

# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 3 OF 8



### PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
BELLEAIR, TOWN OF	125088	REDINGTON SHORES, TOWN OF	125141
BELLEAIR BEACH, CITY OF	125089	SAFETY HARBOR, CITY OF	125143
BELLEAIR BLUFFS, CITY OF	120239	SEMINOLE, CITY OF	120257
BELLEAIR SHORE, TOWN OF	125090	SOUTH PASADENA, CITY OF	125151
CLEARWATER, CITY OF	125096	ST. PETE BEACH, CITY OF	125149
DUNEDIN, CITY OF	125103	ST. PETERSBURG, CITY OF	125148
GULFPORT, CITY OF	125108	TARPON SPRINGS, CITY OF	120259
INDIAN ROCKS BEACH, CITY OF	125117	TREASURE ISLAND, CITY OF	125153
INDIAN SHORES, TOWN OF	125118		
KENNETH CITY, TOWN OF	120245		
LARGO, CITY OF	125122		
MADEIRA BEACH, CITY OF	125127		
NORTH REDINGTON BEACH, TOWN OF	125133		
OLDSMAR, CITY OF	120250		
PINELLAS COUNTY, UNINCORPORATED AREAS	125139		
PINELLAS PARK, CITY OF	120251		
REDINGTON BEACH, TOWN OF	125140		

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**FEMA**

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### Flood Profiles

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Alligator Creek Channel B	04-06 P
Alligator Creek Channel C	07 P
Alligator Creek Channel E	08-09 P
Alligator Creek Channel G	10 P
Alligator Creek Channel H	11 P
Brooker Creek Tributary A	12 P
Brooker Creek Tributary B	13 P
Channel 1	14-15 P
Channel 2	16 P
Channel 3	17 P
Curlew Creek	18 P
Flagler Drive Tributary	19 P
Hammond Creek	20 P
Hollin Creek Tributary A	21-23 P
Hollin Creek Tributary A-2	24 P
Hollin Creek Tributary B	25 P
Jeffords Street Tributary	26 P
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Joe's Creek	28-31 P
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Miles Creek	36 P
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Stevenson Creek	38-39 P

## **Volume 4** Exhibits

### Transect Profiles

	<u>Panel</u>
Transect 1	01-03 T
Transect 2	04 T
Transect 3	05 T
Transect 4	06 T
Transect 5	07 T
Transect 6	08-10 T
Transect 7	11-12 T
Transect 8	13-14 T
Transect 9	15-17 T
Transect 10	18-19 T
Transect 11	20 T
Transect 12	21 T
Transect 13	22 T
Transect 14	23 T
Transect 15	24 T
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Transect 18	27 T
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Transect 24	36 T
Transect 25	37 T
Transect 26	38 T
Transect 27	39-40 T
Transect 28	41-42 T
Transect 29	43-45 T
Transect 30	46-47 T
Transect 31	48-49 T
Transect 32	50-51 T
Transect 33	52-53 T
Transect 34	54-55 T
Transect 35	56-57 T
Transect 36	58-59 T
Transect 37	60-61 T
Transect 38	62-63 T
Transect 39	64-66 T
Transect 40	67-68 T
Transect 41	69-70 T
Transect 42	71-72 T
Transect 43	73-74 T
Transect 44	75-77 T
Transect 45	78-79 T
Transect 46	80-81 T
Transect 47	82-84 T
Transect 48	85-86 T
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Transect 51	91-92 T
Transect 52	93-94 T
Transect 53	95-96 T
Transect 54	97-98 T
Transect 55	99-100 T
Transect 56	101-103 T
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Transect 76	150-151 T
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Transect 78	153-154 T
Transect 79	155 T
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Transect 128	253-254 T
Transect 129	255 T
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Transect 133	261-262 T
Transect 134	263 T
Transect 135	264-265 T

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Transect 142	278-279 T
Transect 143	280 T
Transect 144	281 T
Transect 145	282 T
Transect 146	283-284 T
Transect 147	285 T
Transect 148	286 T



Transect 149	287 T
Transect 150	288 T
Transect 151	289-290 T
Transect 152	291 T
Transect 153	292-293 T
Transect 154	294 T
Transect 155	295-296 T
Transect 156	297-298 T
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Transect 185	346-347 T
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Transect 189	353 T

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Transect 191	356 T
Transect 192	357-358 T
Transect 193	359 T
Transect 194	360-361 T
Transect 195	362-363 T
Transect 196	364 T
Transect 197	365-366 T
Transect 198	367 T
Transect 199	368-369 T
Transect 200	370 T
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Transect 229	409-410 T
Transect 230	411-412 T
Transect 231	413 T
Transect 232	414-415 T
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Transect 234	418-419 T
Transect 235	420-422 T

Transect 236	423-425 T
Transect 237	426-428 T
Transect 238	429-430 T
Transect 239	431-433 T
Transect 240	434-436 T
Transect 241	437-438 T
Transect 242	439-440 T

**Published Separately**

Flood Insurance Rate Map (FIRM)

## 6.4 Coastal Flood Hazard Mapping

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are shown in Table 22.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1% annual chance flood condition):

- The *primary frontal dune zone* is defined in 44 CFR Section 59.1 of the NFIP regulations. The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
- The *wave runup zone* occurs where the (eroded) ground profile is 3.0 feet or more below the 2-percent wave runup elevation.
- The *wave overtopping splash zone* is the area landward of the crest of an overtopped barrier, in cases where the potential 2-percent wave runup exceeds the barrier crest elevation by 3.0 feet or more.
- The *breaking wave height zone* occurs where 3-foot or greater wave heights could occur (this is the area where the wave crest profile is 2.1 feet or more above the total stillwater elevation).
- The *high-velocity flow zone* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared ( $hv^2$ ) is greater than or equal to  $200 \text{ ft}^3/\text{sec}^2$ . This zone may only be used on the Pacific Coast.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either “V” zones or “A” zones.

Table 25 indicates the coastal analyses used for floodplain mapping and the criteria used to determine the inland limit of the open-coast Zone VE and the SFHA boundary at each transect.

**Table 25: Summary of Coastal Transect Mapping Considerations**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
1		N/A	VE 13 - 16 AE 11 - 13	Breaking Wave Height	SWEL
2		N/A	VE 13 - 15 AE 12 - 13	Breaking Wave Height	N/A
3		N/A	VE 13 - 15 AE 13	Breaking Wave Height	N/A
4		N/A	VE 13 - 16 AE 12	Breaking Wave Height	N/A
5		N/A	VE 14 - 15 AE 12 - 13	Breaking Wave Height	N/A
6		N/A	VE 13 - 16 AE 11 - 13	Breaking Wave Height	SWEL
7		N/A	VE 14 - 16 AE 11 - 13	Breaking Wave Height	SWEL
8		N/A	VE 14 - 16 AE 11 - 13	Breaking Wave Height	SWEL
9		N/A	VE 14 - 16 AE 11 - 13	Breaking Wave Height	SWEL
10		N/A	VE 14 - 15 AE 11 - 12	Breaking Wave Height	SWEL
11		VE 13	VE 13 - 16 AE 13	Runup	Runup
12		N/A	VE 13 - 16 AE 11 - 13	Breaking Wave Height	SWEL
13		N/A	VE 13 - 16 AE 11 - 12	Breaking Wave Height	SWEL
14		VE 17	VE 17	Runup	Runup
15		N/A	VE 13 - 15 AE 11 - 12	Breaking Wave Height	SWEL
16		VE 14	VE 14 - 15	Runup	Runup
17		VE 12	VE 12 - 15	Runup	Runup
18		N/A	VE 12 - 15 AE 11	Breaking Wave Height	SWEL
19		N/A	VE 13 - 14 AE 10 - 12	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
20		N/A	VE 13 - 14 AE 11 - 12	Breaking Wave Height	SWEL
21		N/A	VE 12 - 14 AE 11 - 12	Breaking Wave Height	SWEL
22		N/A	VE 12 - 13 AE 10 - 12	Breaking Wave Height	SWEL
23		N/A	VE 13 - 14 AE 10 - 12	Breaking Wave Height	SWEL
24		VE 13	VE 13 - 14	Runup	Runup
25		VE 12	VE 12 - 14	Runup	Runup
26		N/A	VE 14 AE 10 - 11	Breaking Wave Height	SWEL
27		N/A	VE 13 - 14 AE 10 - 11	Breaking Wave Height	SWEL
28		N/A	VE 14 AE 10 - 11	Breaking Wave Height	SWEL
29		N/A	VE 12 - 14 AE 9 - 12	Breaking Wave Height	SWEL
30		N/A	VE 12 - 13 AE 10	Breaking Wave Height	SWEL
31		N/A	VE 13 AE 10 - 12	Breaking Wave Height	SWEL
32		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	SWEL
33		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	SWEL
34		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
35		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	SWEL
36		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
37		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
38		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
39		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
40		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
41		N/A	VE 12 - 13 AE 8 - 11	Breaking Wave Height	SWEL
42		N/A	VE 12 AE 8 - 11	Breaking Wave Height	SWEL
43		N/A	VE 12 AE 8 - 11	Breaking Wave Height	N/A
44		N/A	VE 12 AE 9 - 11	Breaking Wave Height	N/A
45		N/A	VE 12 AE 8 - 11	Breaking Wave Height	SWEL
46		N/A	VE 12 AE 8 - 11	Breaking Wave Height	SWEL
47		N/A	VE 12 AE 9 - 11	Breaking Wave Height	N/A
48		N/A	VE 12 AE 8 - 11	Breaking Wave Height	SWEL
49		N/A	VE 13 AE 8 - 11	Breaking Wave Height	SWEL
50		VE 11	VE 12 - 13 AE 8 - 11	Runup	Runup
51		N/A	VE 11 - 13 AE 8 - 11	Breaking Wave Height	SWEL
52		N/A	VE 11 - 13 AE 8 - 11	Breaking Wave Height	SWEL
53		N/A	VE 11 - 13 AE 8 - 11	Breaking Wave Height	N/A
54		N/A	VE 11 - 13 AE 8 - 11	Breaking Wave Height	SWEL
55		N/A	VE 11 - 13 AE 8 - 11	Breaking Wave Height	SWEL
56		N/A	VE 11 - 13 AE 8 - 11	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
57		N/A	VE 11 AE 8 - 10	Breaking Wave Height	SWEL
58		N/A	VE 13 AE 9 - 10	Breaking Wave Height	N/A
59		N/A	VE 13 AE 9 - 11	Breaking Wave Height	N/A
60		N/A	VE 13 AE 8 - 11	Breaking Wave Height	SWEL
61		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
62		N/A	VE 13 AE 9 - 10	Breaking Wave Height	SWEL
63		N/A	VE 13 AE 9 - 10	Breaking Wave Height	SWEL
64		N/A	VE 13 AE 9 - 10	Breaking Wave Height	N/A
65		N/A	VE 12 - 13 AE 9 - 10	Breaking Wave Height	SWEL
66		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	SWEL
67		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	SWEL
68		N/A	VE 12 AE 9 - 10	Breaking Wave Height	SWEL
69		N/A	VE 12 AE 8 - 10	Breaking Wave Height	SWEL
70		VE 9	VE 9 - 11 AE 8 - 9	Runup	Runup
71		N/A	VE 11 - 12 AE 8 - 10	Breaking Wave Height	SWEL
72		N/A	VE 10 - 12 AE 8 - 10	Breaking Wave Height	SWEL
73		N/A	VE 12 AE 8 - 10	Breaking Wave Height	SWEL
74		N/A	VE 11 - 12 AE 8 - 10	Breaking Wave Height	SWEL



**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
75		N/A	VE 11 - 12 AE 8 - 10	Breaking Wave Height	SWEL
76		N/A	VE 10 - 12 AE 8 - 10	Breaking Wave Height	SWEL
77		N/A	VE 10 - 12 AE 8 - 9	Breaking Wave Height	SWEL
78		N/A	VE 12 AE 8 - 10	Breaking Wave Height	SWEL
79		N/A	VE 11 - 12 AE 8 - 10	Breaking Wave Height	SWEL
80		N/A	VE 11 - 12 AE 8 - 10	Breaking Wave Height	SWEL
81		VE 11	VE 12 AE 9	Runup	Runup
82		N/A	VE 12 AE 8 - 9	Breaking Wave Height	SWEL
83		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
84		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
85		N/A	VE 14 AE 9 - 11	Breaking Wave Height	SWEL
86		N/A	VE 14 AE 10 - 11	Breaking Wave Height	SWEL
87		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
88		N/A	VE 12 - 14 AE 9 - 11	Breaking Wave Height	SWEL
89		N/A	VE 12 - 14 AE 9 - 11	Breaking Wave Height	SWEL
90		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
91		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	SWEL
92		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
93		N/A	VE 11 - 13 AE 9 - 10	Breaking Wave Height	SWEL
94		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	N/A
95		N/A	VE 13 AE 10 - 11	Runup	Runup
96		N/A	VE 11 - 13 AE 9 - 10	Breaking Wave Height	N/A
97		N/A	VE 11 - 13 AE 10 - 11	Breaking Wave Height	N/A
98		N/A	VE 12 AE 9 - 11	Breaking Wave Height	N/A
99		N/A	VE 13 AE 9 - 10	Breaking Wave Height	N/A
100		N/A	VE 13 AE 9 - 10	Breaking Wave Height	SWEL
101		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	N/A
102		N/A	VE 12 AE 9 - 10	Breaking Wave Height	N/A
103		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	SWEL
104		N/A	VE 12 AE 9 - 10	Breaking Wave Height	N/A
105		N/A	VE 11 AE 8 - 10	Breaking Wave Height	N/A
106		N/A	VE 10 - 11 AE 9 - 10	Breaking Wave Height	N/A
107	✓	N/A	VE 10 - 11 AE 8 - 10	PFD	N/A
108	✓	N/A	VE 10 - 11 AE 8 - 10	PFD	N/A
109	✓	N/A	VE 10 - 12 AE 9 - 10	Breaking Wave Height	N/A
110	✓	N/A	VE 10 - 12 AE 9 - 10	Breaking Wave Height	N/A

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
111		N/A	VE 11 - 12 AE 8 - 10	Breaking Wave Height	N/A
112	✓	N/A	VE 11 - 13 AE 8 - 10	PFD	SWEL
113	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	N/A
114	✓	N/A	VE 11 - 13 AE 9 - 11	PFD	SWEL
115	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	N/A
116	✓	N/A	VE 11 - 14 AE 9 - 11	PFD	N/A
117	✓	N/A	VE 11 - 14 AE 10	PFD	N/A
118	✓	N/A	VE 11 - 14 AE 10 - 11	PFD	N/A
119	✓	N/A	VE 11 - 14 AE 9 - 11	PFD	N/A
120	✓	N/A	VE 12 - 14 AE 9 - 11	PFD	SWEL
121	✓	N/A	VE 12 - 13 AE 10 - 11	PFD	SWEL
122	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	SWEL
123	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	SWEL
124	✓	N/A	VE 12 - 14 AE 10 - 12	PFD	SWEL
125	✓	N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	N/A
126	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	N/A
127		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	N/A
128		N/A	VE 12 AE 10 - 11	Breaking Wave Height	N/A

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
129		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
130		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
131		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
132		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
133		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
134		N/A	VE 12 - 13 AE 11 - 12	Breaking Wave Height	N/A
135		N/A	AE 9 - 11	Breaking Wave Height	SWEL
136		N/A	AE 9 - 11	Breaking Wave Height	SWEL
137		N/A	AE 9 - 11	Breaking Wave Height	SWEL
138		N/A	AE 9 - 11	Breaking Wave Height	SWEL
139		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
140		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
141		N/A	VE 13 - 14 AE 10 - 11	Breaking Wave Height	SWEL
142		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
143		N/A	VE 12 - 14 AE 11	Breaking Wave Height	N/A
144		N/A	VE 12 AE 10 - 11	Breaking Wave Height	SWEL
145		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
146		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
147		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
148		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
149		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	SWEL
150		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	SWEL
151		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	N/A
152		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	N/A
153		N/A	VE 12 - 13 AE 10 - 11	Breaking Wave Height	N/A
154	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	N/A
155	✓	N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	N/A
156	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	N/A
157	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	N/A
158	✓	N/A	VE 12 - 14 AE 10 - 11	PFD	N/A
159	✓	N/A	VE 12 - 14 AE 10 - 11	Wave Height	N/A
160	✓	N/A	VE 12 - 13 AE 10 - 11	PFD	N/A
161	✓	N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	N/A
162	✓	N/A	VE 12 - 13 AE 10 - 11	PFD	N/A
163	✓	N/A	VE 11 - 13 AE 10 - 11	PFD	N/A
164	✓	N/A	VE 11 - 13 AE 9 - 11	PFD	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
165	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
166	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
167	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
168	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
169	✓	N/A	VE 11 - 13 AE 8 - 9	PFD	SWEL
170	✓	N/A	VE 10 - 13 AE 8 - 10	PFD	SWEL
171	✓	N/A	VE 10 - 13 AE 8 - 10	PFD	SWEL
172	✓	N/A	VE 10 - 13 AE 8 - 10	PFD	SWEL
173	✓	N/A	VE 10 - 13 AE 8 - 10	Runup	Runup
174	✓	N/A	VE 10 - 13 AE 8 - 10	PFD	SWEL
175	✓	N/A	VE 10 - 13 AE 8 - 10	PFD	N/A
176	✓	N/A	VE 10 - 13 AE 8 - 9	PFD	N/A
177	✓	N/A	VE 10 - 13 AE 8 - 9	PFD	N/A
178	✓	N/A	VE 10 - 13 AE 9	PFD	N/A
179	✓	N/A	VE 10 - 13 AE 9	PFD	N/A
180	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
181	✓	N/A	VE 11 - 13 AE 8 - 10	PFD	N/A
182	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	N/A

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
183	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
184	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
185	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	SWEL
186	✓	N/A	VE 11 - 13 AE 9 - 10	PFD	N/A
187	✓	N/A	VE 11 - 13 AE 9 - 11	PFD	N/A
188	✓	N/A	VE 11 - 13 AE 10 - 11	PFD	N/A
189	✓	N/A	VE 11 - 13	N/A	N/A
190	✓	N/A	VE 12 - 13 AE 10 - 11	PFD	N/A
191	✓	N/A	VE 11 - 13 AE 10 - 11	Breaking Wave Height	N/A
192		N/A	VE 12 AE 10 - 11	Breaking Wave Height	N/A
193		N/A	VE 12 AE 9 - 10	Breaking Wave Height	N/A
194		N/A	VE 12 AE 9 - 10	Breaking Wave Height	SWEL
195		N/A	VE 12 AE 9 - 10	Breaking Wave Height	SWEL
196		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	N/A
197		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	SWEL
198		N/A	VE 11 AE 8 - 9	Breaking Wave Height	N/A
199		N/A	VE 11 AE 8 - 9	Breaking Wave Height	N/A
200		N/A	VE 10 - 11 AE 8 - 10	Breaking Wave Height	N/A
201		N/A	VE 11 AE 9	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
202		VE 15	VE 15	Runup	Runup
203		N/A	AE 9 - 10	Breaking Wave Height	SWEL
204		VE 19	VE 19	Runup	N/A
205		N/A	VE 12 AE 9 - 10	Breaking Wave Height	SWEL
206		N/A	VE 12 AE 9 - 10	Breaking Wave Height	SWEL
207		N/A	VE 12 AE 9 - 10	Breaking Wave Height	SWEL
208		VE 15	VE 15	Runup	Runup
209		N/A	VE 12 AE 9	Breaking Wave Height	SWEL
210		N/A	VE 11 - 12 AE 9 - 10	Breaking Wave Height	SWEL
211		VE 16	VE 16 AE 16	Runup	SWEL
212		N/A	VE 13 AE 9 - 11	Breaking Wave Height	SWEL
213		N/A	VE 13 AE 9 - 11	Breaking Wave Height	SWEL
214		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
215		N/A	VE 13 AE 9 - 10	Breaking Wave Height	SWEL
216		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
217		N/A	VE 13 AE 9 - 10	Breaking Wave Height	SWEL
218		N/A	VE 13 AE 9 - 11	Breaking Wave Height	SWEL
219		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
220		N/A	VE 11 - 13 AE 9 - 11	Breaking Wave Height	SWEL
221		N/A	VE 13 AE 9 - 11	Breaking Wave Height	SWEL



**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
222		N/A	VE 12 AE 10 - 11	Breaking Wave Height	SWEL
223		N/A	VE 13 AE 9 - 11	Breaking Wave Height	SWEL
224		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
225		N/A	VE 12 - 13 AE 9 - 11	Breaking Wave Height	SWEL
226		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
227		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
228		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
229		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
230		N/A	VE 14 AE 9 - 11	Breaking Wave Height	SWEL
231		N/A	VE 12 - 14 AE 10 - 11	Breaking Wave Height	SWEL
232		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
233		N/A	VE 12 - 14 AE 10 - 12	Breaking Wave Height	SWEL
234		N/A	VE 13 - 14 AE 10 - 11	Breaking Wave Height	SWEL
235		N/A	VE 13 - 14 AE 9 - 12	Breaking Wave Height	SWEL
236		N/A	VE 12 - 14 AE 9 - 12	Breaking Wave Height	SWEL
237		N/A	VE 13 - 14 AE 9 - 11	Breaking Wave Height	SWEL
238		N/A	VE 13 - 14 AE 8 - 12	Breaking Wave Height	SWEL
239		N/A	VE 12 - 13 AE 8 - 12	Breaking Wave Height	SWEL

**Table 25: Summary of Coastal Transect Mapping Considerations (continued)**

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD88)	Zone Designation and BFE (ft NAVD88)		
240		N/A	VE 12 - 14 AE 8 - 12	Breaking Wave Height	SWEL
241		N/A	VE 14 AE 10 - 11	Breaking Wave Height	SWEL
242		N/A	VE 12 - 14 AE 9 - 11	Breaking Wave Height	SWEL

A LiMWA boundary has also been added in coastal areas subject to wave action for use by local communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave.

## 6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 30, “Map Repositories”).

### 6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA. A LOMA cannot be issued for properties located on the PFD (primary frontal dune).

To obtain an application for a LOMA, visit [www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms](http://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms) and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at [www.fema.gov/flood-maps/tutorials](http://www.fema.gov/flood-maps/tutorials).

For more information about how to apply for a LOMA, call the FEMA Mapping and Insurance eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

### 6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting [www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms](http://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms) for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Mapping and Insurance eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at [www.fema.gov/flood-maps/tutorials](http://www.fema.gov/flood-maps/tutorials).

### 6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit [www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms](http://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms) and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Mapping and Insurance eXchange toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the Pinellas County FIRM are listed in Table 26.

**Table 26: Incorporated Letters of Map Change**

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
06-04-BS96P	03/29/2007	Miles Creek Ponding Areas	12103C0211H 12103C0212G <sup>1</sup> 12103C0213H 12103C0214H
06-04-B129X	12/21/2006	Woodside Lake 1 Woodside Lake 2	12103C0107J 12103C0109J

**Table 26: Incorporated Letters of Map Change (continued)**

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
07-04-1921P	07/20/2007	Miles Creek	12103C0211H

<sup>1</sup> Although a portion of LOMR 06-04-BS96P falls within the scope of this map revision, panel 12103C0212G was not revised. Therefore, users must continue to refer to the annotated FIRM attachment for this LOMR for FIRM panel 12103C0212G.

#### **6.5.4 Physical Map Revisions**

A Physical Map Revisions (PMR) is an official republication of a community's NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community's chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit [www.fema.gov](http://www.fema.gov) and visit the "Flood Map Revision Processes" section.

#### **6.5.5 Contracted Restudies**

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit [www.fema.gov](http://www.fema.gov) to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

#### **6.5.6 Community Map History**

The current FIRM presents flooding information for the entire geographic area of Pinellas County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 27, "Community Map History." A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 27 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first FHBM. This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as PMRs of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the Pinellas County FIRMs in countywide format was 09/03/2003.

