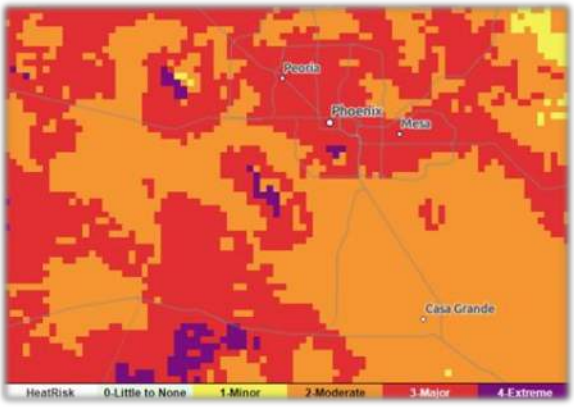
GILA RIVER INDIAN COMMUNITY

HAZARD MITIGATION PLAN

December 2024



EMERGENCY MANAGEMENT
GILA RIVER INDIAN COMMUNITY
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ARIZONA

EXECUTIVE SUMMARY

Natural caused disasters and emergencies impacting the Gila River Indian Community have caused death, injury, property damage, and interruption of business and government services. The disaster related demand on families and individuals can be significant and damages to government services and businesses can negatively impact the economic well-being of the Community. The time, money and effort to respond to and recover from these emergencies and disasters divert resources and focus from current programs and projects to the detriment of Community members and those trying to serve them. With three declared emergencies involving flooding, severe wind, and wildfire within the past 15 years, the Gila River Indian Community (the "Community" or "GRIC") recognizes the consequences and the need to reduce the impact of natural hazards. The Community's leadership understands that mitigation actions and projects are critical to reduce both human and infrastructure costs in the long term and reduce the negative impact of future emergencies and disasters to the Community.

GRIC Officials and the Office of Emergency Management ("OEM") committed to revising the 2015 Gila River Indian Community Multi-Hazard Mitigation Plan ("2015 Plan"), which is required by the Federal Emergency Management Agency (FEMA) to be updated every five years. In December 2023, OEM organized a Planning Team composed of GRIC governmental and enterprise officials, plus invited outside experts, to review and update the 2015 Plan per current FEMA standards and guidelines. Between February 1 and July 11, 2024, the Planning Team met four times to evaluate and update the 2015 Plan. As part of this process, the OEM and Planning Team members conducted research and collaborated with stakeholders to ensure the plan is complete as possible.

The fully updated and revised mitigation plan was submitted to FEMA for review and approval. The updated plan summarized the process used by the Planning Team for identifying natural hazards impacting the Community, documenting their probability and consequences of occurrence, and developing a list of mitigation actions and projects designed to increase awareness and reduce potential threats to life, property, and critical infrastructure by those hazards. The plan update also included an extensive public outreach campaign via web-based and social media notices, a customized questionnaire, and other mechanisms, to solicit input from GRIC members and other stakeholders.

An approved hazard mitigation plan is required by FEMA to be eligible for certain disaster-related recovery funds and various FEMA administered Hazard Mitigation Assistance grants and funding. This 2024 Gila River Indian Community Hazard Mitigation Plan ("2024 Plan" or "Plan") has been prepared in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act ("Stafford Act"), 42 U.S.C. § 5165, enacted under Section 104 the Disaster Mitigation Act of 2000. Approval of this Plan by FEMA will ensure continued eligibility for available funding.

Gila River Indian Community, is a federally recognized Tribe organized and established as a sovereign nation pursuant to the provisions of the Indian Reorganization Act of June 18, 1934, 25 U.S.C. § 461, et seq. The GRIC recognizes the need to comply with federal laws as it pertains to the context of this document; however, GRIC adheres to its Tribal constitution and sovereign government status. Official adoption and distribution records are included in Appendix A.

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SECTION 1: INTRODUCTION

1.1 Hazard Mitigation Defined

A hazard is any event or condition with the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, environmental damage, business interruption, or other structural and financial loss. Hazard mitigation is defined as any action taken to reduce or eliminate the long-term risk to human life and property from human-caused or natural hazards. As communities continue to grow, hazard mitigation will play an important role in the government's primary objective of protecting its citizens' health, safety and welfare.

The Community's officials recognize that natural hazards pose a significant threat at varying degrees of magnitude and frequency, to the safety and economic stability of the Community. Often, the potential reality of hazard impacts is not fully understood or realized until a major disaster occurs. The Community understands that, without a mitigation plan, financial, environmental, cultural, and human losses will undoubtedly be high.

The chief objective of hazard mitigation is to make human development and the natural environment safer and more resilient. Hazard mitigation generally involves altering the built environment to significantly reduce risks and vulnerability to hazards so that life and property losses can be avoided or reduced. Mitigation also includes removing the built environment from disaster prone areas and maintaining natural mitigating features, such as floodplains. Hazard mitigation makes it easier and less expensive to respond to and recover from disasters by breaking the damage and repair cycle.

Examples of hazard mitigation measures include, but are not limited to, the following:

- Development of mitigation standards, regulations, policies, and programs
- Land use/zoning policies
- Strong building codes and floodplain management regulations
- Acquisition of flood prone and environmentally sensitive lands
- Retrofitting/hardening/elevating structures and critical facilities
- Relocation of structures, infrastructure, and facilities out of vulnerable areas
- Public awareness/education campaigns
- Improvement of warning and evacuation systems

Benefits of hazard mitigation include:

- Saving lives and protecting public health
- Preventing or minimizing property damage
- Minimizing social dislocation and stress
- Reducing economic losses
- Protecting and preserving infrastructure
- Less expenditures on response and recovery efforts

In 2005, a study by the National Institute of Building Sciences through its Multi-Hazard Mitigation Council[1], reported to Congress that money spent on reducing the risk of natural hazards is a sound investment. On average, $1 spent on hazard mitigation saves the Nation about $4 in future benefits. In addition, FEMA grants to mitigate the effects of floods, hurricanes, tornados, and earthquakes between 1993 and 2003 were estimated to save more than 220 lives over approximately 50 years. A 2019 update and expansion of that work concluded that federal mitigation grants over the past 23-years have resulted in a national benefit of $6 for every $1 invested.[2]

1.2 Regulatory Requirements

44 C.F.R.§ 201.7 Tribal Mitigation Plans. *The Indian Tribal Mitigation Plan is the representation of the Indian tribal government's commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards.*

Requirement §201.7(a)(1): *Indian tribal governments applying to FEMA as a grantee must have an approved Tribal Mitigation Plan meeting the requirements of this section as a condition of receiving non-emergency Stafford Act assistance and FEMA mitigation grants.*

1.2.1 Disaster Mitigation Act of 2000

This 2024 update of the Gila River Indian Community Hazard Mitigation Plan (Plan) has been prepared in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act), 42 U.S.C. 5165, as amended by Section 104 of the Disaster Mitigation Act of 2000 (DMA 2000) Public Law 106-390 enacted October 30, 2000. The Interim Final Rule was again published on October 1, 2002 to extend the planning deadline to November 1, 2004, 67 Fed. Reg. 61512. Hazard mitigation planning requirements for tribes wishing to participate as grantees under the public assistance and hazard mitigation programs are implemented pursuant to 44 C.F.R. § 201.7, which was published in the Federal Register on October 31, 2007, 72 Fed. Reg. 61552.

1.2.2 Eligibility Impacted FEMA Grants

According to 44 CFR §201.7, the Community must have a FEMA-approved tribal mitigation plan to apply for and/or receive non-emergency Stafford Act assistance and FEMA mitigation grants as a grantee under the following programs:

- Public Assistance Funds – Permanent Restorative Work (PA Categories C through G)
- Hazard Mitigation Grant Program (HMGP)
- Building Resilient Infrastructure and Communities (BRIC) [formerly Pre-Disaster Mitigation (PDM)]
- Flood Mitigation Assistance (FMA)3

[1] Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities. | National Institute of Building Sciences (nibs.org)

[2] Natural Hazard Mitigation Saves 2019 Report (nibs.org)

[3] Note that to receive FMA funds, the tribe must be participating in the National Flood Insurance Program.

- Fire Management Assistance Grants (FMAG)
- HMGP – Post Fire (Post Oct 2018)
- Safeguarding Tomorrow Revolving Loan Fund (RLF)
- Rehabilitation Of High Hazard Potential Dam (HHPD) Grant Program

1.2.3 DMA 2000 Update Requirements

DMA 2000 § 201.7(d)(3) requires that existing tribal plans be updated every five years, with each plan cycle requiring a complete review, revision, and update of the plan. The updated plan must also be formally approved and adopted by the tribal governing body and receive official approval from FEMA. This Plan is a full update of the 2015 Plan and complies with all the requirements set forth in the Tribal Mitigation Plan Review Guide[4].

1.3 Tribal Authority and Official Record of Adoption

Gila River Indian Community (GRIC), is a federally recognized tribe organized and established as a sovereign nation pursuant to the provisions of the Indian Reorganization Act of June 18, 1934, 25 U.S.C. § 461, et seq. The GRIC recognizes the need to comply with federal laws as it pertains to the context of this document; however, GRIC adheres to its Tribal constitution and sovereign government status.

Promulgation of the Plan is accomplished through a formal resolution of adoption by the GRIC Council. Official promulgation documents are inserted into Appendix A. The Plan will be distributed electronically to all official departments, offices, and GRIC-owned enterprises of the Community, and the seven District offices. A list of distribution recipients is also included in Appendix A

1.4 Tribal Assurances

The GRIC will continue to comply with applicable Federal statutes and grant regulations in effect for those periods when the Community receives grant funding per the DMA 2000 requirement §201.7(c)(6). The GRIC will amend its Plan whenever necessary to reflect changes in tribal or Federal laws and statutes as required in 44CFR 13.11(d).

1.5 FEMA Approval Letter

FEMA issues a final approval letter once all elements of DMA 2000 are met. A copy of FEMA's approval letter is provided in Appendix A.

1.6 General Plan Description

The Plan is generally focused on natural hazards and is arranged and formatted following the 2023 State of Arizona Multi-Hazard Mitigation Plan (State Plan) with the following major sections:

[4] FEMA,2017, *Tribal Mitigation Plan Review Gude*, FP 306-112-1, released December 5, 2017 and effective December 5, 2018.

Planning Process – this section summarizes the planning process used to update the Plan, describes the assembly of the planning team and meetings conducted, and summarizes the public involvement efforts.

Community Description – this section provides an overall description of the Districts and Community as a whole.

Risk Assessment – this section summarizes the identification and profiling of natural hazards that impact the County and the vulnerability assessment for each hazard that considers exposure/loss estimations and development trend analyses.

Mitigation Strategy – this section presents a capability assessment for each participating department/enterprise and summarizes the Plan mitigation goals, objectives, actions/projects, and strategy for implementation of those actions/projects.

Plan Maintenance Strategy – this section outlines the proposed strategy for evaluating and monitoring the Plan, updating the Plan in the next 5 years, incorporating plan elements into existing planning mechanisms, and continued public involvement.

Plan Tools – this section includes a list of Plan acronyms and a glossary of definitions.

Where appropriate, detailed information is documented or provided in appendices. There are also certain data sets pertaining to the Risk Assessment that are deemed "sensitive" by GRIC and are a part of this Plan by reference only. The sensitive data is generally maintained by the GRIC Department or Office that is responsible for the data and can be made available for review upon solicitation to and approval by that department or office. Sensitive data is not submitted for FEMA review. General summaries of those specific data are provided instead.

SECTION 2: COMMUNITY DESCRIPTION

2.1 Overview

The Gila River Indian Reservation lies within the Gila River Valley in the south-central portion of Arizona as shown in Figure 1. Non-Community jurisdictions bordering GRIC includes Coolidge in the southeast, Florence on east, Chandler, Gilber and Queen Creek on the northeast, Phoenix on the north, Avondale and Goodyear on the west, Maricopa on the southwest and Casa Grande on the south.

Figure 1. Gila River Indian Reservation Location Map

Unincorporated Maricopa and Pinal Counties also share boundaries at various locations along the reservation perimeter. See Figure 3 for a map of GRIC in relation to surrounding communities.

The Reservation is ±373,599 acres as estimated by the Bureau of Land Management. The terrain generally consists of desert mountains and alluvial foothill and plain areas. The Gila River, dry because of upstream diversions, runs southeast to northwest through the center of the Reservation. Land uses include agriculture, residential, commercial, industrial, and open space, as shown in Figure 2.

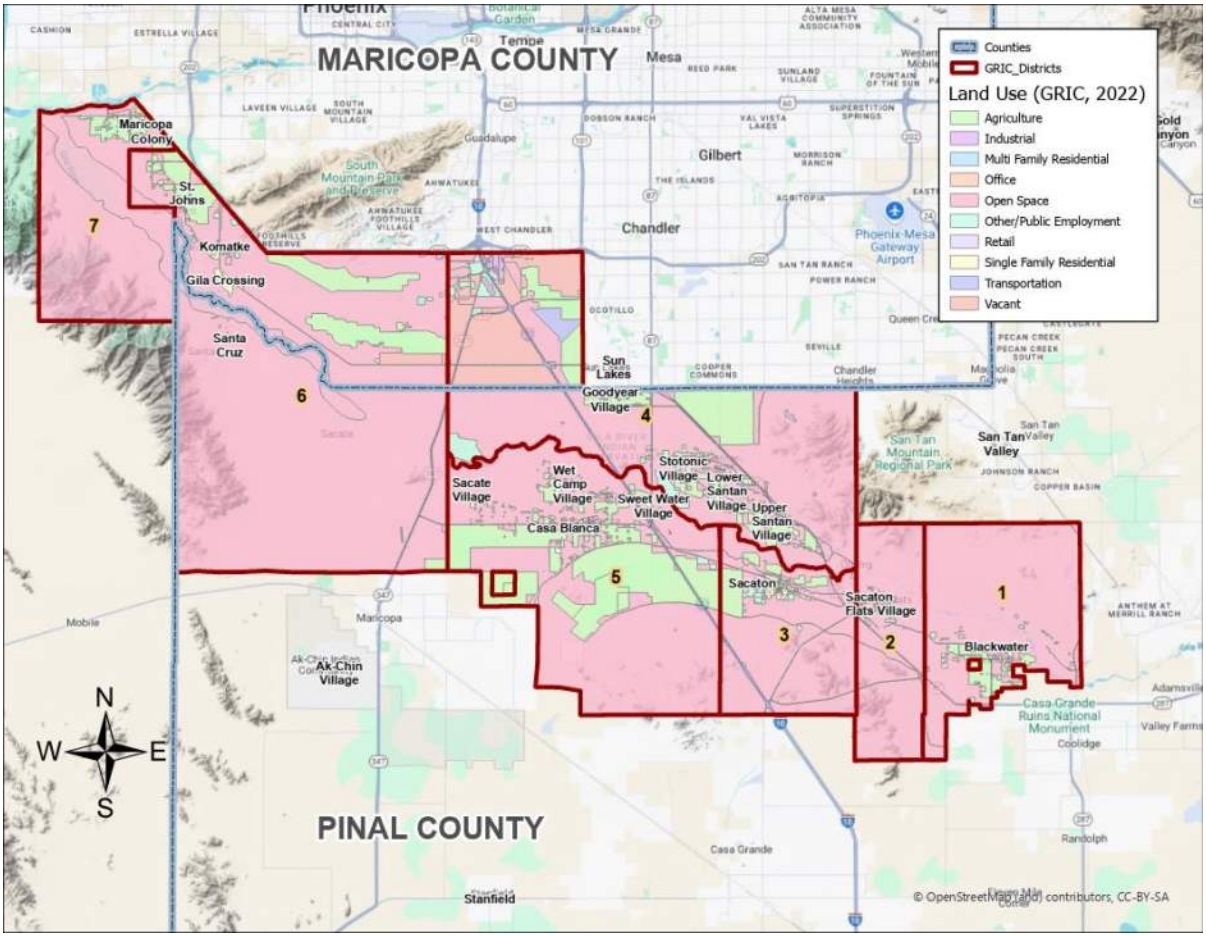

Figure 2. Existing land use (GRIC, 2022)

The GRIC falls within the Sonoran Desert biome, where non-agricultural areas contain native grasses, shrubs, cacti, trees, and succulents. The climate is arid, with precipitation averaging 7-8 inches of rain per year and very little if any snowfall. Summer high temperatures average about 110°, with winter lows in the high 20s and 30s.

As of May 8, 2024, the GRIC Enrollment Office indicates the Community has a total membership of approximately 23,334. A total of 13,441 members reside on the Reservation and 9,903 reside off the Reservation. Refer to Table 1 for enrollment estimates by GRIC District and age brackets as developed by the GRIC Enrollment Office on May 8, 2024.

Table 1. GRIC estimated enrolled member statistics (2024)

Enrolled Members Residing On/Off Reservation (as of 05.08.24)	
Residing	**Total**
District #1	1,189
District #2	558
District #3	3,733
District #4	2,469
District #5	2,464
District #6	2,321
District #7	707
Off Reservation	9,903
TOTAL	23,344

Enrolled Members by Age and Gender (as of 05.08.24)	
Age Groups	**Total**
0-17 years	6,366
18 - 19 years	977
20 - 34 years	6,288
35 - 49 years	5,036
50 – 64 years	3,135
65+ years	1,542
Total	23,344
Gender	**Total**
Male	11,041
Female	12,303
TOTAL	23,344

According to the 2022 American Community Survey 5-Year Estimates[5], there are 3,302 households in the GRIC with an average household size of 3.55 persons per household (11,734 people represented). The 2020 Census total population is estimated at 14,053. A more detailed demographic profile from the 2020 Census is summarized in Table 2.

Table 2. 2020 Census population demographics for the GRIC

Male	Female	<18	18 & 19	20-34	35-49	50-64	65 & over
6,653	**7,400**	**4,785**	**477**	**3,237**	**2,366**	**2,070**	**1,118**

Additional demographic highlights from the Census Bureau[6] are:

- There is a significant high growth rate of the surrounding areas (City/County).
- The largest population group is the “less than 18 years old”, comprising 34% of the total population.
- The median age is 28 years old.
- There are 3,516 total housing units.

