

2016

South Mountain/Laveen Flood Response Plan



The Flood Control District of Maricopa County

2801 W. Durango Street

Phoenix, AZ 85009

DISCLAIMER

The user should read this entire Flood Response Plan (FRP) carefully and should be aware of all elements of this plan, including strengths and limitations, and individual responsibilities. This FRP is useful as one component in developing a flood warning system for South Phoenix. However, the possibility of inadvertent error in design or failure of equipment to function exists and may prevent the system from performing perfectly at all times. Therefore, nothing contained herein may be construed as a guarantee of the system or its operation, or create any liability on the part of any party or its directors, officers, employees or agents for any damage that may be alleged to result from the operation, or failure to operate, the system or any of its component parts. This constitutes notice to any and all persons or parties that the National Weather Service, Flood Control District of Maricopa County, Maricopa Department of Emergency Management, Maricopa County Department of Transportation, Arizona Department of Transportation, Maricopa County Sheriff's Office, Arizona Department of Public Safety, American Red Cross, The Salvation Army, Arizona Department of Emergency and Military Affairs, City of Phoenix Fire Department, City of Phoenix Police Department, City of Phoenix Street Transportation Department, City of Phoenix Parks and Recreation Department, City of Phoenix Emergency Management, or any officer, agent or employee thereof, shall not be liable for any deaths, injuries, or damages of whatever kind that may result from reliance on the terms and conditions of this FRP. This disclaimer also pertains to any and all online products and tools that have been created to support this FRP.

This plan was produced by The Flood Control District of Maricopa County.

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List of Acronyms

Agencies and Departments

ADEM	Arizona Department of Emergency Management
ADPS	Arizona Department of Public Safety
ADWR	Arizona Department of Water Resources
AOC	ALERT Operations Center at FCDMC
EOC	Emergency Operations Center
FCDMC	Flood Control District of Maricopa County
District	Flood Control District of Maricopa County
FEMA	Federal Emergency Management Agency
FERM	Flood Emergency Response Manual
MC Parks	Maricopa County Parks and Recreation
MCDEM	Maricopa County Department of Emergency Management
MCDOT	Maricopa County Department of Transportation
MCSO	Maricopa County Sheriff's Office
NWS	National Weather Service
O&M	Operations and Maintenance
USACE	U.S. Army Corps of Engineers
CBRFC	Colorado Basin River Forecast Center
ADOT	Arizona Department of Transportation

Units/Abbreviations

ac	Acre
ac-ft	Acre-feet
cfs	Cubic feet per second
ft/sec	Feet per second
min	Minute
yr	Year
hr	Hour

Other

ALERT	Automated Local Evaluation in Real Time
DSFRM	FCDMC Dam Safety Flood Response Manual
EAP	FCDMC Emergency Action Plan for dams & levees
RED BOOK	MCDEM Emergency Resource Manual
ADMS	Area Drainage Master Study
ADMPU	Area Drainage Master Plan Update
MSP	Meteorological Services Program
FRP	Flood Response Plan
SMLFRP	South Mountain Laveen Flood Response Plan
QPF	Quantitative Precipitation Forecast
FIS	Flood Insurance Study
LSRFDS	Lower Salt River Floodplain Delineation Study
LACC	Laveen Area Conveyance Channel
MFRRP	MCDOT Flooded Roadway Response Program
NFIP	National Flood Insurance Program
EC	Elevation Certificate
LOMA	Letter of Map Revision
LOMR-F	Letter of Map Revision – Fill
ADT	Average Daily Traffic
ESF	Emergency Support Functions

INTRODUCTION

The Flood Control District of Maricopa County (District) provides flood hazard identification, prevention, regulation and remediation to reduce the risk of injury, loss of life and property damage from flooding in the County. The purpose of this comprehensive Flood Response Plan (FRP) is to ultimately reduce the potential for property damage and loss of life resulting from floods in Maricopa County.

Project Need

The summer storms of 2014 brought serious flooding issues to the South Mountain and Laveen communities. Back to back storms hit these communities on August 12 and September 8th. Streets became impassable and multiple homes became inundated with floodwater. Population growth in Maricopa County has contributed to residential and business development in this area. New construction and changes to land use reduce the amount of undeveloped land that can naturally absorb rainfall. The South Mountain/Laveen FRP boundary encompasses 67 square miles of mountains, foothills and relatively flat areas and, therefore, the slope of the natural terrain is varied. The Salt River Mountains, which includes South Mountain, makes up the southern boundary of this area and rainfall that falls in the watershed on the northern side of the mountains flows into the South Mountain and Laveen area.

The South Mountain / Laveen Flood Response Plan boundary encompasses two different study areas; Laveen and Hohokam. The Laveen Area Drainage Master Plan was completed in 2001 and the Hohokam Area Drainage Master Study (ADMS) was completed in 2012. Since these two studies were completed, there have been significant changes due to urbanization. After the 2014 summer storms, the District started the Laveen Area Drainage Master Plan Update (ADMPU). This update was to re-study the area to identify any additional flooding problems, re-examine the recommended drainage plan from 2001, and identify any new drainage features not previously identified. The Hohokam ADMS and Laveen ADMPU both use FLO-2D, which is a dynamic flood routing model, which gives very detailed information about potential flooding problems. This information helps identify areas of higher flooding risk and this information can be incorporated into future planning as well as this flood response plan.

Future floods can occur with little to no warning. Readiness measures and warning actions taken in advance of flooding are essential to safeguard lives and property. This FRP provides a means to coordinate the District's flood data collection and monitoring activities with the emergency response activities specific to flooding.

Location

South Phoenix/Laveen is a region of Phoenix, Arizona located in Maricopa County. The boundary of this FRP is the Gila River Indian Community (future Loop 202) to the west, the top of the watershed of South Mountain to the south, Phoenix city boundary to the east and the Salt River to the north (Figure 1).

Involvement

This FRP will require special coordination with City of Phoenix Police Department, City of Phoenix Street Transportation Department, City of Phoenix Parks and Recreation Department, City of Phoenix Fire Department, City of Phoenix Emergency Management Department, Flood Control District of Maricopa County, Maricopa County Department of Transportation, Maricopa County Sheriff's Office, Maricopa County Department of Emergency Management, Arizona Department of Transportation and possibly other agencies and responders, as applicable.

Most of the South Mountain/Laveen Flood Response Plan (SMLFRP) falls within the City of Phoenix (Phoenix) but there are a number of county islands on the west side of the SMLFRP. A county island is an area of unincorporated land completely surrounded by the City. People who live in these county islands usually don't receive services from the surrounding city. Figure 2 shows the locations of the Unincorporated Maricopa County islands. This FRP will specify Maricopa County Department of Transportation and Maricopa County Sheriff's Office as responders to the areas that Phoenix is not responsible for. The Phoenix Fire Department does respond to areas within the County Islands because the County doesn't have its own Fire Department.

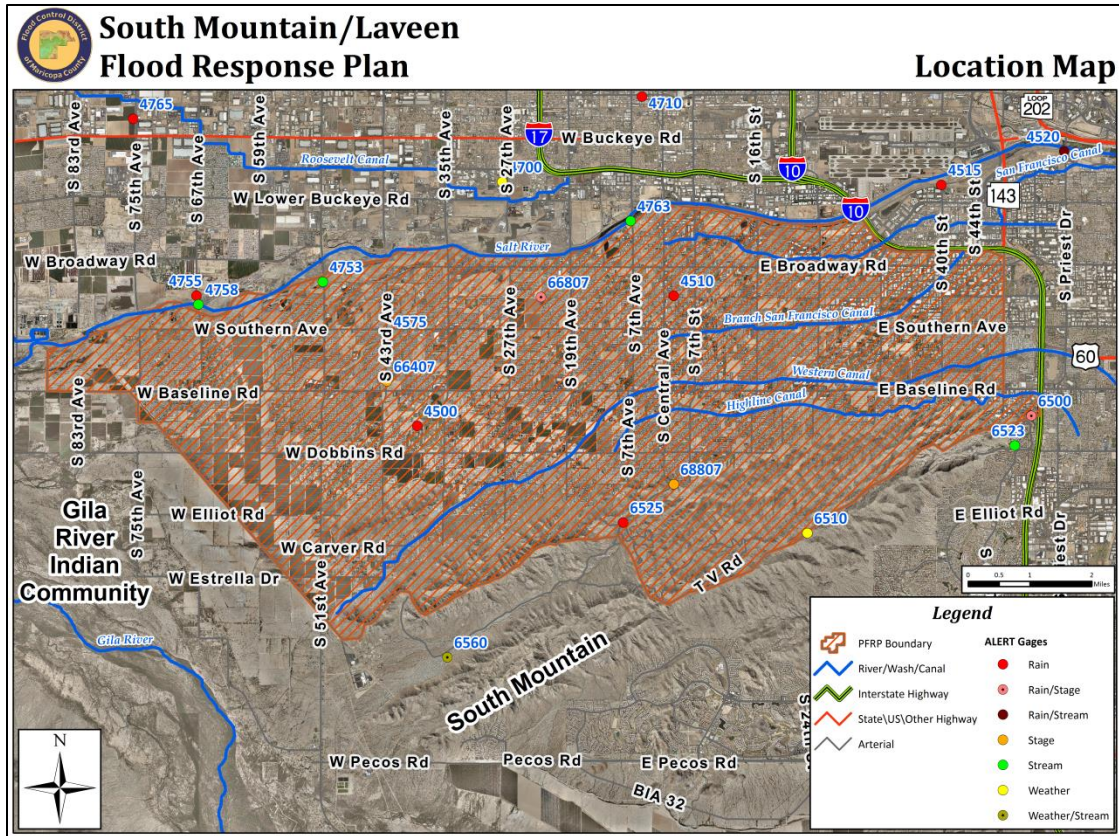


Figure 1 : South Mountain/Laveen Location Map

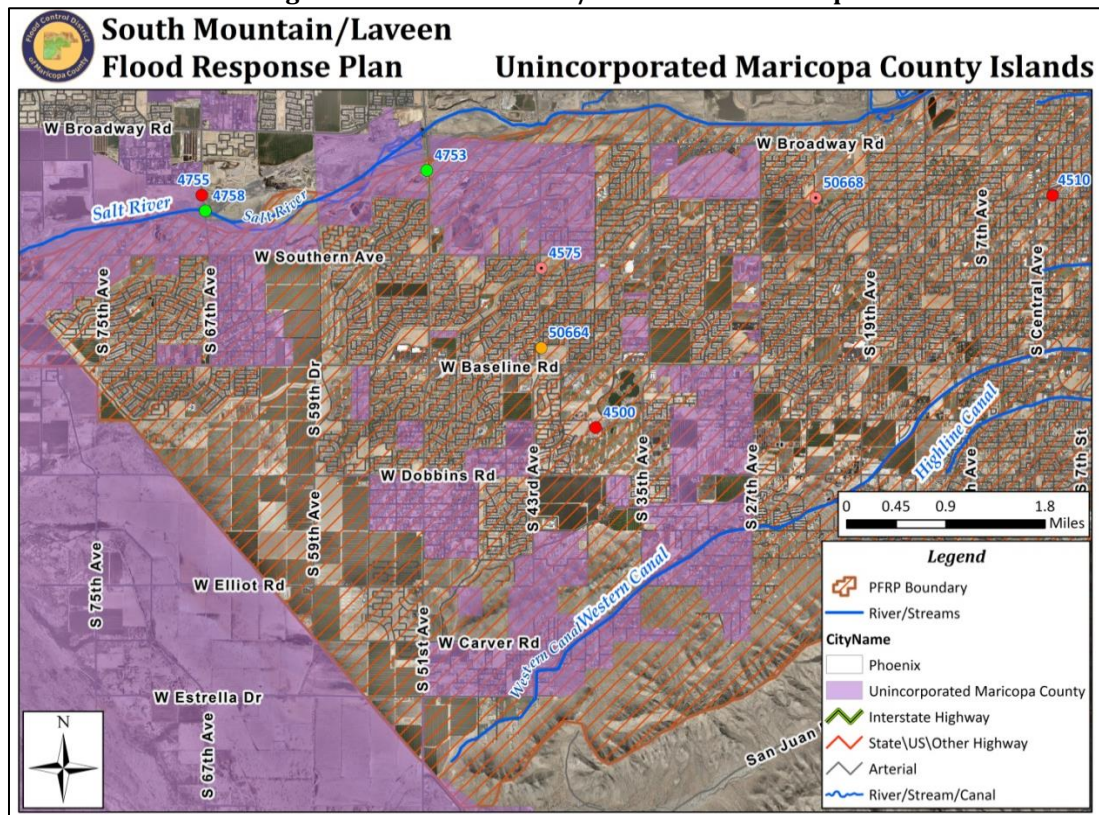


Figure 2: Location of Unincorporated Maricopa County Islands within the SMLFRP

FLOOD DETECTION

The District provides early warning to agencies and responders through weather monitoring and an elaborate ALERT gage network. The District's ALERT gage network provides real-time data for rainfall, streamflow, water levels, and weather information 24 hours a day 365 days a year. All of this information is easily accessible via the District's website:

<http://www.fcd.maricopa.gov/Weather/Rainfall/raininfo.aspx>.

Weather Monitoring

The District's in-house meteorologist monitors satellite data, radar data, National Weather Service (NWS) products and other tools to develop rainfall forecasts for the County. The forecasts are used as an early "heads up" for flood threat within the County. The daily weather outlook is prepared and posted at <http://www.fcd.maricopa.gov/Weather/outlook.aspx> each afternoon for the subsequent 24 hours, covering all Meteorological Services Program (MSP) Forecast Zones (Figure 3). If requested, these forecasts are made available to local jurisdictions by email notification. South Mountain/Laveen falls within the Phoenix South MSP Forecast Zone (See Figure 4).

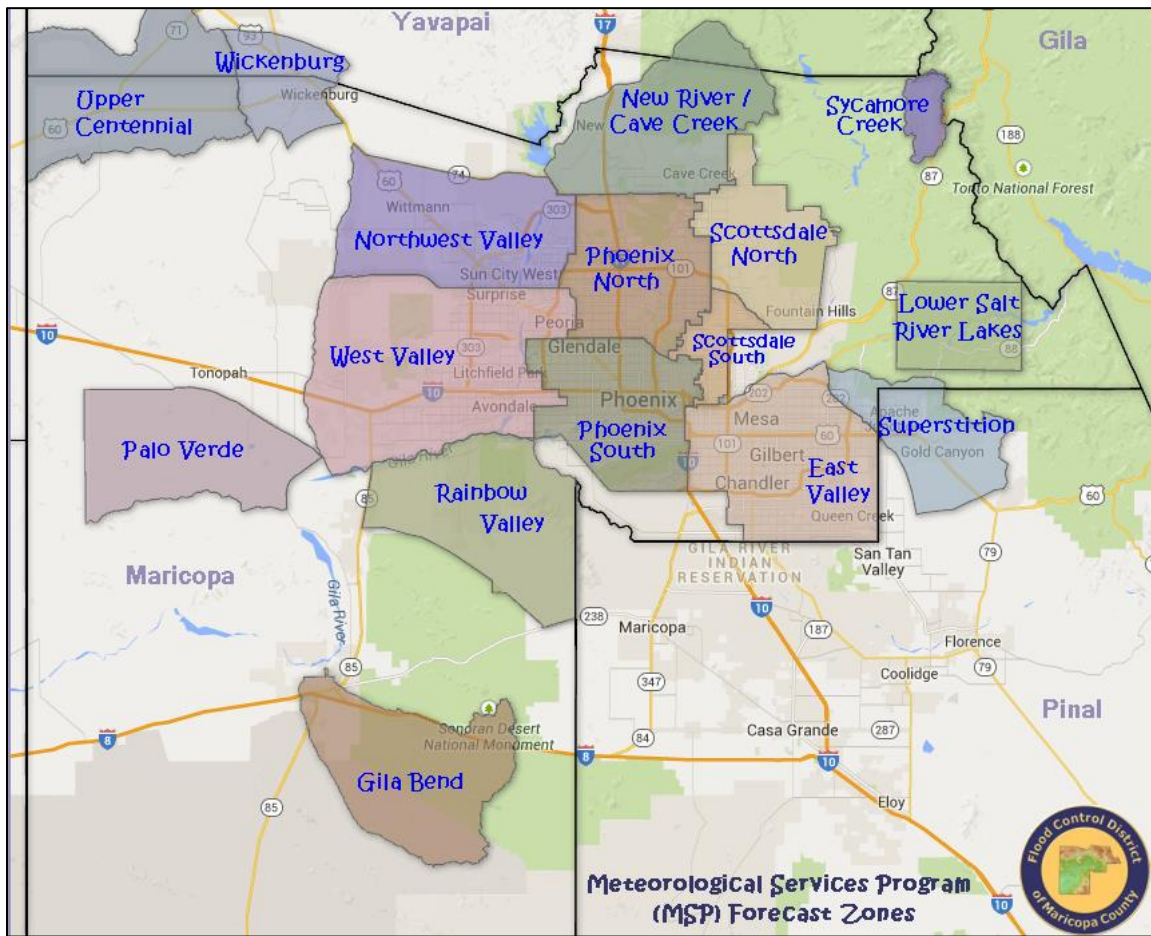


Figure 3 : Countywide MSP Forecast Zones Map

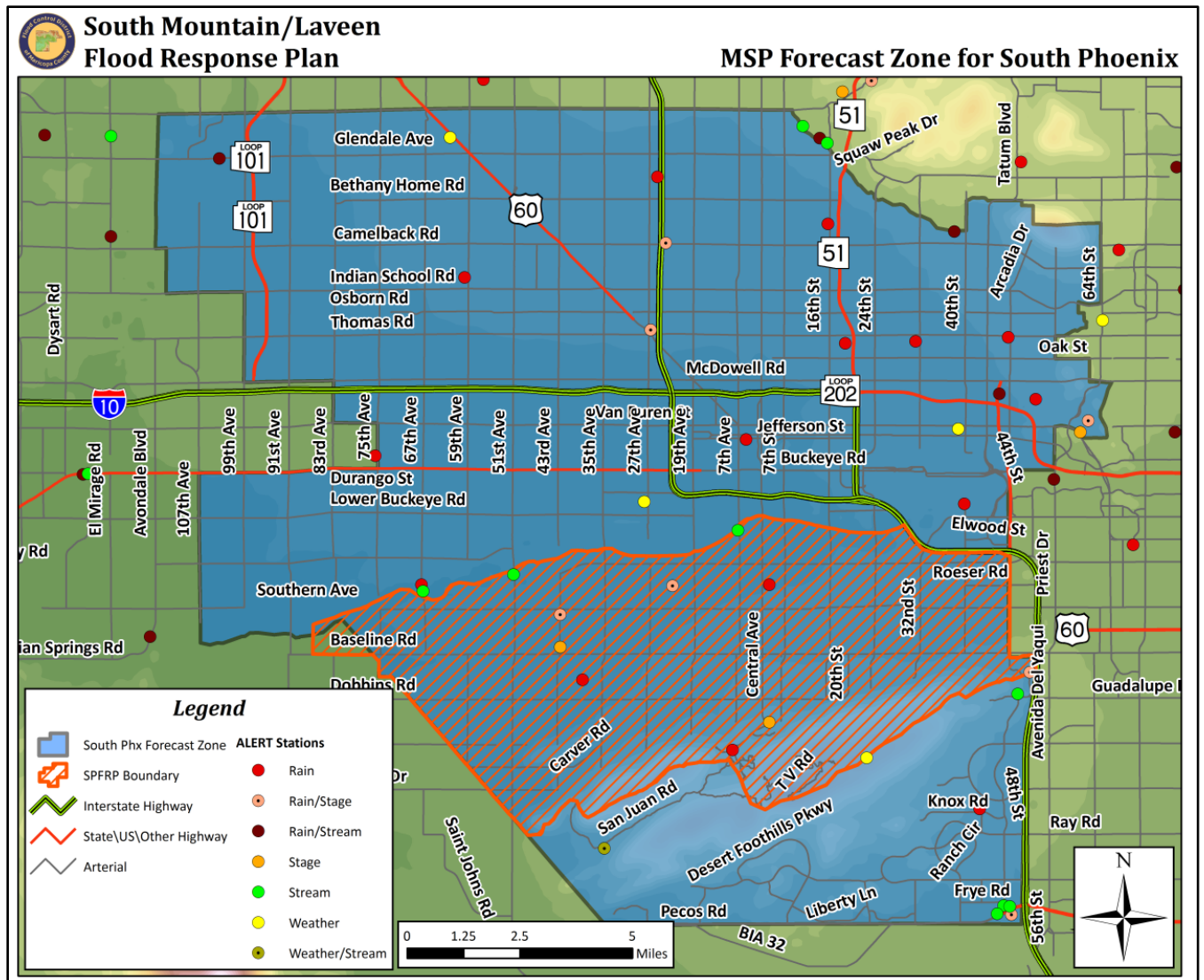


Figure 4 : Phoenix MSP Forecast Zone Map

According to the District’s MSP Standard Operating Procedure, if meteorological conditions warrant, the following messages are delivered for individual zones:

District Meteorological Services Program (MSP) Standard Operating Procedure:

Product	Description
Weather Outlook	The Daily Outlook will be disseminated to all clients Monday through Friday (daily during monsoon season), between 1:00 pm and 1:30 pm. In addition, from about October 1 to July 1, a preliminary Outlook is issued around 8:00 am Monday thru Friday. Outlooks include synopsis of expected weather conditions for the remainder of the day, the coming night and the following morning. Expected weather trends for the following 2-3 days and expected wind conditions will also normally be included in the synopsis portion of the Outlook if time and space permits. The Outlook also includes the expected hours the bulk of the rain will fall, the probability of rain during this time and the amount of rain expected during this period.
Message 1	<u>Developing weather conditions may lead to flooding and/or destructive winds.</u> Lead times will generally be 1 to 3 hours in advance of the expected event. The alert will normally include the zones to be affected, the time frame of the expected event, and the type of areas that will be impacted- such as roads, washes, or streams.
Message 2	<u>Developing weather event may lead to flash flooding. This message is similar to NWS Flood Watch.</u> Lead time will generally be 1 to 2 hours in advance of the expected event.
Message 3	<u>Flash flooding is imminent or occurring. This message is similar to a NWS Flood or Flash Flood Warning.</u> Lead time will generally be less than an hour. The magnitude of flooding is variable – a Message 3 does not necessarily signify major flooding.
Message 4	<u>ALL CLEAR.</u> Event no longer poses a threat and previous messages have expired or have been cancelled
Message 1, 2 & 3 Update	These messages will update the existing Alert, Watch or Warning.
Lake Alerts	In addition to the above MSP products, weather guidance is provided for Maricopa County lakes/reservoirs from June 15 th through October 15 th . Lake Alerts are issued as needed to inform of approaching adverse weather conditions. Emphasis in these statements is placed on expected wind gusts and lightning activity.
Track Forecast	At times the depiction of expected thunderstorm movement may best be shown by a graphic, including location of the primary thunderstorms of concern, and a 1-hour forecast track of these storms.
Quantitative Precipitation Forecast (QPF)	This graphical product may be issued when the forecaster believes he has a good grasp as to how much rain will fall, where it will fall and when it will fall (valid time).

ALERT Gage Network Monitoring

The District monitors a sophisticated network of automatic rain gages, stream gages, and weather stations in and around Maricopa County. The network uses ALERT (Automated Local Evaluation in Real Time) technology to detect and monitor rainfall and runoff during storms. The system is monitored continuously (24/7) by using threshold alarm features available onsite or by remote notification and access.

Flood Control District of Maricopa County (FCDMC) Gages

Lists of ALERT gages located near Phoenix and/or within contributing watersheds with their specific alarm values, are listed below in Table 1. See Figure 5 for a map of the ALERT gage locations.

ALERT Gages within South Mountain/Laveen Flood Response Plan

Gage Name	Location	Type	ID #	Sensors	Alarm Value		
Baseline Rd. @ 43 rd Ave	Baseline Rd. at 43rd Ave.	Stage	66407	Stage	3.0 ft		
					7.0 ft		
					10.0 ft		
Cesar Chavez Park	South of 35th Ave. and Baseline Rd.	Rain	4500	Rain	0.50 in/20 min 0.75 in/1 hr		
Guadalupe FRS	1/4 mi. SSW of Baseline Rd. and I-10	Rain / Stage	6500	Rain	0.50 in/20 min 0.75 in/1 hr		
			6503	Stage	7.2 ft / 10% 17.9 ft / 50%		
Laveen Basin	Southern Ave. at 43rd Ave.	Rain / Stage	4575	Rain	0.50 in/20 min 0.75 in/1 hr		
			4578	Stage	5.67 ft/10% 9.4 ft/25%		
					13.85 ft/50%		
Mineral Canyon Basin	1/2 mi. south of Central Ave. & Dobbins Rd.	Stage	68807	Stage	3.90 ft 9.01 ft 16.25 ft		
Pima Canyon Wash	48th St. and Guadalupe Rd.	Stream	6523	Stream	2.7 ft		
					8.0 ft		
					11.0 ft		
Roeser Rd. @ 23 rd Ave.	23rd Ave. at Roeser Rd.	Rain/ Stage	66807	Rain	0.50 in/20 min 0.75 in/1 hr		
				Stage	6.0 ft 10.0 ft 11.5 ft		
Roeser Rd. @ 2 nd St.	1/2 mile SSE of Broadway and Central Ave.	Rain	4510	Rain	0.50 in/20 min 0.75 in/1 hr		
Salt River @ 51 st Ave.	Salt River at 51st Ave.	Stream	4753	Stream	5.0ft/1,000 cfs		
Salt River @ 67 th Ave.	67th Ave. and Roeser St. N of Salt River	Rain	4755	Rain	0.50 in/20 min 0.75 in/1 hr		
						4.0ft/490 cfs 539/1375 cfs	
Salt River @ 67 th Ave. Flow	Salt River at 67th Ave.	Stream	4758	Stream	539/1375 cfs		
Salt River @ 7 th Ave	Salt River at 67th Ave.	Stream	4763	Stream	4.0ft/1000 cfs		
					6560	Rain	0.50 in/20 min 0.75 in/1 hr
					6554	Peak Wind	40 mph
					6557	Wind Spd/ Direction	N/A
					6567	Wind Direction	N/A
					6561	Relative Humidity	N/A
					6562	Temperature	N/A
					6556	Dewpoint	N/A
					6566	Solar Radiation	N/A
					6564	Barometric Pressure	N/A
	6565	Water Temperature	N/A				
South Mountain Fan	Alignments of Ray Rd. and 35th Ave. in South Mtn. Park	Weather/ Stream					

ALERT Gages within South Mountain/Laveen Flood Response Plan Cont.