**Table 27: Community Map History**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Belleair, Town of	07/17/1970	07/17/1970	N/A	05/14/1971	08/24/2021 05/17/2005 09/03/2003 01/19/1983 08/13/1976 07/01/1974
Belleair Beach, City of	05/14/1971	N/A	N/A	05/14/1971	08/24/2021 09/03/2003 03/02/1983 11/28/1975 07/01/1974

**Table 27: Community Map History (continued)**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Belleair Bluffs, City of	06/28/1974	06/28/1974	06/11/1976	08/15/1977	08/24/2021 05/17/2005 09/03/2003 01/19/1983
Belleair Shore, Town of	05/14/1971	N/A	N/A	05/14/1971	08/24/2021 09/03/2003 03/02/1983 10/17/1975 07/01/1974
Clearwater, City of	06/09/1971	N/A	N/A	06/09/1971	08/24/2021 05/17/2005 09/03/2003 08/18/1992 07/02/1992 08/19/1991 10/01/1983 06/01/1983 07/08/1977 07/01/1974
Dunedin, City of	05/14/1971	N/A	N/A	05/14/1971	08/24/2021 05/17/2005 09/03/2003 07/02/1992 03/01/1984 10/22/1976 07/01/1974
Gulfport, City of	05/21/1971	N/A	N/A	05/21/1971	08/24/2021 09/03/2003 11/01/1984 12/17/1976 12/26/1975 07/01/1974
Indian Rocks Beach, City of	07/17/1970	07/17/1970	N/A	05/07/1971	08/24/2021 09/03/2003 03/02/1983 08/13/1976 07/01/1974
Indian Shores, Town of	05/22/1970	05/22/1970	N/A	05/21/1971	08/24/2021 09/03/2003 03/02/1983 06/06/1975 07/01/1974
Kenneth City, Town of	06/28/1974	06/28/1974	02/06/1976	01/16/1981	08/24/2021 08/18/2009 09/03/2003 09/01/1983

**Table 27: Community Map History (continued)**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Largo, City of	05/28/1971	N/A	N/A	05/28/1971	08/24/2021 05/17/2005 09/03/2003 03/16/1983 04/07/1978 10/22/1976 07/01/1974
Madeira Beach, City of	06/05/1970	06/05/1970	N/A	05/07/1971	08/24/2021 09/03/2003 03/02/1983 10/17/1975 07/01/1974
North Redington Beach, Town of	05/22/1970	05/22/1970	N/A	05/14/1971	08/24/2021 09/03/2003 03/02/1983 01/07/1977 10/31/1975 07/01/1974
Oldsmar, City of	05/21/1971	N/A	N/A	05/21/1971	08/24/2021 09/03/2003 06/01/1983 11/12/1976 07/01/1974
Pinellas County, Unincorporated Area	06/18/1971	N/A	N/A	06/18/1971	08/24/2021 08/18/2009 05/17/2005 09/03/2003 05/06/1996 07/02/1992 10/01/1983 06/01/1983 07/08/1977 07/01/1974
Pinellas Park, City of	06/07/1974	06/07/1974	03/28/1975	08/15/1977	08/24/2021 08/18/2009 09/03/2003 02/17/1989 05/15/1984 06/15/1982
Redington Beach, Town of	05/15/1970	05/15/1970	N/A	05/07/1971	08/24/2021 09/03/2003 03/02/1983 09/26/1975 07/01/1974

**Table 27: Community Map History (continued)**

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Redington Shores, Town of	05/08/1971	N/A	N/A	05/08/1971	08/24/2021 09/03/2003 03/02/1983 10/17/1975 07/01/1974
Safety Harbor, City of	05/14/1971	05/14/1971	N/A	06/18/1971	08/24/2021 09/03/2003 06/01/1983 10/22/1976 07/01/1974
Seminole, City of	11/29/1974	11/29/1974	07/30/1976	06/01/1981	08/24/2021 09/03/2003 01/18/1984
South Pasadena, City of	06/16/1970	N/A	N/A	05/14/1971	08/24/2021 09/03/2003 11/01/1984 10/31/1975 05/23/1975 07/01/1974
St. Pete Beach, City of	05/22/1970	N/A	N/A	05/22/1970	08/24/2021 09/03/2003 03/02/1983 10/17/1975 07/01/1974
St. Petersburg, City of	05/28/1971	N/A	N/A	05/28/1971	08/24/2021 08/18/2009 09/03/2003 11/02/1994 07/02/1992 09/30/1983 06/10/1977 07/01/1974
Tarpon Springs, City of	05/14/1971	N/A	N/A	05/14/1971	08/24/2021 09/03/2003 06/01/1983 01/07/1977 07/01/1974
Treasure Island, City of	05/08/1971	N/A	N/A	05/08/1971	08/24/2021 09/03/2003 03/02/1983 09/26/1975 07/01/1974



## SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

### 7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

**Table 28: Summary of Contracted Studies Included in this FIS Report**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Alligator Creek Channel A	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Clearwater, City of; Pinellas County, Unincorporated Areas
Alligator Creek Channel A	09/03/2003	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Clearwater, City of; Pinellas County, Unincorporated Areas; Safety Harbor, City of
Alligator Creek Channel B	09/03/2003	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Clearwater, City of; Pinellas County, Unincorporated Areas
Alligator Creek Channel C	09/03/2003	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Clearwater, City of; Pinellas County, Unincorporated Areas
Alligator Creek Channel E	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Clearwater, City of; Pinellas County, Unincorporated Areas; Safety Harbor, City of
Alligator Creek Channel E	09/03/2003	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Clearwater, City of; Pinellas County, Unincorporated Areas; Safety Harbor, City of
Alligator Creek Channel G	08/19/1991	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Clearwater, City of; Pinellas County, Unincorporated Areas
Alligator Creek Channel H	09/03/2003	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Clearwater, City of; Pinellas County, Unincorporated Areas
Alligator Lake	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Clearwater, City of; Safety Harbor, City of

**Table 28: Summary of Contracted Studies Included in this FIS Report (continued)**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Anclote River	09/03/2003	Gee and Jenson, Inc.	EMW-87-C-2459	September 1988	Pinellas County, Unincorporated Areas; Tarpon Springs, City of
Boca Ciega Bay	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Gulfport, City of; Madeira Beach, City of; North Redington Beach, Town of; Seminole, City of; South Pasadena, City of; St. Pete Beach, City of; St. Petersburg, City of; Treasure Island, City of; Pinellas County, Unincorporated Areas; Redington Beach, Town of; Redington Shores, Town of
Brooker Creek Tributary A	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Areas
Brooker Creek Tributary B	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Areas
Channel 1	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Pinellas County, Unincorporated Areas; Pinellas Park, City of
Channel 1	08/18/2009	Watershed Concepts	EMA-2002-CO-0011A	September 2009	Pinellas County, Unincorporated Areas; Pinellas Park, City of
Channel 2	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Pinellas County, Unincorporated Areas; Pinellas Park, City of
Channel 2	08/18/2009	Watershed Concepts	EMA-2002-CO-0011A	September 2009	Pinellas Park, City of
Channel 3	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Pinellas County, Unincorporated Areas; Pinellas Park, City of

**Table 28: Summary of Contracted Studies Included in this FIS Report (continued)**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Channel 3	08/18/2009	Watershed Concepts	EMA-2002-CO-0011A	September 2009	Pinellas County, Unincorporated Areas; Pinellas Park, City of
Clearwater Harbor	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Belleair, Town of; Belleair Beach, City of; Belleair Bluffs, City of; Clearwater, City of; Dunedin, City of; Indian Rocks Beach, City of; Largo, City of; Pinellas County, Unincorporated Areas
Curlew Creek	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Dunedin, City of; Pinellas County, Unincorporated Areas
Curlew Creek	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Dunedin, City of; Pinellas County, Unincorporated Areas
Flagler Drive Tributary	05/17/2005	Parsons Engineering Science	*	September 2003	Clearwater, City of; Pinellas County, Unincorporated Areas
Gulf of Mexico	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Belleair Beach, City of; Belleair Shore, Town of; Clearwater, City of; Dunedin, City of; Indian Rocks Beach, City of; Indian Shores, Town of; Madeira Beach, City of; North Redington Beach, Town of; Pinellas County, Unincorporated Areas; Redington Beach, Town of; Redington Shores, Town of; St. Pete Beach, City of; Tarpon Springs, City of; Treasure Island, City of

**Table 28: Summary of Contracted Studies Included in this FIS Report (continued)**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Hammond Creek	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Clearwater, City of
Hammond Creek	05/17/2005	Parsons Engineering Science	*	September 2003	Clearwater, City of
Hollin Creek Tributary A	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Pinellas County, Unincorporated Area
Hollin Creek Tributary A	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Area
Hollin Creek Tributary A-2	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Area
Hollin Creek Tributary B	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Area
Jeffords Street Tributary	05/17/2005	Parsons Engineering Science	*	September 2003	Clearwater, City of; Pinellas County, Unincorporated Areas
Jerry Branch	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Dunedin, City of; Pinellas County, Unincorporated Areas
Joe's Creek	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Kenneth City, Town of; Pinellas County, Unincorporated Areas
Joe's Creek	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Kenneth City, Town of; Pinellas County, Unincorporated Areas; St. Petersburg, City of
Joe's Creek Tributary No. 4	08/18/2009	Watershed Concepts	EMA-2002-CO-0011A	September 2009	Kenneth City, Town of; Pinellas County, Unincorporated Areas; Pinellas Park, City of
Joe's Creek Tributary No. 5	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Areas; Pinellas Park, City of

**Table 28: Summary of Contracted Studies Included in this FIS Report (continued)**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Lake Seminole	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Largo, City of; Pinellas County, Unincorporated Areas; Seminole, City of
Lake Tarpon	12/01/1982	U.S. Army Corps of Engineers	*	November 1974	Pinellas County, Unincorporated Areas; Tarpon Springs, City of
Long Bayou	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Pinellas County, Unincorporated Areas; Seminole, City of; St. Petersburg, City of
Miles Creek	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas County, Unincorporated Areas; St. Petersburg, City of
Old Tampa Bay <sup>1</sup>	08/24/2021	RAMPP	HSFE60-15-D-0003	August 2020	St. Petersburg, City of
Old Tampa Bay	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Clearwater, City of; Largo, City of; Oldsmar, City of; Pinellas County, Unincorporated Areas; Safety Harbor, City of; St. Petersburg, City of
Safety Harbor <sup>1</sup>	08/24/2021	RAMPP	HSFE60-15-D-0003	August 2020	Oldsmar, City of
Spring Branch	05/17/2005	Parsons Engineering Science	*	September 2003	Clearwater, City of; Pinellas County, Unincorporated Areas
St. Joseph Sound <sup>1</sup>	08/24/2021	RAMPP	HSFE60-15-D-0003	August 2020	Tarpon Springs, City of
St. Joseph Sound	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Dunedin, City of; Pinellas County, Unincorporated Areas; Tarpon Springs, City of
Stevenson Creek	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Clearwater, City of; Pinellas County, Unincorporated Areas

**Table 28: Summary of Contracted Studies Included in this FIS Report (continued)**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Stevenson Creek	05/17/2005	Parsons Engineering Science	*	September 2003	Clearwater, City of; Largo, City of; Pinellas County, Unincorporated Areas
Tampa Bay	08/24/2021	RAMPP	HSFEHQ-09-D-0369	December 2017	Largo, City of; Oldsmar, City of; Pinellas County, Unincorporated Areas; Safety Harbor, City of; St. Petersburg, City of
Zone A ponding areas	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	June 1979	Dunedin, City of; Pinellas County, Unincorporated Areas
Zone AE ponding areas	05/17/2005	Parsons Engineering Science	*	September 2003	Clearwater, City of; Largo, City of; Pinellas County, Unincorporated Areas
Zone AH ponding areas	09/03/2003	Engineering Methods & Applications, Inc.	EMW-94-C-4392	September 1996	Pinellas Park, City of
Zone AO ponding area	09/01/1983	Tetra Tech, Inc.	H-4510	June 1979	Dunedin, City of; Pinellas County, Unincorporated Areas

\*Data not available

<sup>1</sup>The following revisions were made by Compass, per data submitted by Intera Incorporated

## 7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 29. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

**Table 29: Community Meetings**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Belleair, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Belleair Beach, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Belleair Bluffs, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Belleair Shore, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Clearwater, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Dunedin, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor

**Table 29: Community Meetings (continued)**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Gulfport, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Indian Rocks Beach, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Indian Shores, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Kenneth City, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Largo, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Madeira Beach, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
North Redington Beach, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor



**Table 29: Community Meetings (continued)**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Oldsmar, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Pinellas County Unincorporated Areas	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Pinellas Park, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Redington Beach, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Redington Shores, Town of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Safety Harbor, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Seminole, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor

**Table 29: Community Meetings (continued)**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
South Pasadena, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
St. Pete Beach, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
St. Petersburg, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Tarpon Springs, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor
Treasure Island, City of	08/24/2021	03/05/2013	Discovery	FEMA, Florida Department of Emergency Management, Southwest Florida Water Management District, the community, and RAMPP
		09/25/2018	Final CCO	FEMA, the community, and the study contractor

## SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see [www.fema.gov](http://www.fema.gov).

Table 30 is a list of the locations where FIRMs for Pinellas County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

**Table 30: Map Repositories**

Community	Address	City	State	Zip Code
Belleair, Town of	Town Hall 901 Ponce de Leon Boulevard	Belleair	FL	33756
Belleair Beach, City of	City Hall 444 Causeway Boulevard	Belleair Beach	FL	33786
Belleair Bluffs, City of	City Hall 2747 Sunset Boulevard	Belleair Bluffs	FL	33770
Belleair Shore, Town of	City Clerk's Office 1200 Gulf Boulevard	Belleair Shore	FL	33786
Clearwater, City of	Municipal Services Building Engineering Department 100 South Myrtle Avenue, Suite 220	Clearwater	FL	33756
Dunedin, City of	Community Development Building 1415 Pinehurst Road, Unit F	Dunedin	FL	34698
Gulfport, City of	Community Development Department 5330 23rd Avenue South	Gulfport	FL	33707
Indian Rocks Beach, City of	City Hall 1507 Bay Palm Boulevard	Indian Rocks Beach	FL	33785
Indian Shores, Town of	Building Department 19305 Gulf Boulevard	Indian Shores	FL	33785
Kenneth City, Town of	Town Hall 6000 54th Avenue North	Kenneth City	FL	33709
Largo, City of	City Hall 201 Highland Avenue North	Largo	FL	33770
Madeira Beach, City of	Building Department 300 Municipal Drive	Madeira Beach	FL	33708

**Table 30: Map Repositories (continued)**

Community	Address	City	State	Zip Code
North Redington Beach, Town of	Town Hall 190 173rd Avenue East	North Redington Beach	FL	33708
Oldsmar, City of	City Hall, Planning and Redevelopment Department 100 State Street West	Oldsmar	FL	34677
Pinellas County, Unincorporated Areas	Pinellas County Building Department 440 Court Street	Clearwater	FL	33756
Pinellas Park, City of	Planning and Development Services 6051 78th Avenue North	Pinellas Park	FL	33781
Redington Beach, Town of	Town Hall 105 164th Avenue	Redington Beach	FL	33708
Redington Shores, Town of	Town Hall Building Department 17425 Gulf Boulevard	Redington Shores	FL	33708
Safety Harbor, City of	Building Official's Department 750 Main Street	Safety Harbor	FL	34695
Seminole, City of	City Hall, Community Development Department 9199 113th Street	Seminole	FL	33772
South Pasadena, City of	Building Department 6940 Hibiscus Avenue South	South Pasadena	FL	33707
St. Pete Beach, City of	City Hall Building Department 155 Corey Avenue	St. Pete Beach	FL	33706
St. Petersburg, City of	Municipal Services Center 1 4th Street North	St. Petersburg	FL	33701
Tarpon Springs, City of	Building Department 324 East Pine Street	Tarpon Springs	FL	34689
Treasure Island, City of	City Hall Community Improvement Department 120 108th Avenue	Treasure Island	FL	33706

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM Databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 31.

Table 31 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the State NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of State and local GIS data in their state.

**Table 31: Additional Information**

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	<a href="http://www.fema.gov/flood-maps/products-tools/know-your-risk/engineers-surveyors-architects">www.fema.gov/flood-maps/products-tools/know-your-risk/engineers-surveyors-architects</a>
NFIP website	<a href="http://www.fema.gov/flood-insurance">www.fema.gov/flood-insurance</a>
NFHL Dataset	<a href="http://msc.fema.gov">msc.fema.gov</a>
FEMA Region IV	FEMA-R4 (Hollins Building) 3003 Chamblee-Tucker Road Atlanta, GA 30341 (770) 220-3174
Other Federal Agencies	
USGS website	<a href="http://www.usgs.gov">www.usgs.gov</a>
Hydraulic Engineering Center website	<a href="http://www.hec.usace.army.mil">www.hec.usace.army.mil</a>
State Agencies and Organizations	
State NFIP Coordinator	Steve Martin, CFM, State NIP and Floodplain Manager Florida Division of Emergency Management 2555 Shumard Oak Boulevard Tallahassee, Florida 32399-2100 (850) 922-5269 <a href="mailto:steve.martin@em.myflorida.com">steve.martin@em.myflorida.com</a>
State GIS Coordinator	Richard Butgereit GIS Administrator Florida Division of Emergency Management 2555 Shumard Oak Boulevard Tallahassee, Florida 32399-2100 Phone: (850) 413-9907 <a href="mailto:richard.butgereit@dca.state.fl.us">richard.butgereit@dca.state.fl.us</a>

## **SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES**

Table 32 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

**Table 32: Bibliography and References**

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
CDM 2005	CDM	<i>Approval Request of FEMA Map Revision for Channels 1, 2, 3 &amp; Channel 4 (Joe's Creek Tributary No. 4) for Pinellas Park Water Management District</i>			July 2005	
Dietrich, et al., 2011		<i>"Modeling Hurricane Waves and Storm Surge using Integrally-Coupled, Scalable Computations," Coastal Engineering, 58, 45-65</i>	Dietrich, J.C., M. Zijlema, J.J. Westernik, L.H. Holthuijsen, C. Dawson, R.A. Luettich, R. Jensen, J.M. Smith, G.S. Stelling, and G.W. Stone		2011	
FDEM 2007	Florida Department of Emergency Management	<i>Light Detection and Ranging (LiDAR) FDEM 2007 Project</i>			2007	
FDOT 2017	Florida Department of Transportation	<i>Hillsborough County Orthoimagery</i>	Florida Department of Transportation, Surveying and Mapping Office	Tallahassee, FL	September 14, 2017	<a href="http://www.fdot.gov/geospatial/aerialmain.shtm">www.fdot.gov/geospatial/aerialmain.shtm</a>
FDOT 2017	Florida Department of Transportation	<i>Pasco County Orthoimagery</i>	Florida Department of Transportation, Surveying and Mapping Office	Tallahassee, FL	September 20, 2017	<a href="http://www.fdot.gov/geospatial/aerialmain.shtm">www.fdot.gov/geospatial/aerialmain.shtm</a>
FDOT 2017	Florida Department of Transportation	<i>Pinellas County Orthoimagery</i>	Florida Department of Transportation, Surveying and Mapping Office	Tallahassee, FL	September 20, 2017	<a href="http://www.fdot.gov/geospatial/aerialmain.shtm">www.fdot.gov/geospatial/aerialmain.shtm</a>

**Table 32: Bibliography and References (continued)**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
FEMA 2006	Federal Emergency Management Agency	<i>Letter of Map Revision 06-04-B129X</i>	Federal Emergency Management Agency	Washington, D.C.	December 21, 2006	FEMA Flood Map Service Center <a href="http://msc.fema.gov">msc.fema.gov</a>
FEMA 2007	Federal Emergency Management Agency	<i>Letter of Map Revision 06-04-BS96P</i>	Federal Emergency Management Agency	Washington, D.C.	March 29, 2007	FEMA Flood Map Service Center <a href="http://msc.fema.gov">msc.fema.gov</a>
FEMA 2007	Federal Emergency Management Agency	<i>Letter of Map Revision 07-04-1921P</i>	Federal Emergency Management Agency	Washington, D.C.	July 20, 2007	FEMA Flood Map Service Center <a href="http://msc.fema.gov">msc.fema.gov</a>
FEMA 2007	Federal Emergency Management Agency	<i>Procedure memorandum No. 47 – Guidelines for the Determination of the 0.2-Percent-Annual-Chance Wave Envelope along the Atlantic Ocean and Gulf of Mexico Coasts</i>			September 2007	
FEMA 2007	Federal Emergency Management Agency	<i>Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update</i>			February 2007	
FEMA 2009	Federal Emergency Management Agency	<i>Flood Insurance Study, Pinellas County, Florida, and Incorporated Areas</i>		Washington, D.C.	August 18, 2009	FEMA Flood Map Service Center <a href="http://msc.fema.gov">msc.fema.gov</a>
FEMA 2021	Federal Emergency Management Agency	<i>Coastal Floodplain Mapping, Pinellas County, FL</i>	RAMPP	Washington, D.C.	August 24, 2021	FEMA Flood Map Service Center <a href="http://msc.fema.gov">msc.fema.gov</a>
FEMA 2021	Federal Emergency Management Agency	<i>Combined Coastal and Riverine Floodplain Mapping, Pinellas County, FL</i>	Taylor Engineering	Washington, D.C.	August 24, 2021	FEMA Flood Map Service Center <a href="http://msc.fema.gov">msc.fema.gov</a>

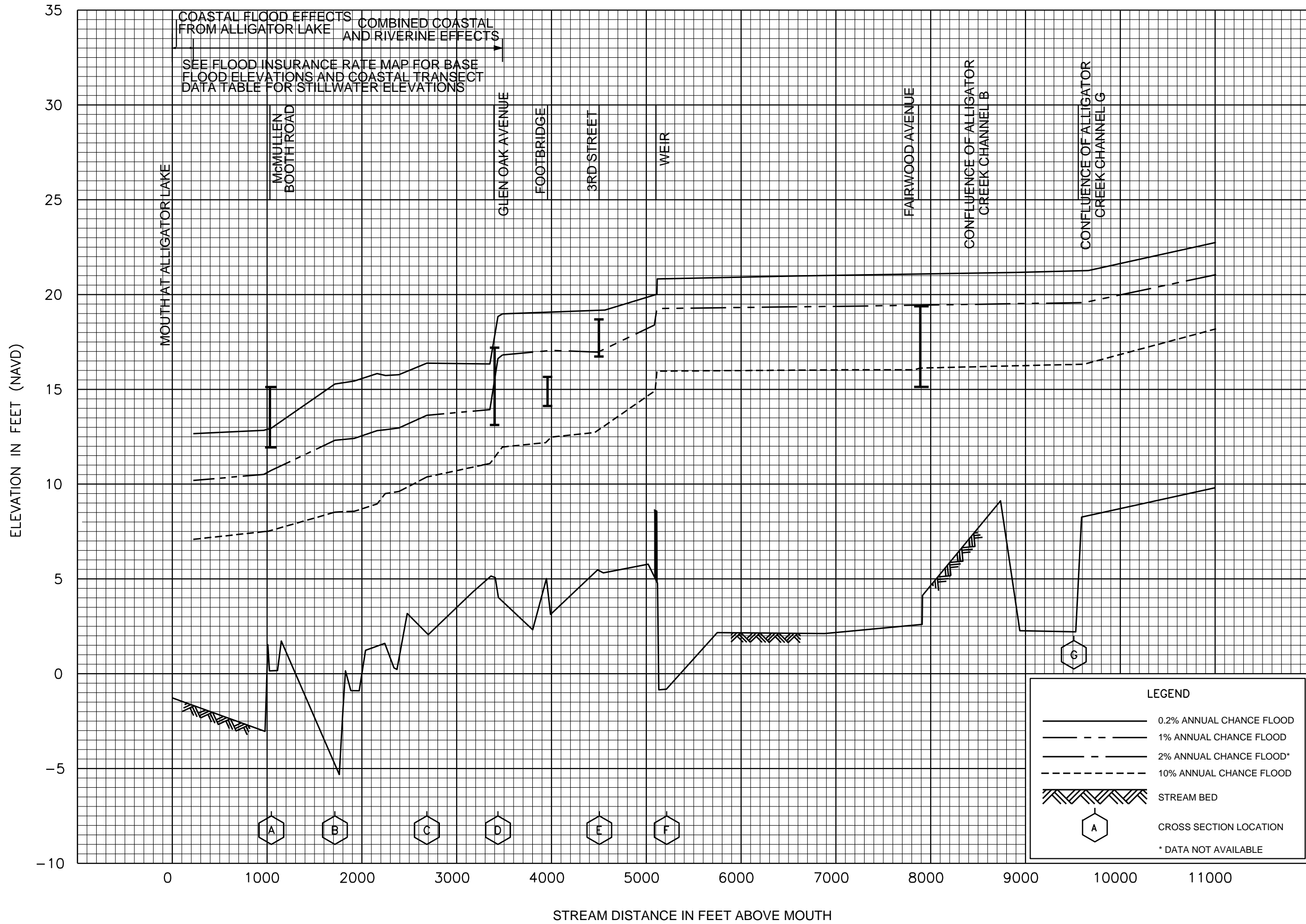


**Table 32: Bibliography and References (continued)**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
FREAC, 2003	Florida Resources and Environmental Analysis Center	<i>Florida Public Land Survey System - Section Level - Statewide</i>	Florida Resources and Environmental Analysis Center	Tallahassee, FL	2003	<a href="http://www.fgdl.org/metadatexplorer/explorer.jsp">www.fgdl.org/metadatexplorer/explorer.jsp</a>
Pinellas County GIS 2017	Pinellas County	<i>Municipal Boundary</i>	Pinellas County	Clearwater, FL	January 18, 2017	<a href="http://new-pinellas-egis.opendata.arcgis.com/datasets?t=Boundary">http://new-pinellas-egis.opendata.arcgis.com/datasets?t=Boundary</a>
Pinellas County GIS 2017	Pinellas County	<i>Road Centerlines</i>	Pinellas County	Clearwater, FL	October 12, 2017	<a href="http://new-pinellas-egis.opendata.arcgis.com/datasets?page=2&amp;t=transportation">http://new-pinellas-egis.opendata.arcgis.com/datasets?page=2&amp;t=transportation</a>
Pinellas County GIS 2017	Pinellas County	<i>Rail Lines</i>	Pinellas County	Clearwater, FL	January 18, 2017	<a href="http://new-pinellas-egis.opendata.arcgis.com/datasets?t=transportation">http://new-pinellas-egis.opendata.arcgis.com/datasets?t=transportation</a>
Pinellas County 2002	Pinellas County Board of County Commissioners Information Systems	<i>Pinellas County Board of County Commissioners Information Systems base map</i>	Pinellas County Board of County Commissioners Information Systems	Clearwater, FL	January 1, 2002	
SWFWMD 1985	Southwest Florida Management District	<i>Aerial Photography with Contours, Scale 1:200", Contour Interval 1 foot. Pinellas County Phase I.</i>			December 1985	
USACE 1974	U.S. Army Corps of Engineers, Jacksonville District	<i>Flood Insurance Study, Lake Tarpon, Pinellas County, Florida</i>			November 1974	

