

IGA FEDZ000A006



LETTER OF MAP REVISION REQUEST FOR SKUNK CREEK

City of Phoenix Contract No. SA-930222

TECHNICAL DATA NOTEBOOK

November 2002

Prepared for:



City of Phoenix
200 W. Washington Street
Phoenix, Arizona 85003
(602) 262-4026

Submitted to:



EMCON/OWT
Solid Waste Services, a member of the
IT Group, Prime Consultant
305 South Euclid Avenue, Suite 101
Tucson Arizona 85719
(520) 792-2800



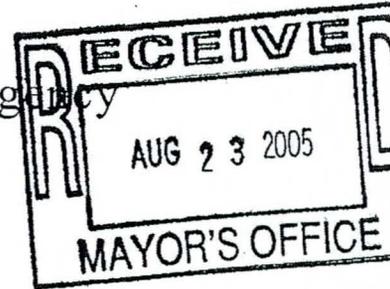
Prepared by:

TETRA TECH, INC.
INFRASTRUCTURE SOUTHWEST GROUP
4801 E. Washington St., Ste. 260
Phoenix, Arizona 85034-2004
(602) 682-3300



Federal Emergency Management Agency
Washington, D.C. 20472

AUG 15 2005



CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Phil Gordon
Mayor, City of Phoenix
200 West Washington Street, 11th Floor
Phoenix, AZ 85003

IN REPLY REFER TO:

Case No.: 05-09-1291X
Community Name: City of Phoenix, AZ
Community No.: 040051
Effective Date of This Revision: **AUG 15 2005**

Dear Mayor Gordon:

The Flood Insurance Study report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Oakland, California, at (510) 627-7175, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,

Michael B. Godesky, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

For: Doug Bellomo, P.E., Chief
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
Annotated Flood Insurance Study Report

cc: (See attached list.)

Courtesy Copies List –City of Phoenix

Hasan Mushtaq, Ph.D., P.E., CFM
Floodplain Manager
City of Phoenix

Mr. Timothy S. Phillips, P.E.
Acting Chief Engineer and General Manager
Flood Control District of Maricopa County

Mr. Ted Collins
Principal Floodplain Coordinator
Flood Control District of Maricopa County

Mr. Kevin LaVallee
GIS Specialist
Flood Control District of Maricopa County

Mr. Brian Cosson, CFM
NFIP Coordinator
Arizona Department of Water Resources

Mr. Garth R. Bowers, P.E.
Senior Project Manager
EMCON/OWT, Inc.



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Phoenix Maricopa County Arizona	NO PROJECT	UPDATE HYDRAULIC ANALYSIS
	COMMUNITY NO.: 040051		
IDENTIFIER	Skunk Creek Delineation from I-17 to Adobe Dam	APPROXIMATE LATITUDE & LONGITUDE: 33.6875, -112.1250 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
FLOODING SOURCE(S) & REVISED REACH(ES)	Skunk Creek - From just upstream of Adobe Dam to just downstream of Interstate I-17 Skunk Creek - Breakout Area - From approximately 100 feet upstream to approximately 3,100 feet downstream of Pinnacle Peak Road		

SUMMARY OF REVISIONS

This LOMR is being issued to modify the effects of a previous LOMR for your community dated July 28, 2005 (Case No. 03-09-0661P). In the July 28 LOMR, an incorrect cumulative horizontal distance was used on the flood profiles for Skunk Creek, and an incorrect cross section was referenced on the floodway data table for Skunk Creek. New hydraulic analyses were submitted for the floods having 10- and 0.2-percent chance of being equaled or exceeded in any given year for Skunk Creek - Breakout Area.

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 04013C1185 G Date: July 19, 2001 <i>also affects 1205</i>	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: July 19, 2001 FLOODWAY DATA TABLE: 5 (Skunk Creek) SUMMARY OF DISCHARGES TABLE: 3 (Skunk Creek and Skunk Creek - Breakout Area) PROFILES: 311P, 312P, and 313P (Skunk Creek) PROFILE: 1280P (Skunk Creek - Breakout Area)

* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Michael B. Godesky, CFM, Project Engineer
Hazard Identification Section
Mitigation Division

Emergency Preparedness and Response Directorate 105634 10.3.1.05091291X-102D



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Michael B. Godesky".

