



# Federal Emergency Management Agency

Washington, D.C. 20472

March 25, 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.: 16-09-0139P  
Community Name: City of Tucson, AZ  
Community No.: 040076  
Effective Date of  
This Revision: **August 8, 2016**

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 Rate Map  
Annotated Flood Insurance Study Report

cc: The Honorable Sharon Bronson  
Chair, Board of Supervisors  
Pima County

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

Mr. Fred Felix  
Floodplain Administrator  
City of Tucson

Dr. Jiankang Wang, PH.D., P.E.  
Principal Engineer  
CMG Drainage Engineering, Inc.

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



# 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	CULVERT OTHER	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 040076		
IDENTIFIER	Alamo Wash LOMR	APPROXIMATE LATITUDE & LONGITUDE: 32.220, -110.862 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04019C2301L DATE: June 16, 2011 TYPE: FIRM* NO.: 04019C2303L DATE: June 16, 2011		DATE OF EFFECTIVE FLOOD INSURANCE STUDY: September 28, 2012 SUMMARY OF DISCHARGES TABLE: TABLE 6	

Enclosures reflect changes to flooding sources affected by this revision.

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

### FLOODING SOURCE(S) & REVISED REACH(ES)

Alamo Wash - from approximately 380 feet downstream of Wilmot Road to approximately 1,865 feet downstream of Broadway Boulevard

### SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Alamo Wash	BFEs*	BFEs	YES	YES
	Zone AH	Zone AH	YES	YES
	Zone X (shaded)	Zone X (shaded)	YES	YES
	Zone AH	Contained	NONE	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

16-09-0139P 102-I-A-C



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 discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist 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.

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 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)**

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, 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>.