**Table 32: Bibliography and References (continued)**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USDA/ NRCS 2014	United States Department of Agriculture	<i>Watershed Boundary Dataset HUC8</i>	United States Department of Agriculture - Natural Resources Conservation Service	Fort Worth, TX	March 1, 2014	
USDA-FSA-APFO 2016	United States Department of Agriculture	<i>National Agriculture Inventory Program Orthoimagery, Pinellas County</i>	United States Department of Agriculture - Farm Service Agency - Aerial Photography Field Office	Salt Lake City, UT	February 12, 2016	<a href="https://gdg.sc.egov.usda.gov/">https://gdg.sc.egov.usda.gov/</a>



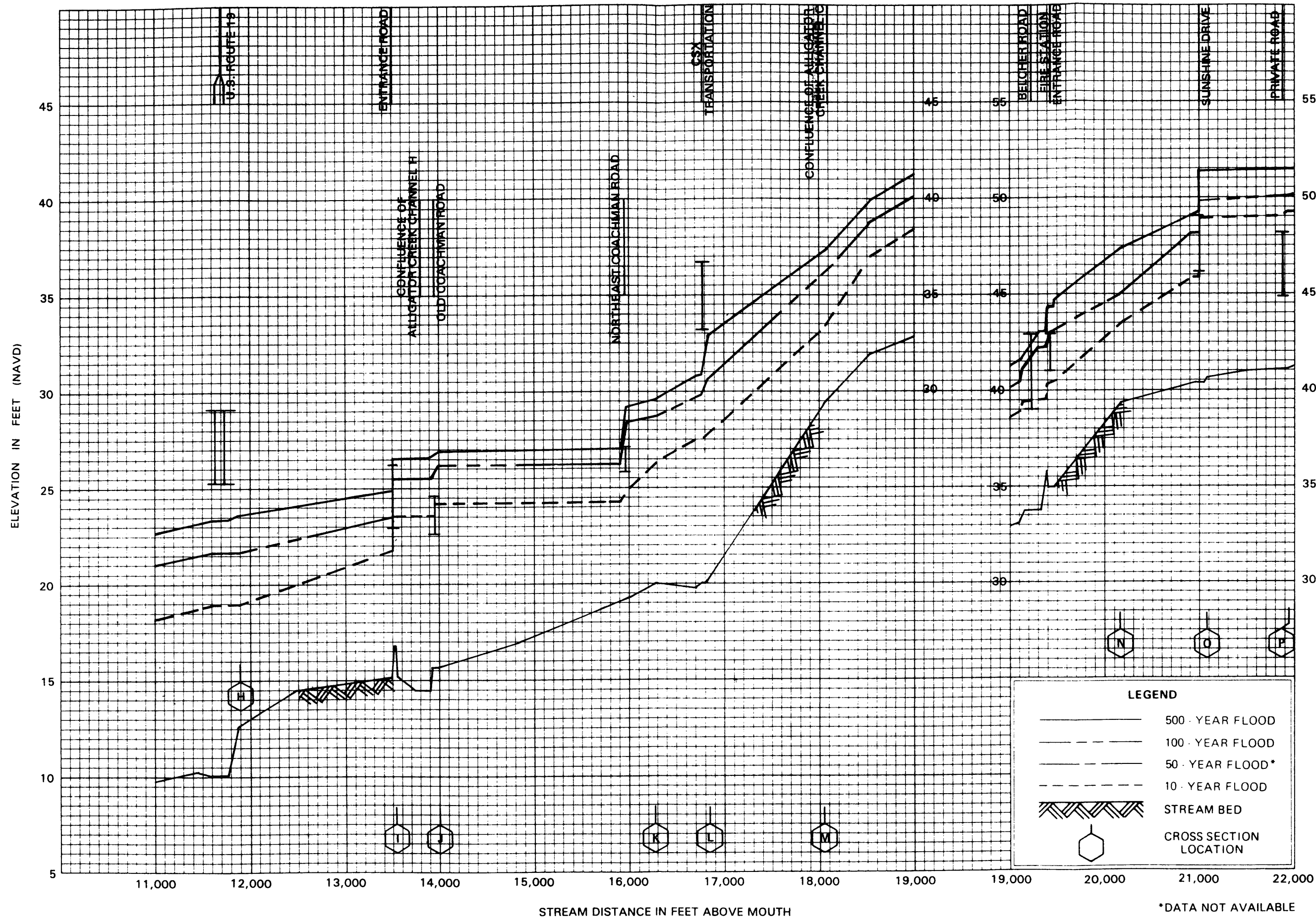
FLOOD PROFILES

ALLIGATOR CREEK CHANNEL A

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
 AND INCORPORATED AREAS

01P



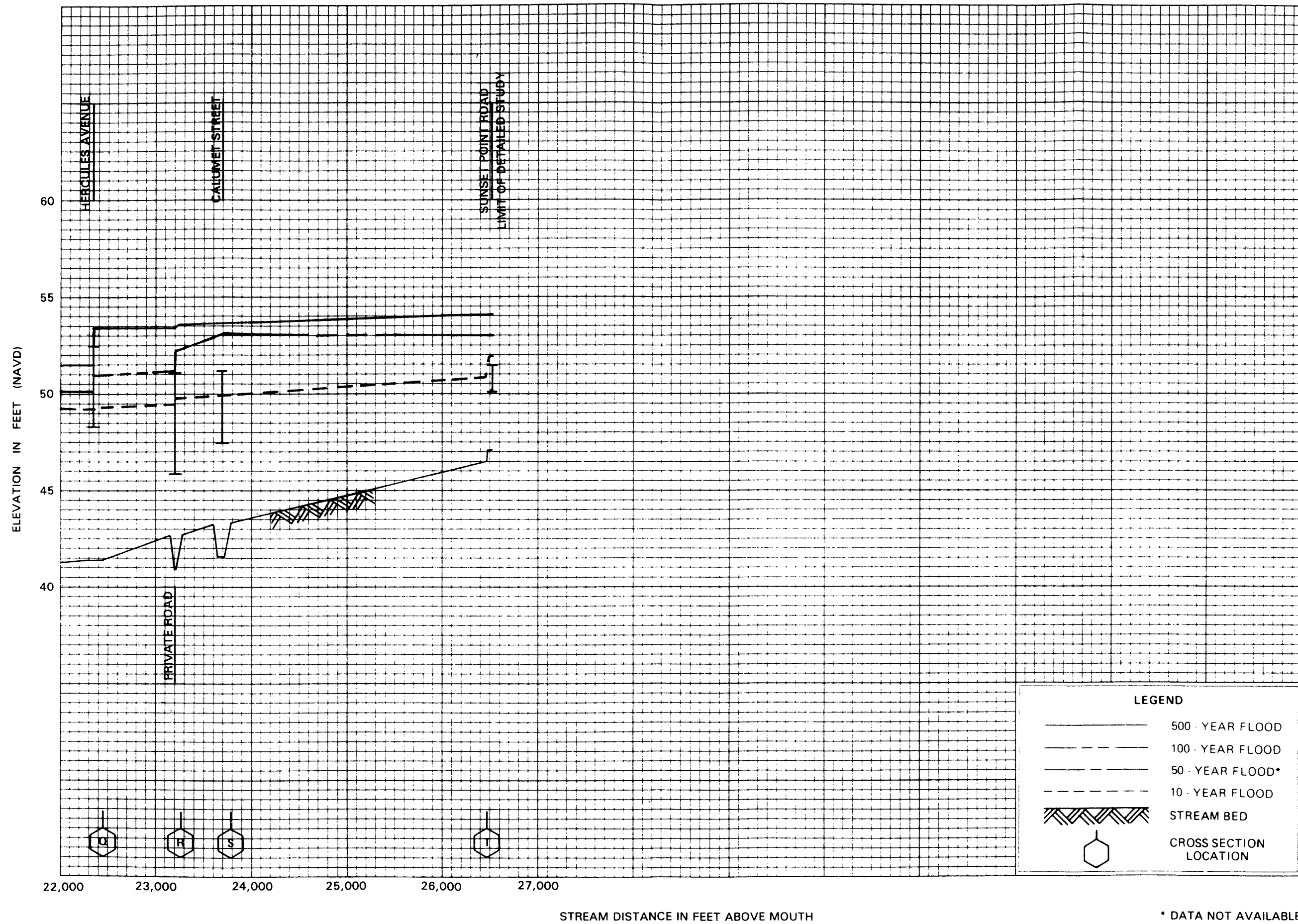
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**FLOOD PROFILES**

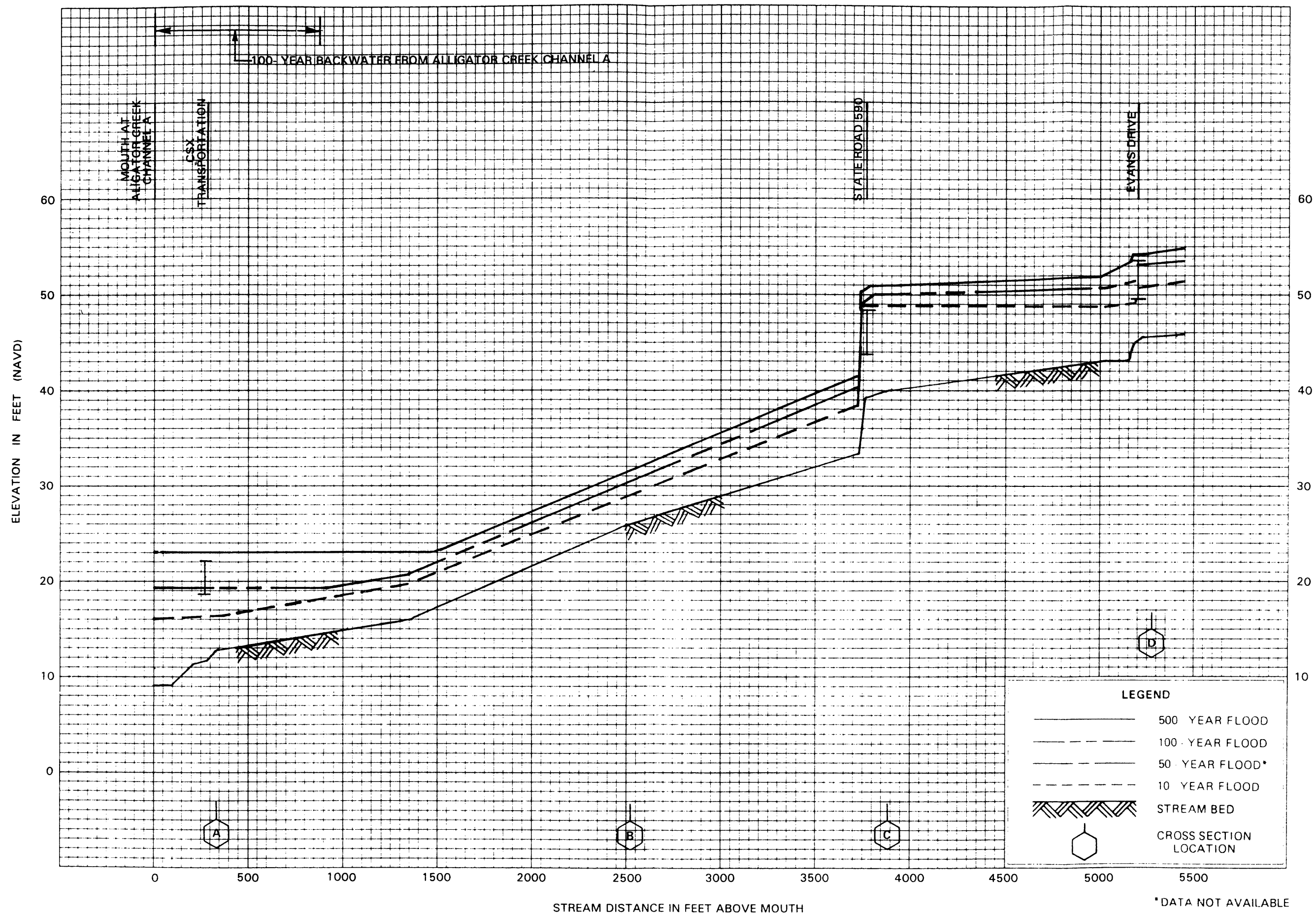
**ALLIGATOR CREEK CHANNEL A**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**



\* DATA NOT AVAILABLE



**LEGEND**

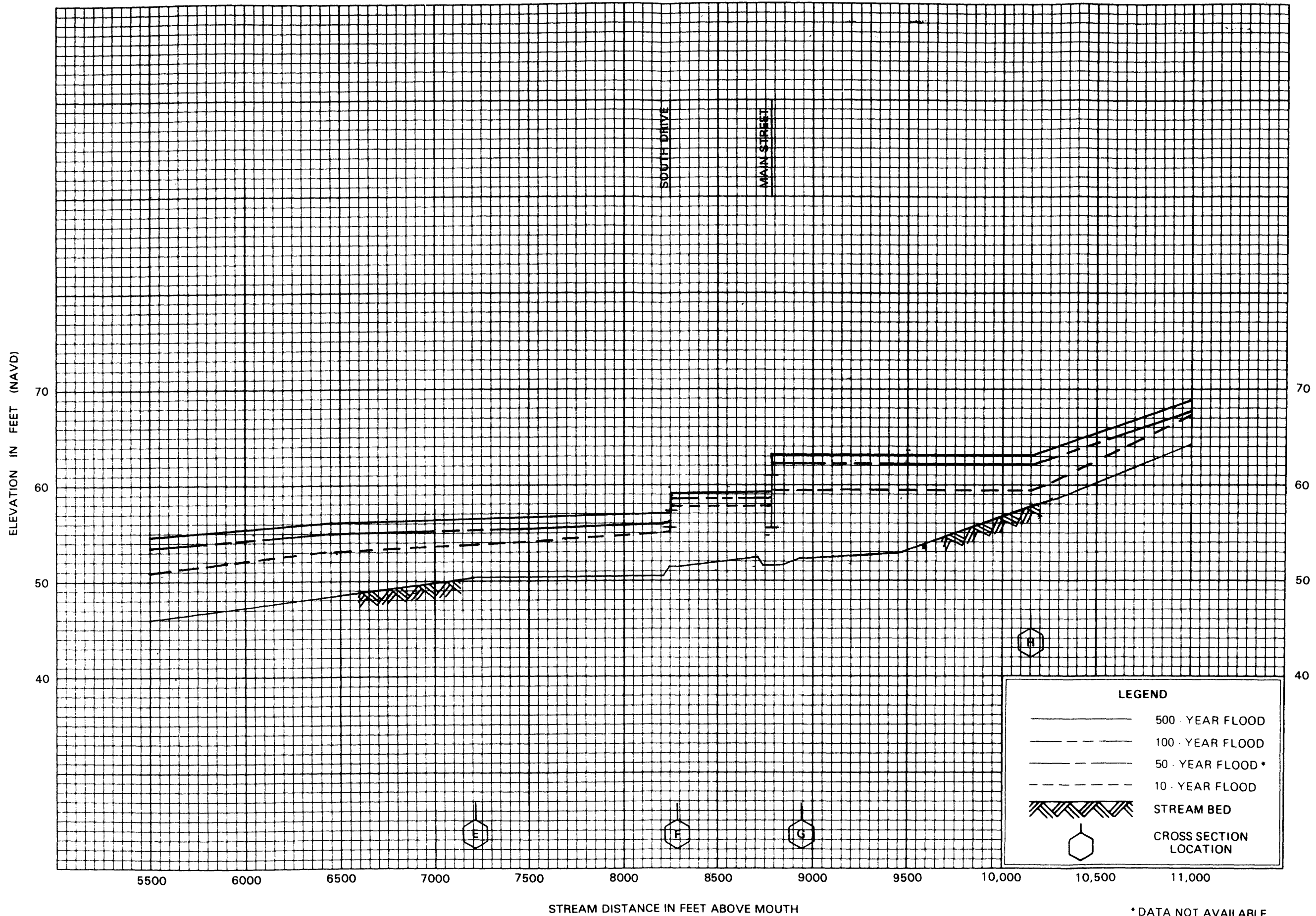
- 500 YEAR FLOOD
- - - 100 YEAR FLOOD
- · - · 50 YEAR FLOOD\*
- · · 10 YEAR FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

\* DATA NOT AVAILABLE

**FLOOD PROFILES**

**ALLIGATOR CREEK CHANNEL B**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**PINELLAS COUNTY, FL**  
**AND INCORPORATED AREAS**



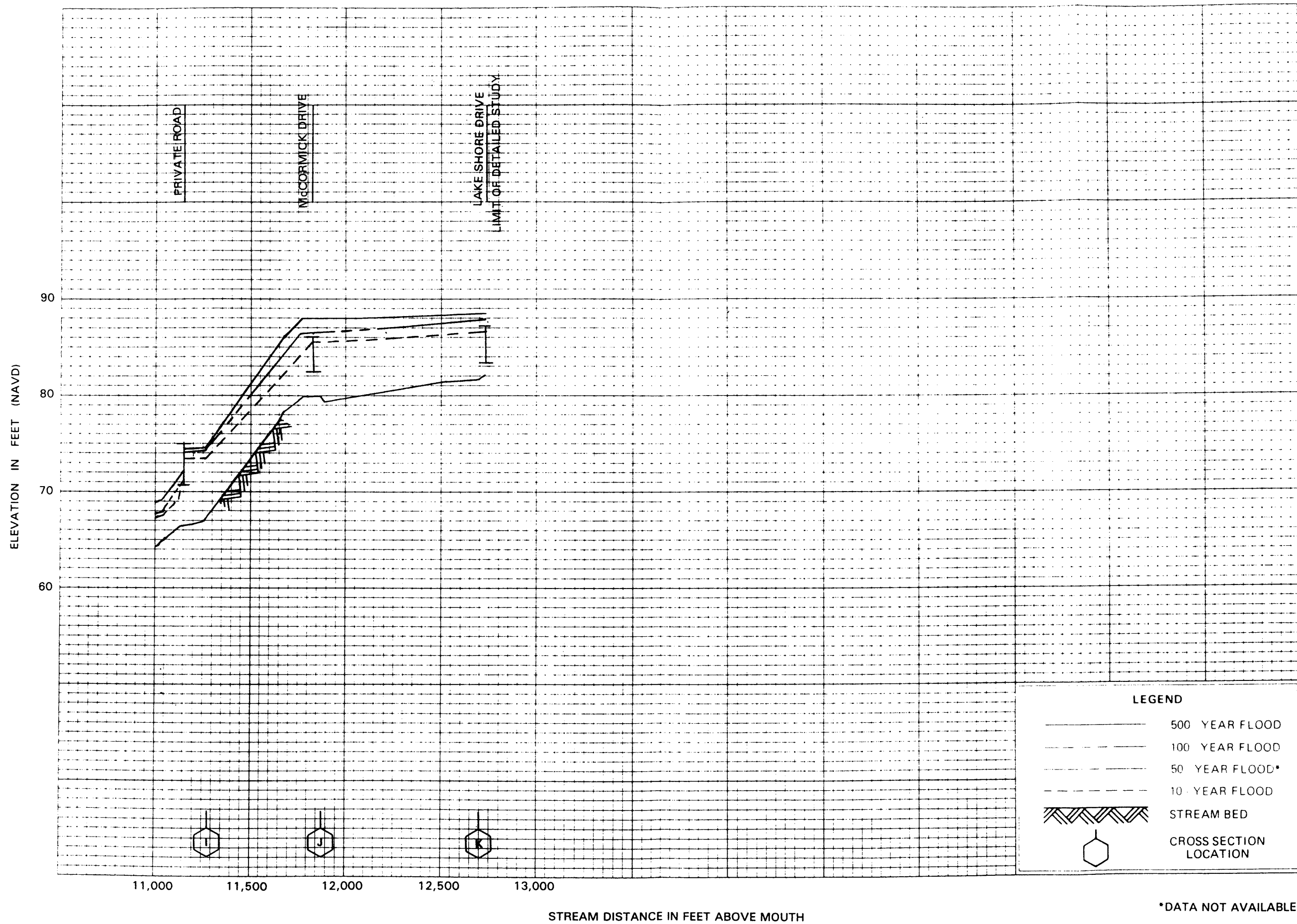
**FLOOD PROFILES**

**ALLIGATOR CREEK CHANNEL B**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**

\* DATA NOT AVAILABLE



**FLOOD PROFILES**

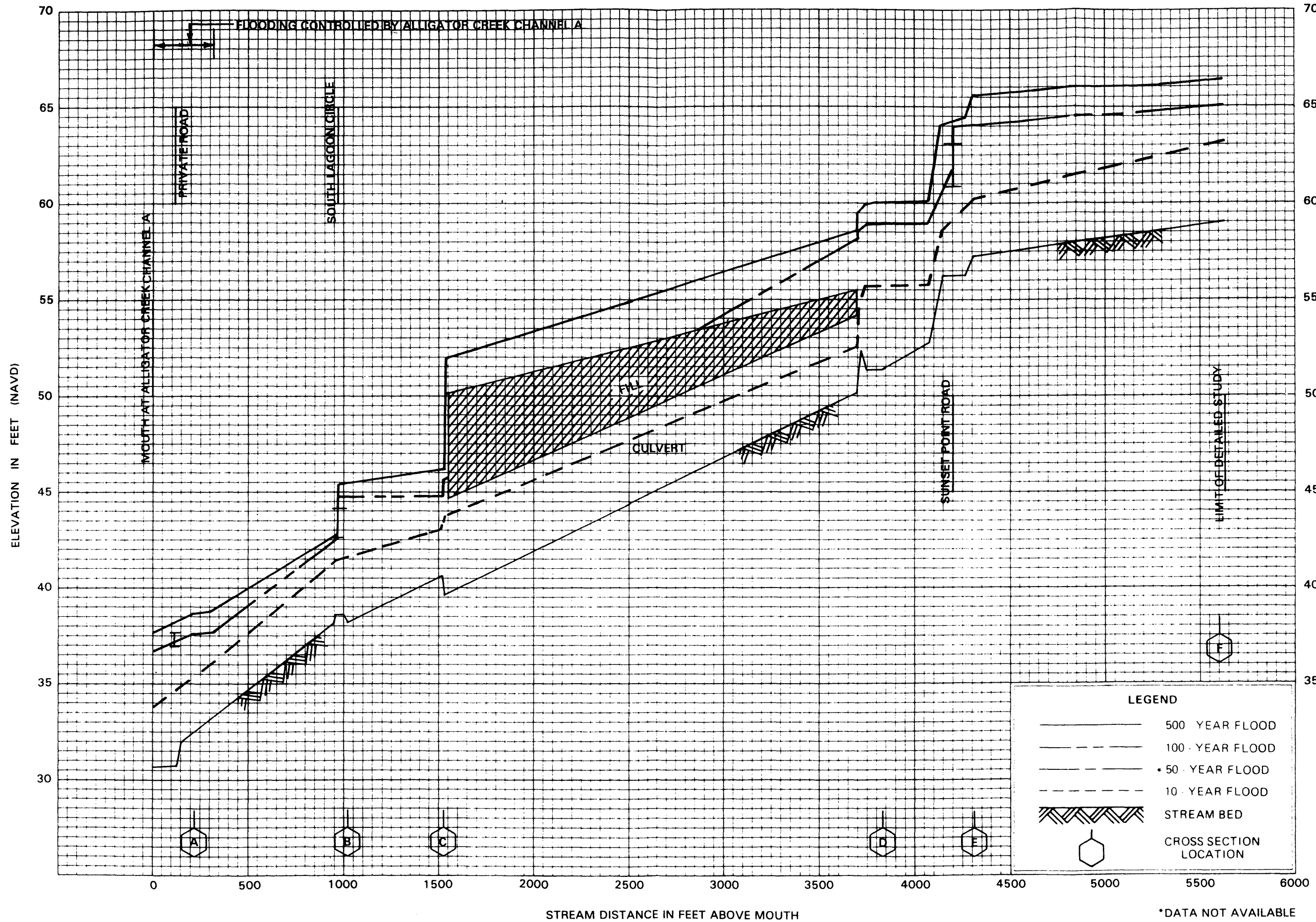
**ALLIGATOR CREEK CHANNEL B**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**

