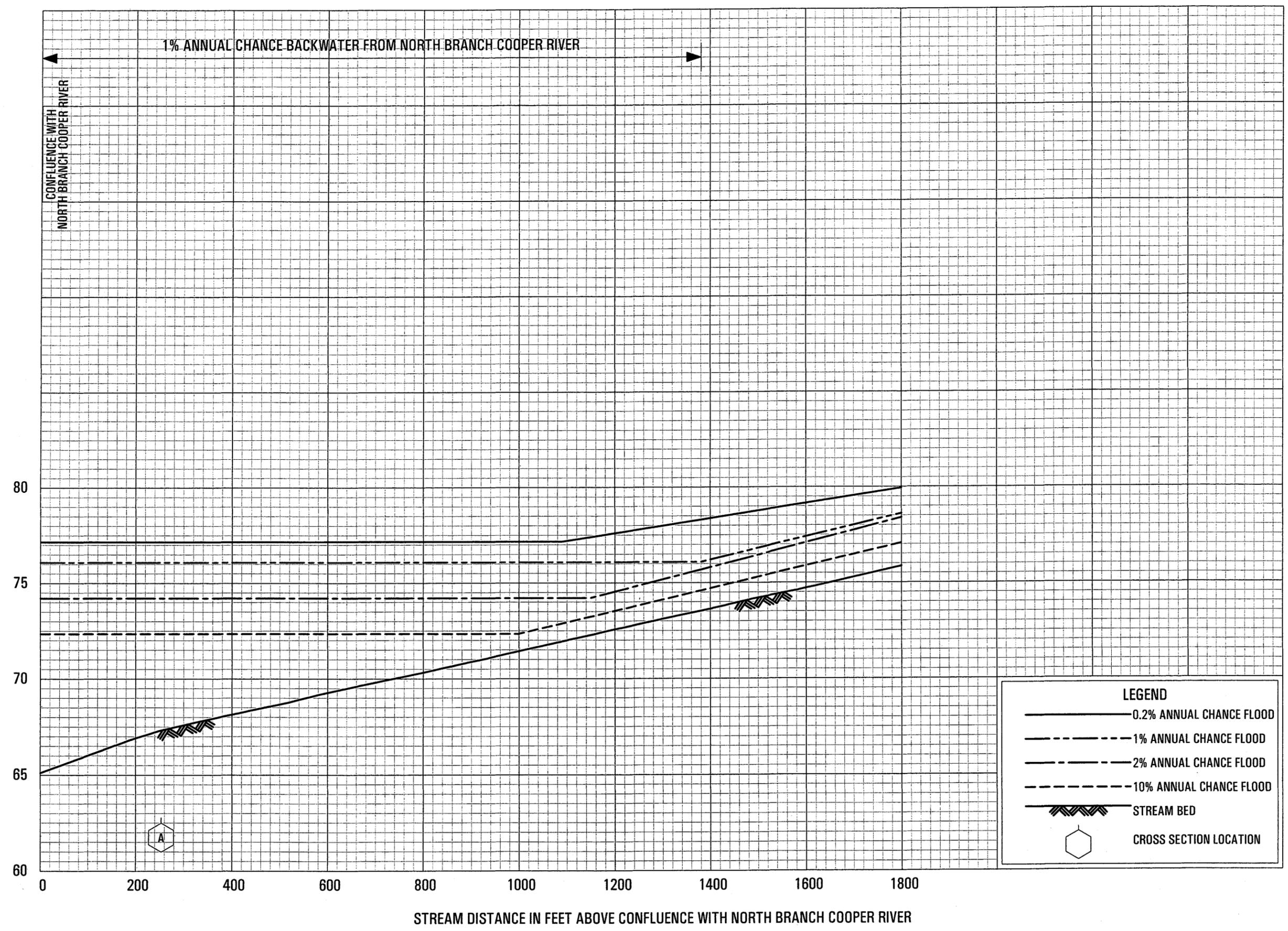
FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)



FLOOD PROFILES
TRIBUTARY NO. 3 TO COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)

ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES

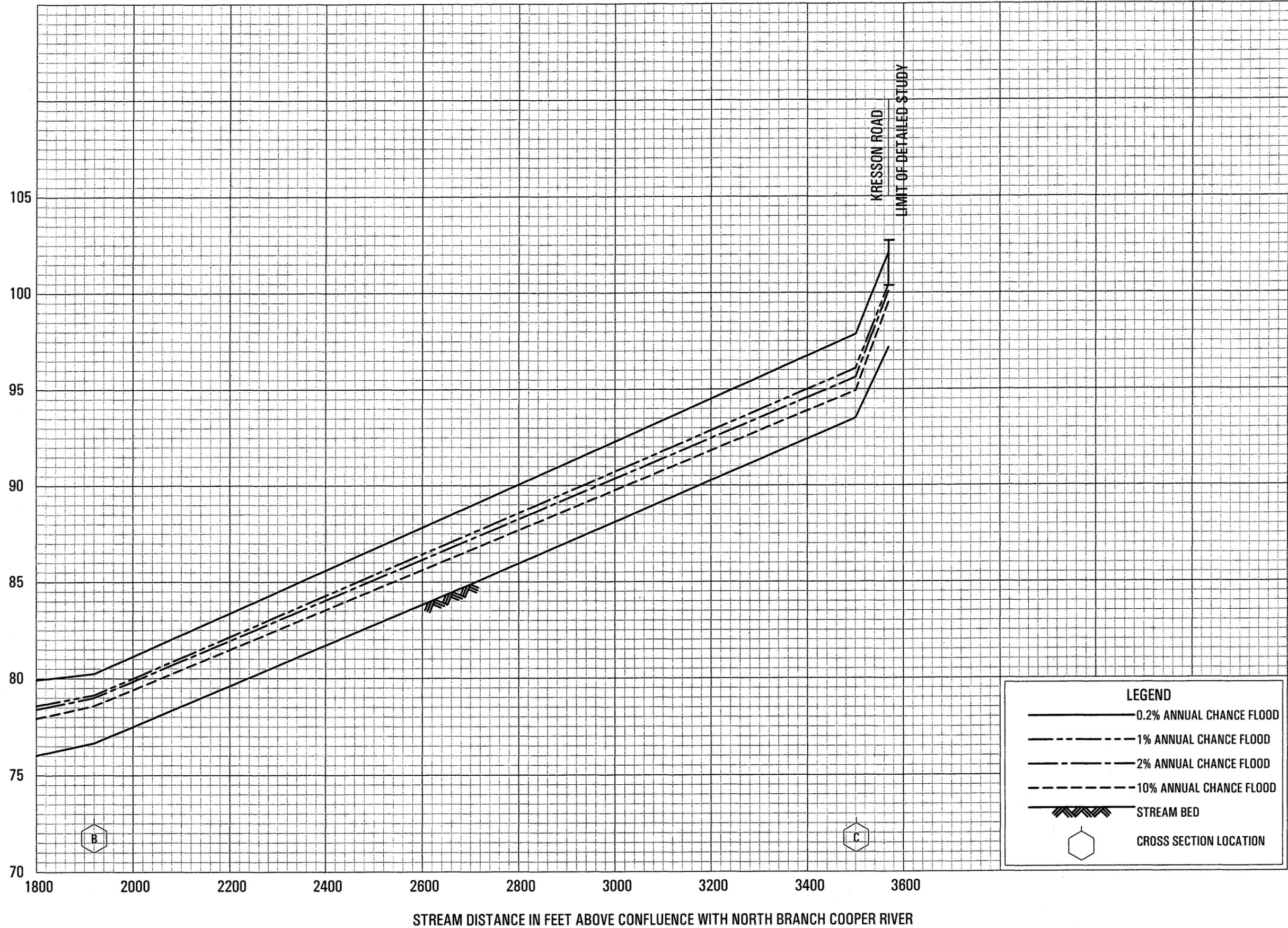
TRIBUTARY NO. 1 TO NORTH BRANCH COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CAMDEN COUNTY, NJ

(ALL JURISDICTIONS)