Gage Name	Location	Type	ID #	Sensors	Alarm Value
South Mtn. Park	Alignments of Elliot Rd. and 24th St.	Weather	6510	Rain	0.50 in/20 min 0.75 in/1 hr
			6504	Peak Wind	40 mph
			6507	Wind Spd/ Direction	N/A
			6517	Wind Direction	N/A
			6511	Relative Humidity	N/A
			6512	Temperature	N/A
			6508	Dewpoint	N/A
			6513	Solar Radiation	N/A
South Mtn. Park HQ	In South Mtn. Park, alignments of Elliot Rd. and 7th Ave.	Rain	6525	Rain	0.50 in/20 min 0.75 in/1 hr
Dobbins Rd. @ 19 th Ave	Dobbins Rd. at 19 th Ave.	Rain	68900	Rain	0.50 in/20 min 0.75 in/1 hr

Table 1: ALERT Gages within the SMLFRP

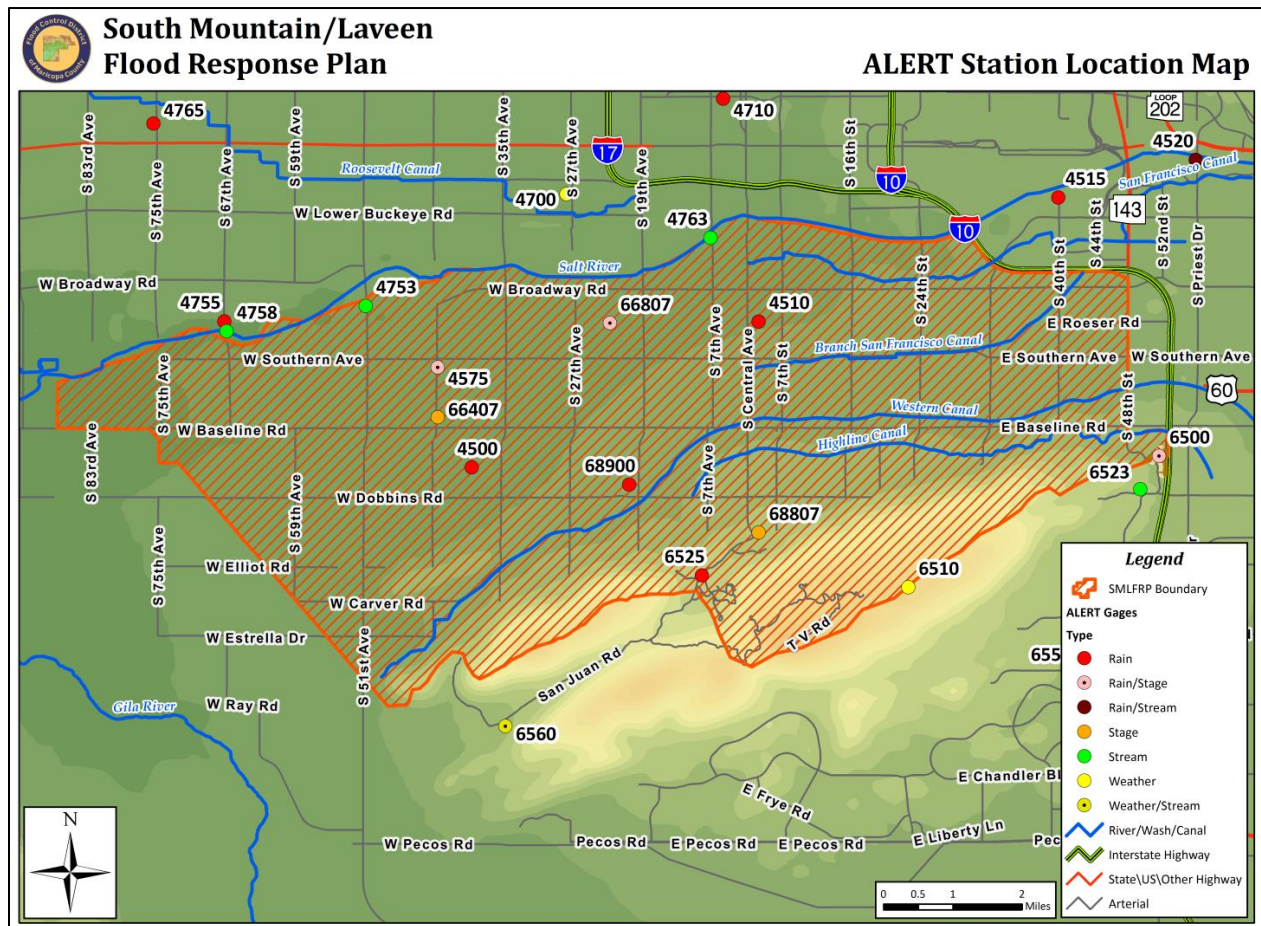


Figure 5 : Location of ALERT Gages

Location of Critical Facilities

During a flood event it is important to know the location of critical facilities. Critical facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. The South Mountain/Laveen FRP has seven fire stations, five law enforcement offices, fifty four schools (District and Charter) and sixteen medical facilities (Figure 6). The information for police, fire and hospitals came from Maricopa County Department of Emergency Managements Countywide Hazard Mitigation information for 2015. Some of these critical facilities, although not in a floodplain, are located in flood prone areas. They are identified in the tables in Appendix C and within the dissemination of information descriptions/flowcharts.

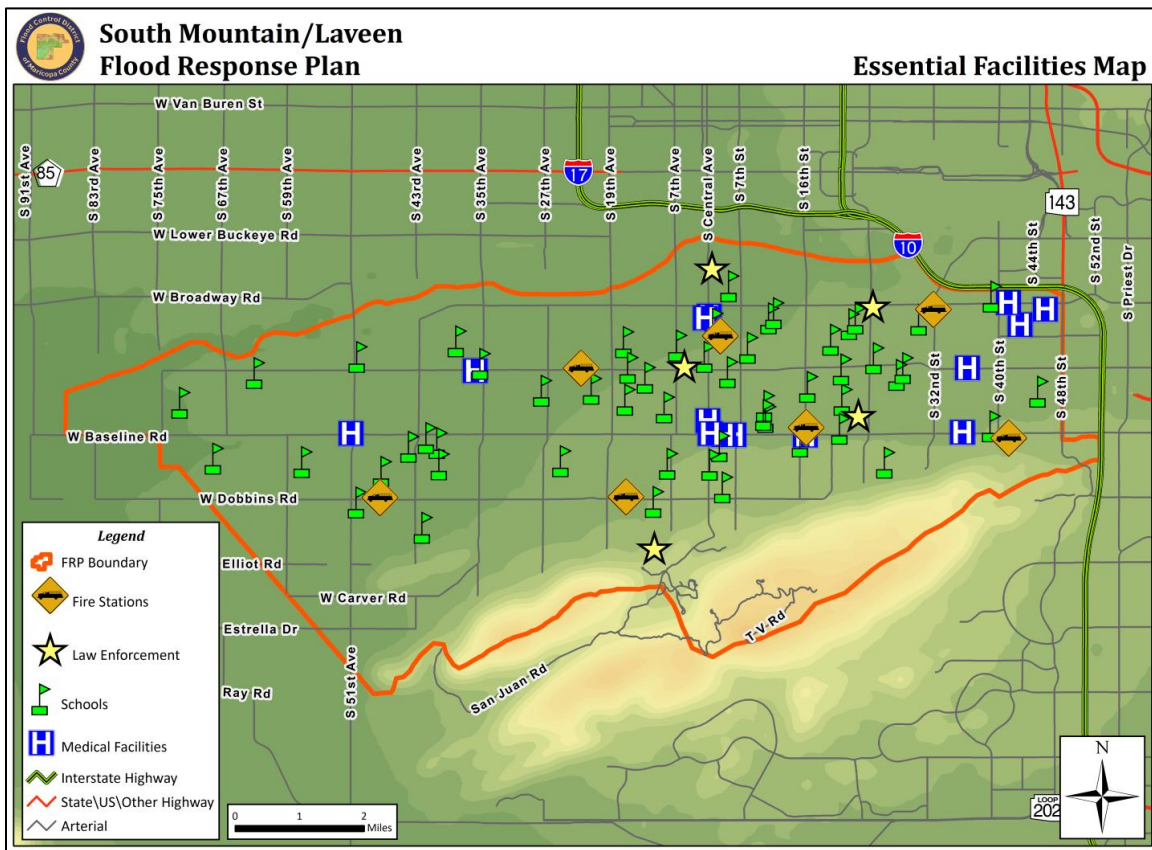


Figure 6: Critical Facility Locations

South Mountain / Laveen Flood Response Plan Zones

The FRP area is a total of 67 square miles. For this FRP it has been divided into two different zones for use in the Flood Condition Maps. These zones were created because of the location of the previous and current studies on the particular watershed. The West Zone is the area south of the Salt River, east of the Gila River Indian Community (future Loop 202), north of South Mountain and the west border runs in a southeast/northwest direction from 19th Ave and Broadway to Central Ave and Dobbins. Figure 8 below shows the boundaries of these zones.

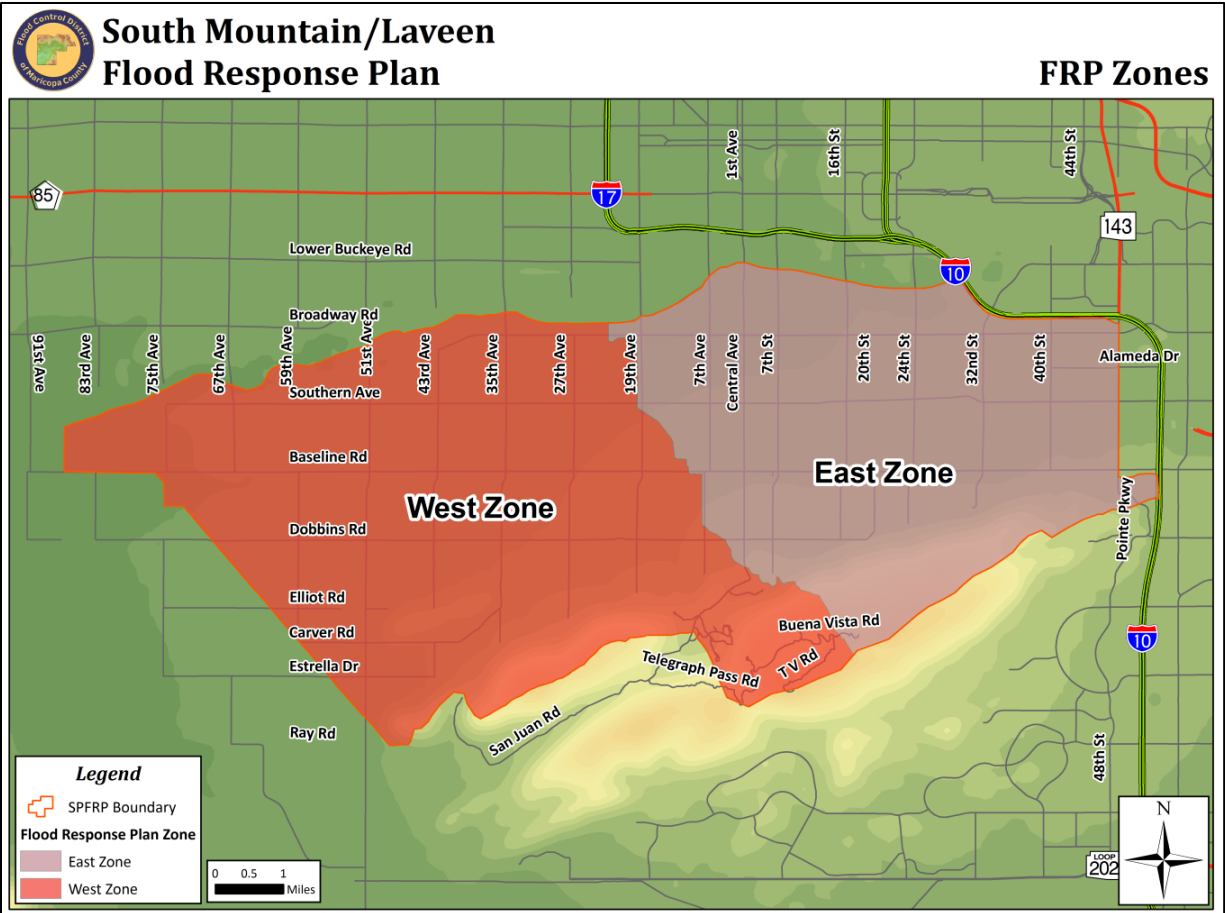


Figure 7: West and East Zones of SMLFRP

Other Data Sources

Many additional data sources are available online that help provide information about the weather and flooding conditions in Maricopa County and throughout Arizona. The District is a partner with Arizona Flood Warning System (www.afws.org). The National Weather Services' Phoenix Forecast Office issues meteorological and hydrological forecasts and warnings to the public and to local jurisdictions (www.wrh.noaa.gov/psr). The Colorado Basin River Forecast Center (CBRFC) in Salt Lake City, Utah, prepares forecasts using computer-based river forecast models (www.cbrfc.noaa.gov). The United States Geological Survey also operates a network of rain and stream gages in Maricopa County in partnership with the District (<https://www2.usgs.gov/water/>).

The District offers numerous products on our website and they are available 24/7.

A list of some of our products specific to Phoenix are listed below:

- The South Mountain / Laveen Flood Response Plan Online Map is located at <http://alert.fcd.maricopa.gov/alert/Google/v3/phx.html>.
- The Flood Condition Maps and flowcharts are located at http://alert.fcd.maricopa.gov/alert/Google/docs/SMLFRP_FloodConditionMaps_sm.pdf.

Available Lead Times

Early flood detection is one of the most important aspects to being able to provide an early warning to communities and their residents. When a threshold value has been met at a sensor, the District’s ALERT software sets off an alarm. This alarm alerts an operator to a hazardous condition. By monitoring the streamgages the District is able to estimate travel times from when the water is at the gage to when it will reach a particular road crossing. Certain road crossings are more vulnerable to flooding and need to be barricaded during an event to prevent injury, property damage or loss of life.

Salt River

Salt River is the largest tributary of the Gila River. The Lower Salt River is located in central Maricopa County and runs in a west southwesterly direction until its confluence with the Gila River. A vicinity map showing the Salt River and gage locations is shown in Figure 4. There are three stream gages on the Salt River that fall within the SMLFRP boundary. These pages will direct the user to the District summary statistics and complete records for each water-level station:

- Salt River at 7th Avenue <http://alert.fcd.maricopa.gov/alert/Flow/4763.htm>
- Salt River at 51st Avenue <http://alert.fcd.maricopa.gov/alert/Flow/4753.htm>
- Salt River at 67th Avenue <http://alert.fcd.maricopa.gov/alert/Flow/4758.htm>.

The following tables have calculated travel times for selected discharge values along the Salt River. There are two tables for the Salt River. One is using the current *Flood Insurance Study for Maricopa County and Incorporated Areas* by FEMA completed in October 2013. The second is from the *Lower Salt River Floodplain Delineation Study* that was completed for the District in May 2015. This FRP will use the travel times calculated in Table 2 because they are approved by FEMA and the LSRFDS is at FEMA waiting for approval (as of 3/2016).

Salt River (FEMA FIS Data)

Location	100-year Discharge (cfs)	Distance (miles)	Velocity (ft/sec)	Time (min)
Salt River at Priest Dr. (#4523) to Salt River at 24 th St.	166,000	4.3	14.7	26
Salt River at Priest Dr. (#4523) to Central Ave.	166,000	6.8	8.8	41
Salt River at Priest Dr. (#4523) to Salt River at 7 th Ave. (#4763)	166,000	7.4	14.1	45
Salt River at Priest Dr. (#4523) to 35 th Ave.	166,000	10.5	6.7	86
Salt River at Priest Dr. (#4523) to Salt River at 51 st Ave. (#4753)	166,000	12.5	7.3	110
Salt River at Priest Dr. (#4523) to Salt River at 67 th Ave. (#4758)	164,000	14.6	7.4	135

Table 2 : Travel Times for Salt River using FEMA FIS 10/2013

Salt River (LSR Floodplain Delineation Study 2015)

Location	100-year Discharge (cfs)	Distance (miles)	Velocity (ft/sec)	Time (min)
Salt River at Priest Dr. (#4523) to Salt River at 24 th St.	169,000	4.3	12.6	30
Salt River at Priest Dr. (#4523) to Central Ave.	169,000	6.8	8.3	57
Salt River at Priest Dr. (#4523) to Salt River at 7 th Ave. (#4763)	166,000	7.4	10.3	62
Salt River at Priest Dr. (#4523) to 35 th Ave.	166,000	10.5	10.2	89
Salt River at Priest Dr. (#4523) to Salt River at 51 st Ave. (#4753)	166,000	12.5	9.6	107
Salt River at Priest Dr. (#4523) to Salt River at 67 th Ave. (#4758)	164,000	14.6	11.4	123

Table 3: Travel Times for Salt River LSRFDS 2015

Laveen Area Conveyance Channel

The Laveen Area Conveyance Channel (LAAC) is located in South Phoenix in the West SMLFRP Zone. The LACC is 5.8 miles in length and has a concrete low-flow channel. The LACC follows the general alignment of the old Maricopa Drain and conveys storm water to the Salt River during storm events (see Figure8). The District does not have any gages on the LACC.

The following table is from the Design Hydrology for the LACC completed by the District in 2002. There were four HEC-1 models developed for the study. After this study was completed the 43rd Ave and Southern detention basin was constructed. The results for the specific concentration points along LACC are in Table 4. Figure 8 shows the completed and proposed drainage improvements in South Phoenix/Laveen as of 2004.

**Flows along the Laveen Area Conveyance Channel
(Design Hydrology for the Laveen Area Conveyance Channel 2002)**

Study	@43 rd Ave.	@ 47 th Ave.	@ 51 st Ave	@ 59 th Ave	@ 63 rd Ave	@ 75 th Ave	@ Salt River
Existing Land Use	1900 cfs	1880 cfs	2120 cfs	2980 cfs	3250 cfs	3420 cfs	3400 cfs
Existing Land Use w/ 43 rd Ave and Southern detention basin	990 cfs	990 cfs	1360 cfs	2200 cfs	2500 cfs	2810 cfs	2880 cfs
Future Land Use w/ret 100 yr 2hr	0 cfs	110 cfs	240 cfs	1640 cfs	1720 cfs	2030 cfs	2000 cfs
Future Land Use w/ relaxed ret (first flush of 5 yr 2 hr vol retained)	0 cfs	160 cfs	280 cfs	1640 cfs	1780 cfs	2190 cfs	2120 cfs
100 yr 24 hr Design Q	990 cfs	990 cfs	1360 cfs	2200 cfs	2500 cfs	2810 cfs	2880 cfs

Table 4: Flows along LACC using Design Hydrology Study 2002

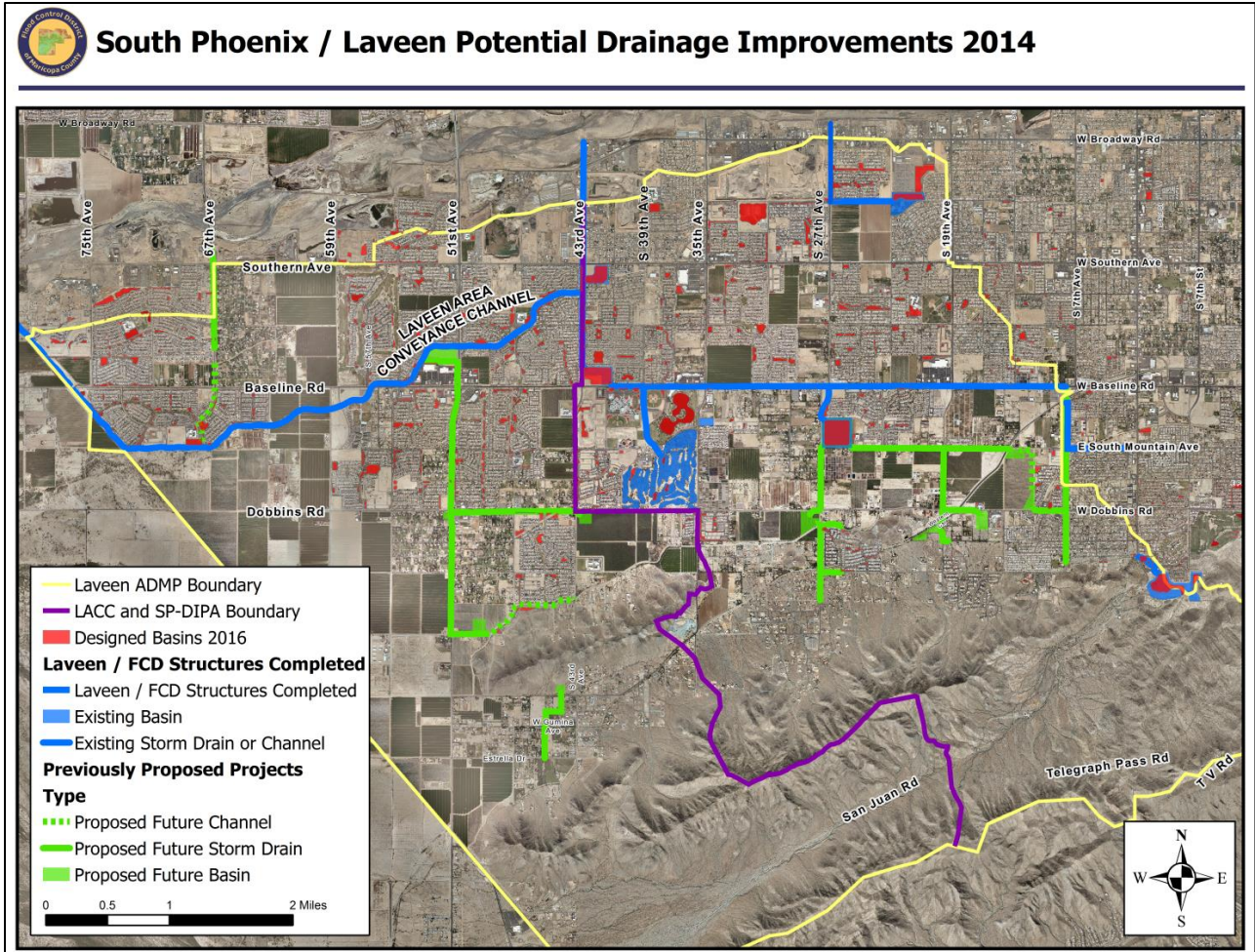


Figure 8: South Phoenix/Laveen Completed and Proposed Drainage Improvements

Potential and Proposed Drainage Improvements

The Laveen Area Drainage Master Plan was completed in 2001 and drainage issues were identified. A drainage master plan was recommended in 2002 which included constructing several detention basins and storm drains. None of the drainage features have been built. The summer storms of 2014 created flooding in the area. The Laveen Area Drainage Master Plan Update was proposed to re-study the area and identify any additional flooding problems, re-examine the recommended drainage plan from 2002, and to identify any new drainage features not previously identified. Figure 8 shows the location of structures completed and structures proposed as of 2014. When the Laveen ADMP Update is completed the proposed channels, storm drains and basins may change.

FLOOD THREAT RECOGNITION

This section of the FRP will define major roadway crossings, minor roadway crossings and locations that have a high likelihood of being inundated by flood waters. There are particular road crossings noted within this FRP that are vulnerable to dangerous flooding. At any point in a storm event road crossings may become impassable and alternate routes may need to be taken by pedestrians, motorists, and emergency vehicles to access a particular crossing. These crossings on major roadways need to be barricaded in a timely manner to prevent motorists from trying to cross the wash. The responsibility of maintaining, monitoring and barricading these roads lies with the road owner. Specific tasks are detailed in the [Emergency Response Actions](#) section of this FRP and on the Flowcharts for **YELLOW ALERT**, **ORANGE ALERT** and **RED ALERT**.

Major Roadway Crossings

Major roadway crossings are defined as road crossings that have a combination of being highly travelled and have a high discharge (cubic feet per second) value or a high velocity (feet per second) value. High flows in these watercourses can make them very dangerous during a flood event. Locations of major roadways that are vulnerable to flooding are identified in Table 5. The Average Daily Traffic (ADT) counts were provided by Maricopa County Department of Transportation (MCDOT), Arizona Department of Transportation (ADOT) and Phoenix. All the ADT count data is from 2014 and the discharges below were estimated using the FLO-2D 100-yr 6hr floodplain cross-section information for both the Laveen ADMS Update and the Hohokam ADMP. For the SMLFRP a major roadway has been defined as any road that has an ADT greater than 20,000 total cars per day. This number does not take into account discharge or velocity. The information on ADT counts and floodplain cross sections are provided in Table 5 so professional judgement can be made to prioritize which roads may need to be monitored and/or barricade first. ADT counts are identified in Figure 9.

Major Roadway Crossings Subject to Inundation

Crossing	Total ADT	NB/S B ADT	EB/WB ADT	Type Crossing	Design Capacity (cfs)	FLO-2D 100yr 6hr Floodplain Cross Section (cfs)
Baseline Rd & 28 th St	48,533	N/A	25,544/22,989			264
Baseline Rd & 24 th St	48,202	N/A	24,967/23,235			773
Baseline Rd & 20 th St	48,202	N/A	24,967/23,235			305
Baseline Rd & 42 nd Pl	54,000	N/A	25,707/22,481			593
Baseline Rd & 13 th Pl	48,202	N/A	24,967/23,265			133

Table 5: Major Roadway Crossings

Minor Roadway Crossings

Minor roadway crossings are defined as road crossings that have a decreased level of traffic compared to a major roadway. These roads can still have high discharge (cubic feet per second) values and/or high velocity (feet per second) values. They are at-grade crossings that pose a very real danger to motorists (an at-grade crossing is defined as a point on the roadway that is periodically inundated by moving floodwaters). Locations of minor roadways that are vulnerable to flooding are identified in Table 6. All the ADT count data is from 2014 and the discharges below were estimated using the FLO-2D 100-yr 6hr floodplain cross-section

information for both the Laveen ADMS Update and the Hohokam ADMP. For the SMLFRP a minor roadway has been defined as any road that has an ADT of less than 20,000 total cars per day. This number does not take into account discharge or velocity. The information on ADT counts and floodplain cross sections are provided in Table 5 so professional judgement can be made to prioritize which roads may need to be monitored and/or barricade first. ADT counts are identified in Figure 9.

Minor Roadway Crossings Subject to Inundation

Crossing	Total ADT	ADT	Type Crossing	Design Capacity	FLO-2D 100yr 6hr Floodplain Cross Section (cfs)
14 th St & South Mtn Ave	N/A				383
15 th Ave & Bust Ave	2,744	1,322 NB / 1,422 SB			876
16 th St & Highline Canal	8,489	4,135 NB / 4,354 SB			137
19 th St & Euclid Ave	N/A				425
23 rd Ave & Dobbins Rd	147	77 NB / 70 SB			584
23 rd Dr & Western Canal	N/A				227
24 th St & Highline Canal	8,109	3,980 NB / 4,129 SB			347
24 th St & Western Canal	8,109	3,980 NB / 4,129 SB			325
25 th Ave & South Mtn Ave	429	290 WB / 139 EB			450
27 th Ave & Dobbins Rd	1,556	786 NB / 770 SB			1176
67 th Ave & Salt River	14,395	7,294 NB / 7,101 SB			164,000 ¹
7 th Ave & McNeil St	795	439 NB / 356 SB			157
8 th Ave & Welland Rd	N/A				157
Buckeye Rd & 24 th St	978	479 NB / 499 SB			1,220
Caldwell St & 30 th Wy	N/A				374
Carver Rd & 43 rd Ave	N/A				1,364
Cefon Dr & 28 th Ave	N/A				546
Dobbins & 12 th Wy	7,585	3,737 WB / 3,848 EB			375
Dobbins & 15 th Wy	7,585	3,737 WB / 3,848 EB			372
Dobbins & 16 th St	3,945	1,664 WB / 2,281 EB			262
Dobbins & 19 th Ave	8,589	4,424 WB / 4,165 EB			1,104
Dobbins & 19 th St	4,776	2,045 WB / 2,731 EB			1,418
Dobbins & 23 rd Ave	6,144	3,026 WB / 3,118 EB			1,049
Dobbins & 27 th Ave	6,881	3,043 WB / 3,838 EB			1,176
Dobbins & 35 th Ave	5,575	3,014 WB / 2,561 EB			
Elliot Rd & 35 th Ave	3,602	1,703 NB / 1,899 SB			1,034
La Mirada Dr & 15 th St	3,945	1,664 WB / 2,281 EB			821
McNeil St & 35 th Ave	N/A				1,034
Olney Ave & 16 th Ave	655	331 WB / 324 EB			948
Olney Ave & 24 th Dr	339	183 WB / 156 EB			689
Olney Ave & 7 th Ave	228	67 WB / 161 EB			876
S Mtn & 21 st Ave	561	268 WB / 293 EB			94
S Mtn & 21 st St	3,847	1,898 WB / 1,949 WB			749
S Mtn & 23 rd Pl	3,847	1,898 WB / 1,949 WB			434
Sioux St & 43 rd Ave	N/A				1,039
South Mtn Center Rd	N/A				6,723
Winston Dr & 28 th St	N/A				431
Winston Dr & Patricia St	N/A				249

Table 6: Minor Roadway Crossings

¹ This location is outside of the Laveen ADMS Update and does not have FLO-2D data available. This information is provided from the FEMA FIS 100-yr discharge data.

