



Federal Emergency Management Agency

Washington, D.C. 20472

October 20, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Jonathan Rothschild
Mayor, City of Tucson
City Hall
255 West Alameda Street, 10th Floor
Tucson, AZ 85701

IN REPLY REFER TO:

Case No.: 16-09-0670P
Follows Conditional
Case No.: 13-09-2333R
Community Name: City of Tucson, AZ
Community No.: 040076
Effective Date of
This Revision: **March 3, 2017**

Dear Mayor Rothschild:

The Flood Insurance Study Report and Flood Insurance Rate Map for your community has 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, 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 Information eXchange 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/business/nfip>.

Sincerely,

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

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

cc: Mr. Fred Felix, P.E.
Floodplain Administrator
City of Tucson

Mr. Terry Hendricks, P.E., CFM
Chief Hydrologist
Pima County Regional Flood Control District

Ms. Suzanne Shields, P.E.
Director
Pima County Regional Flood Control District

Mr. Michael Daly, P.E.
Project Manager
Psomas

Follows Conditional Case No.: 13-09-2333R



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 Tucson Pima County Arizona	BRIDGE CHANNELIZATION FILL	FLOODWAY HYDRAULIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 040076		
IDENTIFIER	Paseo De Las Iglesias Phase 1	APPROXIMATE LATITUDE & LONGITUDE: 32.197, -110.987 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 04019C2278L DATE: June 16, 2011	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: June 16, 2011	
TYPE: FIRM*	NO.: 04019C2286L DATE: June 16, 2011	PROFILE(S): 213P TO 216P FLOODWAY DATA TABLE: TABLE 8	

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Santa Cruz River - from approximately 1,600 feet upstream of Ajo Way to approximately 650 feet downstream of Silverlake Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Santa Cruz River	Zone AE	Zone AE	YES	YES
	Zone X (shaded)	Zone X (shaded)	YES	YES
	BFEs*	BFEs	YES	YES
	Floodway	Floodway	YES	YES

* BFEs - Base Flood Elevations

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 Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Patrick "Rick" F. Sacbbit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



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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.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

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 Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



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**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (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.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Jeffrey D. Lusk
Director, 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 will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

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 Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. 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 "Rick Sacbibit".

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

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

PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfe_status/bfe_main.asp

LOCAL NEWSPAPER

Name: *Arizona Daily Star*

Dates: October 27, 2016 and November 3, 2016

Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.

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 Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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Patrick "Rick" F. Sacbbit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Santa Cruz River (continued)								
GA	176,206	188	3,234	18.6	2,355.5	2,355.5	2,355.5	0.0
GB	177,210	251	4,494	13.4	2,360.2	2,360.2	2,360.2	0.0
GC	178,160	220	3,096	19.4	2,360.2	2,360.2	2,360.2	0.0
GD	178,741	217	3,601	16.7	2,363.2	2,363.2	2,363.2	0.0
GE	179,744	204	3,218	18.6	2,366.6	2,366.6	2,366.6	0.0
GF	180,100	245	2,881	20.8	2,366.5	2,366.5	2,366.5	0.0
GG	181,848	610	10,081	6.0	2,378.3	2,378.3	2,378.3	0.0
GH	182,863	572	9,007	6.7	2,379.0	2,379.0	2,379.0	0.0
GI	184,029	606	6,449	9.3	2,379.6	2,379.6	2,379.6	0.0
GJ	184,998	610	5,619	13.6	2,381.9	2,381.9	2,381.9	0.0
GK	186,048	841	6,393	12.8	2,385.1	2,385.1	2,385.1	0.0
GL	187,066	947	6,280	13.5	2,387.4	2,387.4	2,387.4	0.0
GM	188,145	292	4,027	14.9	2,394.1	2,394.1	2,394.1	0.0
GN	189,100	224	2,914	20.6	2,396.5	2,396.5	2,396.5	0.0
GO	189,749	270	4,222	14.4	2,405.5	2,405.5	2,405.5	0.0
GP	190,774	250	3,789	15.9	2,406.5	2,406.5	2,406.5	0.0
GQ	191,734	260	4,161	14.4	2,409.2	2,409.2	2,409.2	0.0
GR	192,737	248	3,713	16.2	2,410.6	2,410.6	2,410.6	0.0
GS	193,740	291	4,043	14.8	2,414.1	2,414.1	2,414.1	0.0
GT	194,744	284	3,151	19.0	2,415.6	2,415.6	2,415.6	0.0
GU	195,324	358	3,393	17.7	2,420.1	2,420.1	2,420.1	0.0
GV	196,328	341	4,126	14.5	2,424.4	2,424.4	2,424.4	0.0
GW	197,331	337	3,534	17.0	2,426.3	2,426.3	2,426.3	0.0
GX	198,334	523	5,257	11.4	2,431.0	2,431.0	2,431.0	0.0
GY	199,337	419	3,598	16.7	2,432.9	2,432.9	2,432.9	0.0
GZ	200,288	505	5,948	10.1	2,438.4	2,438.4	2,438.4	0.0