[5] Gila River Indian Reservation, AZ - Census Bureau Profile

[6] Ibid., 5

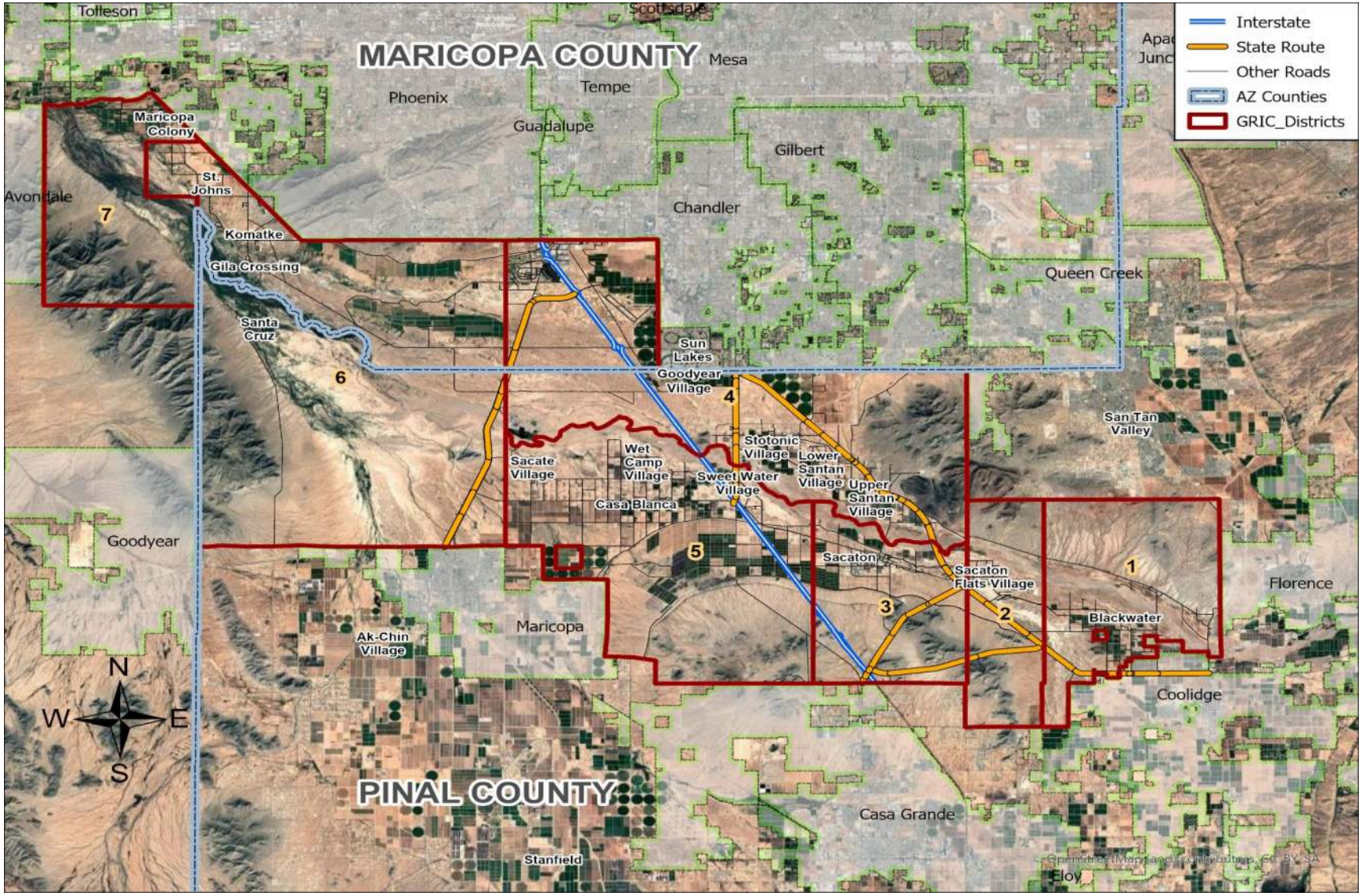

Figure 3. GRIC Vicinity and District Boundary Map

2.2 Background

2.2.1 Sovereignty

Gila River Indian Reservation was established in 1859, and the Gila River Indian Community formally established by Congress in 1939. The Reservation is a federally recognized Native American government listed in the Federal Register pursuant to Section 104 of the Act of November 2, 1994 (Pub. L. 103-454; 108 Stat. 4791, 4792), and as such is acknowledged to have the powers, privileges, and immunities available to other federally acknowledged Native American tribes by virtue of their government-to-government relationship with the United States as well as the governmental responsibilities, powers, and obligations of such Indian tribes.[7]

Indian Nations are sovereign nations not under the regulatory or political jurisdiction of any state of the United States. As such, the Community is not subject to the jurisdiction of the State of Arizona. It is an independent authority and operates in the best interest of the Community members.

2.2.2 History

The Community traces its roots to the Huhugam, prehistoric Native Americans who lived and farmed in the Gila River Valley centuries ago. The Community is composed of members of two tribes, the Pima (Akimel-O'odham) and Maricopa (Pee Posh) Indians. Gila River Indian Community is one of the Four Southern Tribes, including Salt River Pima-Maricopa Indian Community, Tohono O'odham Nation, and Ak-Chin Indian Community.

The Akimel O'odham, called "River People", were given the name "Pima" by the Spaniards, which is still used today. During the Historic Period Akimel O'odham and Pee Posh inhabited the Middle Gila farmed thousands of acres and grew crops that originally included corn and melons and later, cotton, squash, wheat, and other crops. In the mid nineteenth century, miles of canals and ditches irrigated and drained large-scale field systems on the Community. Farmers diverted the waters of the Gila into canals they had constructed with the aid of only wood, bone, and stone tools, which extended for miles. The lateral canals provided the ability to divert waters to the field of crops.

Recent community history reflects a revitalization of historical farming enterprises. Specifically, the Community has constructed a modern water delivery system (the Pima-Maricopa Irrigation Project) across the Reservation.

2.2.3 Economy

The Gila River Indian Community is steadily increasing and diversifying its industrial, agricultural, retail and recreational economic base. The Community currently operates three industrial parks that are home to several local and national companies. Gaming also continues to be a positive economic development activity for the Community.

[7] Federal Register: April 4, 2008 (Volume 73, Number 66) Pages 18553-18557)]

Wild Horse Pass, Lone Butte, Vee Quiva and San Tan Mountain are the four (4) facilities that comprise the Gila River Casinos. Wild Horse Pass Development Authority (WHPDA) manages the Sheraton Resort and Spa, Rawhide, and the golf course. The Phoenix Premium Outlet Mall has brought customers from all over the Phoenix-metro area to GRIC. The golf course and resort feature two world-class 18-hole golf courses and a 500-room hotel resort complex.

The GRIC holds their sovereignty as sacred and prides on being self-sufficient. Economic development is a focus of the tribe and includes careful planning and developing skilled employees. The Tribal Projects Department and Land Use Planning and Zoning collaborate on current and future projects.

2.2.4 Agriculture

The GRIC relies on a successful agriculture industry to help fund the many important programs. Today, with a firm supply of water secured through a settlement process, the Community has restored its agricultural heritage and self-sufficiency. Growing a variety of native, traditional and commercial crops, Community farms, corporate farms and individual farmers now cultivate fruits, vegetables, small grains and other crops such as cotton, alfalfa and potatoes.

2.2.5 Manufacturing

The Lone Butte Business Park is managed and operated by Lone Butte Development, LLC[8], which is a GRIC owned enterprise. The Park's prime location next to Interstate 10 and State Route Loop 202, places the park minutes from Sky Harbor International Airport and the greater Phoenix-Metro area, providing tenants with strategic access to the entire Southwest. Lone Butte Development Park accommodates warehousing, light and heavy industries, research and development facilities, and high-tech firms and services. Lone Butte Business Park has been rated the nation's best tribal industrial park.

2.2.6 Gaming/Tourism

Gaming and motor sports racing are important destinations for visitors to the GRIC. The Gila River Casinos and Rawhide Western Town provide many of the recreational venues to this area. The Community owns and operates four (4) Gila River Casino locations and a resort hotel complex. Visitors can enjoy entertainment, fine dining, nightlife, and gaming at three different casinos: Wild Horse Pass Hotel and Casino, Lone Butte Casino, Vee Quiva Casino, and San Tan Mountain Casino. Other attractions include an equestrian center, golf courses, a tribal museum, a racecar driving school, racetrack, and a racing-boat course.

2.2.7 Community Lands Categories

There are two major categories of land within GRIC: allotted lands, or lands that are held in trust for use by individual Members and heirs; and Community lands that are

[8] Lone Butte Development LLC

held in trust for the Community. Almost all development on the GRIC occurs on Community land or through leases managed by the Community. While the Community retains jurisdiction, including planning authority over all lands (allotted and Community), Community investment typically occurs on Community lands.

2.3 GRIC Districts

The GRIC is divided into seven (7) political districts for the purposes of representation and administration. Each District may elect a District Council made up of a representative from each of the villages or settlements within the district. The District Council serves as the advisory board and performs local administrative duties as assigned by the Community Council. The District boundaries and locations within GRIC are shown on Figure 3. The following sections describe details for each District.

2.3.1 District 1

District 1 is the second smallest and Eastern-most District. It is named Shuckma hudag or Oos Kek, which translates to "Blackwater" and "Stick Stand." It is roughly 53 square miles and is home to approximately 1,157 residents. As a reference to non-Community jurisdictions, the eastern boundary of District 1 is adjacent to the Town of Florence, Arizona, while the Southern boundary is adjacent to the City of Coolidge. To the North are the Johnson Ranch and Santan Heights communities. Just southeast, beyond the District's boundaries, is the historic Casa Grande Ruins National Monument, which are federally protected and historically tied to the Pima people of the GRIC. The structure was built by the Huhugam ("those who have gone") people, who maintained a sophisticated irrigation system for hundreds of years until periods of low water caused most of the community to disperse. Those who stayed are the ancestors of the present-day Pima and Papago Native Americans.

This District is impacted by a major offsite watercourse named McClellan Wash. It enters from the south impacting residences that are located within its floodplain. Significant storms, lightning strikes and wind damage have occurred in the past 10 years. District 1 lies in the southeasterly monsoon path and is subject to more severe weather than some of the other districts.

2.3.2 District 2

District 2 encompasses 32 square miles and is named Hashan Kek, or "Saguaro Stand." This district contains 523 residents. The Olberg Bridge and Sacaton Dam are located within District 2 and are reminders of the rich history and culture of the Akimel O'odham and Pee Posh tribes. At the time of their construction in the 1920's, they were considered substantial engineering projects. Water and farming have long been a tradition and a central part of life for the people of Hashan Kek.

District 2 has a similar flood, storm damage and wildfire threat that affects other districts. Primary impacts are associated with flooding and wildfire along the Gila River and McClellan Wash watercourses.

2.3.3 District 3

District 3, with about 3,080 residents, has the highest population on the Reservation. District 3 contains the village of Sacaton and the headquarters of the Tribal government. Sacaton was named after the famous giant Sacaton grass that once grew in the Gila River Valley. Sacaton has grown over time and now is home to a Dialysis Center, Governance Center, Fire Station, Head Start facility, Residential Program for Youth, Domestic Violence Center, hospital, and the Women's Health Building. In the O'odham language, Sacaton is known as Ge e Ke or "Big House," which is largely because of its historical importance as the unofficial capital of the Community. Though it is one of the smaller districts (approximately 42 square miles in size), it has always been the center of commerce and government activity for the GRIC. Today, the Tribal government operates in the Governance Center building, which houses many tribal departments and serves as the meeting place for the Tribal Council and government officials. District 3 will retain and reinvigorate the close-knit village of Sacaton and provide new opportunities for Community Members to reconnect with each other.

District 3 has a similar flood, storm damage and wildfire threat that affects other districts. Primary impacts are associated with flooding and wildfire along the Gila River floodplain that forms the northerly border of the district.

2.3.4 District 4

District 4 is also known as the Santan District and has 2,264 residents. The district is large and unique in that it contains seven distinct villages: Santan (upper and lower), Stotonic, Chandler Heights, Gila Butte, Goodyear, and East Lone Butte Village. The Santan Mountain range played a role in the history of District 4 as do many other aspects of the land surrounding the community. The district shares a portion of its northern border with the Cities of Chandler and Phoenix, and a portion of its eastern border with the Town of Queen Creek. District 4 is 120 square miles and has seen the greatest amount of industrial growth relative to other districts.

District 4 boundaries contain an array of world-class sports and recreation venues, as well as a host of commercial and agricultural businesses that are owned and operated by the Community.

District 4 is particularly susceptible to monsoon storm damage because of the southerly monsoon weather patterns and lack of protection from the mountains. Flooding and wildfire along the Gila River floodplain that forms a portion of the southerly border of the district are also identified vulnerabilities.

2.3.5 District 5

District 5 is roughly 102 square miles and has a population of 2,206 Community members. The district is commonly known as Casa Blanca or Vah ki which translates into English as "house that goes into the ground". District 5 contains six villages: Sweet Water, Bapchule, South Casa Blanca, West Casa Blanca, Sacate and Wet Camp.

The northern boundary is defined by the Gila River floodplain and the southern boundary abuts the cities of Casa Grande and Maricopa. District 5 continues to be the

center of agricultural production of the Pima and Maricopa tribes. Faced with an arid environment, the Huhugam, ancient ancestors of the Pima, created irrigation systems hundreds of years before Euroamerican settlement within Arizona. The many miles of canals built allowed them to grow corn, beans, squash, and melons along the Gila River. Their ingenuity yielded significant results. Today, modern versions of the ancient irrigations systems allow Gila River Farms, founded in the 1960s, to produce crops such as cotton, alfalfa, citrus, olives, wheat and barley on nearly 35,000 acres of land with approximately 130,000 acres of additional agricultural land available to cultivate. In the ancient tradition, farmers continue to adapt by making the transition to modern farming equipment to expedite the harvesting of these diverse crops.

According to GRICUA, District 5 lies in the westerly monsoon storm path and is subject to more storm damage than some other districts. This is based on number of incidents related to the electrical infrastructure. Flooding and wildfire risk along the Gila River floodplain that forms a portion of the northerly border of the district are also identified vulnerabilities.

2.3.6 District 6

District 6 is home to 2,316 residents and sits at the base of the Sierra Estrella Mountains, where once flowing but now dry sandy riverbeds of the Gila River, Gila Floodway, Vekol Wash, Santa Rosa Wash, and Santa Cruz Rivers crisscross the Sonoran Desert. The northern boundary of the community is adjacent to the Ahwatukee Foothills area of the City of Phoenix, and the southern boundary borders the City of Maricopa. The Sierra Estrella Mountains, locally known as Komatke (loosely translated Broad Mountain or Flat Mountain) are located along the western edges of District 6. District 6 contains four villages: Lone Butte, Santa Cruz, Komatke and Co-op Village. The land is 177 square miles and is home to the Komatke Community Center Complex, Estrella Mountain range, and Vee Quiva Casino, one of the Community's three casinos.

District 6 is severely threatened by large wildfires. Large stands of salt cedar trees grow within the riverbeds providing enormous fuel reserves. These stands are subject to potential ignition by illegal river bottom activities, lightning strikes, and other causes. The fire danger is further increased due to a large area of urban interface along the northern boundary. The Vee Quiva Casino and Hotel are also at risk due to the area's flooding potential due to the multiple watercourses coalescing with the Gila River.

2.3.7 District 7

District 7 is approximately 55 square miles with a population of 663 people. It is located at the northwestern corner of the Reservation between South Mountain on the east and the Estrella Mountains to the west and shares its northern border with the City of Phoenix and the western border with the City of Avondale. District 7 is home to the Pee Posh. The Pee Posh originally lived together in small bands migrating from the lower Gila and Colorado Rivers to settle along the middle Gila and lower Salt River. The last of these bands left the Colorado River in the late 1830's. Eventually these bands came together, and many settled in District 7.

District 7 is severely threatened by large wildfires. Large stands of salt cedar trees grow within the riverbeds, providing enormous fuel reserves. These stands are subject to potential ignition by illegal river bottom activities, lightning strikes, and other causes. The north boundary of District 7 contains a large area of urban interface. The district is also located at the confluence of the Gila and Salt Rivers and is subject to flooding threats, especially during large regional and high-volume storms that cause releases from upstream dams on both rivers.

SECTION 3: PLANNING PROCESS

§ 201.7(c)(1) *[The plan shall include] Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved. This shall include:*

- ***(i)*** *An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval, including a description of how the Indian tribal government defined "public;"*
- ***(ii)*** *As appropriate, an opportunity for neighboring communities, tribal and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and nonprofit interests to be involved in the planning process,*
- **(iii)** *Review and incorporation, if appropriate, of existing plans, studies, and reports; and*
- **(iv)** *Be integrated to the extent possible with other ongoing tribal planning efforts as well as other FEMA programs and initiatives*

3.1 Update Process Description

The GRIC Office of Emergency Management (OEM) used Disaster Relief and Emergency Assistance Plan funds to perform the update of the Community's 2015 Plan. OEM procured JE Fuller/ Hydrology and Geomorphology, Inc. (JEF) to work with the Community and guide the Plan update process. An initial project kick-off meeting between JEF and OEM was convened December 15, 2023, to discuss and map out the planning process, pre-schedule the Planning Team meeting dates and agendas, discuss the 2015 Plan format and potential changes to the Plan outline and content to address recent FEMA guidelines, request initial data, and other administrative tasks. Four (4) Planning Team meetings and multiple other one-on-one meetings with various GRIC departments were conducted over the period of February to August 2024. Efforts included all the work required to collect, process, document updated data, and make changes to the Plan. Details regarding updated key contact information and promulgation authorities, the planning team selection, participation, and activities, and public involvement outreach are discussed in the following sections.

3.2 Previous Planning Process Assessment

The first task of preparation for the Plan update, was to evaluate the process used to develop the 2015 Plan. This was initially discussed by OEM and JEF in the December 15, 2023, kick-off meeting with the goal of establishing the framework for the planning effort ahead. The 2015 Plan process convened a multi-departmental planning team led by OEM that met three times over a 13-month period. Other OEM workgroups were also leveraged to inform the development of the 2015 Plan. It is noted that none of the current OEM staff were part of the 2015 Plan development.