Michael B. Godesky, CFM, Project Engineer
Hazard Identification Section
Mitigation Division



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION (CONTINUED)

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

Ms. Sally M. Ziolkowski
Director, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We are processing a revised FIRM and FIS report for Maricopa County, Arizona, and its incorporated areas. The revised FIRM and FIS report, which include flood hazard information for your community, will become effective on September 30, 2005. Because the effective date has already been established, we will not incorporate the modifications made by this LOMR into the revised FIRM and FIS report before they become effective. Therefore, the modifications made by this LOMR will be superseded when the revised FIRM and FIS report become effective. After the effective date, we will issue a letter to revalidate the modifications made by this LOMR and revise the newly effective FIRM and FIS report.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

This revision is effective as of the date of this letter. Any requests to review or alter this determination should be made within 30 days and must be based on scientific or technical data.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-827-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Michael B. Godesky".

Michael B. Godesky, CFM, Project Engineer
Hazard Identification Section
Mitigation Division

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second)			
		10-Year	50-Year	100-Year	500-Year
Wash 10 South					
At confluence with Wash 10	-- ¹	-- ¹	-- ¹	570 ²	-- ¹
Wash 11					
At confluence with the Verde River	-- ¹	-- ¹	-- ¹	2,100 ²	-- ¹
Above confluence with Wash 10	-- ¹	-- ¹	-- ¹	950 ²	-- ¹
Above confluence with Wash 11 South	-- ¹	-- ¹	-- ¹	586 ²	-- ¹
Above confluence with Wash 12	-- ¹	-- ¹	-- ¹	791 ²	-- ¹
Approximately 2,050 feet upstream of 160th Street	5.18	-- ¹	-- ¹	1,398 ²	-- ¹
Wash 11 South					
Above confluence with Wash 11	-- ¹	-- ¹	-- ¹	409 ²	-- ¹
Approximately 1,100 feet upstream of 160th Street	-- ¹	-- ¹	-- ¹	600 ²	-- ¹
Wash 12					
At confluence with Verde River	-- ¹	-- ¹	-- ¹	1,110 ²	-- ¹
Below confluence with Wash 11	-- ¹	-- ¹	-- ¹	346 ²	-- ¹
Wash 12 South					
Approximately 4,950 feet downstream of 176th Street	-- ¹	-- ¹	-- ¹	387 ²	-- ¹
Below confluence with Wash 12	-- ¹	-- ¹	-- ¹	303 ²	-- ¹
Wash 12 South, Branch 1					
At confluence with Wash 12 South	-- ¹	-- ¹	-- ¹	186	-- ¹
Approximately 1,950 feet downstream of confluence with Wash 12 South	-- ¹	-- ¹	-- ¹	204	-- ¹
Wash 12 South, Branch 2					
At confluence with Wash 12 South	-- ¹	-- ¹	-- ¹	233 ²	-- ¹
Approximately 4,050 feet downstream of confluence with Wash 12 South	-- ¹	-- ¹	-- ¹	204 ²	-- ¹
Skunk Creek					
Below divergence of Skunk Creek Breakout Area	-- ¹	11,420 ²	21,000 ²	27,780 ²	55,050 ²
Skunk Creek - Breakout Area					
Below divergence from Skunk Creek	-- ¹	3,580	8,000	11,220	29,950