REVISED DATA

REVISED TO REFLECT LOMR

EFFECTIVE: March 3, 2017

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
 AND INCORPORATED AREAS

TABLE 8

FLOODWAY DATA

SANTA CRUZ RIVER

¹Feet above Limit of Detailed Study*

*Limit of detailed study is approximately 4,600 feet downstream of Pinal-Pima County boundary

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Santa Cruz River (continued)								
HA	201,291	369	3,433	17.5	2,438.9	2,438.9	2,438.9	0.0
HB	202,294	496	7,299	8.2	2,449.9	2,449.9	2,449.9	0.0
HC	203,297	337	4,081	14.7	2,450.0	2,450.0	2,450.0	0.0
HD	204,300	305	5,464	11.0	2,459.5	2,459.5	2,459.7	0.2
HE	205,304	297	6,305	9.5	2,460.6	2,460.6	2,460.9	0.3
HF	206,096	306	5,127	11.7	2,460.8	2,460.8	2,461.1	0.3
HG	207,099	216	2,885	20.8	2,462.0	2,462.0	2,462.0	0.0
HH	208,102	785	9,246	6.5	2,469.5	2,469.5	2,469.5	0.0
HI	209,105	348	3,311	18.1	2,470.3	2,470.3	2,470.3	0.0
HJ	210,108	1,689	12,965	4.6	2,474.6	2,474.6	2,474.6	0.0
HK	211,112	9,673	5,219	11.5	2,474.6	2,474.6	2,474.6	0.0
HL	212,115	1,047	10,257	5.8	2,477.2	2,477.2	2,478.2	1.0
HM	213,065	1,177	7,074	8.5	2,478.1	2,478.1	2,478.7	0.6
HN	214,068	670	4,197	14.3	2,482.4	2,482.4	2,482.4	0.0
HO	215,072	1,038	5,799	10.3	2,486.6	2,486.6	2,486.6	0.0
HP	216,075	973	5,665	10.6	2,490.7	2,490.7	2,490.7	0.0
HQ	217,078	835	4,643	12.9	2,494.8	2,494.8	2,494.8	0.0
HR	217,817	457	3,695	16.2	2,499.3	2,499.3	2,499.3	0.0
HS	218,609	367	3,442	17.4	2,503.6	2,503.6	2,503.6	0.0
		REVISSED DATA						

¹Feet above Limit of Detailed Study*

*Limit of detailed study is approximately 4,600 feet downstream of Pinal-Pima County boundary