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



TABLE 6- SUMMARY OF DISCHARGES

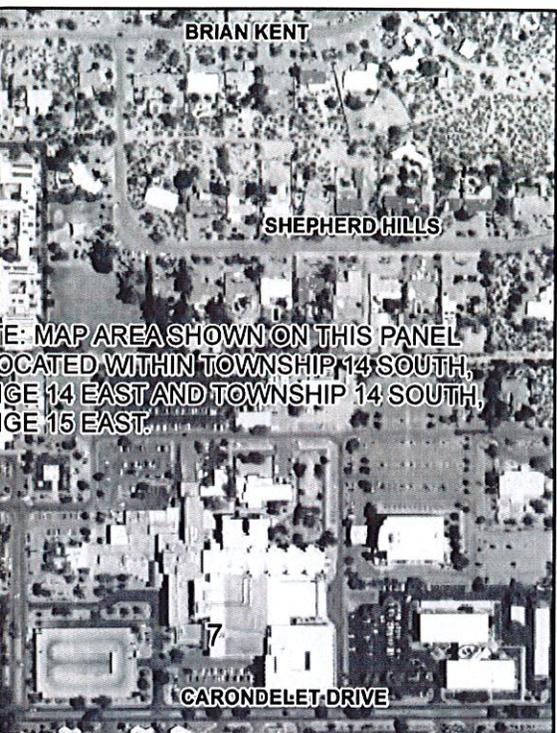
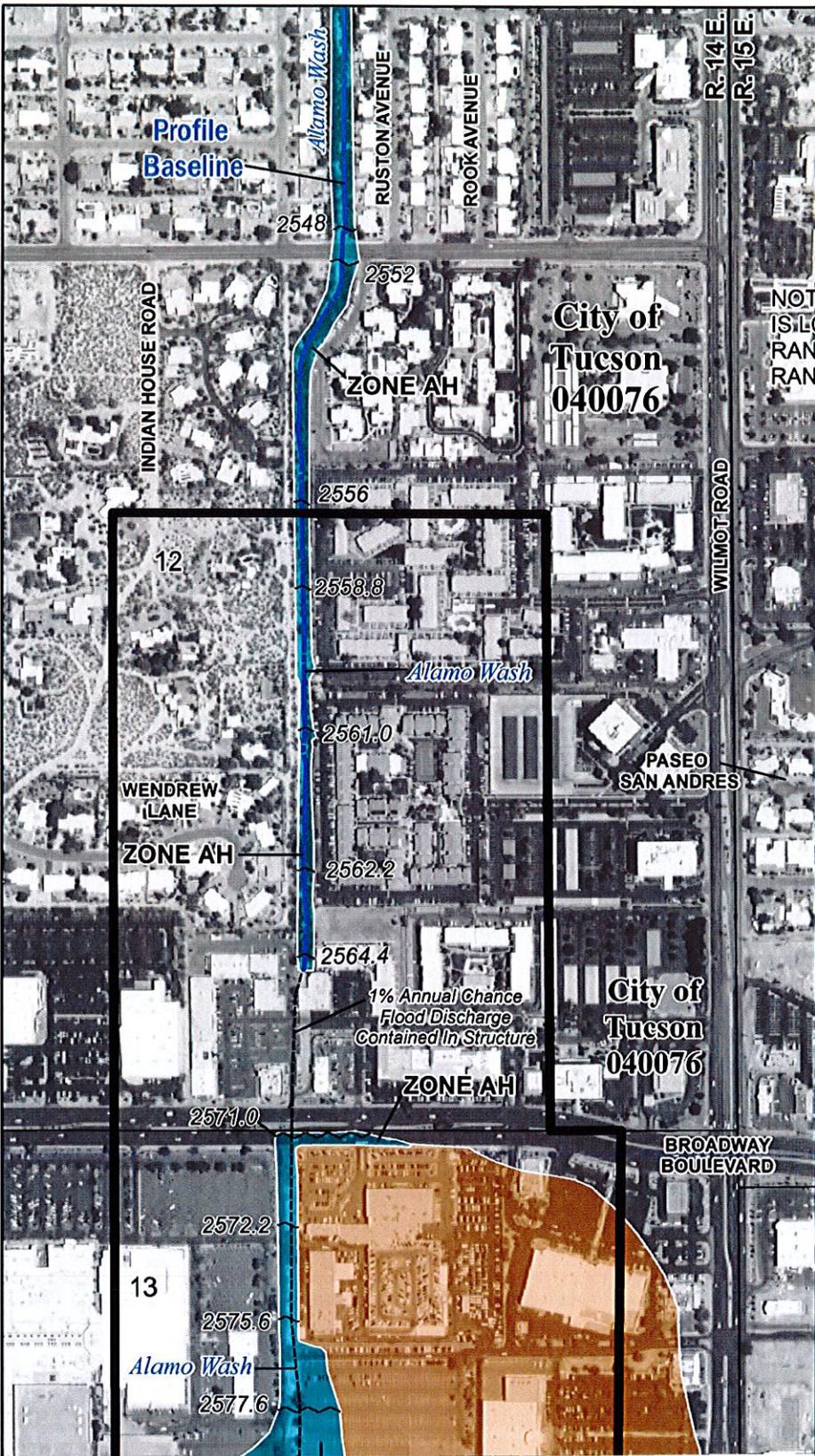
FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT
<b>"A" WASH</b>					
At confluence with Anklam Wash	0.05	*	*	240	*
At Speedway Boulevard	0.1	*	*	330	*
<b>AGUA CALIENTE WASH<sup>1</sup></b>					
Upstream of confluence with Tanque Verde Creek	40.4	*	6,040	7,180	9,555
Downstream of the divergence of Agua Caliente Spur Flow	*	*	7,930	10,540	18,925
Downstream of confluence with Soldier Canyon Creek	*	*	9,200	13,000	26,000
Upstream of confluence with Soldier Canyon Creek	28.6	3,400	8,400	12,000	24,000
<b>AGUA CALIENTE SPLIT FLOW</b>					
At divergence from Agua Caliente Wash	*	*	1,890	3,360	7,080
At confluence with Tanque Verde Creek	*	*	3,160	5,820	16,445
<b>AGUA CALIENTE SPUR FLOW</b>					
At confluence with Agua Caliente Split Flow	*	*	1,270	2,460	7,075
<b>AIRPORT WASH</b>					
At confluence with Santa Cruz River	23.5	2,800	6,200	8,100	11,500
<b>AJO WASH</b>					
At confluence with Tanque Verde Creek	1.91	*	*	3,465	*
<b>ALAMO WASH</b>					
At Grant Road	5.6	*	*	5,000	*
At Broadway Boulevard	3.3	*	*	2,911	*
At Wilmot Road	2.9	*	*	3,700	*
At Golf Links Road	0.9	*	*	1,800	*
<b>ALVERNON WASH</b>					
At confluence with Rillito River	3.3	*	*	5,310	*
Downstream of Fort Lowell Road	2.97	*	*	3,741	*
Upstream of confluence with Columbus Wash	1.4	*	*	2,225	*
At Grant Road	1.0	*	*	2,260	*