REVISED DATA

REVISED DATA

**REVISED TO
REFLECT LOMR
DATED AUG 15 2005**

¹Not computed

²Values along flooding source increase and decrease due to flow splits

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NGVD)		
AA	31,820	295	2,152	4.0	1,303.4	1,303.4	1,303.5	0.1
AB	32,836	286	1,724	4.9	1,306.3	1,306.3	1,306.3	0.0
AC	33,893	124	580	4.5	1,310.0	1,310.0	1,310.0	0.0
AD	34,815	100	413	5.3	1,316.0	1,316.0	1,316.0	0.0
AE	36,270	194	340	5.3	1,320.8	1,320.8	1,320.8	0.0
AF	37,780	124	271	6.4	1,327.0	1,327.0	1,327.0	0.0
AG	46,341	896	4,669	8.4	1,378.7	1,378.7	1,378.7	0.0
AH	47,848	350	3,568	10.9	1,385.4	1,385.4	1,385.4	0.0
AI	49,107	737	4,189	10.2	1,399.3	1,399.3	1,400.3	1.0
AJ	49,932	728	3,278	12.7	1,403.0	1,403.0	1,403.4	0.4
AK	50,974	467	3,662	10.7	1,410.5	1,410.5	1,410.5	0.0
AL	51,779	428	2,924	13.3	1,413.4	1,413.4	1,413.4	0.0
AM	53,221	407	3,197	12.2	1,421.6	1,421.6	1,421.6	0.0
AN	53,699	486	3,021	12.9	1,426.7	1,426.7	1,426.7	0.0
AO	54,903	449	2,756	14.2	1,434.7	1,434.7	1,434.7	0.0
AP	55,980	422	3,143	12.4	1,441.8	1,441.8	1,441.8	0.0
AQ	57,040	486	3,476	11.2	1,450.4	1,450.4	1,450.4	0.0
AR	58,087	506	4,114	9.5	1,455.6	1,455.6	1,455.6	0.0
AS	64,460	910	4,132	8.5	1,493.4	1,493.4	1,493.4	0.0
AT	65,960	1,100	4,128	8.5	1,503.1	1,503.1	1,503.1	0.0
AU	67,460	1,960	4,481	7.8	1,512.2	1,512.2	1,512.2	0.0

REVISED DATA

¹ Feet Above Confluence with New River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
 AND INCORPORATED AREAS

FLOODWAY DATA

SKUNK CREEK

REVISED TO
REFLECT LOMR
DATED AUG 15 2005



TETRA TECH, INC.

4801 E. Washington, Suite 260, Phoenix, AZ 85034
PHONE: (602) 682-3300 FAX: (602) 244-1164

November 25, 2002

Richard Harris, P.E.
Project Manager
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

RE: LOMR Request for Skunk Creek, IGAFCD2000A006

Dear Mr. Harris:

You were in our offices when Pedro Calza asked me to send you a copy of this CD before he left. On the CD is a copy of our Skunk Creek project folder. As I have transferred to the Phoenix office from Tucson recently, I am not very familiar with this project. I will, however, help you in any way I can if you have any questions regarding the contents of this disk.

Thank you.

Sincerely,

TETRA TECH, INC.