REVISED TO REFLECT LOMR

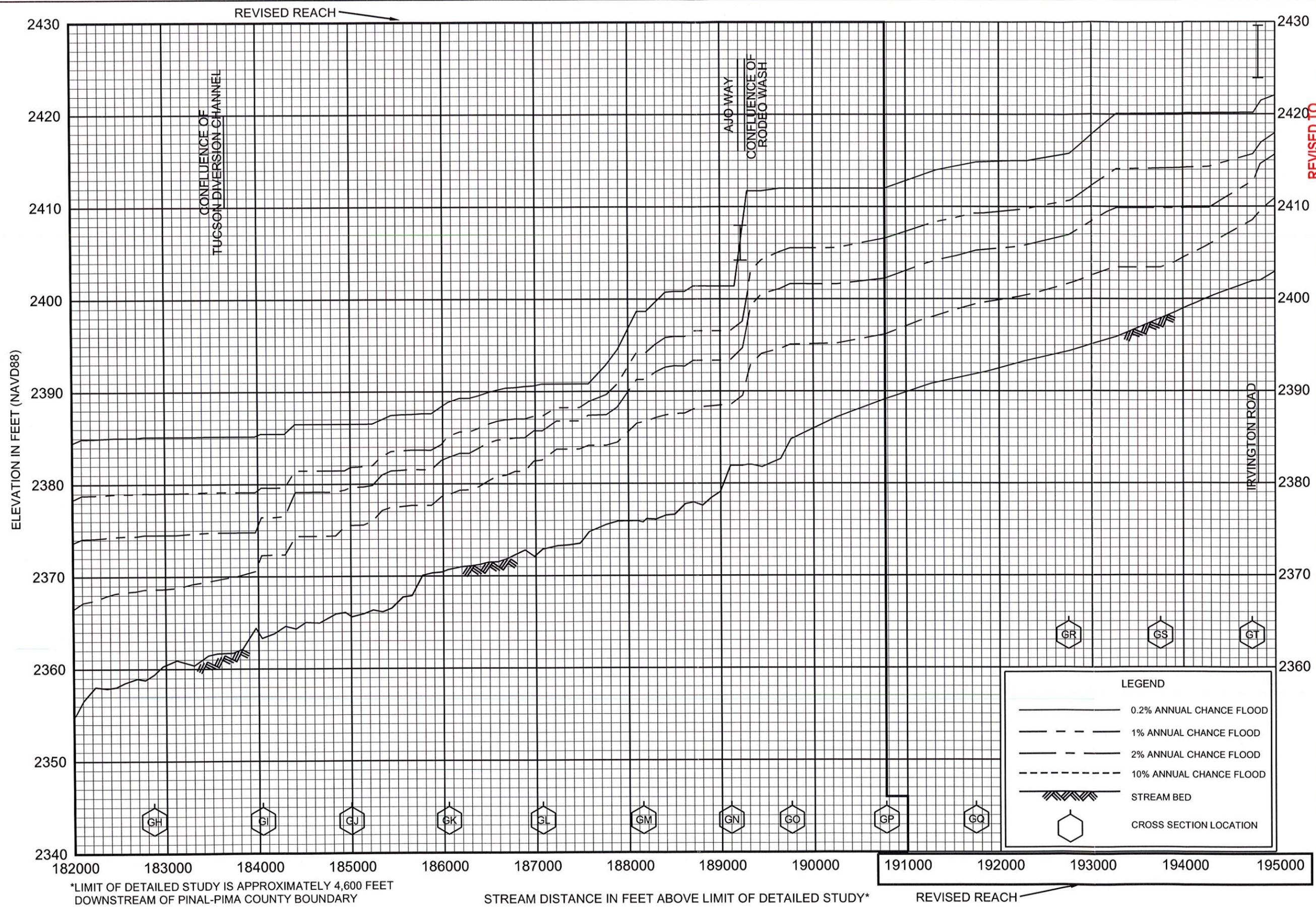
EFFECTIVE: March 3, 2017

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
 AND INCORPORATED AREAS

FLOODWAY DATA

SANTA CRUZ RIVER



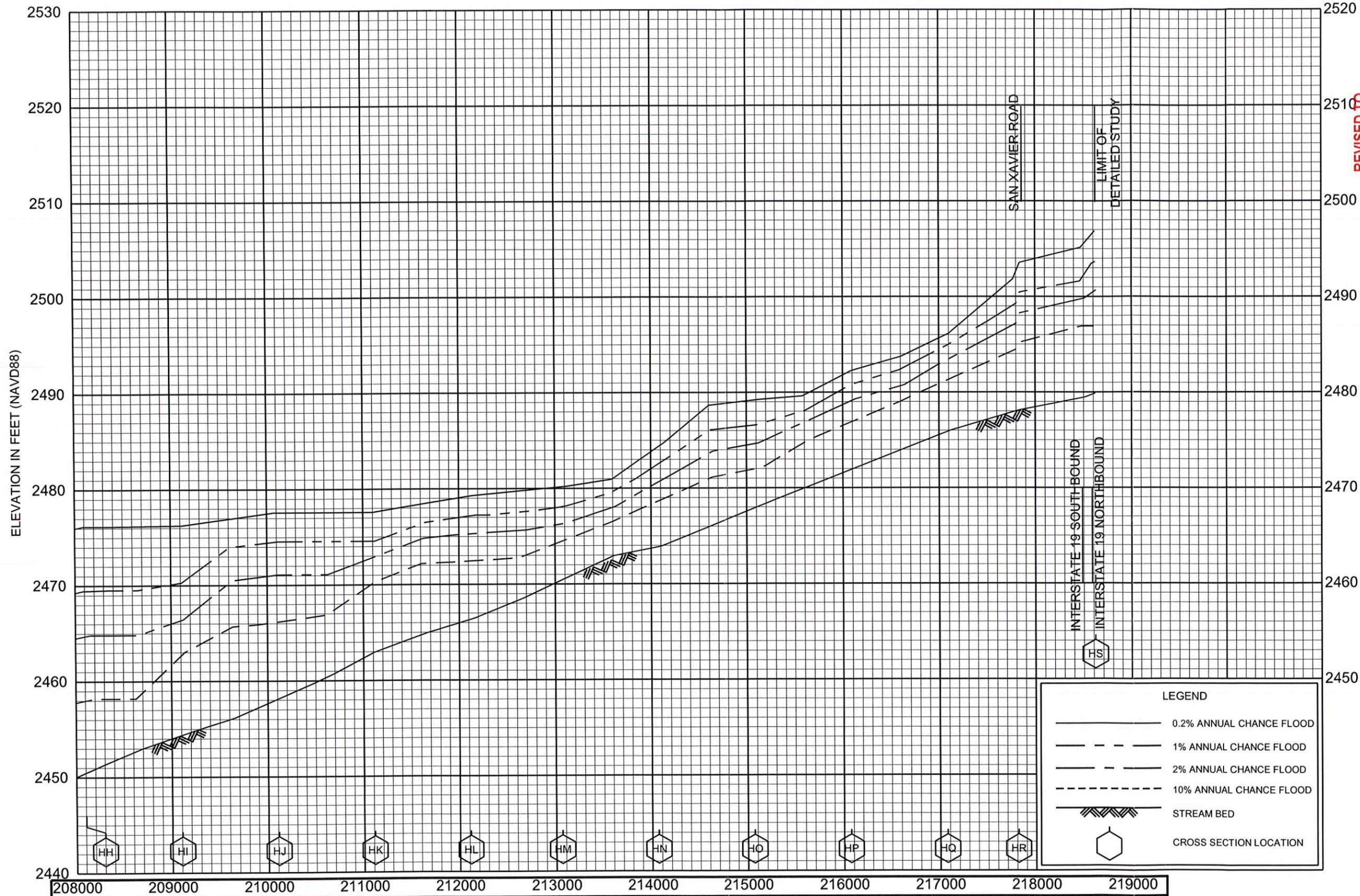
*LIMIT OF DETAILED STUDY IS APPROXIMATELY 4,600 FEET DOWNSTREAM OF PINAL-PIMA COUNTY BOUNDARY

REVISED TO REFLECT LOMR EFFECTIVE: March 3, 2017

FLOOD PROFILES

SANTA CRUZ RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
 AND INCORPORATED AREAS