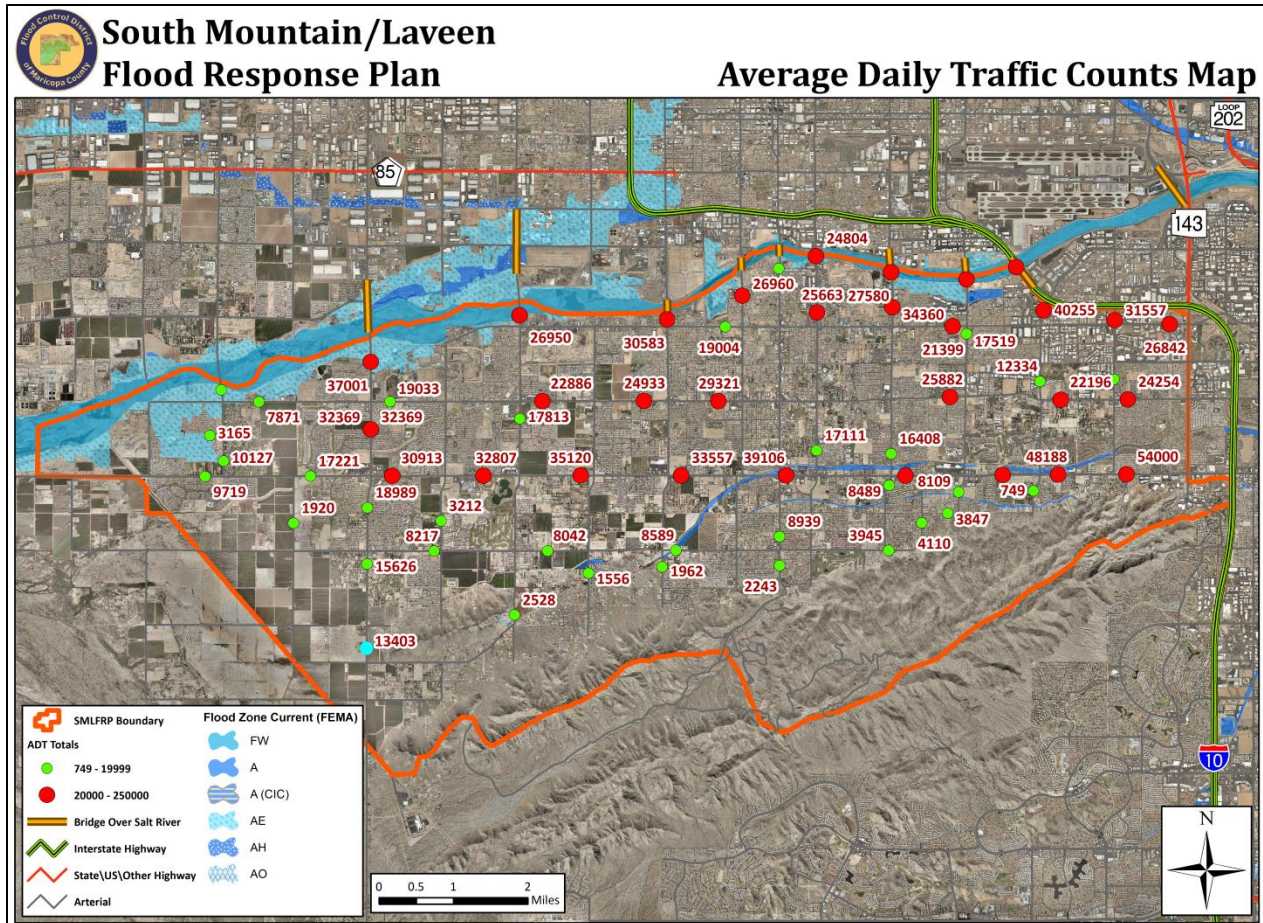


Figure 9: Average Daily Traffic Counts

MCDOT Flooded Roadway Response Program

In a continuous effort to reduce the risk of injury and death to Maricopa County residents due to flooding, the District and MCDOT have established the MCDOT Flooded Roadway Response Program (MFRRP). Together we identified hazardous road crossings that need to be barricaded during storm events.

There are two locations along the Salt River, 67th Avenue and 91st Avenue that are vulnerable to flooding and are part of this program. These crossings need to be barricaded when the Salt River at Priest gage reads 5.75ft/7,000 cfs, when the Salt River at 51st Avenue gage reads 1,000 cfs, and/or when the Salt River at 67th Avenue gage reads 4.1 ft. On the MCDOT Flooded Roadway Map <http://alert.fcd.maricopa.gov/alert/Google/v3/mcdot.html>, these locations are represented with a green dot. When a gage reaches the set criteria above the green dot will turn to a barricade icon. When this happens the wash crossing should be CLOSED. These two particular locations are barricaded by MCDOT barricade crews because they are within County islands.

Structures at Risk within FEMA Flood Hazard Zones

There are a total of five hundred thirty four (534) structures within the SMLFRP that are located within a high risk area of a FEMA designated Flood Hazard Zone. A structure in this FRP is defined as anything with a roof and walls. These flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. Each Zone reflects a severity or type of flooding in the area. For this FRP, all the structures within the High Risk Areas, including Zones FW, AE and A1-A30, and Zone AO, have been documented because in these areas mandatory flood insurance purchase requirements apply. Below is a table with the definitions of the FEMA Zone Designations.

Definitions of FEMA Flood Zone Designations

Zone	Description
High Risk Areas	
Zone AE and A1-A30	Zones AE and A1-A30 are the flood insurance rate zones that correspond to the 1-percent annual chance floodplains that are determined in the Flood Insurance Study by detailed methods of analysis. In most instances, Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.
Zone AH	Zone AH is the flood insurance rate zone that corresponds to the areas of 1-percent annual chance shallow flooding with a constant water-surface elevation (usually areas of ponding) where average depths are between 1 and 3 feet. The Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.
Zone AO	Zone AO is the flood insurance rate zone that corresponds to the areas of 1-percent shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average flood depths derived from the detailed hydraulic analyses are shown within this zone. In addition, alluvial fan flood hazards are shown as Zone AO on the Flood Insurance Rate Map. Mandatory flood insurance purchase requirements apply.
Moderate to Low Risk Areas	
Zone X (shaded)	Zone X is an area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Also used to designate floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile. Flood insurance purchase requirements do not apply.
Zone D	Zone D is an area of undetermined but possible flood hazards. Flood insurance purchase requirements do not apply.

Table 7: Definitions of FEMA Flood Zone Designations

Residential Structures at Risk within FEMA Flood Zones

There are a total of four hundred seventy four (474) parcels with residential structures within a high risk FEMA Flood Zone. A residential structure in the FRP is defined as a structure that people reside in as a permanent home. Of these 474 parcels, two hundred and eighty are multi-family homes; one hundred and eighty two are single family residential homes; eleven are single family residential home with an accessory building (shed, commercial and/or a multi-family structure); six are multi-family land; one is a mobile home park; and one is a residential mobile home with a shed. These residential structures may be prone to ponding and/or shallow flow during a 100-year event. During an event these areas need to be monitored closely and if any people are within the floodplain they need to be informed of the possible

danger during a flood event. For a complete list of all the residential structures see Appendix C. For maps showing the locations of all structures in a FEMA Floodplain see Figures 10-11.

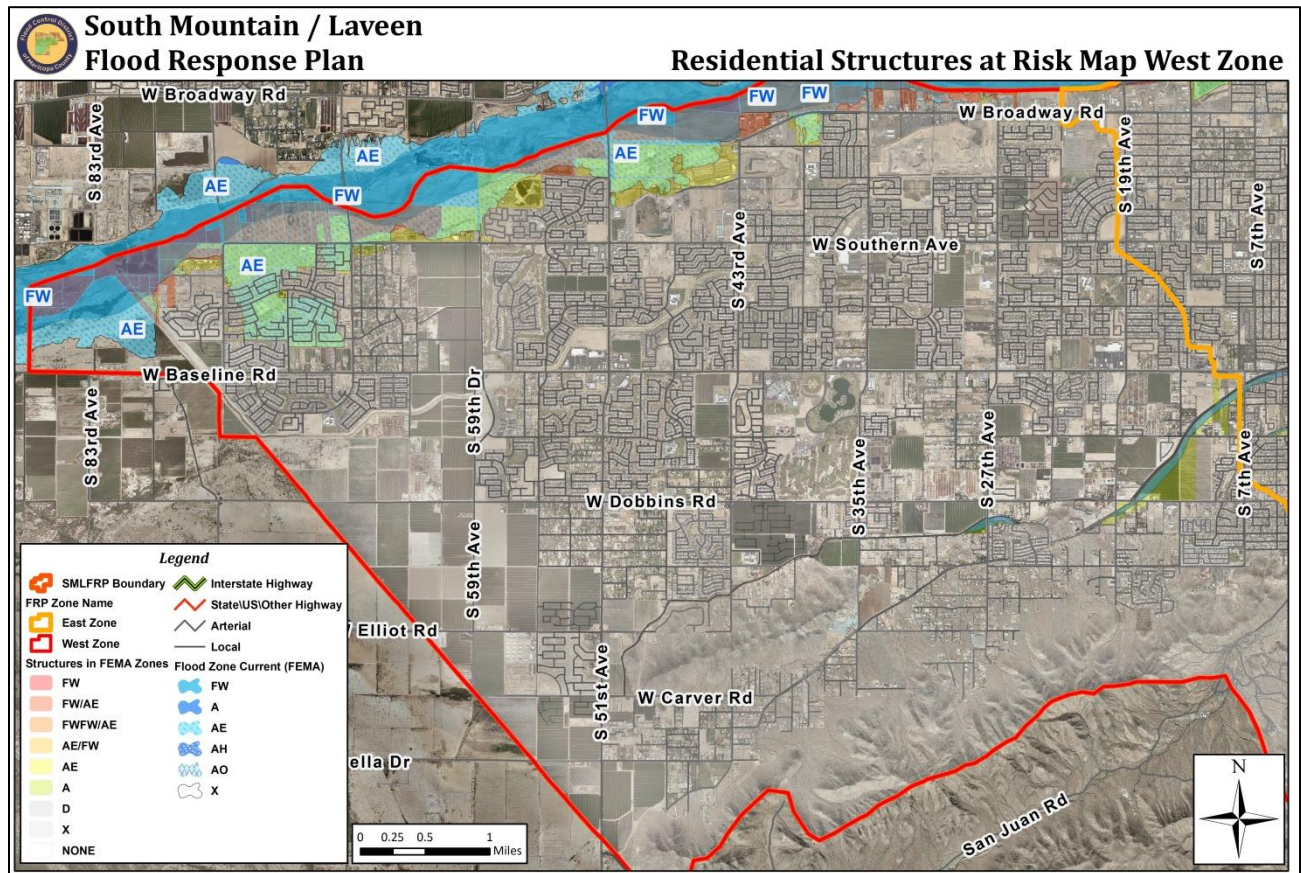


Figure 10: Residential Structures at Risk Map West Zone

Other Structures at Risk in FEMA Flood Zones

In addition to the residential structures listed above, there are also sixty (60) parcels with other structures within the moderate risk FEMA Flood Zones. Other structure in the FRP is defined as any structure that people do not reside in as a permanent home. Of these sixty structures; forty seven are commercial, four are recreational, three are schools, two are sheds, one is childcare, one is a church, one is commercial/resort, and one is commercial/recreation. These zones include A, AE, and AO Zones. These areas will have ponding and/or shallow flow during a 100-year event. During a flood event these areas need to be monitored closely and if any people are within the floodplain they need to be informed of the possible danger.

There are also fifty eight thousand five hundred and seventy eight (58,578) parcels within the low risk FEMA Flood Zone X. These parcels were not further evaluated for structure counts but still remain areas that could potentially experience flooding during a flood event.

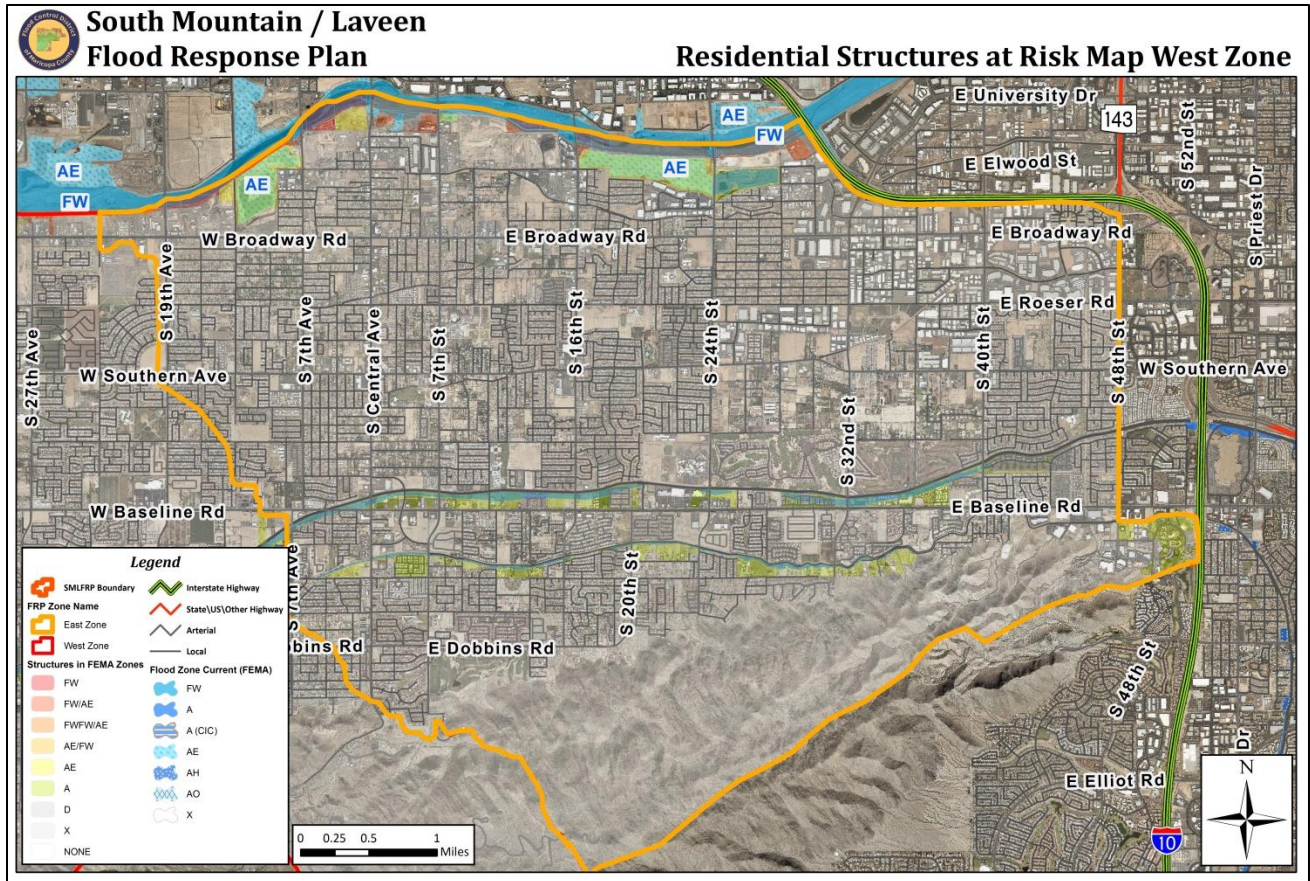


Figure 11: Residential Structures at Risk Map East Zone

Structures Removed from FEMA Floodplains with LOMR-F's

The National Flood Insurance Program (NFIP) Elevation Certificate (EC) is an administrative tool of the NFIP which is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, or to support a request for a Letter of Map Amendment (LOMA) or at Letter of Map Revision – Fill (LOMR-F).

A total of 1,243 parcels have LOMRF's. This means they are still within the FEMA Floodplain but the developer has gotten a LOMR approved through FEMA because the houses are built on fill dirt which brings the base elevation above the FEMA base flood elevation. Of the one thousand two hundred and forty three parcels, three hundred and ninety eight are in Zone X; seventeen are in Zone AE with no structures; and eight hundred and twenty nine are in Zone AE with a structure (five recreational areas, one school and eight hundred and twenty three single family residential homes). These parcels are not required to pay flood insurance. The four subdivisions are Laveen Farms Unit 2, Laveen Farms Unit 3, Laveen Farms Unit P and Laveen Farms Phase 1. The locations of the LOMRF's are shown in Figure 12.

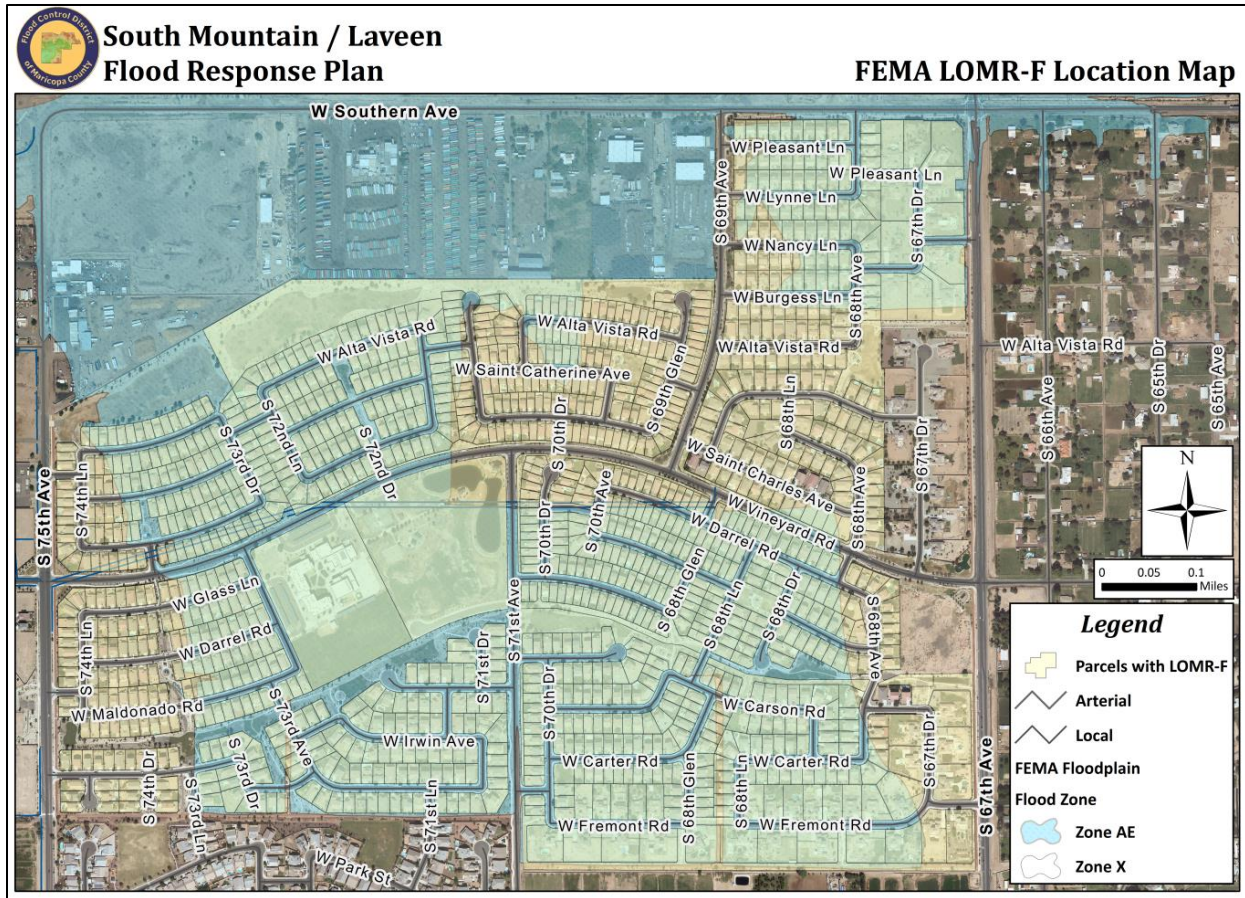


Figure 12: Location of FEMA LOMR-F's

Other Residential Areas with Known Flooding Issues

In the summer of 2014 South Phoenix was hit by a number of isolated severe rainfall events. There are many communities that do not fall within a FEMA designated high risk flood zone but do fall within Flood Zone X where flood insurance purchase requirements do not apply. If any type of flooding happens at a residential home, the District or the City logs and investigates the complaint. Particular subdivisions seem to have a higher risk of flooding potential than others. These areas have been highlighted in Figure 13 and in the Flood Condition Maps and listed below.

Subdivisions within Unincorporated Maricopa County include:

- **Las Lomas** - located 0.25 miles south of Dobbins Road west of 27th Avenue
- **Sunset Cove** – located southeast of Carver Road and 43rd Avenue and east of 43rd Avenue
- **Siesta Valley Estates** – located 0.50 miles south of Carver Road and west of 43rd Avenue
- **Orange Valley Tract** – located southwest of Carver Road and 43rd Avenue, west of 43rd Avenue
- **Vista Del Valle** – located 0.50 miles south of Baseline Road and 27th Avenue west of 27th Avenue

- **Vista Del Valle 2**- located 0.50 miles south of Baseline Road and 27th Avenue west of 27th Avenue and Vista Del Valle Subdivision
- **La Sondra** – located 0.50 miles south of Dobbins Road east of 51st Avenue
- **Laveen Estates East Plat 1 & 2** – located southeast of Dobbins Road and 51st Avenue

Subdivisions located in Phoenix include:

- **Las Lomas Annex** – located 0.50 miles south of Dobbins Road east of 27th Avenue
- **Citrus Mountain Estates** – located 0.20 miles south of Dobbins Road east of 27th Avenue
- **Southern Highlands AMD** – located 0.20 miles south of Dobbins Road east of 27th Avenue and Citrus Mountain Estates
- **Talavera** – located 0.50 miles south of Dobbins Road east of 19th Avenue
- **Valley View Estates**– located 0.40 miles south of Dobbins Road east of 19th Avenue
- **Mountain Terrance** – located southeast of Dobbins Road and 14th Street
- **Mountainside Estates/Cavalier Foothills** – located northwest of Dobbins Road and 19th Street

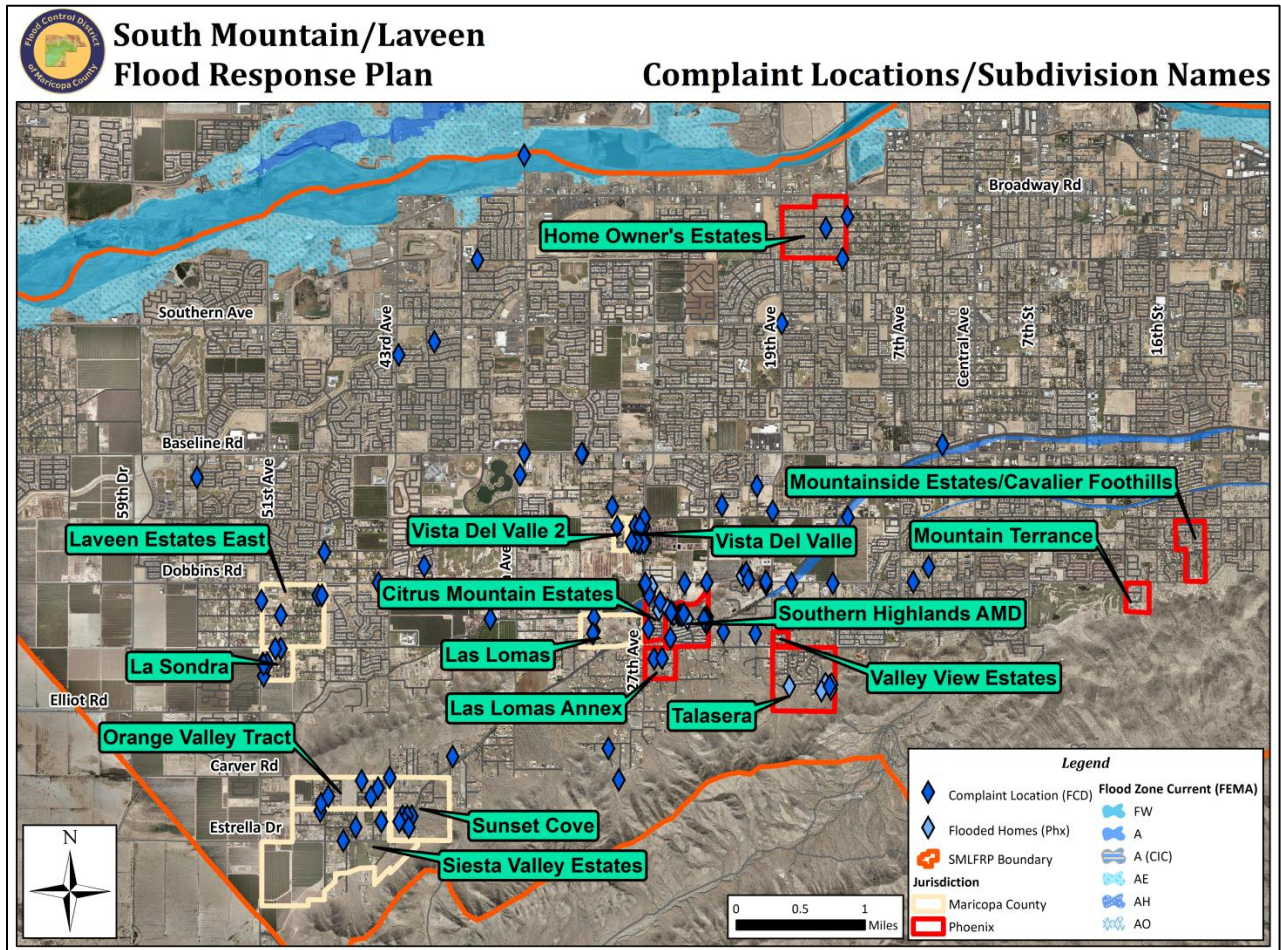


Figure 13: Phoenix and Maricopa County Complaints in South Phoenix 2014

DISSEMINATION OF INFORMATION

Good communication among the participating agencies is critical to the success of the South Mountain/Laveen FRP. The responsibilities of the entities involved are identified below.

City of Phoenix Emergency Management Department

The Phoenix Emergency Management Department Duty Officer is tasked with monitoring flood emergency situations within South Phoenix and coordinating support. Emergency Management will follow the Emergency Operations Plan (EOP) for the Phoenix. Any Emergency Support Functions (ESF) will be activated by the Phoenix City Manager. An ESF#1, ESF#2, ESF#3, ESF#5, ESF#6, ESF#7, ESF#8, ESF#13 or an ESF#15 may be activated to support a storm or flood incident according to the Phoenix EOP.

City of Phoenix Police Department

The Police are responsible for notifying Phoenix residents who are potentially in harm's way and coordinating with the Maricopa County Sheriff's Office (MCSO). Park Rangers who work for the Police Department are responsible for monitoring parks and closing particular parks and trail entrances/exits.

City of Phoenix Street Transportation Department

Street Transportation Department will provide road information, barricades, lights, assistance to police and oversee barricade and debris removal when roads are reopened. Street Maintenance Division is tasked with reviewing information from Police Department/Emergency Management and assisting the Police Department through a flood event. Street Maintenance Division will offer engineering expertise to other departments as necessary.

City of Phoenix Parks and Recreation Department

Parks and Recreation Department is tasked with reviewing information from Police Department/Emergency Management and with monitoring and maintaining all city parks within the FRP. They will provide Park Rangers for security at facilities as needed. They will provide assistance to Public Works and Street Transportation as necessary.

City of Phoenix Fire Department

The Fire Department protects and preserves life and property from the impact of fire, disaster, injury and illness by providing fire suppression, fire prevention, and emergency medical services to the citizenry within the community. The Phoenix Police Department will work closely with the Fire Department to monitor road crossings and structures in the event of a flood.

Flood Control District Responsibilities

An important function of the District is to monitor rainfall and runoff conditions through its county-wide real-time flood detection and data collection network to support its flood control facilities and local jurisdictions within the County. While not responsible for notifying the citizens in and around Phoenix of potential or occurring flooding, the District will provide available weather and flooding information to Phoenix emergency responders and MCDDEM. The District may offer opinions of flood threat based on the information it collects. Notifications include products prepared by the in-house MSP describing anticipated heavy storms that are likely to fill washes and temporally restrict passage, as well as more specific data from area precipitation and stream gages.

