

**NOTES TO USERS**

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To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only to landward of 17 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

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 Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Arizona Central State Plane zone (FIPSZONE 0202), International Feet. The horizontal datum was NAD 83 (NAD83) spheroid. Differences in datum, 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 this FIRM.

Flood elevations on this map 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  
NCA4, NWS512  
National Geodetic Survey  
SCM-3, 9623A  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from multiple sources. Base map imagery for eastern Pima County was provided in digital format by the Pima Association of Governments. These data were developed at 1-foot Ground Sample Distance (GSD) from color aerial photography flown in 2002. Base map imagery for western Pima County was derived from USGS Imagery available for the State of Arizona and produced at a scale of 1:12,000 from photography dated 2006 and 2007.

This map may reflect 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 in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this 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 this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository address, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM, visit the Map Service Center (MSC) website at <http://map.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 MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information exchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/firm/index.cfm>.

**Accredited Levee Notes to Users:** 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/business/firm/index.cfm>.

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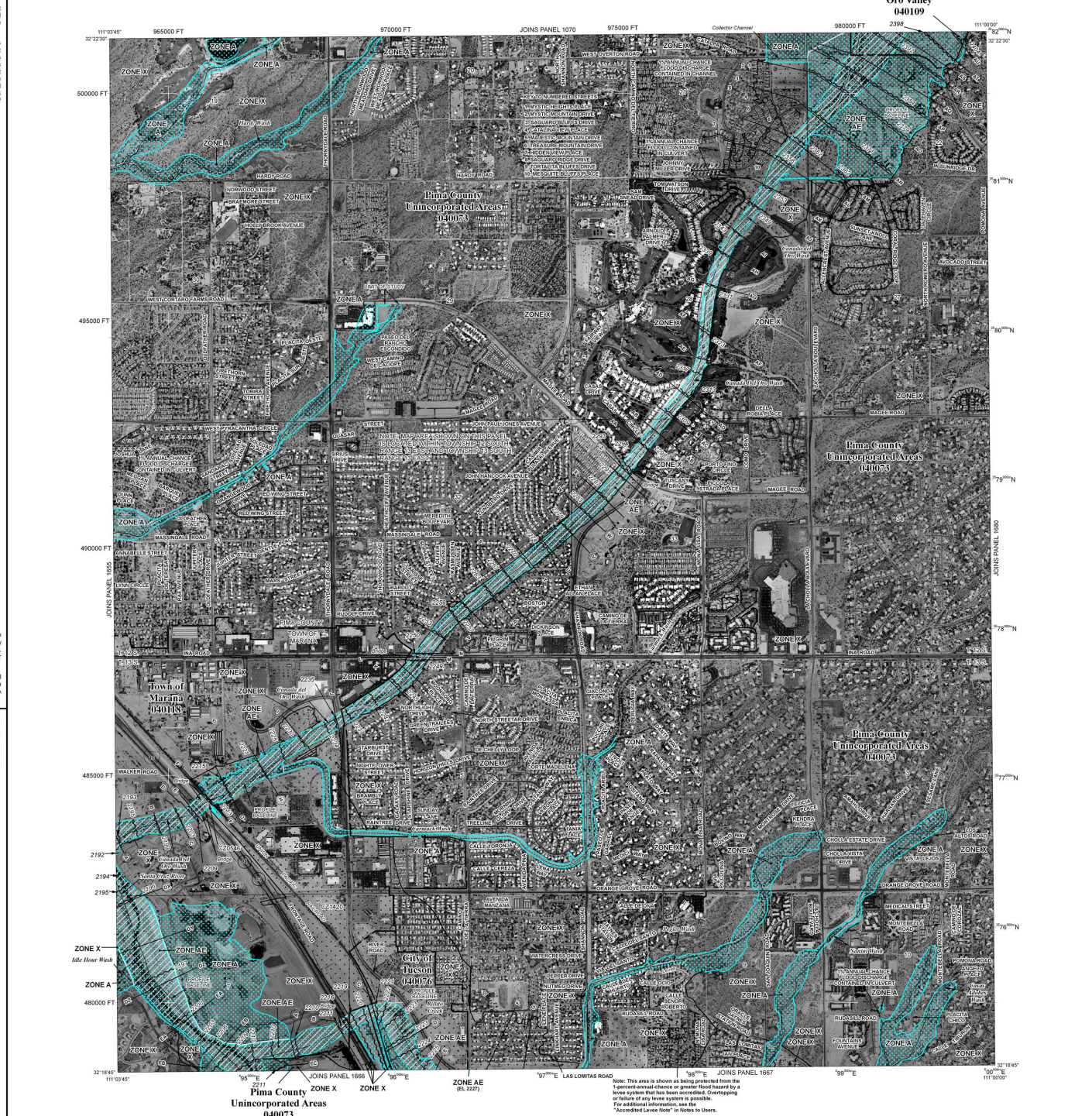
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**LEGEND**

**SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include ZONE A, ZONE AE, ZONE X, and ZONE AE (IL 2217). The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

**ZONE A** No flow flood elevations determined.  
Base Flood Elevations determined.

**ZONE AE** Flood depths of 1 to 3 feet (usually areas of ponds); Base Flood Elevations determined.

**ZONE AEAD** Flood depths of 1 to 3 feet (usually sheet flow on drainage basins); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decommissioned. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

**ZONE ARW** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

**ZONE AV** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments to the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

Areas determined to be outside the 0.2% annual chance floodplains. Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities
- Limit of Moderate Wave Action
- Base Flood Elevation line and value, elevation in feet (IL 987)
- Base Flood Elevation value where uniform within zone, elevation in feet
- Referenced to the North American Vertical Datum of 1988
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 18Q
- 5000-foot grid values; Arizona State Plane coordinate system, Central zone (FIPSZONE 0202), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM)
- MI-5
- MAP REPOSITORY
- Refer to listing of Map Repositories on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
- January 8, 1999
- EFFECTIVE DATES (if APPLICABLE) TO THIS PANEL
- June 18, 2011 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map notes, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in your community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6355.

**MAP SCALE 1" = 1000'**

500 0 1000 2000 FEET  
300 0 300 600 METERS

**NFIP** PANEL 1660L

**FIRM**  
FLOOD INSURANCE RATE MAP

**PIMA COUNTY, ARIZONA AND INCORPORATED AREAS**

**PANEL 1660 OF 4750**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COUNTY	TOWNSHIP	RANGE	SECTION	STATUS
PIMA COUNTY	MARANA TOWNSHIP	36S	10S	L
PIMA COUNTY	CIRIO VALLEY TOWNSHIP	36S	10S	L
PIMA COUNTY	TUCSON CITY	36S	10S	L

Notes to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
04019C1660L

**MAP REVISED**  
JUNE 16, 2011

**Federal Emergency Management Agency**