FLOOD INSURANCE STUDY

VOLUME 2 OF 3

MARIN COUNTY, CALIFORNIA
AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BELVEDERE, CITY OF	060429
CORTE MADERA, TOWN OF	065023
FAIRFAX, TOWN OF	060175
LARKSPUR, CITY OF	065040
MARIN COUNTY (UNINCORPORATED AREAS)	060173
MILL VALLEY, CITY OF	060177
NOVATO, CITY OF	060178
ROSS, TOWN OF	060179
SAN ANSELMO, TOWN OF	060180
SAN RAFAEL, CITY OF	065058
SAUSALITO, CITY OF	060182
TIBURON, TOWN OF	060430

REVISED
March 16, 2016

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
06041CV002C

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.

This FIS report was revised on March 16, 2016. Users should refer to Section 10.0, Revisions Description, for further information. Section 10.0 is intended to present the most up-to-date information for specific portions of this FIS report. Therefore, users of this FIS report should be aware that the information presented in Section 10.0 supersedes information in Sections 1.0 through 9.0 of this FIS report.

Initial Countywide FIS Effective Date:	May 4, 2009
Revised Countywide FIS Date:	March 17, 2014 First Revision
	March 16, 2016 Second Revision

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Volume 3 – March 16, 2016

EXHIBITS, continued

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Arroyo Avichi								
A	310	95	332	1.7	16.1	16.1[2]	16.3	0.2
B	730	106	305	1.8	16.1	16.1[2]	16.3	0.2
C	1,450	45	124	4.5	20.1	20.1	20.1	0.0
D	1,800	30	124	4.5	22.8	22.8	22.9	0.1
E	2,233	80	*	*	25.1	*	*	*
F	2,698	69	*	*	30.0	*	*	*
G	3,120	59	*	*	33.4	*	*	*
H	3,370	67	*	*	38.0	*	*	*
I	3,710	66	*	*	39.9	*	*	*
J	3,800	61	*	*	41.2	*	*	*
K	4,350	68	*	*	45.5	*	*	*
L	4,900	64	*	*	56.8	*	*	*
M	5,450	28	*	*	67.2	*	*	*
N	6,000	31	*	*	75.3	*	*	*
O	6,500	29	*	*	80.9	*	*	*
P	7,000	29	*	*	92.5	*	*	*
Q	7,500	37	*	*	105.9	*	*	*
R	7,900	33	*	*	113.3	*	*	*

[1] Feet above confluence with Novato Creek

[2] Elevation computed without consideration of backwater effects from Novato Creek

* Data not available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

ARROYO AVICHI

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Arroyo Corte Madera del Presidio Creek								
A	401	190	411	6.6	9.8[2]	5.9[3]	5.9	0.0
B	1,469	80	451	6	9.8[2]	9.1[3]	9.5	0.4
C	2,350	105	594	4.6	10.5	10.5	10.8	0.3
D	2,945	345	1,369	1.5	11.0	11.0	11.8	0.8
E	3,710	52	255	4.6	11.6	11.6	12.4	0.8
F	4,010	80	273	4.3	12.2	12.2	13.1	0.9
G	4,450	375	669	1.8	13.9	13.9	14.7	0.8
H	4,969	360	516	3.3	16.1	16.1	16.7	0.6
I	5,178	300	462	3.7	18.0	18.0	18.8	0.8
J	5,521	200	399	4.3	20.8	20.8	21.6	0.8
K	5,751	140	328	5.2	24.4	24.4	24.8	0.4
L	6,526	50	263	6.5	31.2	31.2	31.2	0.0
M	7,168	45	350	4.9	38.0	38.0	38.8	0.8
N	7,546	60	292	5.8	39.2	39.2	39.7	0.5
O	7,989	25	185	9.2	43.6	43.6	43.6	0.0
P	8,640	30	158	10.8	47.3	47.3	47.3	0.0
Q	8,820	55	174	9.8	49.4	49.4	49.4	0.0
R	9,087	40	259	6.6	56.0	56.0	56.0	0.0
S	9,538	55	165	4.3	61.8	61.8	62.3	0.5
T	9,966	35	222	3.2	69.7	69.7	69.9	0.2
U	10,276	20	117	6.1	72.7	72.7	73.4	0.7

[1] Feet above confluence with Richardson Bay

[2] Base flood elevations in coastal floodplains may include wave effects not reflected in these elevations. BFEs on the FIRM should be used when they are higher than the stillwater elevations shown here.

[3] Elevation computed without consideration of backwater effects from Richardson Bay

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Arroyo San Jose								
A	14,570	38	270	8.5	22.8	22.8	23.8	1.0
B	15,800	52	344	6.7	33.2	33.2	33.2	0.0
C	17,300	62	409	5.6	45.8	45.8	45.8	0.0
D	19,670	53	343	4.6	59.8	59.8	59.8	0.0
E	21,310	100	412	3.6	89.2	89.2	90.1	0.9
F	23,650	60	466	3.2	117.9	117.9	118.9	1.0
G	26,040	50	191	7.9	145.1	145.1	145.8	0.7
H	26,820	45	145	10.4	154.4	154.4	154.4	0.0
I	27,480	35	128	9.4	163.8	163.8	163.8	0.0
J	28,460	124	757	0.9	191.7	191.7	192.7	1.0
K	28,645	80	513	1.3	191.7	191.7	192.7	1.0
L	28,910	92	238	2.7	191.7	191.7	192.7	1.0
M	29,150	73	98	6.6	195.6	195.6	195.6	0.0
N	29,490	14	45	10.3	208.7	208.7	208.7	0.0

[1] Feet above mouth

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

ARROYO SAN JOSE

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Corte Madera Creek								
A	-995[1]	265	2,464	3.9	9.7[2]	6.4[3]	7.2	0.8
B	3,629[1]	320	3,014	2.9	9.7[2]	7.9[3]	8.5	0.6
C	9,830[1]	250	1,977	3.6	9.7	9.7	10.1	0.4
D	12,690[1]	80	739	7.0	12.8	12.8	13.3	0.5
E	13,470[1]	71	746	6.9	15.6	15.6	16.5	0.9
F	16,030[1]	33	318	14.4	18.0	18.0	18.8	0.8
G	16,765[1]	75	357	12.8	23.0	23.0	23.6	0.6
H	17,059[1]	125	797	5.7	26.4	26.4	27.1	0.7
I	17,559[1]	325	1,296	5.4	29.1	29.1	29.5	0.4
J	17,860[1]	154	1,512	4.7	30.7	30.7	31.6	0.9
K	18,239[1]	88	1,098	6.4	32.3	32.3	33.2	0.9
L	18,730[1]	190	1,977	3.6	36.7	36.7	37.6	0.9
Corte Madera Creek Overflow								
A	21,92[4]	295	592	3.2	13.6	13.6	14.2	0.6
B	26,98[4]	581	708	2.7	15.3	15.3	15.5	0.2
C	53,51[4]	250	676	3.7	21.0	21.0	21.6	0.6
D	61,31[4]	268	383	6.5	24.2	24.2	24.4	0.2

[1] Feet above US Highway 101

[2] Base flood elevations in coastal floodplains may include wave effects not reflected in these elevations. BFEs on the FIRM should be used when they are higher than the stillwater elevations shown here.

[3] Elevation computed without consideration of backwater effects from San Francisco Bay

[4] Feet above confluence with Corte Madera Creek

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

CORTE MADERA CREEK – CORTE MADERA CREEK OVERFLOW

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Coyote Creek								
A	2,310[1]	93	600	3.4	9.8[2]	8.9[3]	9.9	1.0
B	2,610[1]	85	570	3.6	9.8[2]	9.3[3]	10.2	0.9
C	2,910[1]	200	830	2.5	9.8[2]	9.7[3]	10.4	0.7
D	3,200[1]	365	1,140	1.0	9.9	9.9	10.7	0.8
E	3,400[1]	400	1,190	0.9	10.2	10.2	11.0	0.8
F	3,600[1]	350	1,115	1.0	10.2	10.2	11.0	0.8
G	3,780[1]	235	725	1.5	10.3	10.3	11.1	0.8
Crest Marin Creek								
A	535[4]	285	640	0.3	10.3	10.3	11.2	0.9
B	795[4]	300	670	0.3	10.4	10.4	11.2	0.8
C	1,050[4]	310	1,035	0.2	10.4	10.4	11.2	0.8
D	1,325[4]	185	395	0.5	10.4	10.4	11.2	0.8
E	1,585[4]	100	130	1.4	10.7	10.7	11.7	1.0
F	1,890[4]	125	200	0.9	11.7	11.7	12.5	0.8
G	2,075[4]	175	220	0.8	12.1	12.1	12.8	0.7

[1] Feet above confluence with Richardson Bay

[2] Base flood elevations in coastal floodplains may include wave effects not reflected in these elevations. BFEs on the FIRM should be used when they are higher than the stillwater elevations shown here.

[3] Elevation computed without consideration of backwater effects from Richardson Bay

[4] Feet above confluence with Tennessee Creek

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

COYOTE CREEK – CREST MARIN CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Eskoot Creek								
A	2,855[1]	55	235	1.9	9.1	9.1	10.0	0.9
B	3,420[1]	55	220	2.1	10.9	10.9	11.7	0.8
C	3,835[1]	85	230	1.8	13.0	13.0	13.7	0.7
D	5,229[1]	30	90	10.1	34.6	34.6	34.6	0.0
E	5,825[1]	25	60	8.8	54.7	54.7	54.7	0.0
Ignacio Creek								
A	660[2]	32	252	3.2	62.4	62.4	62.4	0.0
B	1,905[2]	32	92	8.7	66.9	66.9	66.9	0.0
C	4,670[2]	199	438	2.4	106.4	106.4	106.4	0.0
Lagunitas Creek								
A	910[3]	1,940	9,000	3.0	12.6	12.6	13.6	1.0
B	2,560[3]	2,600	20,880	1.3	13.2	13.2	14.0	0.8
C	5,895[3]	2,500	21,430	1.3	13.3	13.3	14.1	0.8
D	7,840[3]	2,900	20,560	1.4	13.5	13.5	14.3	0.8
E	9,960[3]	1,900	8,100	3.5	13.8	13.8	14.8	1.0
F	12,810[3]	600	3,220	6.4	19.8	19.8	20.8	1.0
G	13,630[3]	500	3,930	5.3	21.3	21.3	21.7	0.4
H	14,890[3]	450	3,950	5.2	22.4	22.4	22.8	0.4
I	15,880[3]	300	3,130	6.6	23.7	23.7	24.1	0.4
J	16,960[3]	300	3,670	5.6	25.7	25.7	26.5	0.8

[1] Feet above Limit of Detailed Study

[2] Feet above confluence with Arroyo San Jose

[3] Feet above confluence with Tomales Bay

* Limit of Detailed Study approximately 20 feet downstream of Walla Vista

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

ESKOOT CREEK - IGNACIO CREEK – LAGUNITAS CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Olema Creek								
A	1,230	900	2,560	2.2	16.7	14.9[2]	15.7[2]	0.8
B	2,460	200	1,400	4.1	18.7	18.7	19.1	0.4
C	2,890	410	770	7.4	19.3	19.3	19.7	0.4
D	3,970	680	2,360	2.4	23.5	23.5	24.2	0.7
E	5,040	750	1,730	3.3	25.4	25.4	26.2	0.8
F	6,190	700	1,930	3.0	28.9	28.9	29.4	0.5
G	7,240	790	1,320	4.3	33.2	33.2	33.6	0.4
H	7,830	790	1,560	3.7	37.6	37.6	37.6	0.0
I	8,740	860	1,300	4.4	41.4	41.4	42.0	0.6
J	9,560	760	950	6.1	47.2	47.2	47.2	0.0
K	10,240	840	1,380	4.1	50.7	50.7	51.4	0.7
L	10,670	1,290	2,750	2.1	52.3	52.3	52.9	0.6
M	11,260	95	460	12.5	55.2	55.2	55.3	0.1

[1] Feet above confluence with Lagunitas Creek
[2] Elevation computed without consideration of flooding controlled by Lagunitas Creek

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARIN COUNTY, CA
AND INCORPORATED AREAS

FLOODWAY DATA

OLEMA CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Reed Creek								
A*	150	*	*	*	12.0[2]	*	*	*
B	900	380	715	0.6	14.6	14.6	15.6	1.0
C	1,075	160	170	2.6	16.2	16.2	17.0	0.8
D	1,350	95	155	2.8	20.9	20.9	21.4	0.5
E	1,550	30	85	5.1	22.6	22.6	23.1	0.5
F	1,960	15	50	9.0	30.1	30.1	30.4	0.3
G	2,190	20	105	4.0	34.4	34.4	34.9	0.5
H	2,620	25	155	2.7	42.0	42.0	43.0	1.0
I	2,750	20	125	3.4	44.1	44.1	44.9	0.8
J	2,925	25	105	4.1	46.5	46.5	47.0	0.5

[1] Feet above confluence with Arroyo Corte Madera del Presidio Creek

[2] Elevation computed without consideration of flooding controlled by Lagunitas Creek

* Data not available

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

REED CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
San Anselmo Creek								
A	19,269	81	1,060	2.3	37.1	37.1	38.0	0.9
B	19,677	77	791	5.1	37.3	37.3	38.3	1.0
C	20,367	74	757	5.3	38.3	38.3	39.2	0.9
D	21,108	60	686	5.8	39.1	39.1	39.8	0.7
E	21,813	58	545	7.3	40.6	40.6	40.9	0.3
F	22,702	63	398	10.1	43.2	43.2	43.4	0.2
G	23,246	80	1,048	3.8	52.5	52.5	52.6	0.1
H	24,117	408	2,133	2.7	54.9	54.9	55.1	0.2
I	24,852	362	2,433	2.3	58.4	58.4	59.3	0.9
J	25,802	98	943	5.4	62.6	62.6	63.1	0.5
K	27,102	110	928	3.9	66.6	66.6	67.3	0.7
L	27,981	72	680	5.3	72.1	72.1	73.0	0.9
M	29,014	85	809	4.5	76.0	76.0	76.9	0.9
N	29,816	52	899	4.0	84.9	84.9	85.7	0.8
O	31,653	49	510	7.1	93.5	93.5	93.5	0.0
P	32,703	56	476	7.4	97.5	97.5	97.7	0.2
Q	33,388	52	332	8.7	102.4	102.4	102.4	0.0

[1] Feet above U.S. Highway 101

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

SAN ANSELMO CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
San Anselmo Creek Overflow								
A	635	297	1,543	3.0	38.3	38.3	39.2	0.9
B	1,002	190	819	2.0	39.6	39.6	40.6	1.0
C	1,755	105	280	5.9	40.5	40.5	41.4	0.9
D	2,434	140	358	4.6	43.8	43.8	44.1	0.3
E	3,089	217	267	6.2	46.9	46.9	47.1	0.2
F	3,898	295	506	3.3	52.3	52.3	52.3	0.0
G	4,840	45	101	0.0	53.2	53.2	53.2	0.0

[1] Feet above confluence with San Anselmo Creek

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARIN COUNTY, CA
AND INCORPORATED AREAS

FLOODWAY DATA

SAN ANSELMO CREEK OVERFLOW

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Tennessee Creek								
A	250	195	470	2.0	9.8[2]	9.6[3]	10.6	1.0
B	385	165	480	2.0	9.9	9.9	10.8	0.9
C	700	185	400	1.9	10.5	10.5	11.3	0.8
D	860	200	360	2.2	10.5	10.5	11.3	0.8
E	955	210	510	1.5	11.6	11.6	12.0	0.4
F	1,100	120	430	1.8	11.8	11.8	12.2	0.4
G	1,300	75	245	3.2	11.9	11.9	12.2	0.3
H	1,700	90	200	3.9	13.8	13.8	14.2	0.4
I	2,015	115	240	3.2	16.8	16.8	17.7	0.9
J	2,430	100	230	3.4	18.8	18.8	19.3	0.5
K	2,715	95	180	4.4	20.8	20.8	21.1	0.3
L	3,080	65	120	6.6	25.0	25.0	25.7	0.7
M	3,220	75	170	4.6	27.0	27.0	27.4	0.4

[1] Feet above confluence with Coyote Creek

[2] Base flood elevations in coastal floodplains may include wave effects not reflected in these elevations. BFEs on the FIRM should be used when they are higher than the stillwater elevations shown here.

[3] Elevation computed without consideration of backwater effects from Richardson Bay

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

TENNESSEE CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Wilson Creek								
A	885	148	415	1.9	42.4	42.4	43.4	1.0
B	1,160	29	138	5.8	42.6	42.6	43.5	0.9
C	1,825	26	102	7.8	48.7	48.7	48.7	0.0
D	2,450	29	121	6.6	54.3	54.3	54.3	0.0
E	2,611	99	252	3.2	57.8	57.8	57.8	0.0
F	2,855	14	106	7.6	57.9	57.9	58.9	1.0
G	3,270	30	128	6.2	60.4	60.4	61.1	0.7
H	4,015	25	94	8.5	67.9	67.9	68.0	0.1

[1] Feet above confluence with Warner Creek

TABLE 12

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

FLOODWAY DATA

WILSON CREEK

APPENDIX A

Figure 5. FIRM Notes to Users

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 14 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations and/or Transect Data tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

Coastal Base Flood Elevations shown on the map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 888). Coastal flood elevations are also provided in the Summary of Stillwater Elevations table and Transect Data table in the FIS Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table and Transect Data table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on the FIRM.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to the "Flood Protection Measures" section of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 10. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services

NOAA, N/NGS12

National Geodetic Survey

SSMC-3, #9202

1315 East-West Highway

Silver Spring, Maryland 20910-3282

(301) 713-3242

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed on the FIRM Index.

BASE MAP INFORMATION: Base map information shown on the FIRM was derived from Coastal California LiDAR and Digital Imagery dated 2011. USDA NAIP 2012 imagery is used in areas not covered by the Coastal California imagery.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Marin County, USA, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to the FIRM Index to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Marin County, CA, effective March 16, 2015.

ACCREDITED LEVEE: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/national-flood-insurance-program.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

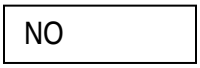
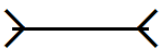
Figure 6. Map Legend for FIRM

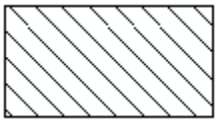
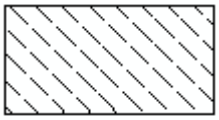
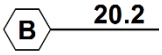
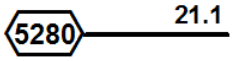
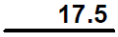
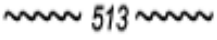
SPECIAL FLOOD HAZARD AREAS: *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*

	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.
	Regulatory Floodway determined in Zone AE.

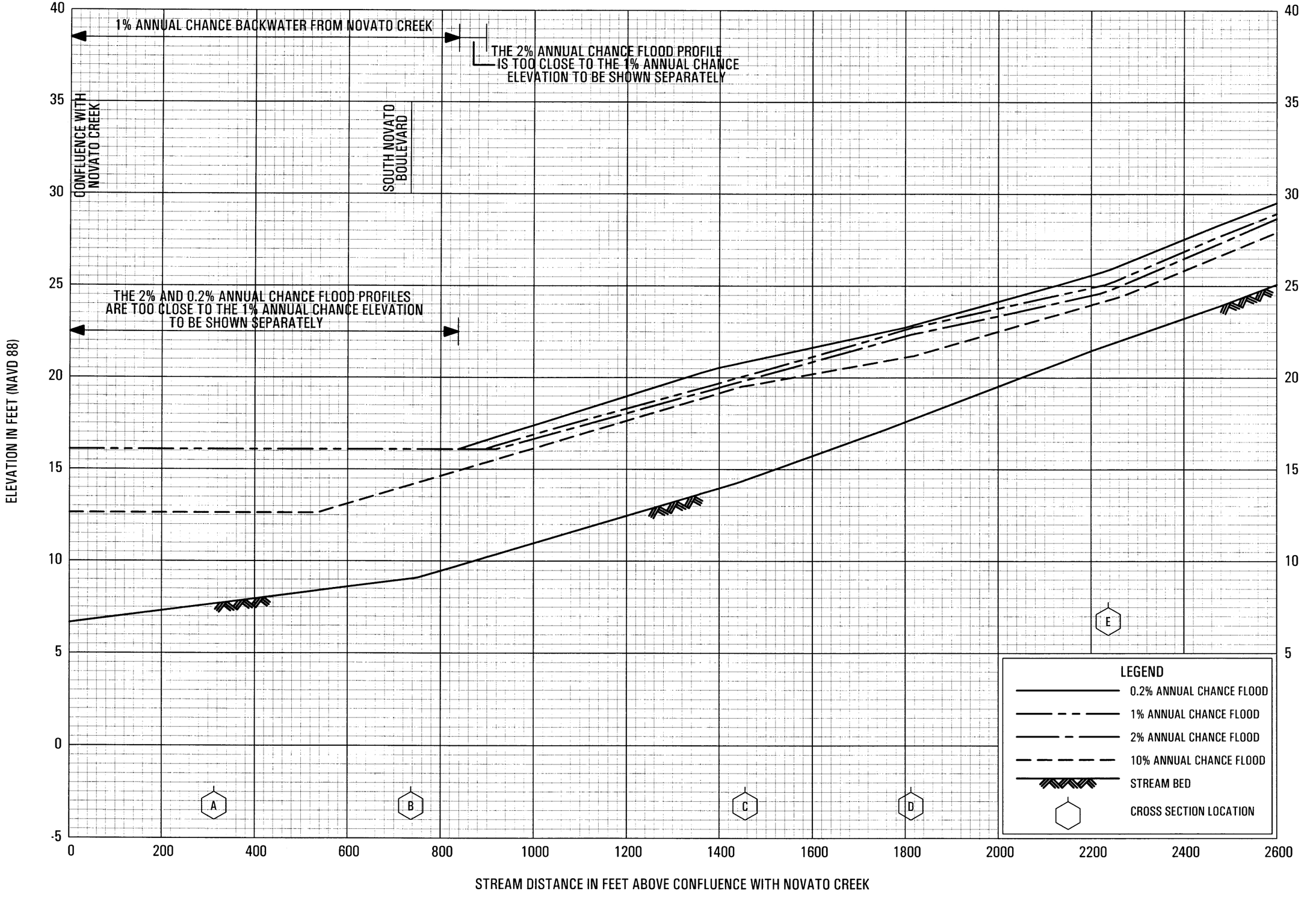
OTHER AREAS OF FLOOD HAZARD

	Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.

	Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.
	Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood. See Notes to Users for important information.
OTHER AREAS	
	Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.
	Unshaded Zone X: Areas of minimal flood hazard.
FLOOD HAZARD AND OTHER BOUNDARY LINES	
 (ortho) (vector)	Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)
	Limit of Study
	Jurisdiction Boundary
	Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet
GENERAL STRUCTURES	
Aqueduct *Channel* *Culvert* *Storm Sewer*	Channel, Culvert, Aqueduct, or Storm Sewer
Dam *Jetty* *Weir*	Dam, Jetty, Weir
	Levee, Dike, or Floodwall
 *Bridge*	Bridge
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): *CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.*	

 **CBRS AREA 09/30/2009**	Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.
 **OTHERWISE PROTECTED AREA 09/30/2009**	Otherwise Protected Area
REFERENCE MARKERS	
	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
	Base Flood Elevation Line
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity

BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
MAPLE LANE 	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
 *RAILROAD*	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}$E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)