*LIMIT OF DETAILED STUDY IS APPROXIMATELY 4,600 FEET DOWNSTREAM OF PINAL-PIMA COUNTY BOUNDARY

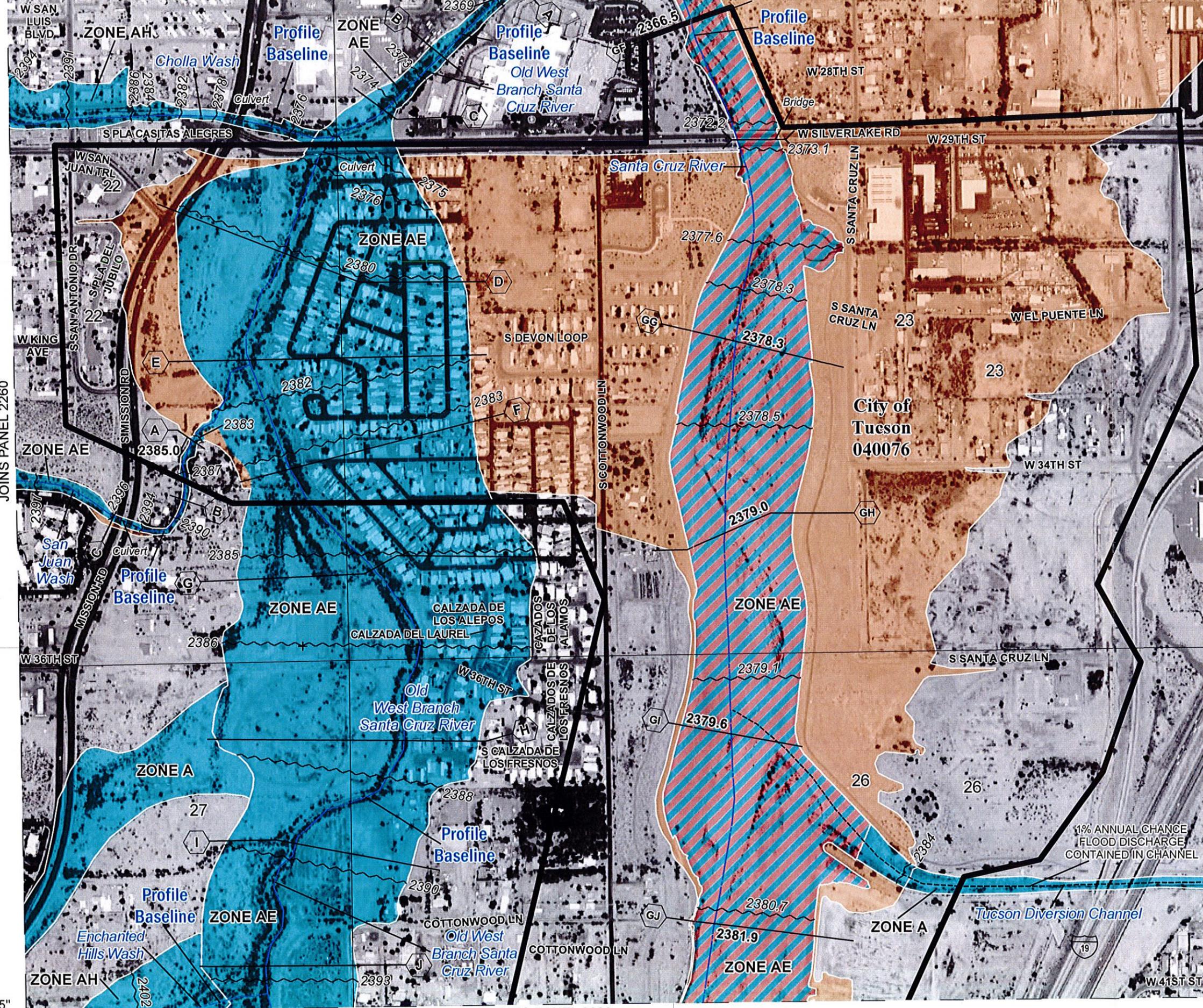
STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

REVISED REACH

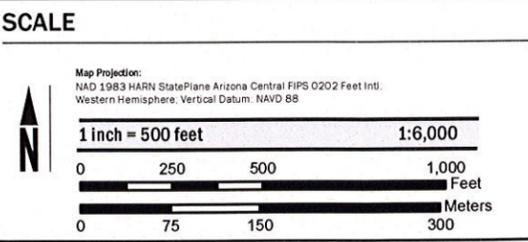
REVISED TO REFLECT LOMR EFFECTIVE: March 3, 2017

FLOOD PROFILES
SANTA CRUZ RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
AND INCORPORATED AREAS



- SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE)
Zone A, V, A99
 - With BFE or Depth Zone AE, AO, AH, VE, AR
 - Regulatory Floodway
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee See Notes. Zone X
- OTHER AREAS OF FLOOD HAZARD**



FEMA National Flood Insurance Program
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

PIMA COUNTY, ARIZONA
and Incorporated Areas

PANEL **2278** OF **4750**

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
SOUTH TUCSON, CITY OF	040075	2278	L
TUCSON, CITY OF	040076	2278	L

REVISED TO REFLECT LOMR EFFECTIVE: March 3, 2017

VERSION NUMBER 1.1.1.0
MAP NUMBER 04019C2278L
EFFECTIVE DATE JUNE 16, 2011

JOINS PANEL 2260

435000 FT

32° 11' 15"