Jeff Shelton

cc:
File: LT021125_JCS_Harris.doc

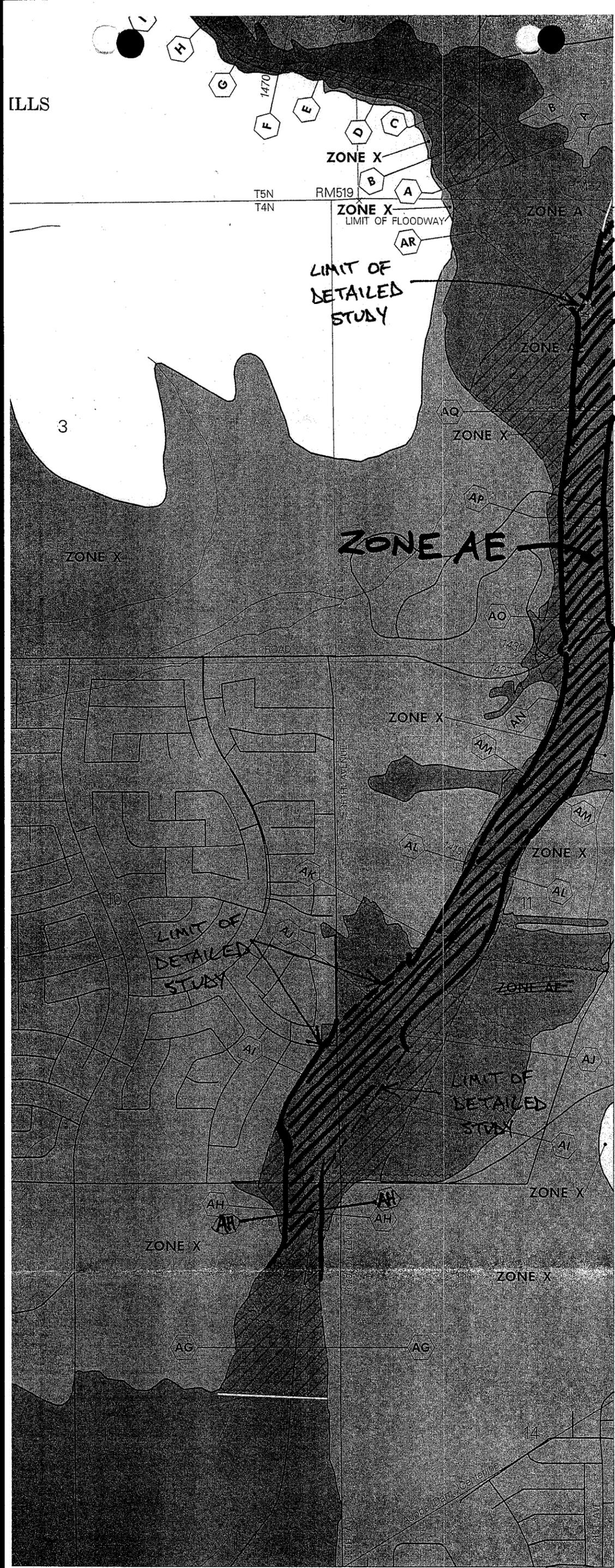
An Equal Opportunity Employer

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

7.3 ANNOTATED FIRM MAP

An Annotated Firm Map in FEMA format is in Figure 7-1.

ILLS



RM7 X
 • M2
 97°07'30", 32°22'30"

Where Uniform Within Zone.
 See Map Index for Datum.
 Elevation Referenc
 River Mile
 Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for more detailed data on BFE's, and for any information on floodway delineations, prior to use of this map for property purchase or construction purposes.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, A1-A30, AH, AO, A99, V, VE and V1-V30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

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 Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Table where floodway width is shown at 120 inch.

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and/or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

For community map revision history prior to countywide mapping, see Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels and base map source see separately printed Map Index.

MAP REPOSITORY

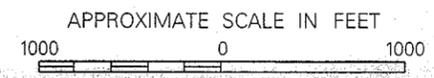
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF
 COUNTYWIDE FLOOD INSURANCE RATE MAP:
 APRIL 15, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:
 SEPTEMBER 29, 1989, SEPTEMBER 4, 1991

Map revised July 19, 2001 to update corporate limits, to change base flood elevations, to add base flood elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1185 OF 4350
 (SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GLENDALE, CITY OF	040045	1185	G
PHOENIX, CITY OF	040051	1185	G

MAP NUMBER
 04013C1185 G
 MAP REVISED:
 JULY 19, 2001



Federal Emergency Management Agency

ZONE AE
EL. 1460

ZONE X

LIMIT OF
DETAILED
STUDY

ZONE AE

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

**MARICOPA COUNTY,
ARIZONA AND
INCORPORATED AREAS**

PANEL 1205 OF 4350
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	1205	F
PHOENIX, CITY OF	040051	1205	F

**MAP NUMBER
04013C1205 F**

**MAP REVISED:
JULY 19, 2001**



Federal Emergency Management Agency

FLOODING
EFFECTS FROM
SKUNK CREEK

ZONE AE
ZONE X

ZONE X

ZONE A

ZONE AH

LIMIT OF
DETAILED
STUDY

14

ZONE AE

13

CITY OF PHOENIX
040051

OF
FILED
IDY

JOINS PANEL 1185

CORPORATE LIMITS

CITY OF PHOENIX
MARICOPA COUNTY

15''
112°07'30''