\*DATA NOT AVAILABLE





**LEGEND**

	500 YEAR FLOOD
	100 YEAR FLOOD
	50 YEAR FLOOD
	10 YEAR FLOOD
	STREAM BED
	CULVERT
	CROSS SECTION LOCATION

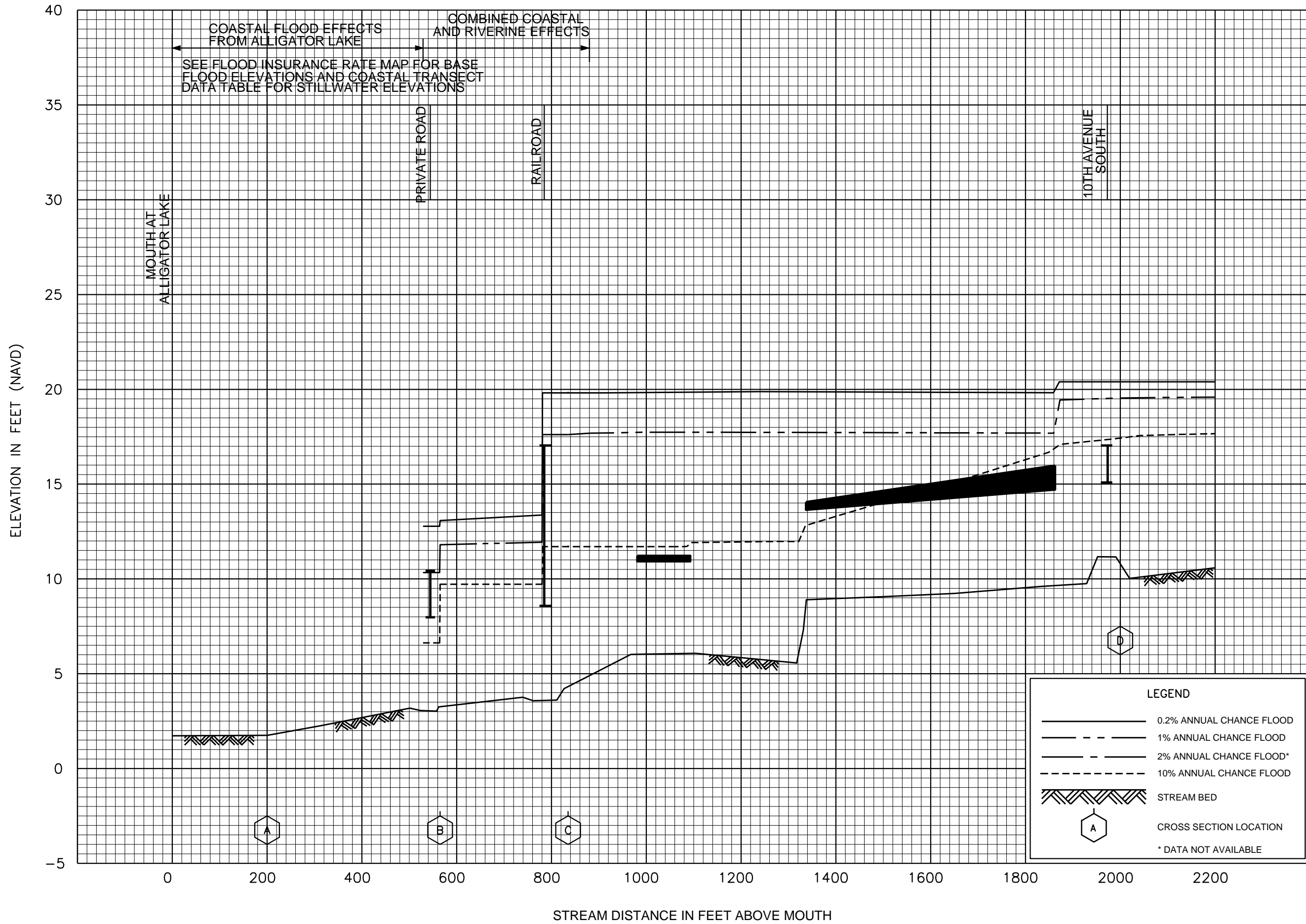
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**FLOOD PROFILES**

**ALLIGATOR CREEK CHANNEL C**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**



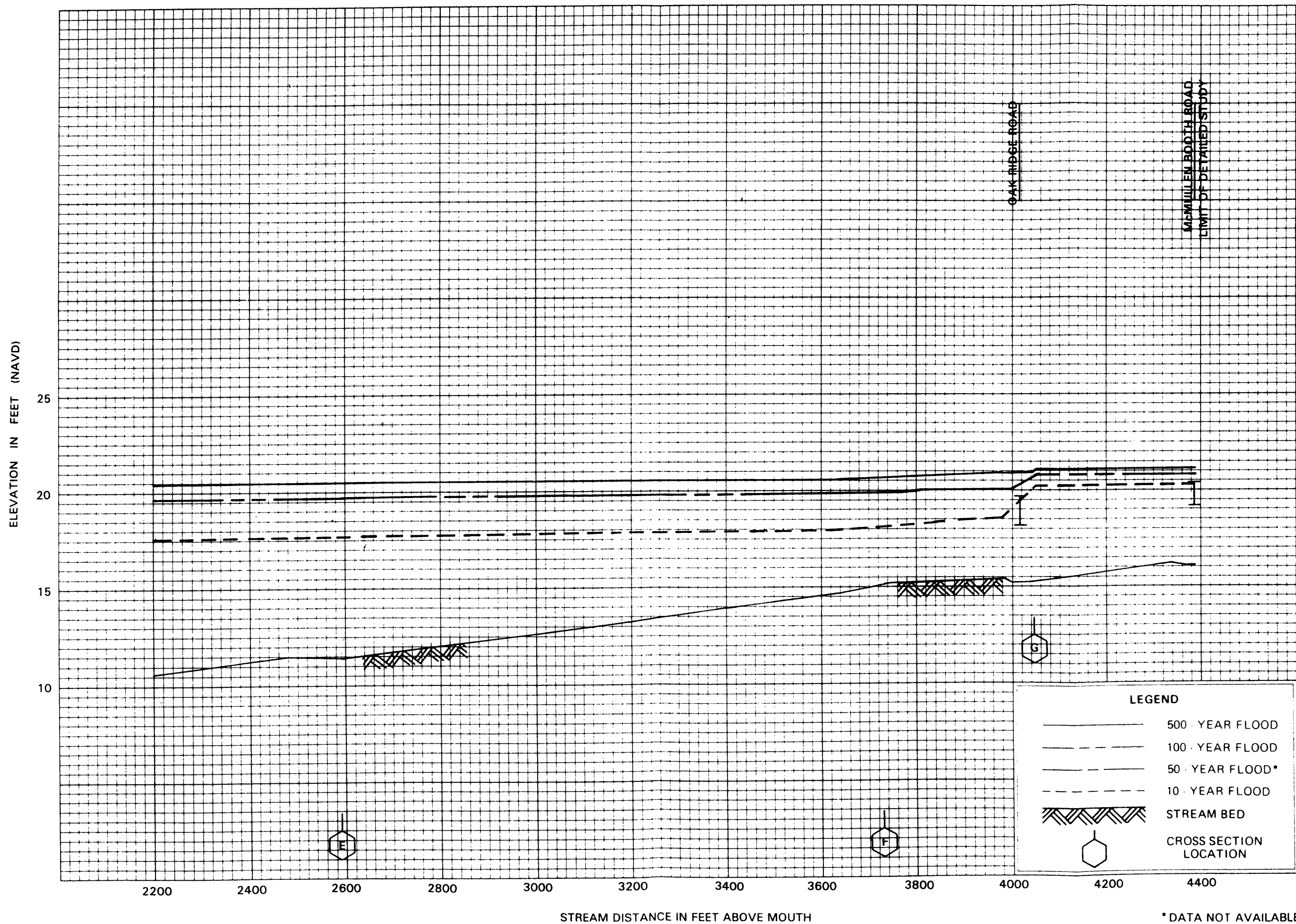
FLOOD PROFILES

ALLIGATOR CREEK CHANNEL E

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

08P



**LEGEND**

- 500-YEAR FLOOD
- - - 100-YEAR FLOOD
- · - 50-YEAR FLOOD\*
- · · 10-YEAR FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

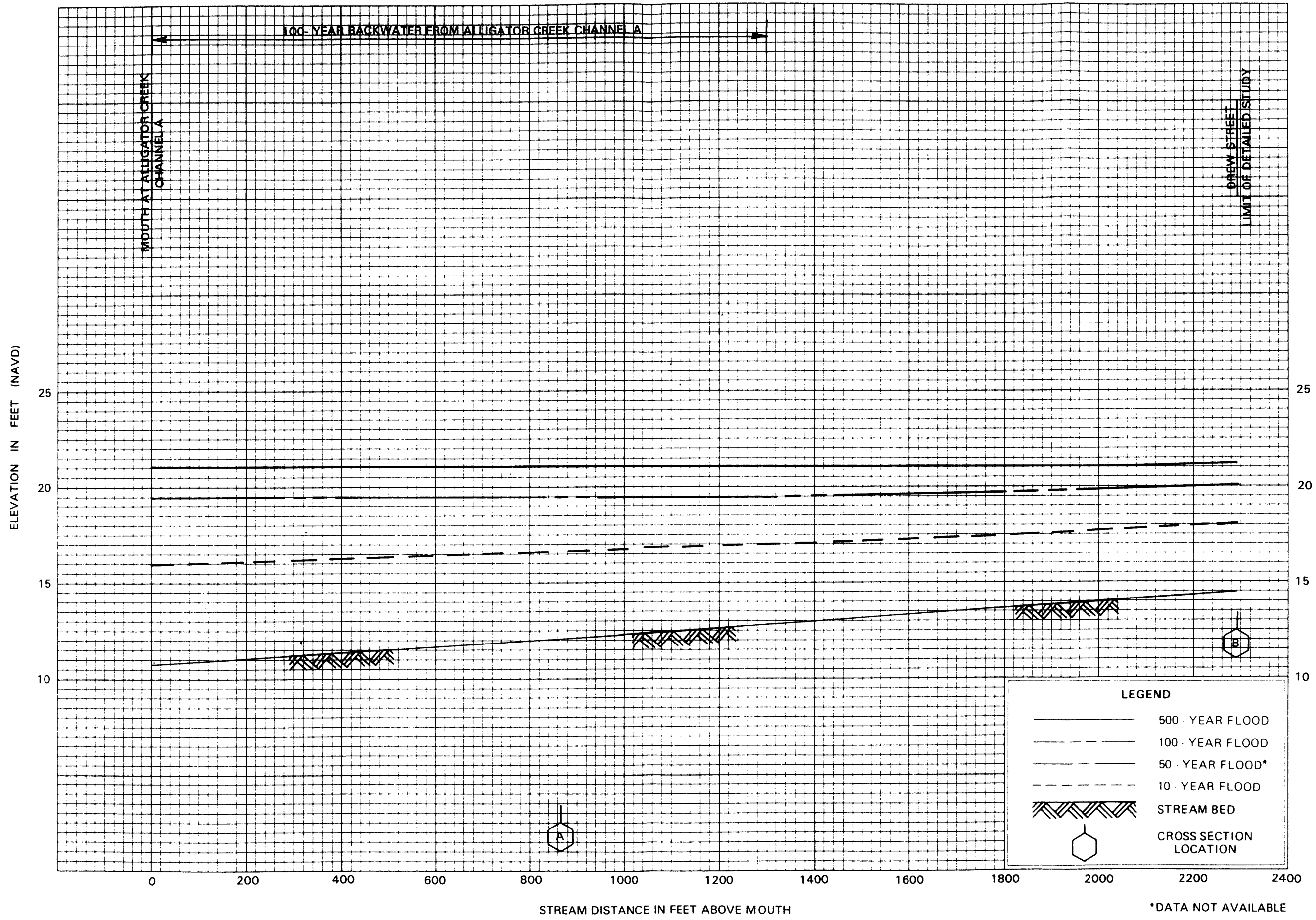
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**FLOOD PROFILES**

**ALLIGATOR CREEK CHANNEL E**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**



LEGEND	
	500-YEAR FLOOD
	100-YEAR FLOOD
	50-YEAR FLOOD*
	10-YEAR FLOOD
	STREAM BED
	CROSS SECTION LOCATION

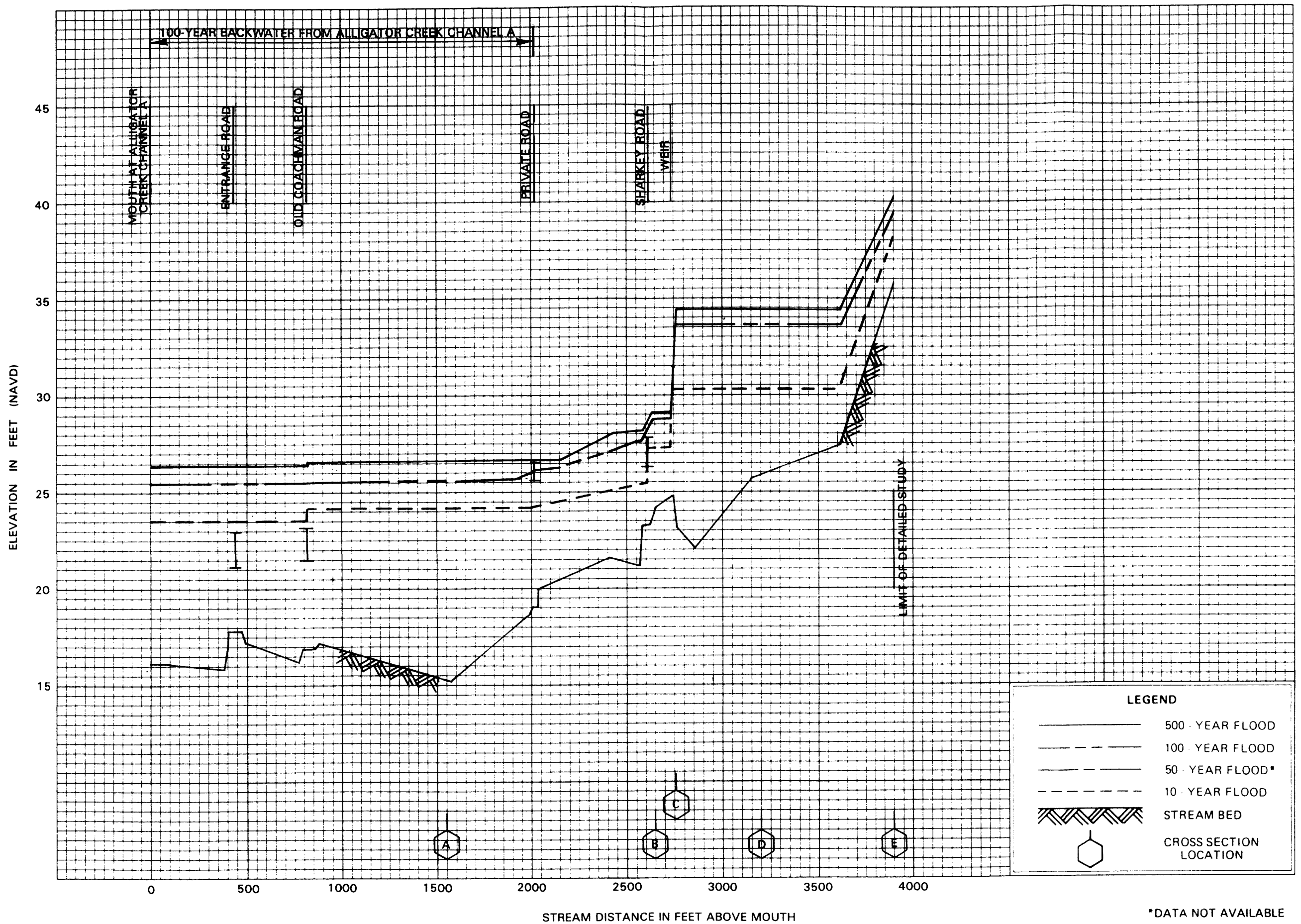
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**FLOOD PROFILES**