**REVISED DATA**

\*Data not available

<sup>1</sup>Flow reduced due to divergences to Split Flow and Spur Flow reaches

**REVISED TO REFLECT LOMR EFFECTIVE: August 8, 2016**



**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

**OTHER AREAS OF FLOOD HAZARD**

- 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

**SCALE**

Map Projection:  
NAD 1983 HARN StatePlane Arizona Central FIPS 0202 Feet Intl;  
Western Hemisphere, Vertical Datum: NAVD 88

1 Inch = 500 feet      1:6,000

0 250 500 1,000 Feet

0 75 150 300 Meters

**FEMA**  
National Flood Insurance Program

**NATIONAL FLOOD INSURANCE PROGRAM**  
FLOOD INSURANCE RATE MAP  
PIMA COUNTY, ARIZONA  
AND INCORPORATED AREAS

PANEL **2301** OF **4750**

Panel Contains:  
COMMUNITY NUMBER PANEL SUFFIX  
TUCSON, CITY OF 040076 2301 L

**REVISED TO REFLECT LOMR EFFECTIVE: August 8, 2016**

VERSION NUMBER 1.1.1.0  
MAP NUMBER 04019C2301L  
EFFECTIVE DATE JUNE 16, 2011

Storm Drain ZONE AH JOINS PANEL 2303

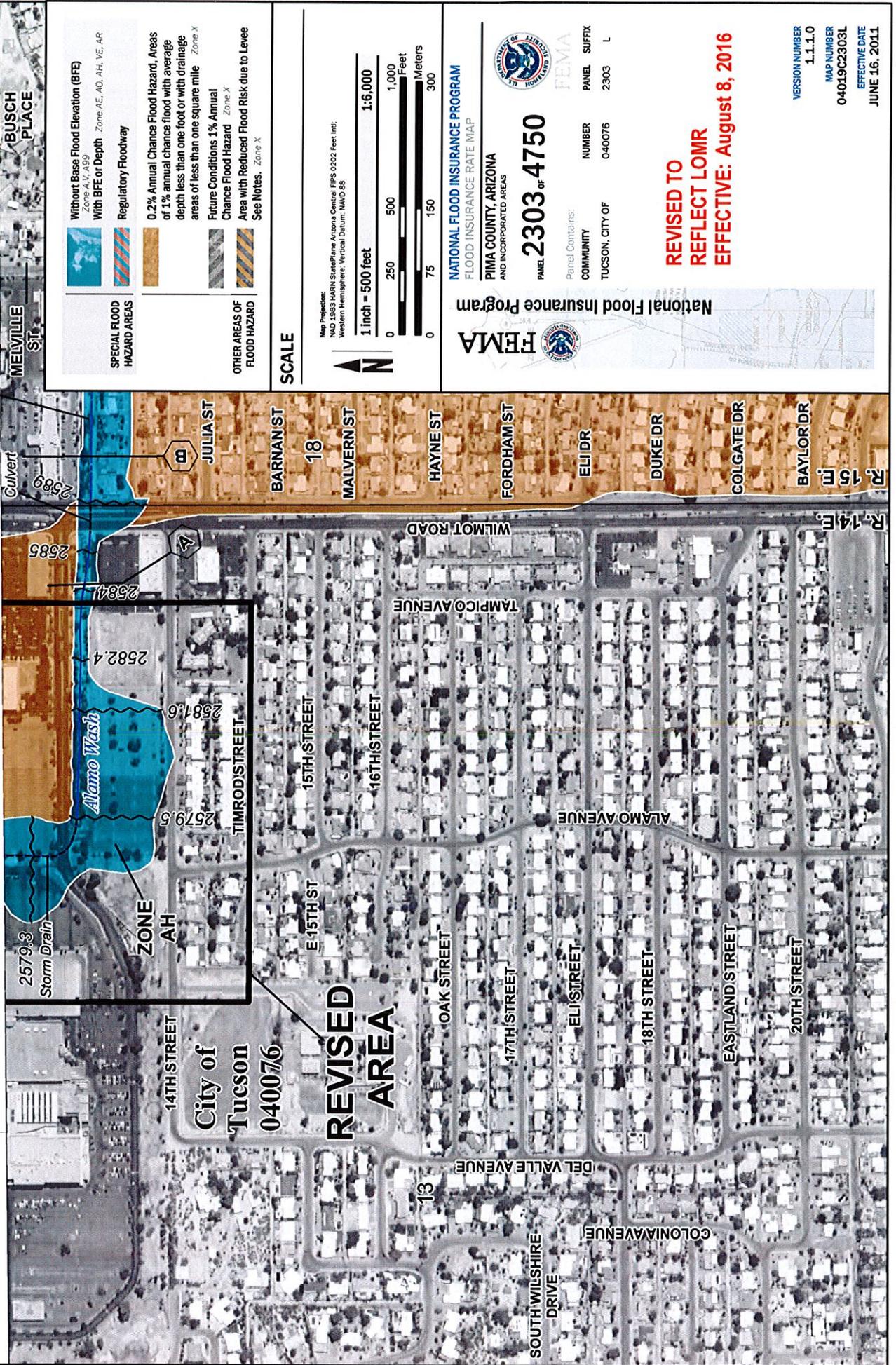
**NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 14 SOUTH, RANGE 14 EAST AND TOWNSHIP 14 SOUTH, RANGE 15 EAST.**

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

1025000 FT

JOINS PANEL 2301

ZONE AE



**Without Base Flood Elevation (BFE)**  
Zone A, V, A99

**With BFE or Depth** Zone AE, AC, 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

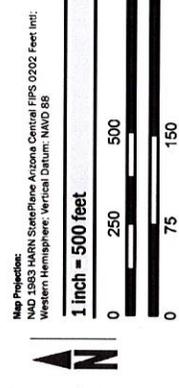
**Future Conditions 1% Annual Chance Flood Hazard** Zone X

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

**SPECIAL FLOOD HAZARD AREAS**

**OTHER AREAS OF FLOOD HAZARD**

**SCALE**



**NATIONAL FLOOD INSURANCE PROGRAM**

**FLOOD INSURANCE RATE MAP**

**PIMA COUNTY, ARIZONA**  
AND INCORPORATED AREAS

**2303 of 4750**

Panel Contains:  
COMMUNITY TUCSON, CITY OF  
NUMBER 040076  
PANEL SUFFIX 2303 L

**REVISED TO REFLECT LOMR EFFECTIVE: August 8, 2016**

VERSION NUMBER 1.1.1.0  
MAP NUMBER 04019C2303L  
EFFECTIVE DATE JUNE 16, 2011