FLOOD PROFILES

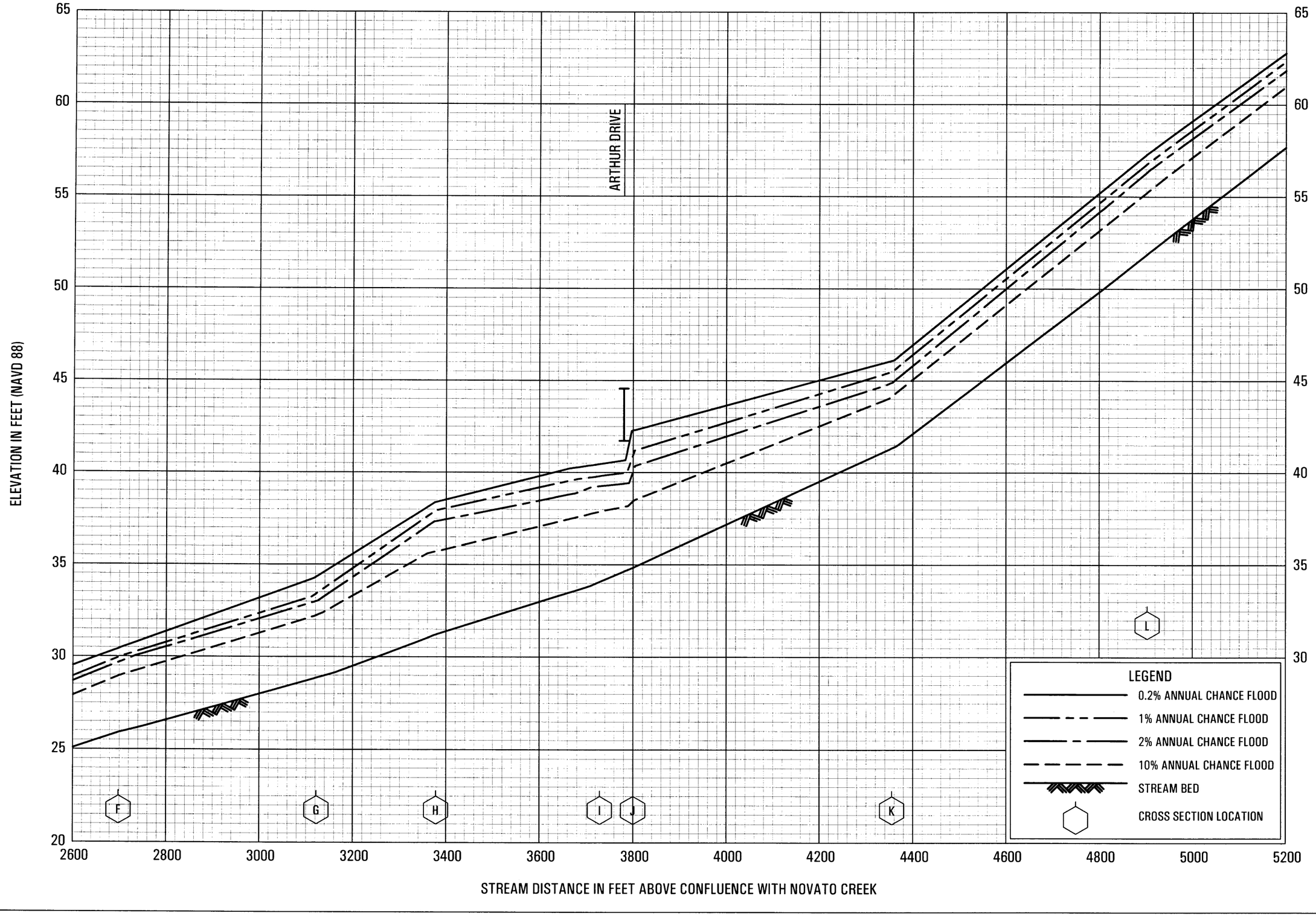
ARROYO AVICHI

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

01P



FLOOD PROFILES

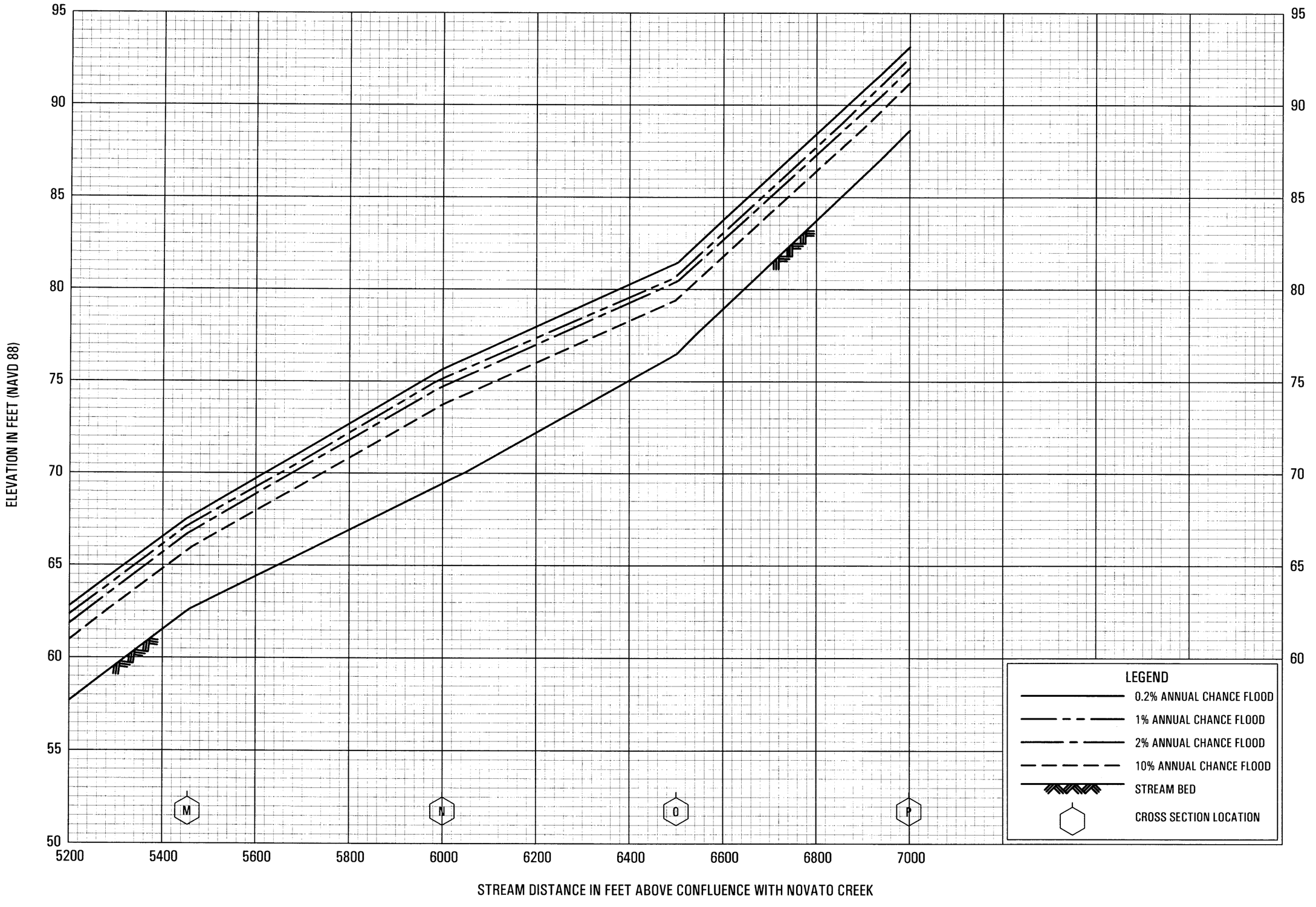
ARROYO AVICHI

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

02P



FLOOD PROFILES

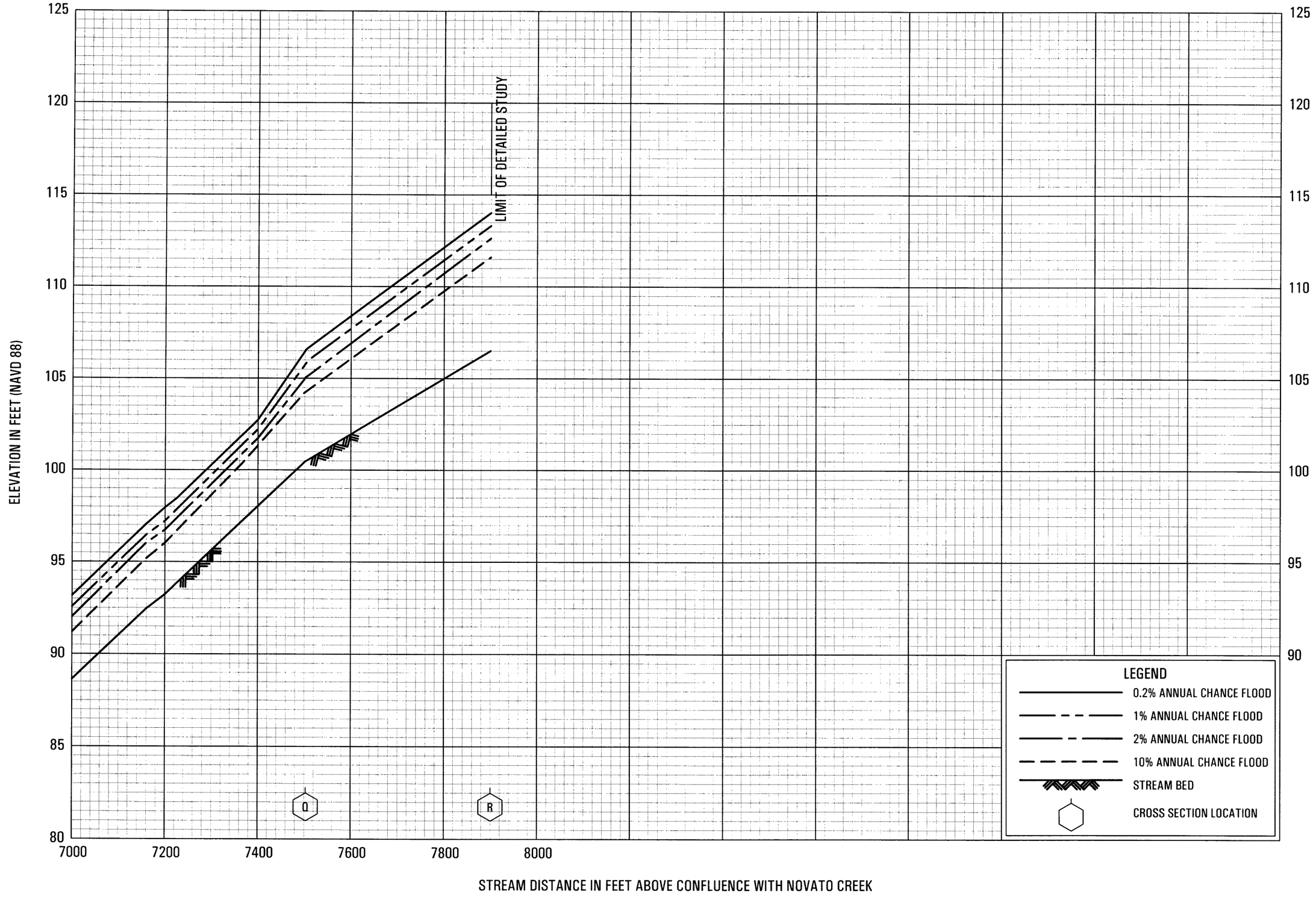
ARROYO AVICHI

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

03P



FLOOD PROFILES

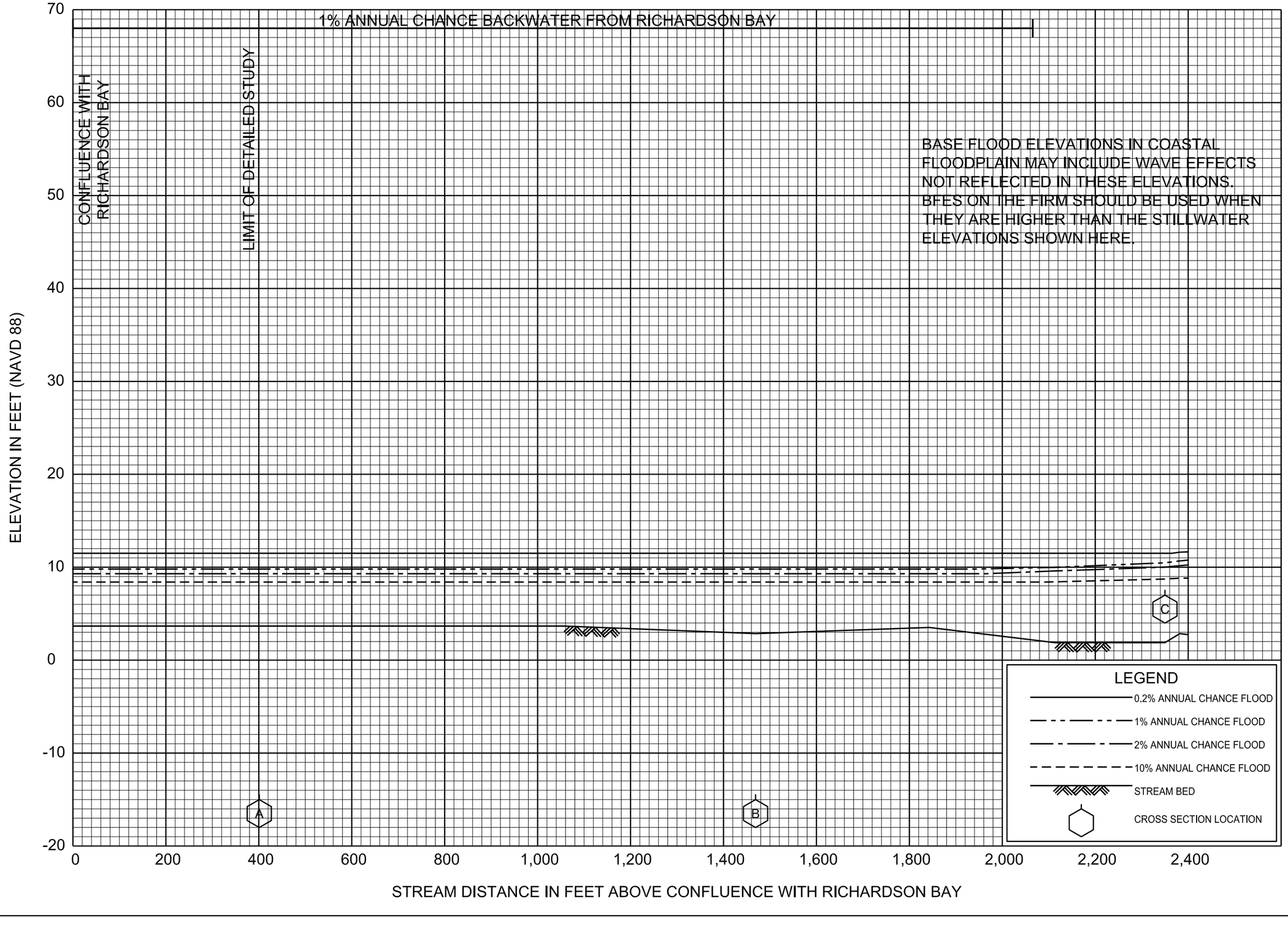
ARROYO AVICHI

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

04P



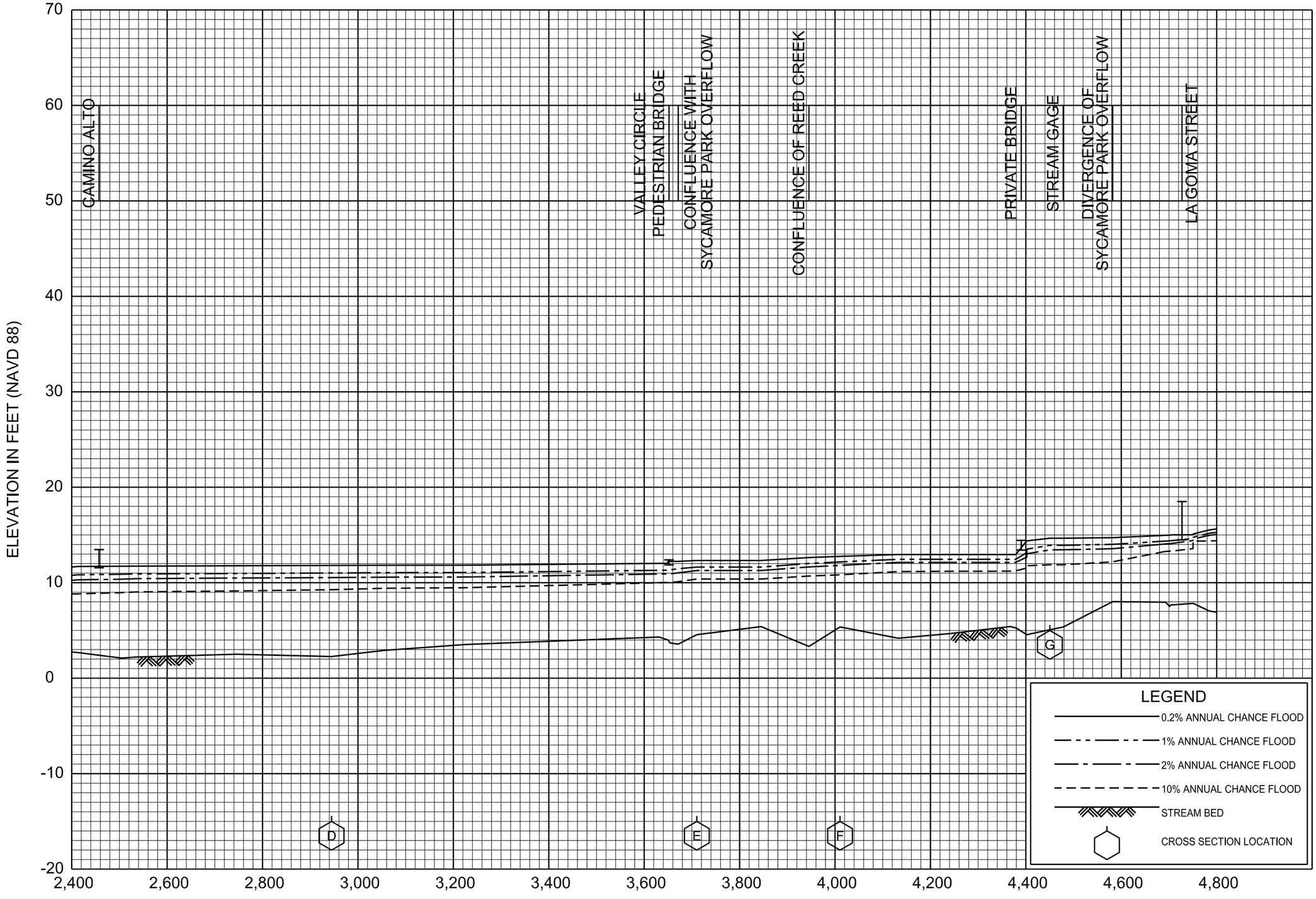
FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

05P



FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

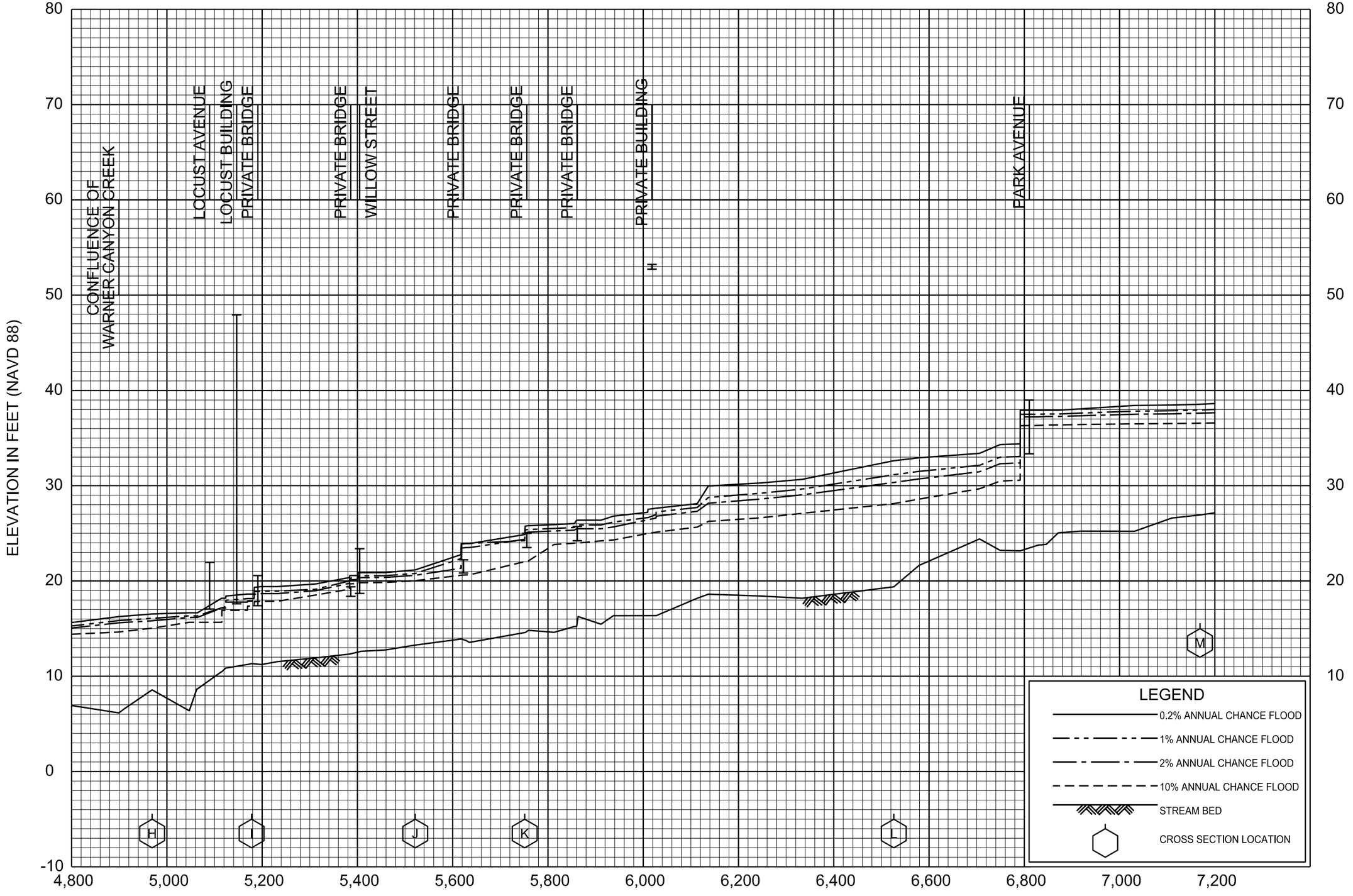
06P

FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS



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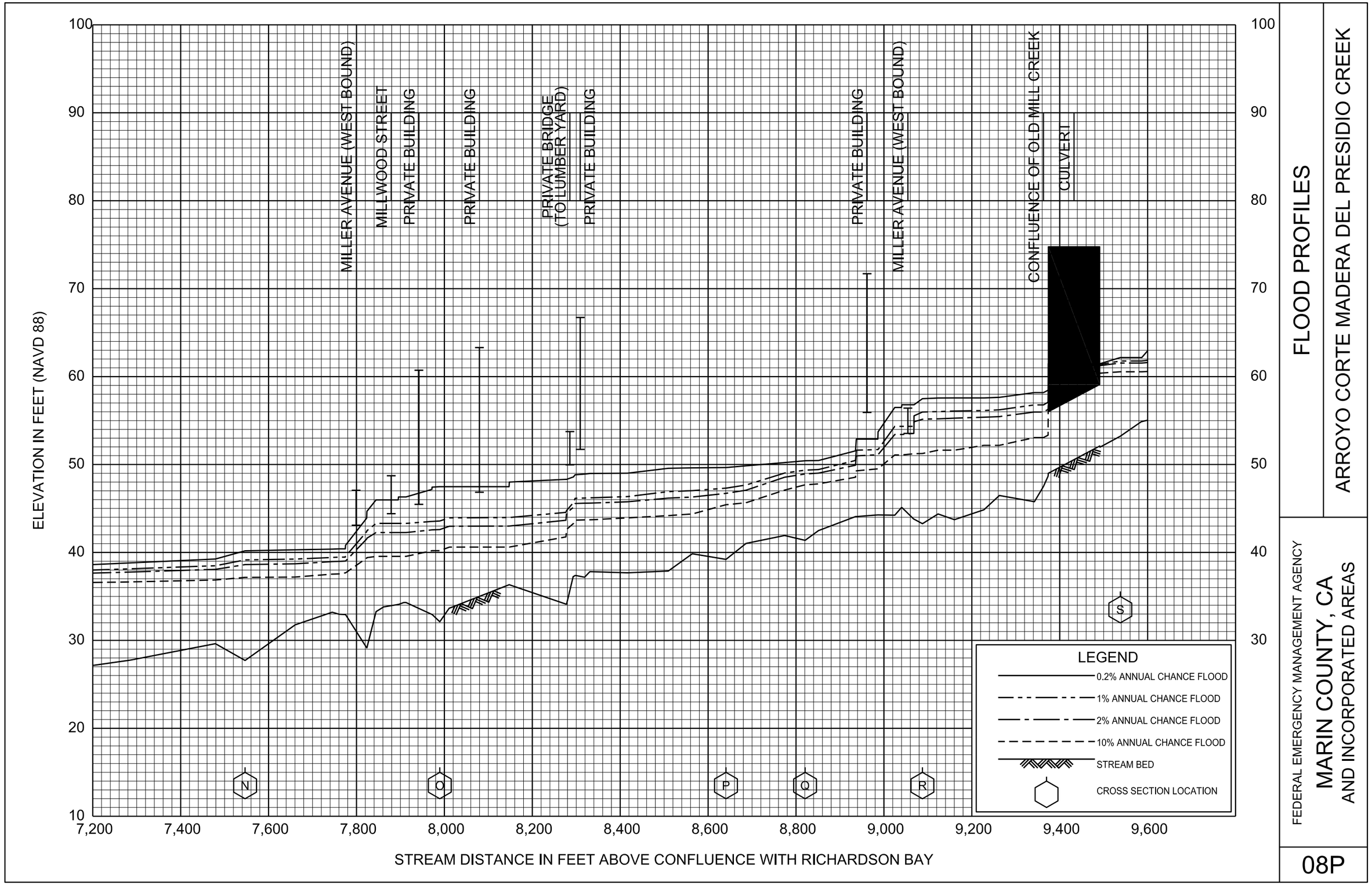


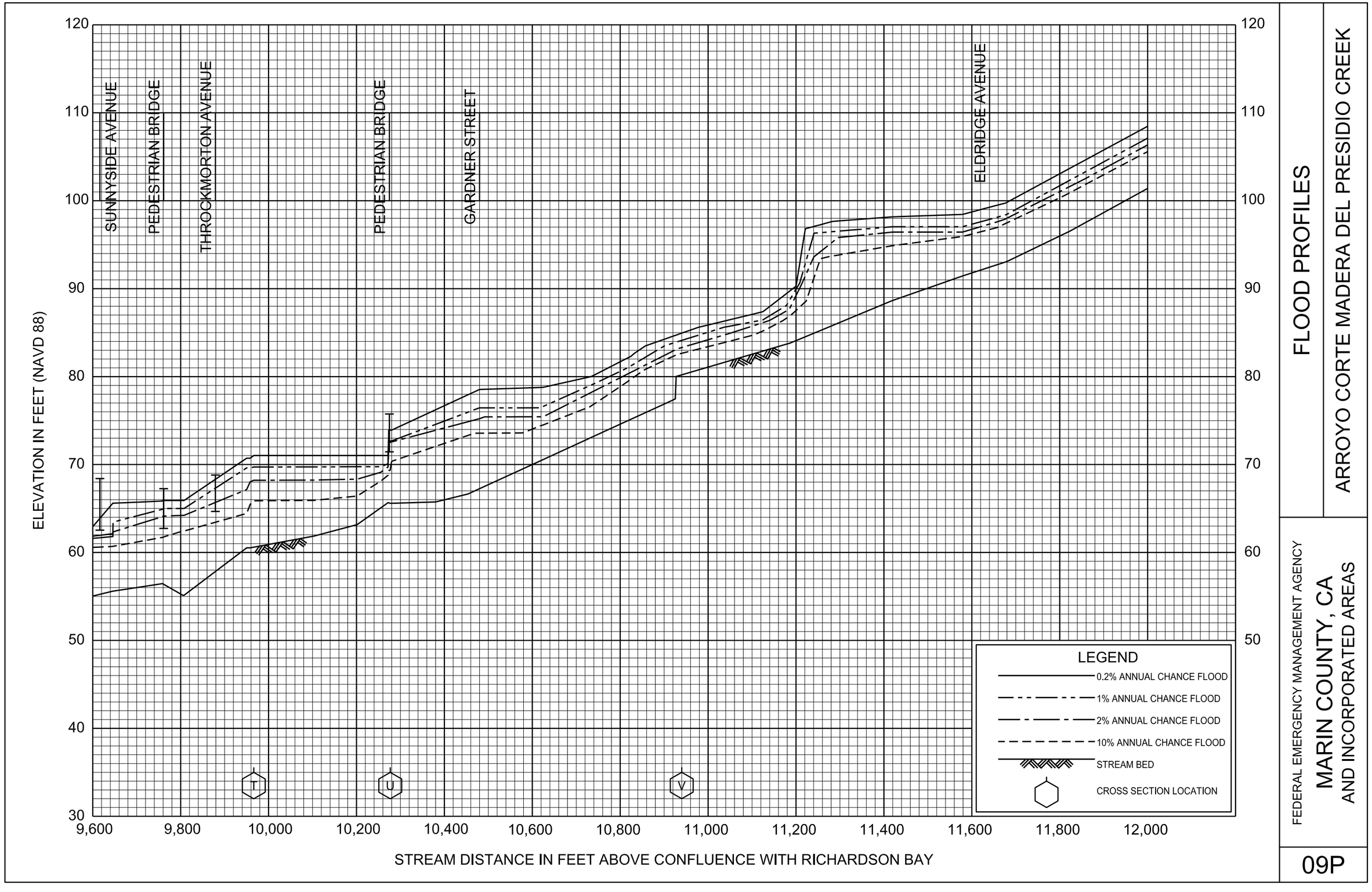
FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