The broader Planning Team was also polled at the first planning team meeting to determine if any of the attendees were part of the 2015 Plan development and could comment on the process used. Seven attendees had participated in the 2015 Plan process and generally were neutral about the process used. Otherwise, most of the Planning Team members were new to the hazard mitigation planning process altogether, so there was very little institutional knowledge of the prior process. The group concluded that the process proposed would be acceptable.

3.3 Planning Team

3.3.1 General

A multi-agency Planning Team (PT) was organized for the Plan update process. The PT was organized and led by a Primary Point of Contact (PPOC) whose responsibility was to oversee the Plan update process, organize the PT, organize and facilitate the PT meetings and follow-up communications, and arrange/manage the official Plan promulgation process. The Director of OEM and select OEM Staff jointly served as the PPOC.

The PT was represented at two levels of participation. The Agency/Department Point of Contact (A/D POC) served as a representative for their respective Community department, office, enterprise, or other agency and is generally held by the director or lead person for the represented group. The A/D POC's responsibilities included:

- Ensuring that their agency/department was represented at each PT meeting
- Conveying information to and from the PT to the agency/department staff
- Ensuring the timely completion of assignments

The second level of PT is comprised of the individual staff for each Community department, office, enterprise, or other agency that served to support the A/D POC in:

- Providing support and data
- Assisting the PT representative in completing each assignment
- Making planning decisions regarding plan update components
- Reviewing the Plan draft documents

The role of the PT was to work with the planning consultant to perform the coordination, research, and plan material development activities required to fully update the 2015 Plan. Attendance by each Community department, office, enterprise, or agency was required for every PT meeting as the meetings were structured to progress through the plan update process. Steps and procedures for updating the 2015 Plan were presented and discussed at each PT meeting, and worksheet assignments were normally given. Each meeting built on information discussed and assignments made at the previous meeting

3.3.2 Planning Team Assembly

At the beginning of the update planning process, GRIC OEM organized and identified members for the PT by initiating contact with all the Community department directors, management leadership, and enterprise directors at a December 21, 2023, GRIC Director's meeting. A follow-up email announcing the first PT meeting was sent to the A/D POCs on January 12, 2024. Table 3 is a list of GRIC Departments and Agencies that were invited to participate in the update process.

Table 3. GRIC Departments/Agencies invited to participate in Plan update

GRIC DEPARTMENT/AGENCY	ANTICIPATED ROLES/CONTRIBUTIONS
Office of Community Manager (OCM)	• Promulgation Authority
Communications and Public Affairs (CPAO)	• Public Outreach
Cultural Resources Management Department (CRMD)	• Risk Assessment • Mitigation Strategy
Department of Community Housing (DCH)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Department of Environmental Quality (DEQ)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Department of Public Works (DPW)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Department of Transportation (GRICDOT)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Gila River Fire Department (GRFD)	• Hazard Identification • Risk Assessment • Mitigation Strategy
GRIC Utility Authority (GRICUA)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Land Use Planning and Zoning Department (LUPZ)	• Development Trends • Mitigation Strategy
Office of Emergency Management (OEM)	• Lead Agency • Hazard Identification • Risk Assessment • Mitigation Strategy
Pima Maricopa Irrigation Project (PMIP)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Gila River Police Department (GRPD)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Tribal Projects Development (TPD)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Gaming Entity (GAMING) Community Services Director (CSD) Emergency Medical Services (EMS)	• Invited Planning Team Participation

3.3.3 Planning Team Activities

The PT met in person for the first time on February 1, 2024, to begin the plan update process. Three more in person PT meetings were convened on February 29, March 11, and July 11, 2024. There were also multiple one-on-one meetings convened between the various departments/agencies and JEF, both in-person and via video conferencing, to provide additional guidance for completing worksheets and assignments.

At the first meeting, each PT member was directed to a digital copy of the 2015 Plan and was requested to have it available for review and reference at every meeting. A full agenda for all the planning team meetings was provided and reviewed so all participants could prepare in advance of each meeting. Following each PT meeting, the A/D POC coordinated with their staff to work through the assigned worksheets as needed.

Table 4 lists PT meeting participants and the dates of their participation. Names with an asterisk (*) are returning individuals from the 2015 Plan team.

Table 5 summarizes the PT meetings convened, along with a brief list of the agenda items discussed. Detailed meeting notes for the PT meetings are provided in Appendix B. There are no detail notes for the supplemental/follow-up meetings.

3.3.4 Outside Agency/Organization Participation

The planning process used to develop the 2015 Plan included participation from agencies and subject matter experts outside of the Community including the Arizona Department of Emergency & Military Affairs and the Arizona State Climatologist.

For this update, the PT brainstormed a list of known and/or potential agency stakeholders, neighboring communities, and other subject matter experts not already involved in the PT, that have some role or intersect with hazard mitigation planning in the Community. Invitations were sent to the identified list via emails. Copies of the emails are provided in Appendix C. Outreach to potentially interested non-profits and businesses not owned or operated by the Community were accomplished through the public outreach efforts discussed in Section 3.4. Table 6 represents the list of outside entities that were either directly invited or that responded to the public invitations. Those that attended the PT meetings are listed in Table 4.

3.4 Public Involvement

3.4.1 Previous Plan Assessment

The public involvement strategy for the 2015 Plan development included attendance by OEM staff at regularly scheduled District meetings for each of the seven GRIC Districts. The District meeting presentations included a general overview of the planning process and time for questions/feedback from those in attendance.

Table 4. Planning Team meeting attendees

Name	Agency/Jurisdiction/Organization	Department/Division/Branch	Title	Mtg No. 1 02/01/24	Mtg No. 2 02/29/24	Mtg No. 3 04/11/24	Mtg No. 4 07/11/24
Duane Adams	Gila River Indian Community	Department of Transportation	Acting Construction Manager			x	x
Charles Anderson *	Gila River Gaming Enterprise	Fire/Safety	Fire System/Safety	x	x	x	
Hector Andrade	Gila River Indian Community	Office of Emergency Management	Emergency Management Planner		x	x	
DeWayne Badonie	Gila River Indian Community	Department of Transportation	Director				x
Billy Bragg	Gila River Indian Community	Office of Emergency Management	Planner	x			x
Joanne Brewer	Gila River Indian Community	Community Services Department	Deputy Director		x		x
George Burger	City of Maricopa	Emergency Management	Emergency Manager		x	x	x
Devona Chavez	Gila River Telecommunications, Inc.	Engineering	Engineering Supervisor				x
Katherine Clark	AZ Dept of Emergency and Military Affairs	Mitigation	Mitigation Specialist			x	
Derwin Cooper	Gila River Indian Community	Department of Community Health			x	x	x
Kimberly Cooper	Gila River Indian Community	Land Use Planning and Zoning	Director	x		x	
Jesse Crabtree	Gila River Indian Community	Police Department	Chief	x	x		x
Joseph Cruz	Maricopa County	Department of Emergency Management - OPS	Emergency Management Coordinator		x		x
Demi Cubbage	Maricopa County	Department of Emergency Management - OPS	Emergency Management Intern		x		
Donna Eaton	Maricopa County	Department of Transportation	Operation and Maintenance Supervisor		x		
David Egliskis	Arizona Department of Transportation	TSMO / Emergency Management	Emergency Manager				x
Mary Evans	JE Fuller	Silver City, NM Office	Project Engineer	x			
Seaver Fields *	Gila River Indian Community	Land Use Planning and Zoning	Project Coordinator		x		

Name	Agency/Jurisdiction/Organization	Department/Division/Branch	Title	Mtg No. 1 02/01/24	Mtg No. 2 02/29/24	Mtg No. 3 04/11/24	Mtg No. 4 07/11/24
Kyle Flores	Gila River Indian Community	Building Safety Division/TPD	Building Inspector	x			
Kendall Foster	Gila River Indian Community	Wild Horse Pass Development Authority	AGM Business		x		
Kathy Garcia	Gila River Indian Community	Fire	Chief	x		x	x
Kim Gathers	City of Phoenix	Fire Dept - Office of Emergency Management	Emergency Management Coordinator		x	x	x
Lisa Gover	Gila River Indian Community	Department of Environmental Quality	Director			x	
Jesus Haro	Gila River Indian Community	Department of Public Works	Former Director	x	x		
Bruce Harvey	Gila River Indian Community	Office of Emergency Management	Emergency Management Director	x	x	x	x
Enez Jackson	Gila River Telecommunications, Inc.	Engineering	Asst Engineer & Construction Manager				x
Megan Jackson	Gila River Indian Community	Department of Transportation	Office Manager				x
Roberto Jackson *	Gila River Indian Community	Communication and Public Affairs Office	Director		x		x
Steve Johnson *	Gila River Indian Community	Department of Transportation	Acting Director	x	x		
Suzanne Jones	Gila River Indian Community	Office of the Community Manager	Community Manager	x	x		x
Ervin Juan	Gila River Indian Community	Office of Emergency Management	Emergency Management Planner	x		x	
Joe LaFortune	Town of Queen Creek	Fire and Medical / Emergency Management	Program Manager / Emergency Manager		x		
Leonard Ludi	Gila River Indian Community	Department of Public Works	Director				x
Miyana Manus	Gila River Indian Community	Communication and Public Affairs Office	Marketing Specialist	x			
Andrew McBride	Gila River Indian Community Utility Authority	Engineering	Director of Engineering	x			
Chris Miller	Gila River Indian Community Utility Authority	Operations	Director of Operations	x		x	x
Rudy Mix *	Department of Environmental Quality	Department of Environmental Quality	Program Manager	x	x	x	x
Scott Ogden	JE Fuller	Tempe, AZ Office	Project Manager	x	x	x	x

Name	Agency/Jurisdiction/Organization	Department/Division/Branch	Title	Mtg No. 1 02/01/24	Mtg No. 2 02/29/24	Mtg No. 3 04/11/24	Mtg No. 4 07/11/24
Ethan Paul	AZ Dept of Emergency and Military Affairs	Planning Branch	Mitigation Planner		x	x	
Patrick Peterson	Gila River Indian Community	Emergency Medical Services	Division Chief	x			x
Joshua Plumb	Pinal County	Flood Control District	Assistant County Engineer		x	x	
Michael Preston	Gila River Indian Community	Office of the Community Manager	Assistant Community Manager	x	x		x
Shannon Redbird	Gila River Indian Community	Communication and Public Affairs Office	Community Relations Specialist			x	
Kore Redden	Pinal County	Emergency Management / Public Health	EM / Deputy Director		x		x
Elizabeth Rockwell	Flood Control District of Maricopa County	Engineering Dept - Special Projects Branch	Branch Manager		x	x	x
Teresa Rodrigues *	Gila River Indian Community	Cultural Resources Management Program	Project Manager		x		
Adam Sainz	Gila River Indian Community	Office of Emergency Management	Emergency Management Coordinator	x			x
Julie Smith	Gila River Indian Community	Fire	Deputy Chief	x			x
M. Talamantez	Gila River Indian Community	Wild Horse Pass Development Authority	Facilities Operations Manager		x		
Laurie Thomas	Gila River Indian Community	Community Services Department	Director	x		x	x
Kyle Woodson *	Gila River Indian Community	Cultural Resources Management Program	Director		x	x	x

Table 5. Summary of PT meeting dates and agendas

Meeting Type, Date, and Location	Meeting Agenda
Pre-Planning Kick-Off Meeting December 15, 2023 GRIC – OEM Emergency Operations Center 1676 S. Nelson Dr, Chandler, AZ 85226	• Introductions • Discuss the consultant related contracting/invoicing/NTP • Review and discuss general roles/responsibilities of OEM and JEF • Discuss Planning Team composition, meetings, and format including review of 2015 Plan • Review plan format and outline • Discuss and resolve OEM questions

PT Meeting No. 1
 	
February 1, 2024
 	
GRIC – OEM Emergency Operations Center 1676 S. Nelson Dr, Chandler, AZ 85226
	• **INITIAL INTRODUCTIONS**
	• **DMA2K OVERVIEW AND UPDATE REQUIREMENTS**
	  ○ General DMA2K Overview
	  ○ Update Requirements
	• **DISCUSSION OF SCOPE AND SCHEDULE**
	• **PLANNING PROCESS**
	  ○ Discussion of Last Planning Process
	  ○ Planning Team Roles and Responsibilities
	
	***** 15-Minute Break *****
	
	• **PUBLIC INVOLVEMENT**
	  ○ Discuss Past Strategy
	  ○ Formulate New Strategy
	  ○ Additional Agency / Organization Invitations
	• **RISK ASSESSMENT**
	  ○ Hazard List Identification
	  ○ Existing Plans, Studies, Reports and Technical Information

PT Meeting No. 2
 	
February 29, 2024
 	
GRIC – OEM Emergency Operations Center 1676 S. Nelson Dr, Chandler, AZ 85226
	• **INTRODUCTIONS / ROLL CALL**
	• **ACTION ITEM REVIEW**
	• **PLAN MAINTENANCE STRATEGY**
	  ○ Review/Discuss Maintenance and Monitoring Over Last Plan Cycle
	  ○ Develop New Monitoring Schedule
	  ○ Develop Plan Update Schedule
	• **RISK ASSESSMENT**
	  ○ Critical Facility Review/Update (worksheet)
	  ○ Discuss and Profile Development Trends (worksheet)
	  ▪ Past Plan Cycle
	  ▪ Future Development

Meeting Type, Date, and Location	Meeting Agenda

PT Meeting No. 3
 	
April 11, 2024
 	
GRIC – OEM Emergency Operations Center 1676 S. Nelson Dr, Chandler, AZ 85226
	• **INTRODUCTIONS / ROLL CALL**
	• **ACTION ITEM REVIEW**
	• **MITIGATION STRATEGY**
	  ○ Existing Mitigation Action/Project Assessment (worksheet)
	  ○ Capability Assessment (worksheet)
	  ▪ Legal and Regulatory (Codes / Ordinances)
	  ▪ Administrative and Technical Staff Resources
	  ▪ Fiscal Capabilities
	  ○ Plans / Manuals / Guidelines / Studies Integration and Incorporation (worksheet)
	  ▪ Past Plan Cycle
	  ▪ Future Strategy

PT Meeting No. 4
 	
July 11, 2024
 	
GRIC – OEM Emergency Operations Center 1676 S. Nelson Dr, Chandler, AZ 85226
	• **RISK ASSESSMENT**
	  ○ Review Hazard Profile Maps and Historic Event Data
	  ○ Vulnerability Analysis Results Review
	• **MITIGATION STRATEGY**
	  ○ Develop/Update Goals
	  ○ Action/Project Identification (worksheet)
	  ○ Implementation Strategy (worksheet)
	• **PLAN MAINTENANCE STRATEGY**
	  ○ Continued Public Involvement (worksheet)
	• **PROMULGATION PROCESS**

Table 6. List of outside organizations/agencies invited to participate in the planning process

Organization/Agency	Name / Position
Arizona Department of Emergency and Military Affairs (AZDEMA)	Ethan Paul - Hazard Mitigation Planner
Arizona Department of Transportation	David Egliskis - TSMO Energency Manager
Arizona Department of Transportation	James Gomes - Southern Regional Traffic Engineer
Arizona Department of Transportation	James Williams - Central District TSMO
Arizona Department of Transportation	David Blue - Traffic Operations
Arizona Department of Water Resources	Brian Cosson - State NFIP Coordinator
Arizona Geological Survey	Ann Youberg - Research Geologist
Arizona Power Service (APS)	Joseph Freed - Emergency Manager
ASU State Climatologist Office	Erinanne Saffel - State Climatologist
Bureau of Indian Affairs - Pima and Salt River Agencies	Koreena Manthei - Fire Management Officer - Chief 57
Bureau of Indian Affairs - Pima and Salt River Agencies	Rachael Larson - Superintendent
Bureau of Indian Affairs - Western Region Office	Roland Becenti - Regional Roads Engineer
City of Chandler	Blas Minor - Emergency Manager
City of Maricopa	George Burger - Emergency Manager

Organization/Agency	Name / Position
City of Phoenix Office of Emergency Management	Brian Lee - Emergency Manager
Flood Control District Maricopa County	Elizabeth Rockwell - Special Projects Branch Manager
Maricopa County Department of Transportation	Kellee Salas - Strategic Comm & Outreach - Intergovernmental Liaison
Maricopa County Emergency Management	Rich Peel - Emergency Management Planner
National Weather Service	Tom Frieders - Meteorologist
National Weather Service - Phoenix Forecast Office	Jaret Rogers - Warning Coordination Meteorologist
Pinal County Emergency Management	Kore Redden - Emergency Manager
Pinal County Emergency Management	Courtney Prock - Emergency Manager
Pinal County Flood Control District	Joshua Plumb - Flood Control District Engineer
Salt River Project (SRP)	John Padilla – Emergency Manager
Town of Gilbert	Craig Cottrell - Emergency Manager
Town of Queen Creek	Joe LaFortune - Emergency Manager
U.S. Army Corps of Engineers, LA District, AZ/NV Office	Kim Gavigan - Chief Engineer

The post-draft public involvement strategy included posting a draft of the finalized 2015 Plan on the Gila River Indian Community internet and intranet websites, and the normal public notices and meeting process for the 2015 Plan adoption by the Community Council.

The PT and OEM staff discussed these strategies and opted to pursue a different route with the pre-draft public involvement strategy, Inefficiencies with trying to use the District meeting format proved to be ineffective and not generally worth the effort. The new strategy is summarized below. The second phase of the public involvement strategy will be retained for this 2024 Plan update.

3.4.2 Plan Update

The opportunity for public involvement and input to the plan update process was accommodated through the preparation and publishing of a questionnaire and other regular social media and websites used by the Community. The questionnaire included twelve questions and was hosted on a digital platform with links provided on the OEM webpage. Hard copies of the questionnaire were also made available at each of the District community centers where meetings and events are generally held. Additional notifications were also posted using social media platforms and via a standing webpage on OEMs official website. A total of four responses were received from the online questionnaire, all from anonymous sources. Concerns for extreme heat, flooding, severe wind, and wildfire were all expressed with varying levels of impact reported. Suggestions from respondents included increasing public education and improving infrastructure. No other comments were received from the public outreach.

A second wave of post-draft public notices were disseminated via the social media and website outlets used in the pre-draft outreach, to inform the Community of the

availability of the draft plan. The final public process of the Plan adoption by the Community Council also provided and opportunity for comment.

Copies of the public outreach materials (notices, web page snips, newspaper notices, survey/questionnaire, etc.) are provided in Appendix C.