Scatter Wash
North Branch

27TH AVENUE

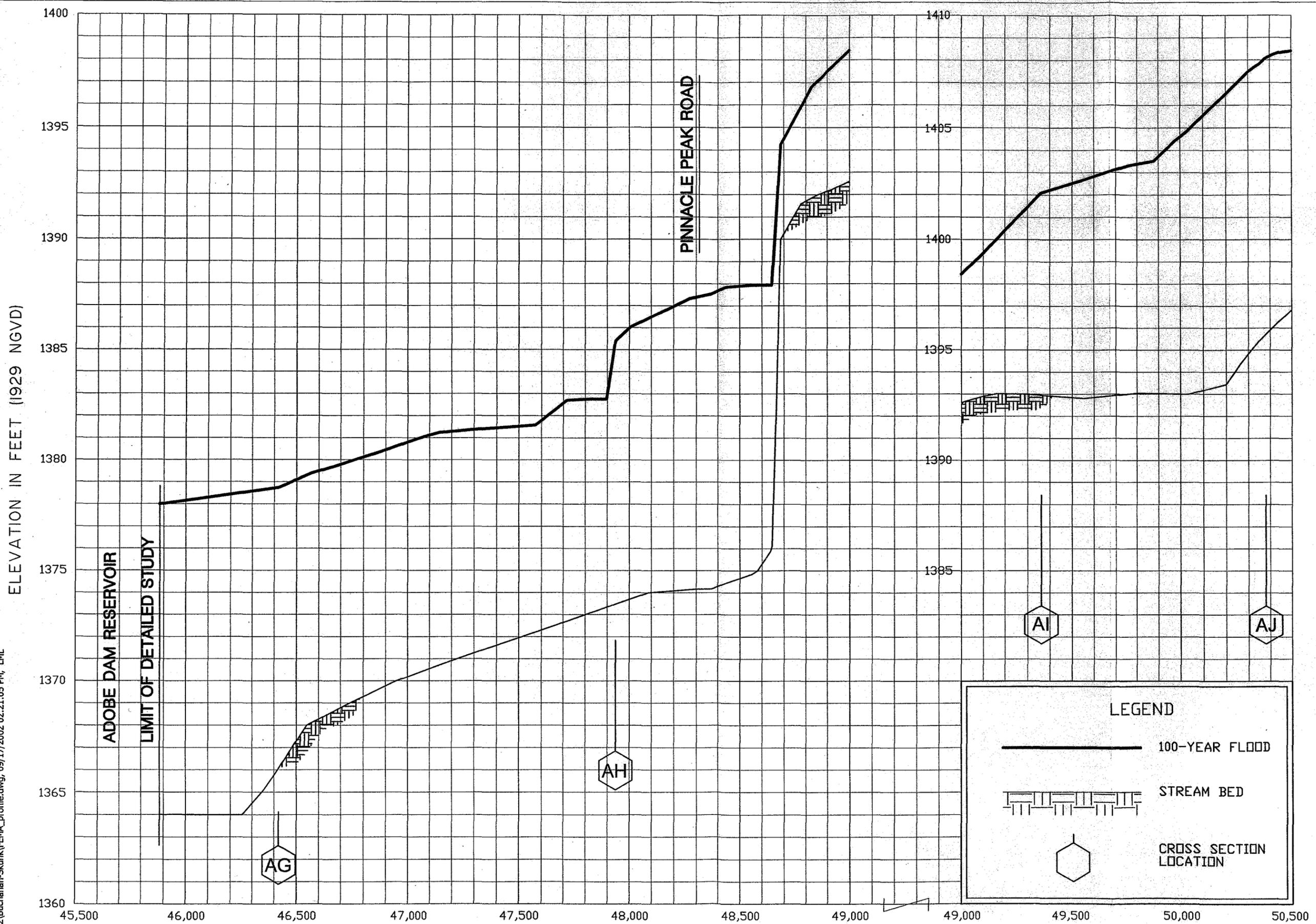
Scatter Wash
South Branch

JOINS PANEL 1215

7.4 FLOOD PROFILES

The proposed flood profile for Skunk Creek is provided on Figure 7-2 in FEMA format.