08P



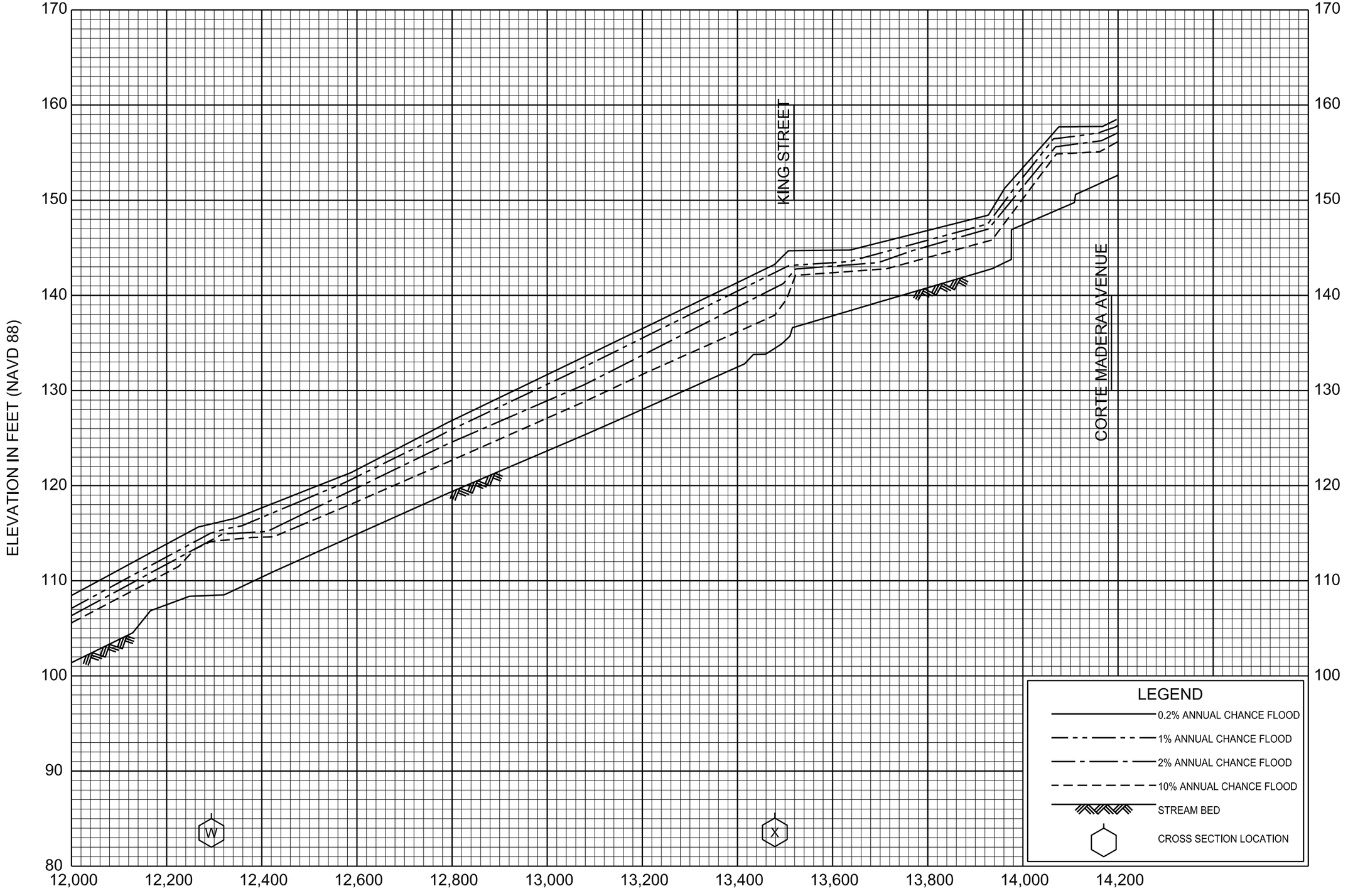
FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

09P



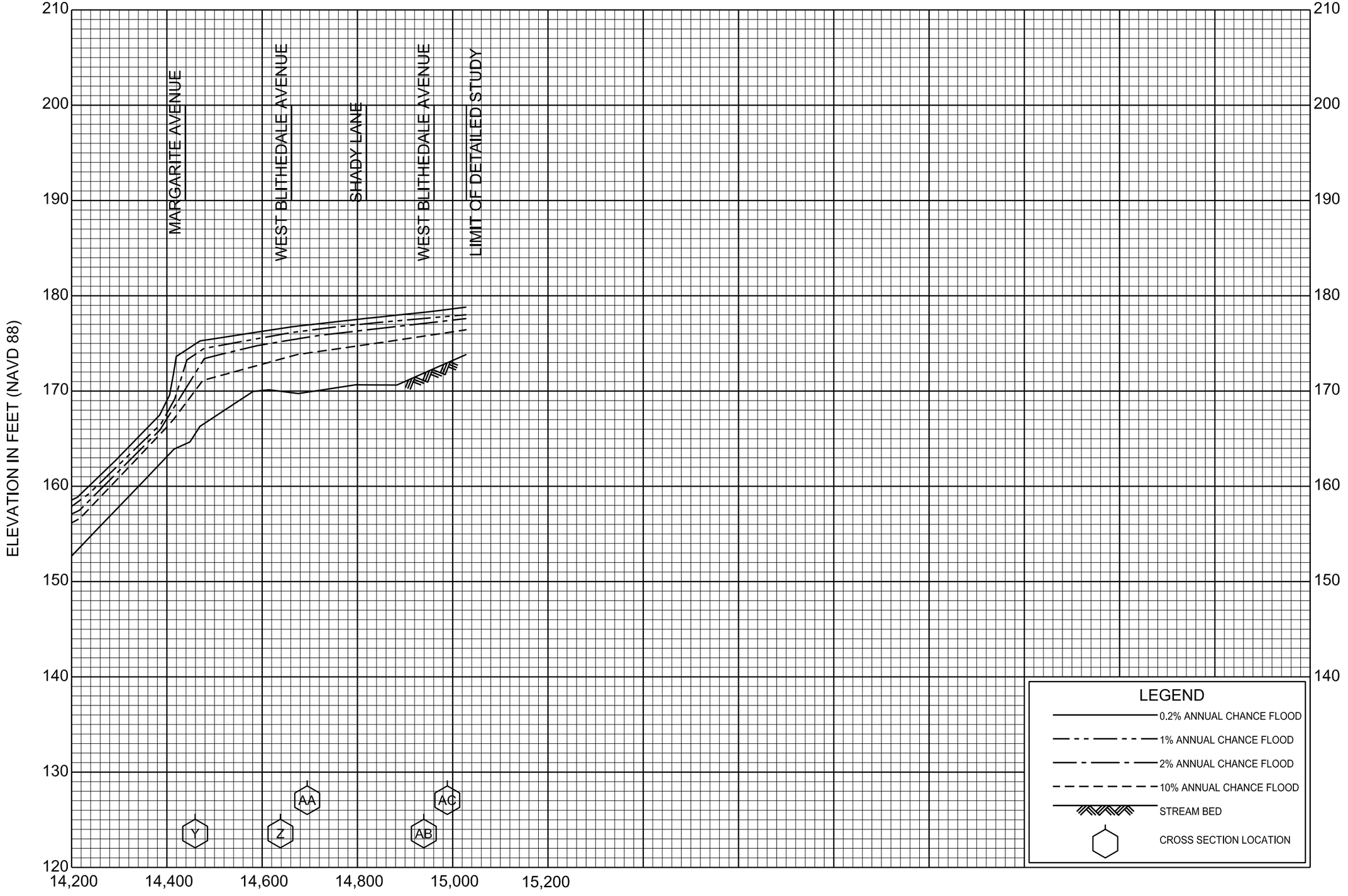
FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

09P(a)



FLOOD PROFILES

ARROYO CORTE MADERA DEL PRESIDIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

09P(b)

FLOODING CONTROLLED BY SAN RAFAEL BAY

CONFLUENCE WITH PONDING AREA

BEL MARIN KEYS

RAILROAD

U.S. HIGHWAY 101

IGNACIO BOULEVARD

CULVERT

CULVERT

CULVERT

A

B

C

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

CROSS SECTION LOCATION

ELEVATION IN FEET (NAVD 88)

70
60
50
40
30
20
10
0
−10
−20

12,800
13,200
13,600
14,000
14,400
14,800
15,200
15,600
16,000
16,400
16,800
17,200
17,600
18,000

STREAM DISTANCE IN FEET ABOVE MOUTH

FLOOD PROFILES

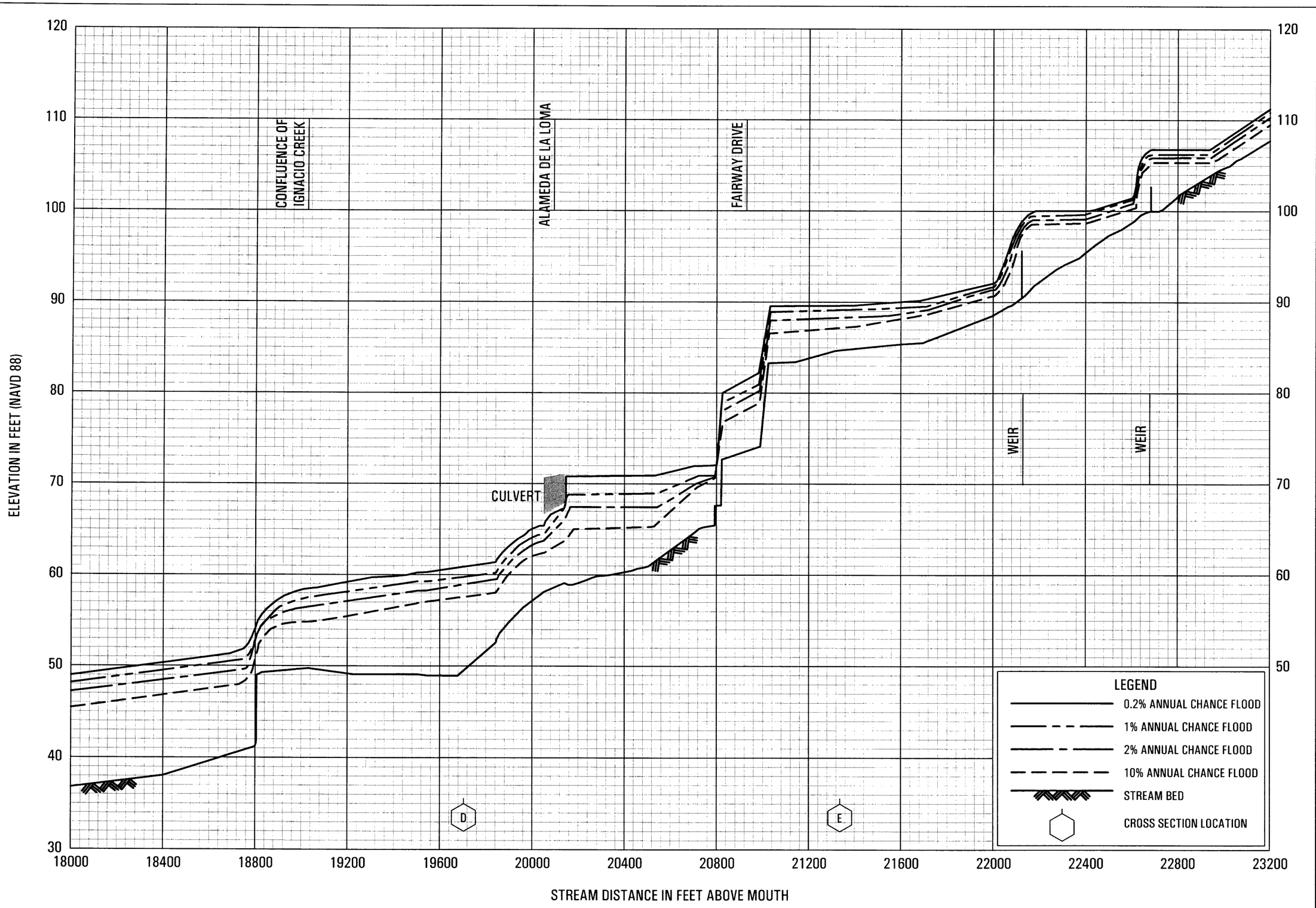
ARROYO SAN JOSE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

10P



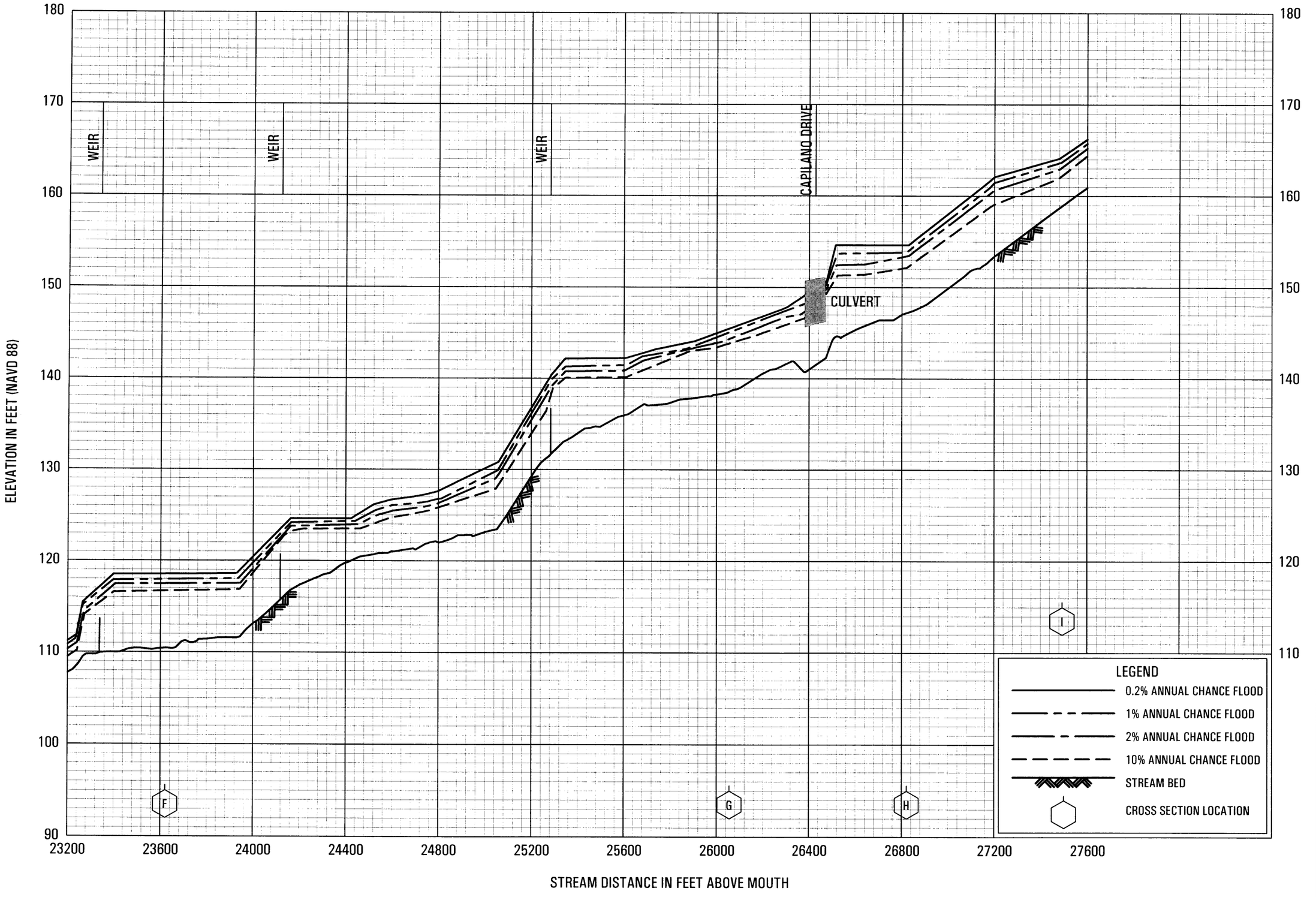
FLOOD PROFILES

ARROYO SAN JOSE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



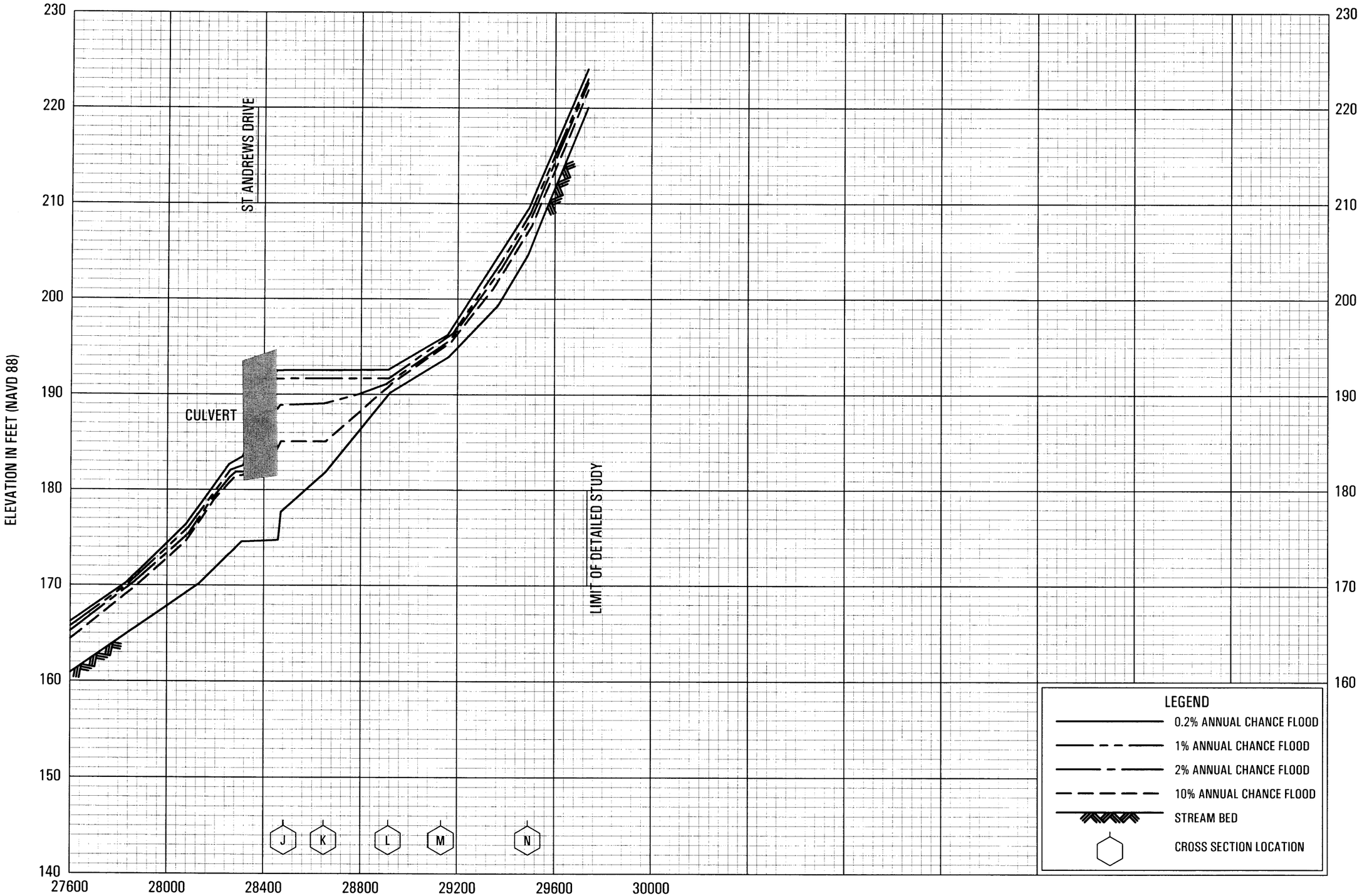
FLOOD PROFILES

ARROYO SAN JOSE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



FLOOD PROFILES

ARROYO SAN JOSE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

13P

1% ANNUAL CHANCE BACKWATER FROM SAN FRANCISCO BAY

LIMIT OF DETAILED STUDY

U.S. HIGHWAY 101

ELEVATION IN FEET (NAVD 88)

20
15
10
5
0
-5
-10
-15
-20
-25

-4,000 -3,500 -3,000 -2,500 -2,000 -1,500 -1,000 -500 0 500 1,000 1,500 2,000

STREAM DISTANCE IN FEET ABOVE U.S. HIGHWAY 101

A

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

CORTE MADERA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

14P

1% ANNUAL CHANCE BACKWATER FROM SAN FRANCISCO BAY

BON AIR ROAD

ELEVATION IN FEET (NAVD 88)

25
20
15
10
5
0
-5
-10
-15
-20

2,000 2,500 3,000 3,500 4,000 4,500 5,000 5,500 6,000 6,500 7,000 7,500 8,000

STREAM DISTANCE IN FEET ABOVE U.S. HIGHWAY 101

B

LEGEND

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

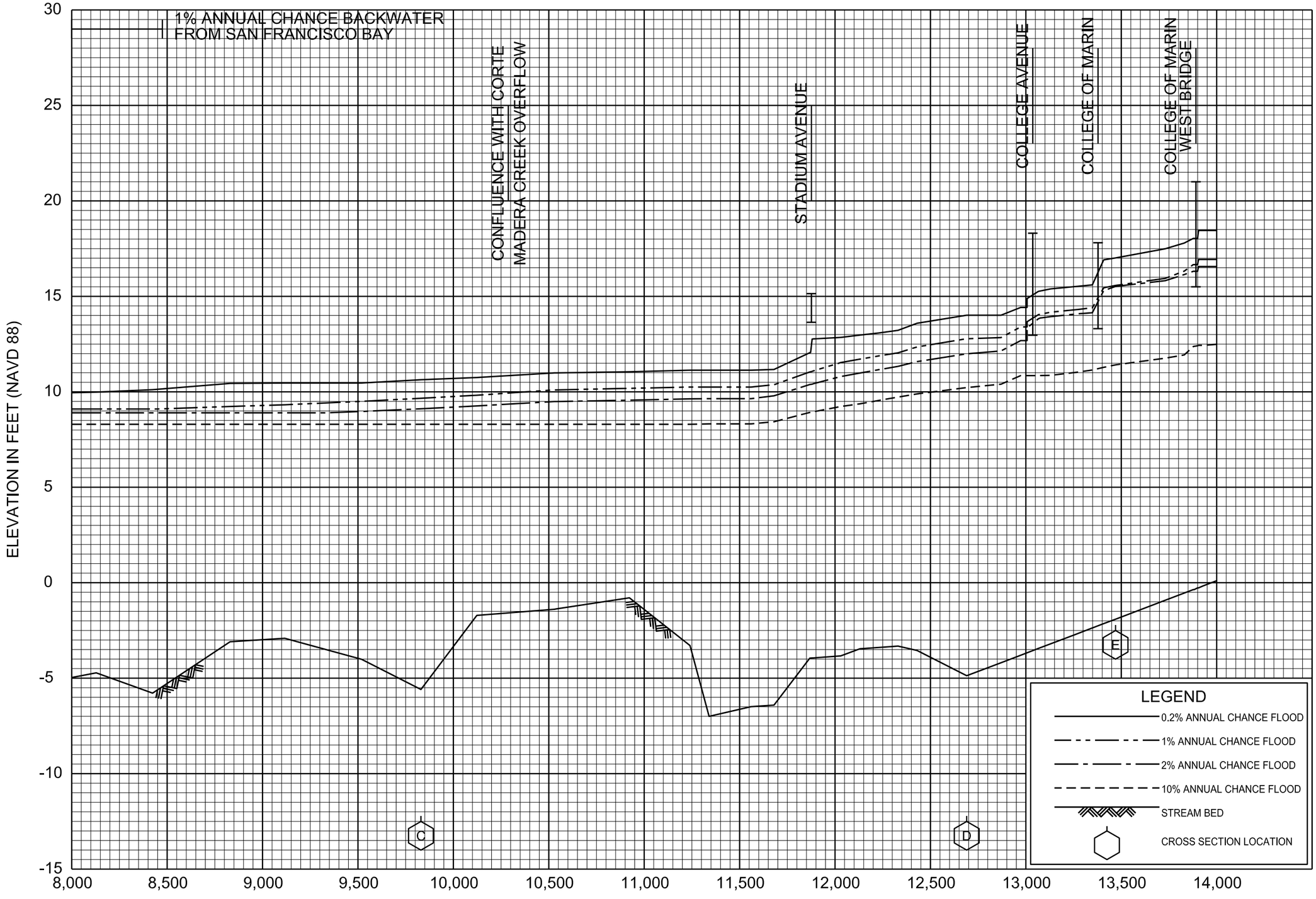
FLOOD PROFILES

CORTE MADERA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

14P(a)



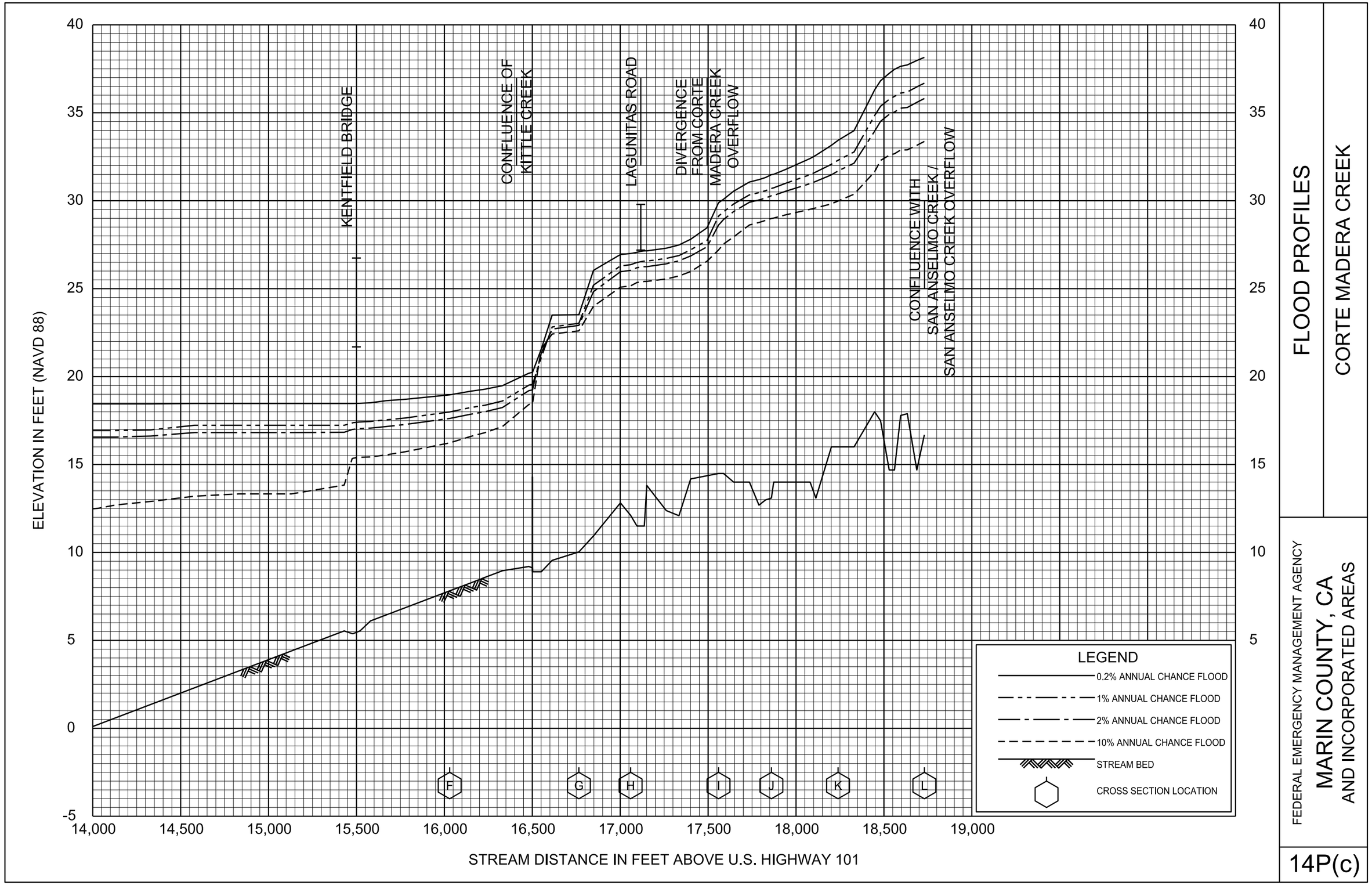
FLOOD PROFILES

CORTE MADERA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

14P(b)