3.4.3 Tribal Definition of "Public"

Pursuant to 44 CFR §201.7(c)(1)(i), the Community must include "*...a description of how the Indian tribal government defined ''public;''*". The PT reviewed the definition provided in the 2015 Plan and compare it to what other tribes had developed for their plans. The PT discussed incorporating "enterprises and employees of the community" language while keeping the language indicating that "on/off reservation tribal members" be included in the definition of public. After further discussions, the PT agreed that GRIC-owned enterprises will be treated as stakeholders. All other non-tribal enterprises and businesses will be treated as public entities. Accordingly, the following will be the 2024 Plan definition of "public":

"All enrolled Gila River Indian Community members living on and off the reservation, employees, and non-tribal enterprises."

3.5 Reference Documents and Technical Resources

Over the course of the update planning process, numerous other plans, studies, reports, and technical information were obtained and reviewed for incorporation or reference purposes. Most sources referenced and researched pertain to the risk assessment and the capabilities assessment. To a lesser extent, the community descriptions and mitigation strategy also included some document or technical information research. Table 3-5 provides a reference listing of the primary documents and technical resources reviewed and used in the Plan. Detailed bibliographic references for the risk assessment are provided at the end of each hazard risk profile in Section 5.3. Other bibliographic references are provided as footnotes throughout the Plan.

Table 7. List of resource documents and references reviewed and incorporated in the Plan update process

Referenced Document or Technical Source	Resource Type	Description of Reference and Its Use
Gila River Indian Community Hazard Mitigation Plan (2015)	HMP	The latest HMP for the Community that is the basis for the current update.
Arizona Department of Water Resources	Hazard Data	Source for dam failure, drought, levee and subsidence data
American Society of Civil Engineers	Technical Reference	Source for design wind speed data.
Arizona State University	Hazard Data Technical Reference	Source for extreme heat data. Host for the SHELDUS database.

Referenced Document or Technical Source	Resource Type	Description of Reference and Its Use
State of Arizona Hazard Mitigation Plan (2023)	Hazard Data Mitigation Data	Some of the hazard data and mitigation information published in the State Plan are used and incorporated into the Plan update.
Arizona Geological Survey	Hazard Data	Source for earthquake, fissure, landslide and subsidence data
Arizona State Land Department – Forestry Division	Hazard Data	Source for wildfire data associated with State Lands and host for the Arizona Wildfire Risk Assessment Portal (AZWRAP)
InciWeb – Incident Information System (2020)	Wildfire Data	Source wildfire incident information for historical hazard and profile information, specifically for Horseshoe 2 and Monument Fire.
Federal Emergency Management Agency	Technical and Planning Resource	Resource for HMP guidance (How-To series), floodplain and flooding related NFIP data (mapping, repetitive loss, NFIP statistics), and historic hazard incidents. Used in the risk assessment and mitigation strategy.
U.S. Global Change Research Program	Technical and Data Resource	Source for National Climate Assessment reports and documentation with discussions on climate change.
HAZUS-MH	Technical Resource	Based data sets within the program were used in the vulnerability analysis.
Maricopa Association of Governments	Technical and Data Resource	Source for current demographic and economic data for the communities and counties surrounding the reservation.
National Climatic Data Center	Technical Resource	Online resource for weather related data and historic hazard event data. Used in the risk assessment.
National Integrated Drought Information System (2024)	Technical Resource	Source for drought related projections and conditions. Used in the risk assessment.
National Weather Service	Technical Resource	Source for hazard information, data sets, and historic event records. Used in the risk assessment.
National Wildfire Coordination Group (2024)	Technical Resource	Source for historic wildfire hazard information. Used in the risk assessment.

Referenced Document or Technical Source	Resource Type	Description of Reference and Its Use
U.S. Census Bureau	Technical Data	TIGER/Line shape file for census block data was used to obtain block boundaries, population, and housing units
U.S. Geological Survey	Technical Data	Source for geological hazard data and incident data. Used in the risk assessment.
Western Regional Climate Center (2024)	Website Data	Online resource for climate data

3.6 Plan Integration into Other Planning Mechanisms

Incorporation and/or integration of the Plan into other planning mechanisms, either by content or reference, enhances the Community's ability to perform hazard mitigation by expanding the scope of the Plan's influence. It also helps the Community to capitalize on all available mechanisms at their disposal to accomplish hazard mitigation and reduce risk.

3.6.1 Past Plan Incorporation/Integration Assessment

A poll of the GRIC departments and agencies participating on the PT revealed that success of incorporating the 2015 Plan elements into other Community planning programs has varied over the past planning cycle. Ways in which the 2015 Plan has been successfully incorporated or referenced into other planning mechanisms by the various Community departments are summarized in Table 8. See Section 8 of this Plan for acronym descriptions for GRIC departments and agencies.

Table 8. Past plan incorporation and integration for reporting GRIC departments/agencies

GRIC Department/ Agency	Past Plan Incorporation/Reference to 2015 HMP
CPAO	CPAO's role in the Community and the HMP is crucial in facilitating the public outreach and connection to the HMP through incorporation and implementation of several of the public involvement related mitigation A/Ps identified in the 2015 Plan and performance of the pre and post-disaster hazard management responsibilities identified in Table R of the 2015 Plan..
CRMP	CRMP manages and protects all GRIC cultural resources and has been actively engaged with all mitigation activities to ensure that cultural resources are not lost or damaged. In the 2015 Plan cycle, CRMP actively involved in the planning and implementation with Flood Control Management Projects in Komatke, Sacaton, Bluebird Road to ensure proper management of cultural resources.
DPW	DPW has incorporated several of the 2015 Plan mitigation actions/projects into the departments capital improvements program (CIP), operations & maintenance (O&M) and inspections programs resulting in implementation of some of the identified projects.

GRIC Department/ Agency	Past Plan Incorporation/Reference to 2015 HMP
GRICDOT	GRICDOT has incorporated several of the 2015 Plan mitigation A/Ps into its CIP and O&M planning with the following outcomes: • Reconstructed the Sacaton Road Bridge over the Gila River • Rebuilt Pecos Road with a bridge replacing the low-water crossing through the wash. • Reconstructed Ruins Road and portions of Wetcamp and Orchard Road providing all weather access for emergency vehicles, school busses, and residential traffic. • Worked with CEOT to develop flood control mitigation for the San Tan Mountain Area, Hunt Hwy, and Gilbert Road. • Received funding to design the replacement for the bridges on Tashquinth Road, Old 93 (Farms Road). Olberg Road, and two bridges on Santa Cruz Road.
GRHC	GRHC performed regular EOP exercises and updates that included evaluation of flood, power outages, and other hazards as spelled out in the 2015 HMP in relation to GRHC managed facilities.
LUPZ	The Flood Control Section of LUPZ develops and maintains area drainage master studies (ADMS) for the Community. These ADMS are integrally incorporated with the HMP in flood hazard risk and mitigation strategy aspects. The Casa Blanca Area Drainage Master Study, the Komatke Area Drainage Master Study and the Sacaton Area Drainage Master Study quantified drainage characteristics of local areas. These studies are tools showing areas of flooding and recommended structural measures on how to address it. Structural elements from these studies have now been constructed and has mitigated flooding impacting those areas. Flood Control has also created a flood control guidance manual as a non-structural tool to regulate how development occurs on the reservation. This provides consistency in development requirements ensuring impacts from flooding are kept to a minimum while considering environmental reclamation. Internal studies are also in process to capture or revise flooding conditions.
OEM	The Gila River Indian Community incorporated references to the HMP into its Emergency Operations Plan (EOP) planning process and Threat Hazard Identification Risk Assessment (THIRA) development to further support hazard mitigation in an all-hazards environment. OEM regularly exercises the Community's emergency operations plan (EOP) with the 2015 Plan serving as a source of hazard and risk assessment data for flood, severe wind related power outages, and other hazard scenarios. Vulnerabilities identified from the EOP exercises may sometimes become mitigation actions/projects (A/P) for inclusion in the HMP update.

GRIC Department/ Agency	Past Plan Incorporation/Reference to 2015 HMP
P-MIP	PMIP is responsible for the construction and maintenance of all irrigation facilities within the Community and regularly incorporates the flood risk assessment and mitigation strategy elements of the HMP into planning for cross drainage and other flood control elements impacting the irrigation system, and vice-versa. Past project examples include: • **Reach BWIIA Schedule B Canal Lining and Levee Rehab-Santa Cruz Wash to SR187" -** P-MIP undertook a large canal and levee rehabilitation project along the Southside Canal. This project included, but was not limited to, construction of the new Southside Canal and associated flood control facilities. This canal had an existing levee system that protected the existing canal but was in need of being refurbished and re-engineered to take care of the significant flows off of the mountains to the north and west of the new canal. • **Various Reinforced concrete over chutes across the Pima Canal in the Mawid Subdivision. Pima Canal east bank riprap protection Project-BW-IB -** This work was generally located on the existing Pima Canal alignment starting at Hashen Kehk Road to the Gila River. Major flood control facilities were constructed for this project to protect the new Pima Canal and, in turn, enhance flood control in this Mawid Subdivision, which would otherwise have been subject to flooding. Two major flood control aspects were completed during this project: 1) drainage near the Mawid subdivision and 4-Mile Post Pump Station; and 2) Pima Canal east embankment protection along the McClellan Wash area.

For many of the reporting departments / agencies, factors challenging the effective integration of the 2015 Plan into other Community planning mechanisms were primarily related to staff turnover that resulted in a lack of continuity with, or awareness of, the 2015 Plan.

3.6.2 GRIC District Master Plans Integration/Incorporation Strategy

In recent years, GRIC has completed several building projects to upgrade and enhance infrastructure and add to the Community quality of life. The next several years will focus on the addition of housing stock to each of the Districts. To gain an understanding and look for integration into this Plan, the District Master Plan (DMP) documents were reviewed by the PT. This provided an opportunity to gain insights into potential future projects and potential mitigation projects.

The DMP for each District served as a guide to understanding land use, planned allocation of resources for the future, and how funding was to be potentially directed toward projects within that District. It is important to note that DMPs were established as a guide and projects within each plan may still require policy and budgetary requirements not addressed in the Master Plans.

These DMPs were created with some basic process guidelines common to all Districts. Through conversations with elders, youth, leaders, and Members within the Districts, each DMP was drafted to function as a guide to decision making about improvements

and investment in future capital projects for the District. Some of those general guidelines included instruction to:

- Determine whether the general area is designated for the proposed business development or the appropriate type of land use in the Master Plan.
- Examine surrounding existing development and the land use designations on the land use map.
- Consider the project in relationship to the DMP's goals, objectives, and strategies. The evaluation is focused on if the potential business project would fit within the Vision and desires expressed in the Master Plan.
- Determine if there are any physical characteristics such as soil conditions, stream profiles, floodplains, or cultural issues that might be environmental constraints that would impact the project's development, and
- Determine what infrastructure would be needed to support the proposed development and analyze the impact on existing infrastructure.

In addition to these guidelines, Members expressed a desire for an integrated network of roadways, transit, pathways and trails that connect to services, jobs, educational opportunities and recreational amenities safely and efficiently. Many of the identified or potential routes need improvements including pavement, drainage, signage and safety features.

The following subsections summarize the PT review of the DMP for each of the Districts discussed in Section 2.3, highlighting integration opportunities for the next Plan cycle:

DISTRICT 1:

Economic Activities: A key goal for District 1 was to expand economic and employment opportunities by pursuing economic growth and job creation strategies.

Housing: Provide quality housing options for Members in cohesive and safe neighborhoods. This would be provided by having in place options that suit the varying needs of members. A relevant strategy includes discouraging remote home sites that are away from existing infrastructure and are difficult to service.

Natural Resources: Preserve, maintain and enhance the natural environment and open space character of the District by protecting significant natural features and important wildlife habitats and corridors. Key strategies include identifying and protecting wildlife corridors and minimizing the risk of brush fires through fire education and wash maintenance.

Recreation: Provide a range of amenities that allow members to be active and gather by providing and maintaining a range of recreational amenities. Specific strategies include supporting the development of a trail that connects the District core area (school, Service Center, etc.) in Blackwater to a Reservation-wide trail.

Capital Improvement Plan: The DMP is intended to outline a future land use plan to encourage where future development occurs. As part of the process, Members

identified several key infrastructure projects. The following Capital Improvements Plan projects are intended only to provide potential capital projects and insights into future development.

- ***Blackwater Industrial Park***: Most of the roadways need repair and capital funding will be needed to address potential environmental issues and to refurbish or demolish abandoned buildings.
- ***Hunt Highway Commercial Area***: This Regional Commercial designated parcel is nearly 10 miles from the nearest Gila River Indian Community providing water, electricity, or telecommunications infrastructure. This makes providing this area with services economically unattractive. A needs assessment should be completed for this parcel. Also, identifying potential roadway improvements on Hunt Highway to accommodate commercial activities.
- ***Signal Peak and SR 87 Commercial***: Near an electric substation, the site lacks water and wastewater infrastructure and telecommunication facilities. The District will need to coordinate with ADOT to determine any needed improvements.
- ***North Blackwater Residential Area***: The District has attempted to acquire funding for expanding residential uses and development of the park in the North Black village and has been unsuccessful. This area was impacted by the 1983 flood and mitigation measures may need to be established to make this project more viable for Community investment**.**

DISTRICT 2:

The DMP framework presents the District's planning and development guidelines and the basis for the Community's evaluation of future development proposals and planning efforts.

Economic Activities: The District desires to create sustainable economic development by maximizing Gila River Indian Community's economic competitiveness. A strategy to accomplish this includes investing in the maintenance and development of the District's infrastructure to support and attract businesses. In addition, maximize economic opportunities of State Route (SR) 87 while minimizing impact on District 2. This can be accomplished by encouraging development of an activity center at SR87 and SR387 that would provide retail and commercial opportunities and encourage development efforts along SR 87 with Arizona Department of Transportation (ADOT) and adjacent Districts. In addition continue to support Gila River Indian Community's agricultural heritage by utilizing resources gained through the water settlement to support continued and expanded agricultural enterprises within District 2.

Housing: Provide quality housing options that suit the varying needs of Members. This includes discouraging "scattering" home sites that are distant from existing infrastructure. Also, implementing a housing maintenance program would protect the existing housing stock.

Natural Resources: Preserve, maintain and enhance the natural environment and open space character of the GRIC area as a living resource, making sure that development harmonizes with, supports, and does not degrade its natural character. A key strategy includes minimizing the risk of brush fires through fire education and riverbed/wash maintenance.

Recreation: Protect areas of historical significance for future generations by identifying and preserving historic landscapes and structures of the early inhabitants.

Capital Improvement Plan: The DMP capital projects identified as priority for District 2 are:

- ***Commercial Center Development***: The District desires to have retail and services in close proximity. Three areas have been identified that could be developed for retail. Two of these facilities are designated as "Local Commercial" that could provide stores, gas stations, shops, and services. The first local commercial site is shown at approximately SR87 and SR187. This site could be jointly developed with District 3. The second local commercial site is located at approximately SR87 and Blackwater School Rd. The third site that could incorporate shopping and services is within the "Mixed Use" area located at SR87 and SR387. Each site is located with transportation access. The Priority Projects for District 2 are for future development. The District still needs to determine what type of facilities will be built on this land.
- ***Flood Control Improvements:*** Historically, District 2 has experienced tremendous flooding events. Based on the Gila River Indian Community Reservation-Wide Drainage Study, the following key improvements should be developed to manage flood issues in District 2:
    - Implement flood improvements at and near the Sacaton Flats subdivision at Hashan Kehk and Mish Ki roads.
    - Address drainage issues that impact District 2 particularly at the intersection of Olberg Road and SR87.
    - Identify and implement solutions to repair and rehabilitate the McClellan Wash levee and drainage channel.
    - Minimize off-Reservation flooding.
- ***Olberg Road Paving Improvements:*** The paving improvements would be to Olberg Road from SR87 north to the Gila River (approximately 11,000 lineal feet) and include repair and maintenance to the historic Olberg Bridge (paving improvements, landscape and multiuse trail).

DISTRICT 3:

Economic Activities: District 3 Members recognize the opportunity that the Interstate 10 corridor brings for commercial development. Providing commercial development on the edge of the District will make it easily accessible for members; provide jobs close to home; attract shoppers from adjacent communities, but be far enough away that the traffic generated from the commercial activity will not affect the Sacaton area.

The strategy will include mixed-use commercial developments on the perimeter of the Reservation (I-10/SR187 interchange) to minimize disruption in the interior of the District.

In addition, revitalize downtown Sacaton as a vibrant and pedestrian-friendly mixed use neighborhood by revitalizing or clearing the old Community, State, Federal and utility entity office and storage yard for reuse as small local commercial or residential infill within the mixed-use neighborhood.

Housing: Historically, District 3 has been the location where Community homes have been built to temporarily house displaced Members or Members from other Districts who were waiting for their homes to be built. Temporary housing situations can sometimes last for years. Routinely cited was the need for flexibility in the housing design and floor plans, as individual family needs differ. There was also a strong desire for a return to a more traditional O'odham home and neighborhood design and less "engineered and production" design. This would be accomplished by aiding Members wanting to refurbish and reuse existing buildings and/or home sites and ensuring they incorporate environmentally sensitive design features, energy efficiency and low maintenance.

Natural Resources: The DMP preserves the corridor along the Gila River, which was once a large riparian area enjoyed by families. Past clearing of vegetation has left the riverbanks scarred and vulnerable to erosion. The DMP also preserves much of the Sacaton Mountains and its steep slopes and cultural areas so that Members can enjoy the unspoiled beauty of the mountains. The reintroduction of the native mesquite and cottonwood vegetation within the desert and along the Gila River banks is desired by Members.

Otherwise, general DMP goal for District 3 is to preserve, maintain and enhance the natural environment and open space character of the Gila River Indian Community area as a living resource. District 3 wants to ensure development supports and does not degrade its natural character.

Recreation: Water is an important cultural element, and it is the reason there is a new District park (Olberg Recharge Lake/Park) proposed south of the Gila River near Olberg Road. The GRIC has water from the Arizona Water Settlement Act that needs to be used but not wasted. A large recharge lake, when designed correctly, is an environmentally sensitive and sustainable way to address the Community's water requirements while creating a wildlife refuge, fishing amenity and picnic area for Members to enjoy. The DMP proposes a second District park (Service Center Park) in conjunction with the existing District Service Center and extending west to Sacaton Rd and north to the Gila River.