\\emcr-002\buchanan-skunk\FEMA_profile.dwg, 09/17/2002 02:21:05 PM, LML

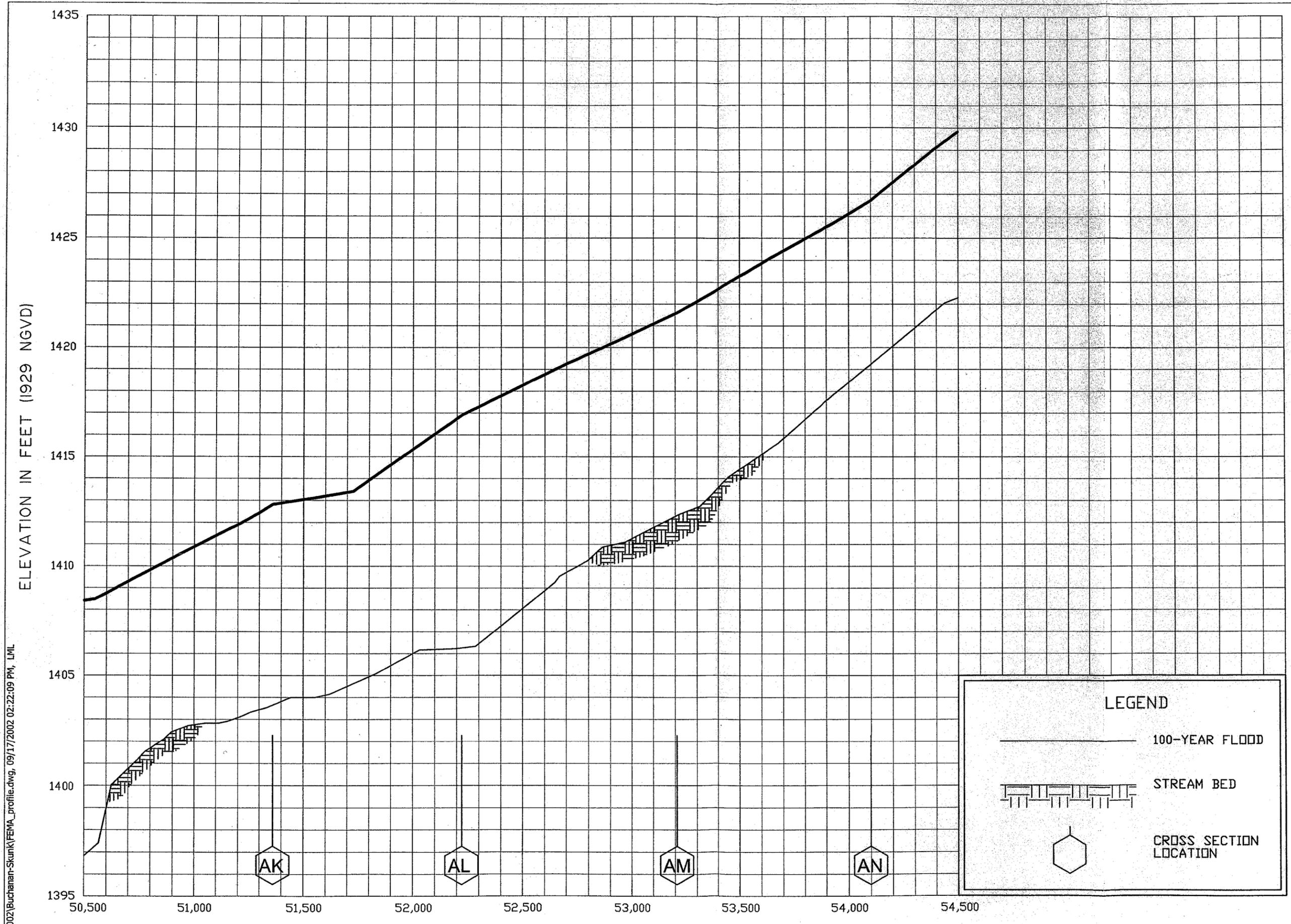


LEGEND

- 100-YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES
SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
CITY OF PHOENIX, ARIZONA