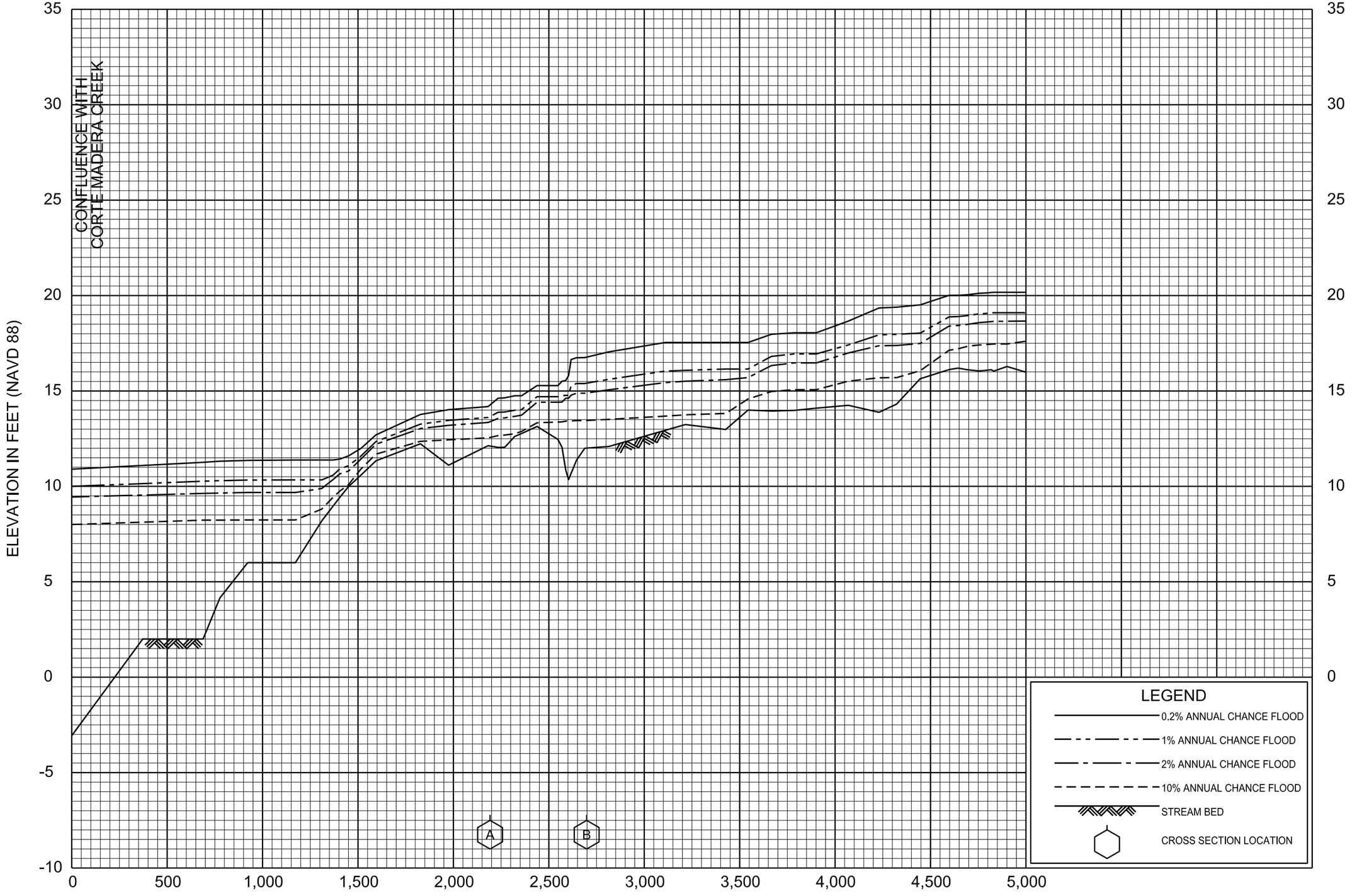
FLOOD PROFILES

CORTE MADERA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

14P(c)



FLOOD PROFILES

CORTE MADERA CREEK OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD 88)

55
50
45
40
35
30
25
20
15
10

DIVERGENCE FROM
CORTE MADERA CREEK

C
D

5,000
5,500
6,000
6,500
7,000
7,500
8,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH CORTE MADERA CREEK

LEGEND

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

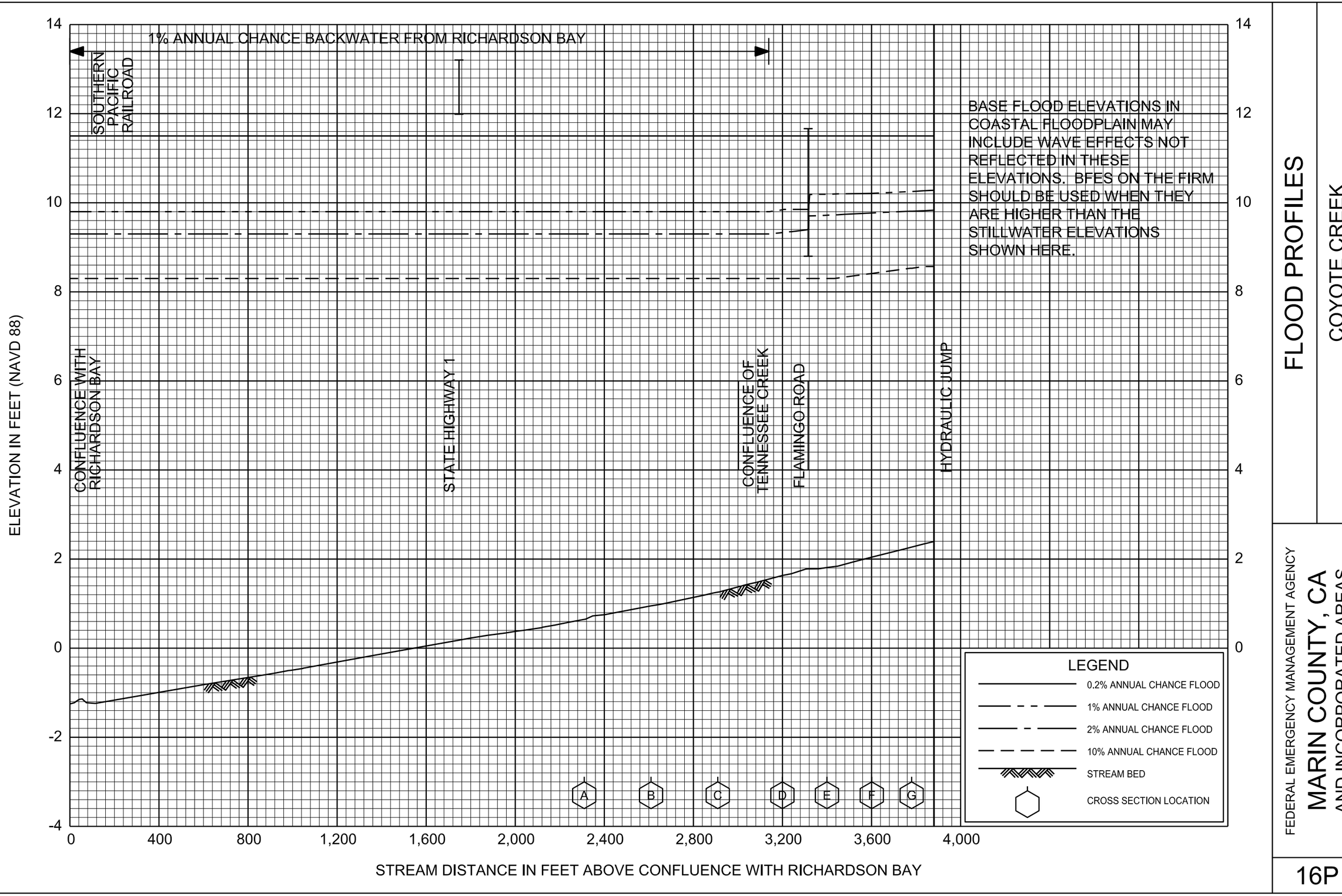
FLOOD PROFILES

CORTE MADERA CREEK OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

15P(a)



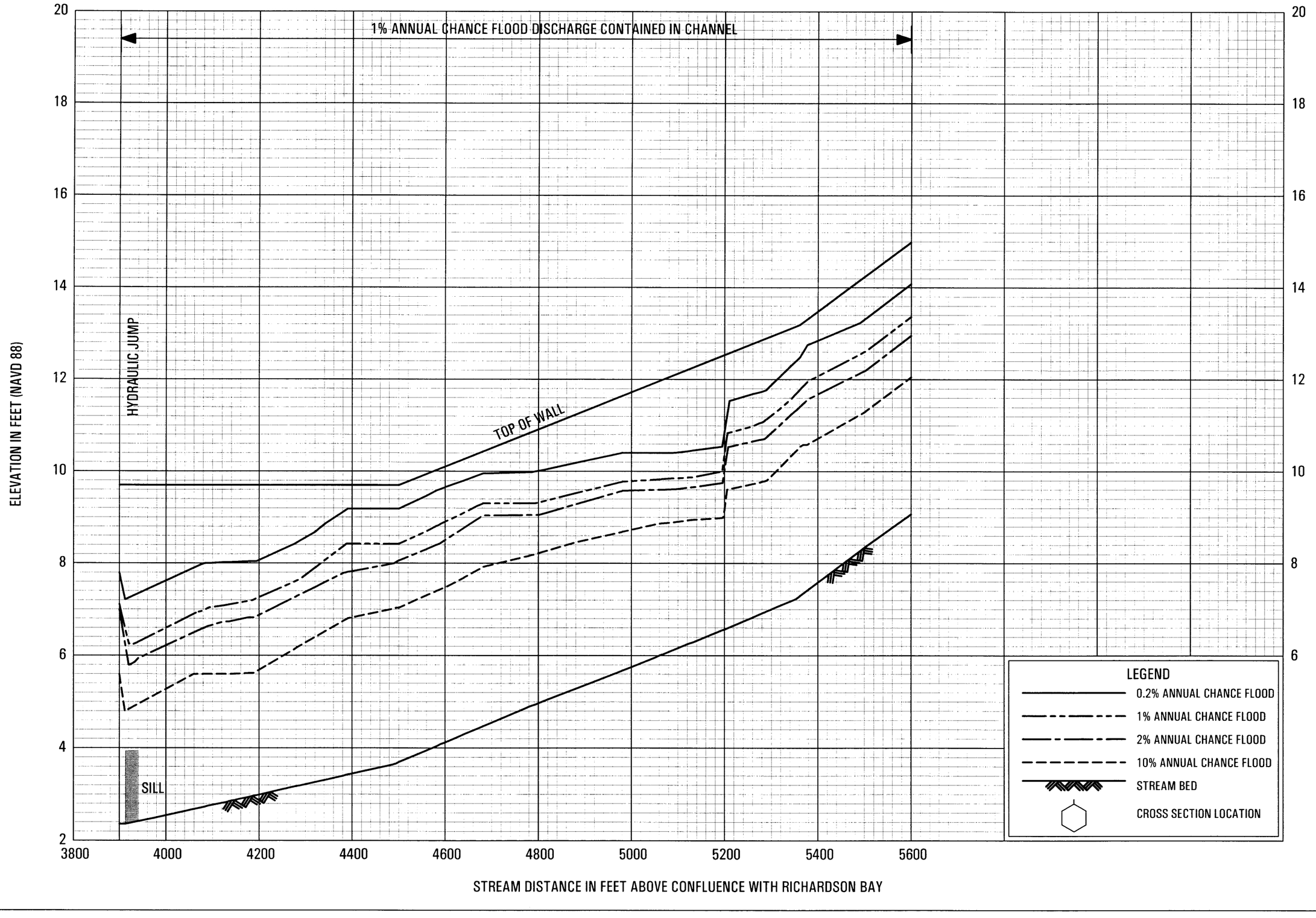
FLOOD PROFILES

COYOTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

16P



FLOOD PROFILES

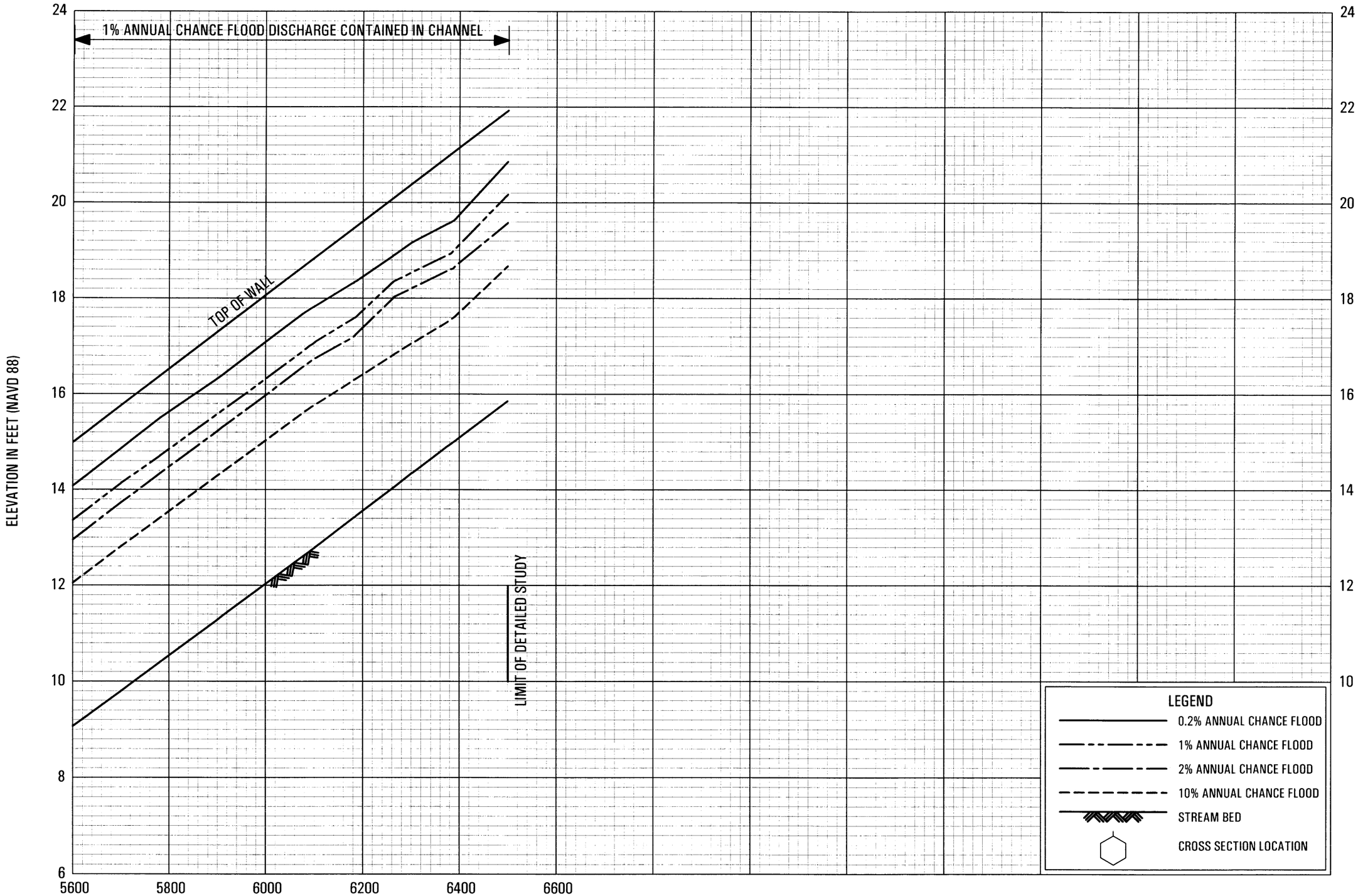
COYOTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCOPORATED AREAS