Maricopa County Department of Transportation

Maricopa County Department of Transportation will perform any road closures on MCDOT roadways and can also provide/transport sandbags and sand if needed. MCDOT will provide road information, barricades and lights, assist sheriff units, and oversee barricade and debris removal when roads are reopened. MCDOT should coordinate with ADOT in their responses.

Maricopa County Sheriff's Office

MCSO is tasked with monitoring flood emergency situations within the Maricopa County Unincorporated areas and performing road closures and evacuations if necessary.

Maricopa County Department of Emergency Management

Maricopa County Department of Emergency Management is tasked with monitoring information given to them by the District and the Phoenix EOC Chief/City Manager/Emergency Manager. They will activate the county Emergency Operations Center if needed.

Arizona Department of Transportation

Arizona Department of Transportation will monitor and barricade any state roads if necessary.

EMERGENCY RESPONSE ACTIONS

Flood Conditions

This Plan defines three types of Flood Conditions; **YELLOW ALERT**, **ORANGE ALERT**, and **RED ALERT**. Each Alert describes an intensity of flooding in the Laveen/South Mountain area of Phoenix.

YELLOW ALERT

The term “**YELLOW ALERT**” will be used to denote a situation that causes a higher degree of readiness than is normally present. “**YELLOW ALERT**” actions could be generated by:

- i. An issuance by the National Weather Service of a severe weather or urban/stream flood advisory; and/or
- ii. Notification by the Flood Control District of Maricopa County that weather conditions may develop into a flood situation for South Phoenix and/or a **Message 1**.

ORANGE ALERT

The term “**ORANGE ALERT**” will be used to denote a situation that presents a greater potential threat than “**YELLOW ALERT**”, but poses little immediate threat to life and/or property. This situation includes potential threats that could develop into a hazardous condition. “**ORANGE ALERT**” actions could be generated by:

- i. An issuance by the National Weather Service of a severe weather warning or urban/stream flood advisory, and/or;
- ii. Notification by the Flood Control District of Maricopa County that heavy rainfall has been detected within or near the SMLFRP boundary and conditions may develop into a flood situation (**Message 3**).
- iii. Observed floodwaters in South Phoenix or upstream watercourses.

RED ALERT

The term “**RED ALERT**” will be used to signify that hazardous conditions are imminent or occurring. “**RED ALERT**” denotes a greater sense of danger and urgency and could be generated by:

- i. An issuance of a severe weather or flash flood warning by the National Weather Service combined with factors making the effect more imminent such as a severe storm sighting near or moving toward South Phoenix or its contributing watersheds.
- ii. Notification by the Flood Control District of Maricopa County of observed flood conditions within the SMLFRP boundary and/or a **Message 3**.
- iii. Observed floodwaters within the SMLFRP boundary.

In addition to these conditions, NWS or the District may issue flood or flash flood watches. In the case of a watch responders should begin preparations for any Flood Condition that may be suggested by the product(s) received.

Note that the Flood Condition criteria are guidelines only and cannot cover all scenarios of flood emergencies.

Routine Operational Procedures

Flooding in South Phoenix is infrequent and unpredictable. Therefore, it is important to perform frequent monitoring procedures so that the staff is familiar with the procedures when a flood occurs. During normal (non-flood) conditions, these actions are recommended (Figure 14):

City of Phoenix Emergency Management

Emergency Management Duty Officer (EM Duty Officer) is responsible for notifying the City of FLOOD CONDITIONS to signify an increased level of flood threat to Laveen/South Mountain area of Phoenix. In addition, EM Duty Officer should monitor weather data daily during fair weather. Daily monitoring during fair weather consists of the following tasks:

- i. Review weather outlooks from the Flood Control District of Maricopa County, National Weather Service daily forecasts and Central Arizona Project.
 - a. FCDMC Weather Outlooks and Messages are sent via email to addresses provided to FCDMC. Text alerts are also available. Weather Outlooks are available online at <http://www.fcd.maricopa.gov/Weather/outlook.aspx>.
 - b. NWS Quick Forecast is available at <http://forecast.weather.gov/MapClick.php?lon=-112.02&lat=33.44#.V9GUEfkrLmF>.
- ii. Distribute FCDMC and NWS forecasts to Police and Street Transportation.
- iii. Monitor daily weather information.

City of Phoenix Street Transportation

- i. Review weather information provided by EM Duty Officer.

South Mountain/Laveen Flood Response Plan Routine Operational Procedures Flowchart

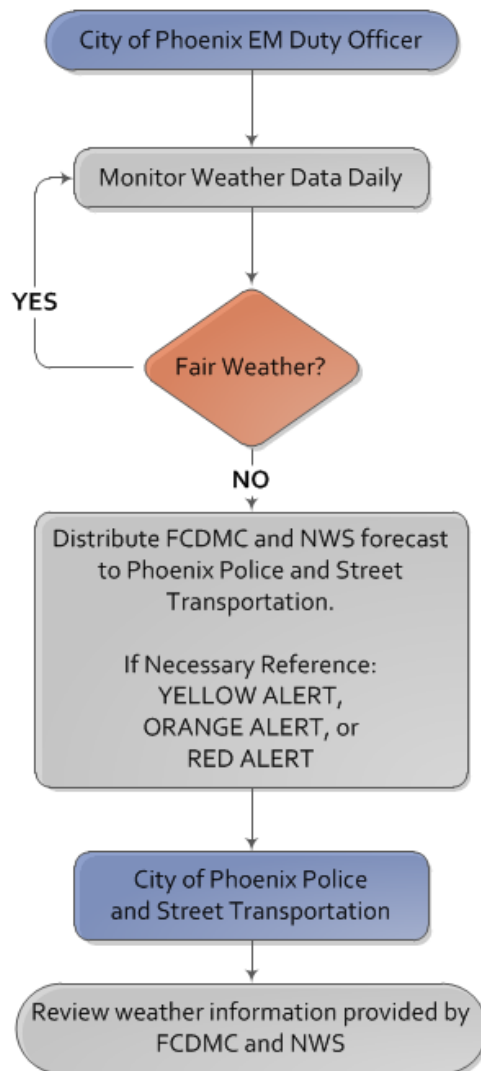


Figure 14 : Routine Operation Procedures Flowchart

YELLOW ALERT Procedures

Upon a **YELLOW ALERT** notification, all departments shall maintain an increased state of readiness. If a **YELLOW ALERT** is declared for Laveen/South Mountain area of Phoenix, the following tasks will be performed (Figure 15):

City of Phoenix Emergency Management Duty Officer

- i. Notify Phoenix Police, Phoenix Street Transportation, Phoenix Parks and Recreation, Phoenix Fire, Phoenix Emergency Management, Flood Control District of Maricopa County, Maricopa County Department of Transportation, and Maricopa County Sheriff's Office of the elevated **YELLOW ALERT** status.
- ii. Monitor incoming weather information from FCDMC and NWS.

City of Phoenix Police

- i. Advise Phoenix Police personnel of the **YELLOW ALERT** status and the possibility of flooding and possible evacuation of Phoenix residents.
- ii. Dispatch Police Units to monitor locations listed below. Relay information back to Phoenix Emergency Management/EOC.
- iii. Monitor and evacuate Ed & Verma Pastor Elementary School if necessary.
- iv. Monitor and evacuate residential homes in the following subdivisions if necessary: Southern Highlands AMD, Citrus Mountain Estates, Talasera and Valley View Acres AMD.
- v. Provide assistance to Street Transportation and MSCO as necessary.
- vi. Monitor residential areas and roadways along Highland Canal, Western Canal and Laveen Area Conveyance Canal.
- vii. Refer to the South Mountain/Laveen Flood Response Plan West Zone YELLOW Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone YELLOW Flood Condition Map for exact locations listed above.
- viii. Monitor incoming weather information from FCDMC, NWS and the EM Duty Officer.
- ix. Provide assistance if necessary.

City of Phoenix Emergency Management

- i. Advise staff and employees of the **YELLOW ALERT** and the possibility of the EOC activation.
- ii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Street Transportation

- i. Advise staff and employees of the **YELLOW ALERT**.
- ii. Monitor all minor and major road crossings in South Phoenix: Dobbins Rd/15th Way, Dobbins Rd/19th St, Buckeye Rd/24th S, 19th St/Euclid Ave, 24th St/Highline Canal, 16th St /Highline Canal, 24th St/Western Canal, Baseline Rd/42nd Pl, South Mtn. Center Rd, Dobbins Rd/23rd Ave, Olney Ave/ 24th Dr., Dobbins Rd/19th Ave, Olney Ave/16th Ave, 15th Ave/Bust Ave, Olney Ave/7th Ave and 23rd Dr./Western Canal. Streets in this list are labeled with a YELLOW box.
- iii. Furnish and Place barricades if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone YELLOW Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone YELLOW Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Parks and Recreation

- i. Advise staff and employees of the **YELLOW ALERT**.
- ii. Monitor and restrict access to South Mtn. Park if necessary.
- iii. Refer to the South Mountain/Laveen Flood Response Plan West Zone YELLOW Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone YELLOW Flood Condition Map for exact locations listed above.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Fire Department

- i. Advise staff and employees of the **YELLOW ALERT**.
- ii. Fire Stations 28, 32, and 57 may have loss of access.
- iii. Assist with monitoring roads and barricading if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone YELLOW Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone YELLOW Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Flood Control District of Maricopa County

- i. Advise staff and employees of the **YELLOW ALERT**

Maricopa County Department of Transportation

- i. Advise MCDOT personnel of the **YELLOW ALERT** and flood threat in South Phoenix. Coordinate with MDOT and ADOT to discuss possible street closures.
- ii. Monitor road crossings in Unincorporated MC: Sioux St/43rd Ave, Carver Rd/43rd Ave, 27th Ave/Dobbins Rd, 51st Ave/Salt River and 67th Ave/Salt River. Streets in this list are labeled with a YELLOW box.
- iii. Furnish and place barricades if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone YELLOW Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone YELLOW Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Sheriff's Office

- i. Advise Sheriff Personnel of the **YELLOW ALERT**.
- ii. Coordinate with Phoenix Police to discuss the current flood threat, alert level, and possible evacuations.
- iii. Dispatch Sheriff Units to monitor locations listed below.
- iv. Monitor and evacuate residential homes in the following subdivisions if necessary: Sunset Cove and Orange Valley East.
- v. Provide assistance to Phoenix Street Transportation and MCDOT as necessary. Assist with barricades if requested from MCDOT or Phoenix.
- vi. Assist Phoenix Police if requested.
- x. Monitor residential areas and roadways along Highland Canal, Western Canal and Laveen Area Conveyance Canal.
- xi. Refer to the South Mountain/Laveen Flood Response Plan West Zone YELLOW Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone YELLOW Flood Condition Map for exact locations listed above.
- xii. Provide status updates across the county trunk radio system on any current activities, actions and/or observations in the field.
- xiii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

South Mountain/Laveen Flood Response Plan

YELLOW ALERT Operational Procedures Flowchart

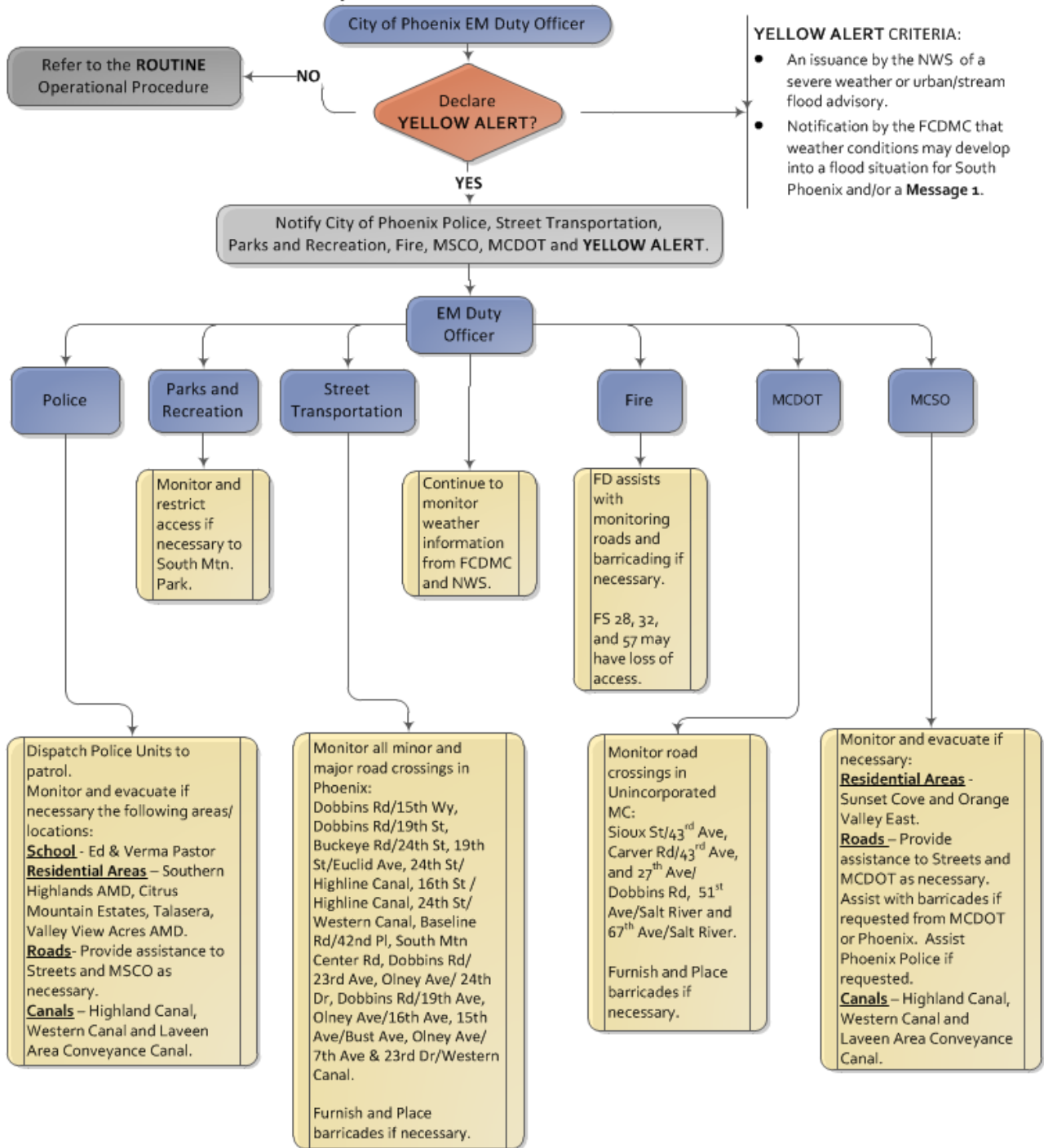
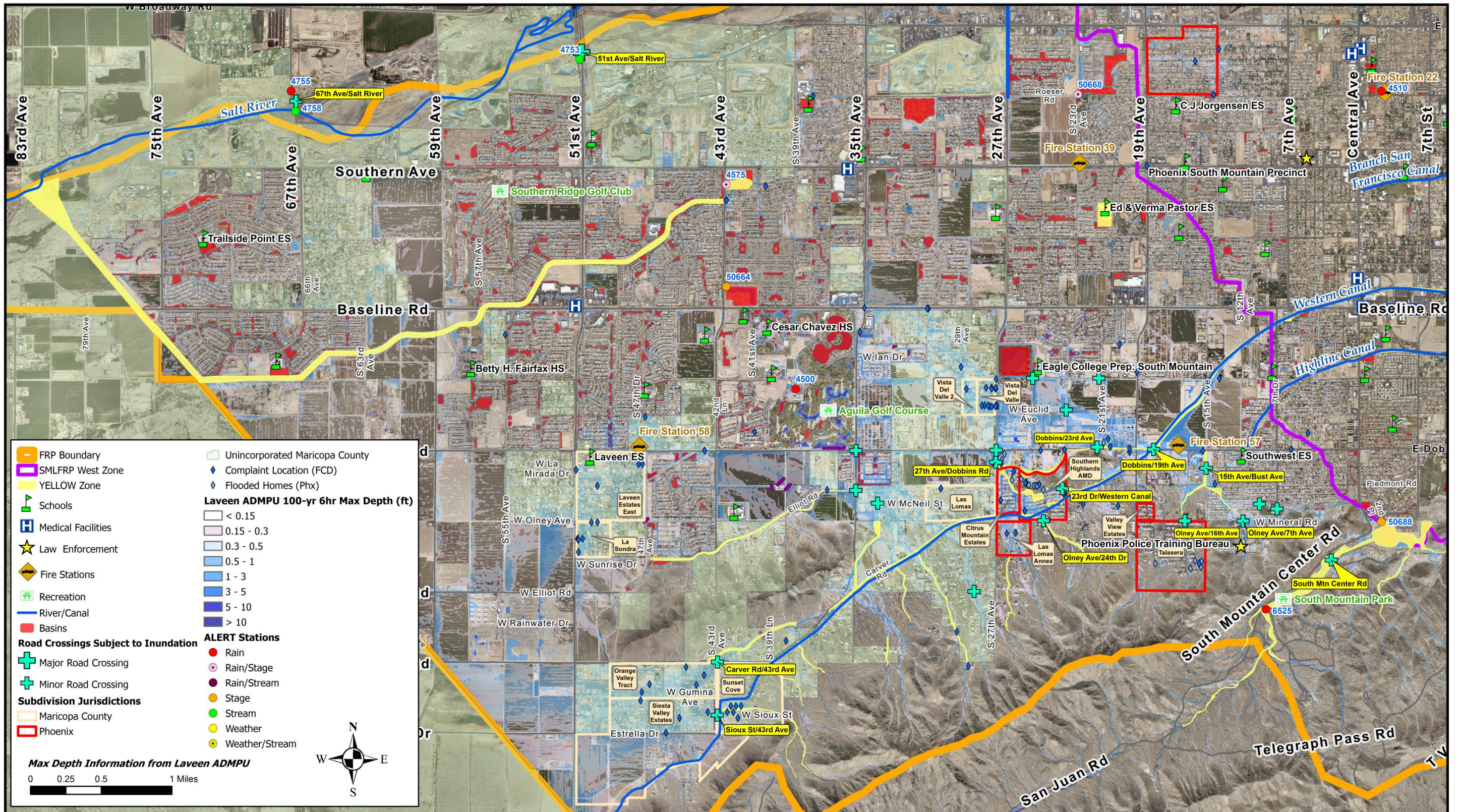


Figure 15: YELLOW ALERT Flowchart



South Mountain/Laveen Flood Response Plan West Zone

YELLOW Flood Condition



Flood Control District of Maricopa County September 2016

2801 West Durango Street, Phoenix, Arizona 85009, (602) 506-1501

www.fcd.maricopa.gov



South Mountain/Laveen Flood Response Plan East Zone

YELLOW Flood Condition



ORANGE ALERT Procedures

Upon an **ORANGE ALERT** notification, all departments shall maintain an increased state of readiness. If an **ORANGE ALERT** is declared for Laveen/South Mountain area of Phoenix, the following tasks will be performed (Figure 16):

City of Phoenix Emergency Management Duty Officer

- i. Notify Phoenix Police, Phoenix Street Transportation, Phoenix Parks and Recreation, Phoenix Fire, Flood Control District of Maricopa County, Maricopa County Department of Transportation, Maricopa County Sheriff's Office, Maricopa County Emergency Management and Arizona Department of Transportation of the elevated **ORANGE ALERT** status.
- ii. Monitor incoming weather information from FCDMC and NWS.

City of Phoenix Police

- i. Advise Phoenix Police personnel of the **ORANGE ALERT** status and the possibility of major flooding and probable evacuation of Phoenix residents.
- ii. Dispatch Police Units to monitor locations listed below. Relay information back to Phoenix Emergency Management/EOC.
- iii. Monitor and evacuate if necessary the following schools: Arizona Agribusiness & Equine Center (AAEC), Cesar Chavez High School, Cloves C Campbell Sr Elementary School, Desert Meadows Elementary School, Eagle College Prep: South Mountain Charter School, Ed & Verma Pastor Elementary School and Espiritu Charter School.
- iv. Monitor and evacuate residential homes in the following subdivisions if necessary: Southern Highlands AMD, Las Lomas Annex, Citrus Mountain Estates, Talasera, Valley View Estates, and Valley View Acres AMD.
- v. Monitor and evacuate the following recreational facilities if necessary: Thunderbird Golf Course and AZ Grand Golf Course.
- vi. Provide assistance to Street Transportation and MSCO as necessary.
- vii. Monitor residential areas and roadways along Highland Canal, Western Canal and Laveen Area Conveyance Canal.
- viii. Refer to the South Mountain/Laveen Flood Response Plan West Zone **ORANGE** Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone **ORANGE** Flood Condition Map for exact locations listed above.
- ix. Monitor incoming weather information from FCDMC, NWS and the EM Duty Officer.
- x. Provide assistance if necessary.

City of Phoenix Emergency Management

- i. Duty Officer should advise director and staff of the **ORANGE ALERT** and the possibility of the EOC activation.
- ii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Street Transportation

- i. Advise staff and employees of the **ORANGE ALERT**.
- ii. Monitor all minor and major road crossings in Phoenix: Dobbins Rd/15th Way, Dobbins Rd/19th St, Buckeye Rd/24th St, Winston Dr./28th St, Baseline Rd/20th St, 19th St/Euclid Ave, 24th St/Highline Canal, 16th St /Highline Canal, 24th St/Western Canal, Baseline Rd/42nd Pl, South Mtn Center Rd, Dobbins Rd/23rd Ave, Olney Ave/ 24th Dr., Dobbins Rd/19th Ave, Olney Ave/16th Ave, 15th Ave/Bust Ave, Olney Ave/7th Ave and 23rd Dr./Western Canal. Streets in this list are labeled with an ORANGE box.
- iii. Furnish and Place barricades if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone ORANGE Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone ORANGE Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Parks and Recreation

- i. Advise staff and employees of the **ORANGE ALERT**.
- ii. Monitor and restrict access if necessary to the following locations: South Mtn. Park and Esteban Park.
- iii. Refer to the South Mountain/Laveen Flood Response Plan West Zone ORANGE Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone ORANGE Flood Condition Map for exact locations listed above.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Fire Department

- i. Advise staff and employees of the **ORANGE ALERT**.
- ii. Fire Stations 28, 32, 57, and 58 may have loss of access.
- iii. Assists with monitoring roads and barricading if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone ORANGE Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone ORANGE Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Flood Control District of Maricopa County

- i. Advise staff and employees of the **ORANGE ALERT**.

Maricopa County Department of Transportation

- i. Advise MCDOT personnel of the **ORANGE ALERT** and flood threat in South Phoenix. Coordinate with MDOT and ADOT to discuss probable street closures.
- ii. Monitor road crossings in Unincorporated MC: Sioux St/43rd Ave, Carver Rd/43rd Ave, Cefon Dr/28th Ave, 27th Ave/Dobbins Rd, Elliot Rd/35th Ave, Dobbins Rd/27th Ave, Dobbins/35th Ave, 51st Ave/Salt River and 67th Ave/Salt River. Streets in this list are labeled with an ORANGE box.
- iii. Furnish and Place barricades if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone ORANGE Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone ORANGE Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Sheriff's Office

- i. Advise Sheriff Personnel of the **ORANGE ALERT**.
- ii. Coordinate with Phoenix Police to discuss the current flood threat, alert level, and possible evacuations.
- iii. Dispatch Sheriff Units to monitor locations listed below. Relay information back to Phoenix Emergency Management/EOC and MCDEM if County EOC is activated.
- iv. Monitor and evacuate residential homes in the following subdivisions if necessary: Las Lomas, Sunset Cove, Siesta Valley Estates, Orange Valley Tract, Orange Valley East, Vista Del Valle, La Sondra and Laveen Estates East.
- v. Provide assistance to Phoenix Street Transportation and MCDOT as necessary. Assist with barricades if requested from MCDOT or Phoenix.
- vi. Assist Phoenix Police if requested.
- xi. Monitor residential areas and roadways along Highland Canal, Western Canal and Laveen Area Conveyance Canal.
- xii. Refer to the South Mountain/Laveen Flood Response Plan West Zone ORANGE Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone ORANGE Flood Condition Map for exact locations listed above.
- vii. Provide status updates across the county trunk radio system on any current activities, actions and/or observations in the field.
 - i. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Department of Emergency Management

- i. Notify MCDEM personnel of the elevated **ORANGE ALERT** status.
- ii. Refer to the South Mountain/Laveen Flood Response Plan West Zone ORANGE Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone ORANGE Flood Condition Map.
- iii. Review weather information provided by FCDMC and NWS.