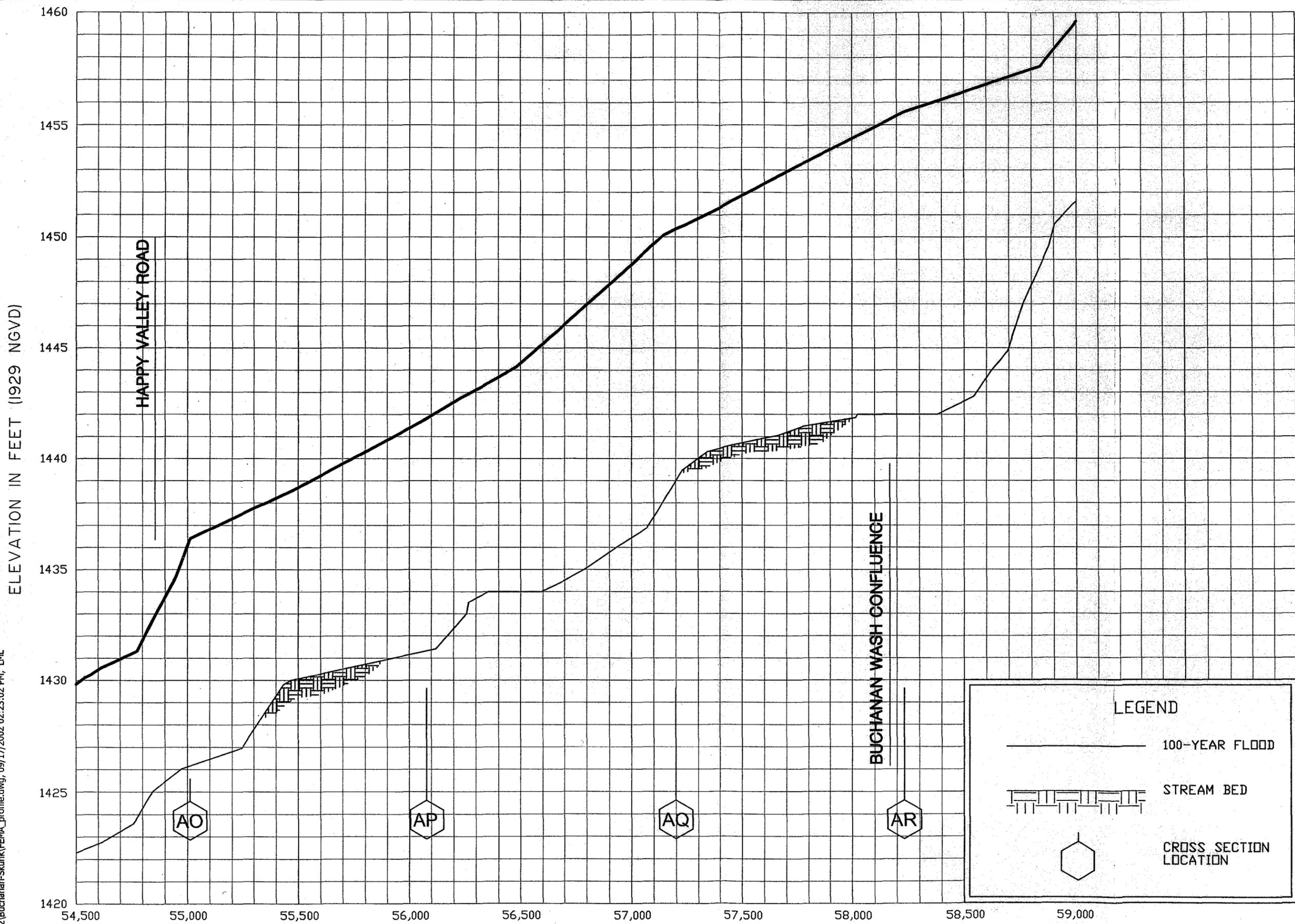
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FLOOD PROFILES
SKUNK CREEK

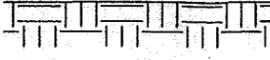
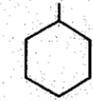
FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FIGURE 7-2