17P



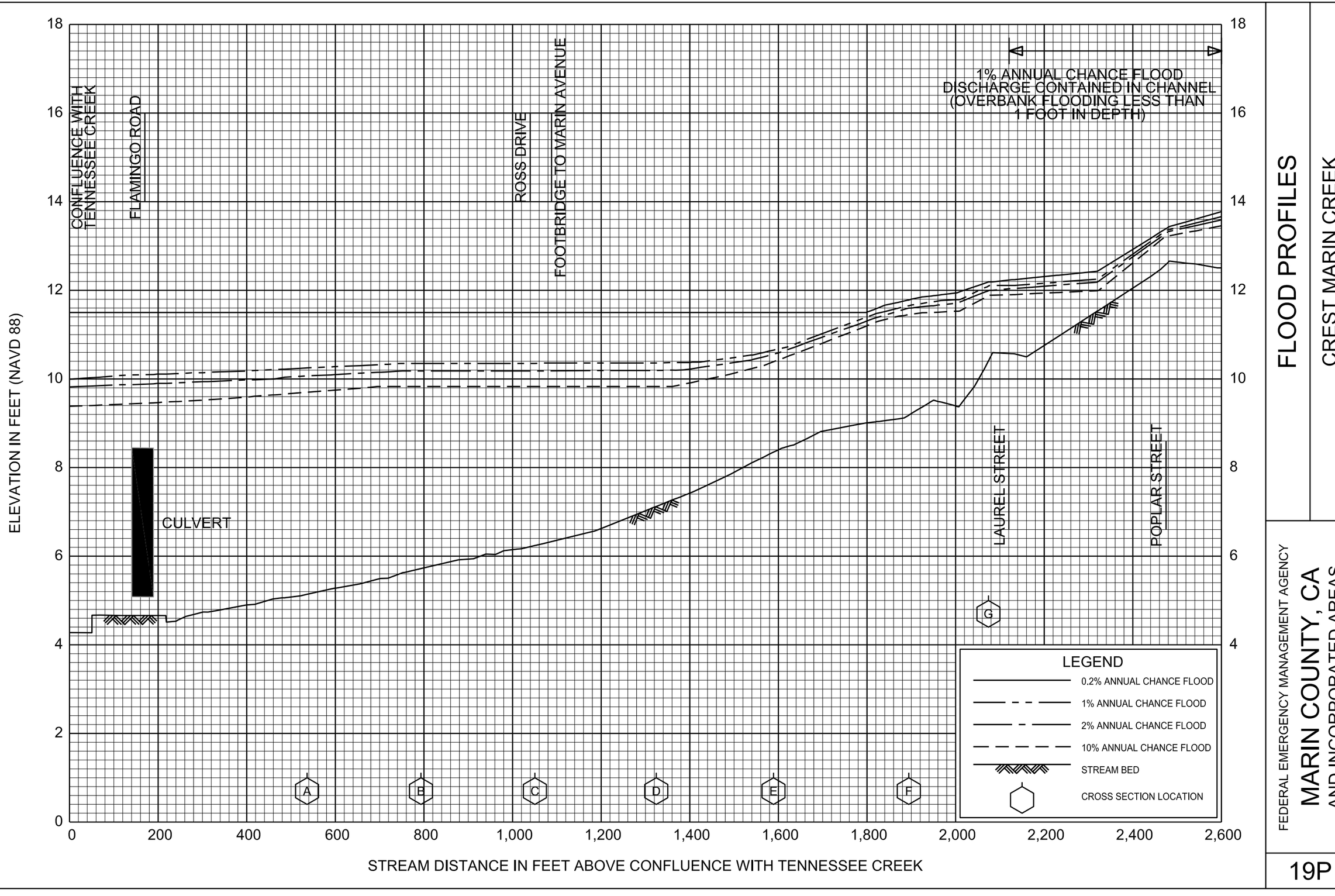
FLOOD PROFILES

COYOTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCOPORATED AREAS

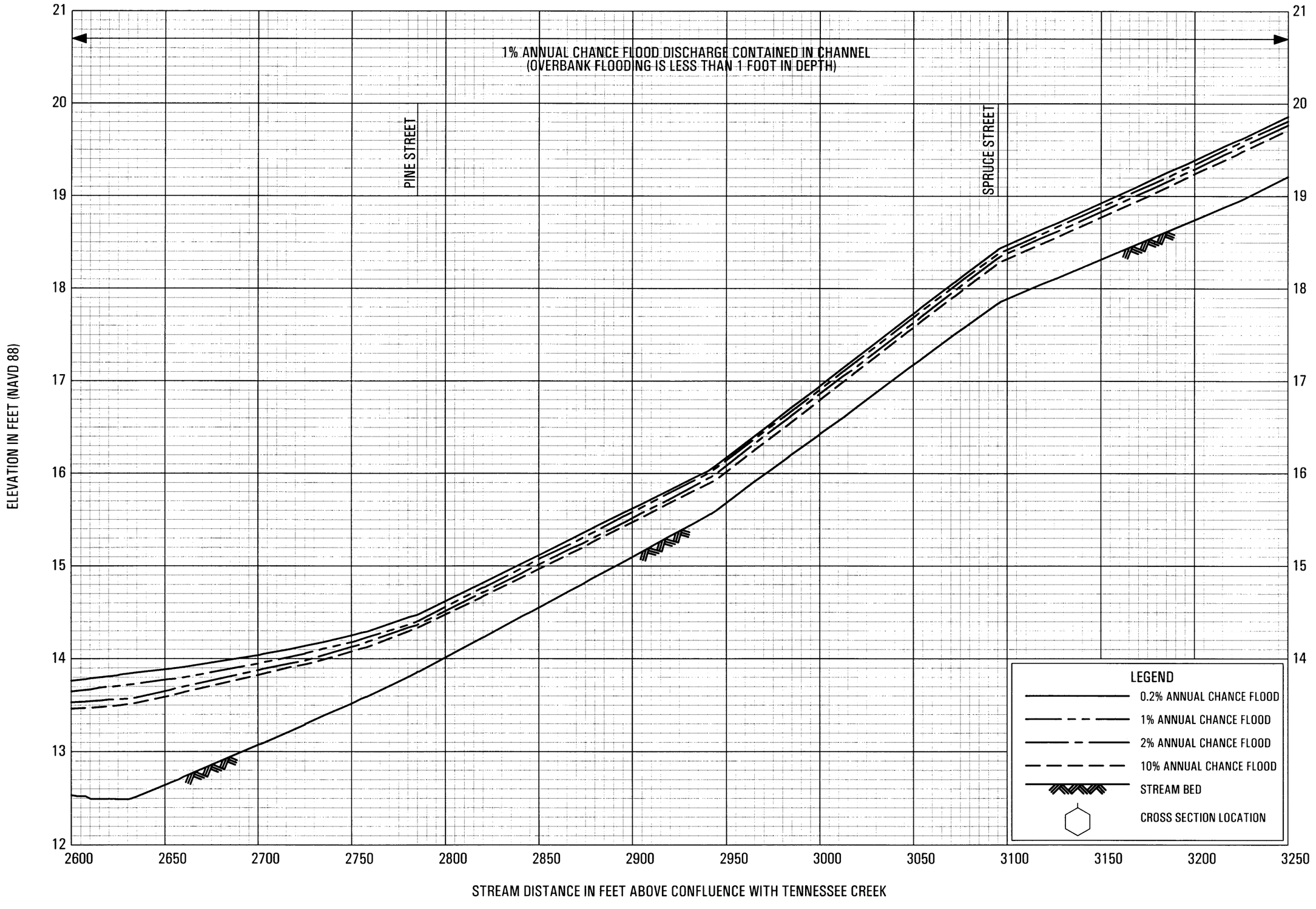


FLOOD PROFILES

CREST MARIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS



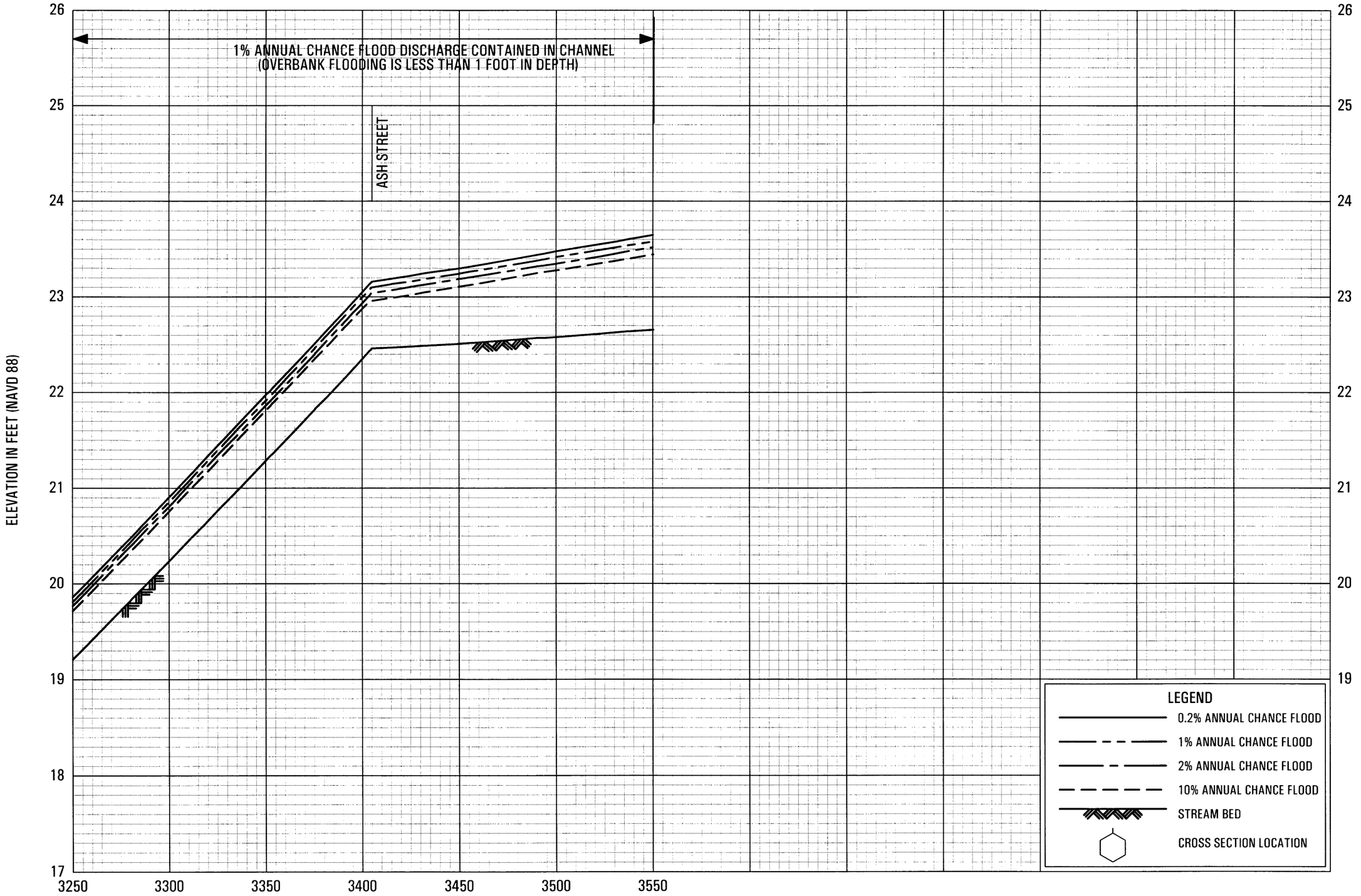
FLOOD PROFILES

CREST MARIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



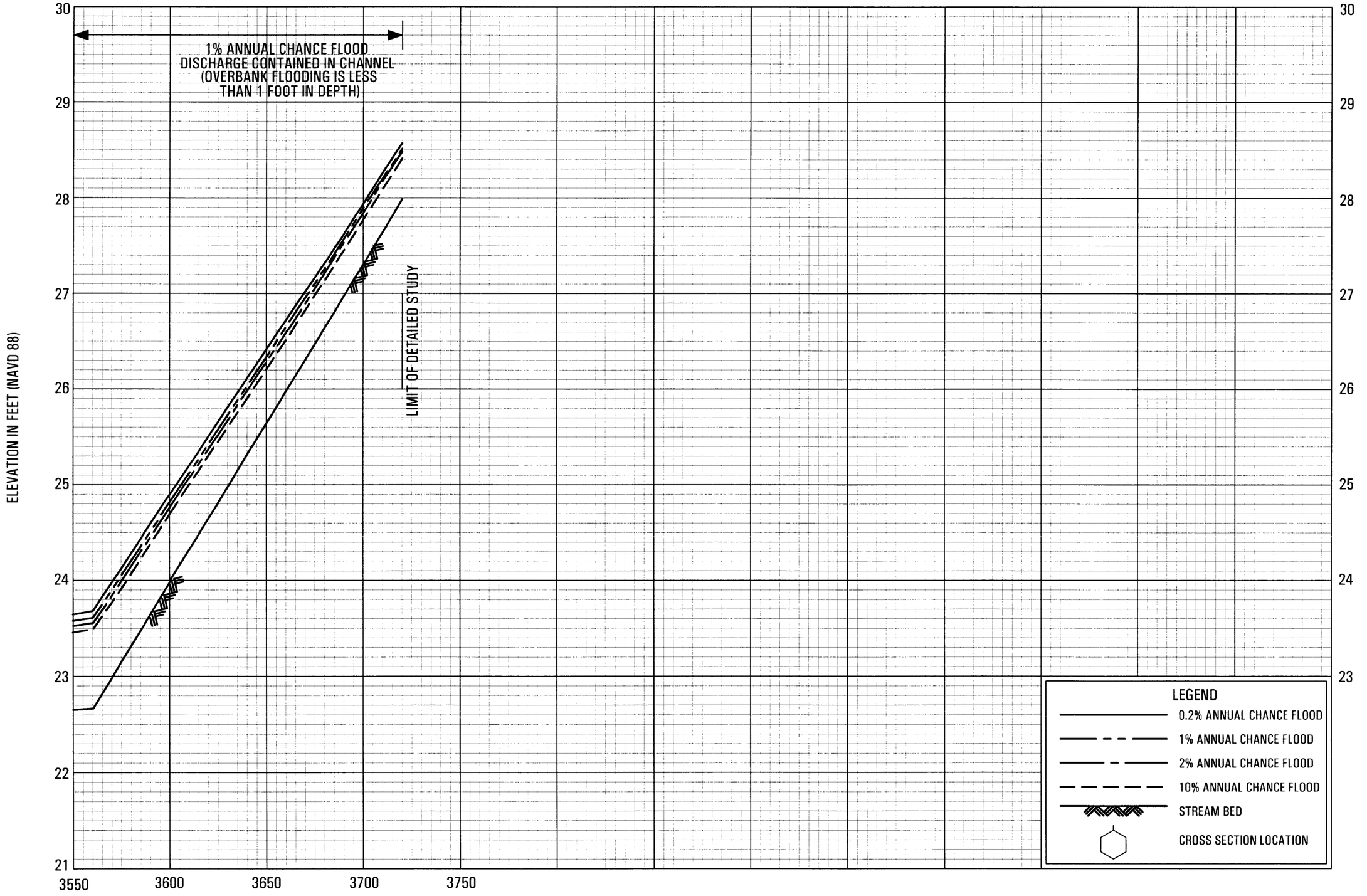
FLOOD PROFILES

CREST MARIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



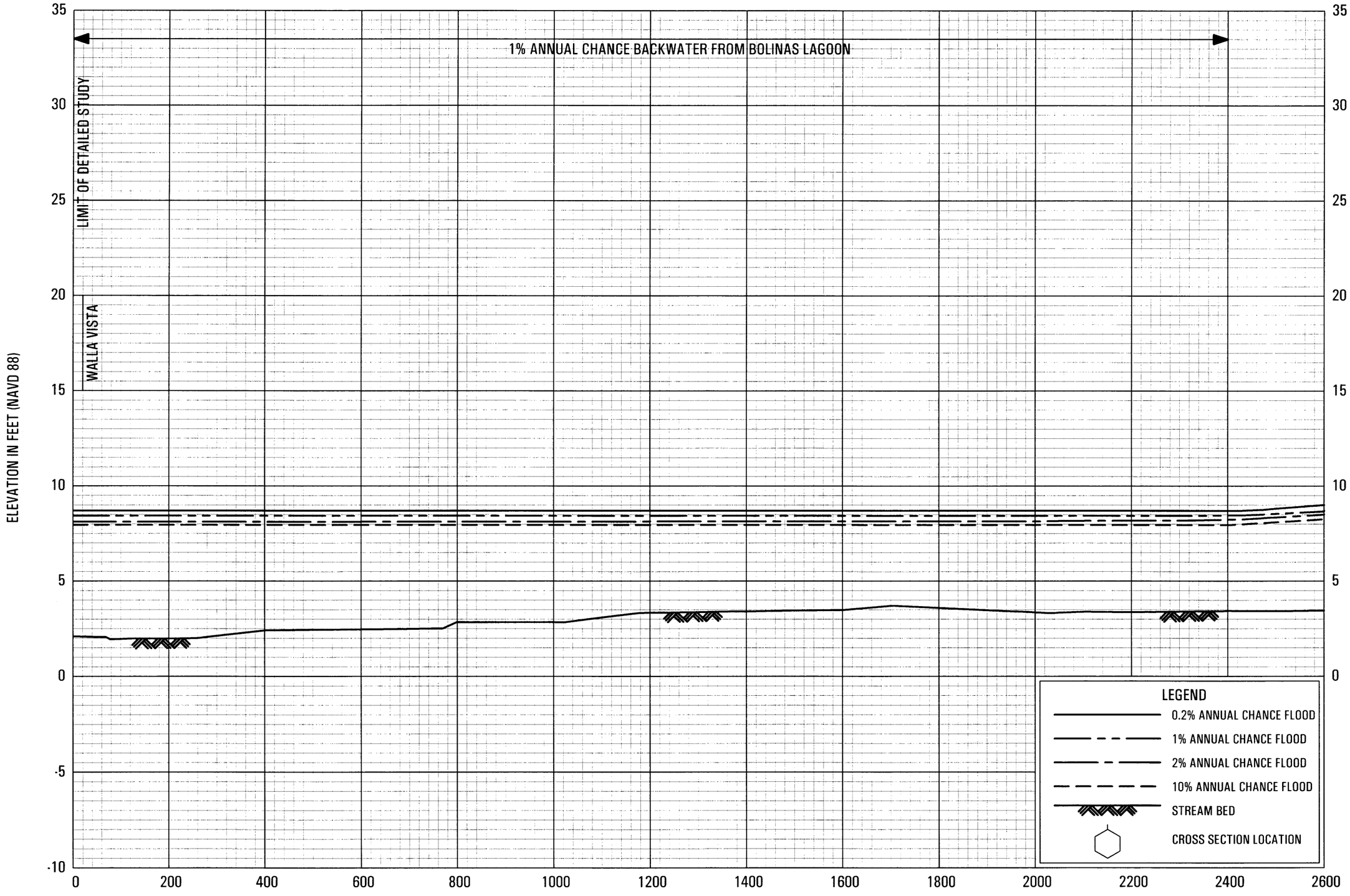
FLOOD PROFILES

CREST MARIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



*LIMIT OF DETAILED STUDY APPROXIMATELY 20 FEET DOWNSTREAM OF WALLA VISTA

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

FLOOD PROFILES

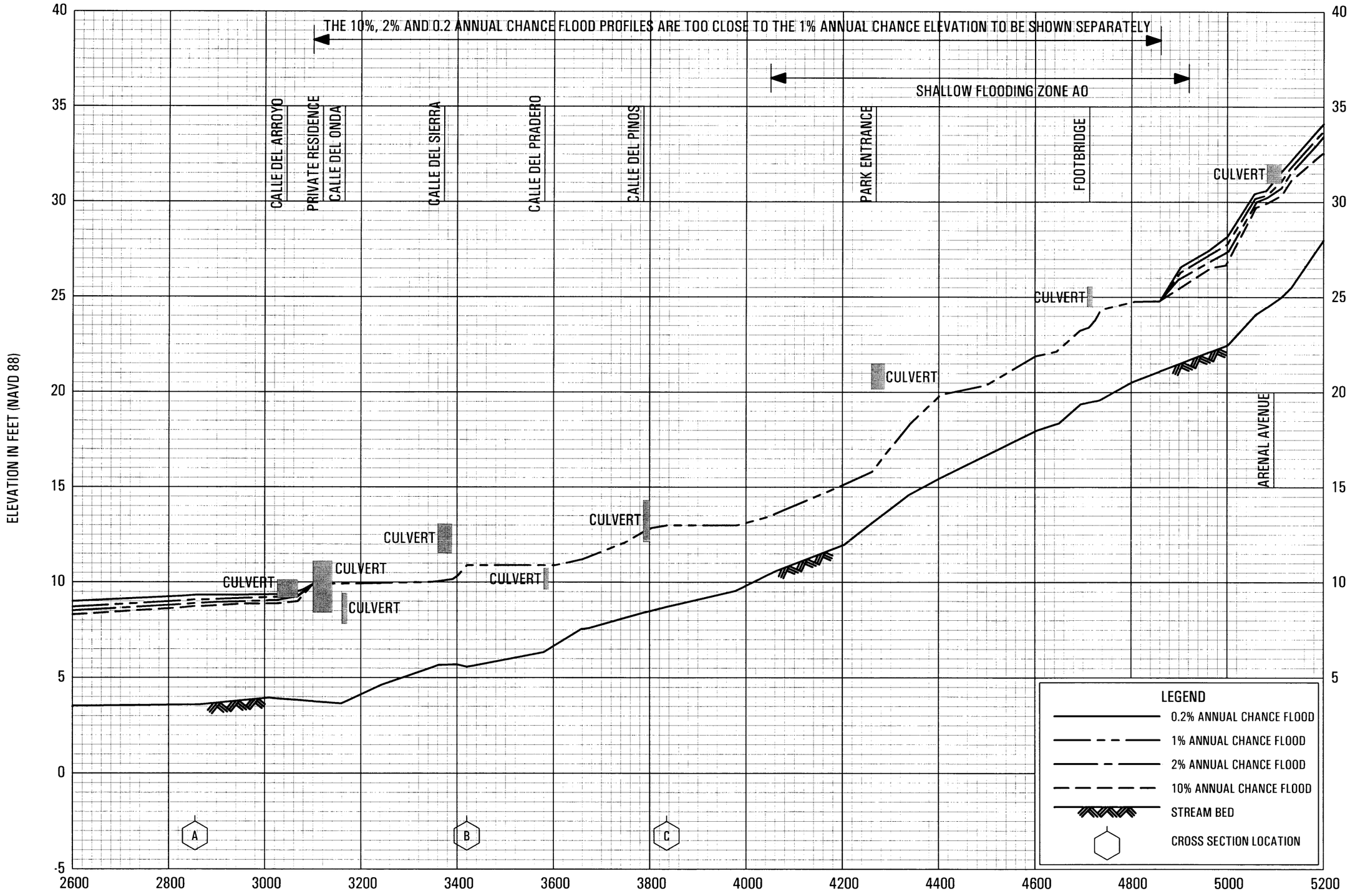
ESKOOT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

23P



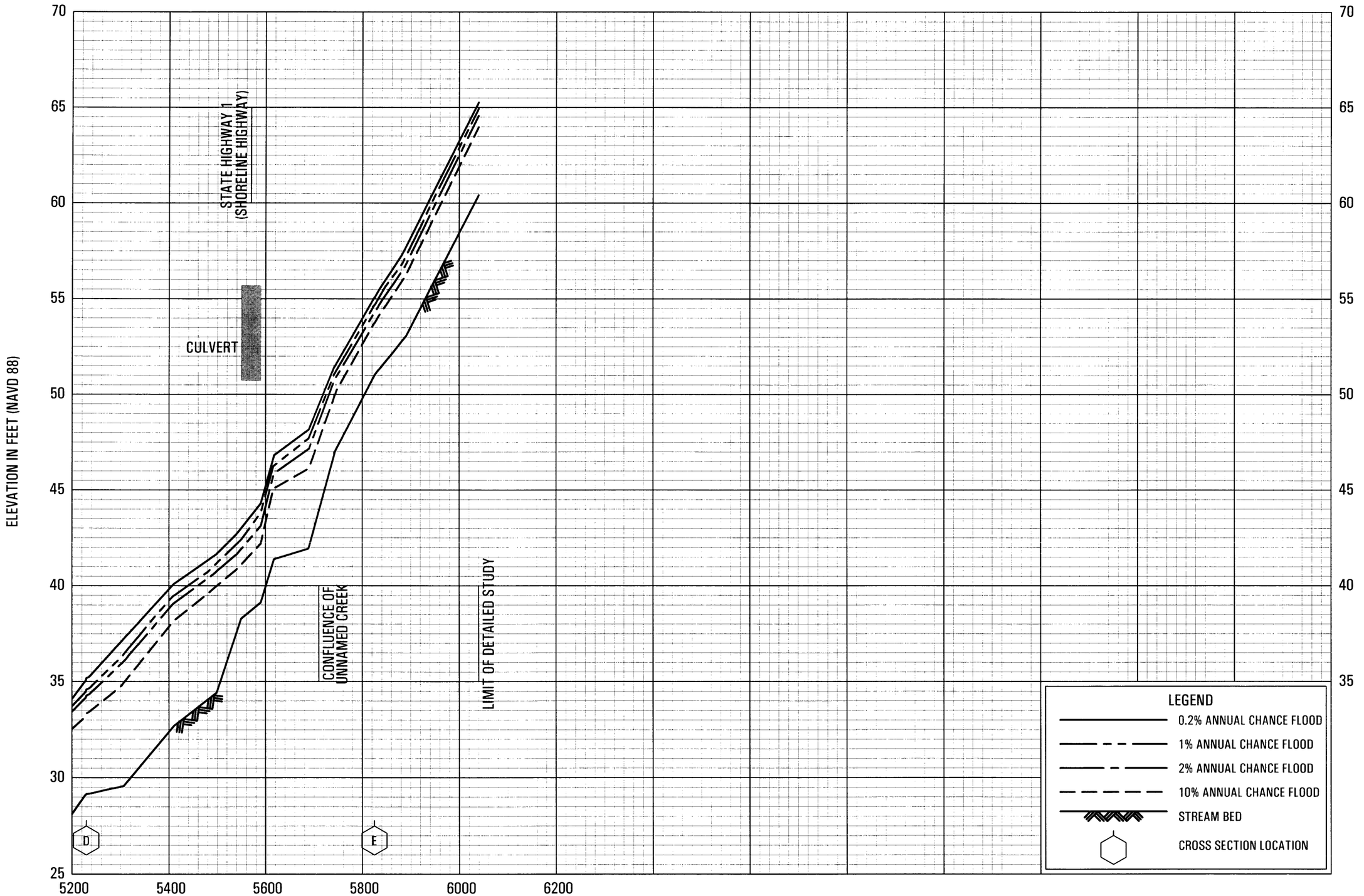
FLOOD PROFILES

ESKOOT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



*LIMIT OF DETAILED STUDY APPROXIMATELY 20 FEET DOWNSTREAM OF WALLA VISTA

FLOOD PROFILES

ESKOOT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD 88)

160
150
140
130
120
110
100
90
80
70

CONFLUENCE WITH SAN ANSELMO CREEK
SHERMAN AVENUE
DIVERGENCE FROM FAIRFAX CREEK OVERFLOW
POLICE STATION
MERWYN AVENUE
SPRUCE ROAD
AZALEA AVENUE

0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH SAN ANSELMO CREEK

A B C D E F G H I J K

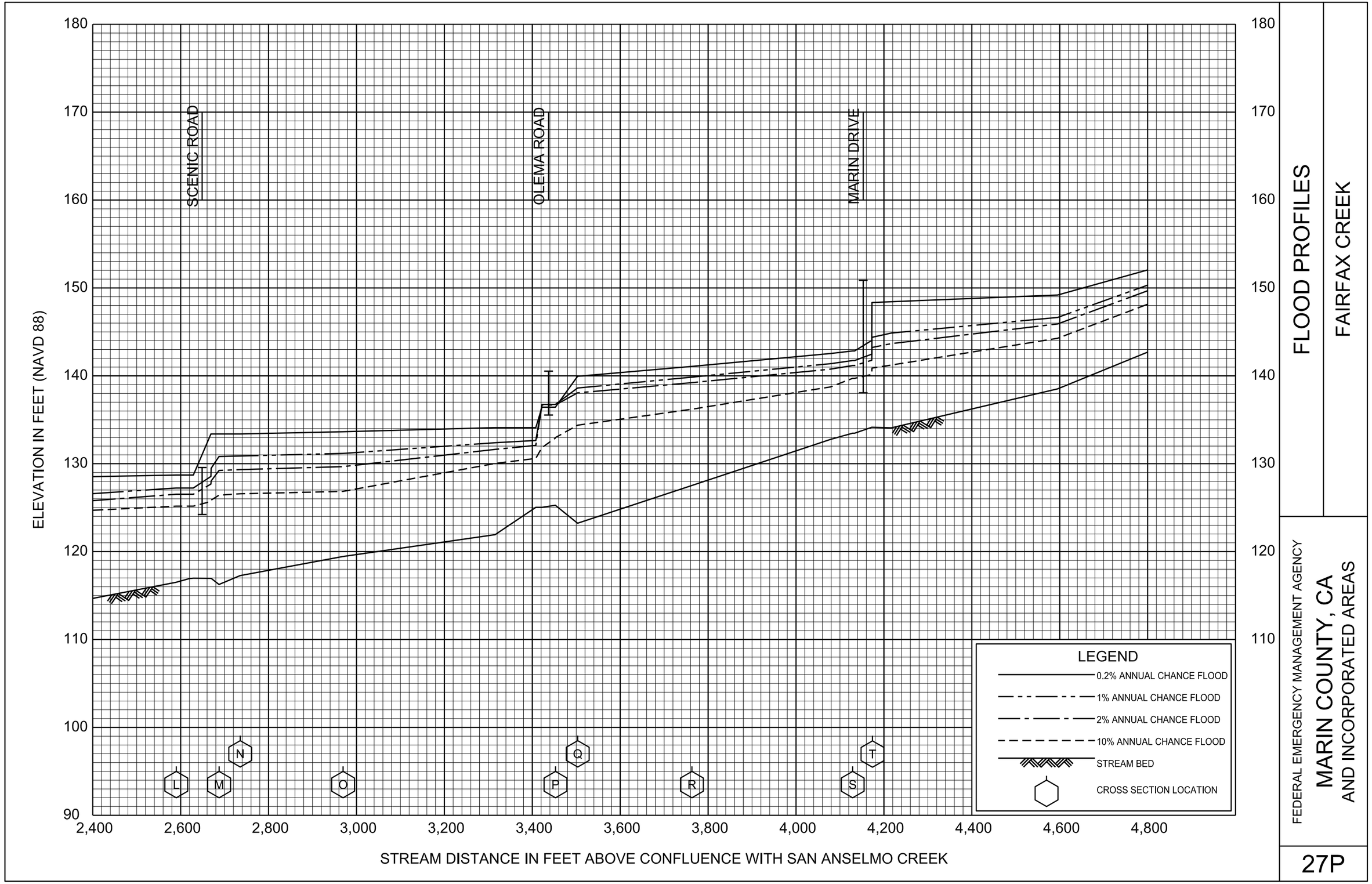
LEGEND
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

FAIRFAX CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS



FLOOD PROFILES

FAIRFAX CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

27P

ELEVATION IN FEET (NAVD 88)

210
200
190
180
170
160
150
140
130
120

4,800 5,000 5,200 5,400 5,600 5,800 6,000 6,200 6,400 6,600 6,800 7,000 7,200

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH SAN ANSELMO CREEK

U V W X Y Z AA

LEGEND

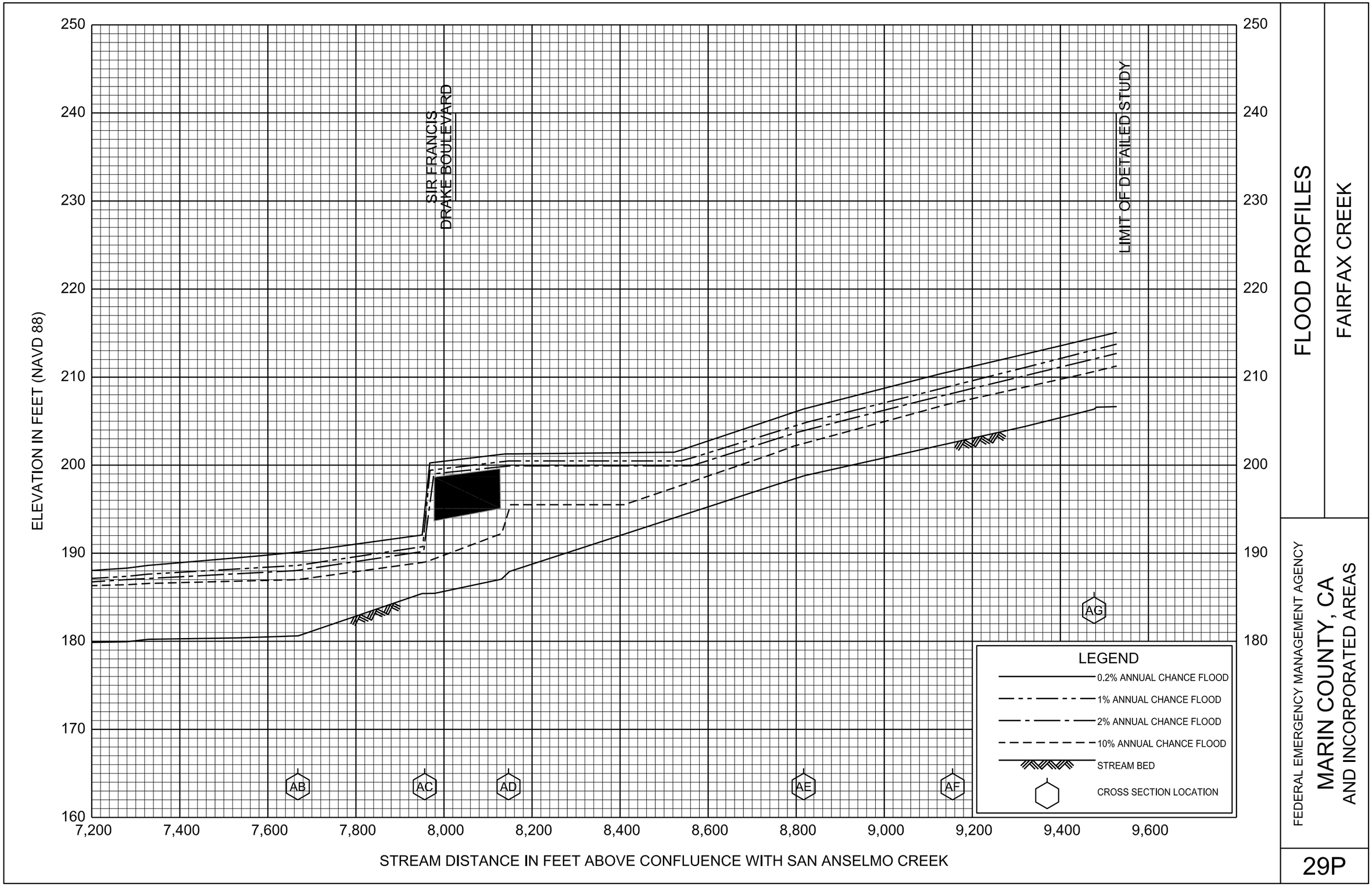
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

FAIRFAX CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

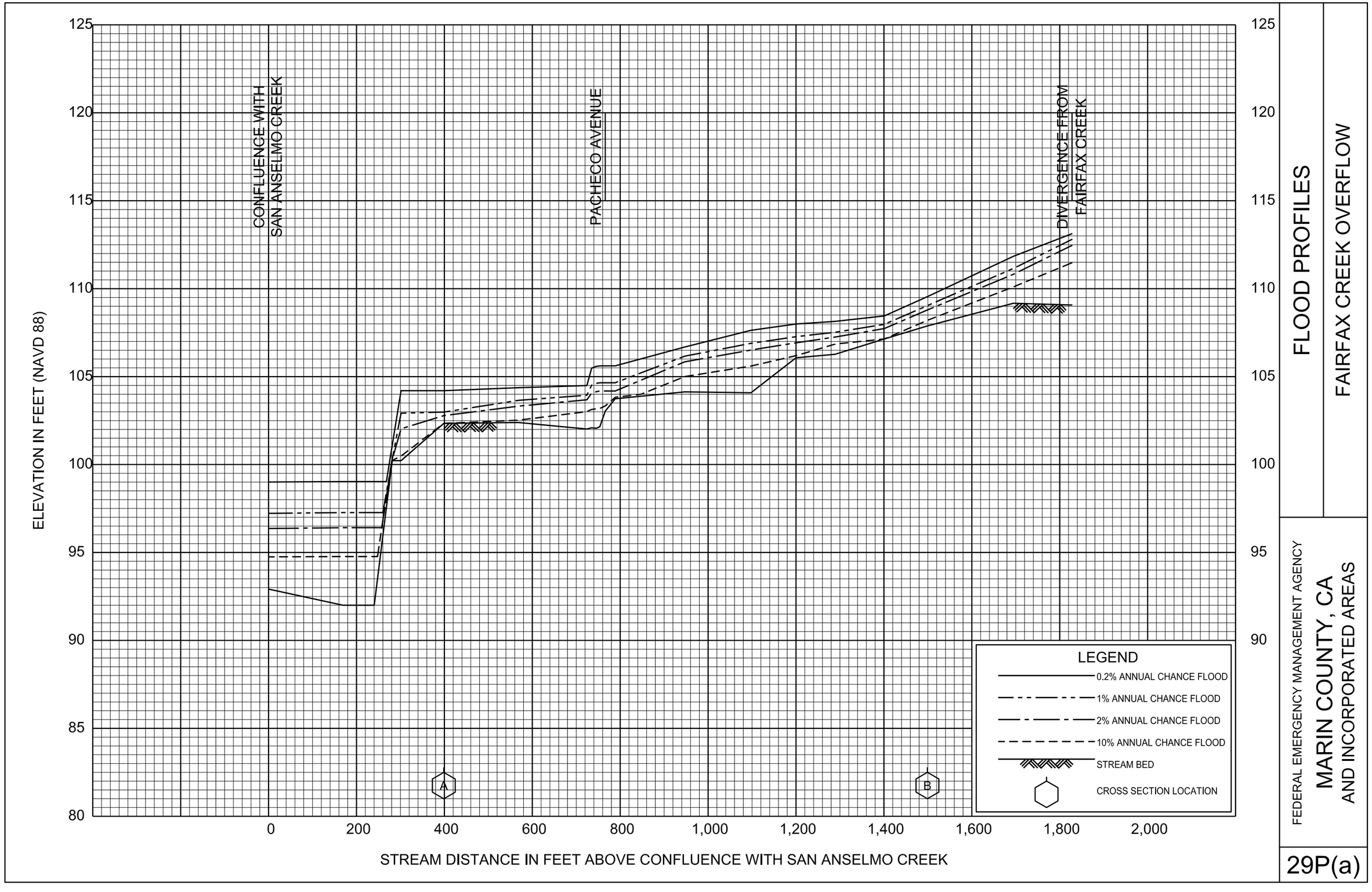


FLOOD PROFILES

FAIRFAX CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS



FLOOD PROFILES

FAIRFAX CREEK OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

29P(a)

THE 10% ANNUAL CHANCE FLOOD PROFILE IS TOO CLOSE TO THE 2% ANNUAL CHANCE ELEVATION TO BE SHOWN SEPARATELY

1% ANNUAL CHANCE BACKWATER FROM RICHARDSON BAY

CONFLUENCE WITH RICHARDSON BAY

SAN RAFAEL AVENUE

NORTHWESTERN PACIFIC RAILROAD

TIBURON BOULEVARD

BASE FLOOD ELEVATIONS IN COASTAL FLOODPLAIN MAY INCLUDE WAVE EFFECTS NOT REFLECTED IN THESE ELEVATIONS. BFES ON THE FIRM SHOULD BE USED WHEN THEY ARE HIGHER THAN THE STILLWATER ELEVATIONS SHOWN HERE.