Arizona Department of Transportation

- i. Advise ADOT personnel of the elevated **ORANGE ALERT** status.
- ii. Monitor I-10 at Baseline Road and I-10 at Salt River.
- iii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

South Mountain/Laveen Flood Response Plan

ORANGE ALERT Operational Procedures Flowchart

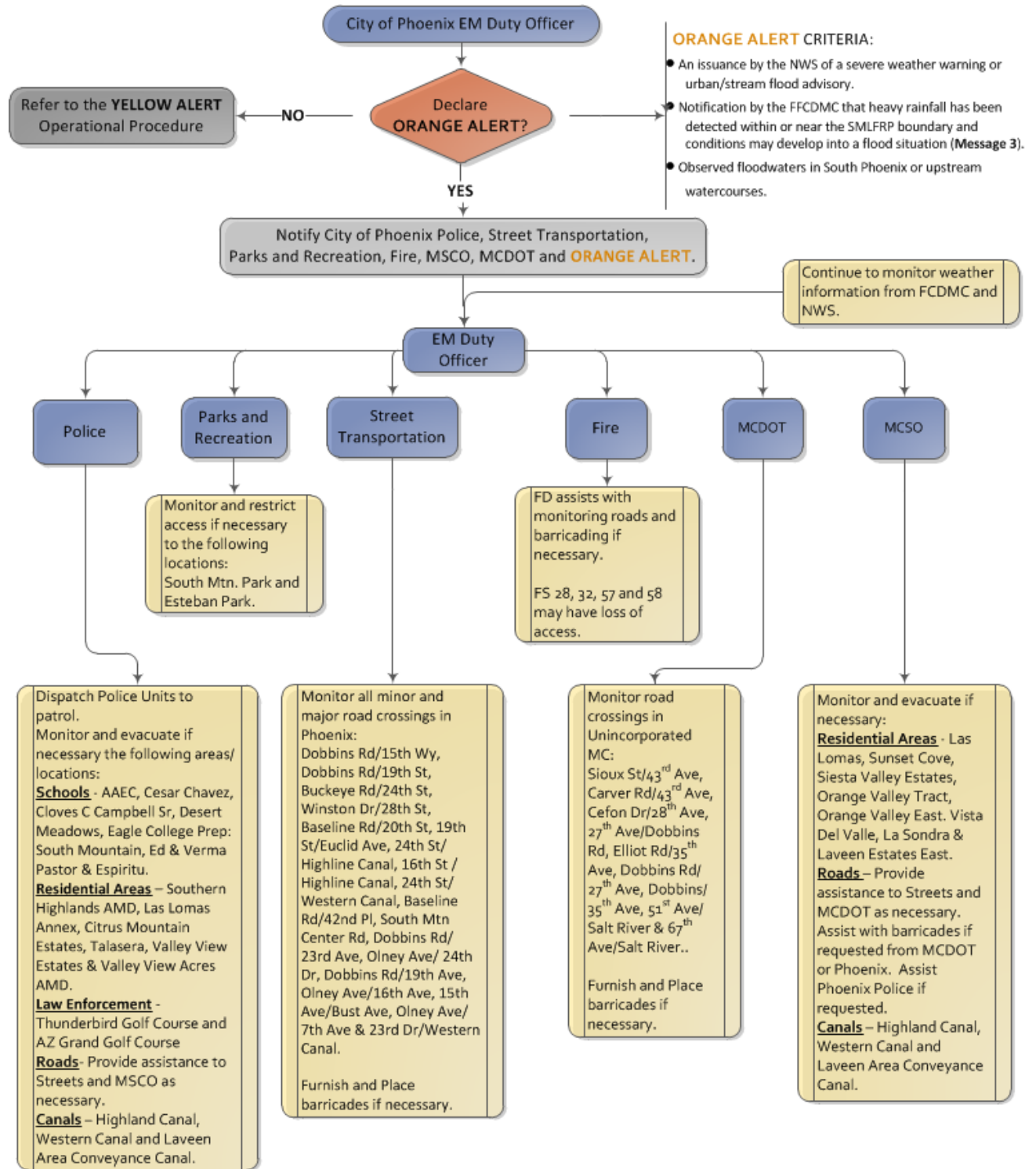
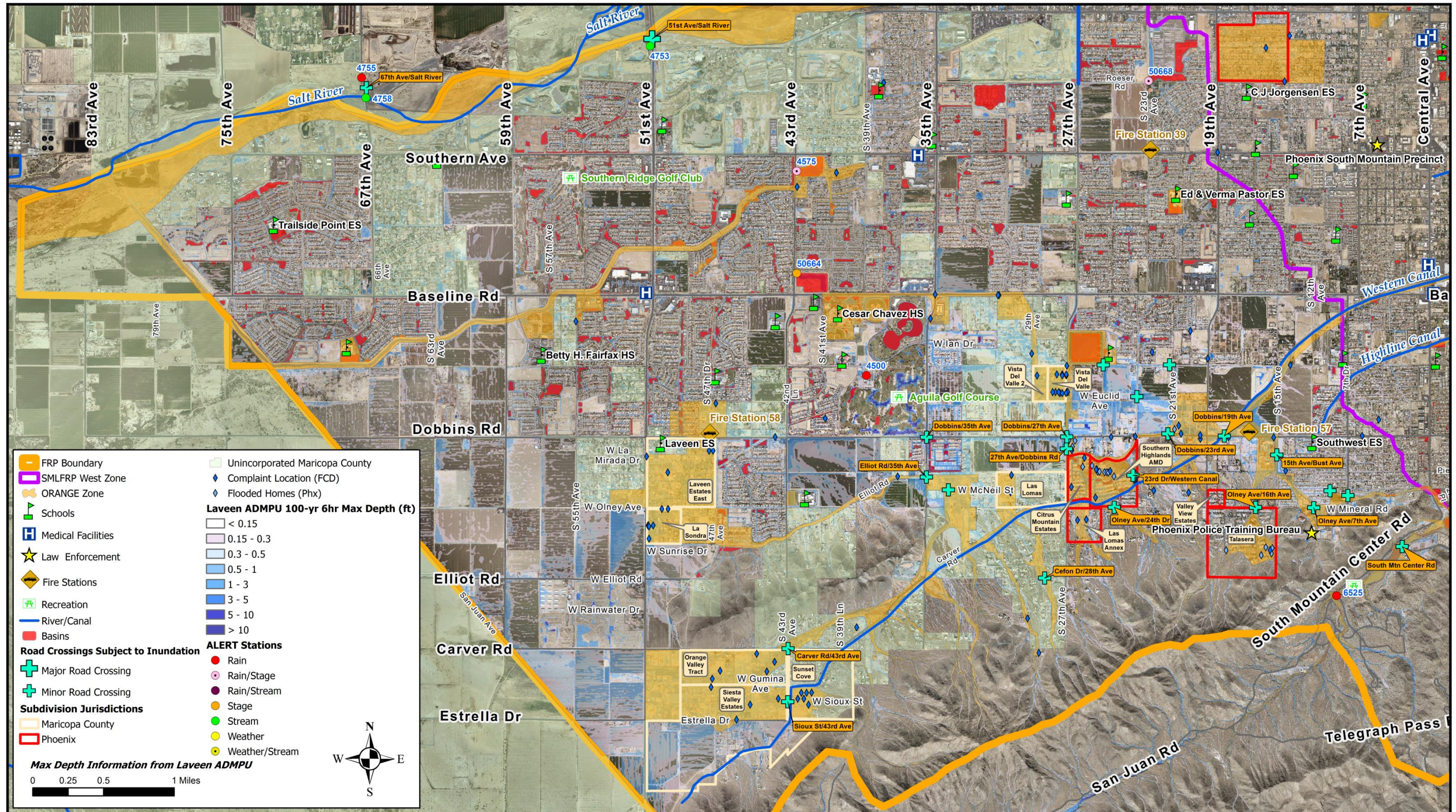


Figure 16 : ORANGE ALERT Flowchart



South Mountain/Laveen Flood Response Plan West Zone

ORANGE Flood Condition



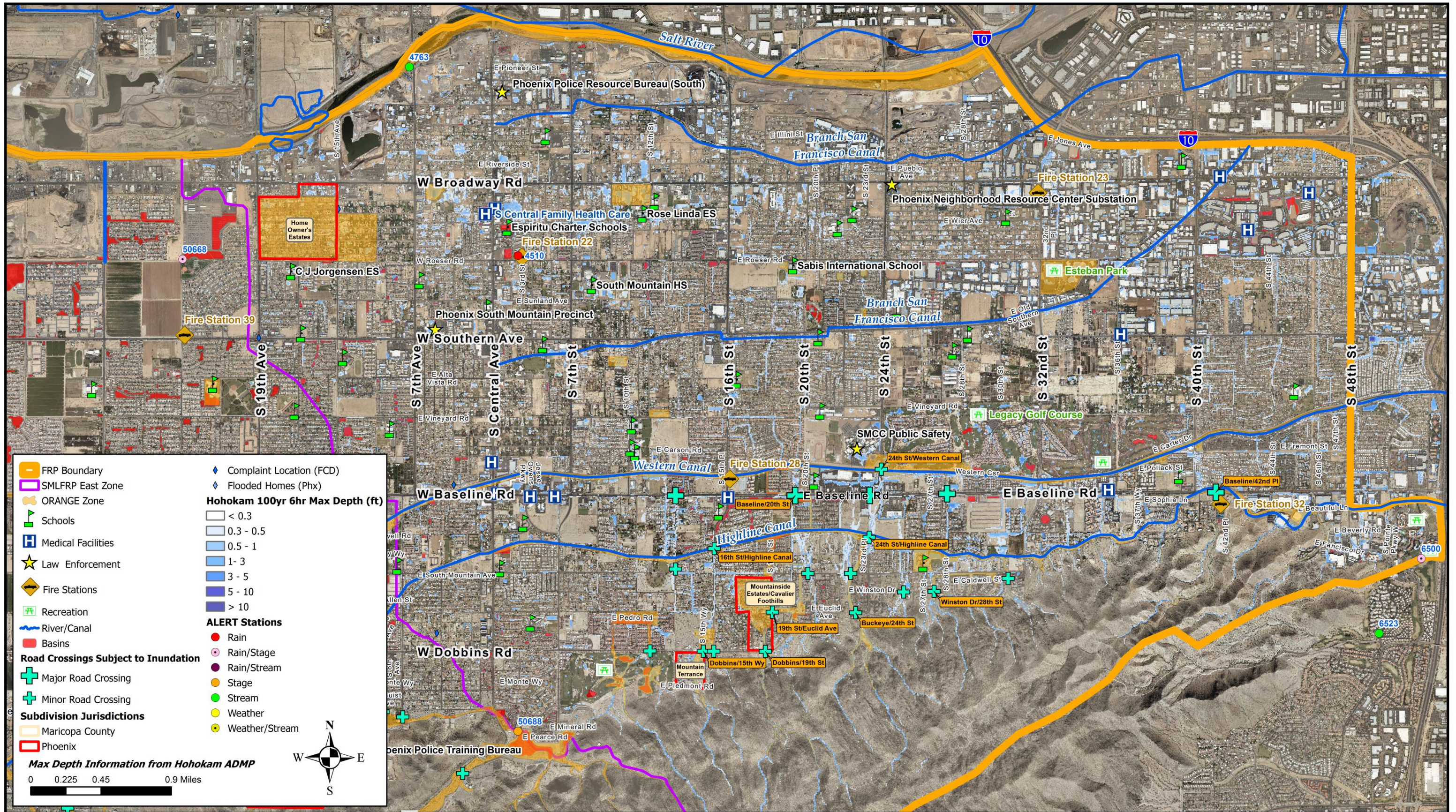
Flood Control District of Maricopa County September 2016

2801 West Durango Street, Phoenix, Arizona 85009, (602) 506-1501

www.fcd.maricopa.gov



ORANGE Flood Condition



RED ALERT Procedures

Upon a **RED ALERT** notification, all departments shall maintain an increased state of readiness. If a **RED ALERT** is declared for Laveen/South Mountain area of Phoenix, the following tasks will be performed (Figure 17):

City of Phoenix Emergency Management Duty Officer

- i. Notify Phoenix Police, Phoenix Street Transportation, Phoenix Parks and Recreation, Phoenix Fire, Flood Control District of Maricopa County, Maricopa County Department of Transportation, Maricopa County Sheriff's Office, Maricopa County Emergency Management and Arizona Department of Transportation of the elevated **RED ALERT** status.
- ii. Monitor incoming weather information from FCDMC and NWS.

City of Phoenix Police

- i. Advise Phoenix Police personnel of the **RED ALERT** status and the possibility of major flooding and probable evacuation of South Phoenix residents.
- ii. Dispatch Police Units to monitor locations listed below. Relay information back to Phoenix Emergency Management/EOC.
- iii. Monitor and evacuate if necessary the following schools: Advance U Elementary School, Arizona Agribusiness & Equine Center (AAEC), Betty H Fairfax High School, C J Jorgensen Elementary School, Cesar Chavez High School, Cloves C Campbell Sr Elementary School, Desert Meadows Elementary School, Eagle College Prep: South Mountain Charter School, Ed & Verma Pastor Elementary School and Espiritu Charter School.
- iv. Monitor and evacuate residential homes in the following subdivisions if necessary: Southern Highlands AMD, Las Lomas Annex, Citrus Mountain Estates, Talasera, Valley View Estates and Valley View Acres AMD.
- v. Monitor and evacuate the Phoenix Police Training Bureau if necessary.
- vi. Monitor and evacuate the following medical facilities if necessary: Raven Dialysis Center, DSI Phoenix South Renal Center, East Baseline Family Medicine Center, South Central Family Health Care and FMC Dialysis Services of South Mountain.
- vii. Monitor and evacuate the following recreational facilities if necessary: Thunderbird Golf Course, AZ Grand Golf Course and Legacy Golf Course.
- viii. Provide assistance to Street Transportation and MSCO as necessary.
- ix. Monitor residential areas and roadways along Highland Canal, Western Canal and Laveen Area Conveyance Canal.
- x. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- xi. Monitor incoming weather information from FCDMC, NWS and the EM Duty Officer.
- xii. Provide assistance if necessary.

City of Phoenix Emergency Management

- i. Duty Officer should advise director and staff of the **RED ALERT**.
- ii. Activate EOC if necessary.
- iii. All contact with Phoenix should be coordinated through EOC Incident Commander.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Street Transportation

- i. Advise staff and employees of the **RED ALERT**.
- ii. Monitor all minor and major road crossings in Phoenix: La Mirada Dr./15th St, Dobbins Rd/15th Way, Dobbins Rd/16th St, Dobbins Rd/19th St, South Mtn/21st St, South Mtn/23rd Pl, Buckeye Rd/24th St, Caldwell St/30th Way, Winston Dr./28th St, Winston Dr./Patricia St, Baseline Rd/20th St, Baseline Rd/28th St, 19th St/Euclid Ave, 24th St/Highline Canal, Baseline Rd/24th St, 16th St /Highline Canal, 14th St/South Mtn Ave, 24th St/Western Canal, Baseline Rd/42nd Pl, Baseline Rd/13th Pl, South Mtn Center Rd, Dobbins Rd/23rd Ave, South Mtn/21st Ave, Olney Ave/ 24th Dr, Dobbins Rd/19th Ave, Dobbins Rd/12th Way, 7th Ave/McNeil St, Olney Ave/16th Ave, 15th Ave/Bust Ave, 8th Ave/Welland Rd, Olney Ave/7th Ave, 23rd Dr./Western Canal, 23rd Ave/Dobbins and 25th Ave/South Mtn Ave. Streets in this list are labeled with an RED box.
- iii. Furnish and Place barricades if necessary.
- iv. Furnish and Place barricades if necessary.
- v. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- vi. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Parks and Recreation

- i. Advise staff and employees of the **RED ALERT**.
- ii. Monitor and restrict access if necessary to the following locations: South Mtn. Park and Esteban Park.
- iii. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Fire Department

- i. Advise staff and employees of the **RED ALERT**.
- ii. Fire Stations 28, 32, 57 and 58 may have loss of access.
- iii. Assists with monitoring roads and barricading if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Flood Control District of Maricopa County

- i. Advise staff and employees of the **RED ALERT**.

Maricopa County Department of Transportation

- i. Advise MCDOT personnel of the **RED ALERT** and flood threat in South Phoenix. Coordinate with MDOT and ADOT to discuss probable street closures.
- ii. Monitor road crossings in Unincorporated MC: Sioux St/43rd Ave, Carver Rd/43rd Ave, Cefon Dr/28th Ave, 27th Ave/Dobbins Rd, Elliot Rd/35th Ave, McNeil St/35th Ave, Dobbins Rd/27th Ave, Dobbins/35th Ave, 51st Ave/Salt River and 67th Ave/Salt River. Streets in this list are labeled with an ORANGE box.
- iii. Furnish and Place barricades if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Sheriff's Office

- i. Advise Sheriff Personnel of the **RED ALERT**.
- ii. Coordinate with Phoenix Police to discuss the current flood threat, alert level, and possible evacuations.
- iii. Dispatch Sheriff Units to monitor locations listed below. Relay information back to Phoenix Emergency Management/EOC and MCDEM if County EOC is activated.
- iv. Monitor and evacuate Laveen Elementary School if necessary.
- v. Monitor and evacuate residential homes in the following subdivisions if necessary: Las Lomas, Sunset Cove, Siesta Valley Estates, Orange Valley Tract, Orange Valley East, Vista Del Valle, La Sondra and Laveen Estates East.
- vi. Provide assistance to Phoenix Street Transportation and MCDOT as necessary. Assist with barricades if requested from MCDOT or Phoenix.
- vii. Assist Phoenix Police if requested.
- xiii. Monitor residential areas and roadways along Highland Canal, Western Canal and Laveen Area Conveyance Canal.
- xiv. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- viii. Provide status updates across the county trunk radio system on any current activities, actions and/or observations in the field.
- ii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Department of Emergency Management

- i. Notify MCDEM personnel of the elevated **RED ALERT** status.
- ii. Activate the Maricopa County Emergency Operations Center if necessary
- iii. Coordinate with Phoenix Fire, Phoenix Emergency Management, Flood Control District of Maricopa County, Maricopa County Department of Transportation, Maricopa County Sheriff's Office and Arizona Department of Transportation for continuous updates.
- iv. Notify Arizona Division of Emergency Management, American Red Cross and The Salvation Army of the current **RED ALERT** status and flood threat in and around the Phoenix area.
- v. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map.
- vi. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Arizona Department of Transportation

- i. Advise ADOT personnel of the elevated **RED ALERT** status.
- ii. Monitor I-10 at Baseline Road and I-10 at Salt River.
- iii. Coordinate with Phoenix Police, Phoenix Emergency Management and MCDEM to close I-10 South of Baseline Road and North of Salt River if necessary.
- iv. Refer to the South Mountain/Laveen Flood Response Plan West Zone RED Flood Condition Map and the South Mountain/Laveen Flood Response Plan East Zone RED Flood Condition Map for exact locations listed above.
- v. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

South Mountain/Laveen Flood Response Plan

RED ALERT Operational Procedures Flowchart

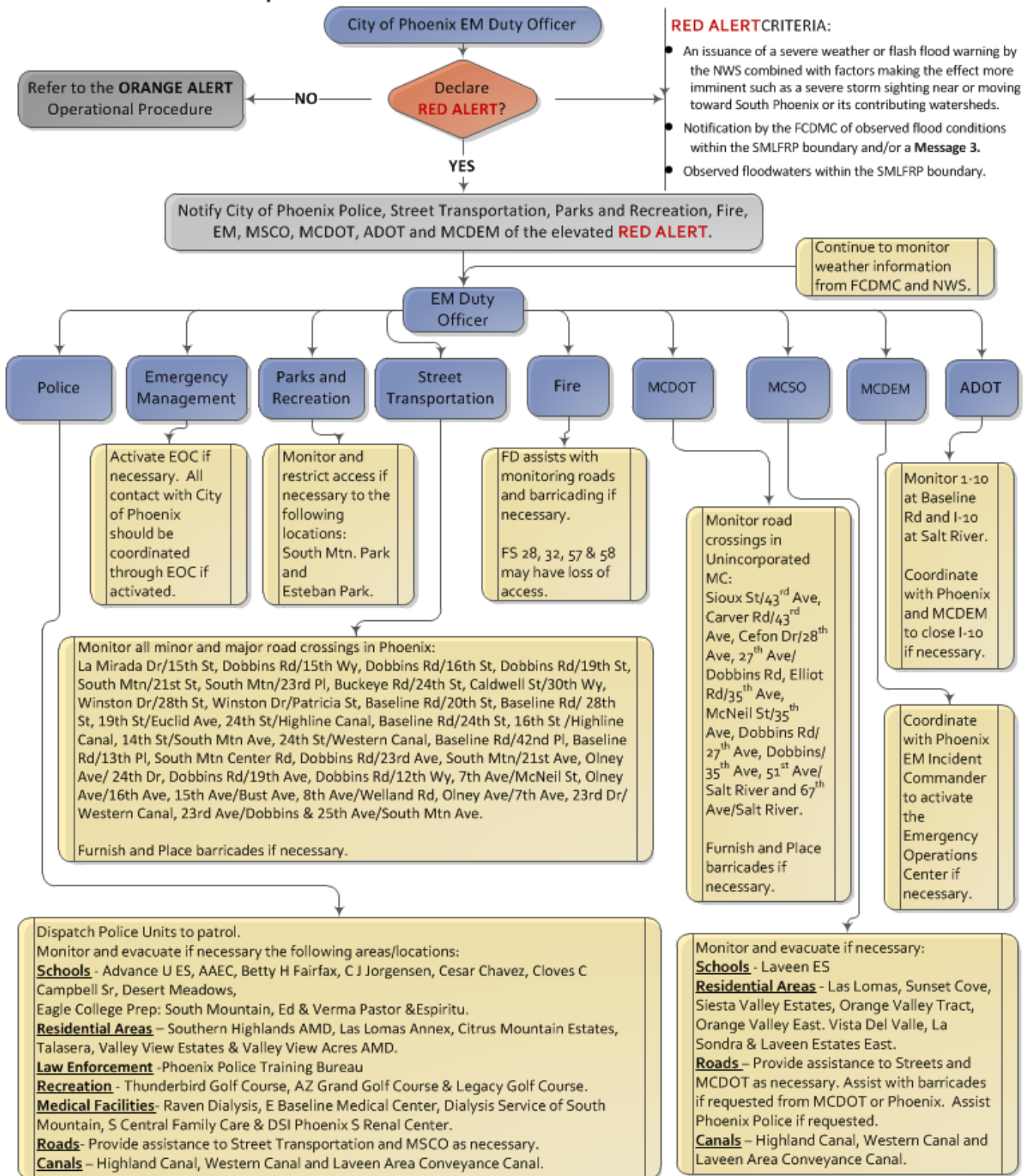
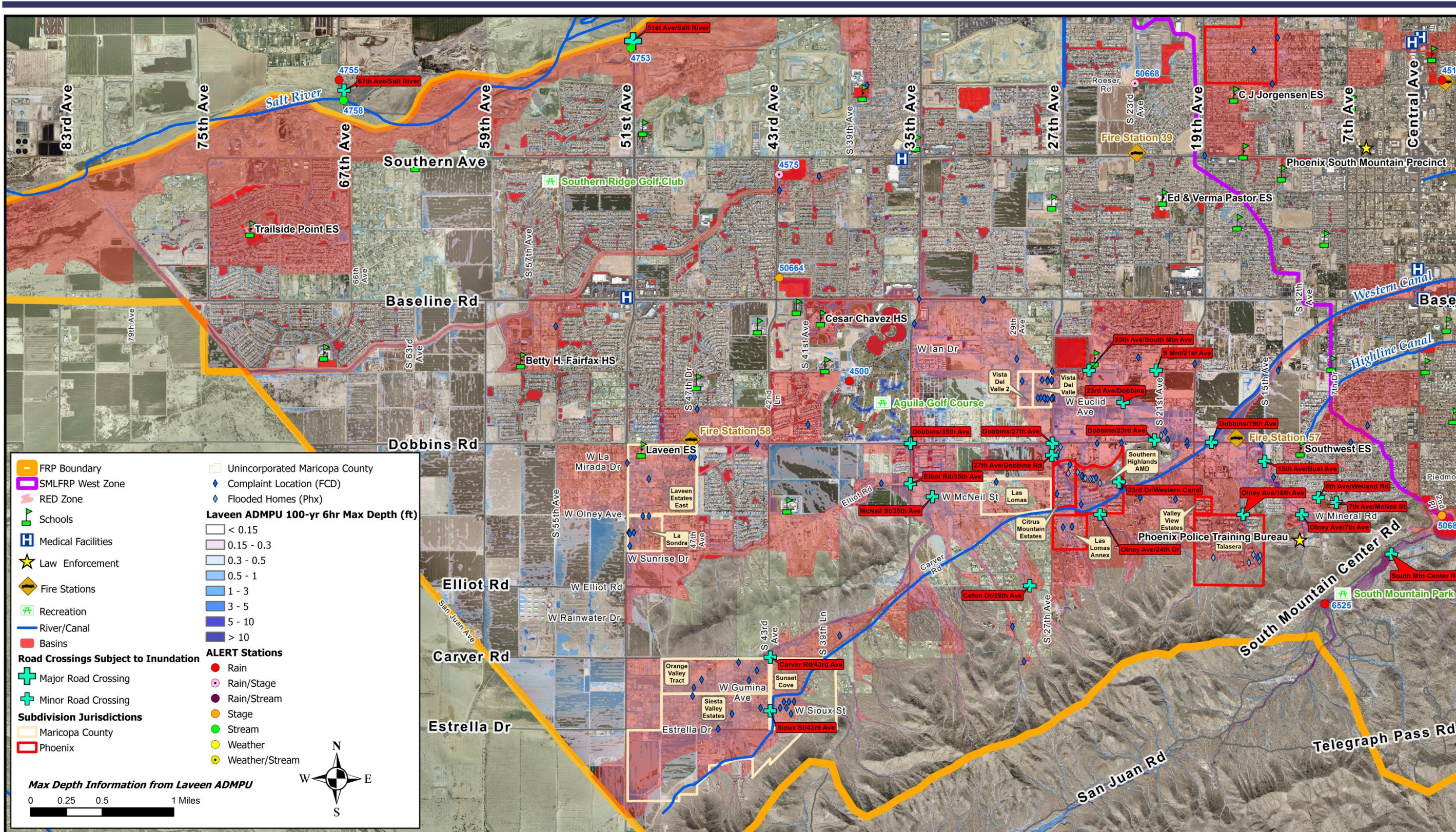


Figure 17 : RED ALERT Flowchart



South Mountain/Laveen Flood Response Plan West Zone

RED Flood Condition



Flood Control District of Maricopa County September 2016

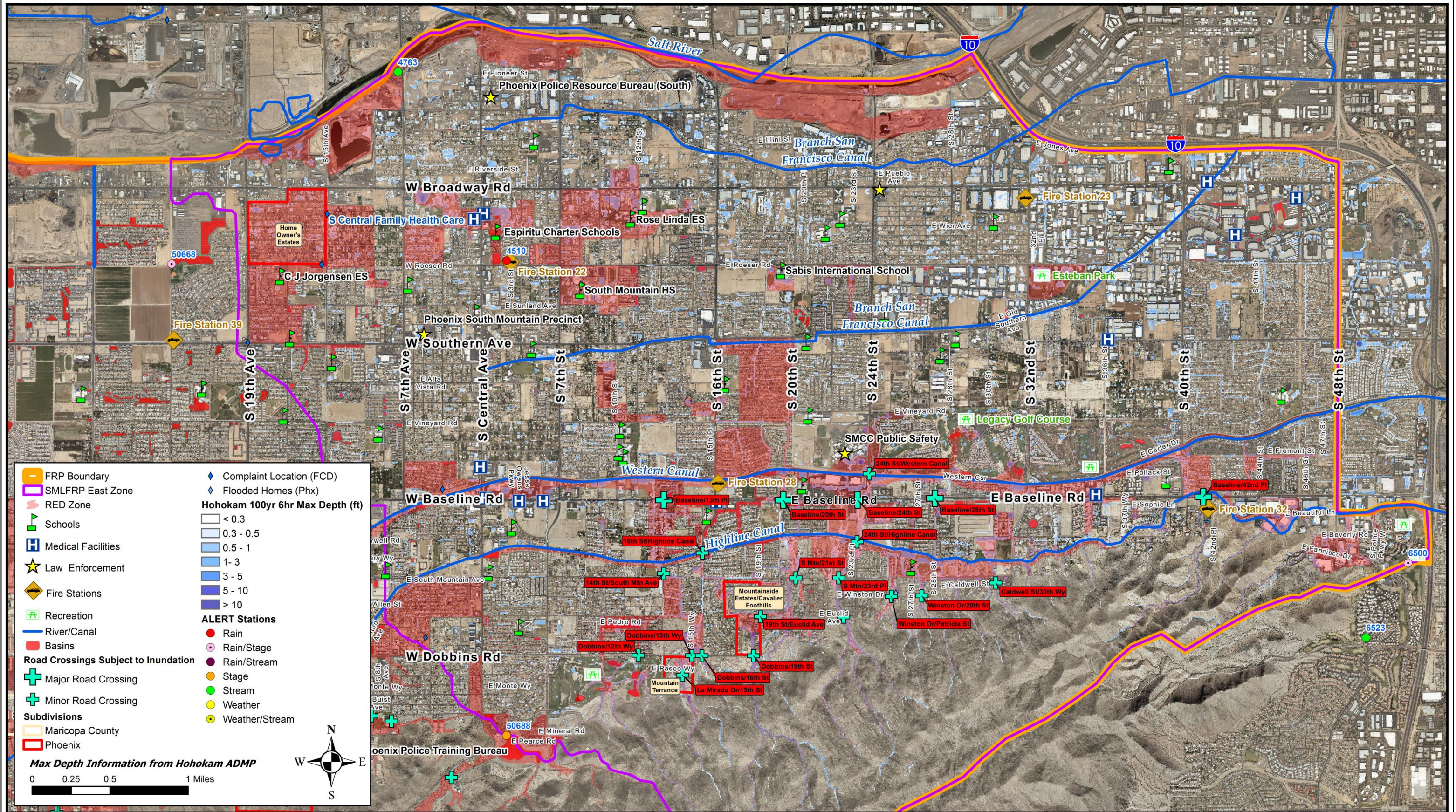
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South Mountain/Laveen Flood Response Plan East Zone

RED Flood Condition



ALL CLEAR Procedures

Upon an **ALL CLEAR** notification by the Flood Control District of Maricopa County or the National Weather Service that a flood threat has ended, the following tasks shall be performed (Figure 18):

City of Phoenix Emergency Management Duty Officer

- i. Contact Phoenix Police to dispatch an observer to verify that the flood threat has passed.
- ii. Once confirmation is received notify Phoenix Police, Phoenix Street Transportation, Phoenix Parks and Recreation, Phoenix Fire, Phoenix Emergency Management, Flood Control District of Maricopa County, Maricopa County Department of Transportation, Maricopa County Sheriff's Office, Maricopa County Emergency Management and Arizona Department of Transportation of the elevated **ALL CLEAR** status.
- iii. Monitor incoming weather information for FCDMC and NWS.

City of Phoenix Police

- i. Advise Phoenix Police personnel of the **ALL CLEAR** status.
- ii. Dispatch an observer and/or get confirmation from MCSO Dispatch unit that a flood threat has passed. Relay information back to the EM Duty Officer.
- iii. Provide assistance if necessary.
- iv. Monitor incoming weather information from FCDMC, NWS and the EM Duty Officer.