Capital Improvement Plan: The DMP capital projects identified as priority for District 3 are:

- ***Seed Farm Road Improvements:*** The Seed Farm Road improvements would be in conjunction with the development of a new interchange at Interstate 10 and Seed Farm Road. The added interchange would benefit District 3 by

providing a direct route from Interstate 10 to the Community. A roadway design study will need to be initiated to determine the specific design and costs.

- ***North Sacaton Road Improvements:*** The proposed North Sacaton Road Improvements involve the resurfacing and widening of Sacaton Road from Casa Blanca Road north to the Gila River. A design study would need to be initiated to determine the specific roadway improvement design and costs. Additionally, a park master plan would need to be undertaken to determine the feasibility, cost and programming for the park development.

DISTRICT 4:

Balancing opportunities for local economic development in conjunction with a public transit system will provide families the means to improve their lifestyle while also continuing to teach traditional values and recognize the cultural heritage of the Pima Indians. Members desire community-oriented projects focused on the Service Center with sensitive and fair distribution of the improvements to the four village zones. Members seek opportunities to enhance family values, influence decisions regarding public improvements for schools, streets, subdivisions, parks, trails, and the ability to provide a safe environment for family events. Above all, District 4 desires to protect their quiet rural lifestyle and agricultural heritage, while providing an economic future based on traditional values.

Economic Activities: District 4 seeks to diversify economically to create sustainable economic development. A key strategy includes identifying viable parcels with frontage on Interstate 10, Loop 202, SR347, SR587, SR87, and along major arterial roads including Riggs Road, Queen Creek Road, Kyrene Road and McClintock Road.

Natural Resources: The District seeks to preserve, maintain and enhance the natural environment and open space character in the area. This can be best accomplished by protecting significant natural features and important wildlife habitats and corridors.

Capital Improvement Plan: The DMP capital projects identified as priority for District 4 are:

- ***Activity Center at Interstate 10 & Riggs Road:*** A District priority is to develop an Activity Center at Interstate 10 & Riggs Road to generate employment opportunities. Prime freeway exposure and regional arterial access only require utility services to take advantage of its market potential. Alternately, the District would promote an Activity Center at SR347 & Riggs Road. SR347 provides the primary north-south circulation route for the city of Maricopa to access the greater Phoenix Metropolitan area, and traffic implications will be required with any location of a facility along SR347.

DISTRICT 5:

Economic Activities: Maximizing GRIC's economic competitiveness by creating sustainable commerce and employment. A key strategy includes investing in the maintenance and development of the Community's infrastructure to support and attract businesses. In addition, support and encourage economic activity on the Interstate 10 Corridor by supporting transportation system improvements along the Interstate 10

Corridor and encouraging placement of retail facilities and commercial amenities along Interstate 10.

Housing: Establish housing guidelines for placement and development that provide quality housing options taking into consideration home sites that are distant from existing infrastructure.

Capital Improvement Plan: The DMP capital projects identified as priority for District 5 are:

- ***Interstate 10/Casa Blanca Road/State Route 587 Interchange***: A key economic development opportunity for District 5 and the Community is the reconstruction of the I-10/Casa Blanca Road/SR587 interchange. If plans for the reconstruction of the interchange are completed, a capital program to expand basic infrastructure will need to be implemented to enhance business development. District 5 and the community will coordinate closely with the Arizona Department of Transportation (ADOT) on this project.
- ***Casa Blanca Road Business Development Area:*** Another potential business development area is located adjacent to the John Deere Testing Facility along Casa Blanca Road. Existing infrastructure will need to be extended into this area to make this opportunity feasible.

DISTRICT 6:

Economic Activities: Provide economic development for District 6 Members by investing in a healthcare-based activity center near Lone Butte Diversify. This can be accomplished by encouraging placement of healthcare facilities and amenities, like clinics or pharmacies in the District.

Coordinate development efforts along SR347 with Wild Horse Pass to maximize the economic opportunities of SR347. This would allow the District to maximize retail and commercial opportunities at the intersection of Beltline and Riggs roads.

Housing: Provide quality housing options and allow housing options that suit the needs of Members. This includes expanding Member housing developments in and around the District 6 villages of Komatke, Gila Crossing, and Lone Butte and discouraging scattered home sites that are distant from existing infrastructure and are costly to develop and maintain.

Natural Resources: Preserve, maintain and enhance the natural environment and open space character of the Community area as a living resource, making sure that development harmonizes with, supports, and does not degrade its natural character. Development shall be made to complements the District's natural resources.

Recreation: Provide a range of amenities that allow Members to recreate and celebrate with one another. This includes establishing a regional park adjacent to the Vee Quiva activity center and South Mountain.

Capital Improvement Plan: The DMP capital projects identified as priority for District 6 are:

- ***Komatke Public Service Core***: Members recognize the growth in the District and would like to see District 6 continue to expand its ability to provide services and amenities. The DMP preserves the Pecos Road corridor adjacent to 51st Avenue in Komatke as a regional public service hub. Necessary infrastructure could include water, wastewater and circulation improvements.
- ***Vee Quiva Mixed Use Activity Center:*** The area adjacent to the Vee Quiva Casino is a great location to develop an entertainment-based, mixed use activity center that could be home to retail, higher density housing, and entertainment-related activities. It brings jobs and amenities to District 6 and beyond.

DISTRICT 7:

Economic Activities: Diversify economically to create sustainable economic development and implement an effective administrative process that supports short and long-term economic development strategies, efforts and staff. This can be accomplished by investing in a retail-based activity center on Baseline Road on the east border of the District.

Housing: Provide housing options for the varying needs of Members and ensure guidelines for placement, development and use for housing options are established.

Natural Resources: Preserve, maintain and enhance the natural environment and open space character of the Community area as a living resource, making sure that development harmonizes with, supports, and does not degrade its natural character. Development shall be made to complements the District's natural resources.

Capital Improvement Plan: The DMP capital projects identified as priority for District 7 are:

- ***Housing:*** The Community has noted the desire for additional housing. The DMP recommends that continued housing expansion be concentrated with the north-central core.
- ***Baseline Mixed Use Activity Center:*** Members have shown an interest in commercial and job opportunities within the District. One of these opportunities exists on the far northeast corner of the District, on either side of Baseline Road. The development could be supported by the growing off-reservation residential construction with the adjacent Laveen area of the City of Phoenix.

3.6.2 Five Year Plan Integration/Incorporation Strategy

With the efficacy of integrating the 2015 Plan during the last cycle in view, the PT identified typical ways to use and incorporate the Plan over the next five-year planning cycle, as follows:

- Use of, or reference to, Plan elements in updates/revisions to codes, ordinances, general and/or comprehensive planning documents, and other long-term strategic plans.

- Integration of defined mitigation A/Ps into capital improvement plans and programming.
- Reference to Plan risk assessments during updates or revisions to land use planning and area drainage master studies.
- Resource for developing and/or updating emergency operations plans, community wildfire protection plans, emergency response plans, etc.
- Reference during grant application processes.

Specific opportunities for integrating and/or referencing the Plan into other planning mechanisms over the next five years are summarized by department/enterprise in Table 9 In all cases, the department or enterprises director or department lead will take responsibility to ensure that the Plan, risk assessment, goals and mitigation strategies are integrated and/or incorporated into the listed planning mechanism by participating in those efforts as they occur.

Table 9. Future 5-year plan integration/incorporation strategy for the 2024 Plan

GRIC Department/ Agency	Future 5-Year Plan Integration/Incorporation Strategy
CPAO	No planning mechanisms per se, but dedication of continued support for all Plan related public outreach and communication actions and projects.
CRMP	CRMP will continue to actively participate in the development of flood control and wildfire management projects to ensure that cultural resources are not lost or damaged.
DEQ	**Healthy Forest Initiative - Gila River Woodlands Management Plan** – The management plan outlines fuels reduction and vegetation management strategies for the Gila River throughout the Community. Identification of high-risk wildfire areas and mitigation strategies can be integrated with the Plan and vice versa.
GRICDOT	**Bridge Replacement Plan** – The Plan will incorporate the bridge replacement strategy into the mitigation strategy. Specific projects include bridge replacements on Tashquinth Road, Old 93 (Farms Road). Olberg Road, and two bridges on Santa Cruz Road. **GRICDOT Chip Seal Plan** – The Plan will incorporate as appropriate, chip seal projects from this plan into the mitigation strategy for improving all-weather access for all Community owned IRR roads.
DPW	**5-Year Capital Improvement Program** – The DPW 5-year CIP identifies and prioritizes new and upgrade projects for the Community's water and wastewater needs. Integration of the CIP and HMP help to identify grant eligible projects and avoid high risk areas for construction. **DPW O&M and Inspection Program (Annual)** – DPW practices regular O&M and inspections of CFI to ensure optimal functioning and identify needs for repair or improvements. Reference to the HMP can assist with prioritizing inspection and O&M locations and implementation of repairs or upgrades to increase resiliency and avoid hazard risk.

GRIC Department/ Agency	Future 5-Year Plan Integration/Incorporation Strategy
GRFD and GRPD	**Emergency Operations Plan or Emergency Response Plan** - An emergency operations plan guides processes and procedures for coordinated response to disasters within the Community. GRFD and GRPD will have active roles in the future EOP development and implementation during times of disaster and will use the Plan as a reference both during development and activation.
GRHC	**GRHC Emergency Operations Plan** – The GRHC Emergency Operations Plan (EOP) is used to guide GRHC's response to hazards impacting the Community, and more specifically the facilities and populations served by GRHC. The 2024 HMP will be used and available during regular exercises and annual updates of the GRHC EOP to identify areas of hazards/vulnerability. In turn, the after-action reporting from exercises for annual updates can be used to modify the hazards/vulnerabilities in the Plan at the next update.
GRICUA	**GRICUA Capital Improvement Planning Process** – GRICUA creates and or revises an annual capital plan, 5-year construction work plan, and long-term (25-year) facilities and resource plan that incorporates risk, goals, and mitigation projects as also identified in the Plan, and in concert with other GRIC planning efforts such as the Community Master Plan, Economic Develop Plan, and other Community planning and development resources.
LUPZ	**Sacaton Area Drainage Master Study** – This ADMS will be referenced and included as a part of the Plan mitigation strategy. Specific projects include construction of the Bluebird Channel and East Detention Basin in District 3. **Casa Blanca Area Drainage Master Study** – This ADMS will be referenced and included as a part of the Plan mitigation strategy. Specific projects include the design and construction of the Wildhorse Lane Drainage Channel in District 5.
OEM	**Emergency Operations Plan (OEM) -** The EOP identifies response and recovery actions in the Gila River Indian Community. The EOP is reviewed and annually/updated every five years and will include integration of risk assessment data from the Plan. The elements of the Emergency Operations Plan are directly correlated to the risks, hazards, goals, and mitigation actions of the hazard mitigation plan. **Threat and Hazard Identification and Risk Assessment (THIRA)** – The THIRA is updated annually and incorporates several elements of the Plan. **Disaster Relief Emergency Assistance Plan** - Provide guidance that hazard mitigation planning is in place in case of an emergency
P-MIP	**Irrigation Constuction Capital Planning** – P-MIP will continue to identify opportunities to design and construct drainage facilities in connection with irrigation facility improvements and align those improvements with the Plan's mitigation strategy.

3.6.3 Plan Incorporation Process

Each department/agency has processes that are followed for officially incorporating and adopting planning documents and tools, although they are generally similar. Most planning documents prepared by the various departments or agencies are developed

using an appropriate planning process that is carried out by staff with direct oversite provided by the department director and the occasional aid of consultants. New or updated plans are usually developed to a draft stage wherein they are presented to GRIC management for initial review and comment. Upon resolution and address of all comments, which may take several iterations, the plans are then presented to the GRIC Council for final approval and official adoption.

SECTION 4: RISK ASSESSMENT

> ***§201.7(c)(2):*** *[The plan shall include…] (2) A **risk assessment** that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Tribal risk assessments must provide sufficient information to enable the Indian tribal government to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:*
> *(i) A description of the type, location, and extent of all natural hazards that can affect the tribal planning area. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.*
> *(ii) A description of the Indian tribal government's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the tribe. The plan should describe vulnerability in terms of:*
> *(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;*
> *(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate;*
> *(C) A general description of land uses and development trends within the tribal planning area so that mitigation options can be considered in future land use decisions; and*
> *(D) Cultural and sacred sites that are significant, even if they cannot be valued in monetary terms.*

One of the key elements to the hazard mitigation planning process is the risk assessment. In performing a risk assessment, a community determines "what" can occur, "when" (how often) it is likely to occur, and "how bad" the effects could be[9]. According to DMA 2000, the primary components of a risk assessment that answer these questions are generally categorized into the following measures:

- ☑ Hazard Identification and Screening
- ☑ Hazard Profiling
- ☑ Assessing Vulnerability to Hazards

The risk assessment for GRIC was performed using a reservation-wide, multi-departmental perspective, with much of the information gathering and development being accomplished by the PT. The vulnerability analysis was performed in a way such that the results reflect vulnerability at both the full Community and individual District level.

4.1 Hazard Identification and Screening

Hazard identification is the process of answering the question; *"What hazards can and do occur in my community or District?"* For this update, the list of hazards identified in the 2015 Plan was reviewed by the PT, who chose to continue a focus on the same natural hazards listed in the 2015 Plan. The PT also compared the 2015 Plan list to the comprehensive hazard list summarized in the 2023 State of Arizona Plan[10] to ensure the GRIC HMP is comprehensively considering all relevant hazards.

The review included an initial screening process to evaluate each of the listed hazards based on the following considerations:

[9] National Fire Protection Association, 2000, *Standard on Disaster/Emergency Management and Business Continuity Programs*, NFPA 1600.

[10] ADEM, 2023, *State of Arizona Multi-Hazard Mitigation Plan*

- Experiential knowledge represented by the PT regarding the relative risk associated with the hazard
- Documented historic context for damages and losses associated with past events (especially events that have occurred during the last plan cycle)
- The ability/desire of the PT to develop effective mitigation for the hazard under current DMA 2000 criteria

One tool used in the initial screening process was a review and compilation of historic hazards that have impacted the Community since the 2015 Plan and those of major historic impact reported in the 2015 Plan. Hazard events included declared disaster events and significant non-declared events reported by GRIC officials and other sources such as Arizona Department of Emergency & Military Affairs (ADEMA), Federal Emergency Management Agency (FEMA), United States Department of Agriculture (USDA), and the Bureau of Indian Affairs (BIA). Non-declared sources outside of GRIC records included, National Weather Service (NWS), National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center (NCDC), United States Geological Survey (USGS), United States Forest Service (USFS), Arizona Geological Service (AZGS), and the Spatial Hazard Events and Losses Database for the United States (SHELDUS) database. Table 10 presents a list of significant hazard events compiled for this Plan. Reported statistics are relevant to events impacting the GRIC and/or where GRIC was included in the declaration, and do not include numbers or losses reported for the broader event. Detailed accounts of the more recent hazards are provided in the hazard profiles below.

Table 10. Historic hazard documented for GRIC

Date	Type of Hazard Impacting GRIC	Fatality/ Injuries	Damages	Declaration
Aug 12-Sep 8,2014	Flooding	None	< $500K	Yes (DR-4203-AZ)
October 2018	Flooding	None	$12,000	No
July 2019	Thunderstorm Wind	None	$8,000	No
July 2021	Thunderstorm Wind	None	$30,000	No
September 2022	Lighting	None	$150,000	No
October 2022	Flooding	None	None	No
September 2024	Wildfire (Fall Fire)	None	None	Yes (DR-4833-AZ)
Significant Events from the 2015 Plan				
July-Aug 2012	Flooding and High Wind	Unknown	$161K (Flooding) $567K (T-Strm Wind)	No
March 18, 2010 (Jan-Feb 2010)	Flooding and High Wind	Unknown	$567K (T-Strm Wind)	Yes (DR-1888-AZ)

Date	Type of Hazard Impacting GRIC	Fatality/ Injuries	Damages	Declaration
September 7, 2006 (Jul-Aug 2006	Severe Storms and Flooding	Unknown	Unknown	Yes (DR-1660-AZ)
Oct 27, 2000 (Oct-Nov 2000)	Severe Storms and Flooding	Unknown	$165K (Flooding) $214K (T-Strm Wind)	Yes (DR-1347-AZ)
January 19, 1993 (Jan-Mar 1993)	Severe Storms, Tornadoes, Flooding	1 death	$1.22 million	Yes (DR-977-AZ)
2008	Wildfire (Ethan Fire)	Unknown	Unknown	No

The culmination of the review and screening process by the PT resulted in a decision to retain the 2015 Plan hazards for profiling and updating. Accordingly, the 2024 Plan hazard list is:

- ***Extreme Heat***
- ***Flood***
- ***Severe Wind***
- ***Wildfire***

Definitions for each hazard are provided in Section 4.3 and in Section 7.3

4.2 Vulnerability Analysis Methodology

4.2.1 General

The following sections summarize the methodologies used to perform the vulnerability analysis portion of the risk assessment. For this update, the entire vulnerability analysis was either revised or updated to reflect the availability of new hazard and census data. Specific changes are noted below and/or in Section 5.3

For the purposes of this vulnerability analysis, updated hazard profile maps were developed for Flood and Wildfire to map the geographic variability of the probability and magnitude risk of the hazards as estimated by the PT using the best available data. Unless otherwise noted, hazard profile categories of HIGH, MEDIUM, and/or LOW were used and were subjectively assigned based on the factors discussed in Probability and Magnitude sections below. Within the context of the county limits, the other hazards do not exhibit significant geographic variability and will not be categorized as such.

Unless otherwise specified in this Plan, the general cutoff date for new historic or hazard profile data is September 2024.

4.2.2 Climate Change

In recent years, FEMA and others have taken a harder look at the impacts of climate change on natural hazards and the mitigation planning process. In March 2015, FEMA released state mitigation planning guidance that required all state hazard mitigation plans to address climate change beginning with all updates submitted after March 2016

[11]. That requirement was continued with the most recent guidance of April 2022[12]. FEMA's National Advisory Council noted that the effects of climate change could manifest as a "threat multiplier". When looking at potential exposure to hazard events, it is typical to look at the past probability of the event occurrence as a predictor of the future risk. However, climate-related trends may affect these future event probabilities and the effectiveness of mitigation measures.