CULVERT

CULVERT

A

B

LEGEND

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

ELEVATION IN FEET (NAVD 88)

40 35 30 25 20 15 10 5 0 -5

0 20 40 60 80 100 120 140 160 180 200 220 240 260

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH RICHARDSON BAY

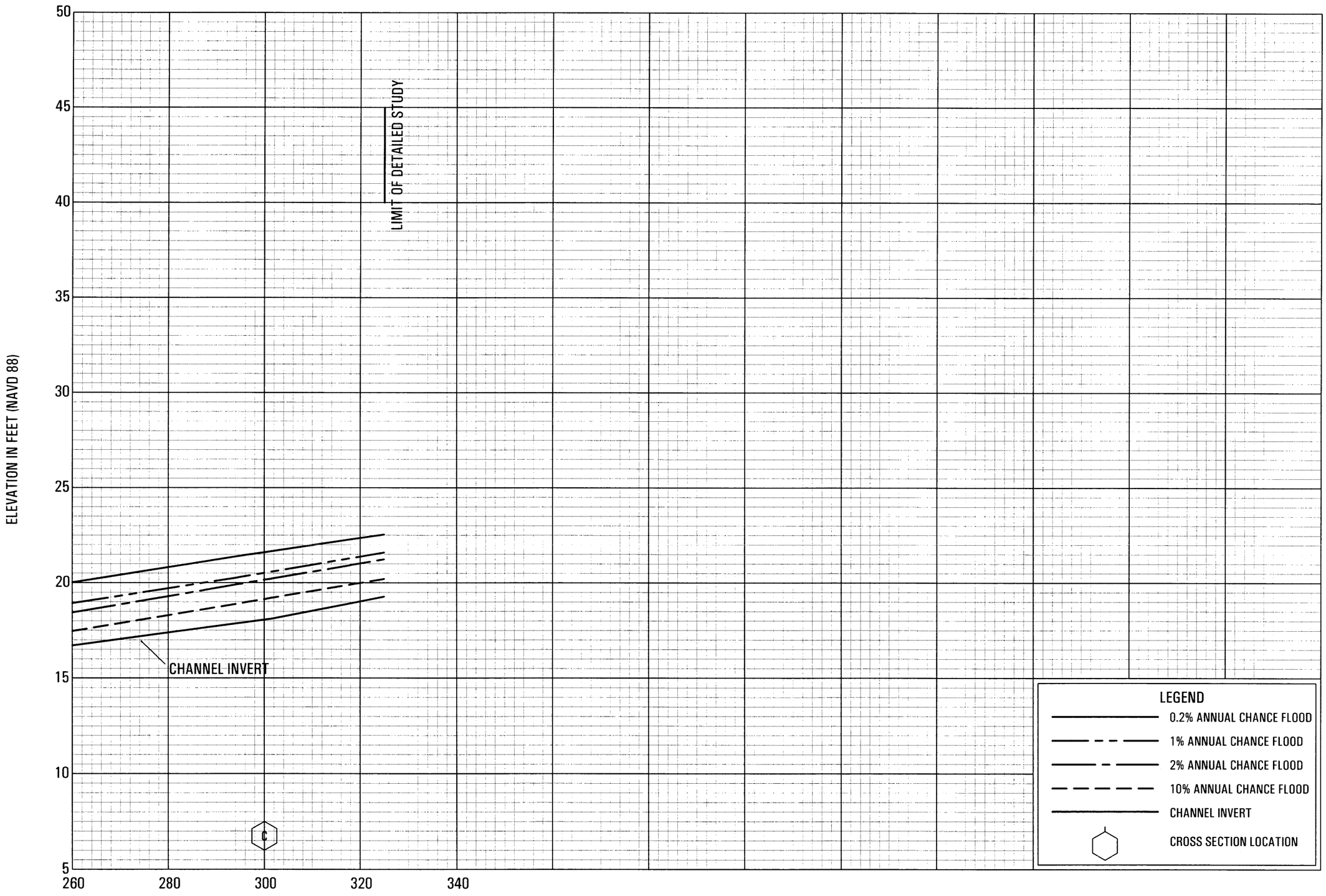
FLOOD PROFILES

HILARITA DRAINAGE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

30P



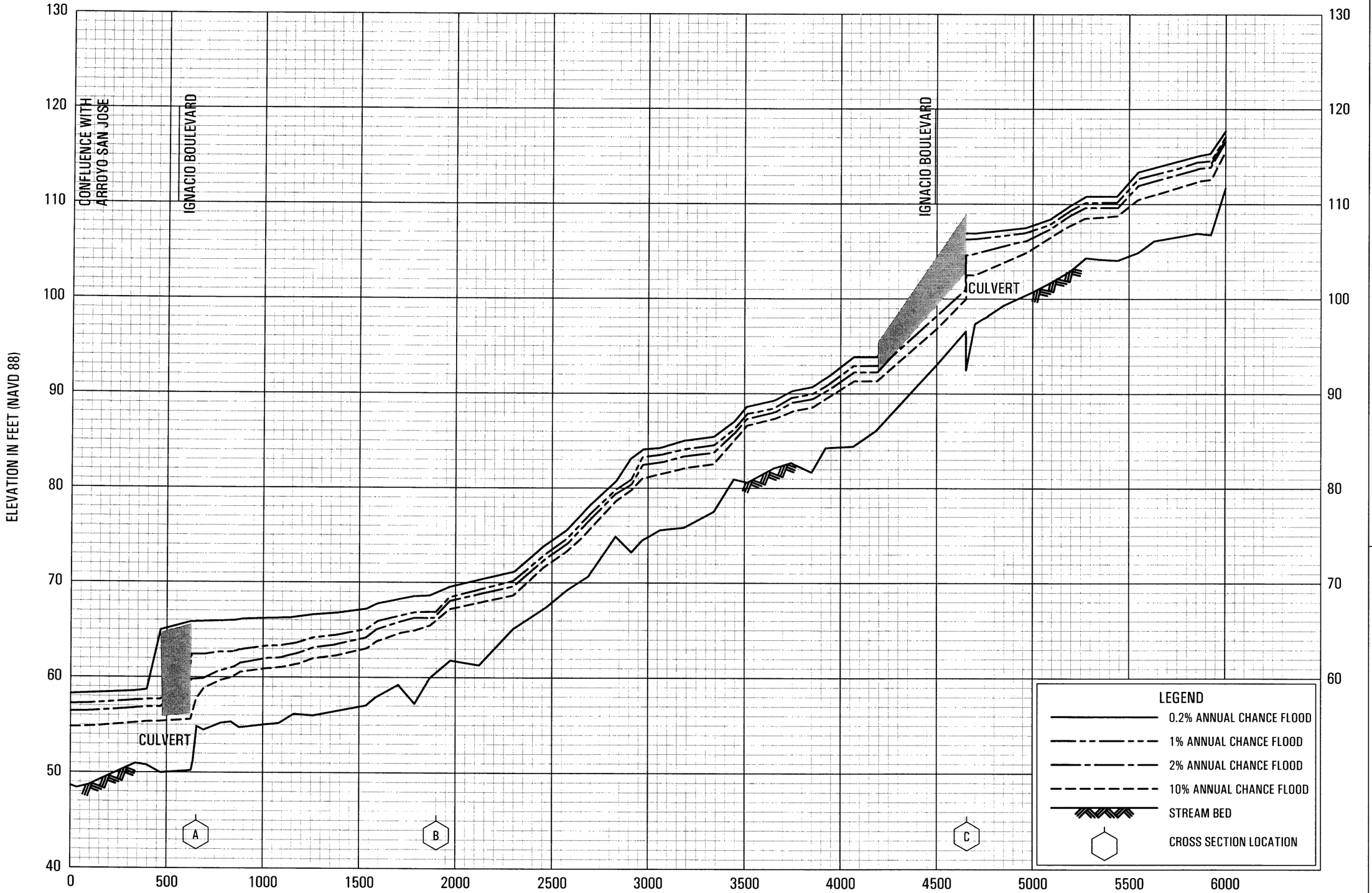
FLOOD PROFILES

HILARITA DRAINAGE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



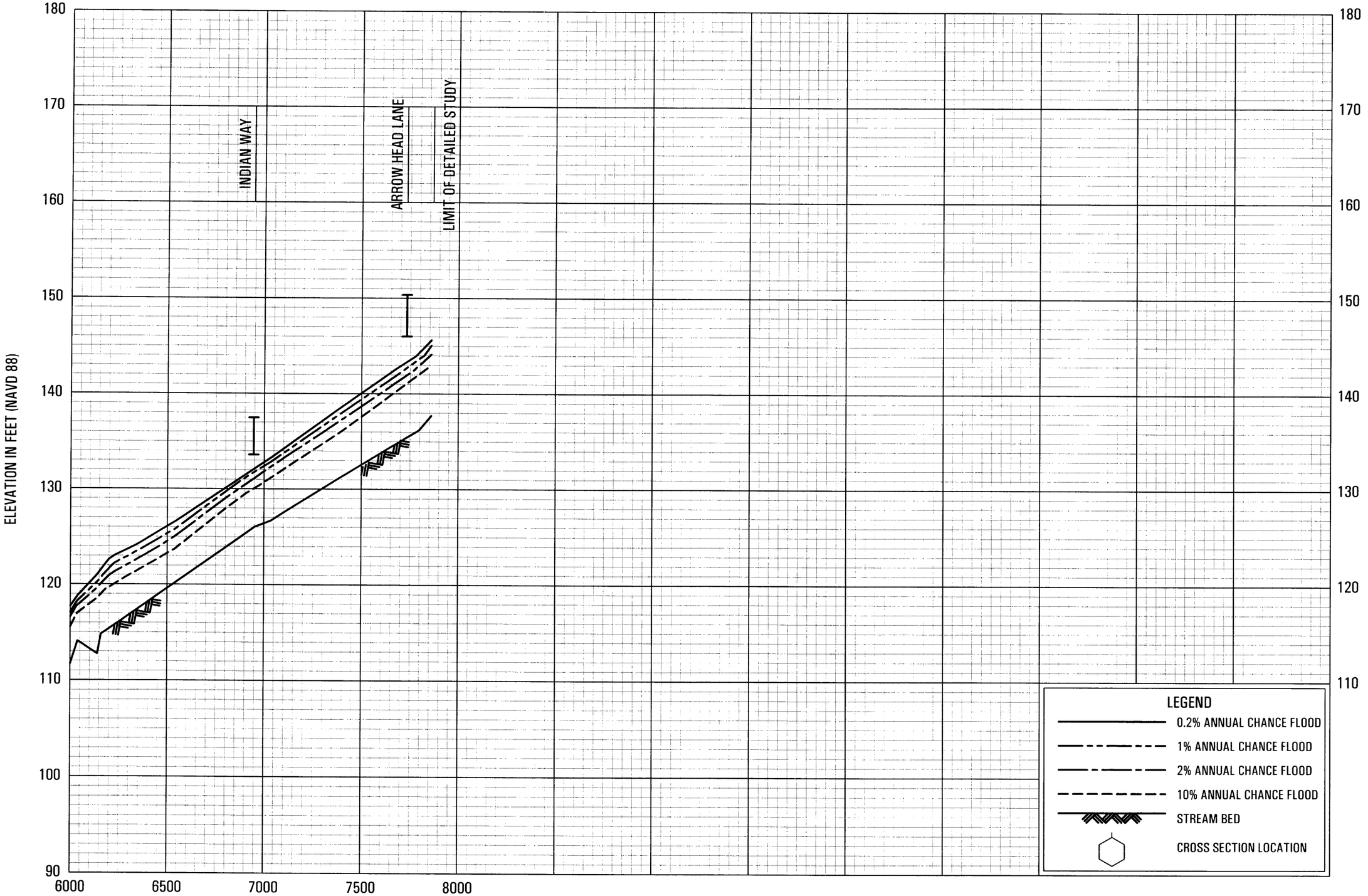
FLOOD PROFILES

IGNACIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH ARROYO SAN JOSE

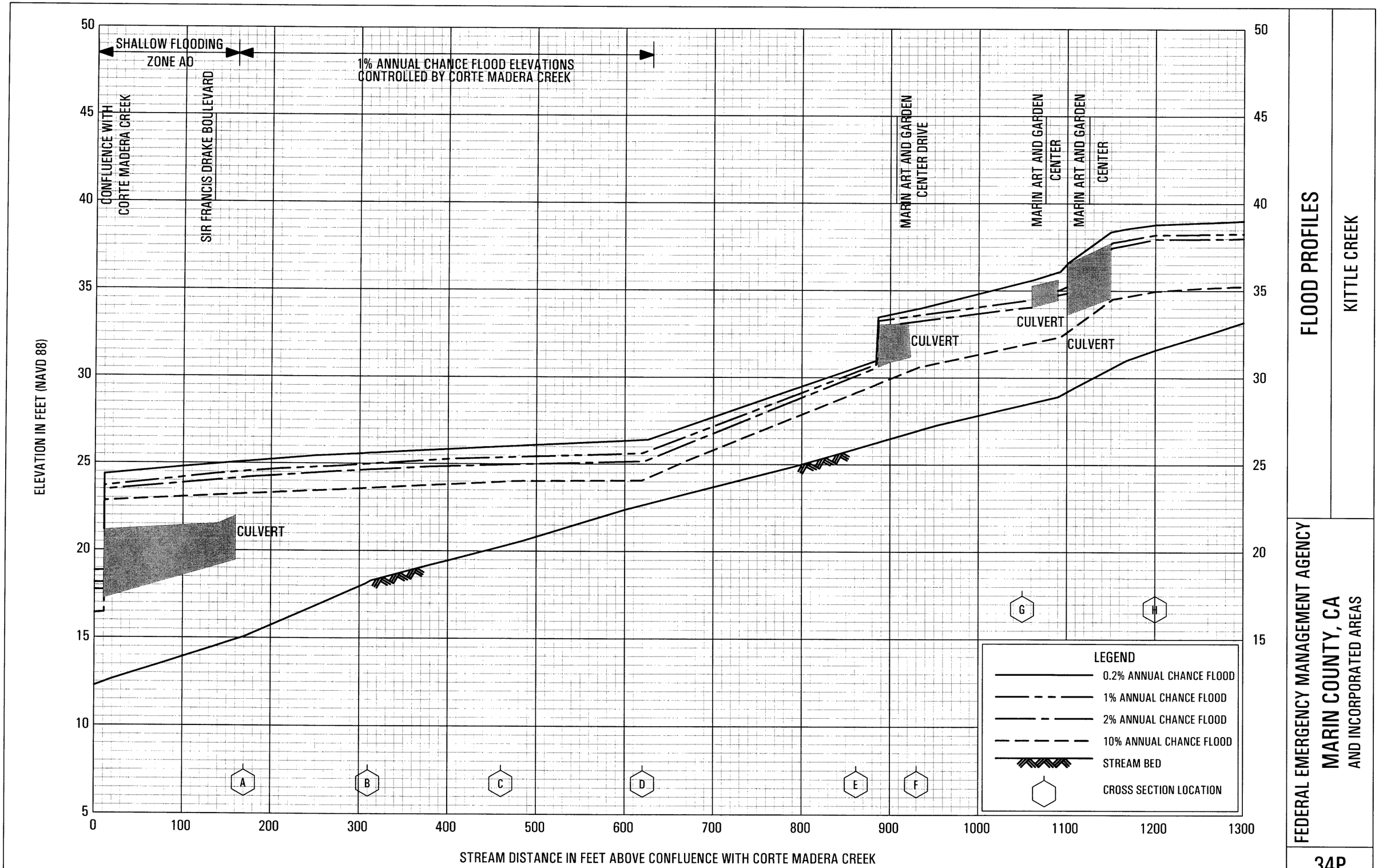
FLOOD PROFILES

IGNACIO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



FLOOD PROFILES

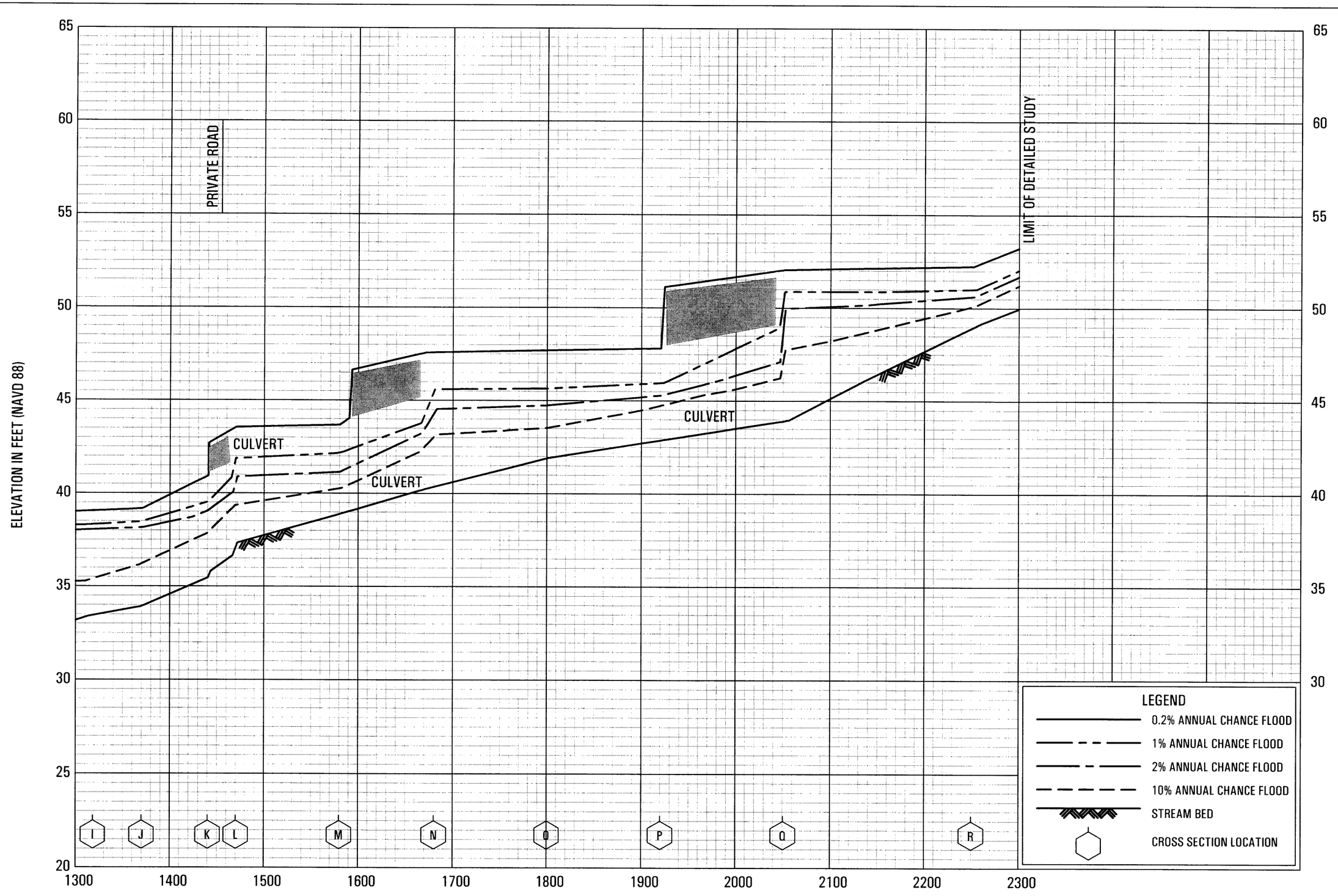
KITTLE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

34P



FLOOD PROFILES

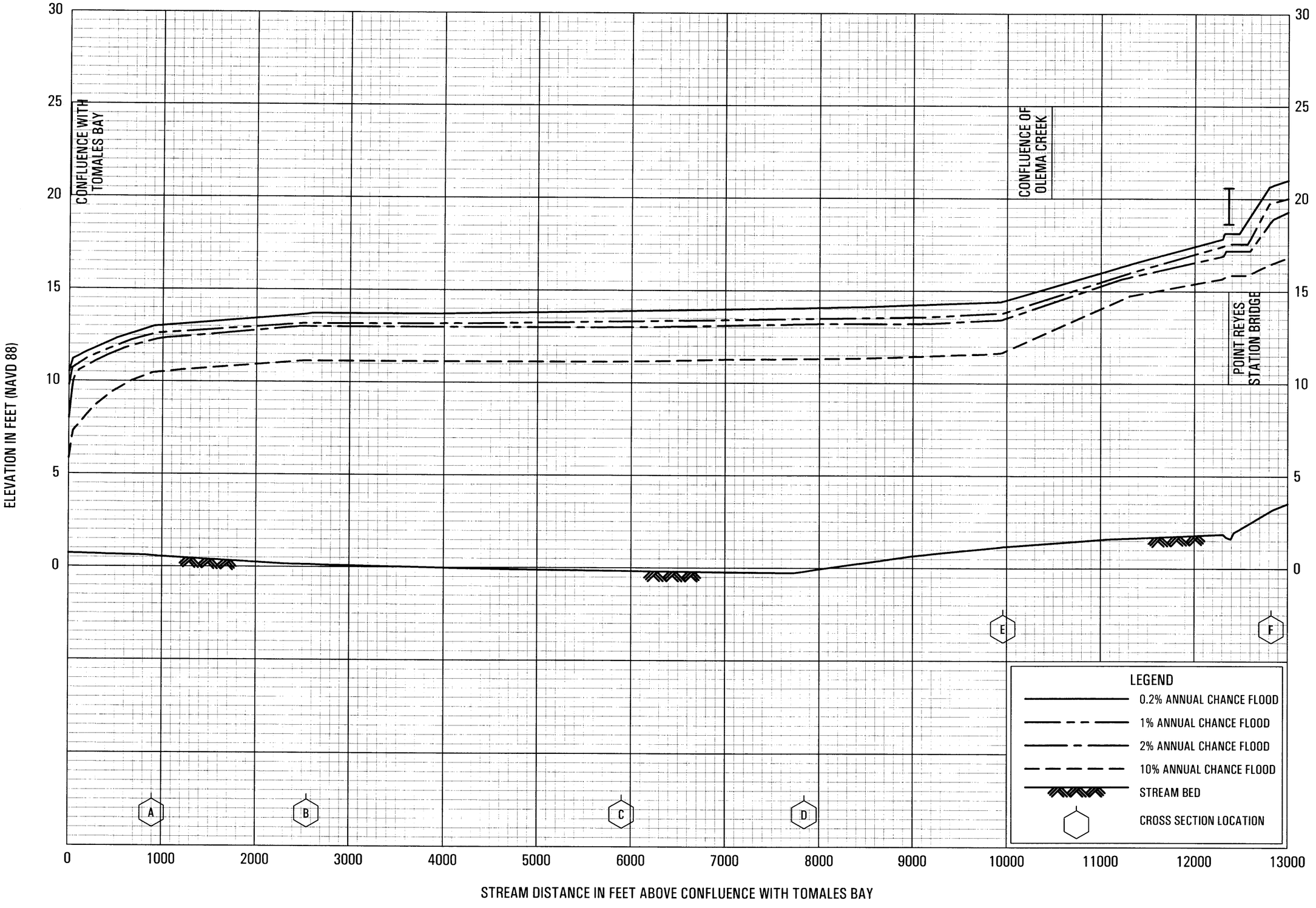
KITTLE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