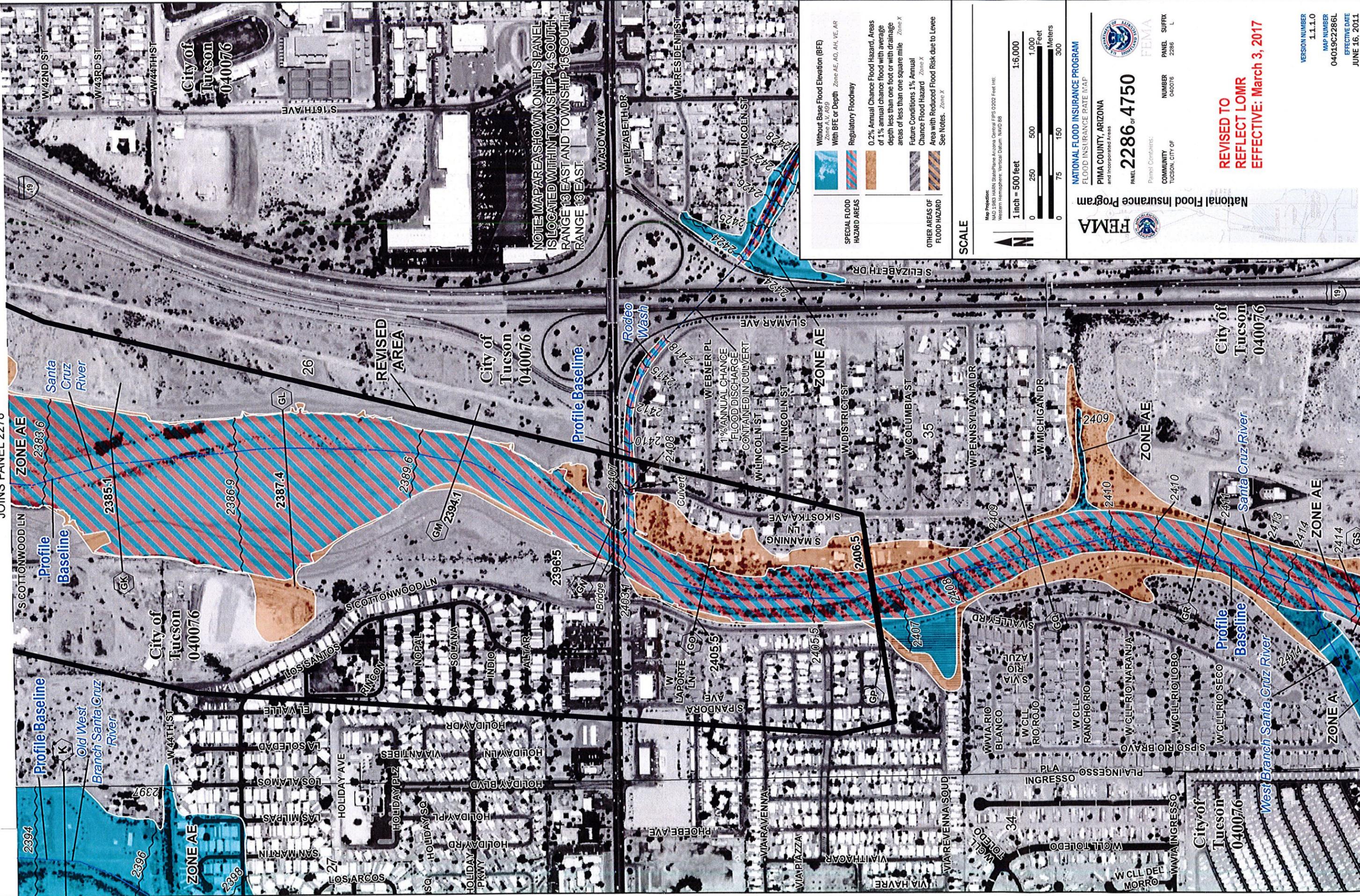
111° 00' 00"

JOINS PANEL 2286

501'000m E

985000 FT

JOINS PANEL 2278



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 14 SOUTH, RANGE 18 EAST AND TOWNSHIP 15 SOUTH, RANGE 18 EAST.

Without Base Flood Elevation (BFE) Zone A, V, AO, AH, VE, AR

With BFE or Depth Zone AE, AO, AH, VE, AR

Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X

Future Conditions 1% Annual Chance Flood Hazard Zone X

Area with Reduced Flood Risk due to Levee See Notes. Zone X

SPECIAL FLOOD HAZARD AREAS

OTHER AREAS OF FLOOD HAZARD

SCALE



Map Projection: NAD 1983 HARN StatePlane Arizona Central FIPS 5002 Feet Intl. Western Hemisphere, Vertical Datum: NAVD 83



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

PIMA COUNTY, ARIZONA
and Incorporated Areas

PANEL 2286 of 4750

Panel Contains:
COMMUNITY TUCSON, CITY OF
NUMBER 040076
PANEL SUFFIX L
2286

REVISED TO REFLECT LOMR EFFECTIVE: March 3, 2017

VERSION NUMBER 1.1.1.0
MAP NUMBER 04019C2286L
EFFECTIVE DATE JUNE 16, 2011