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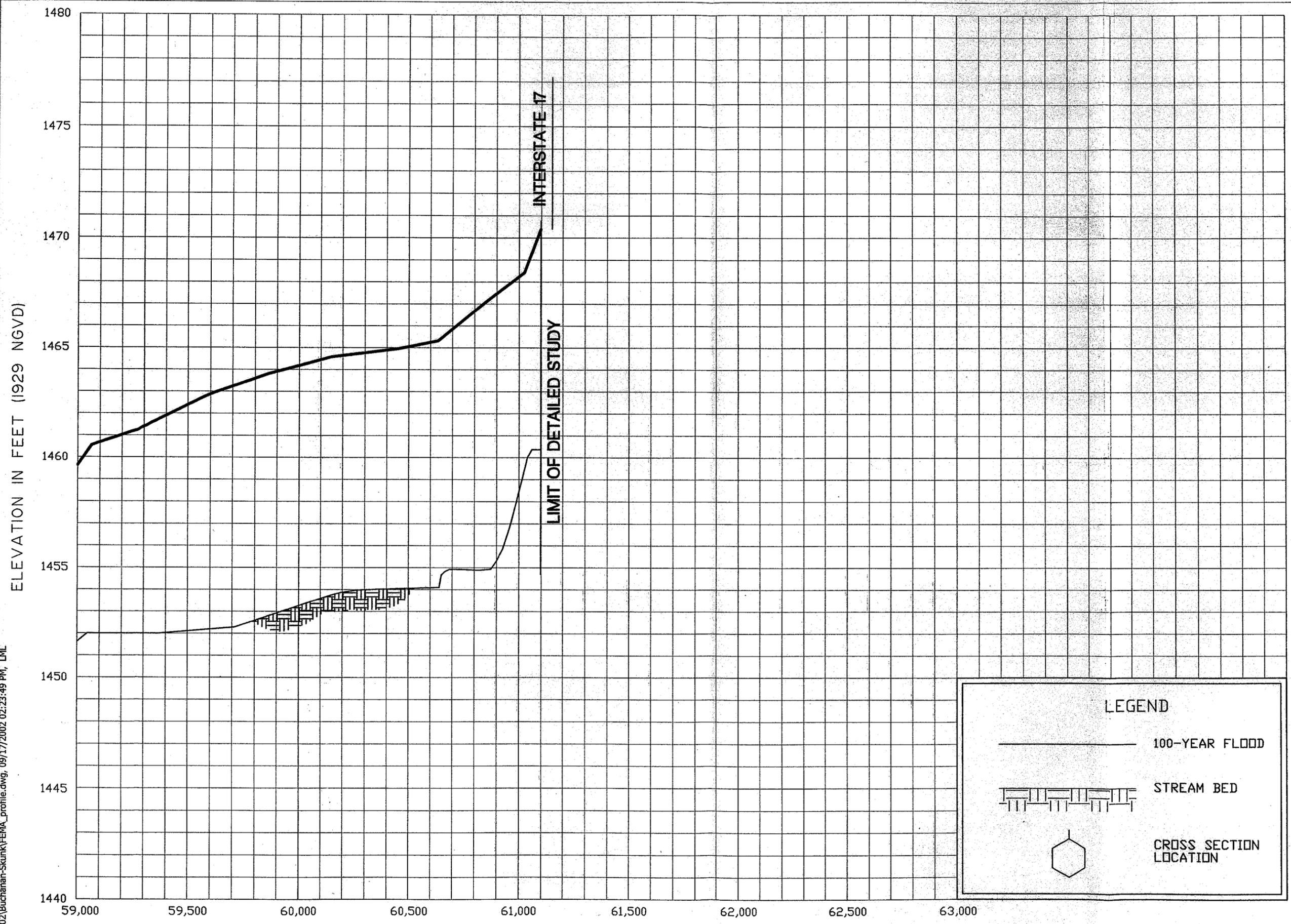
LEGEND

-  100-YEAR FLOOD
-  STREAM BED
-  CROSS SECTION LOCATION

FLOOD PROFILES
SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
CITY OF PHOENIX, ARIZONA

\\emcr-002\Buchanan-Skunk\FEMA_profile.dwg, 09/17/2002 02:23:49 PM, LML



FLOOD PROFILES

SKUNK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PHOENIX, ARIZONA

FIGURE 7-2