35P



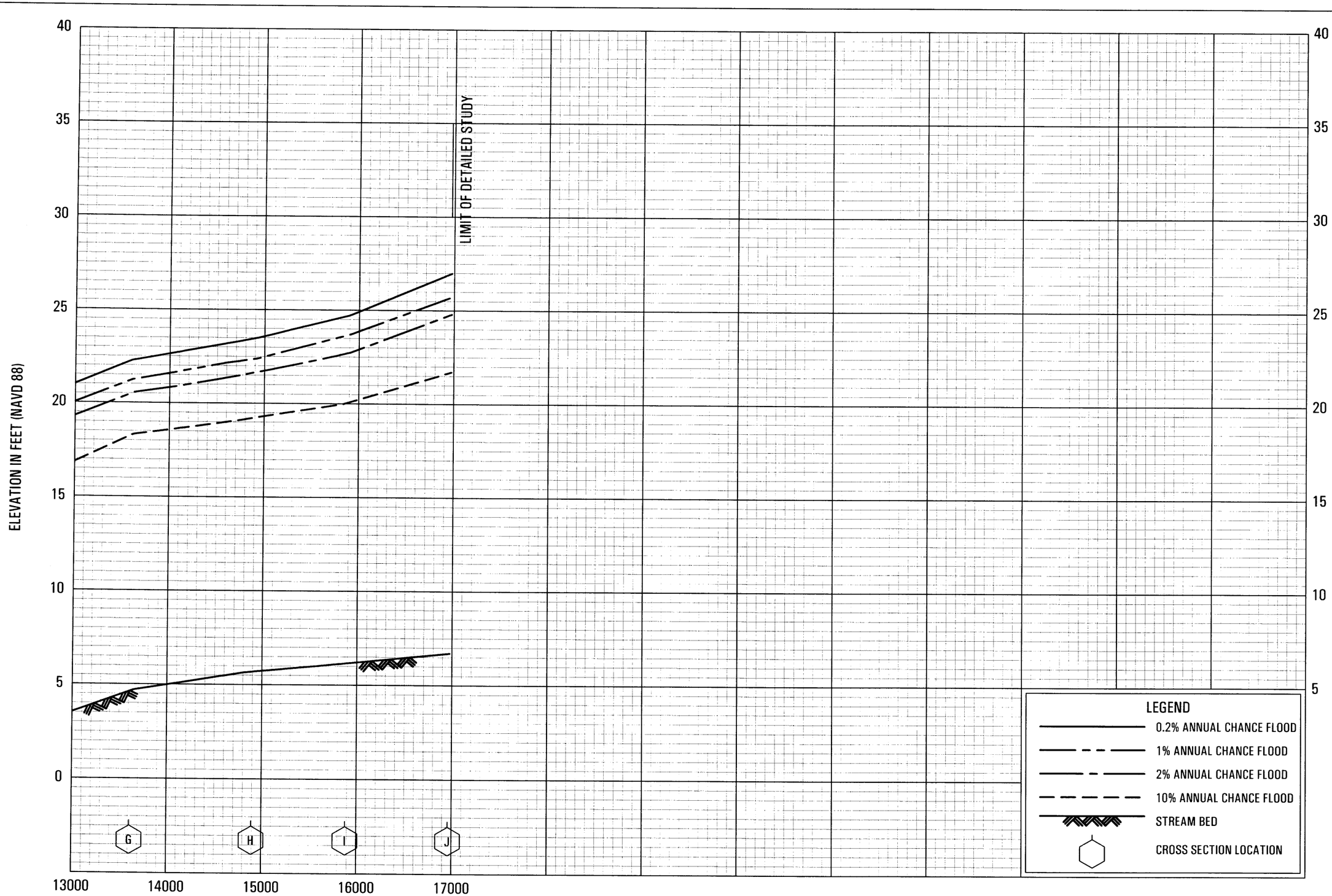
FLOOD PROFILES

LAGUNITAS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCOPORATED AREAS



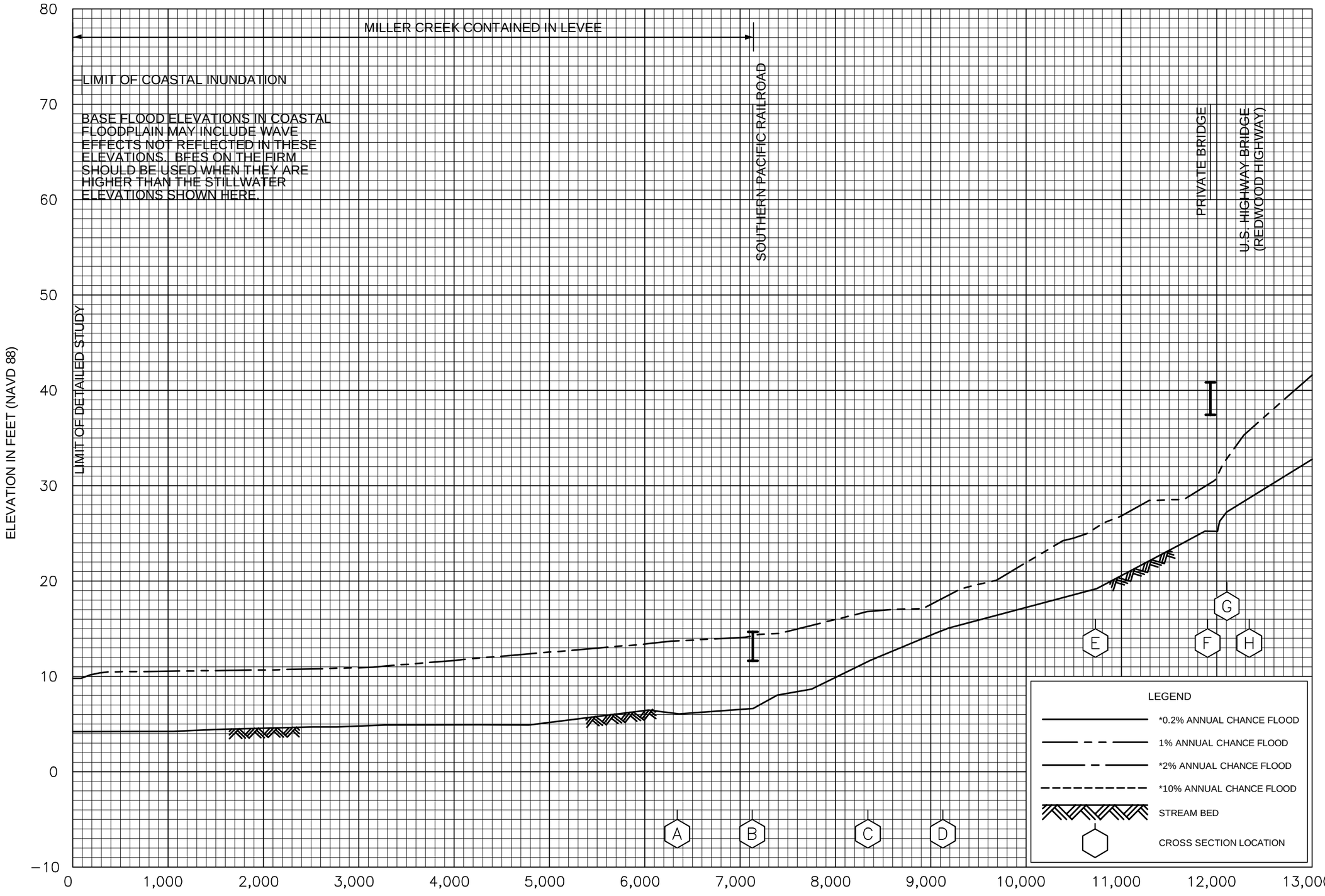
FLOOD PROFILES

LAGUNITAS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCOPORATED AREAS



*LIMIT OF DETAILED STUDY IS APPROXIMATELY 7,150 FEET DOWNSTREAM OF SOUTHERN PACIFIC RAILROAD

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

*DATA NOT AVAILABLE

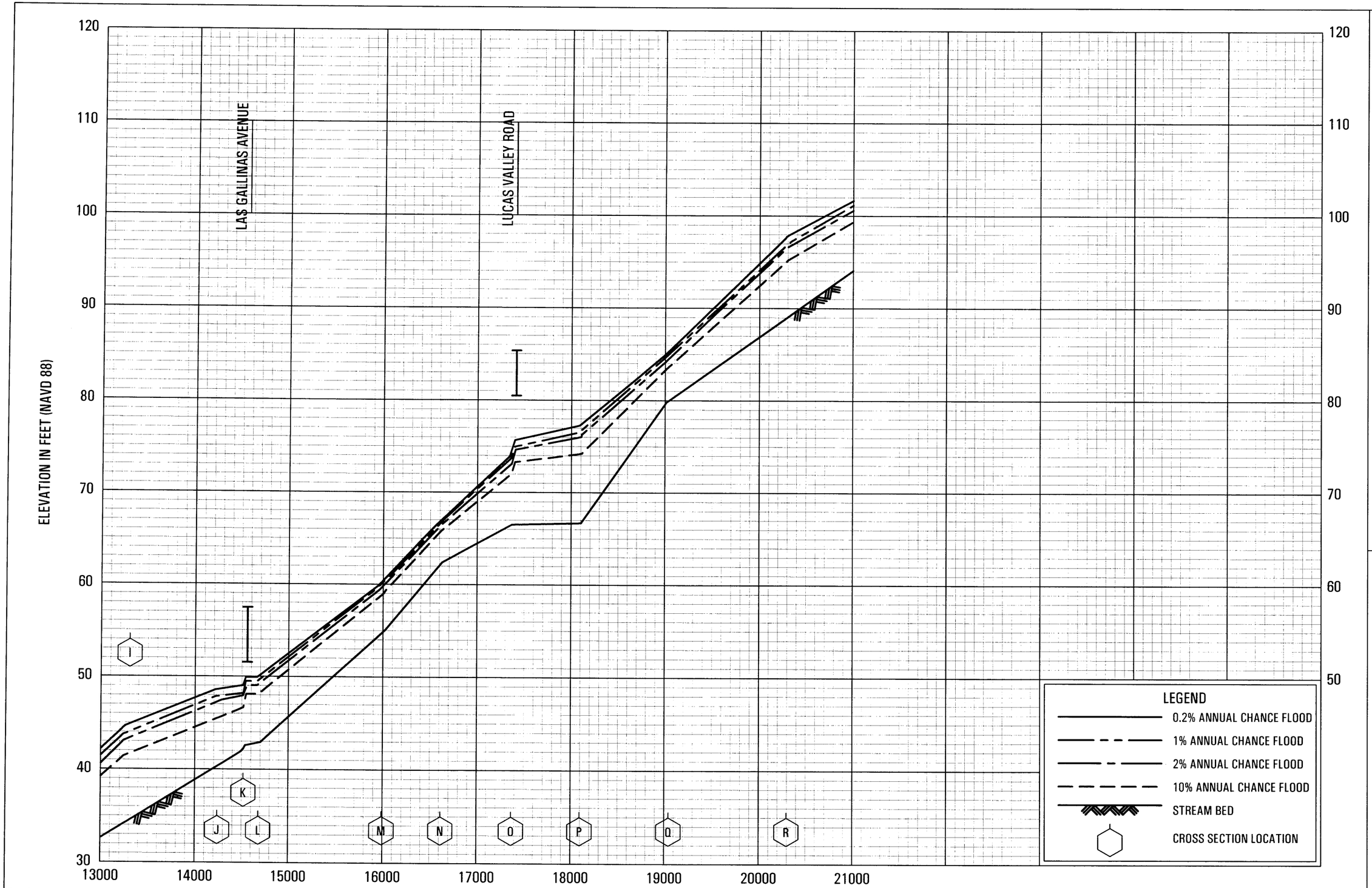
FLOOD PROFILES

MILLER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

38P



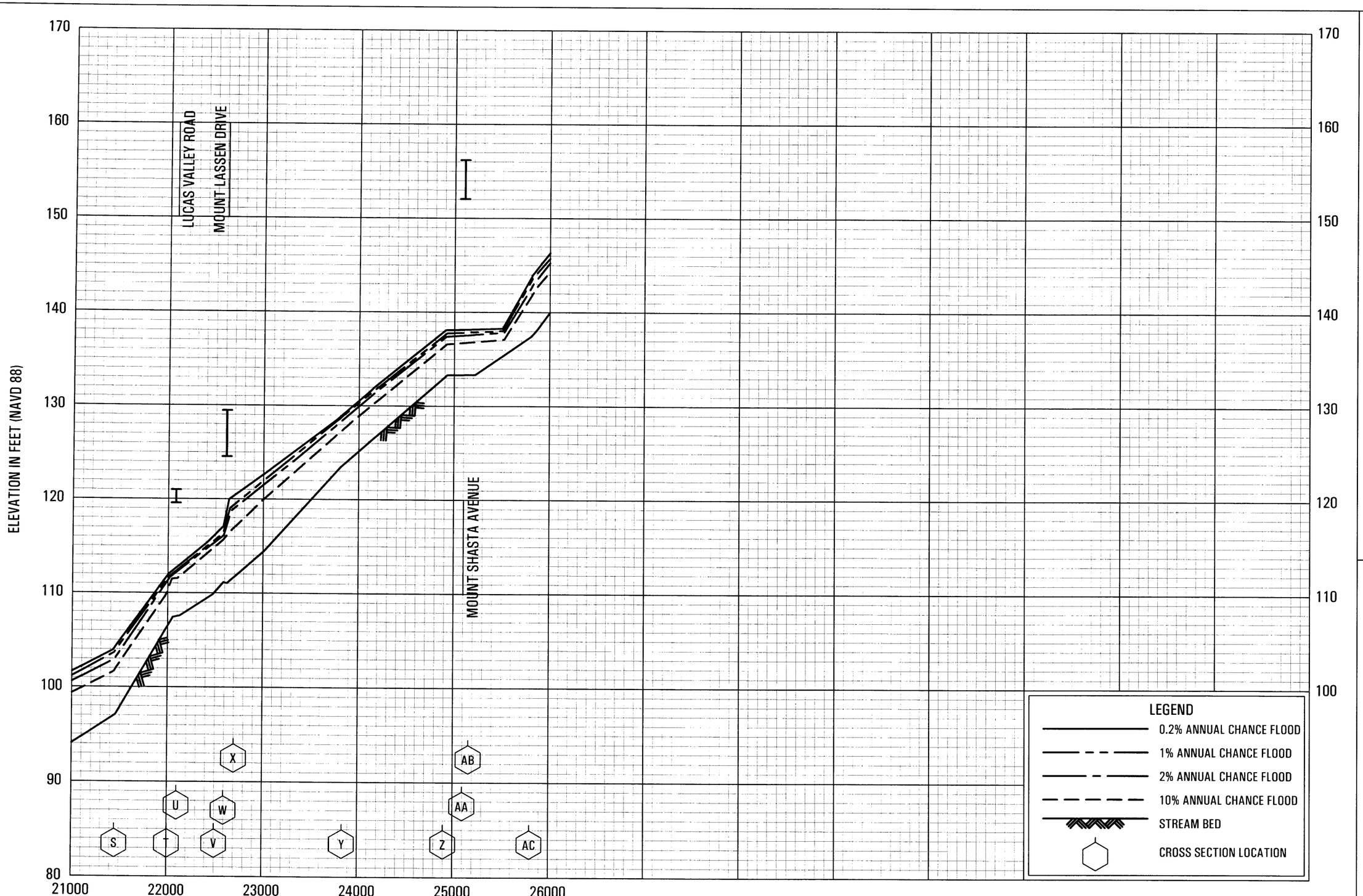
FLOOD PROFILES

MILLER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



* LIMIT OF DETAILED STUDY IS APPROXIMATELY 7,150 FEET DOWNSTREAM OF SOUTHERN PACIFIC RAILROAD

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

FLOOD PROFILES

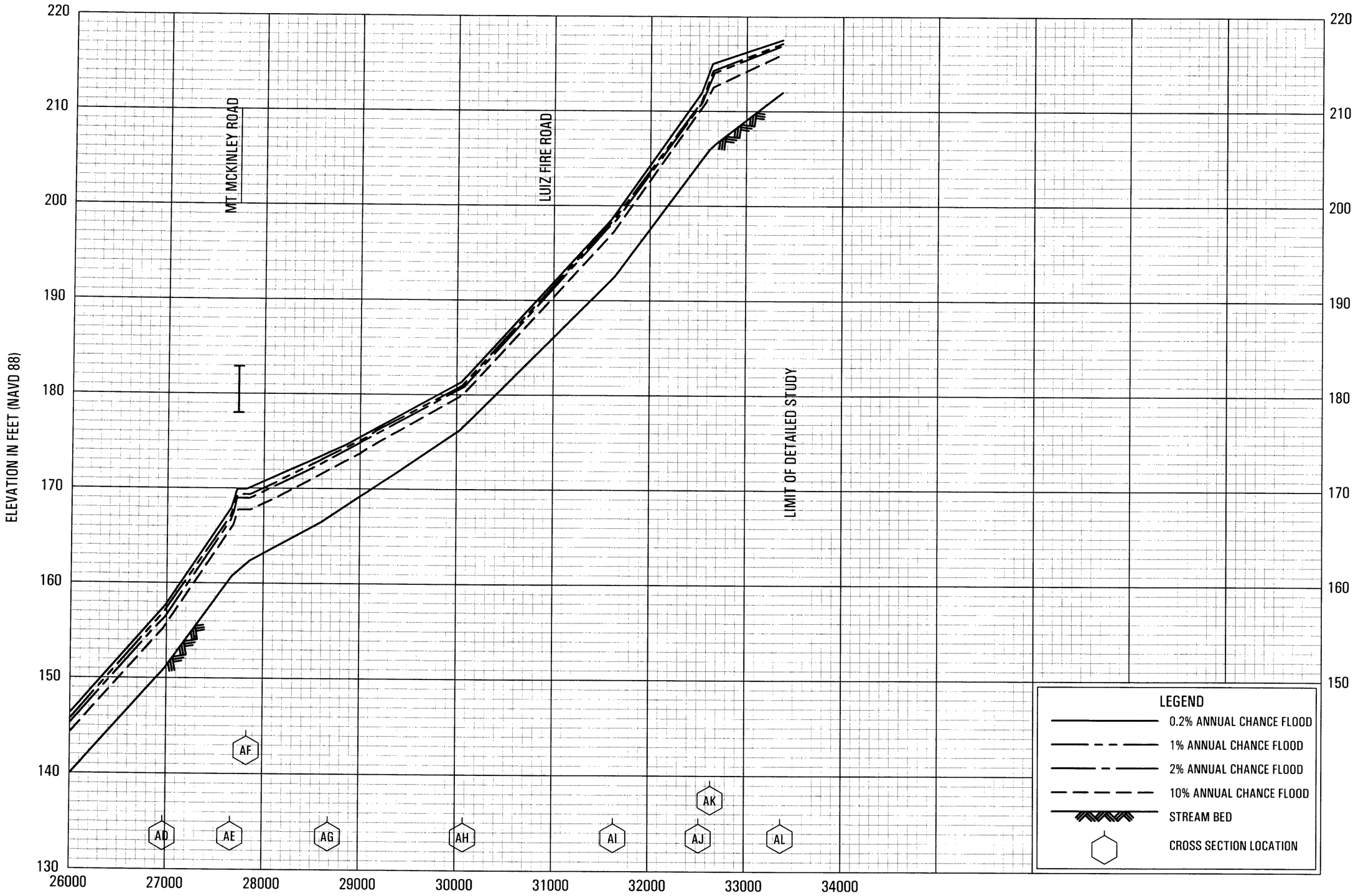
MILLER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

40P



* LIMIT OF DETAILED STUDY IS APPROXIMATELY 7,150 FEET DOWNSTREAM OF SOUTHERN PACIFIC RAILROAD

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

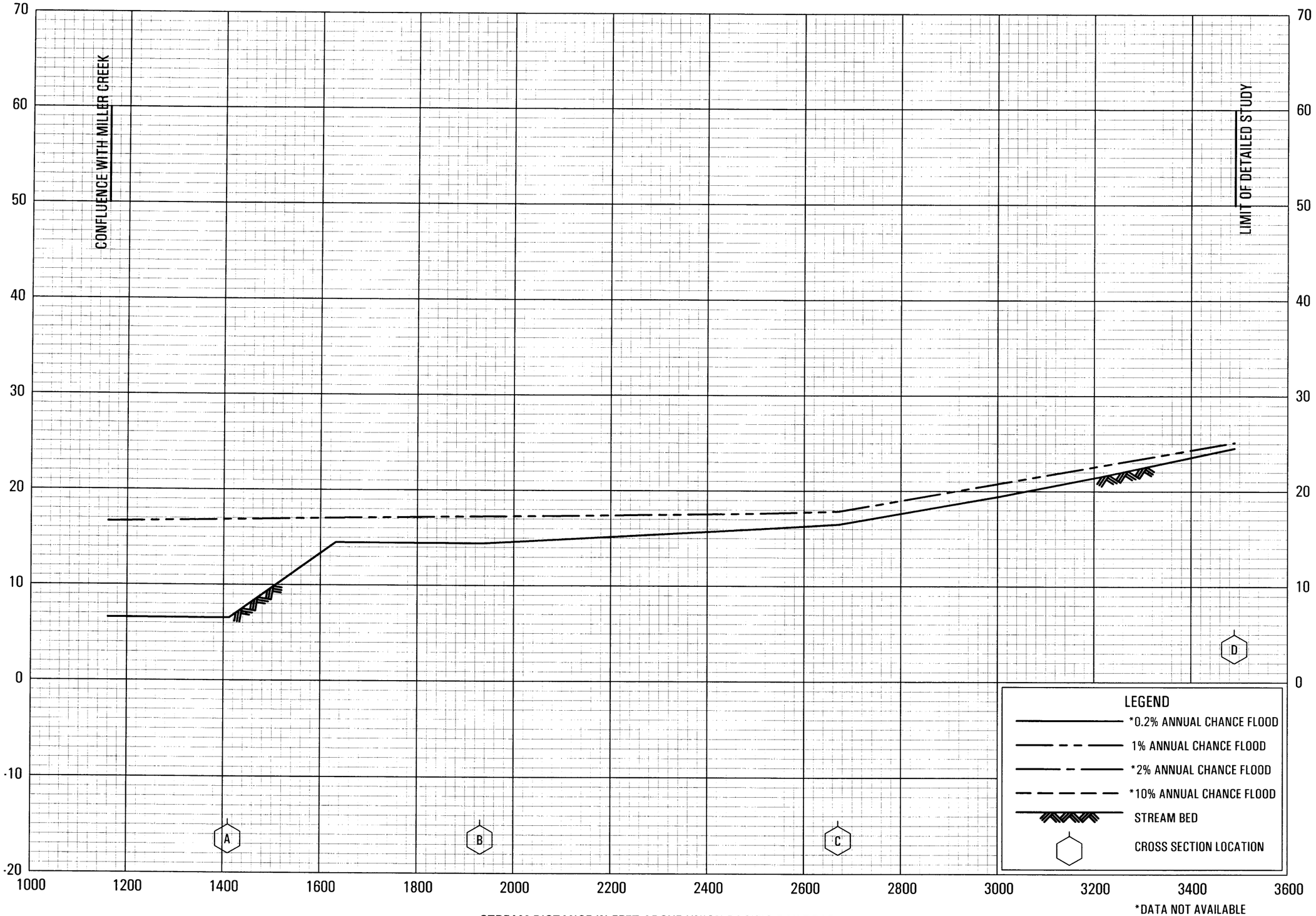
FLOOD PROFILES

MILLER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



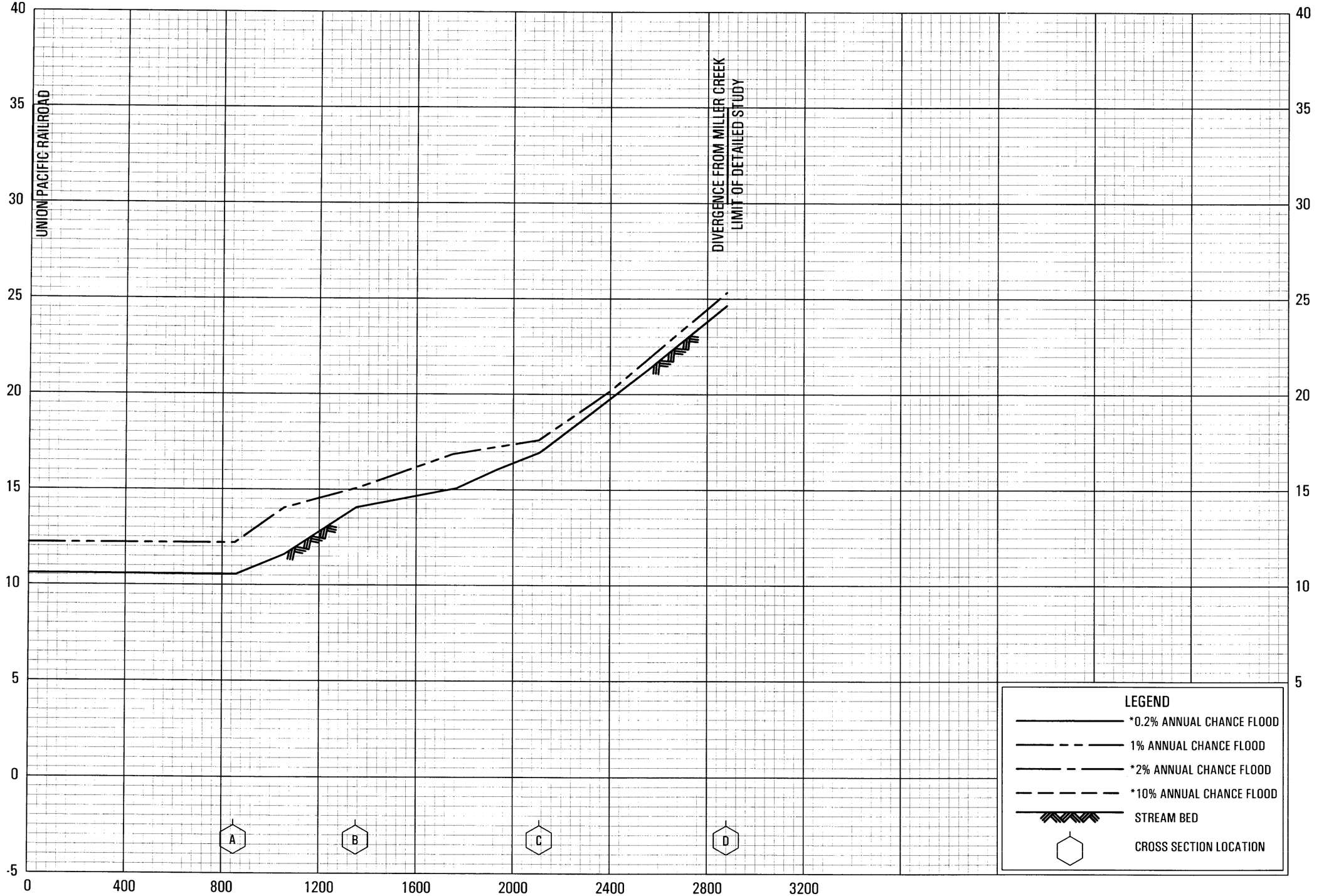
FLOOD PROFILES

MILLER CREEK - LEFT OVERBANK CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



*DATA NOT AVAILABLE

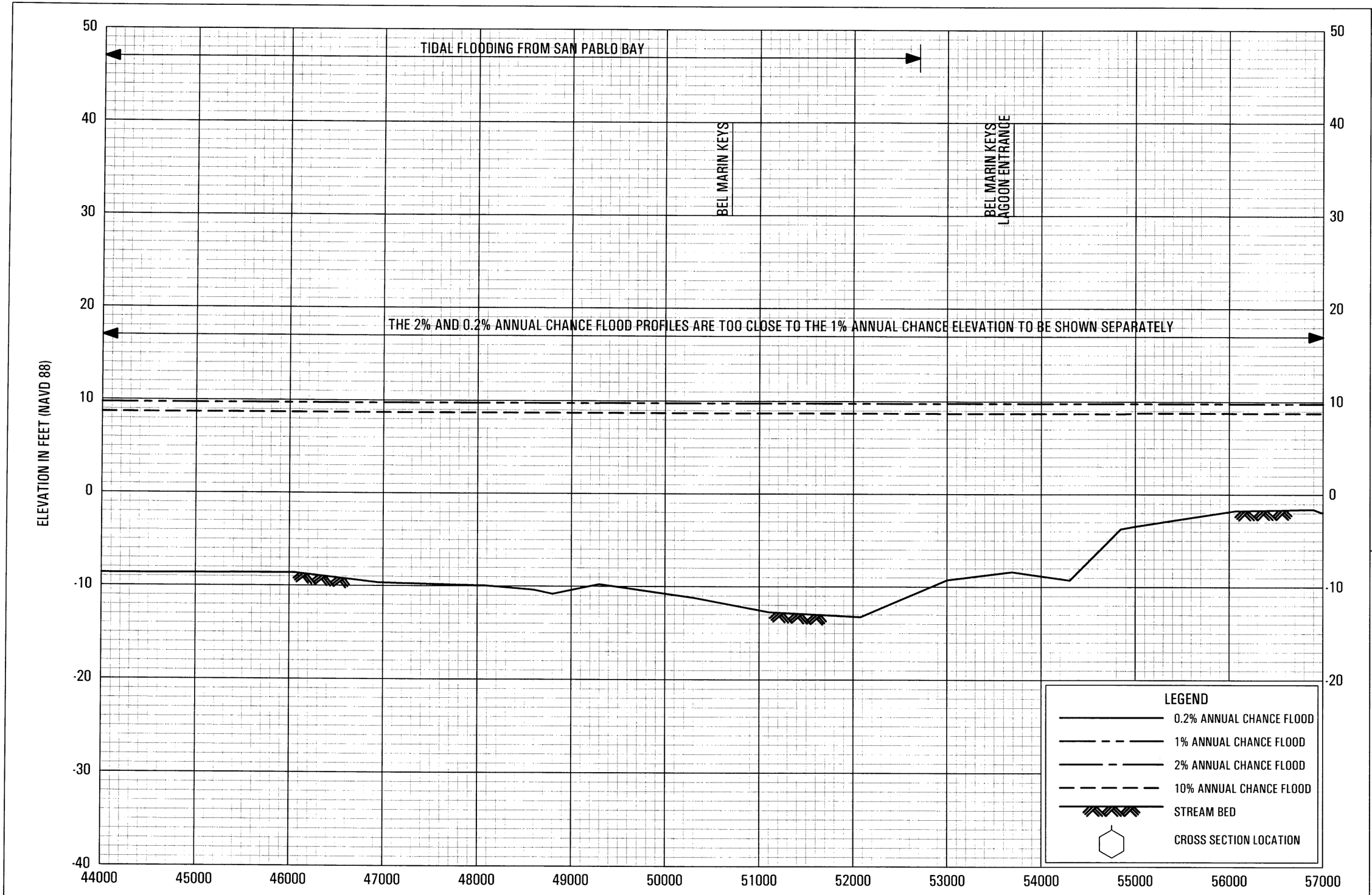
FLOOD PROFILES

MILLER CREEK - RIGHT OVERBANK CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