City of Phoenix Street Transportation

- i. Advise staff and employees of the **ALL CLEAR** status.
- ii. Remove any barricades and debris from streets, except as needed to barricade hazardous areas.
- iii. Follow the existing procedure of post-event inspections.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Parks and Recreation

- i. Advise staff and employees of the **ALL CLEAR** status.
- ii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Fire Department

- i. Advise staff and employees of the **ALL CLEAR** status.
- ii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

City of Phoenix Emergency Management

- i. Advise staff and employees of the **ALL CLEAR** status.
- ii. Activate EOC if necessary.
- iii. All contact with Phoenix should be coordinated through EOC Incident Commander.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Flood Control District of Maricopa County

- i. Advise staff and employees of the **ALL CLEAR** status.

Maricopa County Department of Transportation

- i. Advise MCDOT personnel of the **ALL CLEAR** status.
- ii. Remove any barricades and debris from streets, except as needed to barricade hazardous areas.
- iii. Follow the existing procedure of post-event inspections.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Sheriff's Office

- i. Advise Sheriff Personnel of the **ALL CLEAR** status.
- ii. Dispatch sheriff units and verify that the flood threat has passed.
- iii. Provide status updates across the county trunk radio system on any current activities, actions and/or observations in the field.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Department of Emergency Management

- i. Notify MCDEM personnel of the elevated **ALL CLEAR** status.
- ii. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Arizona Department of Transportation

- i. Advise ADOT personnel of the elevated **ALL CLEAR** status.
- ii. Remove any barricades and debris from streets and highways, except as needed to barricade hazardous areas.
- iii. Follow the existing procedure of post-event inspections.
- iv. Review weather information provided by FCDMC, NWS and the EM Duty Officer.

Maricopa County Department of Emergency Management

- i. Notify MCDEM personnel and all other involved agencies of the **ALL CLEAR** status.

South Phoenix Flood Response Plan

ALL CLEAR Operational Procedures Flowchart

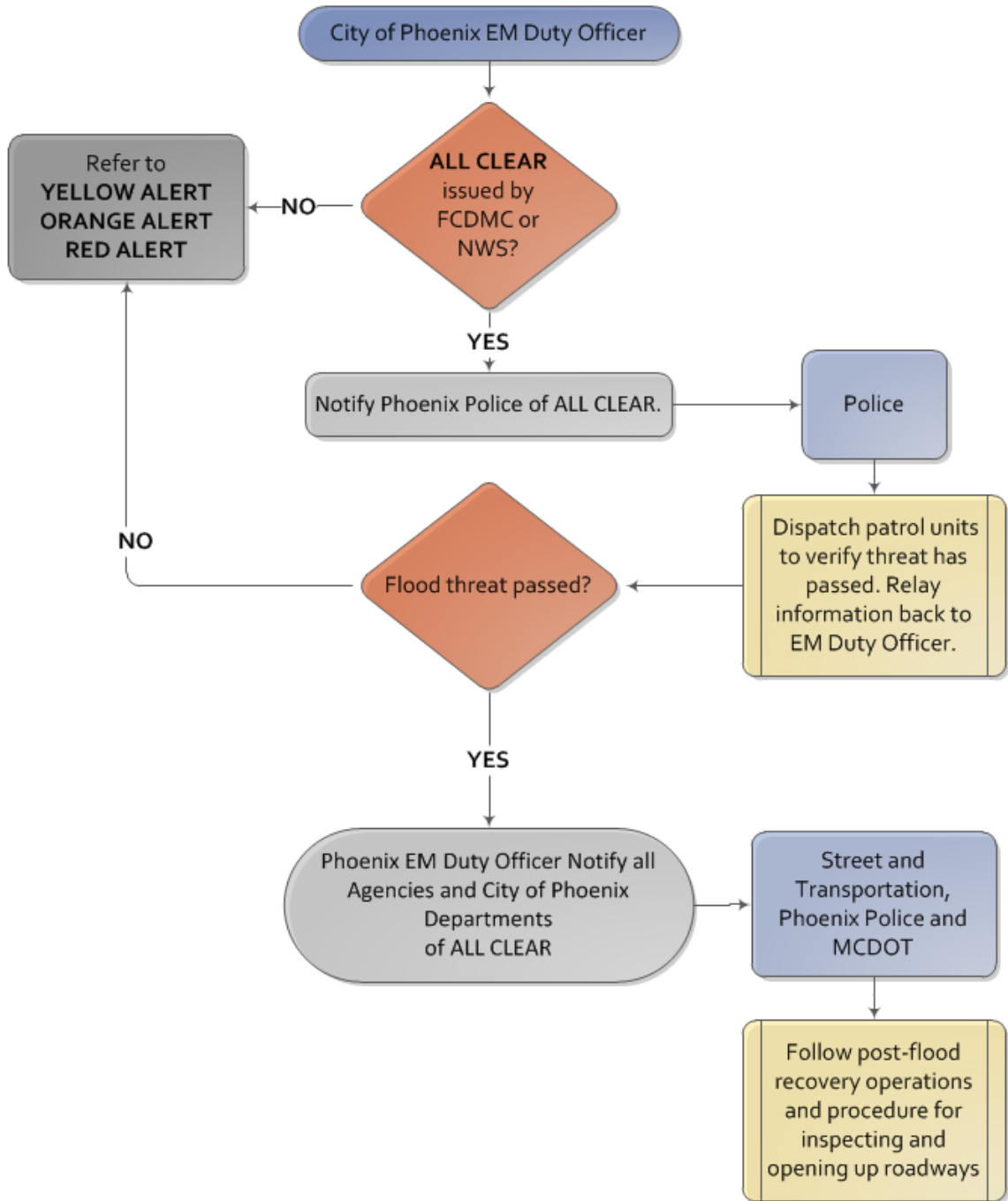


Figure 18 : ALL CLEAR Flowchart

POST FLOOD ACTIONS

After a flood has passed and an **ALL CLEAR** has been issued, each agency needs to refer to its post-flood recovery operations and procedures.

TRAINING, EXERCISES, and UPDATES

A successful FRP is a result of the preparedness and coordination of all its participants. The following tasks should be performed routinely to ensure that the SMLFRP is effective in the event of a real emergency.

Training

An initial training/review session with the all agencies involved in the FRP is recommended. Training would include an overview of the FRP which would cover flood detection, flood threat recognition, dissemination of information, emergency response action and post flood actions. This overview would also include specific notification protocols, geographic coverage (watercourses included within the drainage area), locations of concern and an overview of any maps or custom products that were created for this FRP.

Exercises

It is recommended that a table top exercise be conducted annually prior to the start of monsoon season. All departments and agencies within this FRP should participate. Within two weeks after the exercise, hold a post-drill critique meeting with all departments and agencies within this FRP to review procedures and identify any necessary improvements to the SMLFRP.

FRP Updates

The SMLFRP is reviewed annually by the District and modifications are made accordingly, which includes notification data. These revisions are distributed to all participating departments and agencies by the District.

ALERT Gage Network

The Flood Control District of Maricopa County operates a 24-hour rain, stream and weather gage network which provides “real-time” information to the County and many other agencies about rainfall, floods and weather conditions in Maricopa County. This network operates in the National Weather Service ALERT (Automated Local Evaluation in Real Time) format and is commonly referred to as an ALERT system.

Early detection of a storm event and closely monitoring a storm can reduce the risk of injury, loss of life and property damage from flooding. To improve the usefulness of warnings it is recommended that additional precipitation, stream, crest, and staff gages be installed. Actual locations of gages will be dependent on land ownership and availability, site access, vulnerability to vandalism, absence of obstructions and an accessible radio path.

Although some stream gage sites have limited ability to enhance lead time, they remain an important component in the FRP because they can provide additional information. Crest gages

are used to gather data from streams and washes that are subject to infrequent, but severe flooding. A crest gage is a cost-effective way of gathering peak flow data which can be used in emergency planning, emergency design and hydrologic analysis.

After the storms of 2014, the District entered into an intergovernmental agreement (IGA #FCD-2014A017) with Phoenix to purchase, install and maintain automated flood warning stations. Three of the proposed locations were in the South Mountain vicinity and were installed in 2015. These three locations are; Baseline Road @ 43rd Avenue (#66407) which is an impoundment gage, Roeser Road @ 23rd Avenue (#66800/66807) which is a rain and impoundment gage; and Mineral Canyon Basin (#68807) which is an impoundment gage. See Figure 20 for a map with all proposed locations included in the Phoenix IGA. In addition to these locations we proposed a new rain gage at 19th Avenue and Dobbins Road just north of Citrus Mountain and Southern Highlands subdivisions. In order for this gage to be installed it needed to be amended to the current IGA. The amendment was approved by the Maricopa County Board of Supervisors in the Wednesday, August 17, 2016 formal board meeting. This rain gage will be installed in the fall of 2016².

It is recommended that additional rain and stream gage be installed on South Mountain just east of the Sunset Cove subdivision at 43rd Avenue just south of Carver Road. This is a very flood prone area and is also an identified location in the Automated Flooded Roadway Warning Assemblies Program as a location that would benefit from a flashing flooded roadway sign. In the interim, Maricopa County Department of Transportation has installed a Do Not Cross When Flooded road sign. See Figure 19.



Figure 19: 43rd Ave and Carver Road Sign

² The gage was installed on 9/15/2016.



Flood Control District

Initial Alert Stations to be Installed or Modified

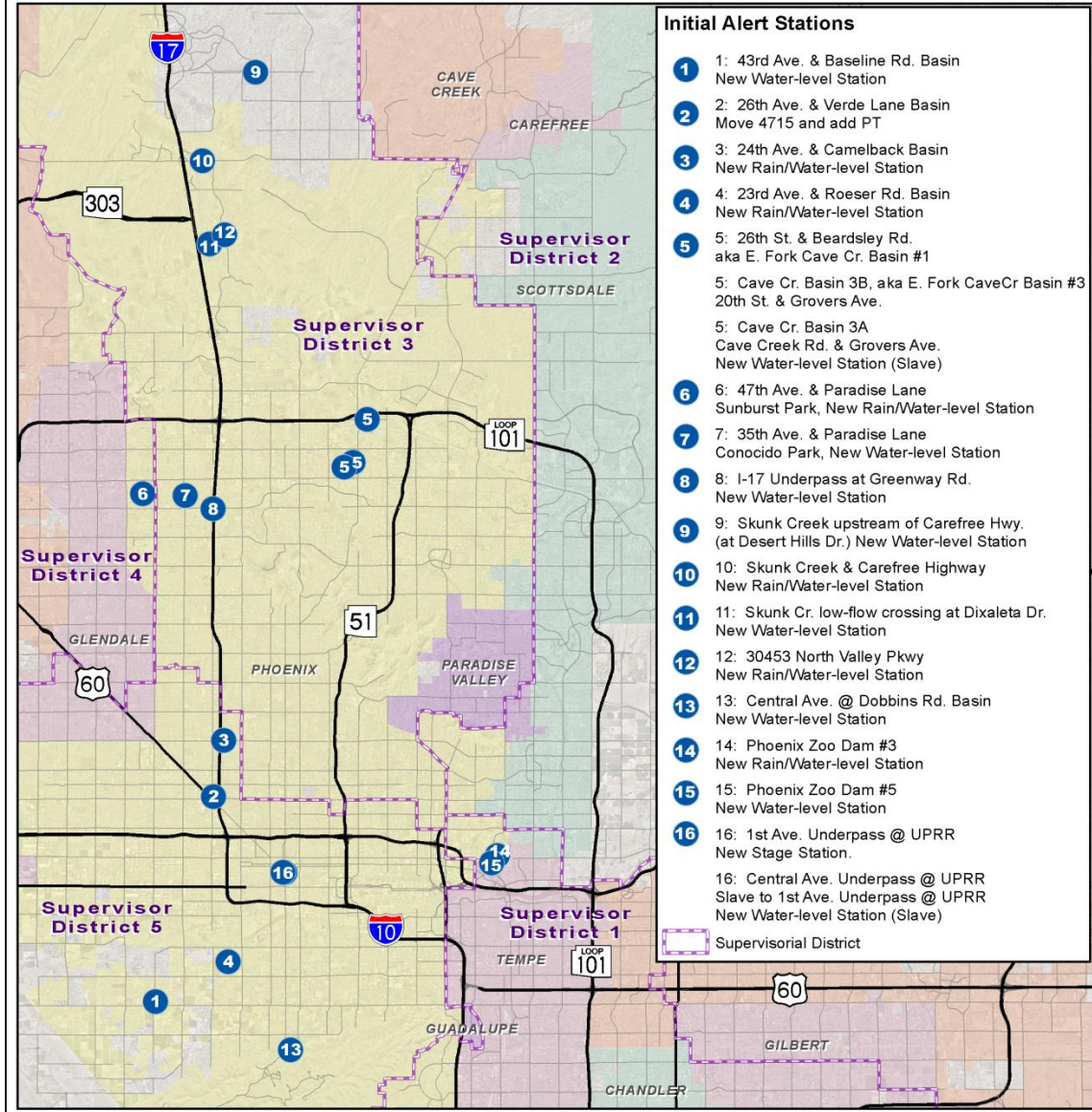


Figure 20: ALERT Stations Installed or Modified with Phoenix IGA

Staff Gages

A staff gage can be installed near a roadway or pedestrian crossing to provide an estimate of the amount of water flowing over the road or walkway. In order for the staff gages to read properly during an event, the sediment deposited would need to be removed prior to the barricades being removed from the roadway after a flow event. Once inspected and cleared of debris they would be able to display water level accurately during the next storm event. If

these aren't cleared of debris the staff gages will not give accurate measurements and may cause motorists to become overly confident when the condition is in fact unsafe.

Public Education

It is critical that the residents and community leaders within Phoenix be educated and reminded of the inherent flood hazards around them. New residents may be unfamiliar and current residents may not have experienced a severe flash flood. It is important to let residents know if there may be potential for a flood event so they can avoid driving which will eliminate vehicle traffic and loss of access on the roadways. The District broadcasts commercials and advertisements that are seen throughout the Maricopa County area to help educate and make residents aware of the inherent danger of flooding. The District's website is a public website which has all the ALERT gage data. The District encourages participating agencies and the public to observe and monitor their ALERT gage data in the event of a flood.

The District has provided the SMLFRP, a wall map and field maps to the departments and agencies involved. This will enable emergency response teams to become more familiar with the areas of concern and in return the community will benefit. It is recommended that the Phoenix develop pamphlets or other printed materials which explain the dangers of flooding within Phoenix, general flood response procedures, and what residents and motorists should do if notified of a potential flood.

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ADOT 2014 Traffic Counts <https://www.azdot.gov/docs/default-source/planning/2014-aadt-kdt-interstate.pdf?sfvrsn=4>

Design Hydrology for the Laveen Area Conveyance Channel, Flood Control District of Maricopa County, November 2002.

Intergovernmental Agreement Between Flood Control District of Maricopa County and the City of Phoenix for the Purchase, Installation and Maintenance of Automated Flood Warning Stations. IGA #FCD-2014A017.

APPENDIX A - Updates to the SMLFRP

APPENDIX B - Notification Data for the SMLFRP

South Mountain / Laveen FRP Notification Data

Organization	Department	Name/Title	Contact Information
FCDMC	Flood Warning Branch	ALERT Room	602-506-8701 or 602-272-0132
		Steve Waters, Flood Warning Branch Manager	602-390-7804 (cell) 480-334-1492 (home)
		Dan Henz, Flood Warning Branch Meteorologist	602-768-2000 (cell)
City of Phoenix	Phoenix Fire Alarm	Dispatch Alternative Number	602-262-6595 602-262-7496
		Jeff Alexander, Commander Homeland Defense	602-534-4822 (office) Jeff.alexander@phoenix.gov
	Emergency Management	Duty Officer *primary*	602-526-4846
		Lisa Jones , Emergency Management Coordinator	602-534-0642 (office) lisa.l.jones@phoenix.gov
		24-hr Water Services Department Hotline	602-261-8000
	Fire Department	Dispatch	602-262-6595
		Fire Chief	Kara Kalkbrenner
	Street Transportation	Juan Giron , Civil Engineer III Bridge & Dam Safety Manager	602-513-6075 (cell) *PRIMARY CONTACT FOR PHOENIX DAMS* 602-495-0124 (office) Juan.giron@phoenix.gov
		Hasan Mushtaq ,Civil Engineer III Flood Plain Manager	602-262-4026 (office) 602-206-5464 (cell) hasan.mushtaq@phoenix.gov
		Mark Glock, Deputy Director	602-534-7066(office) 602- 316-9972(cell) mark.glock@phoenix.gov
	Parks and Recreation	Ken Vonderscher, Deputy Director	602-495-5486 (phone) 602-262-6713 (TTY) Ken.vonderscher@phoenix.gov
	MCSO	Counter-Terrorism Unit	Dispatch
Sgt. Nicholas Schrey			602-397-1296 (cell) 602-527-5854 (cell) N_Schrey@MCSO.maricopa.gov
ADOT	TOC and Emergency Management	24-hr Traffic Operations Center (TOC)	602-257-1563
		Emergency Manager Coordinator, Kimberly Campbell	602-712-7012 (office) 602-370-7941 (cell) kcampbell@azdot.gov
MCDEM		Duty Officer (Front Office)	602-273-1411 602-273-1412
NWS		Lead Forecaster 24-hr	602-275-7004 or 602-275-7003

APPENDIX C - Tables for SMLFRP

Fire Stations within the SMLFRP

Name	Station Number	Address	In ALERT Zone
City Of Phoenix Fire Department	22	230 E Roeser Rd	
City Of Phoenix Fire Department	23	4416 S 32Nd St	
City Of Phoenix Fire Department	28	7409 S 16Th St	Yes
City Of Phoenix Fire Department	32	7620 S 42Nd Pl	Yes
City Of Phoenix Fire Department	39	2276 W Southern Ave	
City Of Phoenix Fire Department	57	1708 W Dobbins Rd	Yes
City Of Phoenix Fire Department	58	4718 W Dobbins Rd	Yes

Law Enforcement within the SMLFRP

Name	Jurisdiction	Address	In ALERT Zone
Phoenix Police Training Bureau	City of Phoenix	10001 S 15 th Ave	Yes
Phoenix Police Resource Bureau (South)	City of Phoenix	3443 S Central Ave	
Phoenix South Mountain Precinct	City of Phoenix	400 W Southern Ave	
Phoenix Neighborhood Resource Center Substation	City of Phoenix	2405 E Broadway Rd	
South Mountain Community College Public Safety	South Mountain Community College	7050 S 24 th St	

Medical/Hospital Facilities within the SMLFRP

Name	Type and Sub-Type	Address	Phone	In ALERT Zone
Cigna CMG Caretoday - Laveen Village	AZ Medical Facilities Outpatient Treatment Center	3535 W Southern Ave #128	602-371-2964	
Arizona Molecular Imaging Center	AZ Medical Facilities Outpatient Treatment Center	4540 E Cotton Gin Lp, Suite 150	602-331-1771	
Raven Dialysis Center	End Stage Renal Disease Facilities Medicare	3540 E Baseline Rd, Suite #110	602-431-2110	Yes
Coram Alternate Site Services	AZ Medical Facilities Outpatient Treatment Center	4310 Cotton Center Blvd, Suite 110	602-438-7888	
Schryver Medical Sales & Marketing	Portable X-Ray Suppliers Medicare	3610 E Southern Ave, Suite 4	800-638-3240	
DSI Phoenix South Renal Center	End Stage Renal Disease Facilities Medicare	4621 S Central	602-304-1977	Yes
West Baseline Family Medicine Center	AZ Medical Facilities Outpatient Treatment Center	5130 W Baseline Rd, Suite 102-103	602-237-0039	

Medical/Hospital Facilities within the SMLFRP Cont.

Name	Type and Sub-Type	Address	Phone	In ALERT Zone
Mountain Park Health Center-Baseline	AZ Medical Facilities Outpatient Treatment Center	635 E Baseline Road	602-243-1746	
Mbi Industrial Medicine-East (Urgent Care)	AZ Medical Facilities Outpatient Treatment Center	4100 E Broadway Rd	602-437-0234	
East Baseline Family Medicine Center	AZ Medical Facilities Outpatient Treatment Center	3540 E Baseline Rd, Suite 130	602-454-0328	Yes
Jesse Owens Urgent Care	Federally Qualified Health Center	325 E Baseline Rd	602-824-4352	
South Central Family Health Care	Med-Single Group Licensure/Otc	33 W Tamarisk	602-344-6400	Yes
Cigna South Mountain Healthcare Center (Urgent)	AZ Medical Facilities Outpatient Treatment Center	7236 S Central Ave	602-371-2964	
Minuteclinic - #7860 (Store Clinic)	AZ Medical Facilities Outpatient Treatment Center	1615 E Baseline Rd	847-559-4662	
FMC Dialysis Services of South Mountain	End Stage Renal Disease Facilities Medicare	26 E Baseline Rd, Suite 142	602268-8158	Yes

Schools within the SMLFRP

Name	District	Address	Phone	In ALERT Zone
Advance U Elementary School	Charter	449 E Southern Ave	602- 232-4900	Yes
Amy L Houston Academy	Roosevelt Elementary	7139 S 10Th St	602-243-7583	
Arizona Agribusiness & Equine Center	Charter	2002 E Baseline Rd	602-243-7788	Yes
Bernard Black Es	Roosevelt Elementary	6550 S 27Th Ave	602- 232-4930	
Betty H Fairfax Hs	Phoenix Union	8225 S 59Th Ave	602- 232-4200	Yes
C J Jorgensen Es	Roosevelt Elementary	1701 W Roeser Rd	602- 232-4950	Yes
C O Greenfield Ms	Roosevelt Elementary	7009 S 10Th St	602- 232-4920	
Cesar Chavez Hs	Phoenix Union	3921 W Baseline Rd	602-237-3741	Yes
Cesar E Chavez Es	Roosevelt Elementary	4001 S 3Rd St	602- 232-4260	
Champion South Mountain Charter School	Charter	7900 S Jesse Owens Pkwy	602- 232-4240	
Cheatham Es	Laveen Elementary	4725 W South Mountain Ave	602-237-3046	

Schools within the SMLFRP Cont.

Name	District	Address	Phone	In ALERT Zone
Cloves C Campbell Sr Es	Roosevelt Elementary	2624 E South Mountain Ave	623-344-0472	Yes
Country Gardens Charter School	Charter	6313 W Southern Ave	602-692-4914	
Desert Marigold School	Charter	6210 S 28Th St	602- 232-4960	
Desert Meadows Es	Laveen Elementary	6855 W Meadows Loop East	6023239890	Yes
Eagle College Prep: Harmony	Charter	2435 E Pecan Rd	602- 232-4990	
Eagle College Prep: South Mountain	Charter	2450 W South Mountian	602- 232-4270	Yes
Ed & Verma Pastor Es	Roosevelt Elementary	2101 W Alta Vista Rd	602- 237-9110	Yes
Espiritu Charter Schools	Charter	4848 S 2Nd St	480-219-2121	Yes
George Benjamin Brooks Academy	Roosevelt Elementary	3146 E Wier Ave	602-764-4112	
George Gervin Preparatory Academy	Charter	2801 E Southern Ave	602- 232-4910	
Heritage Academy – Laveen	Charter	4275 W Baseline Rd	602-243-6909	
Ignacio Conchos Es	Roosevelt Elementary	1718 W Vineyard Rd	602-842-1722	
John F Kennedy Es	Roosevelt Elementary	6825 S 10Th St	602- 237-9120	
John R Davis Es	Roosevelt Elementary	6209 S 15Th Ave	602-343-3040	
Laveen Elementary School	Laveen Elementary	4141 W Mcneil St	602- 232-4220	
Laveen Es	Laveen Elementary	5001 W Dobbins Rd	602-243-8531	Yes
Legacy Traditional School – Laveen	Charter	7900 S 43Rd Ave	602-605-8865	
Martin Luther King Jr Es	Roosevelt Elementary	4615 S 22Nd St	602- 232-4250	
Maurice C Cash Es	Laveen Elementary	3851 W Roeser Rd	602- 431-6640	Yes
Maxine O Bush Es	Roosevelt Elementary	602 E Siesta Way	602- 232-4940	
Nevitt Es	Tempe Elementary	4525 S Saint Anne Ave	602- 232-4980	
Paideia Academy South Phoenix	Charter	7777 S 15Th St	602- 304-3160	
Percy L Julian Jhs	Roosevelt Elementary	2149 E Carver Dr	602-268-1212	
Phoenix Collegiate Academy Es	Charter	5610 S Central Ave	602-237-7040	
Phoenix Collegiate Academy Hs	Charter	4445 S 12Th St	602-453-3661	
Riverbend Prep	Charter	5625 S 51St Ave	602-290-8546	
Rose Linda Es	Roosevelt Elementary	4610 S 12Th St	623-341-6527	Yes
Sabis International School	Charter	1903 E Roser Rd	602- 271-2884	Yes
Sequoia Choice Precision High School	Charter	3906 E Broadway Rd	602- 232-4970	
Sierra Vista Es	Roosevelt Elementary	6401 S 16Th St	602-285-3003	Yes

Schools within the SMLFRP Cont.