While the scope and severity of these climate-related impacts are difficult to predict, scientific research has pointed to several important trends that should be considered as part of a natural hazard vulnerability and risk analysis. In 1989, the U.S. Global Change Research Program (USGCRP) was established by Presidential Initiative and later mandated by Congress in the Global Change Research Act of 1990 with the stated purpose of assisting "the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change." In November 2018, the USGCRP released the Fourth National Climate Assessment (NCA), a comprehensive compilation of the latest body of work and science on climate change. The NCA results and discussion are divided into regions to focus the discussions and conclusions from a regional perspective. The Southwest region includes the states of Arizona, California, Colorado, Nevada, New Mexico, and Utah. According to Chapter 25 of the NCA[13], the Southwest regional climate change impacts noted in the recent research include increased heat, drought, and insect outbreaks that result in more wildfires, declining water supplies, reduced agricultural yields, health impacts in cities due to heat, and flooding and erosion in coastal areas. Further detail and discussion of climate change impacts on the Plan hazards are included in each of the Plan hazard subsections.

FEMA has established that future changes in probabilities and severity of hazard events influenced by climate change should be addressed during mitigation planning. Accordingly, a brief assessment of the potential effects that current climate change understanding may have on the Plan hazards is provided where appropriate in Section 5.3.

4.2.3 Calculated Priority Risk Index (CPRI) Evaluation

The PT reviewed the CPRI evaluation provided in the 2015 Plan and chose to discontinue the use of that tool for assessing the Plan hazards due to confusion with assignment of assessment variables and tool usefulness. No CPRI evaluation is presented in the 2024 Plan.

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[11] FEMA, 2015, *State Mitigation Plan Review Guide,* released March 2015, effective March 2016, FP 302-094-2

[12] FEMA, 2022, State Mitigation Planning Policy Guide, FP 302-094-2, released April 19, 2022 and effective April 19, 2023.

[13] Gonzalez, P., G.M. Garfin, D.D. Breshears, K.M. Brooks, H.E. Brown, E.H. Elias, A. Gunasekara, N. Huntly, J.K., Maldonado, N.J. Mantua, H.G. Margolis, S. McAfee, B.R. Middleton, and B.H. Udall, 2018: Southwest. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1101–1184. doi: 10.7930/NCA4.2018.CH25. On the Web: https://nca2018.globalchange.gov/chapter/southwest

4.2.4 Asset Inventory

With this update, the 2015 Plan detailed asset inventory was unavailable for review and use with the 2024 Plan. The PT departments and agencies worked together to recreate an updated inventory of RIC facilities and infrastructure (GRIC-FI).

The PT adopted the following as a working description of assets considered for the risk assessment:

> *Any natural or human-constructed feature that has value, including, but not limited to people; buildings; infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental or recreational features like parks, wetlands, or landmarks, and GRIC cultural resources and sites.*

The asset inventory is generally divided into human and physical/structural categories. The physical/structural assets are generally tabularized into ***critical*** and ***non-critical*** categories, with critical facilities and infrastructure (CFI) being lifeline systems, structures, and infrastructure within the Community whose incapacity or destruction would:

- Have a debilitating impact on the defense or economic security of that community.
- Significantly hinder a community's ability to recover following a disaster.

Following the criteria set forth by the Critical Infrastructure Assurance Office (CIAO), the GRIC has adopted eight general categories[14] that define critical facilities and infrastructure, which are listed in Table 11.

Table 11. GRIC adopted criteria for defining critical facilities and infrastructure

Asset Type	Description
Communications Infrastructure	• Fiber optic lines • Radio, cellular, and microwave towers • Large, trunk-line cables, switch offices
Electrical Power Systems	• High voltage transmission lines • Transform substations, generation stations
Gas and Oil Facilities	• Conveyance or delivery pipelines • Major storage locations (10,000 gallons or larger) • Production facilities, refineries • Natural gas pipelines (4-inch and larger) • Fuel and oil dispensing locations owned by the state

[14] Instituted via Executive Order 13010, which was signed by President Clinton in 1996.

Asset Type	Description
Transportation Networks	• Interstates, US or state highways, major local arterial roadways • Railways, rail yards, train depots • Airports • Major bridges, culverts, and storm drains that protect transportation infrastructure
Water Supply Systems	• Water treatment plants, sewer treatment plants, water supply wells/reservoirs • Primary delivery pipelines (10-inch and larger) • Booster or pump stations • Storage tanks, water towers
Government Services	• City, county, and state administrative buildings • Facility yards • Military bases, correctional facilities • Emergency operation centers, IT support centers
Emergency Services	• Fire, police, and sheriff stations • Hospitals, trauma or urgent care centers • Evacuation centers, ambulance centers

Other assets such as public libraries, schools, museums, parks, recreational facilities, historic buildings or sites, churches, residential and/or commercial structures, apartment complexes, and so forth, are classified as non-critical facilities and infrastructure, as they are not necessarily "critical" per the definition set forth in Executive Order 13010. They are, however, still considered by the PT to be important facilities and critical and non-critical should not be construed to equate to important and non-important.

Collectively, the critical and non-critical facilities for the GRIC are referred to as GRIC Facilities and Infrastructure (GRIC-FI)For each asset, attributes such as name, description, physical address, geospatial position, and estimated replacement cost were identified to the greatest extent possible and entered to a GIS geodatabase.

It is noted that the asset inventory presented with this Plan is a work in progress with data gaps that can be augmented with future updates. A total of 4,957 critical and non-critical structures and facilities were identified by the PT and are summarized by category facility counts and GRIC Districts in Table 12.

Table 12. Updated critical and non-critical facility counts by category and GRIC District

GRIC District	Critical Facilities and Infrastructure								Non-Critical Facilities and Infrastructure						
	Communications Infrastructure	Electrical Power Systems	Gas and Oil Facilities	Banking and Finance Institutions	Transportation Networks	Water Supply Systems	Government Services	Emergency Services	Educational	Cultural	Business	Residential	Recreational	Unclassified Utilities	Unclassified Other
District 1	0	1	0	0	0	9	8	3	0	5	6	460	1	6	1
District 2	0	0	0	0	0	4	1	0	0	8	0	213	1	1	0
District 3	0	2	0	0	0	7	67	22	0	13	14	801	4	2	3
District 4	0	5	0	0	0	20	15	5	0	25	162	950	1	35	0
District 5	0	1	0	0	0	11	25	2	29	8	22	865	1	15	0
District 6	0	1	0	0	0	18	13	11	1	9	19	769	1	5	0
District 7	0	0	0	0	0	2	5	1	0	4	0	237	0	1	0
GRIC Totals	**0**	**10**	**0**	**0**	**0**	**71**	**134**	**44**	**30**	**72**	**223**	**4295**	**9**	**65**	**4**

Replacement values for the asset inventory facilities were either assigned directly by the contributing GRIC department/agency or estimated using the facility's building size and an assumed unit replacement cost of $300 per square foot for the structure and contents.

For this 2024 Plan, the human assets are estimated using statistics recently published by the U.S. Census Bureau from the 2020 Census at a block level. Population statistics evaluated include total population, population under 18, and population over 65. Table xx presents the baseline statistics by category and District.

Table 13. Baseline population statistics from 2020 Census data

District	Populations per 2020 Census		
	Total	Under 18	Over 65
1	1,279	402	123
2	619	205	58
3	3,350	1,093	274
4	2,775	962	230
5	2,433	843	185
6	2,956	1,059	208
7	633	209	40
GRIC Totals	14,045	4,773	1,118

4.2.5 Loss/Exposure Estimations

In the 2015 Plan, human and economic loss and exposure were generally discussed and assessed.

For this 2024 Plan, facility and human exposure estimates for each of the final hazards identified in Section 4.1 includes an assessment of the potential exposure of physical assets and human populations to those hazards. For Flood and Wildfire, human and asset exposure estimates are accomplished by intersecting the Census and asset inventory with the hazard profiles in Section 4.3 and compiling the exposed human facility count and replacement values by District. Structure and content replacement costs for assets were assigned to each facility by the PT. Content value for buildings were assumed to equal 50% of the replacement cost. Combining the exposure results from the asset inventory and census database provides a comprehensive depiction of the overall exposure of human, critical and non-critical datasets.

The estimation of potential losses is expressed in terms of population exposure and asset inventory dollar losses due to projected damage. For Flood and Wildfire, a quantitative approach leveraging GIS tools was used. The assessment for each hazard is typically based on a commonly accepted event type, such as a 100-year flood or a National Weather Service severe thunderstorm. The vulnerability assessment builds upon the hazard profile information by intersecting the PT identified assets and population estimate polygons with the hazard profile data polygons to generate a list of exposed assets. Exposure to loss ratios are then applied to estimate the potential amount of damage/loss that could be caused by each hazard.

The Extreme Heat and Severe Wind hazards profiled in this Plan will not include quantitative exposure and loss estimates. The vulnerability of people and assets associated with these hazards are nearly impossible to evaluate given the uncertainty associated with attempting to specify a geospatial correlation of the hazard event and loss potential without sufficient data to justify the estimation of geographically varied damages. Instead, a qualitative review of vulnerability will be discussed to provide insight to the nature of losses that are associated with the hazard. For subsequent updates of this Plan, the data needed to evaluate these unpredictable hazards may become refined such that comprehensive vulnerability statements and thorough loss estimates can be made.

It is important to note the following when reviewing the exposure and loss estimate results:

- Potential exposures reported in this Plan represent an inherent assumption that the hazard occurs Community-wide to the magnitude shown on the hazard profile map. The results are intended to present a Community-wide value and number of exposures. Any single hazard event will likely only impact a portion of the Community and the event specific exposure and losses would be some fraction of those presented herein.
- No attempt has been made at developing annualized loss estimates, unless otherwise noted in Section 5.3.

4.2.6 Development Trend Analysis

The 2015 Plan did not include a specific development trend analysis. For this 2024 Plan, each hazard will be evaluated to development trends noted by the PT over the time since the 2015 Plan preparation. The updated analysis will focus on the potential risk associated with projected growth patterns and their intersection with the 2024 Plan identified hazards.

4.3 Hazard Risk Profiles

The hazard profile section of the 2015 Plan was thoroughly reviewed and updated by the PT. Each of the Plan hazards in Section 4.1 are addressed using the following outline:

- **Description** - A general description of the hazard characteristics.
- **History** - Information about previous significant hazard and occurrences.
- **Probability -** A description and classification of the hazard probability based on historic records and/or statistical analysis of past events.
- **Extent** - Extent is the expected range of intensity for each hazard. It answers, "How bad can it get?". Implementation of extent is accomplished through GIS depictions that overlay geospatial range with intensity.
- **Warning Time -** How much notice is there before an event.
- **Vulnerability Assessment** -. The vulnerability assessment, loss estimations, and loss-to-exposure ratios are discussed and summarized. Each section discusses the following points:
  - ***Facilities and Infrastructure Exposure and Loss Estimates***
  - ***Vulnerable Population Groups*** – A discussion of the exposure and impacts of the hazard in relation to the following population groups: Over 65 years of age, Under 18 years of age, and Total population.
  - ***Climate Change Considerations –*** A discussion of the potential for climate change impacts for the hazard being profiled.
  - ***Development Trend Assessment*** - A brief qualitative assessment of development trends as they pertain to the hazard being assessed.
- **Profile Maps** – Community-wide hazard profile maps to illustrate the historic probability and extent posed by the hazard. These are provided at the end of the section (if applicable). Also, the maps are not included in the pagination count.
- **References** - Provides resources used via a bibliography of literature, website, agency, and other published data sources used to develop the hazard

4.3.1 EXTREME HEAT

Description

Extreme Heat events are extended periods of time with unusually hot weather conditions that potentially can harm human health. The worst extreme heat events span several days or weeks, with one or more near-record or record-breaking temperatures. The significant human risks associated with extreme heat are:

- Heat Cramps – May occur in people unaccustomed to exercising in the heat and generally ceases to be a problem after acclimatization.
- Heat Syncope – This refers to the sudden loss of consciousness and is typically associated with people exercising who are not acclimated to warm temperatures. It usually causes little or no harm to the individual.
- Heat Exhaustion – While much less serious than heatstroke, heat exhaustion victims may complain of dizziness, weakness, or fatigue. Body temperatures may be normal or slightly/moderately elevated. The prognosis is usually good with fluid treatment and removal from heat.
- Heatstroke – Heatstroke is considered a medical emergency and can be fatal. It occurs when the body's responses to heat stress are insufficient to prevent a substantial rise in the body's core temperature. While no standard diagnosis exists, a medical heatstroke condition is usually diagnosed when the body's temperature exceeds 105°F due to environmental temperatures. Rapid cooling is necessary to prevent death, with an average fatality rate of 15% even with treatment.

In addition to affecting people, extreme heat places significant stress on plants and animals, leading to reduced agricultural yields and increased mortality rates.

History

Extreme high temperatures occur in the Community on a regular basis, but the highest threat typically occurs during the summer months of June through August, when monsoon moisture combines with hot summer temperatures to significantly raise the heat index. Although there have been no federal declarations for extreme heat events, the State of Arizona did declare a state of emergency during the summer of 2023 (see below). There has also been a political push by southwestern states to see extreme heat events be added to the list of major disaster-qualifying events. For the GRIC, extreme heat is a high-risk hazard. Below are some notable events that were either record-breaking or have occurred over the last five years:

- July-October, 2024 – Temperatures within the Phoenix Metro area have broken numerous records from the most days above high temps to all-time record high temperatures. According to the Phoenix NWS office, the average temperature for September easily broke records (Phoenix NWS, 2024).
- July 2023 – Temperatures in Phoenix Metro area exceeded 110 degrees for the entire 31 day month, setting new temperature records Temperatures remained above 115 degrees for 17 days, setting another record. Other records may yet be broken as the summer season draws to a close. The Arizona Governor declared a Heat State of Emergency on August 11, 2023 (ABC News, 2023; AZ Governor's Office, 2023).
- June 15-20, 2021 –High temperatures climbed at or above 115 degrees each day (6 days) between the 15th-20th, breaking Phoenix's record for consecutive days of 115+ degree temperatures. Temperatures in Phoenix peaked on the 17th at 118 degrees, breaking the record for the date and becoming the hottest temperature for the whole year. According to the Maricopa County Department of Public Health, sixty heat-associated fatalities occurred because of this heat wave (NCEI, 2023).
- July 10-19, 2020 – A very strong area of high pressure strengthened over the southwest United States, leading to excessive heat conditions across the region. Temperatures in Phoenix exceeded 110 degrees daily, with afternoon highs reaching or exceeding 115 degrees on the 11th and the 12th. Record highs were set nearly every day in Phoenix during this time with records broken on the 13th, 14th, 16th, 17th, 18th, and 19th. According to the Maricopa County Department of Public Health, 75 heat-associated fatalities occurred during this event (NCEI, 2023).

Probability/Extent

Given the history of past extreme heat events (EHEs), the probability of EHEs occurring within the Community during any given year is a near certainty. The extreme heat hazard has the potential to be severe due to the number of individuals affected by the hazard, the health impacts that can lead to death, and the increasing number of days of extreme heat each year. The National Weather Service (NWS) HeatRisk Protype Index[15] indicates the degree of danger associated with extreme heat. According to the NWS, the HeatRisk index is a color-numeric-based index that provides forecast risk of heat-related impacts to occur over a 24-hour period. HeatRisk considers several factors, including (1) how unusual the heat is for the time of the year, (2) the duration of the heat, including both daytime and nighttime temperatures, and (3) if those temperatures pose an elevated risk of heat-related impacts based on data from the CDC. Figure 4 shows the HeatRisk index with category descriptions.

[15] https://www.wpc.ncep.noaa.gov/heatrisk/

Category	Risk of Heat-Related Impacts
Green 0	Little to no risk from expected heat.
Yellow 1	Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
Orange 2	Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
Red 3	Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure.
Magenta 4	Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure.

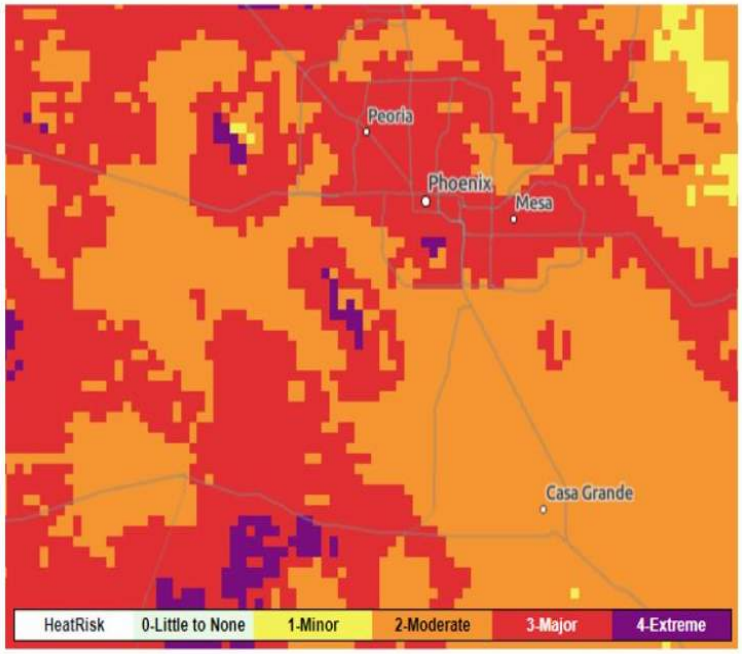

Figure 4. NWS HeatRisk index map with category descriptions

Extreme heat-related deaths and illnesses are so prevalent in Arizona because of the consistent and increasing number of days with both high minimum and maximum temperatures. Research from the Centers for Disease Control and Prevention (CDC) and academic institutions shows that heat-associated deaths in Arizona can occur with temperatures in the mid-80s and hotter, with heat-related illnesses beginning to occur at even lower temperatures (Petitti et al. 2016; Vaidyanathan et al. 2019). Research also shows that normally healthy body has a greater ability to tolerate heat as the summer wears on. For example, a May temperature of 105°F will seem hot and lead to elevated cases of illness and death, whereas the same temperature in June or July will not seem as hot and may not have the same public health consequences because our bodies have acclimated to the heat. Hence, local forecasters do not use one single, constant temperature to determine when an alert will be issued. Instead, the NWS HeatRisk product (https://www.wrh.noaa.gov/wrh/heatrisk/) is leveraged to identify unusually hot days for a given time of year (see Figure 5). It is noted that other metrics are available and may be commonly used by the public or in specific sectors (e.g. heat index, wet bulb globe temperature, etc.) though they are not used in the Phoenix NWS alerting process.