FLOOD PROFILES

NOVATO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

THE 2% AND 0.2% ANNUAL CHANCE FLOOD PROFILES ARE TOO CLOSE TO THE 1% ANNUAL CHANCE ELEVATION TO BE SHOWN SEPARATELY

SOUTHERN PACIFIC RAILROAD

STATE HIGHWAY 37

ELEVATION IN FEET (NAVD 88)

50
40
30
20
10
0
-10
-20
-30
-40

57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000

STREAM DISTANCE IN FEET ABOVE HEAD OF SAN PABLO BAY NAVIGATION CHANNEL

LEGEND

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

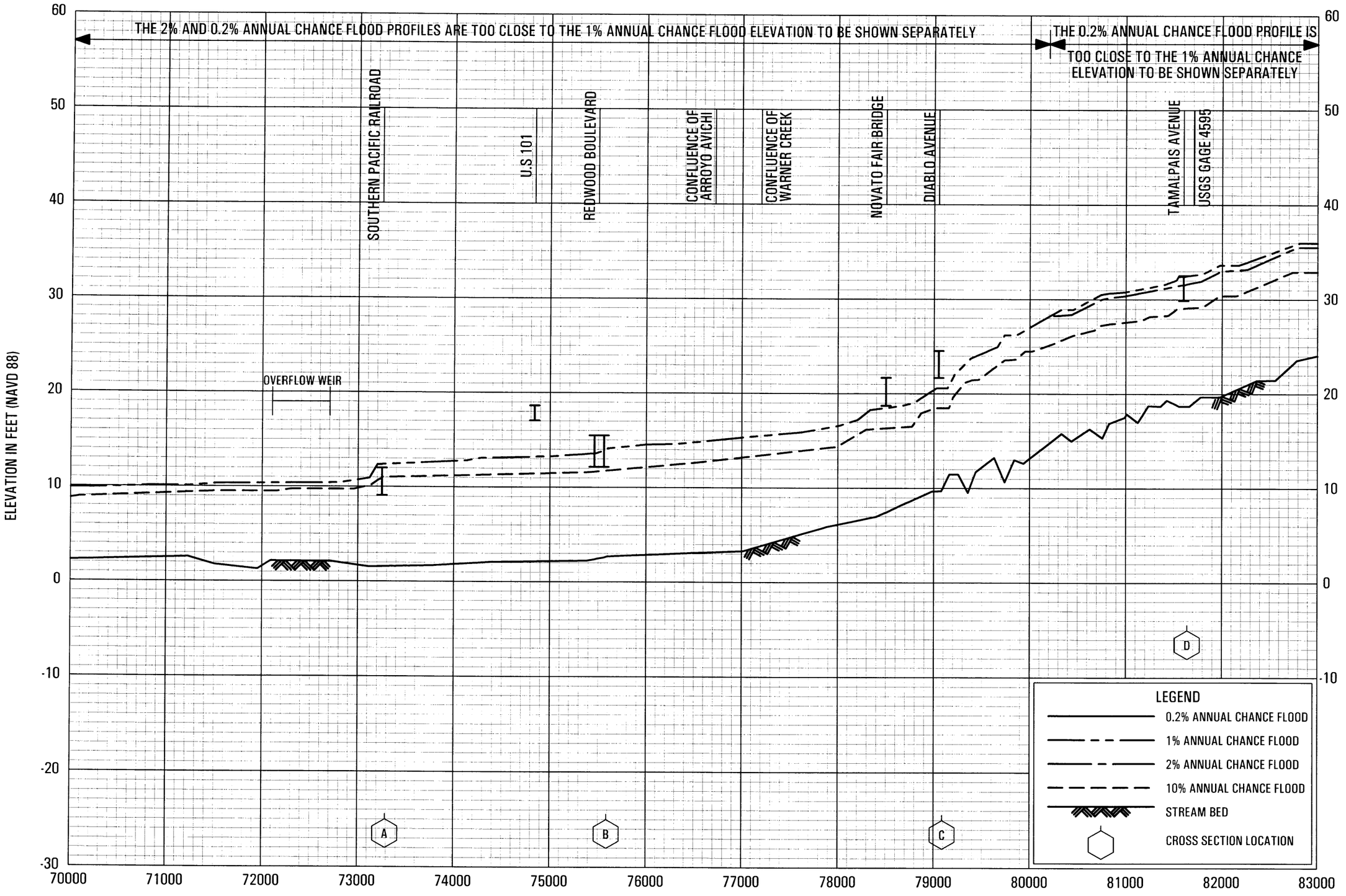
FLOOD PROFILES

NOVATO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS



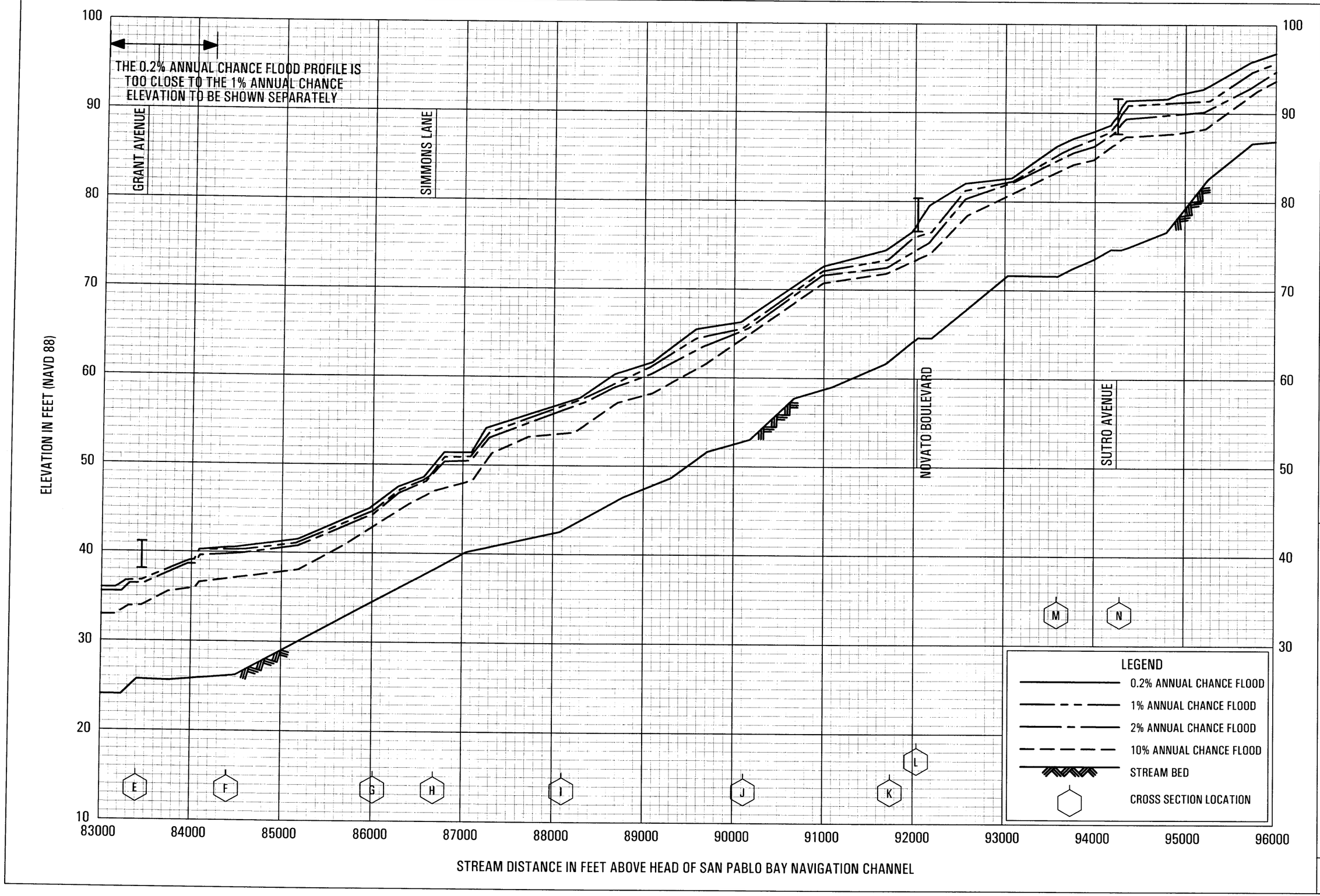
FLOOD PROFILES

NOVATO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

46P



FLOOD PROFILES

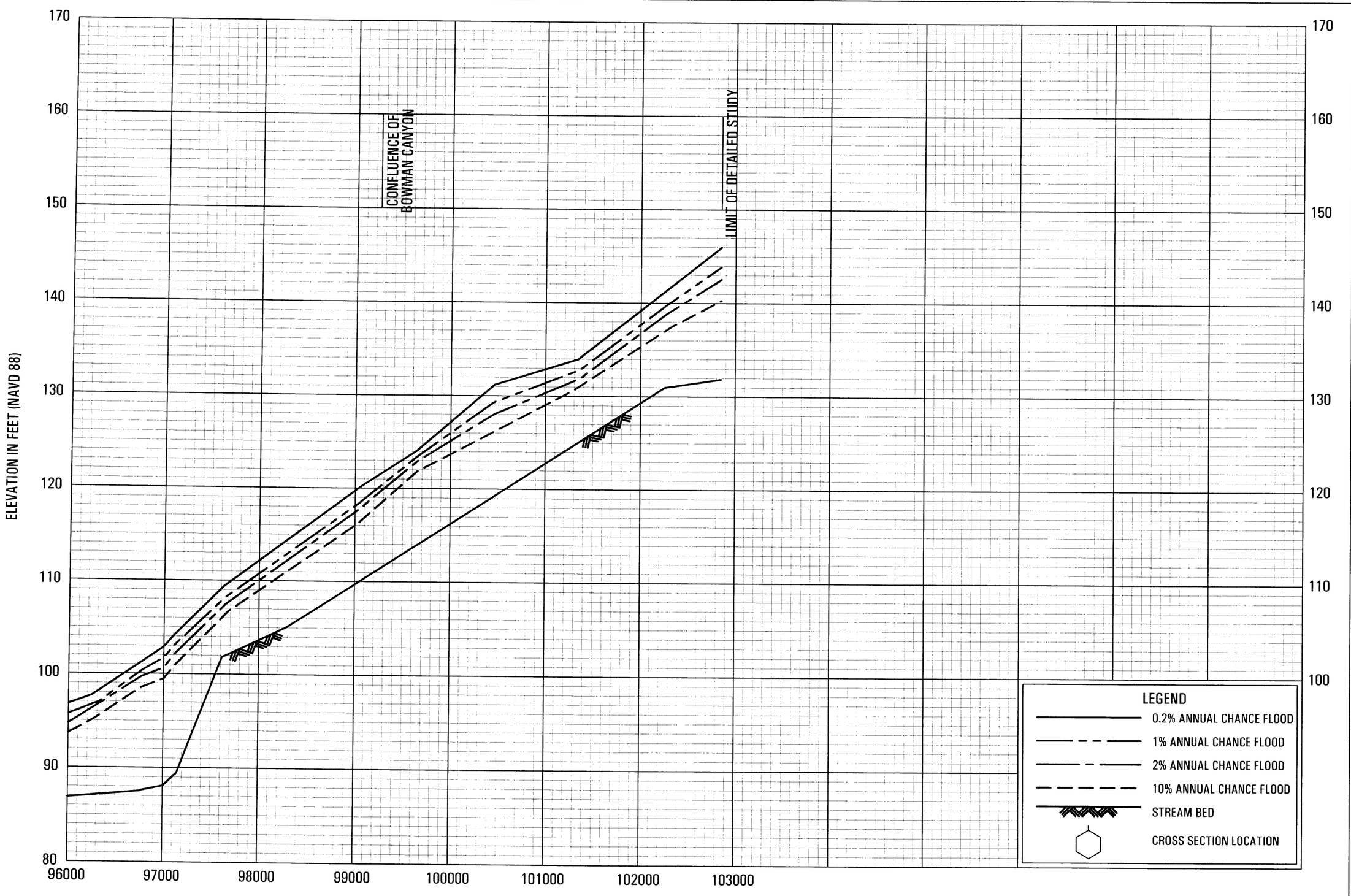
NOVATO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

47P



FLOOD PROFILES

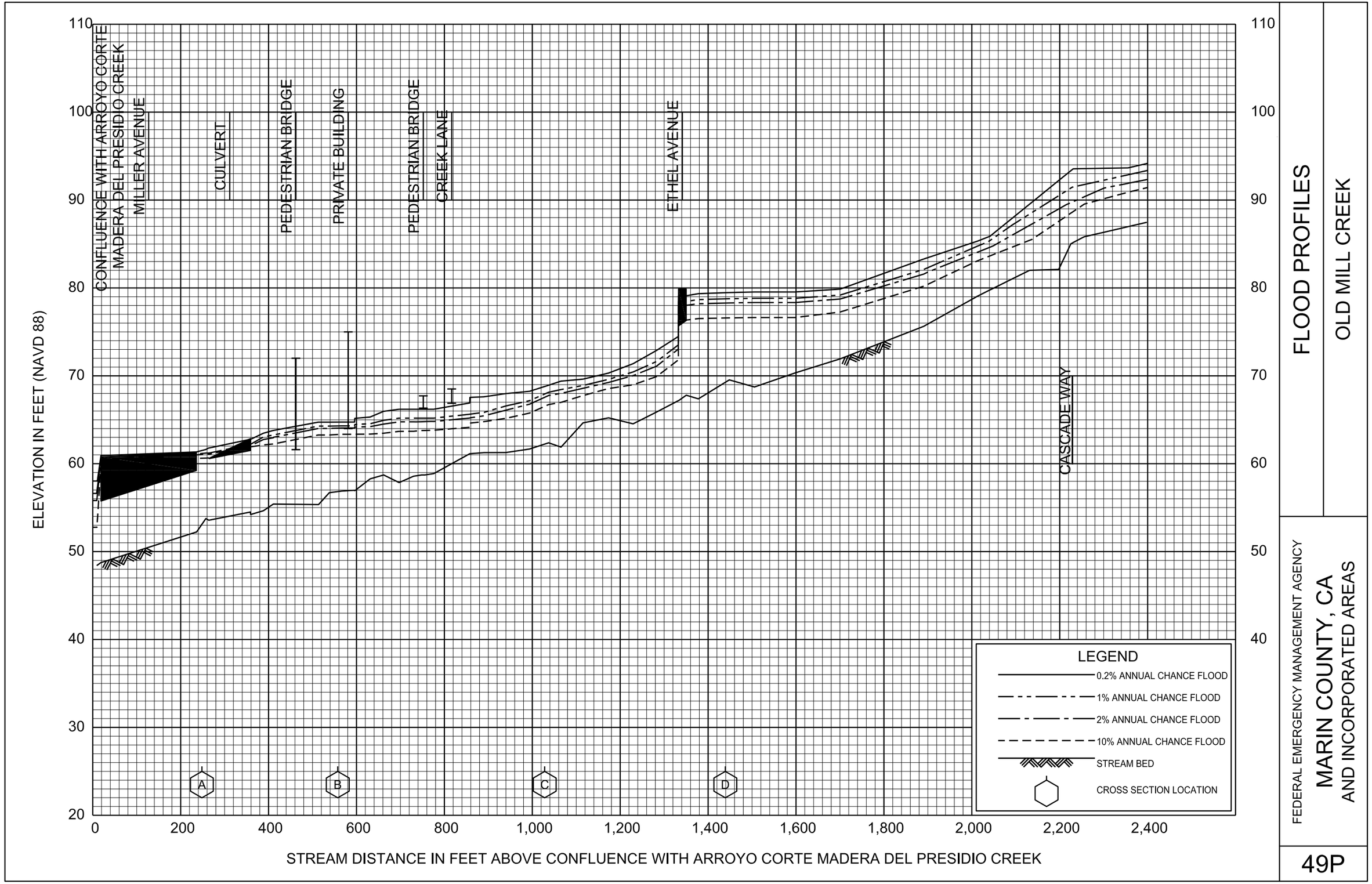
NOVATO CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

48P

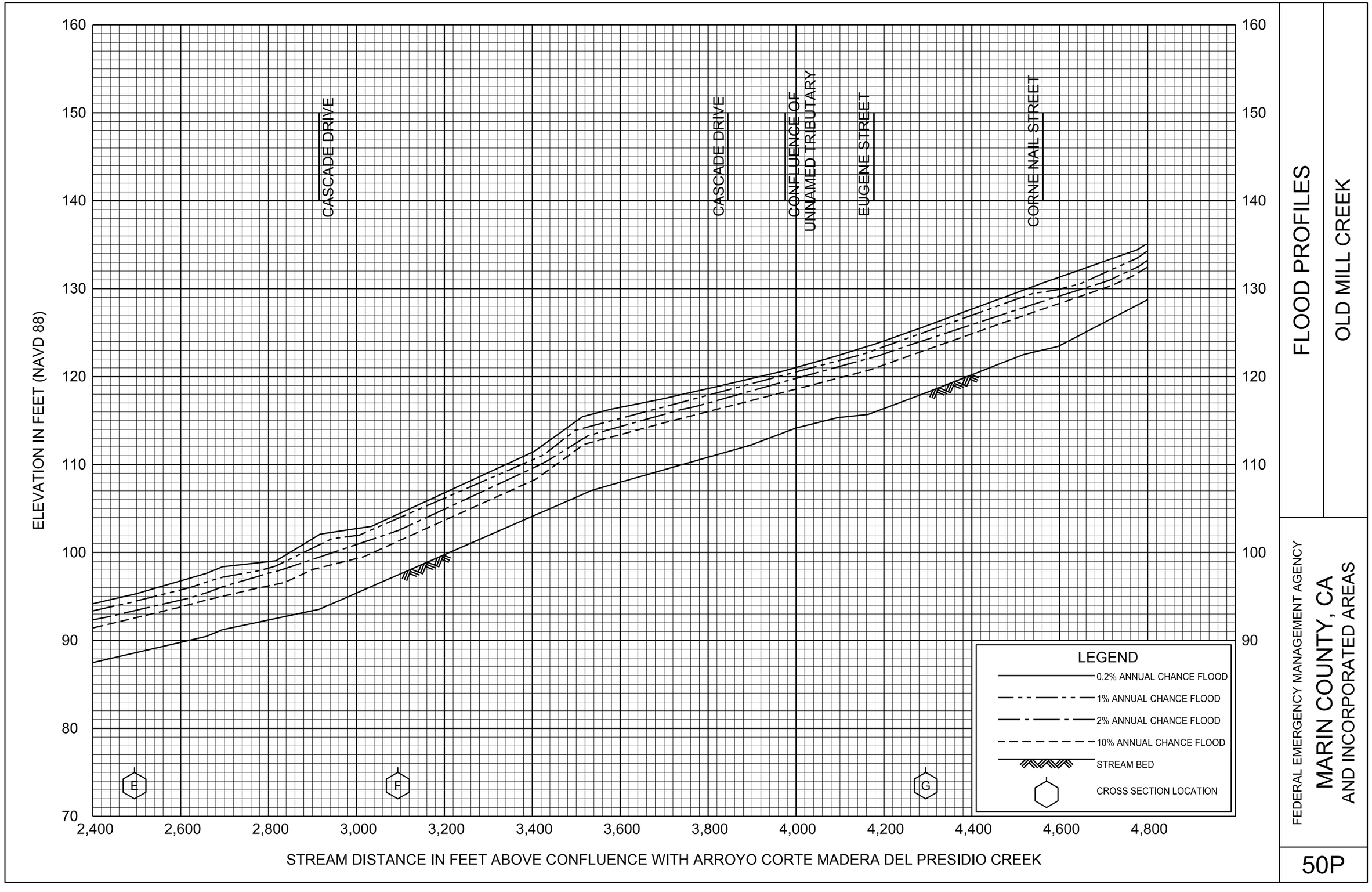


FLOOD PROFILES

OLD MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS

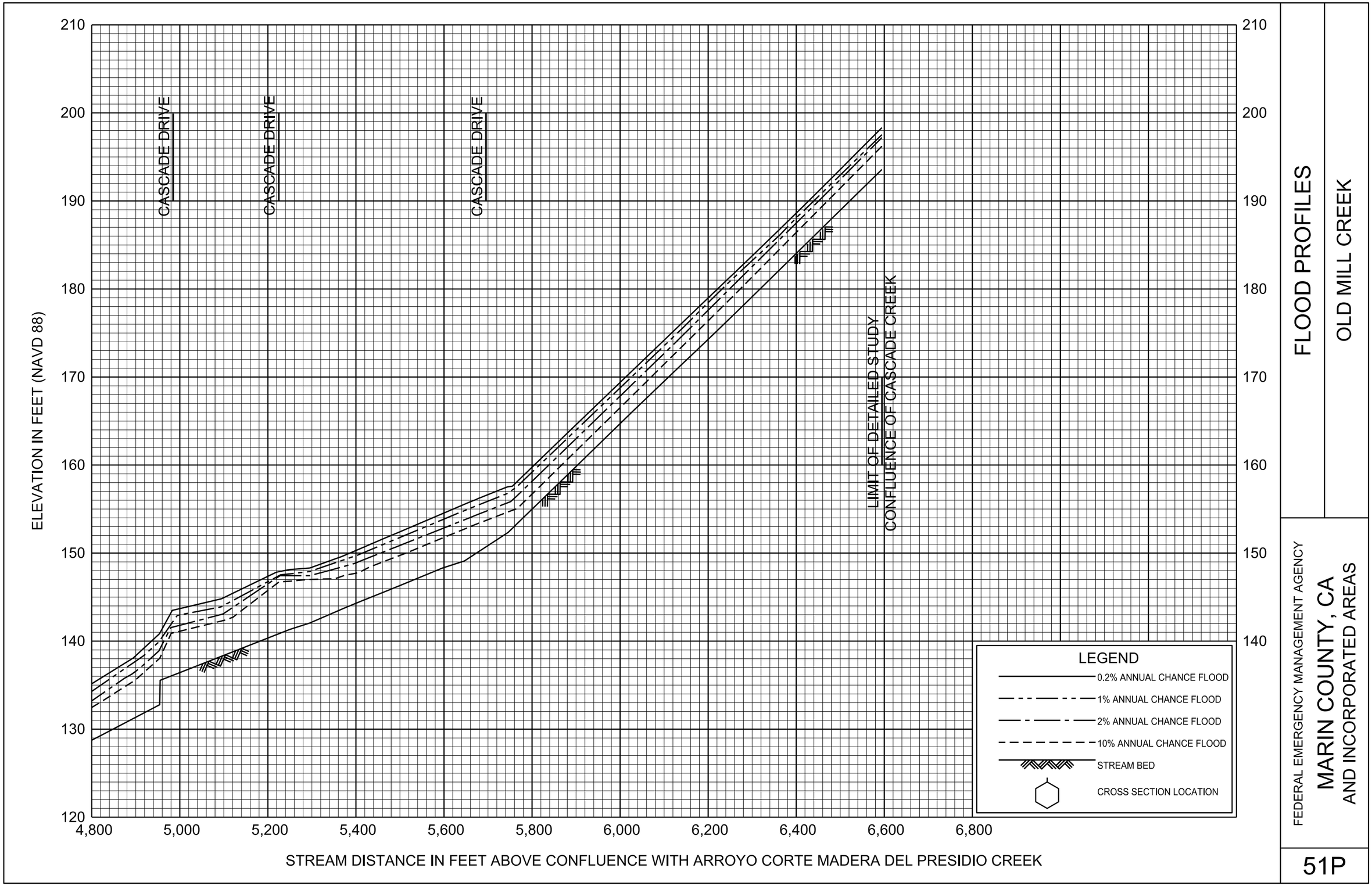


FLOOD PROFILES

OLD MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA
AND INCORPORATED AREAS



FLOOD PROFILES

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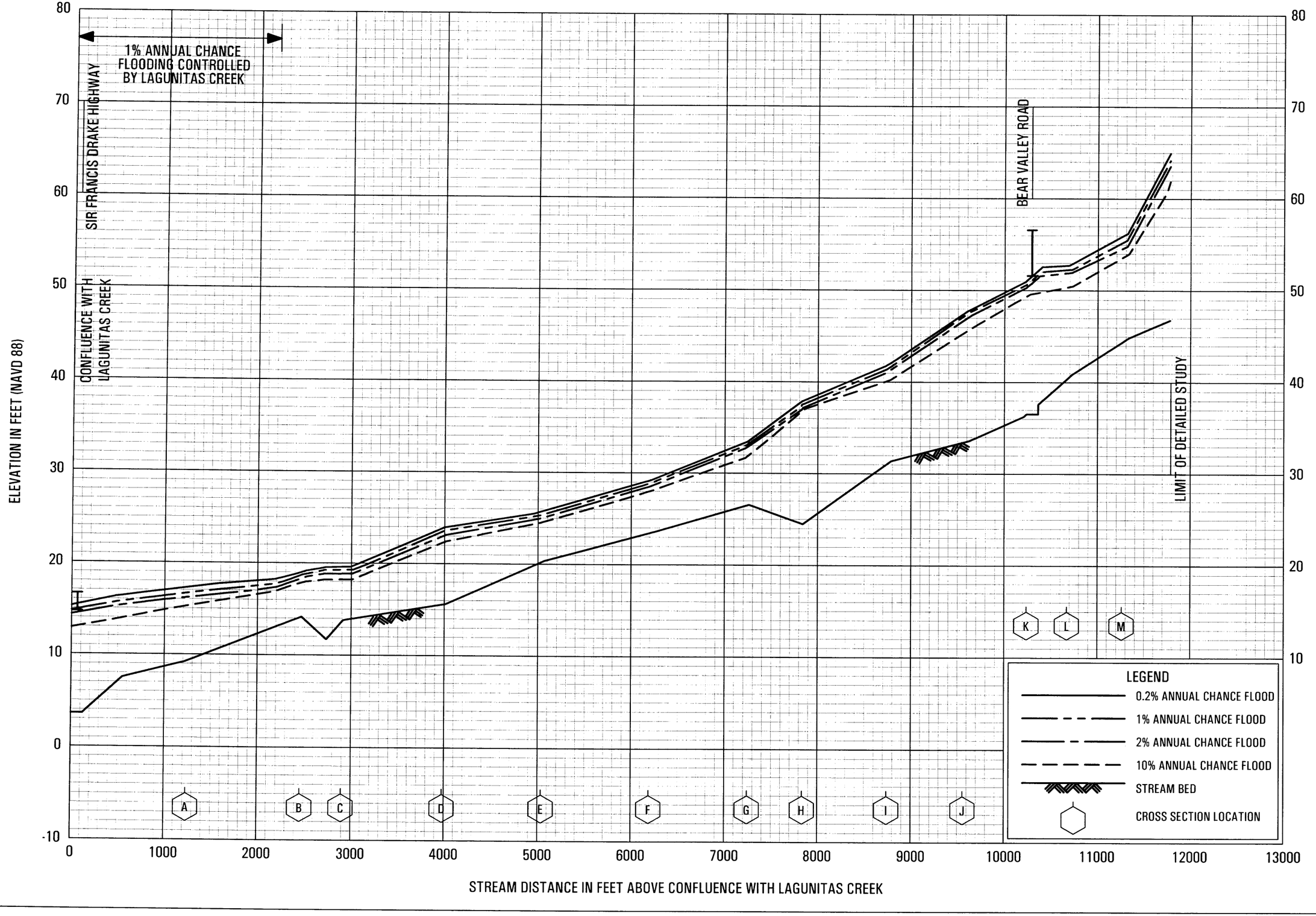

FLOOD PROFILES

OLEMA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARIN COUNTY, CA

AND INCORPORATED AREAS

52P