Name	District	Address	Phone	In ALERT Zone
South Mountain Hs	Phoenix Union	5401 S 7Th St	602-232-4230	Yes
South Phoenix Prep & Arts Academy	Charter	7450 S 40Th St	602-437-3331	
South Pointe Elementary School	Charter	2033 E Southern Ave	602-323-5400	
South Pointe Junior High School	Charter	217 E Olympic Dr	602- 304-3170	
Southwest Es	Roosevelt Elementary	1111 W Dobbins Rd	602- 232-4210	Yes
Sun Valley Charter School	Charter	5806 S 35Th Ave	602-276-1943	
Sunland Es	Roosevelt Elementary	5401 S 7Th Ave	602-237-9110	
T G Barr Es	Roosevelt Elementary	2041 E Vineyard Rd	602-304-3180	
Trailside Point Es	Laveen Elementary	7275 W Vineyard Rd	602- 744-4010	Yes
V H Lassen Es	Roosevelt Elementary	909 W Vineyard Rd	602-268-9900	
Valley View Es	Roosevelt Elementary	8220 S 7Th Ave	602-237-3741	
Victory High School High School	Charter	1650 W Southern Ave	602-268-3782	
Vista Del Sur Ms	Laveen Elementary	3908 W South Mountain Ave	602-237-9100	

Residential Structures in a FEMA Flood Zone

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
104-84-011B	6604 S 79TH AVE	LAVEEN	85339	FW/AE	SFR - SHEDS
104-84-001D	7750 W ALTA VISTA RD	LAVEEN	85339	AE/FW	MOBILE - SHEDS
104-84-011M	6608 S 79TH AVE	LAVEEN	85339	AE/FW	SFR - SHEDS
104-84-005				AE/FW	SFR - SHEDS
104-71-007Y	6742 W SOUTHERN AVE	LAVEEN	85339	AE	SFR
104-85-104	6002 S 66TH AVE	LAVEEN	85339	AE	SFR
104-85-203	6001 S 65TH DR	LAVEEN	85339	AE	SFR
104-85-204	6002 S 65TH DR	LAVEEN	85339	AE	SFR
104-85-219	6001 S 66TH AVE	LAVEEN	85339	AE	SFR
105-71-028	4438 S 38TH DR	PHOENIX	85041	AE	SFR
105-71-029	4434 S 38TH DR	PHOENIX	85041	AE	SFR
105-71-030	4428 S 38TH DR	PHOENIX	85041	AE	SFR
105-71-031	4424 S 38TH DR	PHOENIX	85041	AE	SFR
105-71-035	4402 S 38TH DR	PHOENIX	85041	AE	SFR
105-69-007P	3914 W WIER AVE	PHOENIX	85041	AE	SFR
105-71-027	4602 S 38TH DR	PHOENIX	85041	AE	SFR
105-71-026	4608 S 38TH DR	PHOENIX	85041	AE	SFR
105-71-025	4612 S 38TH DR	PHOENIX	85041	AE	SFR
105-69-007K	3912 W WIER AVE	PHOENIX	85041	AE	SFR
104-83-002J	7075 W SOUTHERN AVE	LAVEEN	85339	AE	SFR - COMMERCIAL
105-71-014	4702 S 38TH DR	PHOENIX	85041	AE	SFR - SHED
104-83-002L	7001 W SOUTHERN AVE	LAVEEN	85339	AE	SFR - SHEDS
105-69-004C	3832 W WIER AVE	PHOENIX	85041	AE	SFR - SHED
122-97-243	3316 E BASELINE RD	PHOENIX	85042	A	CHILDCARE
122-98-003B	7040 S 40TH ST	PHOENIX	85042	A	CHURCH
114-14-006	7424 S CENTRAL AVE	PHOENIX	85041	A	COMMERCIAL
114-14-008B	14 W BASELINE RD	PHOENIX	85041	A	COMMERCIAL
114-14-008C	7436 S CENTRAL AVE	PHOENIX	85041	A	COMMERCIAL
114-16-003Y	336 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
114-16-005C	108 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
114-16-010C	26 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-93-014H	7409 S 16TH ST	PHOENIX	85042	A	COMMERCIAL
122-93-669A	1620 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-94-018	2250 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-94-019	2320 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-97-240	3220 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-97-241	3230 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-97-405	3540 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
122-97-406	3540 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
114-16-015B	7428 S 7TH ST	PHOENIX	85042	A	COMMERCIAL
114-16-014	520 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL
301-25-002B	2802 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	COMMERCIAL
301-14-029C	7776 S POINTE PKWY	PHOENIX	85044	A	COMMERCIAL
301-11-955	8000 S ARIZONA GRAND PKWY	PHOENIX	85044	A	COMMERCIAL - RESORT
114-17-007B	750 E BASELINE RD	PHOENIX	85042	A	COMMERCIAL/CHURCH/MULT-FAMILY
300-43-017B	8218 S 7TH ST	PHOENIX	85042	A	MOBILE HOME PARK
122-93-013B	1630 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-96-676	2833 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-682	2816 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-684	2820 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-685	2828 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-687	2832 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-688	2840 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-690	2844 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-691	2852 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-693	2856 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-694	2864 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-696	2868 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-697	2914 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-699	2918 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-700	2926 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-702	2930 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-703	2938 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-705	2942 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-707	2841 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-708	2845 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-709	2853 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-710	2857 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-712	2865 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-713	2869 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-715	2913 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-716	2917 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-719	2925 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-720	2929 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-722	2941 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-723	2937 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-96-739	7510 S 29TH WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-742	7511 S 29TH WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-758	2961 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-761	2960 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-762	2956 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-764	2948 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-765	2944 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-766	2949 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-767	2953 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-769	2961 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-770	2965 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-773	2966 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-774	2962 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-775	2954 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-776	2950 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-786	3037 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-788	3033 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-789	3025 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-791	3021 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-792	3020 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-794	3024 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-795	3032 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-797	3036 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-798	3027 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-800	3023 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-801	3015 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-803	3011 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-804	3010 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-806	3014 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-810	3036 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-812	3040 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-813	3048 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-815	3052 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-816	3060 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-818	3064 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-822	7447 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-824	7451 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-825	7507 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-827	7511 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-96-828	7519 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-830	7523 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-831	7524 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-833	7520 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-834	7512 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-836	7508 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-837	7452 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-839	7448 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-840	7449 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-842	7453 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-843	7509 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-845	7513 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-846	7521 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-848	7525 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-851	7530 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-852	7522 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-854	7518 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-855	7510 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-857	7506 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-858	7454 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-860	7450 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-861	7451 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-863	7455 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-864	7507 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-866	7511 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-867	7519 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-869	7523 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-870	7531 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-872	7535 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-873	7532 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-875	7528 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-876	7520 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-878	7516 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-879	7517 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-881	7521 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-882	7529 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-884	7533 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-885	7534 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-887	7530 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-96-888	7522 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-890	7518 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-891	7519 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-893	7523 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-894	7531 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-896	7535 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-897	3120 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-899	3124 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-900	3132 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-902	3136 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-903	3119 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-905	3123 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-906	3131 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-908	3135 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-909	3134 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-911	3130 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-912	3122 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-914	3118 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-915	7477 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-917	7473 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-918	7464 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-920	7468 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-921	7465 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-923	7461 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-924	7460 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-926	7456 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-97-252	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-253	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-254	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-255	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-256	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-257	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-258	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-259	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-260	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-261	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-96-677	2825 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-683	2812 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-686	2824 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-96-689	2836 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-692	2848 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-695	2860 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-698	2910 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-701	2922 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-704	2934 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-706	2837 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-711	2849 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-714	2861 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-717	2909 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-718	2921 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-721	2933 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-754	2941 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-759	2953 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-760	2952 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-763	2940 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-768	2945 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-771	2957 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-772	2958 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-777	2946 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-787	3029 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-790	3017 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-793	3016 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-796	3028 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-799	3019 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-802	3007 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-805	3006 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-808	3018 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-811	3032 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-814	3044 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-817	3056 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-820	3068 E DUNBAR DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-823	7443 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-826	7503 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-829	7515 S 30TH PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-832	7516 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-835	7504 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-838	7444 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-841	7445 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-96-844	7505 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-847	7517 S 30TH TER	PHOENIX	85042	A	MULTI-FAMILY
122-96-850	7526 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-853	7514 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-856	7502 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-859	7446 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-862	7447 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-865	7503 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-868	7515 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-871	7527 S 30TH RUN	PHOENIX	85042	A	MULTI-FAMILY
122-96-874	7524 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-877	7512 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-880	7513 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-883	7525 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-886	7526 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-889	7514 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-892	7515 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-895	7527 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-898	3116 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-901	3128 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY
122-96-904	3115 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-907	3127 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-910	3126 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-913	3114 E DARROW ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-916	7469 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-919	7460 S 31ST WY	PHOENIX	85042	A	MULTI-FAMILY
122-96-922	7457 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-96-925	7456 S 31ST PL	PHOENIX	85042	A	MULTI-FAMILY
122-97-324	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-326	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-327	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-328	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-329	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-330	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-331	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-332	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-333	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-334	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-335	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-97-336	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-337	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-338	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-339	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-340	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-341	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-342	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-343	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-344	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-345	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-346	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-347	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-348	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-349	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-350	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-351	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-352	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-353	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-354	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-355	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-356	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-357	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-358	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-359	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-360	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-361	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-362	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-363	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-367	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-368	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-369	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-370	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-388	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-389	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-390	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-391	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-392	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-393	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-394	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-97-395	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-396	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-397	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-398	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-399	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-400	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-401	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-402	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
122-97-403	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY
114-17-001C	7235 S 7TH ST	PHOENIX	85042	A	MULTI-FAMILY
122-96-778	2880 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY LAND
122-96-927	3070 E DONNER DR	PHOENIX	85042	A	MULTI-FAMILY LAND
122-97-404	3434 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY LAND
122-98-004F	3802 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY LAND
122-98-007	3606 E BASELINE RD	PHOENIX	85042	A	MULTI-FAMILY LAND
122-98-004E				A	MULTI-FAMILY LAND
301-25-003H	2846 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
105-69-136	4402 S 38TH AVE	PHOENIX	85041	A	SFR
105-69-159	4401 S 38TH AVE	PHOENIX	85041	A	SFR
105-69-160	3729 W BROADWAY RD	PHOENIX	85041	A	SFR
105-69-161	3723 W BROADWAY RD	PHOENIX	85041	A	SFR
105-71-036	4401 S 38TH DR	PHOENIX	85041	A	SFR
114-21-539	1302 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-540	1304 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-541	1306 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-542	1308 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-543	1310 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-544	1312 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-545	1314 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-546	1316 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-547	1318 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-548	1320 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-549	1322 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-550	1324 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-551	1326 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-552	1328 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-553	1330 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-554	1332 E DUNBAR DR	PHOENIX	85042	A	SFR

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
114-21-555	1334 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-556	1336 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-557	1338 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-558	1340 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-559	1342 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-560	1344 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-561	1346 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-562	1348 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-563	1350 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-564	1352 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-565	1354 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-566	1356 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-567	1358 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-568	1402 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-569	1404 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-570	1406 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-571	1408 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-572	1410 E DUNBAR DR	PHOENIX	85042	A	SFR
122-93-027	7421 S 20TH ST	PHOENIX	85042	A	SFR
122-93-028	7422 S 20TH ST	PHOENIX	85042	A	SFR
122-93-029	7428 S 20TH ST	PHOENIX	85042	A	SFR
122-93-726	1807 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-727	1803 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-728	1802 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-729	1806 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-730	1810 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-731	1814 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-732	1818 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-733	1822 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-734	1826 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-735	1830 E ELLIS ST	PHOENIX	85042	A	SFR
122-93-741	1813 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-742	1817 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-743	1821 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-744	1825 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-745	1829 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-746	1833 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-747	1837 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-748	1841 E POLLACK ST	PHOENIX	85042	A	SFR

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
122-93-749	1845 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-750	1849 E POLLACK ST	PHOENIX	85042	A	SFR
122-93-751	7405 S 19TH ST	PHOENIX	85042	A	SFR
122-95-005B	7402 S 25TH ST	PHOENIX	85042	A	SFR
122-98-053	7226 S 38TH PL	PHOENIX	85042	A	SFR
122-98-055	7218 S 38TH PL	PHOENIX	85042	A	SFR
122-98-056	7214 S 38TH PL	PHOENIX	85042	A	SFR
122-98-057	7210 S 38TH PL	PHOENIX	85042	A	SFR
122-98-058	7206 S 38TH PL	PHOENIX	85042	A	SFR
122-98-059	3808 E MINTON ST	PHOENIX	85042	A	SFR
122-98-060	3812 E MINTON ST	PHOENIX	85042	A	SFR
122-98-061	3816 E MINTON ST	PHOENIX	85042	A	SFR
122-98-062	3820 E MINTON ST	PHOENIX	85042	A	SFR
122-98-063	3824 E MINTON ST	PHOENIX	85042	A	SFR
122-98-064	3828 E MINTON ST	PHOENIX	85042	A	SFR
122-98-065	3832 E MINTON ST	PHOENIX	85042	A	SFR
122-98-066	3836 E MINTON ST	PHOENIX	85042	A	SFR
122-98-067	3840 E MINTON ST	PHOENIX	85042	A	SFR
122-98-068	3844 E MINTON ST	PHOENIX	85042	A	SFR
122-98-069	3848 E MINTON ST	PHOENIX	85042	A	SFR
122-98-070	3852 E MINTON ST	PHOENIX	85042	A	SFR
122-98-071	3856 E MINTON ST	PHOENIX	85042	A	SFR
122-98-072	3860 E MINTON ST	PHOENIX	85042	A	SFR
122-98-073	3864 E MINTON ST	PHOENIX	85042	A	SFR
122-98-074	3904 E MINTON ST	PHOENIX	85042	A	SFR
122-98-075	3908 E MINTON ST	PHOENIX	85042	A	SFR
122-98-076	3912 E MINTON ST	PHOENIX	85042	A	SFR
122-98-077	3916 E MINTON ST	PHOENIX	85042	A	SFR
122-98-080	3928 E MINTON ST	PHOENIX	85042	A	SFR
114-21-576	1418 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-575	1416 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-574	1414 E DUNBAR DR	PHOENIX	85042	A	SFR
114-21-573	1412 E DUNBAR DR	PHOENIX	85042	A	SFR
300-16-107	9410 S 26TH LN	PHOENIX	85041	A	SFR
300-16-116	9404 S 25TH LN	PHOENIX	85041	A	SFR
300-16-117	9405 S 26TH DR	PHOENIX	85041	A	SFR
300-16-120	2622 W ESTES WY	PHOENIX	85041	A	SFR
300-16-121	2618 W ESTES WY	PHOENIX	85041	A	SFR
300-16-122	2614 W ESTES WY	PHOENIX	85041	A	SFR

Residential Structures in a FEMA Flood Zone Cont.

APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
300-16-123	2610 W ESTES WY	PHOENIX	85041	A	SFR
300-16-124	2606 W ESTES WY	PHOENIX	85041	A	SFR
300-16-125	2602 W ESTES WY	PHOENIX	85041	A	SFR
300-16-126	9403 S 25TH LN	PHOENIX	85041	A	SFR
300-16-127	9407 S 25TH LN	PHOENIX	85041	A	SFR
300-18-022	1042 E DESERT LN	PHOENIX	85042	A	SFR
300-18-023	1046 E DESERT LN	PHOENIX	85042	A	SFR
300-18-024	1052 E DESERT LN	PHOENIX	85042	A	SFR
300-18-025	1056 E DESERT LN	PHOENIX	85042	A	SFR
300-19-005D	739 E HIGHLINE CANAL RD	PHOENIX	85042	A	SFR
300-19-033	8041 S 7TH ST	PHOENIX	85042	A	SFR
300-23-035	1504 E DESERT LN	PHOENIX	85042	A	SFR
300-23-036	1508 E DESERT LN	PHOENIX	85042	A	SFR
300-23-037	1514 E DESERT LN	PHOENIX	85042	A	SFR
300-23-038	1520 E DESERT LN	PHOENIX	85042	A	SFR
300-23-039	1526 E DESERT LN	PHOENIX	85042	A	SFR
300-23-040	1532 E DESERT LN	PHOENIX	85042	A	SFR
300-23-041	1538 E DESERT LN	PHOENIX	85042	A	SFR
300-23-042	1544 E DESERT LN	PHOENIX	85042	A	SFR
300-40-001B	7620 S 5TH AVE	PHOENIX	85041	A	SFR
300-40-002F	7801 S 7TH AVE	PHOENIX	85041	A	SFR
300-40-004B	318 W SOUTH MOUNTAIN AVE	PHOENIX	85041	A	SFR
300-40-017C	258 W SOUTH MOUNTAIN AVE	PHOENIX	85041	A	SFR
300-40-022	7601 S 2ND AVE	PHOENIX	85041	A	SFR
300-40-027	7608 S 2ND AVE	PHOENIX	85041	A	SFR
300-40-028	7602 S 2ND AVE	PHOENIX	85041	A	SFR
300-40-029	7601 S 3RD AVE	PHOENIX	85041	A	SFR
300-40-030	7609 S 3RD AVE	PHOENIX	85041	A	SFR
300-40-092	7614 S 3RD AVE	PHOENIX	85041	A	SFR
300-40-093	7608 S 3RD AVE	PHOENIX	85041	A	SFR
300-40-094	7602 S 3RD AVE	PHOENIX	85041	A	SFR
300-40-151	438 W HARWELL RD	PHOENIX	85041	A	SFR
300-40-152	434 W HARWELL RD	PHOENIX	85041	A	SFR
300-40-153	430 W HARWELL RD	PHOENIX	85041	A	SFR
300-40-159	7622 S 4TH AVE	PHOENIX	85041	A	SFR
300-40-160	7618 S 4TH AVE	PHOENIX	85041	A	SFR
300-40-161	7614 S 4TH AVE	PHOENIX	85041	A	SFR

Residential Structures in a FEMA Flood Zone Cont.

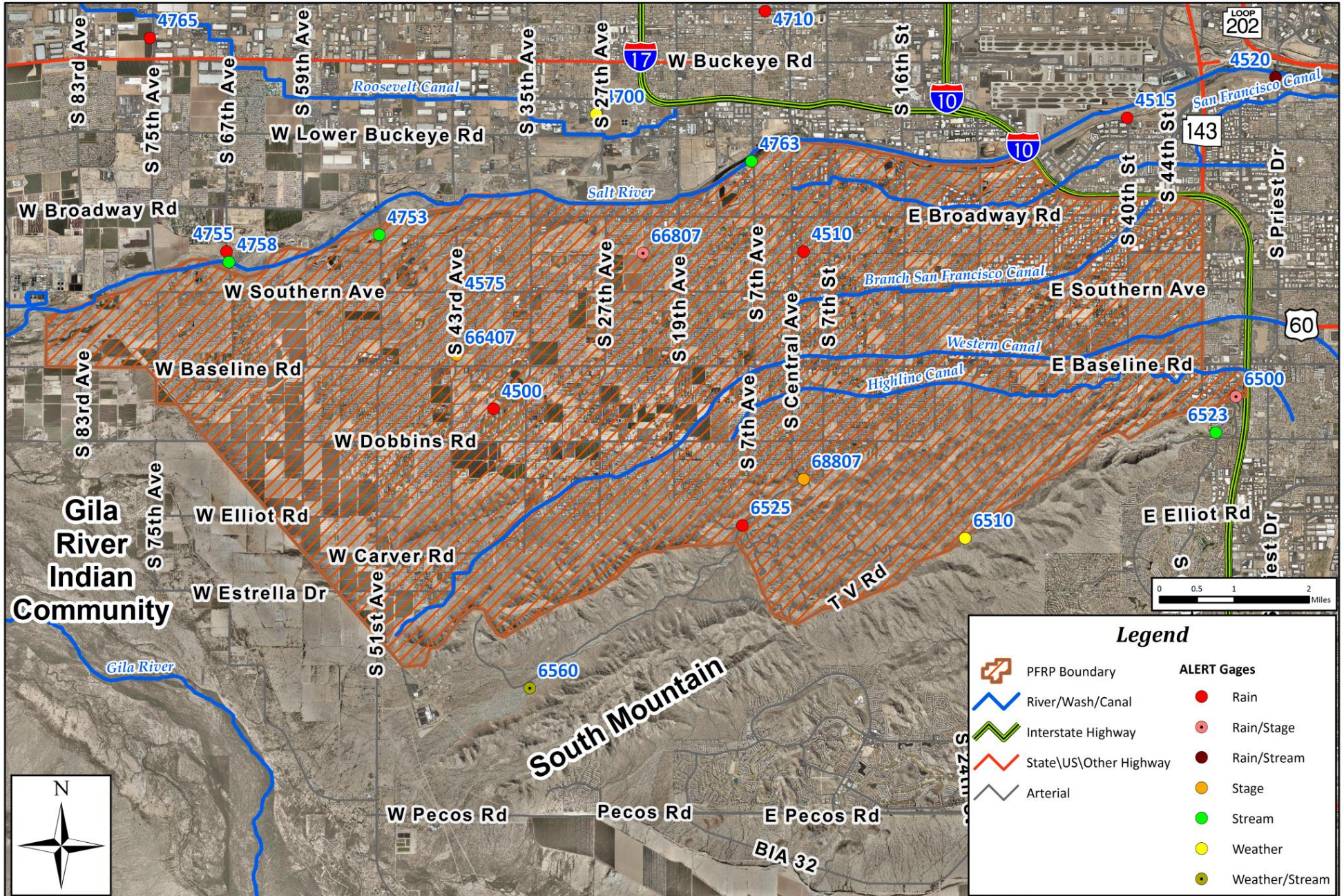
APN	Property Street	Property City	Property Zip	FEMA Flood Zone	Structure Type
300-40-162	7610 S 4TH AVE	PHOENIX	85041	A	SFR
300-40-163	7607 S 4TH AVE	PHOENIX	85041	A	SFR
300-40-164	7611 S 4TH AVE	PHOENIX	85041	A	SFR
300-40-165	7615 S 4TH AVE	PHOENIX	85041	A	SFR
300-43-008	8202 S CENTRAL AVE	PHOENIX	85042	A	SFR
300-43-009	8025 S 2ND ST	PHOENIX	85042	A	SFR
300-48-016	1404 W SOUTH MOUNTAIN AVE	PHOENIX	85041	A	SFR
300-48-017	1402 W SOUTH MOUNTAIN AVE	PHOENIX	85041	A	SFR
300-48-021	902 W HARWELL RD	PHOENIX	85041	A	SFR
300-48-022A	7830 S 7TH AVE	PHOENIX	85041	A	SFR
300-48-022C	7802 S 7TH AVE	PHOENIX	85041	A	SFR
301-23-019	3345 E HIGHLINE CANAL RD	PHOENIX	85042	A	SFR
301-24-002A	3018 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
301-25-003D	2810 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
301-25-003G	2842 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
301-25-005D	2924 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
301-25-006A	2916 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
301-25-007C	2932 E SOUTH MOUNTAIN AVE	PHOENIX	85042	A	SFR
301-26-023	2402 E FRANCISCO DR	PHOENIX	85042	A	SFR
301-26-024	2408 E FRANCISCO DR	PHOENIX	85042	A	SFR
301-26-025	2414 E FRANCISCO DR	PHOENIX	85042	A	SFR
301-26-137	2608 E FRANCISCO DR	PHOENIX	85042	A	SFR
301-32-021D	2130 E DESERT LN	PHOENIX	85042	A	SFR
301-33-157	8010 S 18TH PL	PHOENIX	85042	A	SFR
301-33-163	8004 S 19TH WY	PHOENIX	85042	A	SFR
301-33-164	8003 S 19TH WY	PHOENIX	85042	A	SFR
301-33-221	1821 E GARY WY	PHOENIX	85042	A	SFR
301-33-222	1825 E GARY WY	PHOENIX	85042	A	SFR
300-52-044B	9239 S 19TH AVE	PHOENIX	85041	A	SFR
122-93-003A	1640 E BASELINE RD	PHOENIX	85042	A	SFR
301-31-032B	8025 S SAHUARO ST	PHOENIX	85042	A	SFR -MULTI-FAMILY
301-32-026F	8005 S 20TH ST	PHOENIX	85042	A	SFR-MULTI-FAMILY