**ALLIGATOR CREEK CHANNEL G**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**

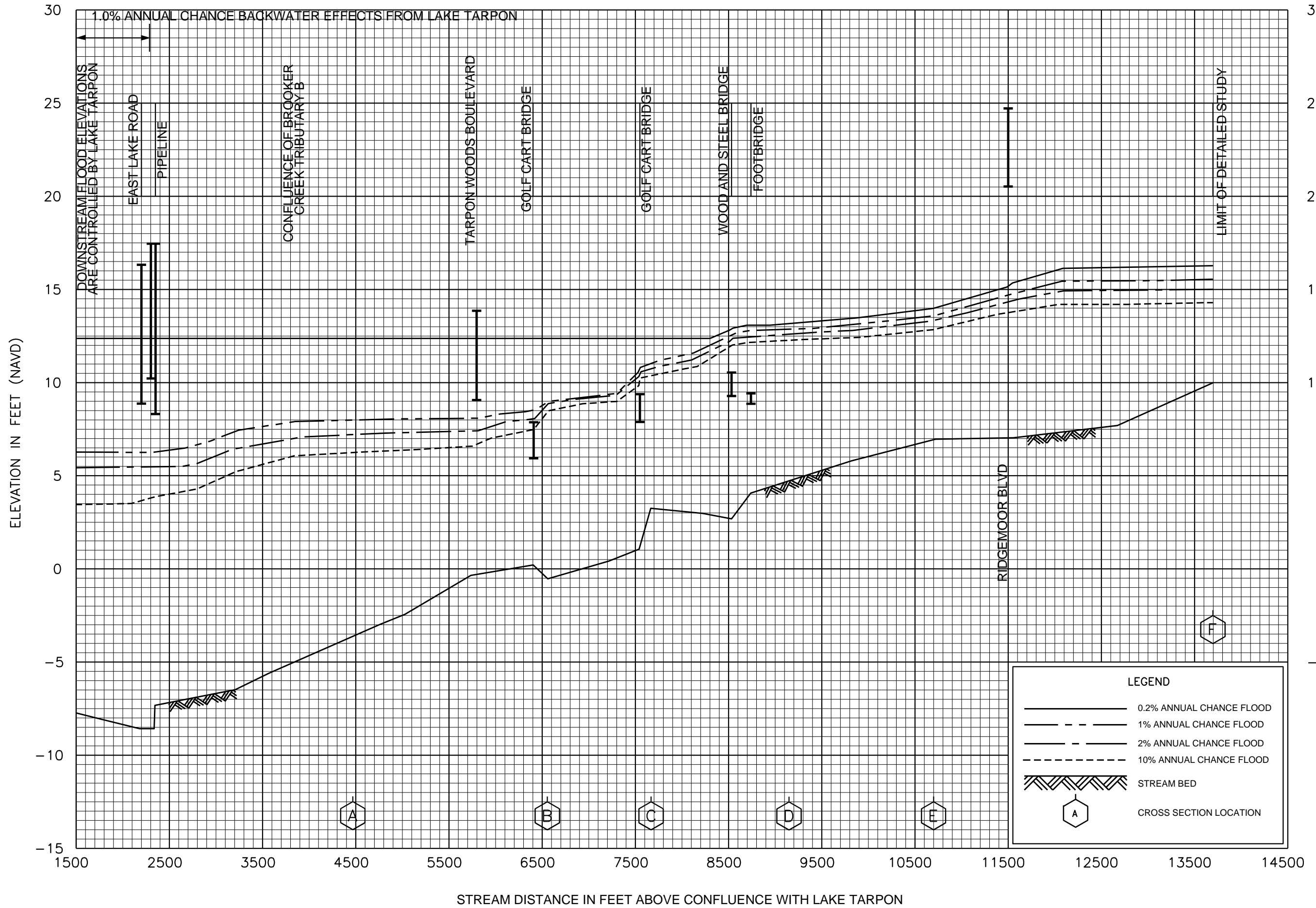


FLOOD PROFILES

ALLIGATOR CREEK CHANNEL H

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

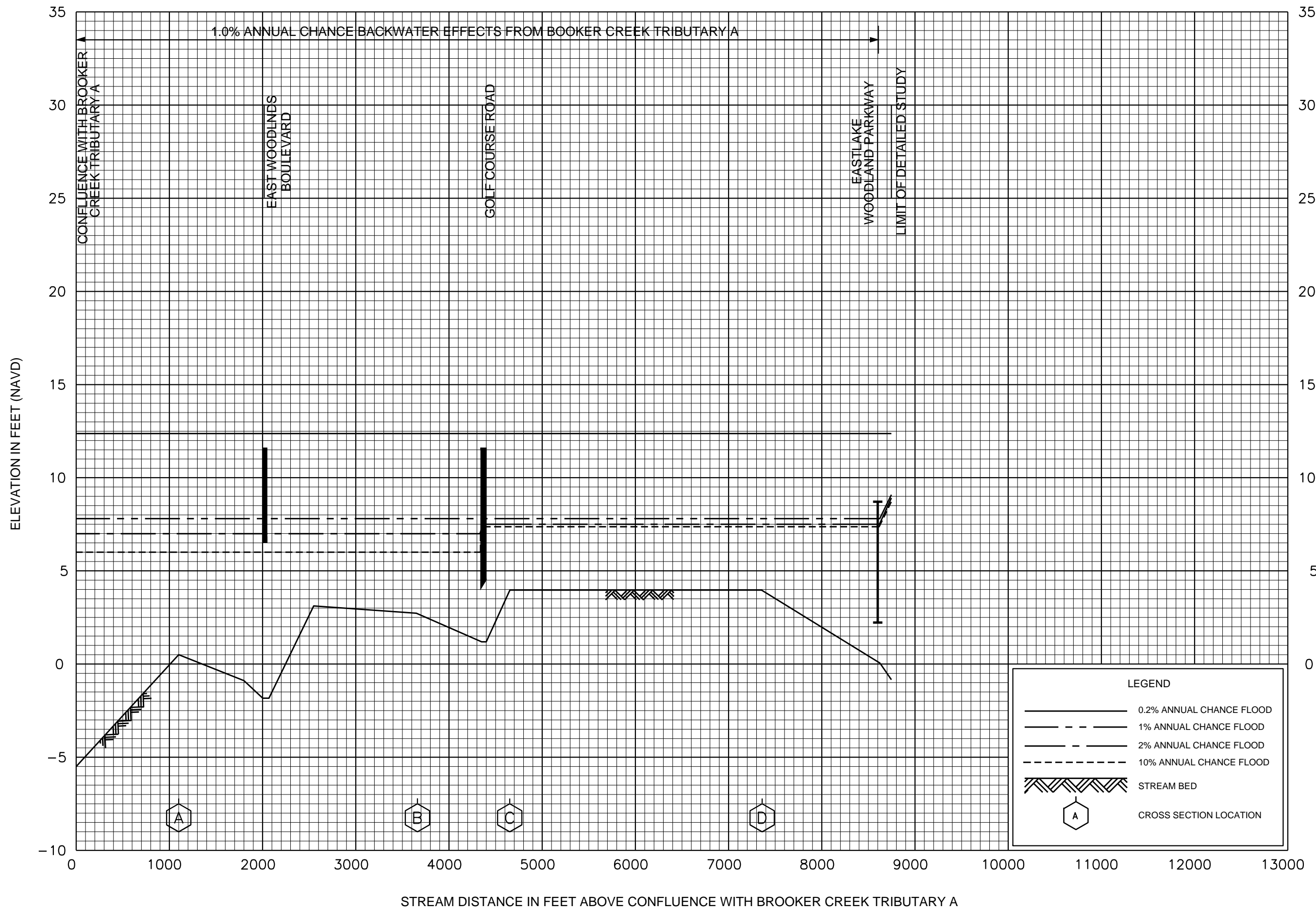


FLOOD PROFILES

BROOKER CREEK TRIBUTARY A

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

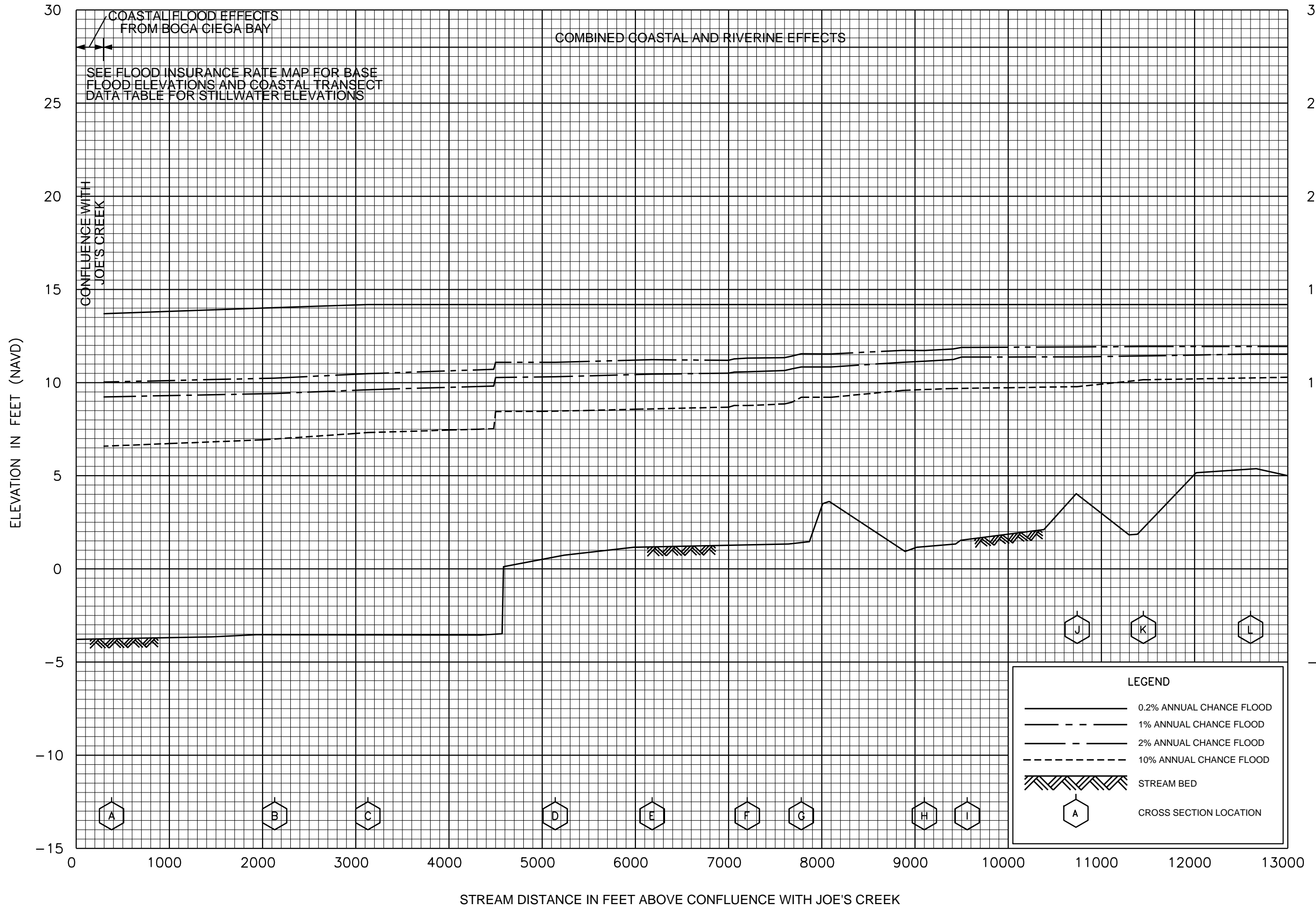


FLOOD PROFILES

BROOKER CREEK TRIBUTARY B

FEDERAL EMERGENCY MANAGEMENT AGENCY

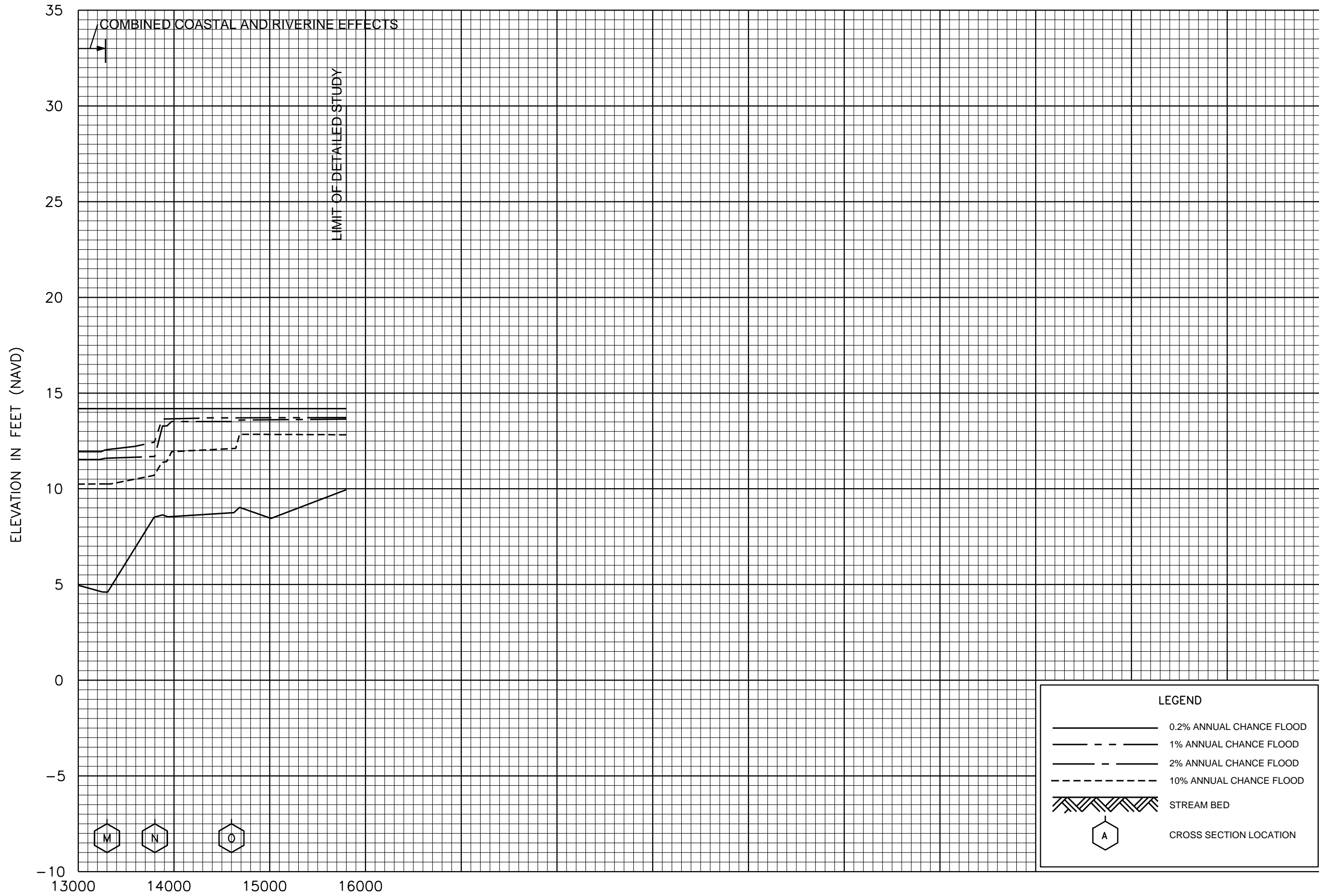
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS



FLOOD PROFILES  
CHANNEL 1

FEDERAL EMERGENCY MANAGEMENT AGENCY  
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS



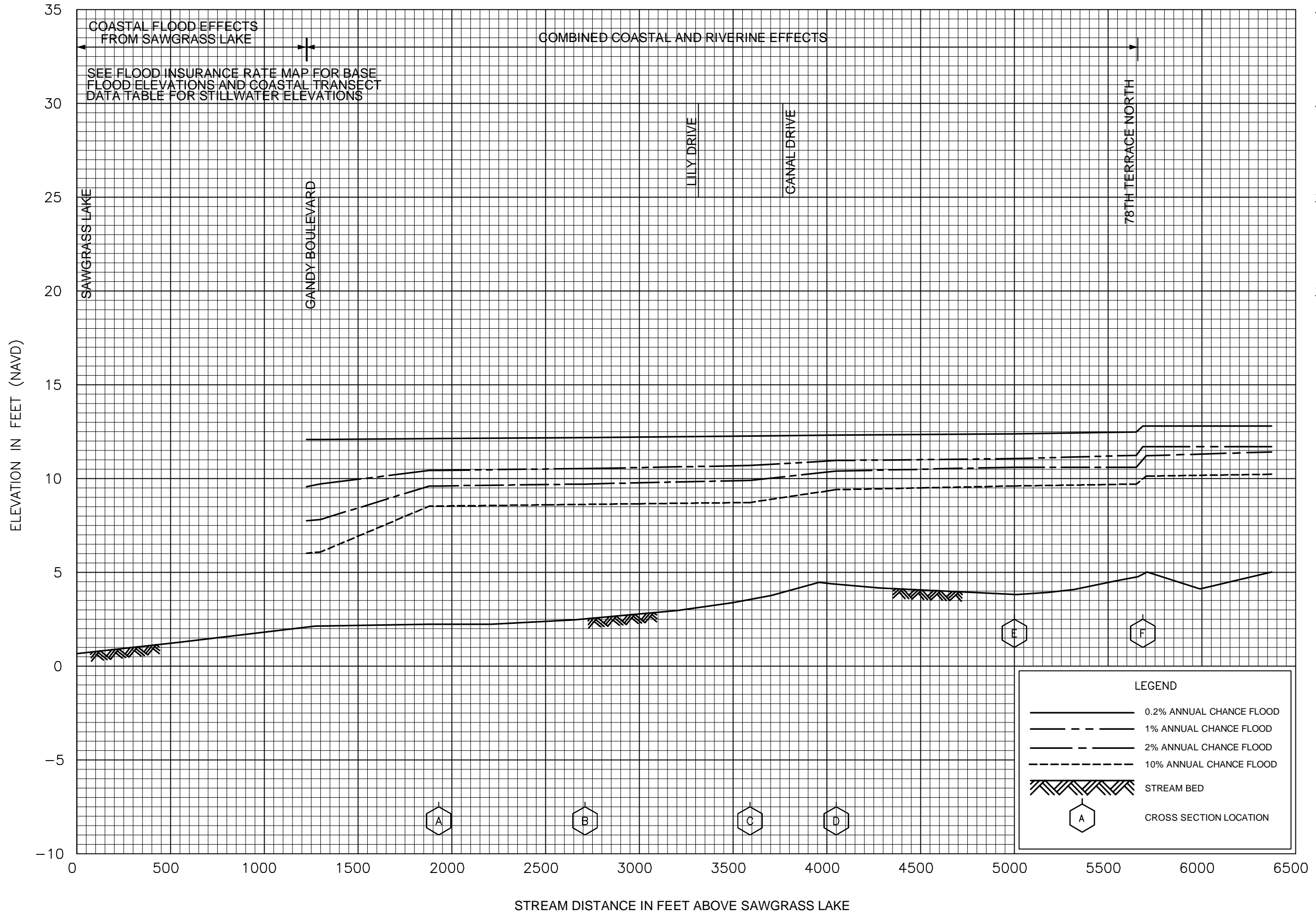


FLOOD PROFILES  
CHANNEL 1

FEDERAL EMERGENCY MANAGEMENT AGENCY  
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

**LEGEND**

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



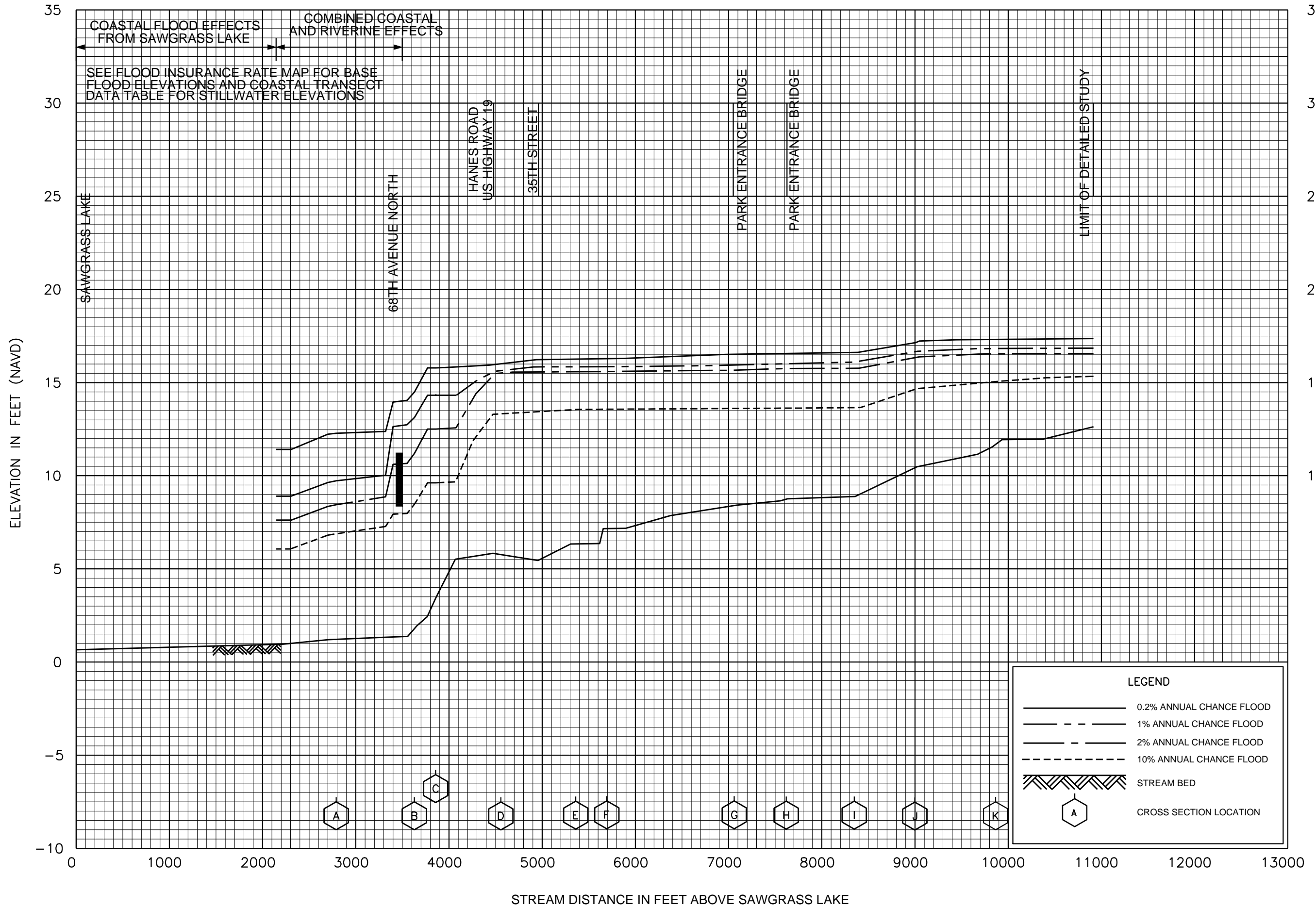
FLOOD PROFILES

CHANNEL 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

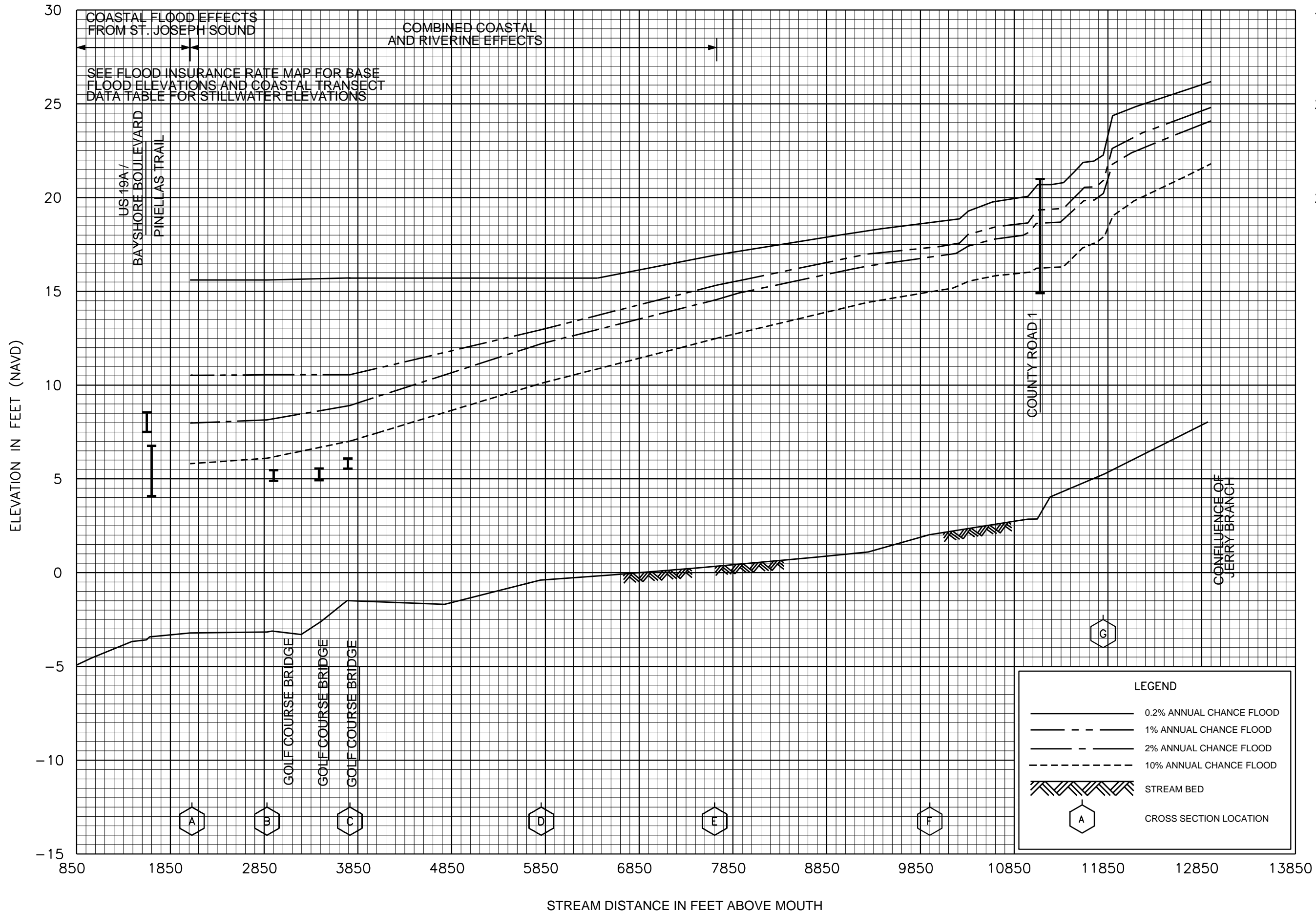
PINELLAS COUNTY, FL

AND INCORPORATED AREAS



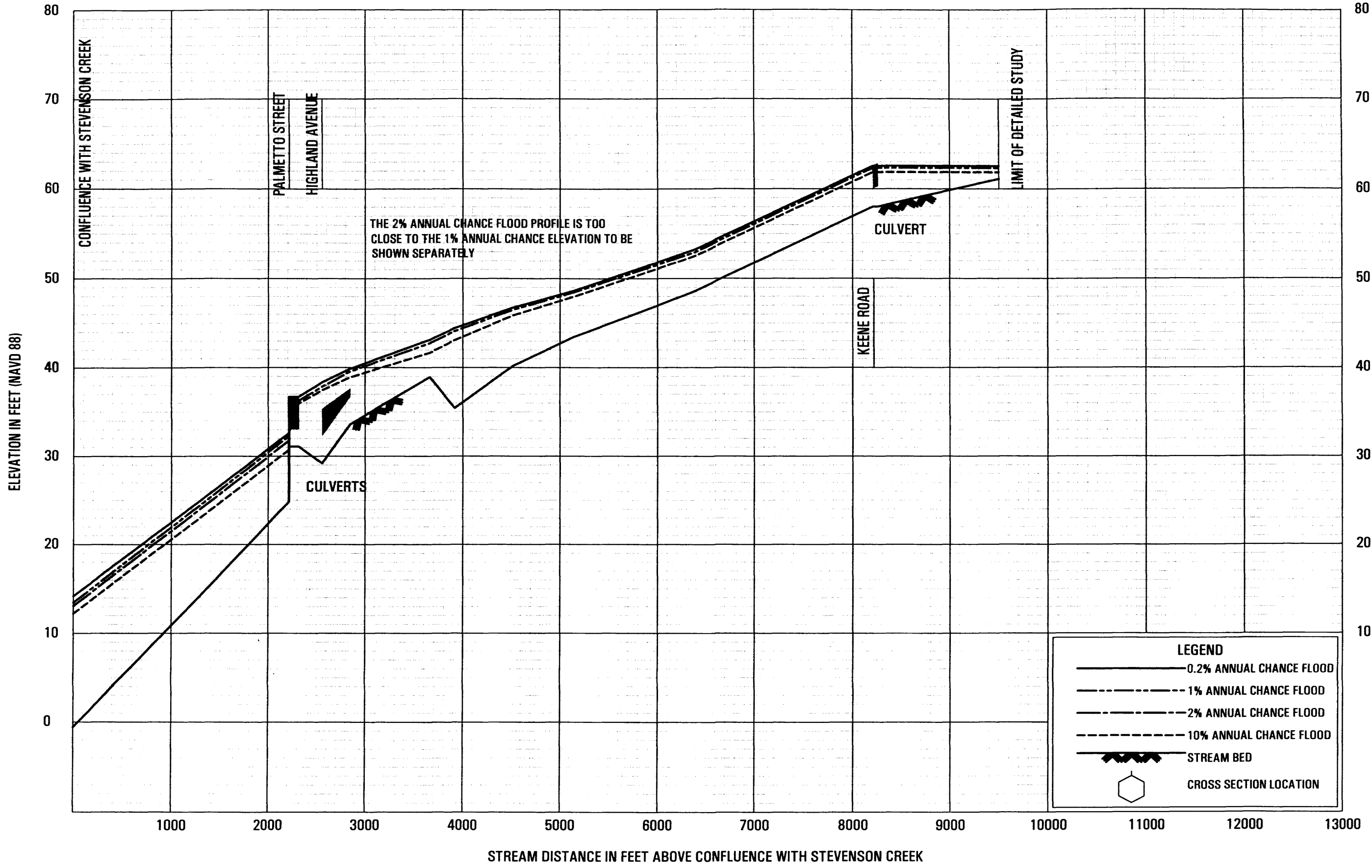
FLOOD PROFILES  
CHANNEL 3

FEDERAL EMERGENCY MANAGEMENT AGENCY  
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS



FLOOD PROFILES  
CURLEW CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

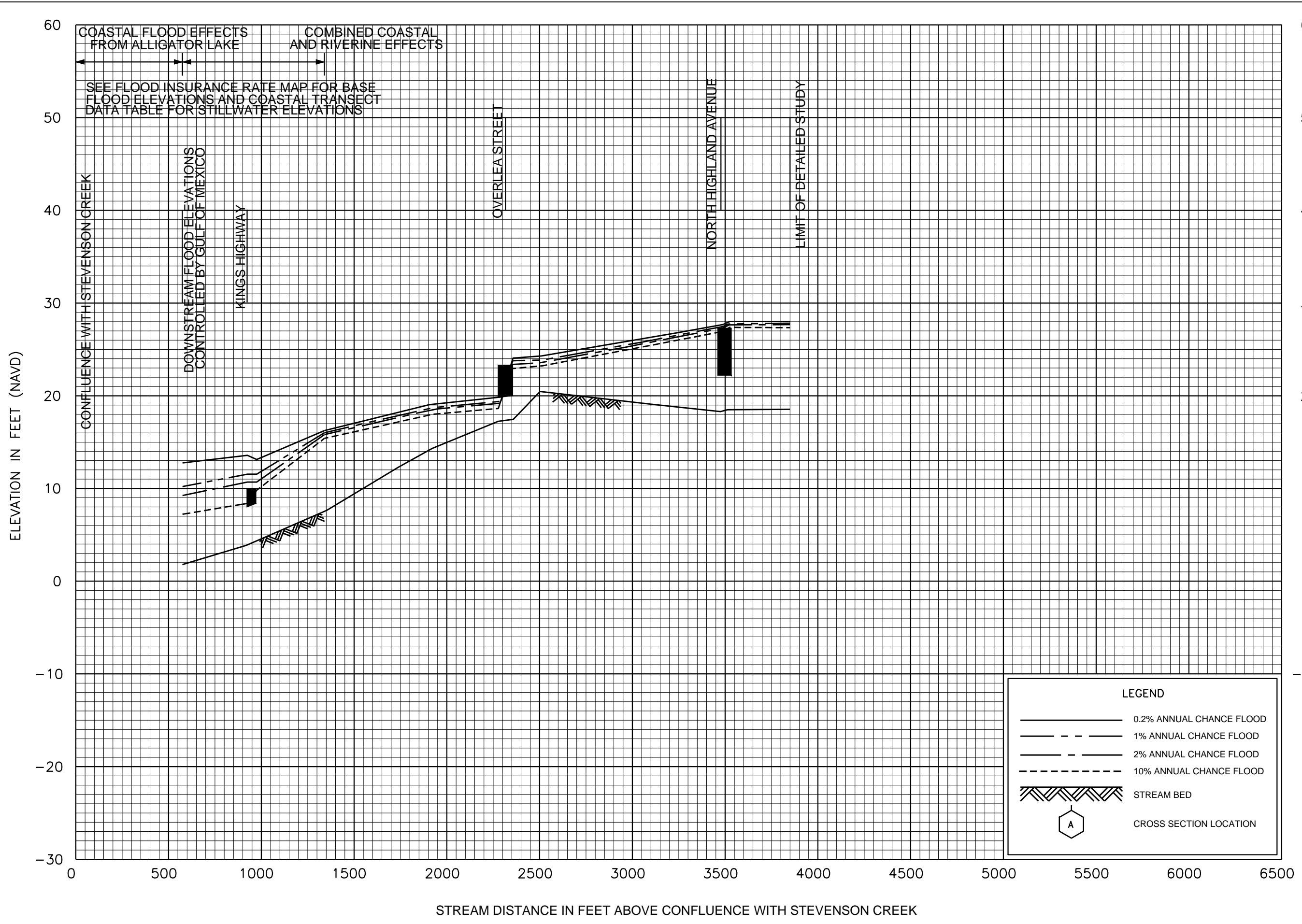


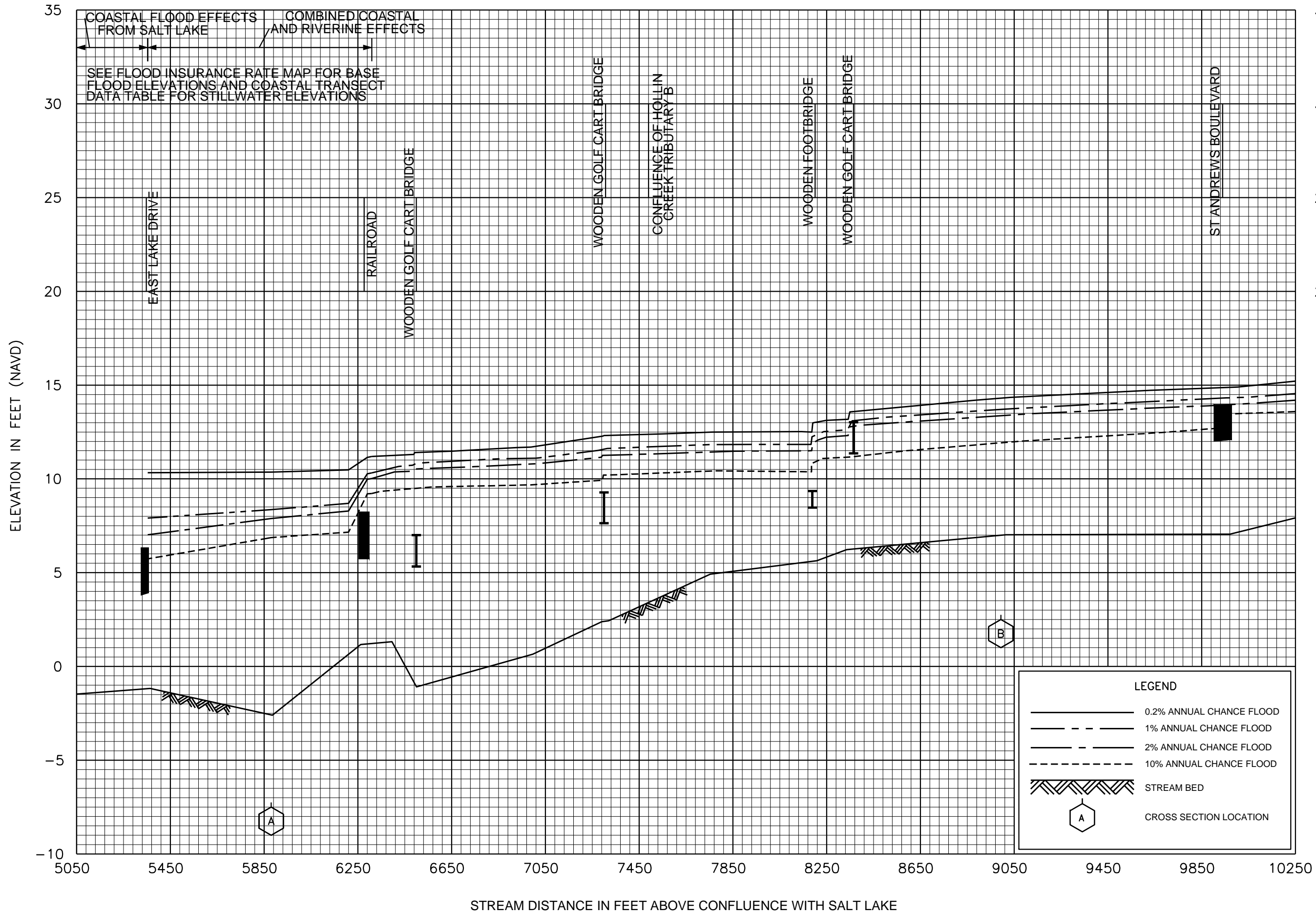
FLOOD PROFILES

FLAGLER DRIVE TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS





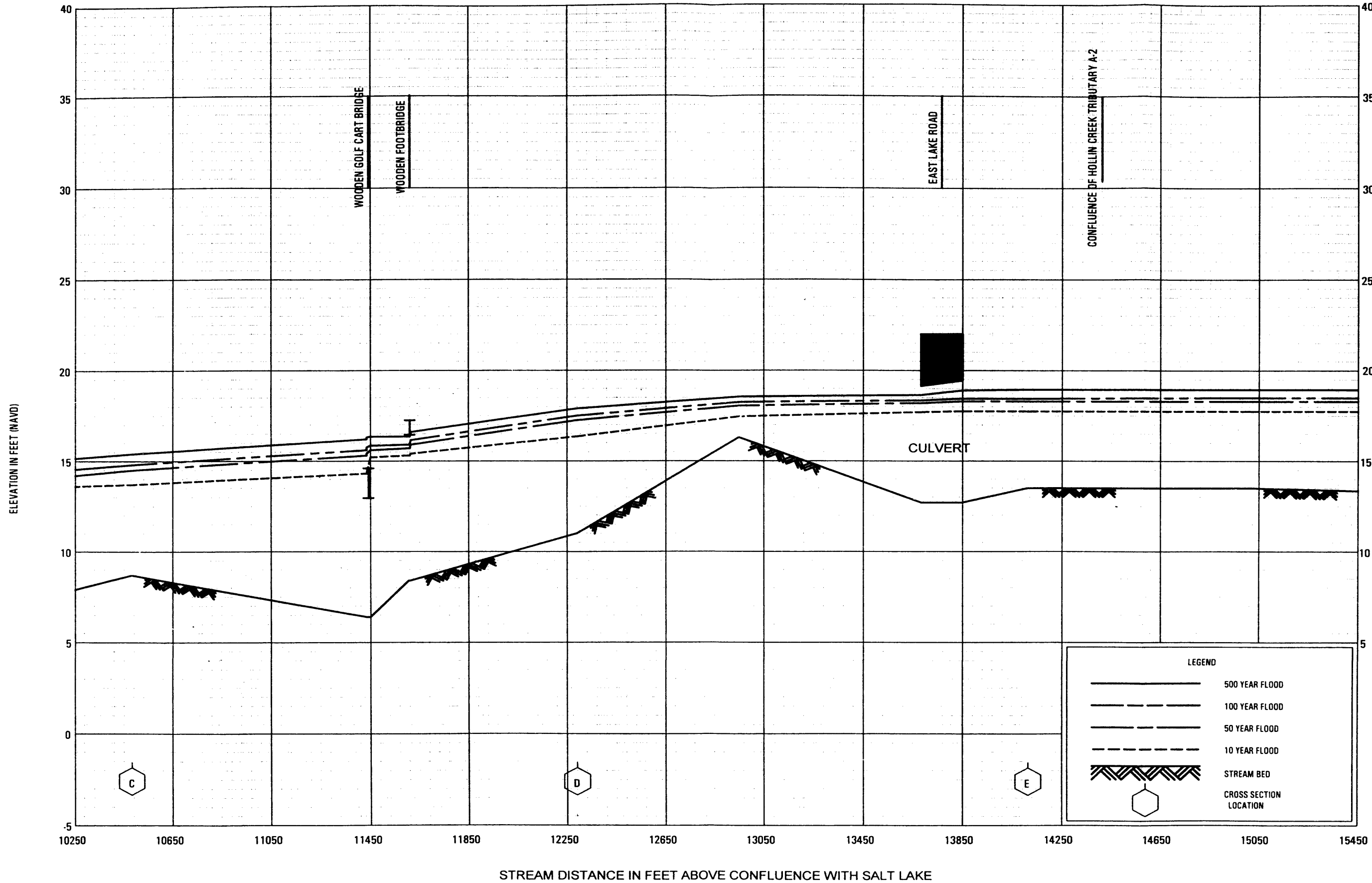
FLOOD PROFILES

HOLLIN CREEK TRIBUTARY A

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL

AND INCORPORATED AREAS



FLOOD PROFILES

HOLLIN CREEK TRIBUTARY A

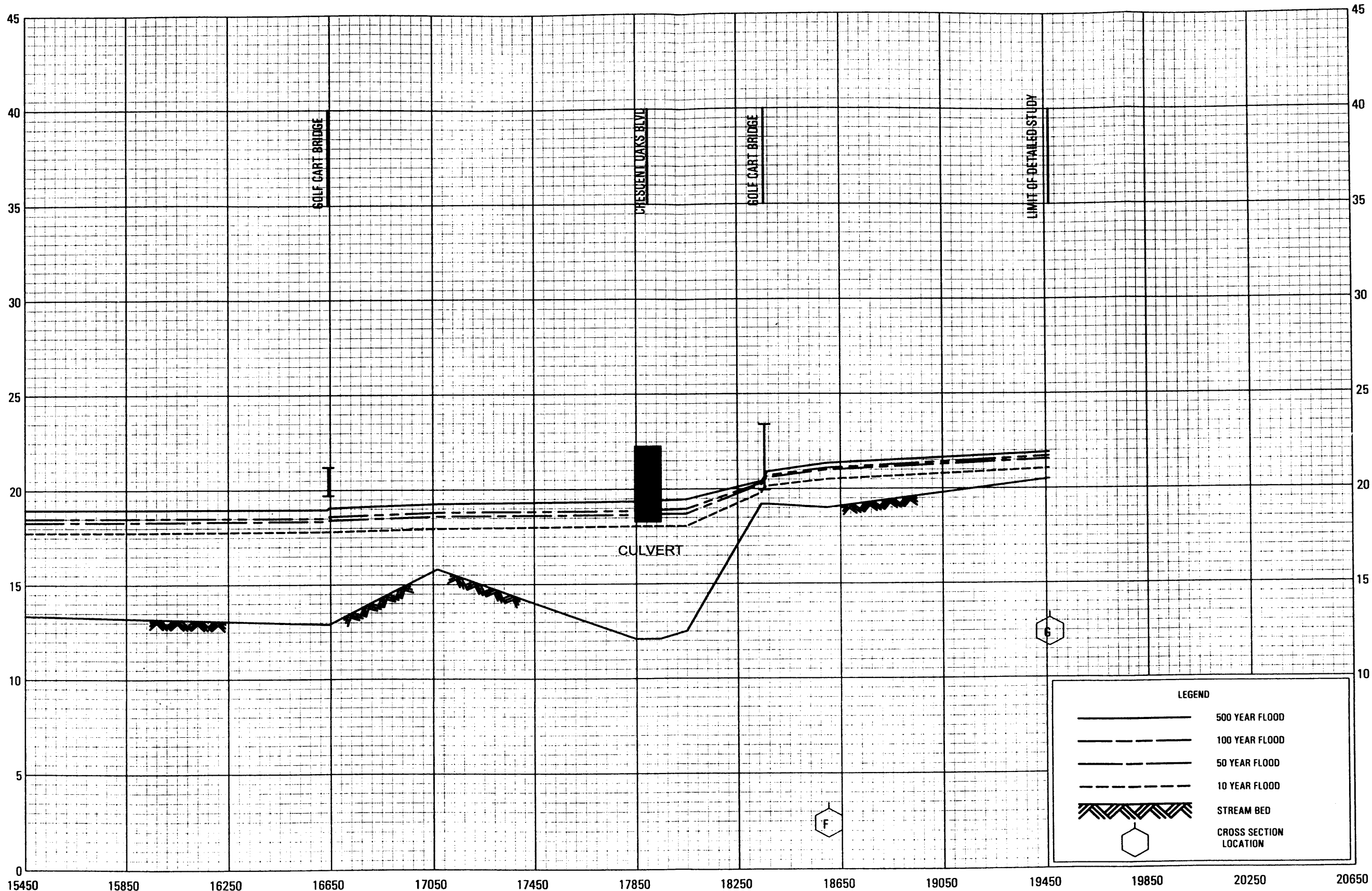
FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL

AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH SALT LAKE

FLOOD PROFILES

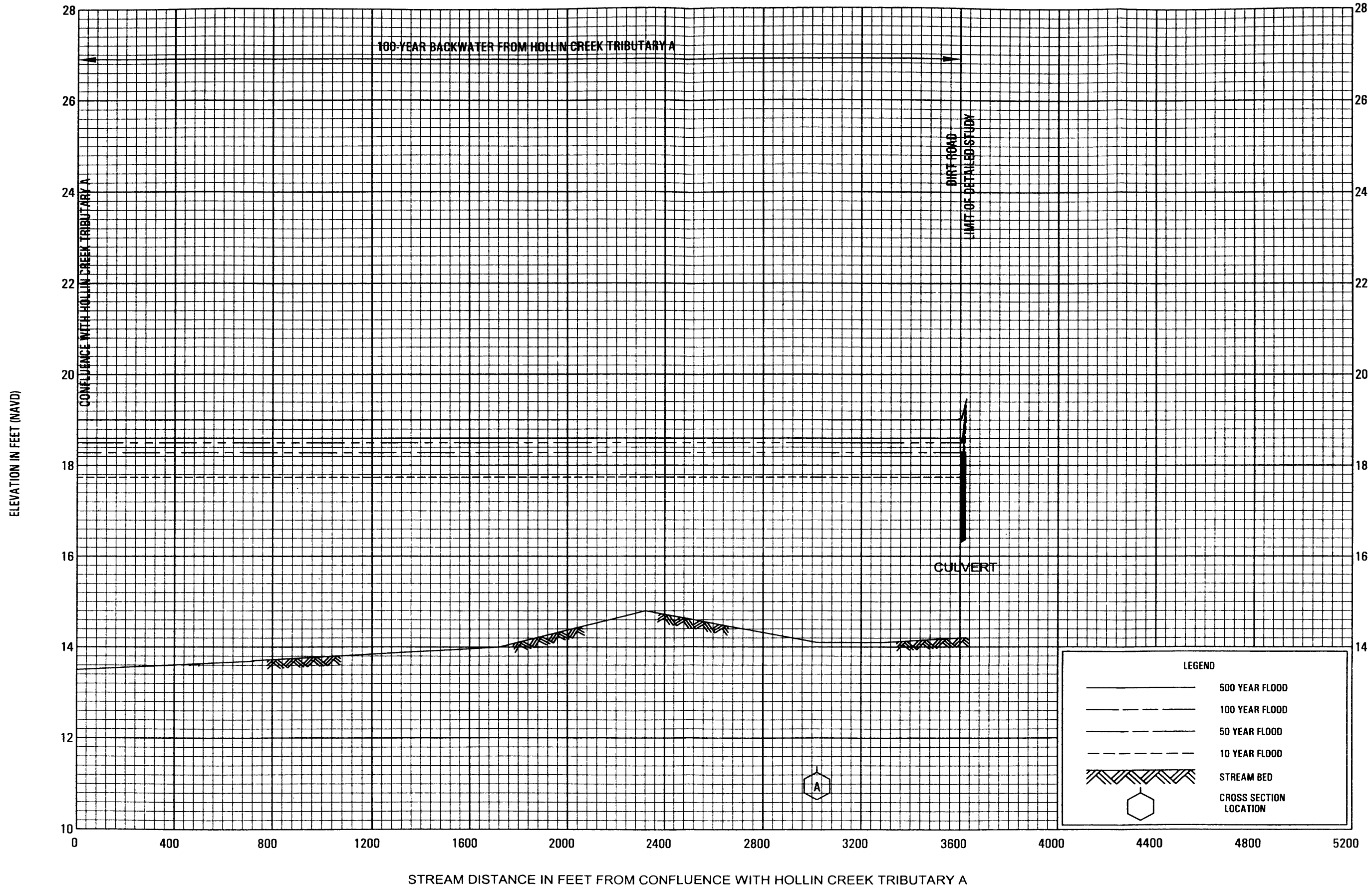
HOLLIN CREEK TRIBUTARY A

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL

AND INCORPORATED AREAS

23P

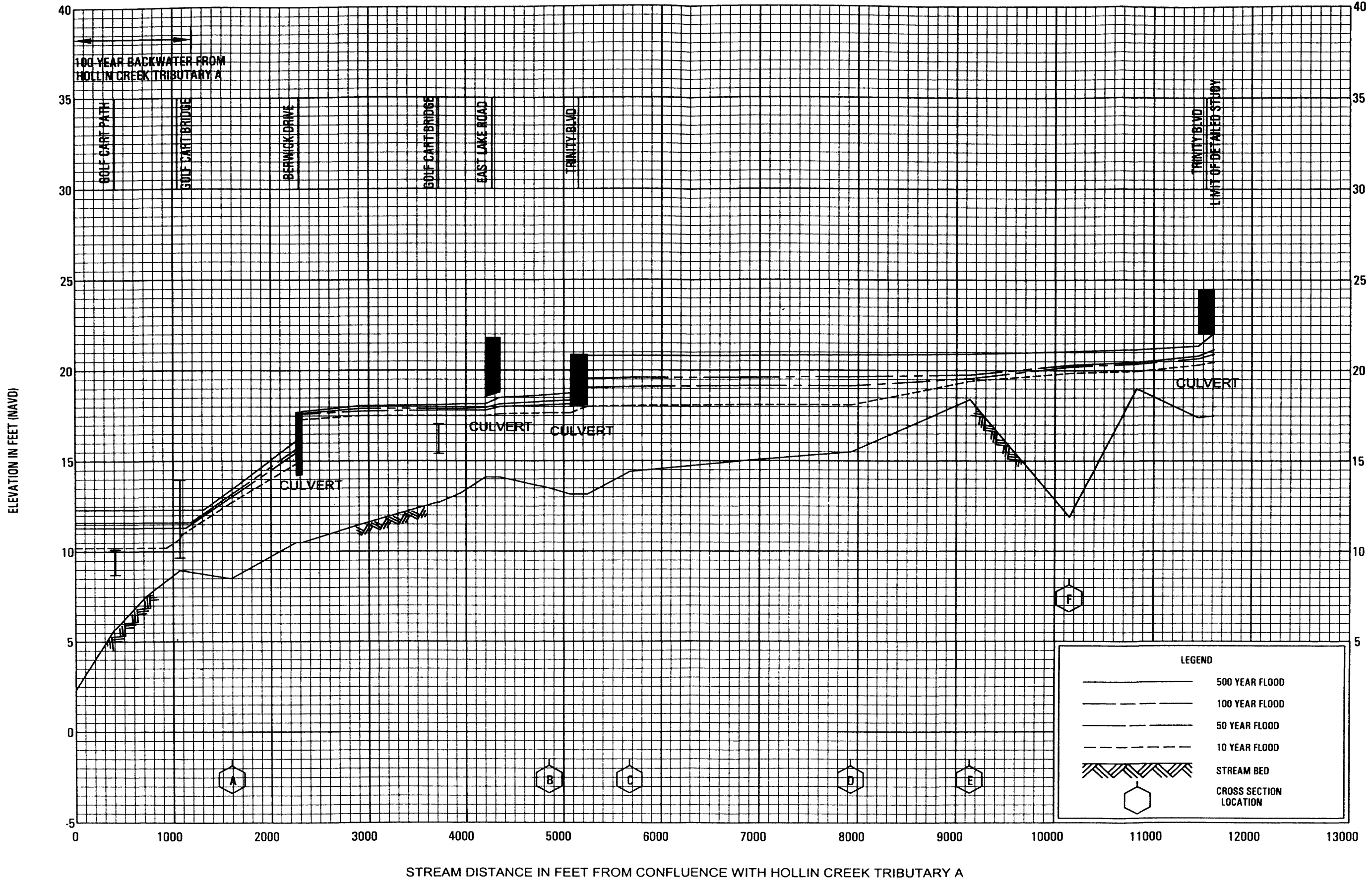


FLOOD PROFILES

HOLLIN CREEK TRIBUTARY A-2

FEDERAL EMERGENCY MANAGEMENT AGENCY

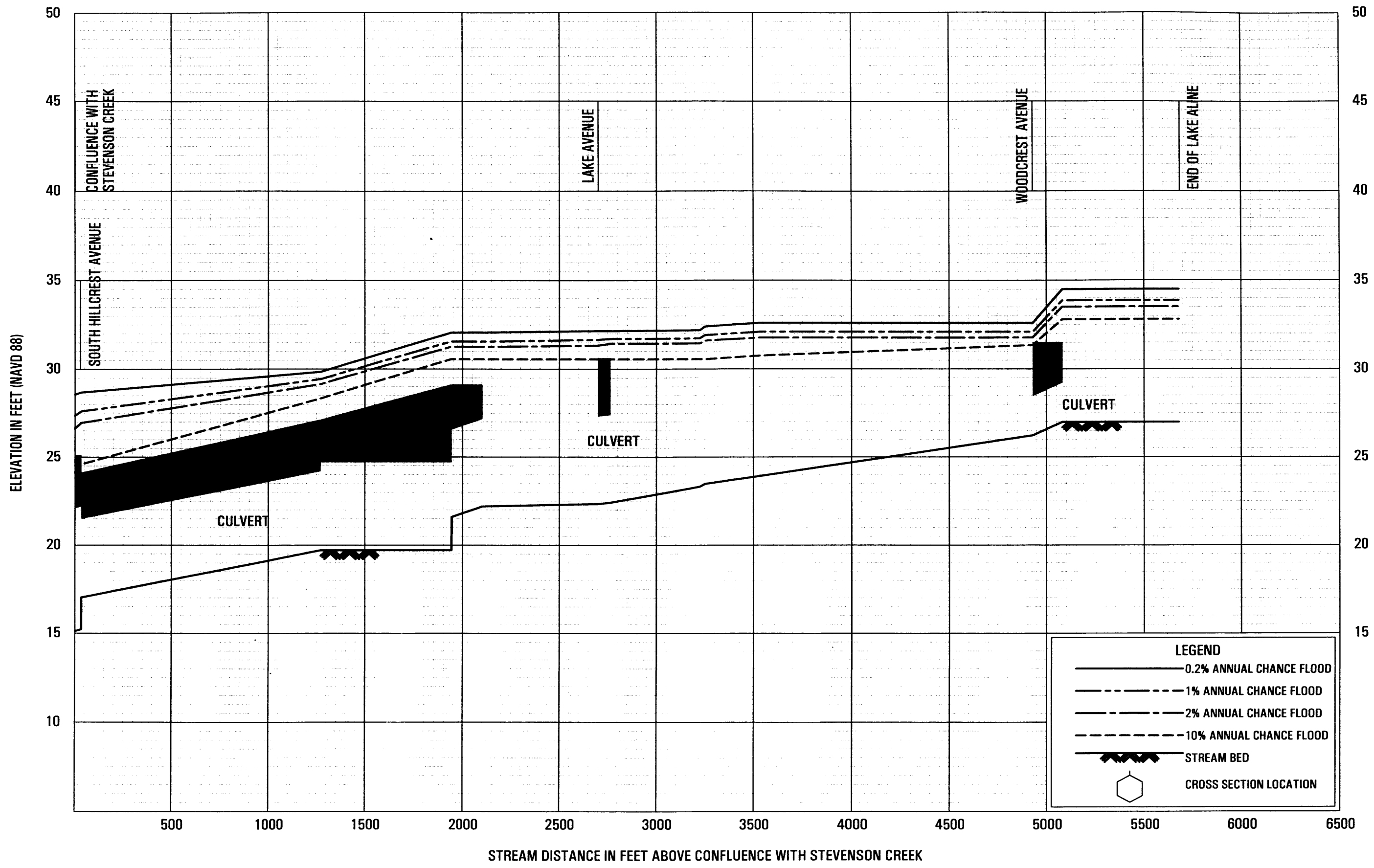
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS



FLOOD PROFILES

HOLLIN CREEK TRIBUTARY B

FEDERAL EMERGENCY MANAGEMENT AGENCY  
 PINELLAS COUNTY, FL  
 AND INCORPORATED AREAS

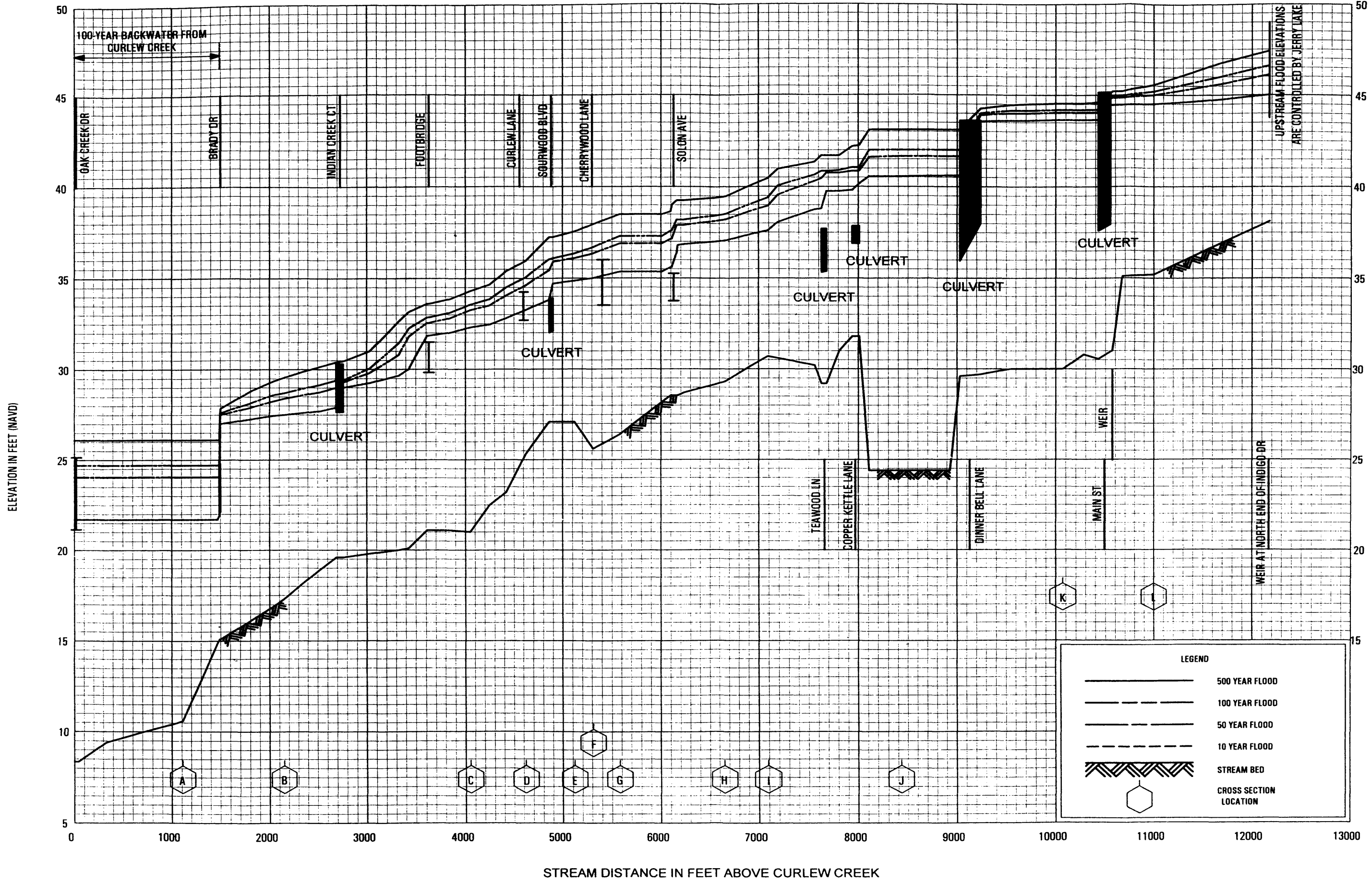


**FLOOD PROFILES**

**JEFFORDS STREET TRIBUTARY**

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

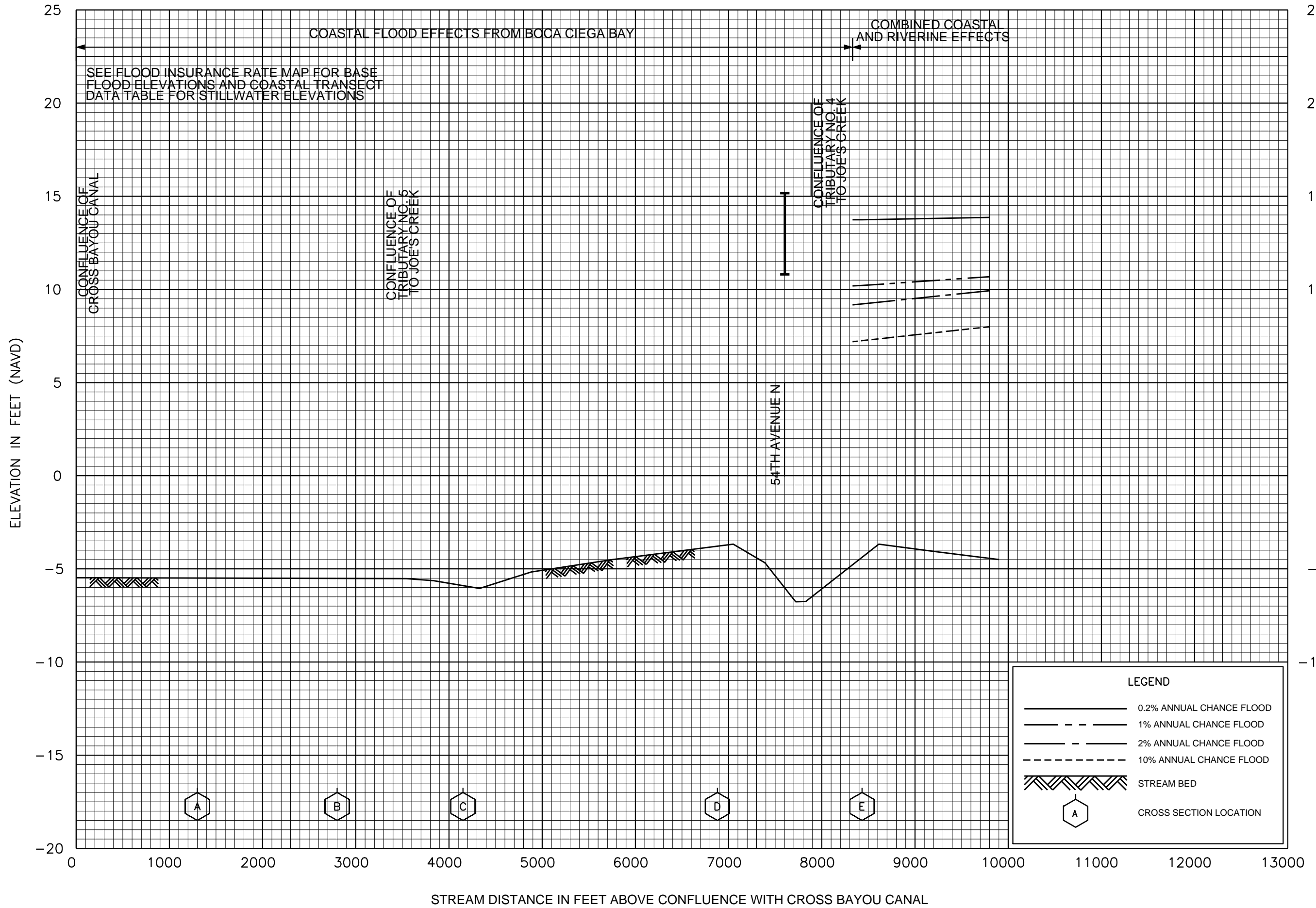
**PINELLAS COUNTY, FL  
AND INCORPORATED AREAS**



FLOOD PROFILES

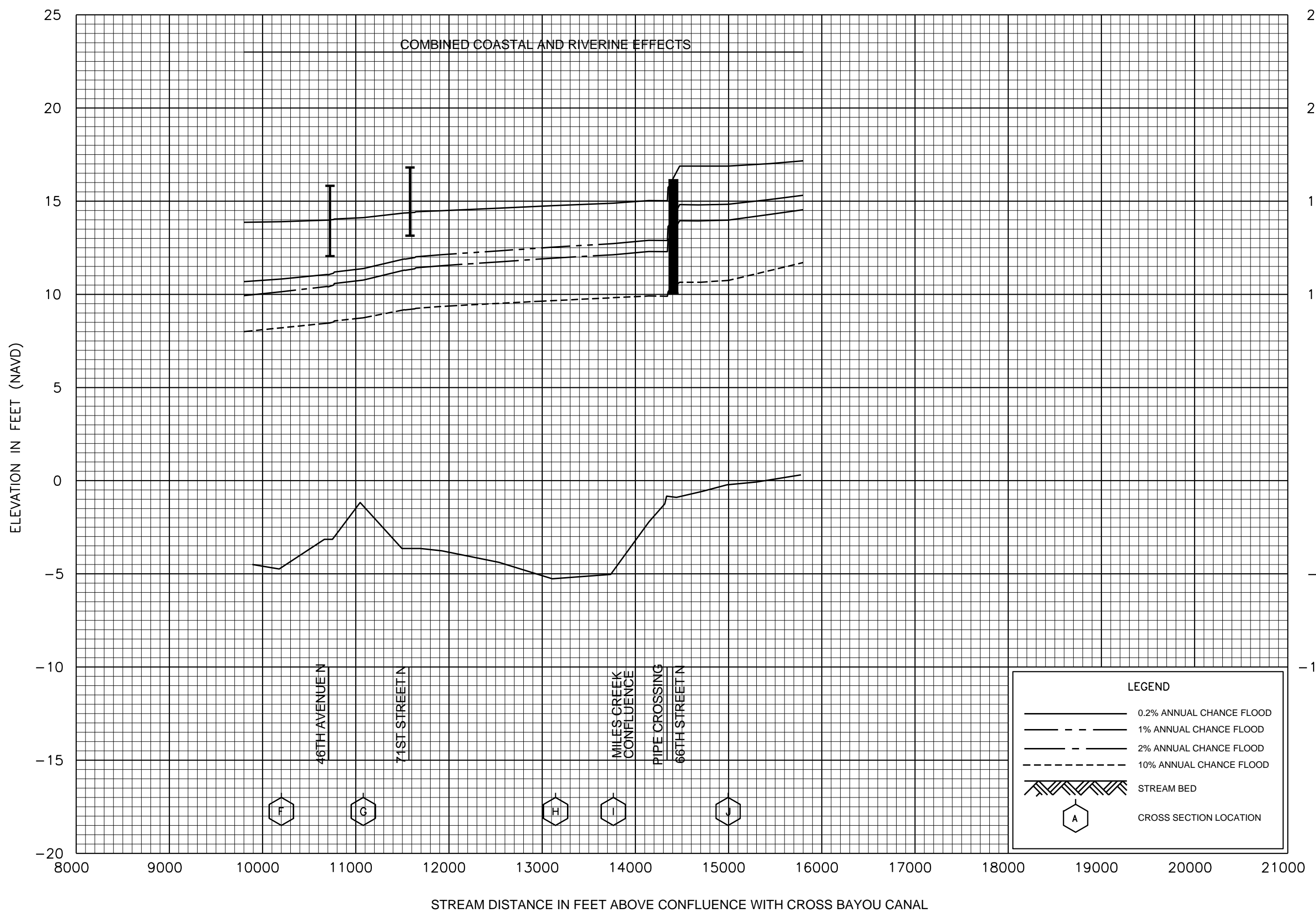
JERRY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY  
 PINELLAS COUNTY, FL  
 AND INCORPORATED AREAS



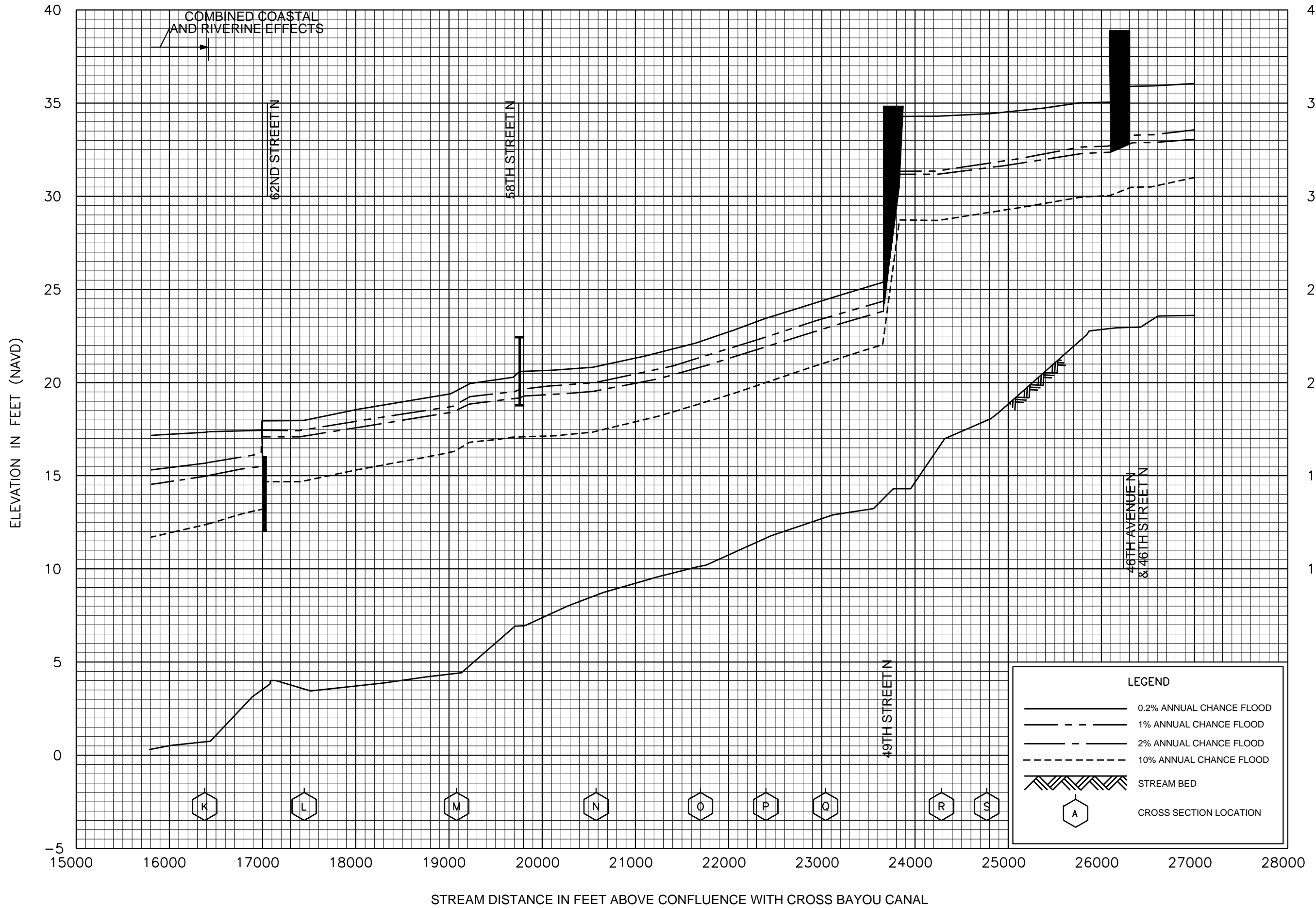
FLOOD PROFILES  
JOE'S CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS



FLOOD PROFILES  
JOE'S CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**PINELLAS COUNTY, FL**  
AND INCORPORATED AREAS