Exhibit 1 is a map of the GRIC showing the 2023 maximum temperature departure from the 30-year normal maximum temperature. The intent is to present a snapshot in time to illustrate the temperature increases that precipitated the gubernatorial declaration.

Warning Time

Warning time for EHEs is usually communicated by the NWS at least 1-2 days in advance and sometimes as early as a week ahead of time. In a broader, seasonal sense, GRIC residents and members generally understand that temperatures can exceed 100°F as early as April and will continue hot through September and even October.

During the hottest months, the Phoenix NWS issues three types of heat-related messages, which are described below:

- **Heat Advisory –** Issued when the temperature is forecast to be unusually hot but not life-threatening.
- **Excessive Heat Watch –** Issued when there is moderate (50%) confidence that the "Major" or "Extreme" category HeatRisk may occur. Typically issued 2-7 days in advance and preceding a warning.
- **Excessive Heat Warning –** Issued when there is high confidence (80%) that the "Major" or "Extreme" category HeatRisk will occur. Typically issued at least one day in advance and continuing through the end of the event until HeatRisk drops below the Major category. Major to Extreme HeatRisk is a level of rare and/or long-duration extreme heat with little to no overnight relief that affects anyone without effective cooling and/or adequate hydration. Impacts are likely in most health systems, heat-sensitive industries, and infrastructure.

Alerts are issued by "forecast zones," which are geographical areas covered by a NWS office. For the GRIC, announcements for AZZ553 cover the GRIC[16]. Thresholds used by the Phoenix NWS for issuing their warnings are shown in Figure 5 Additional information is available from the NWS at https://www.weather.gov/psr/HeatSafety.

Vulnerability Assessment

Facilities and Infrastructure Exposure and Loss Estimates - All the GRIC facilities and infrastructure (GRIC-FI) are exposed to EHEs. Losses attributable to EHEs primarily occur in the form of human death and illness. Otherwise, impacts to GRIC-FI are more long-term, with increased maintenance to fix and repair heat-related damages to HVAC systems, roofs, and other heat-susceptible materials. No damages are estimated for the GRIC-FI in this Plan.

Vulnerable Population Groups - All of the GRIC population are exposed to EHEs. Extreme heat occurs as a chronic, rather than episodic, hazard, with dangerously high temperatures persisting throughout the warm season (Harlan et al. 2014). Continual high nighttime lows do not allow the body to recover from the daytime heat if no access to cooling is available. The worst impacts of EHEs will likely be felt where large numbers of vulnerable people reside, urban heat island effects exist, and air quality is likely to be poor (Revi et al. 2014). Chuang, et.al. (2015) note that human vulnerability to heat involves more than physical exposure to extreme heat events. It also involves individual and population sensitivity to EHEs and adaptive capacity. Sensitivity

[16] A map of all zones covered by Phoenix NWS is available at https://www.weather.gov/psr/Phoenix_CWA_Zones

depends on the underlying characteristics of a population, such as age, ethnicity, and health levels.

Adaptive capacity reflects the capability of a system, population, or individual to cope with changes. The homeless are particularly vulnerable to EHEs during the summer months when the increased humidity and urban heat island effects keep nighttime temperatures above 90°F for prolonged periods. The cumulative effects over several days of continuous 24-hour exposure to this heat, without relief, put these individuals at serious risk of heat stress or worse. Others at significant risk are the populations who do not have air conditioning or evaporative coolers, and lack nighttime relief from the heat, elevating their risk of heat stress or other complications.

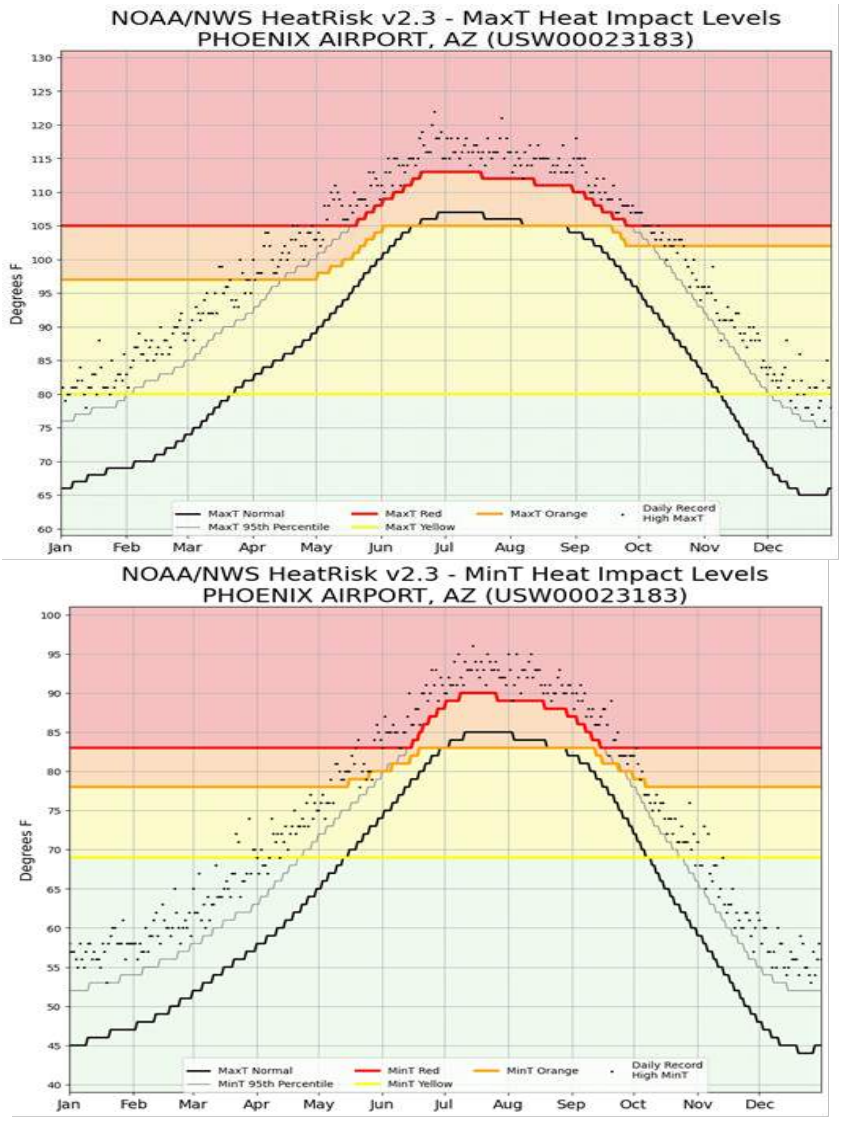

Figure 5. HeatRisk minimum and maximum levels for the Phoenix NWS

According to the Center for Disease Control, extreme heat events are one of the leading causes of weather-related deaths in the United States. Arizona has the largest number

of heat-related deaths in the nation (Brown et al., 2013). Specific data for the GRIC are not available, but according to statistics published by Maricopa County Public Health Department, there have been a total of 2,667 reported Maricopa County heat related deaths for the period of 2013 to 2023 (see Figure 6).

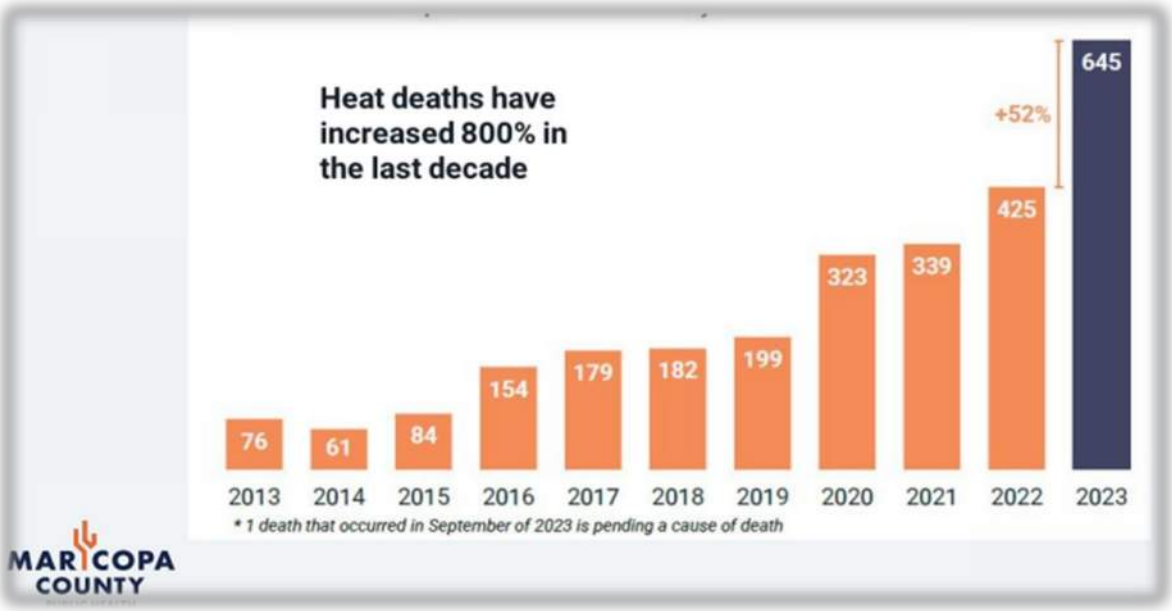

Figure 6. Heat related deaths for 2013-2023 in Maricopa County

The heat related death numbers for Pinal County reported by the Pinal County Medical Examiner's Office for 2020-Aug2024 are shown in Figure 7 and total 125.

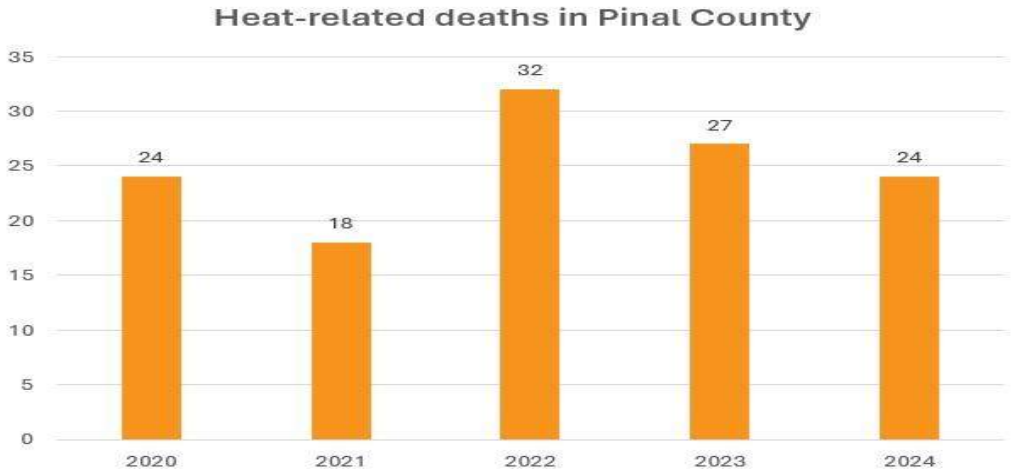

Figure 7. Pinal County heat related deaths for 2020-August 2024

The impact of extended period EHEs is evident when comparing the difference between 2022 and 2023 deaths in Maricopa County. The 2023 season broke numerous

records for single-day and continuous high maximum and minimum temperatures and resulted in a gubernatorial emergency declaration by the State of Arizona.

For the GRIC, the most vulnerable population sectors include the elderly, homeless, and those living in aged facilities with insufficient cooling.

Climate Change Considerations - In 2022, the NOAA National Centers for Environmental Information's State Climate Summary for Arizona (Frankson, et.al., 2022) provided an overview of observed temperature, precipitation, and drought data and an analysis of predicted changes over time. The report evaluated the change in temperatures under lower and higher emissions scenarios and defined a range of potential temperature increases under each scenario. The temperature is expected to continue to increase over time under both scenarios, though the increase under the lower emission future scenario is expected to be lower than under the higher emission scenario. Figure 8 presents Arizona's projected increase in near-surface temperature through the year 2100.

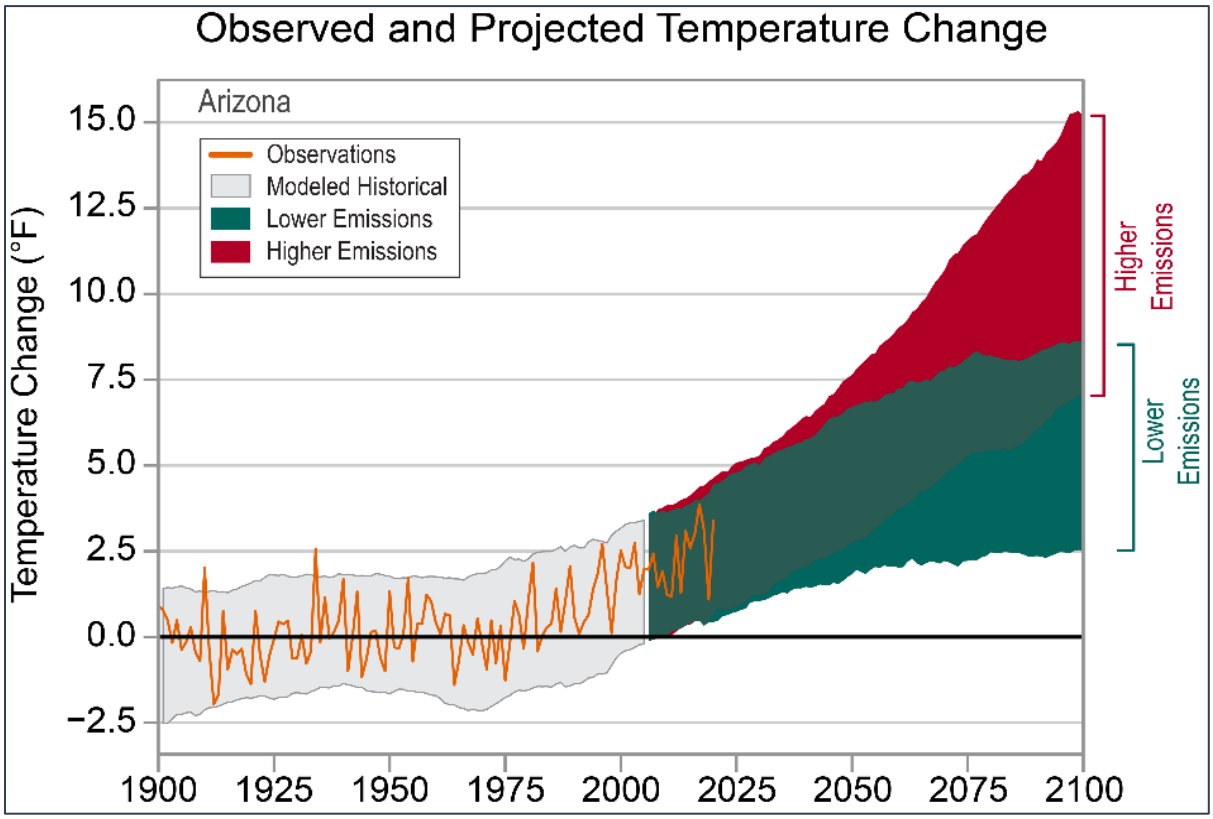

Figure 8. Projected temperature changes in Arizona

Development Trend Assessment – Development within the Community is closely and carefully planned to maintain the culture and lifestyle of the GRIC members and residents, while capitalizing on economic investment opportunities and expansion of modern revenue generating businesses and industry. Accordingly, the impacts of

development trends are less impactful when compared to neighboring communities like Phoenix, Chandler, Gilbert, and Maricopa.

In a typical metropolitan area, paved surfaces (roads, parking lots, roofs, etc.) typically absorb and retain the heat of the day and then slowly release that heat back into the atmosphere through the night. When large areas are paved, the metropolitan area will develop an "urban heat island" (UHI) effect, wherein temperatures in the center of the metropolitan area become both much warmer and warmer longer than those on the outskirts due to the storage of heat during the day.

The area most potentially impacted by future development trends are in Districts 4, 6, and 7 where past and future developments are close to the urbanized areas of Phoenix and Chandler. The UHI effects for these areas have the most probability of increasing and along the reservation boundary.

The use of green design and construction methods and materials can significantly reduce the heat island effects. Examples may include green buildings that require less energy to cool, use of good insulation on pipes and electric wirings, use of reflective roofing materials to avoid the creation of heat sinks, and smart design of walkways, parking structures, pedestrian zones, and landscaping to maximize shade and minimize heat retention and exposure to extreme heat may help reduce vulnerability of the built environment and the individuals who use it.