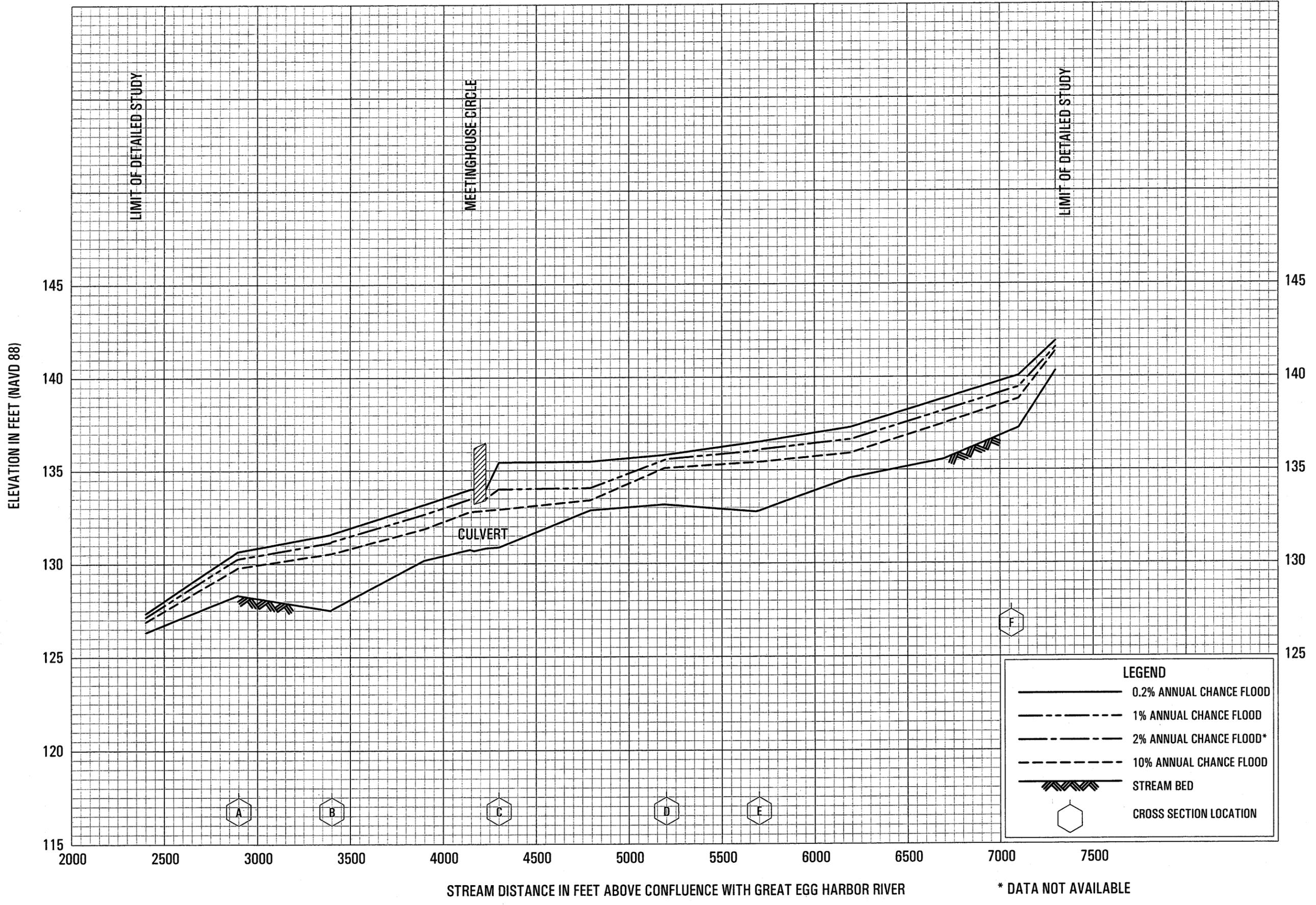
ELEVATION IN FEET (NAVD 88)



FLOOD PROFILES

TRIBUTARY NO. 1 TO NORTH BRANCH COOPER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
(ALL JURISDICTIONS)



FLOOD PROFILES
WILDCAT BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CAMDEN COUNTY, NJ
 (ALL JURISDICTIONS)