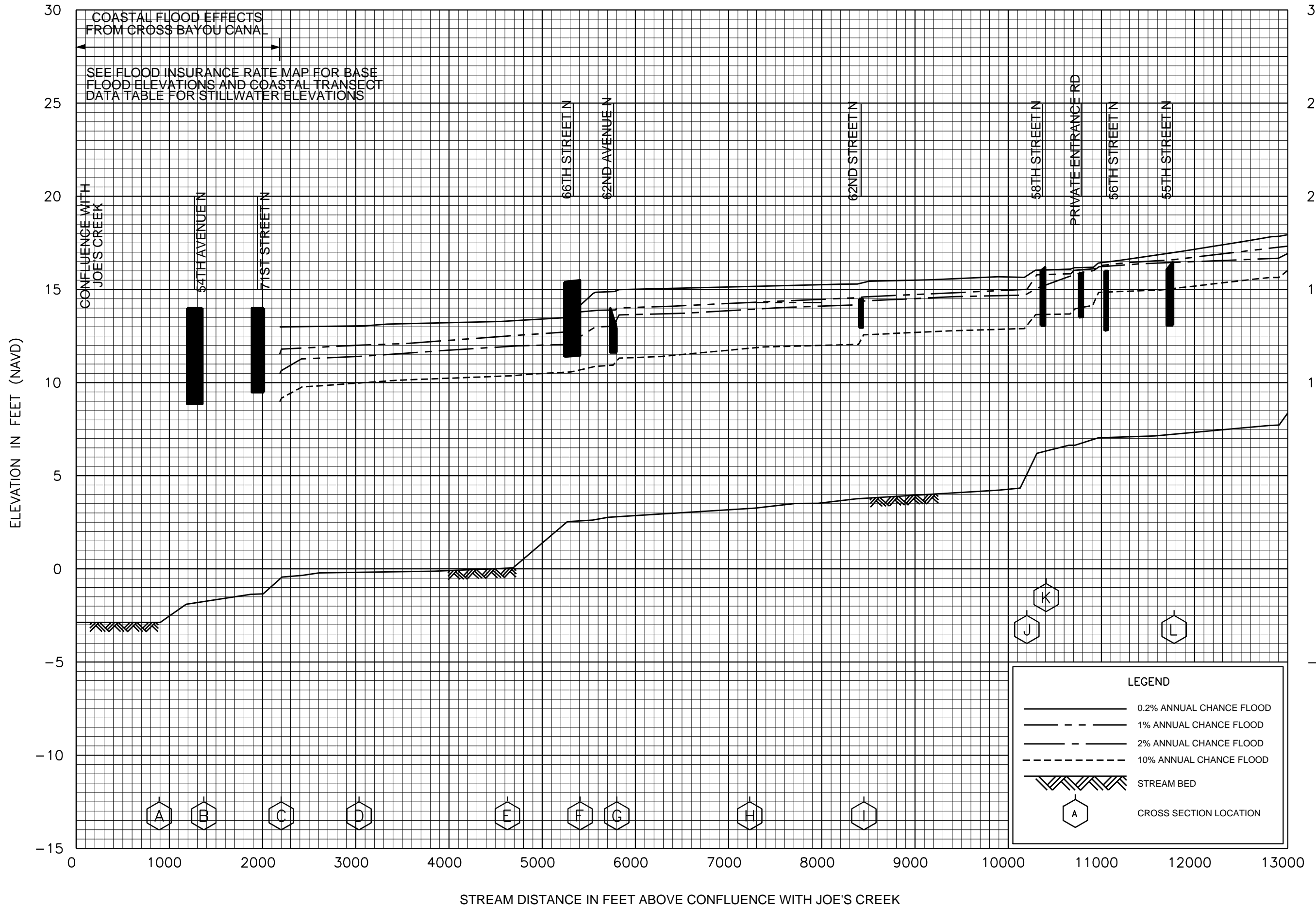
FLOOD PROFILES

JOE'S CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

31P



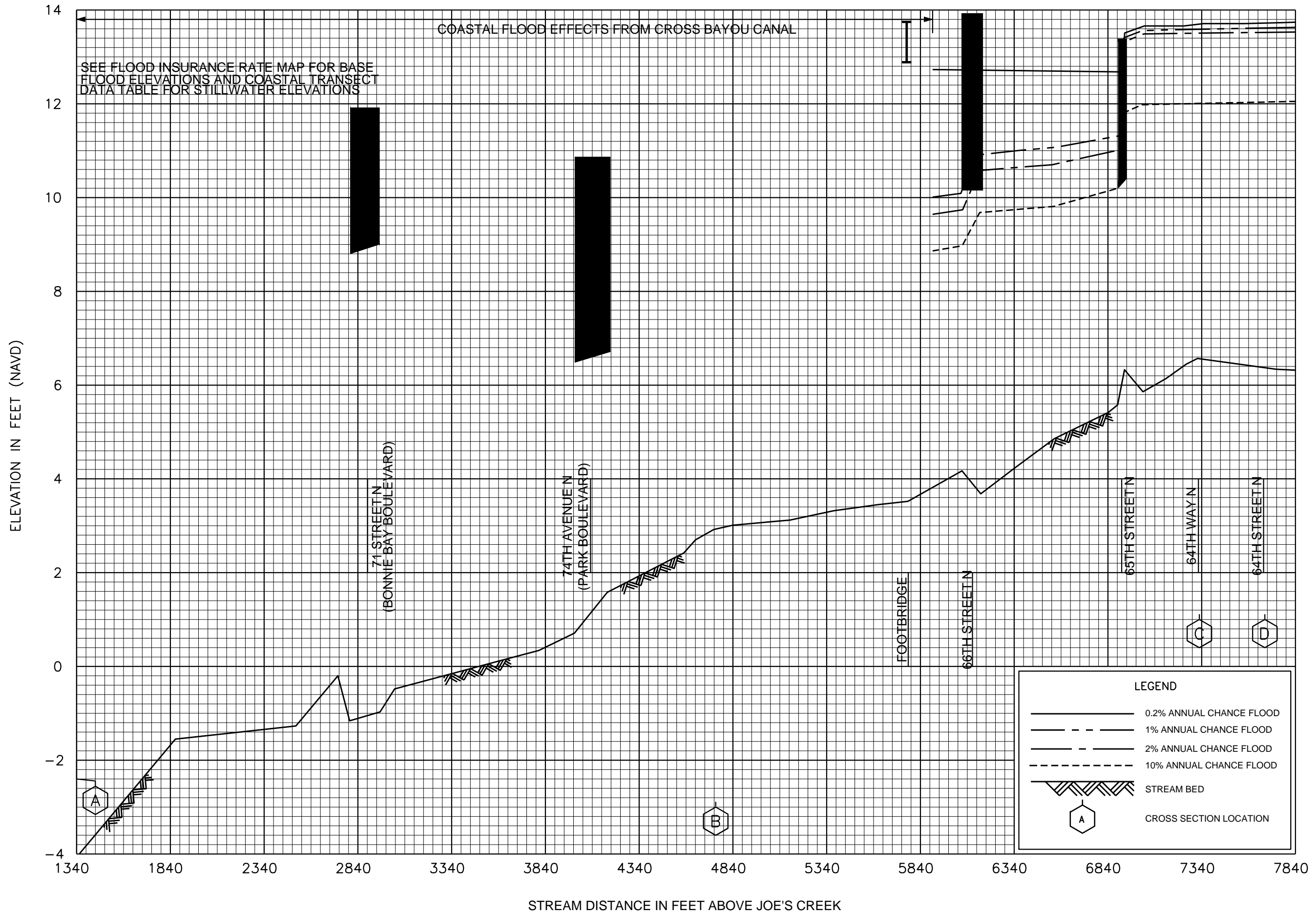
FLOOD PROFILES

JOE'S CREEK TRIBUTARY NO. 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS





FLOOD PROFILES

JOE'S CREEK TRIBUTARY NO. 5

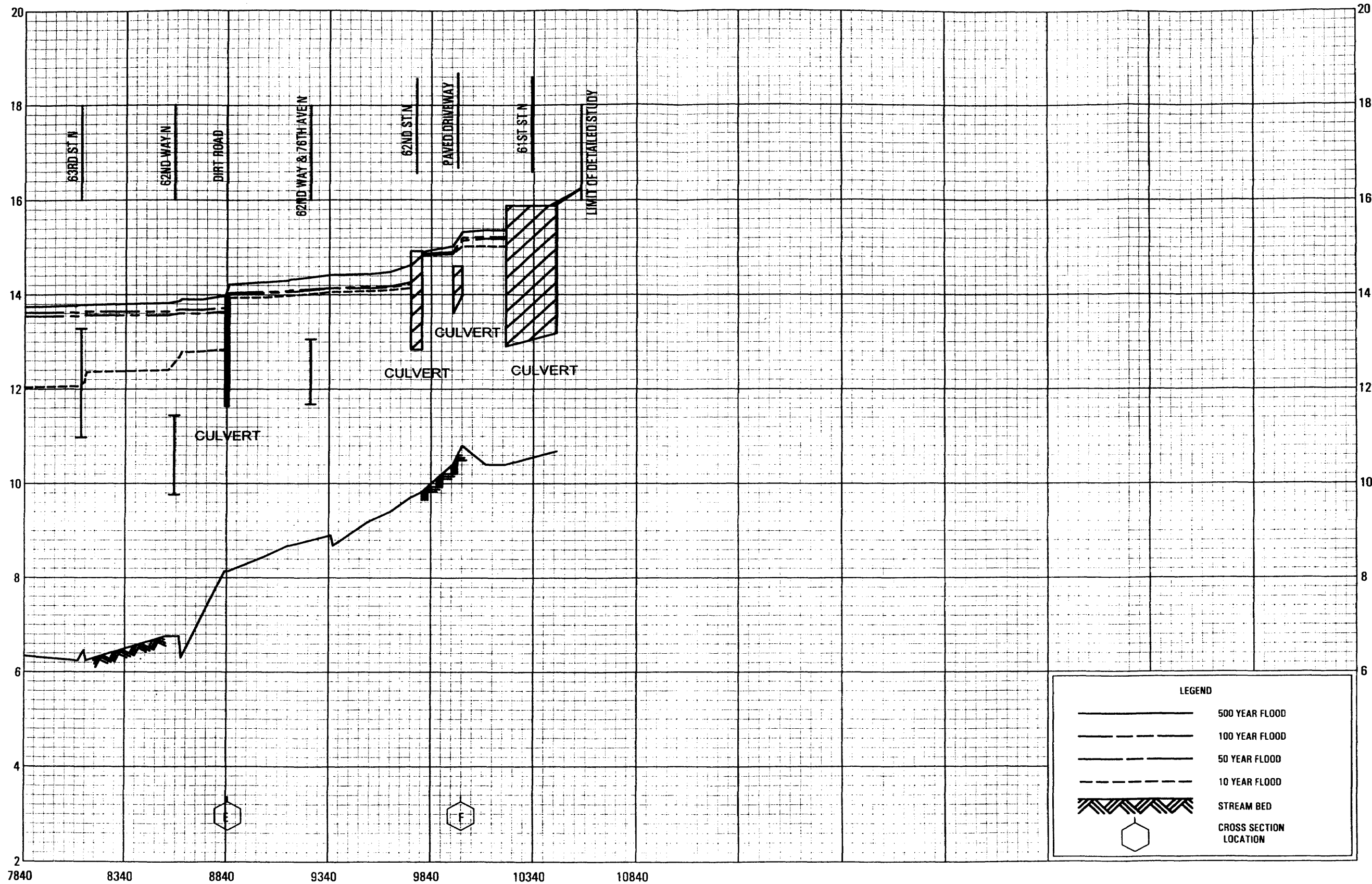
FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL

AND INCORPORATED AREAS

34P

ELEVATION IN FEET (NAVD)



LEGEND	
—	500 YEAR FLOOD
- - -	100 YEAR FLOOD
- · - · -	50 YEAR FLOOD
- · - -	10 YEAR FLOOD
▨	STREAM BED
⬡	CROSS SECTION LOCATION

FLOOD PROFILES

JOE'S CREEK TRIBUTARY NO. 5

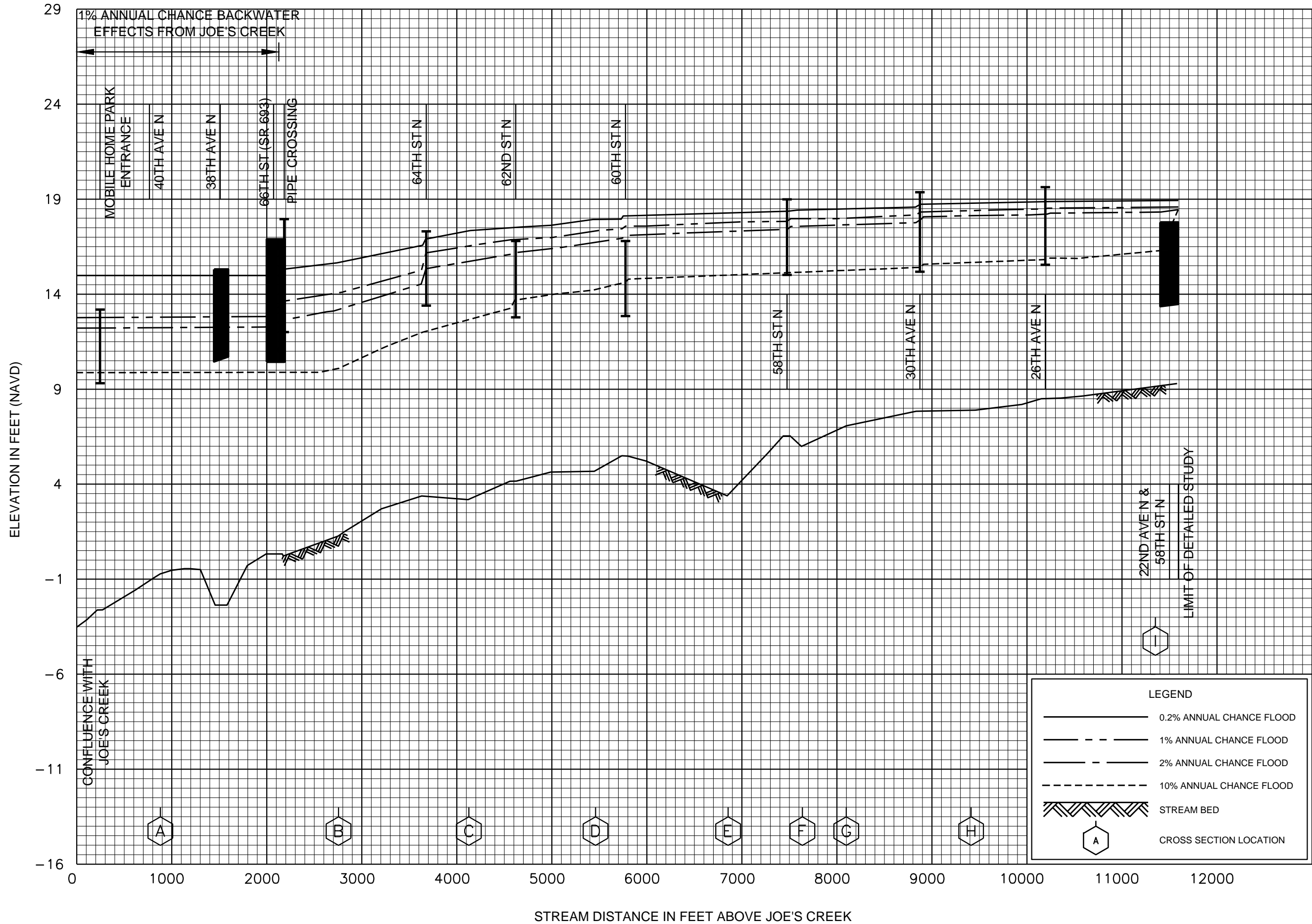
FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL

AND INCORPORATED AREAS

35P

STREAM DISTANCE IN FEET ABOVE JOE'S CREEK



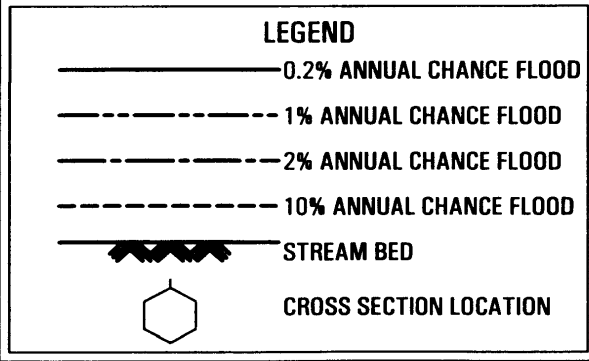
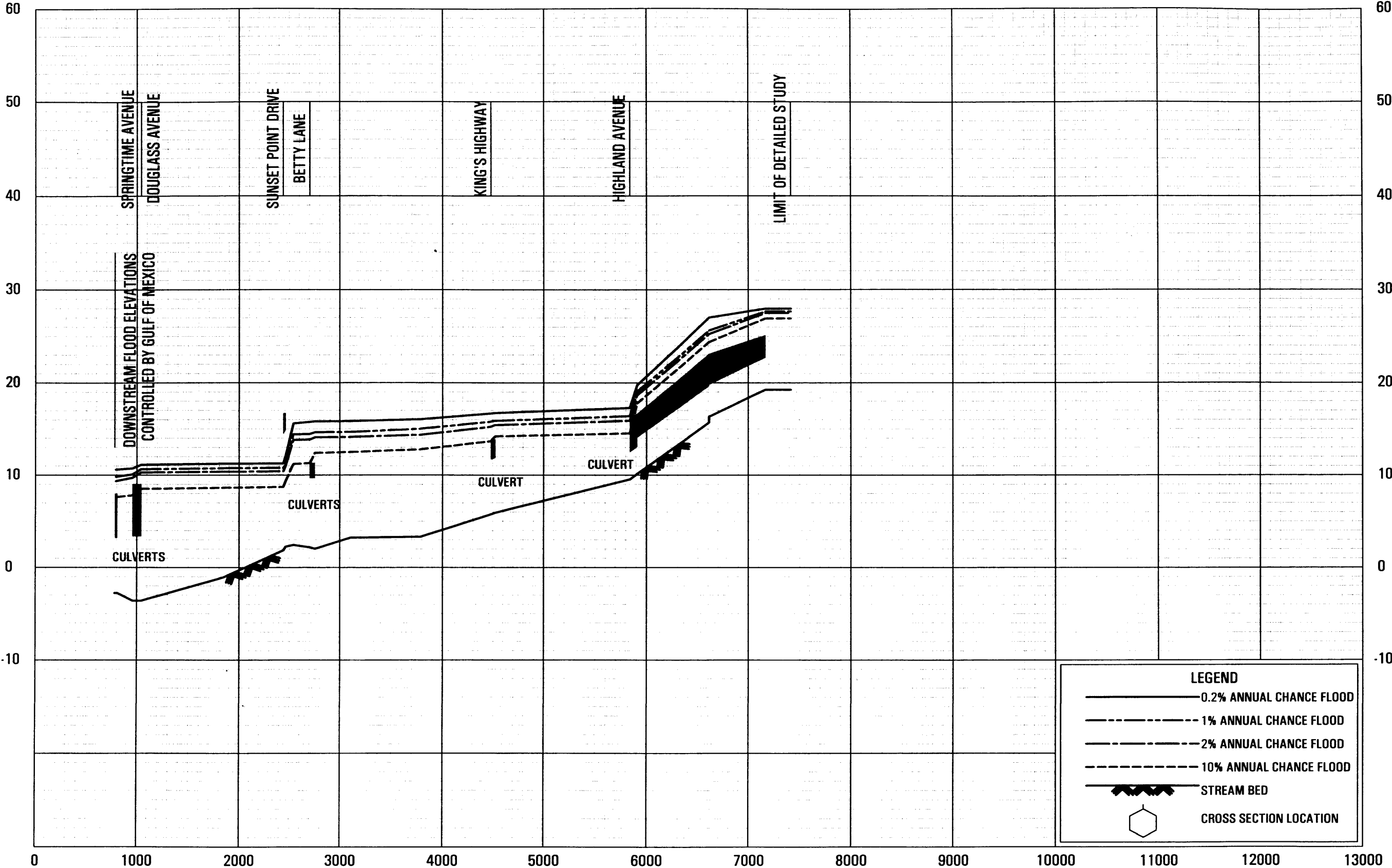
FLOOD PROFILES

MILES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH STEVENSON CREEK

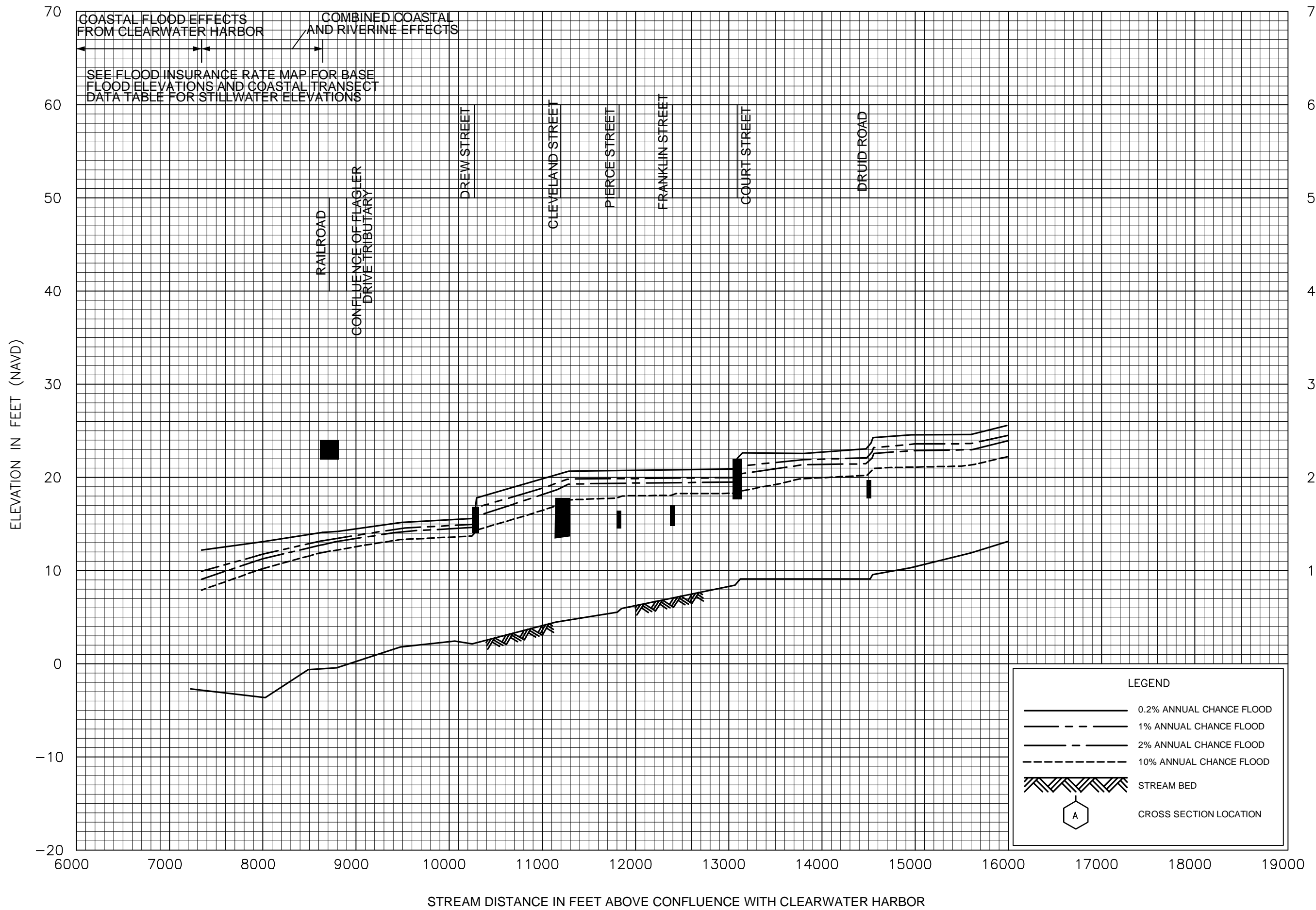
FLOOD PROFILES

SPRING BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL  
AND INCORPORATED AREAS

37P



FLOOD PROFILES

STEVENSON CREEK

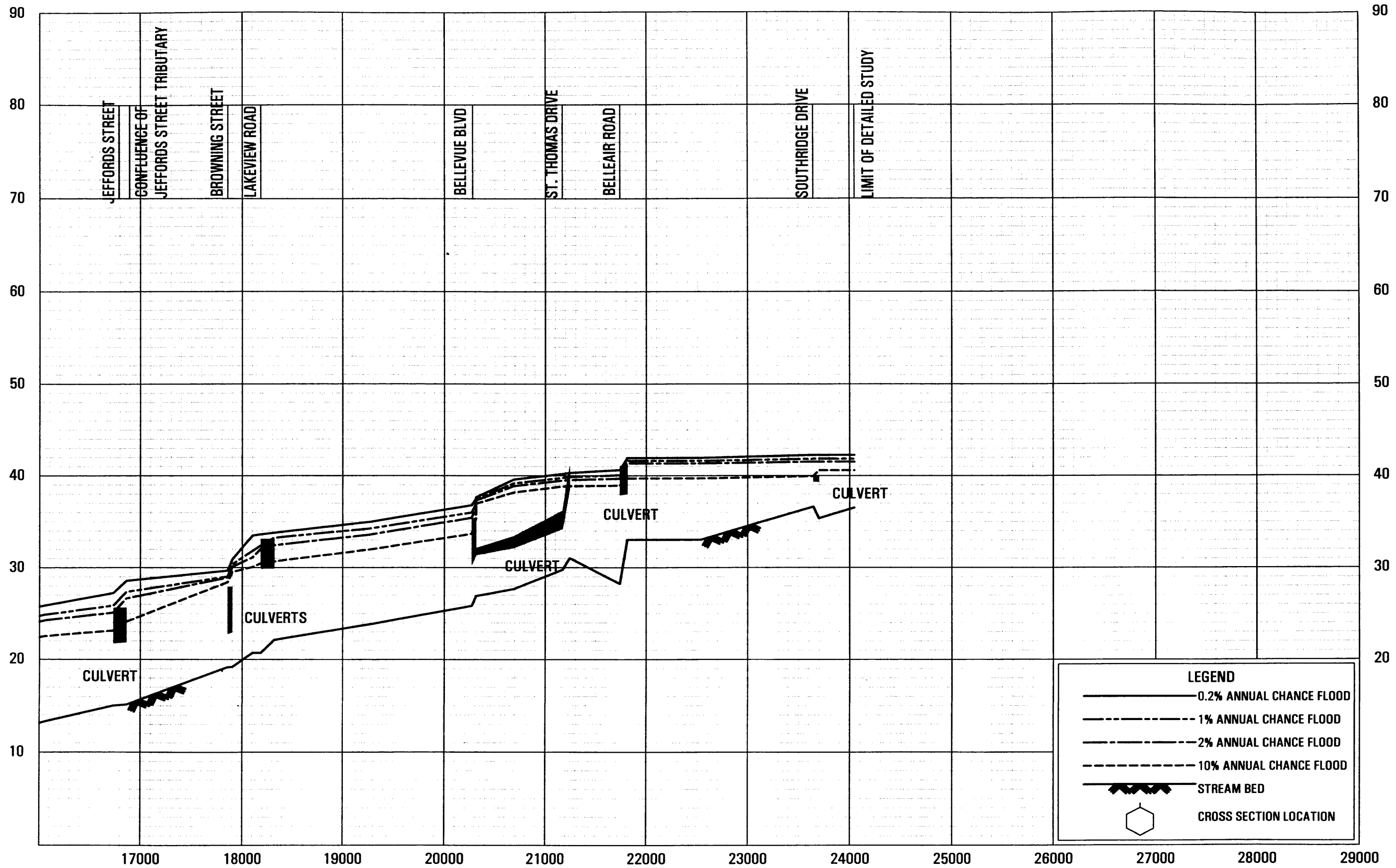
FEDERAL EMERGENCY MANAGEMENT AGENCY

PINELLAS COUNTY, FL

AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH CLEARWATER HARBOR

FLOOD PROFILES

STEVENSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
PINELLAS COUNTY, FL  
AND INCORPORATED AREAS