APPENDIX D – Enlarged SMLFRP Maps



South Mountain/Laveen Flood Response Plan

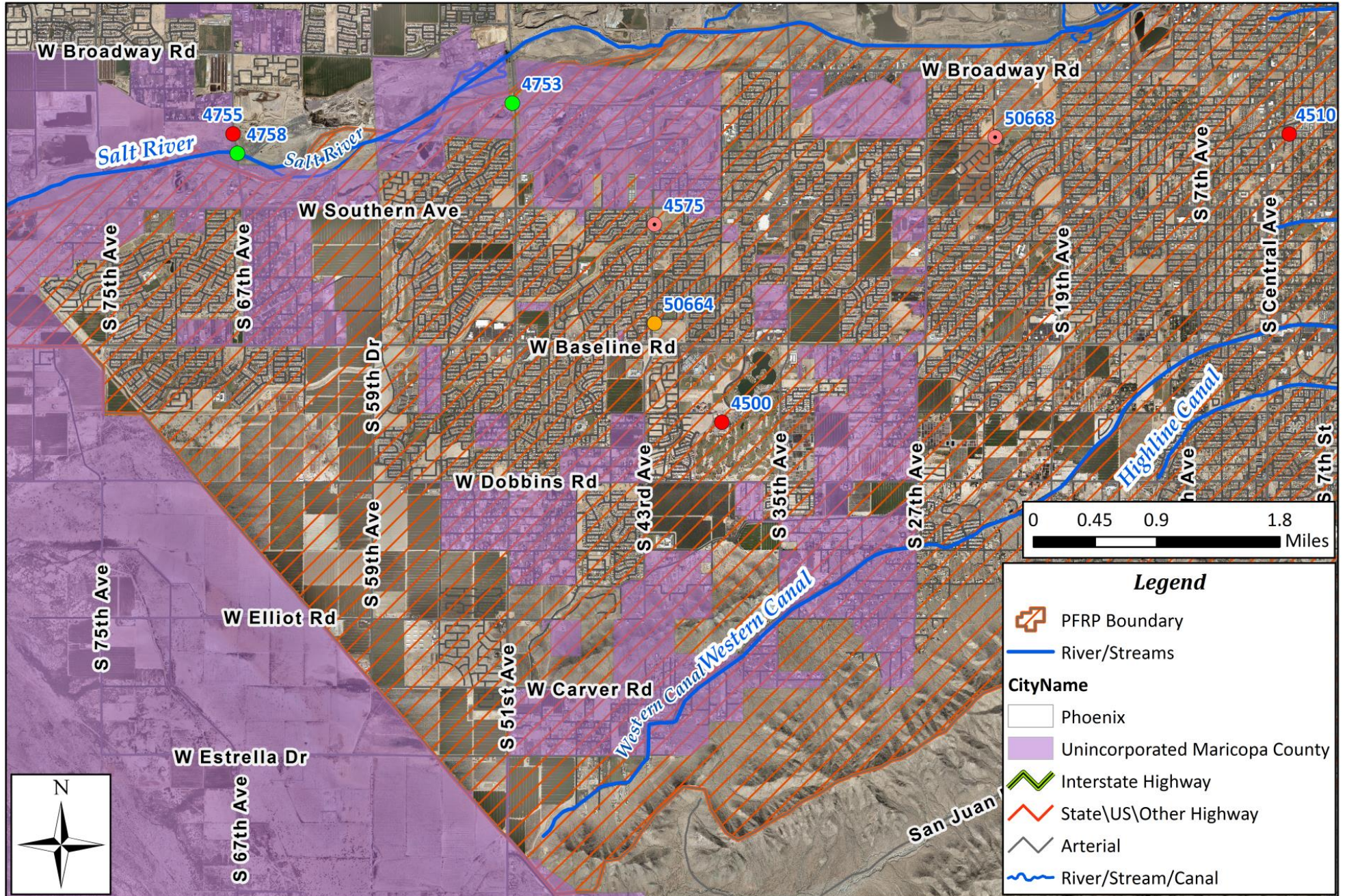
Location Map





South Mountain/Laveen Flood Response Plan

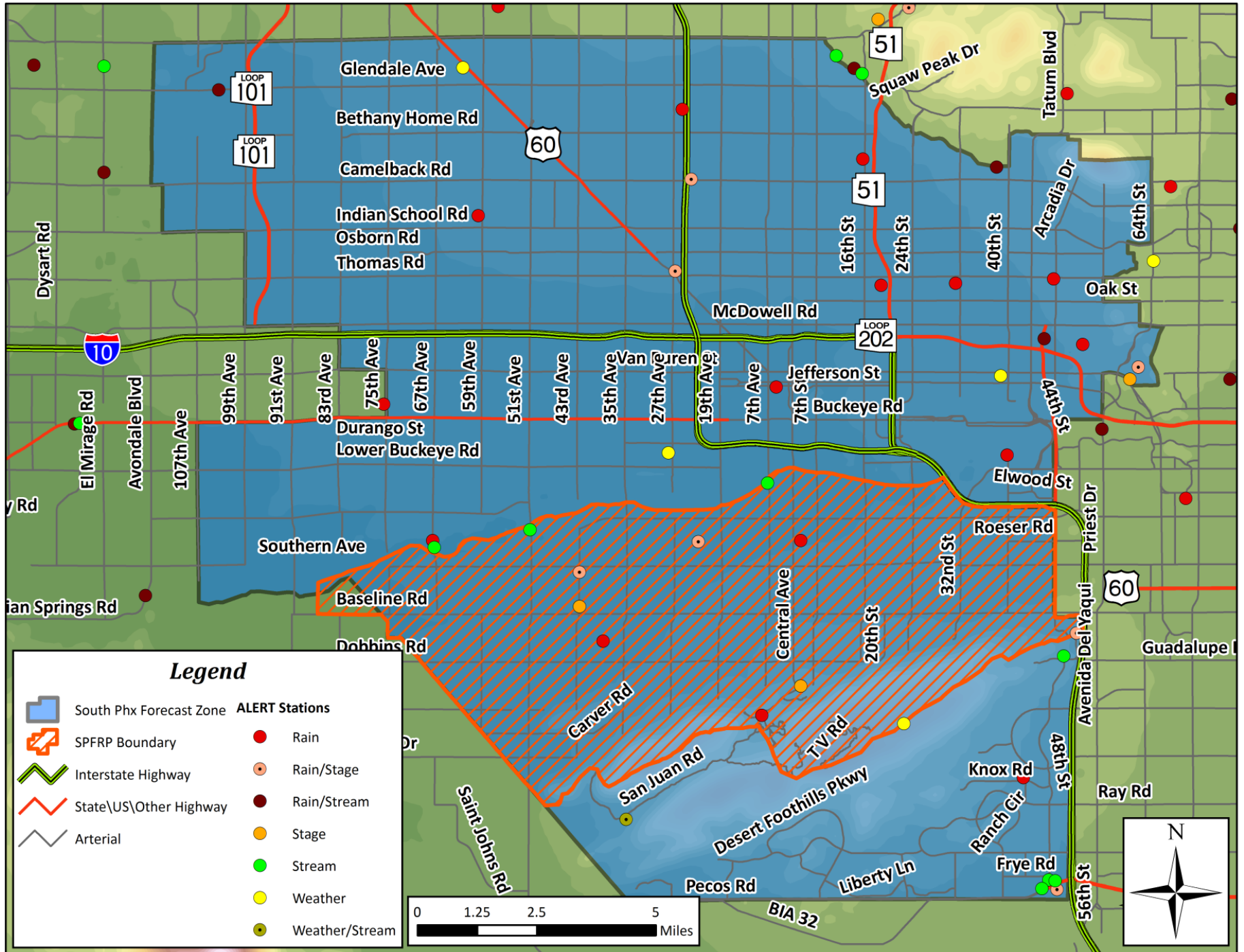
Unincorporated Maricopa County Islands





South Mountain/Laveen Flood Response Plan

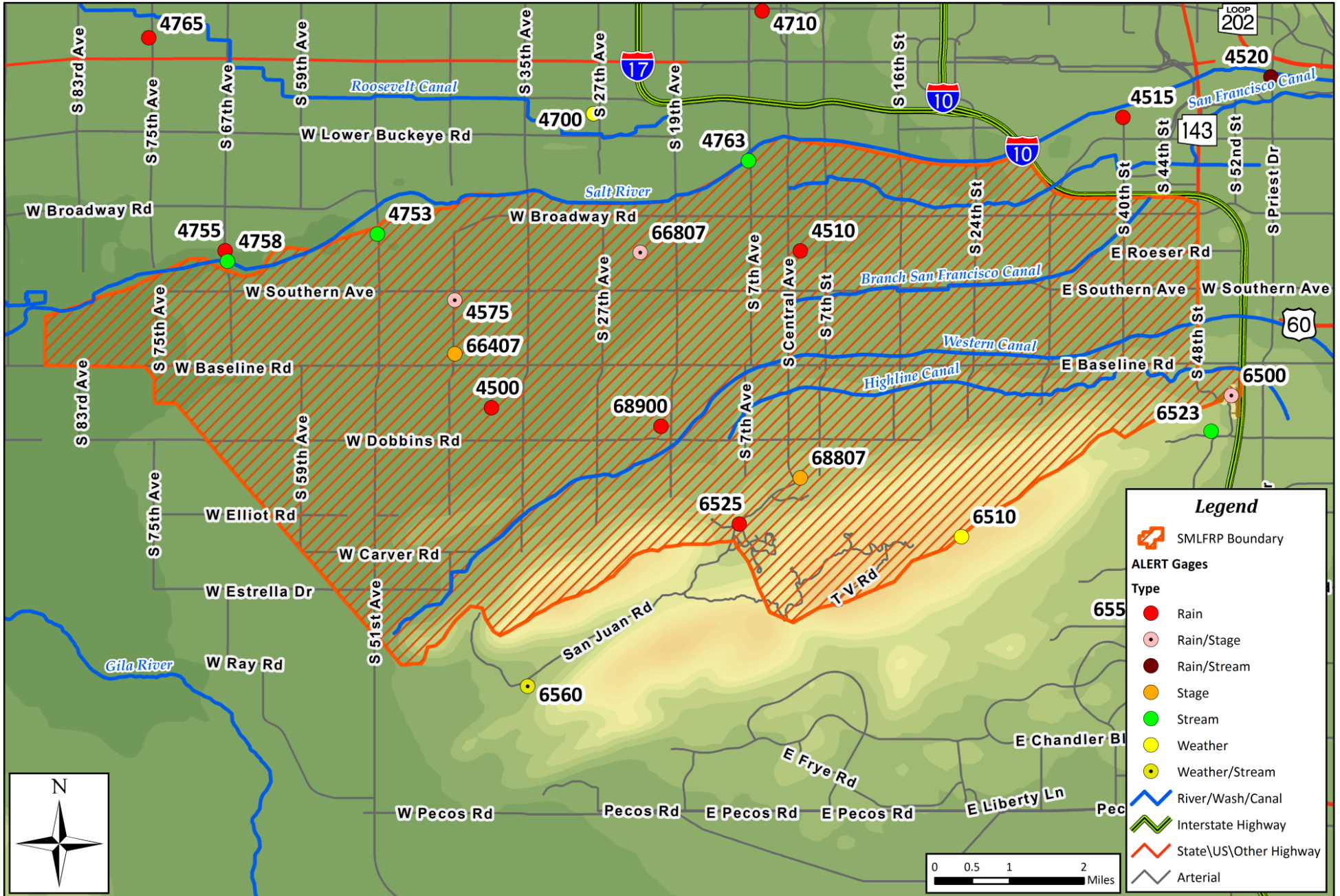
MSP Forecast Zone for South Phoenix





South Mountain/Laveen Flood Response Plan

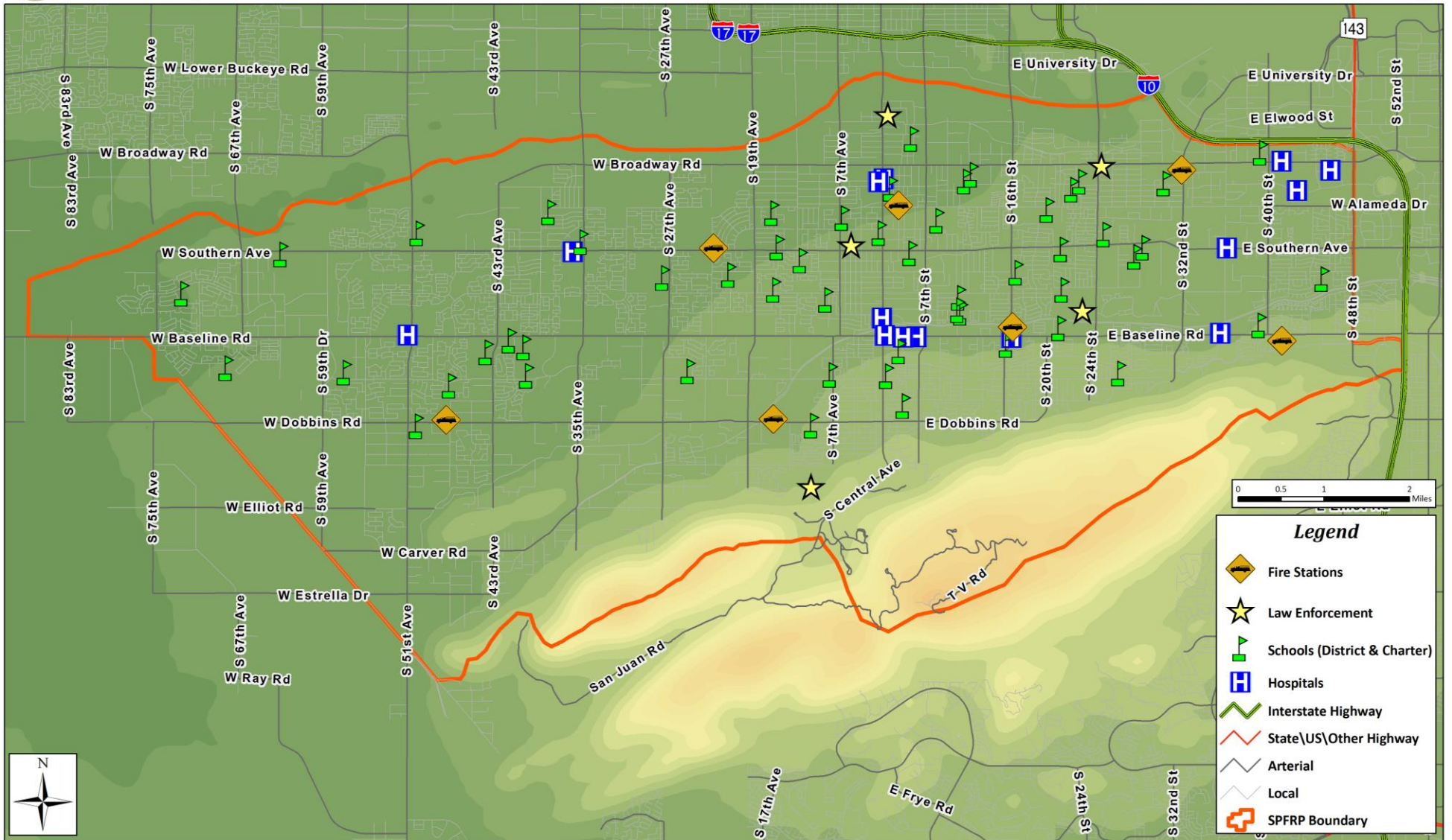
ALERT Station Location Map





South Phoenix Flood Response Plan

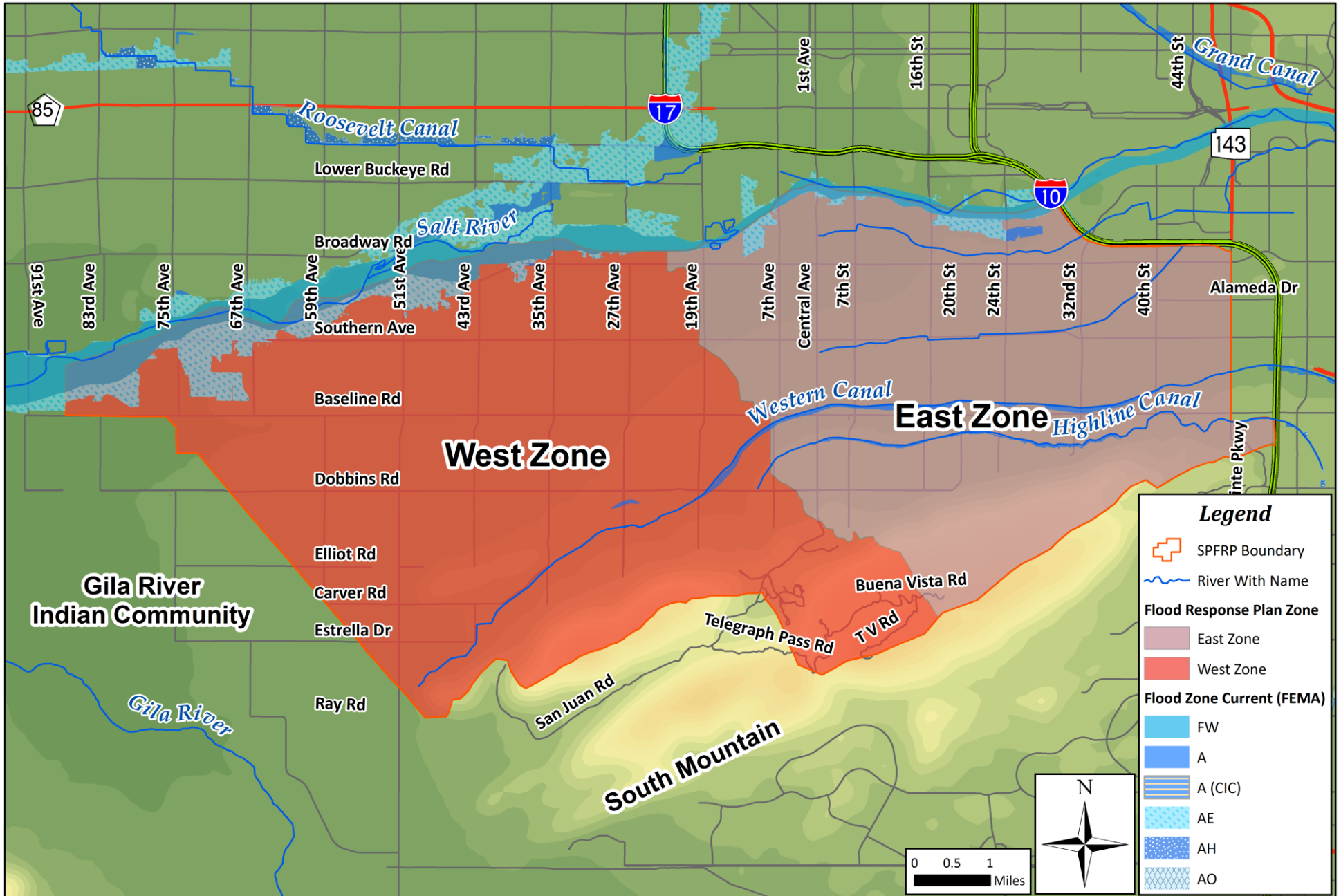
Essential Facilities Map





South Mountain/Laveen Flood Response Plan

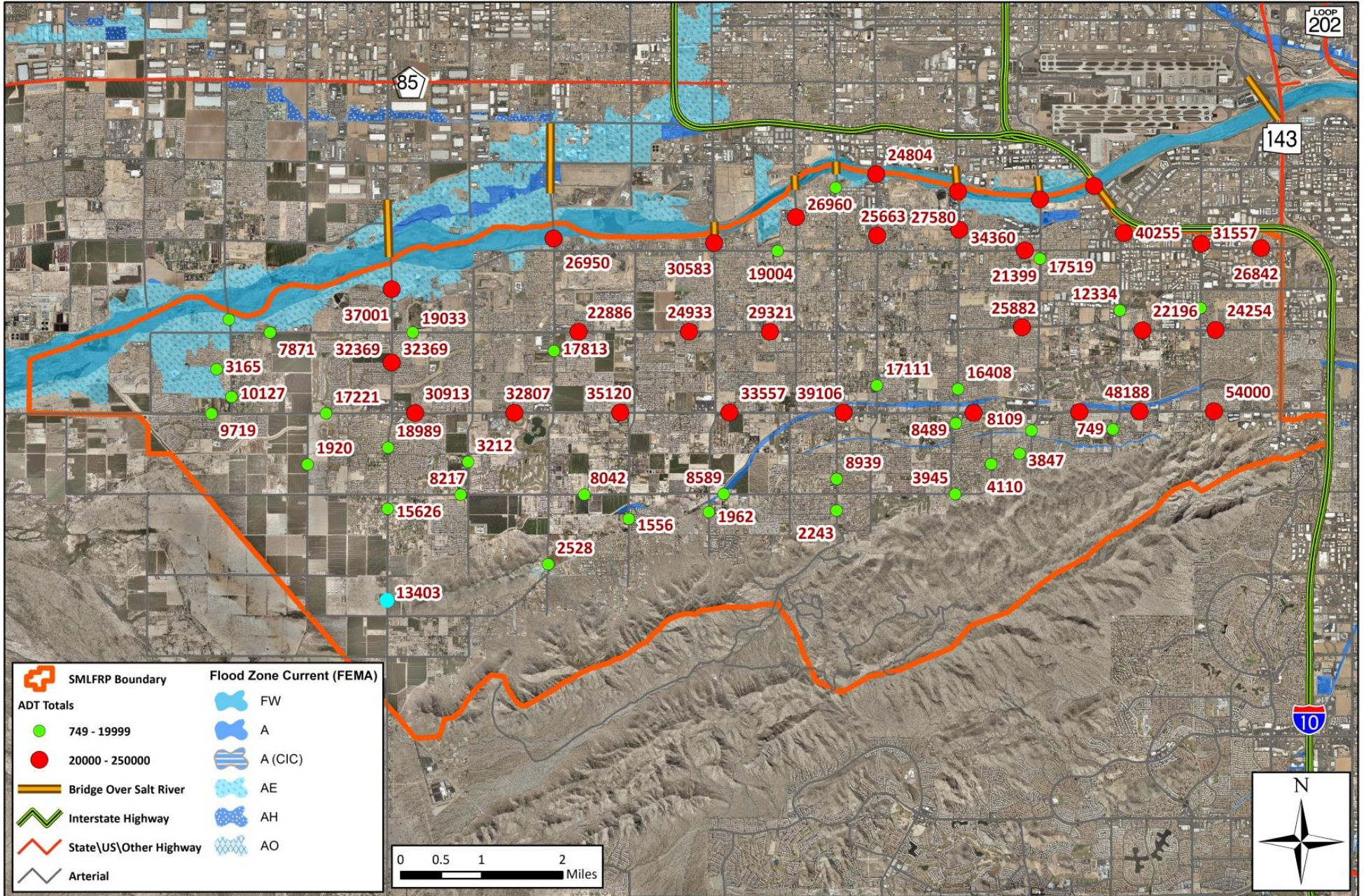
FRP Zones





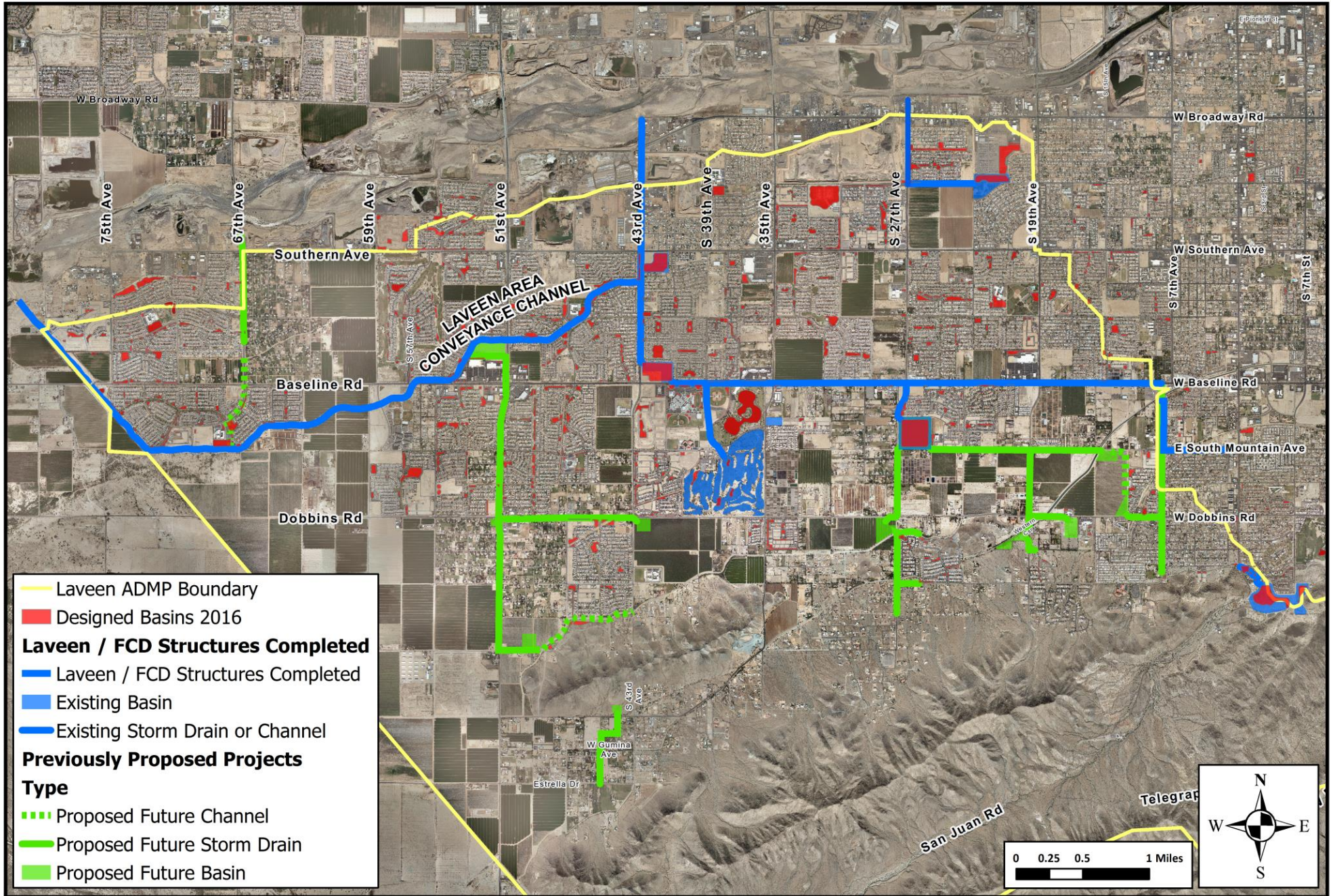
South Mountain/Laveen Flood Response Plan

Average Daily Traffic Counts Map





South Phoenix / Laveen Potential Drainage Improvements 2014



- Laveen ADMP Boundary
- Designed Basins 2016
- Laveen / FCD Structures Completed**
- Laveen / FCD Structures Completed
- Existing Basin
- Existing Storm Drain or Channel
- Previously Proposed Projects**
- Type**
- Proposed Future Channel
- Proposed Future Storm Drain
- Proposed Future Basin

0 0.25 0.5 1 Miles



South Mountain / Laveen Flood Response Plan

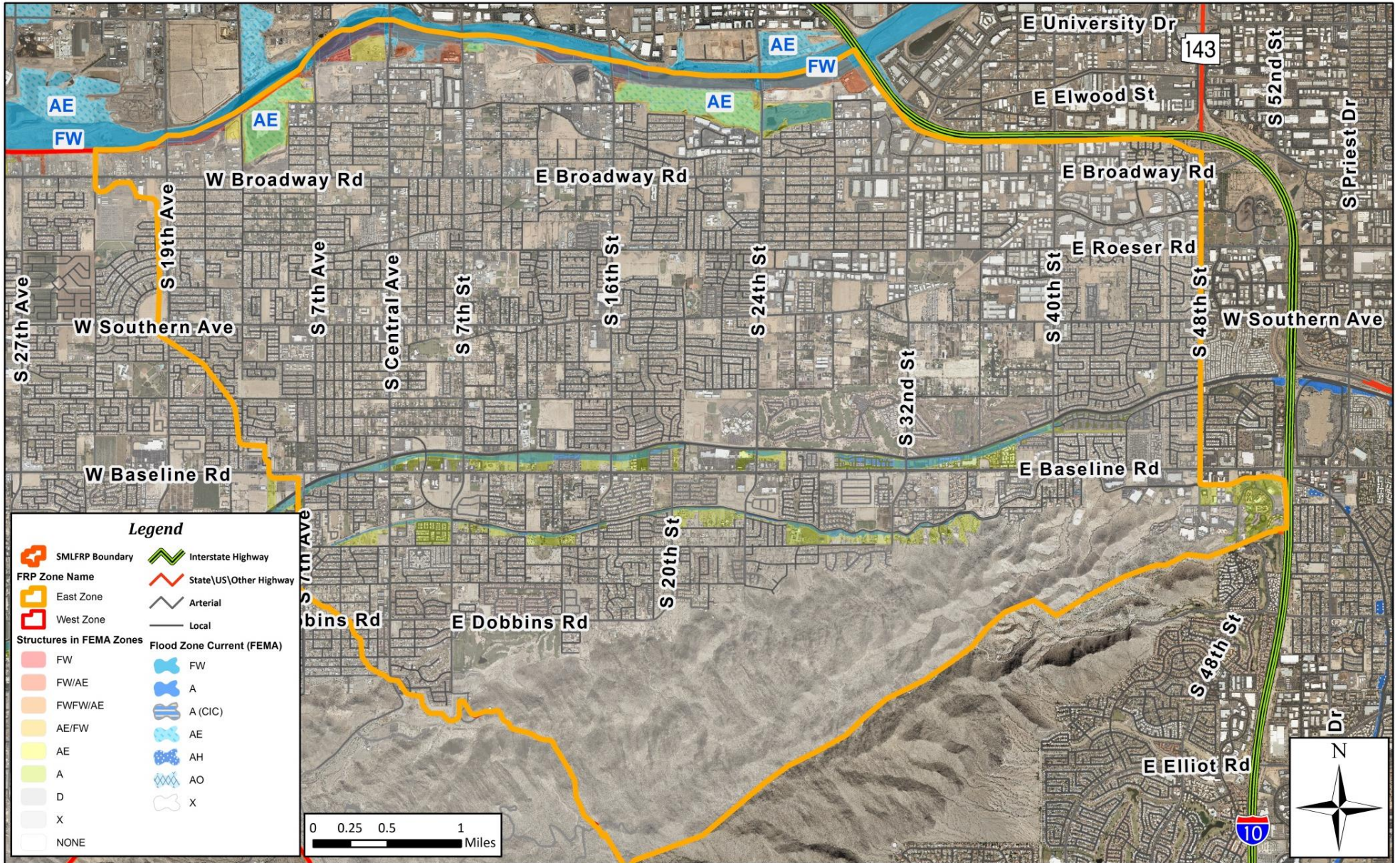
Residential Structures at Risk Map West Zone





South Mountain / Laveen Flood Response Plan

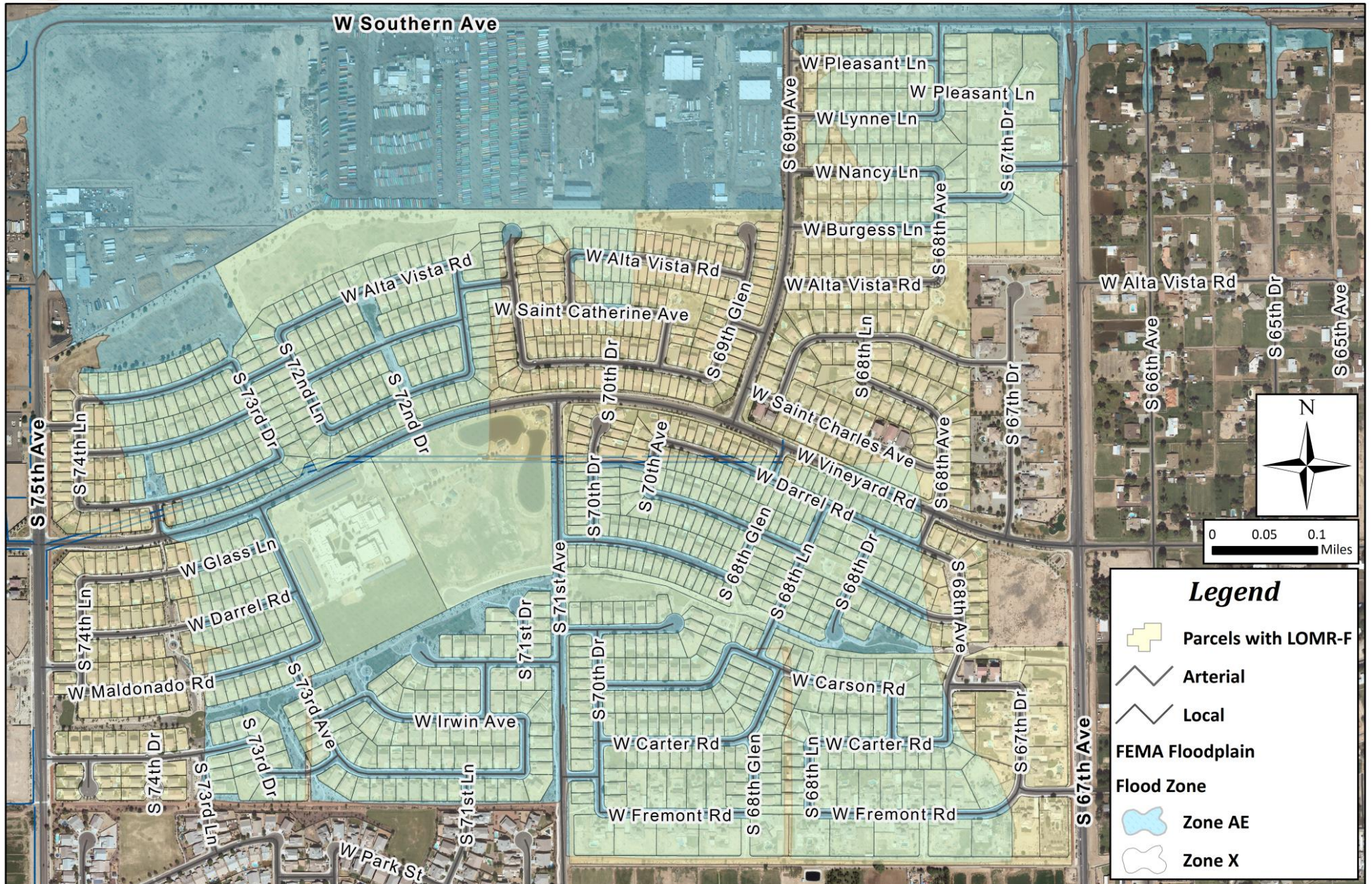
Residential Structures at Risk Map West Zone





South Mountain / Laveen Flood Response Plan

FEMA LOMR-F Location Map





South Mountain/Laveen Flood Response Plan

Complaint Locations/Subdivision Names