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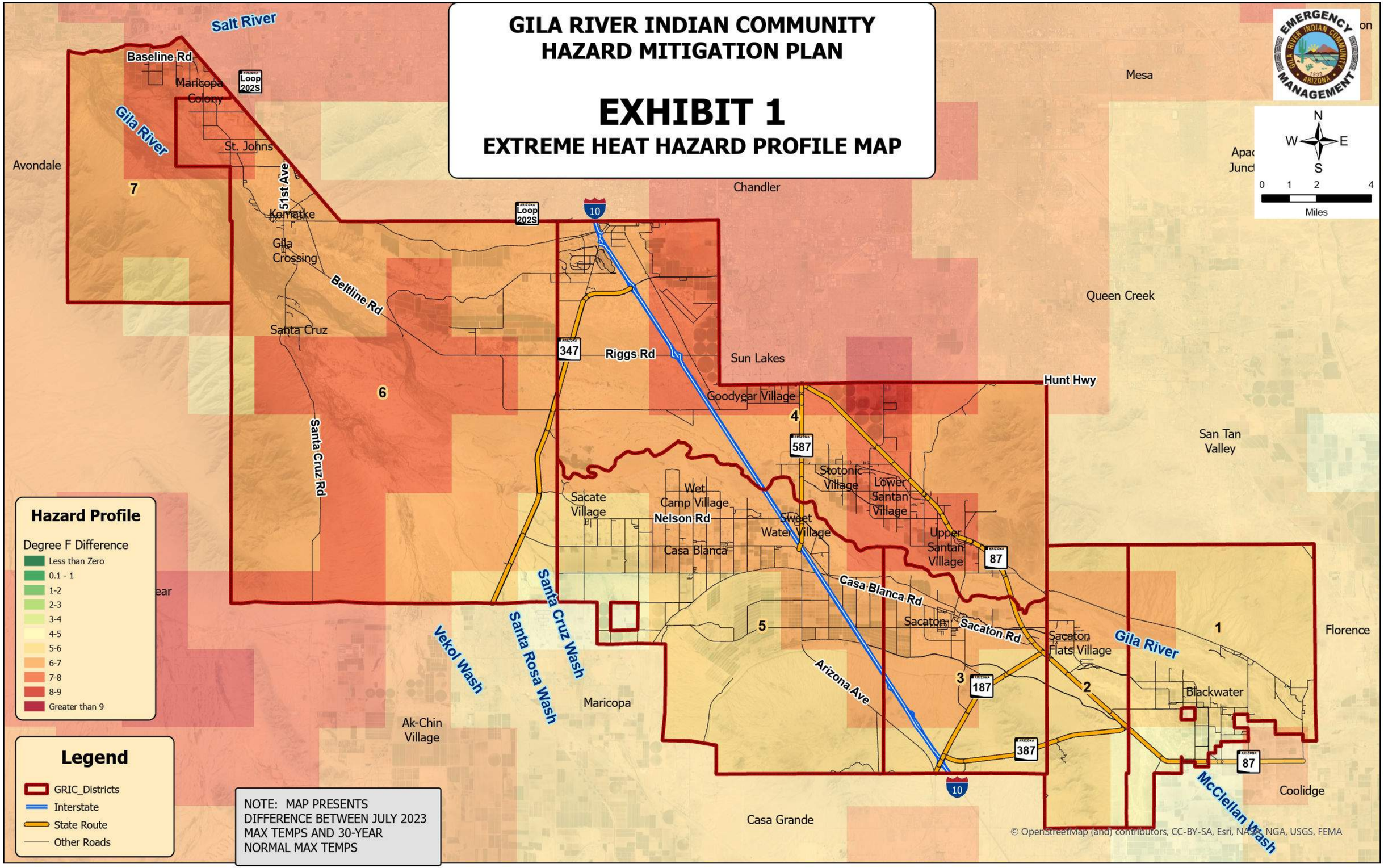
Profile Maps

Exhibit 1 – Extreme Heat Hazard Profile Map

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN

EXHIBIT 1
EXTREME HEAT HAZARD PROFILE MAP



Hazard Profile

Degree F Difference

- Less than Zero
- 0.1 - 1
- 1-2
- 2-3
- 3-4
- 4-5
- 5-6
- 6-7
- 7-8
- 8-9
- Greater than 9

Legend

- GRIC_Districts
- Interstate
- State Route
- Other Roads

NOTE: MAP PRESENTS DIFFERENCE BETWEEN JULY 2023 MAX TEMPS AND 30-YEAR NORMAL MAX TEMPS

4.3.2 FLOODING / FLASH FLOODING

Description

The hazard of flooding addressed in this section will pertain to floods that result from precipitation/runoff related events where overflowing of water onto normally dry land occurs. The three seasonal atmospheric events that tend to trigger floods in Community are:

- *Tropical Storm Remnants*: Some of the worst flooding tends to occur when the remnants of a hurricane that has been downgraded to a tropical storm or tropical depression enter the Community. These events occur infrequently and mostly in the early autumn, and usually bring heavy and intense precipitation over large regions causing severe flooding. Tropical storms can impact both local and regional watercourses.
- *Winter Rains*: Winter brings the threat of low intensity; but long duration rains covering large areas and can cause extensive flooding and erosion, particularly when combined with snowmelt. Typically, winter storms on the reservation tend to have the greatest impact on regional watercourses.
- *Summer Monsoons*: A third atmospheric condition that brings flooding to the Community is the annual summer monsoon. In mid to late summer the monsoon winds bring humid subtropical air into the region. Solar heating triggers afternoon and evening thunderstorms that can produce extremely intense, short duration bursts of rainfall. The thunderstorm rains are mostly translated into runoff, and, in some instances, the accumulation of runoff occurs very quickly resulting in a rapidly moving flood wave referred to as a flash flood. Flash floods tend to be very localized and cause significant flooding of local watercourses.

Several factors contribute to flooding including rainfall intensity and duration, topography, soil type and conditions, and ground cover. Damaging floods across the reservation can be primarily categorized as either riverine, sheet flow, or local area flows. Riverine flooding occurs along established watercourses when the bank full capacity of a wash or river is exceeded by storm runoff and the overbank areas become inundated. There are also areas within the Community where the watercourse is broad and generally shallow with ill-defined low flow paths and broad sheet flooding. Local area flooding is often the result of poorly designed or constructed development wherein natural flow paths are altered, blocked or obliterated, and localized ponding and conveyance problems result. Erosion is also often associated with damages due to flooding.

History

Flooding is one of the more damaging and frequently occurring hazards for the Community. Since the 2015 Plan, the GRIC has only been included in one presidential flood disaster declaration, and has been either directly and indirectly federally declared a total of 15 times since records began in 1966.

Over the past plan cycle, flooding was mostly limited to smaller, localized events and one major flooding event. Examples are included below.

- In August 12 – September 8, 2014, heavy rainfall caused by the remnants of Hurricane Norbert resulted in extensive flooding throughout the state and especially in LaPaz, Maricopa and Pinal Counties. The GRIC Districts 4, 6 and 7 were impacted most. The Phoenix area experienced its wettest day in history, surpassing a record set in 1939. Preliminary damages assessments for the storms exceeded $18 million and over $500 thousand for the GRIC. Among other impacts, major sections of freeways were closed, canals and flood control systems were overwhelmed, and two individuals perished in separate flash flood incidents. Several valley locations received rainfall that exceeded 500-year storm estimates. State search and rescue teams spent considerable resources performing numerous rescues of stranded drivers and residents, in addition to services provided during flooding from two other hurricane remnants (Hurricane Lowell and Hurricane Odile), all of which impacted the area within a two-month period. A presidential disaster declaration (DR-4203-AZ) for Maricopa and La Paz Counties in November 2014. (NCEI, 2024). Photos from GRIC LUPZ.

- In October 2018, two separate events triggered by tropical storm remnants from Rosa and Sergio caused widespread moderate to heavy showers to developed across the lower deserts southeast of Phoenix during October 2 and again in the morning hours on October 13th. Some of the heavy rain led to flash flooding around Maricopa, south of Sacaton, and north of Casa Grande. ADOT reported that flash flooding stopped traffic on State Route 187 in areas between State Route 87 and State Route 387. A Flash Flood Warning was in effect at the time of both storms and fortunately no accidents were reported. Damages were estimated to exceed $12,000 (NCEI, 2024).
- In October 2022, A slow-moving low-pressure system brought several rounds of showers and thunderstorms across portions of south-central and southwestern

Arizona throughout the day on the 15th. Flooding was reported in the area of SR-387 and SR-187 in Sacaton. No damages or injuries were reported. (NCEI, 2024)

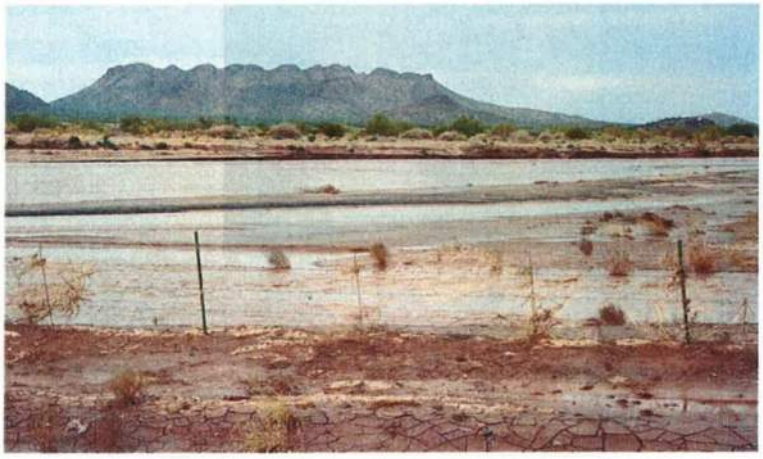
The following incidents represent older examples of major flooding that has impacted the Community in the past:

- In March 1978, a general winter storm centered over the mountains north and east of Phoenix, 35 miles north at Rock Springs. Extrapolation of intensity-probability data for one measurement of 5.73 inches of precipitation in a 24 hour period equates to a 400 year storm. The main source of flooding was due to Verde River runoff volume exceeding reservoir storage capacity above Bartlett Dam. Flooding also occurred along irrigation canals on the north side of the Phoenix metro area, and along tributaries of the Gila River and Queen Creek. There was one death event-wide and $37 million in total damages (USACE, 1978). Presidential Disaster Declaration 550-DR.
- In December 1978, a second major storm for the year hit hard with total precipitation that ranged from less than 1 inch in the northeastern and far southwestern portions of Arizona to nearly 10 inches in the Mazatzal Mountains northeast of Phoenix. A large area of the central mountains received over 5 inches. The main stems of the Gila, Salt, Verde, Agua Fria, Bill Williams, and Little Colorado Rivers, as well as several major tributaries, experienced especially large discharges. There were 4 deaths, $16.3 million-public and $5 million-agriculture losses estimated for Maricopa County (USACE, 1979). Presidential Disaster Declaration 570-DR.
- In February 1980, severe flooding in central Arizona set record discharges (later broken in 1993) in the Phoenix metro area on the Salt, Verde, Agua Fria and Gila Rivers, as well as on Oak Creek in north central Arizona. The Phoenix metro area was nearly cut in half with only two bridges remaining open over the Salt River. It took hours for people to move between Phoenix and the east valley using either the Mill Avenue or Central Avenue bridges. Even the Interstate 10 bridge was closed for fear that it had been damaged. Precipitation during this period at Crown King in the Bradshaw Mountains was 16.63 inches. Three people died statewide, and damages were estimated at $63,700,000 for Phoenix Metro Area (USACE, 1980). Presidential Disaster Declaration 614-DR.
- In January and February 1993, flooding damage occurred from regional winter storms associated with the El Nino phenomenon. These storms flooded watersheds throughout Arizona by dumping excessive rainfall amounts that saturated soils and increased runoff. Warm temperature snowmelt exacerbated the situation over large areas. Erosion caused tremendous damage, and some communities along normally dry washes were devastated. Stream flow velocities and runoff volumes exceeded historic highs. Many flood prevention channels and retention reservoirs were filled, and water was either diverted to the emergency spillways or the reservoirs were breached, causing extensive damage in some cases (e.g., Painted Rock Reservoir spillway). The new Mill Avenue Bridge and a large landfill in Mesa were washed away by the raging Salt River. The Gillespie Dam west of Phoenix was damaged as high water spread throughout low-lying areas. Many roads were closed, and

motorists were stranded by flooded dips and washes. Phoenix alone sustained at least $4.2 million in damages from this prolonged period of heavy rains. Event-wide, over $200 million was estimated in property and agricultural losses, with approximately $1.22 million reported for GRIC. During the 1993 winter storm, Coolidge Dam officials were forced to release large quantities of water into the Gila River, causing major flooding in the Chin Road and Blackwater areas. A Gila River Indian Community Police Officer lost his life from the flooding. Olberg Bridge was the only open road at the time of the flooding (USACE, 1993; GRIC, 2015). Presidential Disaster Declaration 977-DR. Photo from 2015 Plan.

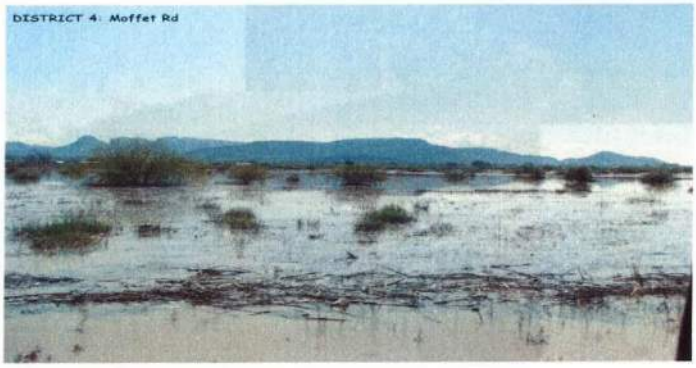
1993 Flooding at Santa Cruz Village

- In July-August 2006, significant rain on the usually dry Gila River caused extreme overflowing. The photograph below of the flood waters was taken when most of the water level had receded. The Coolidge Dam needed to release water because of the excessive rain. The Gila River flooded again and on Tuesday, August 1, 2006, the river water broke a Gila River Telecommunications Incorporated ("GRTI") phone cable on Skousen Road in District 1 (North Blackwater). When the flood waters subsided, GRTI restored service within 48 hours (GRIC, 2015). Photo from 2015 Plan.


Facing North East on Skousen Road flood water above the fence where debris collected.
Source: Maricopa County Flood Control District

- In January 2010, heavy rainfall from a statewide series of storms resulted in about 18 inches of water flooded roads and homes near Blackwater and Toki. In Arizona City, 4 homes had flood damage that lasted several days. Generally between 2 and 4 inches of rain fell in this area during the 5 days ending on January 22. Streets and highways were closed, homes and businesses were flooded after the third storm system of the week moved across the deserts and into the foothills. Losses were estimated to exceed $300,000 (NCEI, 2024). Presidential Disaster Declaration 1888-DR.

- In the Summer of 2012, the Gila River Indian Reservation experienced several monsoon storms. Three of the storms resulted in the activation of the GRIC Emergency Operations Center ("EOC") and resulted in two separate Governor Emergency Declarations. The total homes affected were 161 with approximate costs totaling $66,013. (GRIC, 2015). Photos from the 2015 Plan.



Probably/Extent

The probability of floods occurring in the GRIC is very high. The extent of the flood hazard can vary greatly and is influenced by many factors including the volume and intensity of precipitation, geography, and land-use characteristics. One of the most widely adopted design and regulatory standards for flooding in Arizona is an event of a certain magnitude that has a 1% probability of being equaled or exceeded in any given year, or the 1% annual chance of exceedance (ACE) flood. For the purposes of this Plan, the probability and magnitude of flood hazard for the GRIC are based on the one percent ACE floodplains as delineated or estimated by the LUPZ Flood Control, which prepares and maintains all flood related information for the GRIC. Floodplain limits and GIS base files were provided by the LUPZ Flood Control for this vulnerability analysis. The flood hazard areas are assigned a HIGH hazard designation. No other designations are being made.

Exhibit 2, which is located at the end of this section, presents the LUPZ Flood Control delineated high flood hazard areas for the GRIC. When viewing the map, the following should be noted:

- The GRIC does not participate in the National Flood Insurance Program (NFIP). Consequently, the boundary flood hazard limits may not match to FEMA delineated floodplain mapping for the neighboring communities that do participate in the NFIP.
- The flood hazard limits depicted are approximate only and are for general illustrative purposes. Use of the map for any purpose beyond this Plan is expressly prohibited. The GRIC LUPZ has prepared detailed hazard profile maps as a part of the Plan update process and has elected to maintain the maps in a map annex that is separate from the published Plan. A request to review the hazard profile maps can be requested through LUPZ by completing the necessary request forms and submitting to LUPZSupportGroup@gric.nsn.us

Warning Time

Warning time for flood-related events is composed of the time needed to assess and issue a meteorological warning for a probable precipitation event and the time from initiation of precipitation to the time that peak flooding occurs. For Arizona, those times will vary depending on the type of precipitation event and the size of the watercourse and tributary watershed.

Summer Monsoons – Typical monsoon thunderstorms develop rapidly and are relatively small in areal extent with short duration, high-intensity bursts of rainfall that result in swiftly moving flash floods. The full warning times for monsoon events are usually less than a couple of hours, and flood peak arrival times can be measured in minutes for small watersheds. Many of the fatalities associated with flood events within the state are due to thunderstorms that caused flash floods that caught people unaware.

Tropical Storm Remnants – Tropical storms moving into Arizona typically have more advanced meteorological notice and tracking. Rainfall areal extents and durations are typically larger and longer than monsoon storms, but intensities can still generate rapid peak flows. Full warning times for tropical storm remnants are usually greater than six hours, with flood peak arrival times in a couple of hours, depending on the watercourse and watershed size.

Winter Rains – General winter storms have a longer duration, low-intensity rainfall that covers large areas of the state and produces runoff that gradually accumulates to peak flood stages. Winter storms moving into Arizona typically have more advanced meteorological notice and tracking. Full warning times generally exceed 12 hours, with flood peak arrival times in several hours.

Flood warnings for the GRIC are generally issued by the Phoenix NWS with possible support from the ALERT divisions of the Flood Control District of Maricopa County and Pinal County Flood Control District.

Vulnerability Assessment

Facilities and Infrastructure Exposure and Loss Estimates - The estimation of potential exposure and loss to the identified HIGH flood hazards was accomplished by using GIS tools to intersect the GRIC facilities and infrastructure (GRIC-FI) data with the flood hazard limits as depicted on the profile map. The loss calculations assume

that no structure will be flooded to a depth of greater than two feet on average and, per the FEMA standard flood related loss tables, are subject to a loss-to-exposure ratio of 0.20 (or 20% damaged) for high-hazard areas. The loss estimates presented are based on a single event and assume that the entire reservation is flooded to the depicted hazard at the same time. Table 14 presents the GRIC-FI exposure and loss estimates summarized by GRIC District and Community-Wide totals.

Table 14. GRIC-FI flood exposure and loss estimates by District and Community-wide totals

GRIC District	Facility Classification	Total Facilities Reported for District	Flood Impacted Facilities	Percentage of Total Community Facilities Impacted	Total Replacement Value of All Facilities Reported by Community (x $1,000)	Estimated Replacement Value of Facilities Exposed to Hazard (x $1,000)	Estimated Loss to Facilities Exposed to Hazard (x $1,000)
1	Critical	21	6	28.6%	$91,942	$30,256	$6,051
1	Non-Critical	479	103	21.5%	$364,443	$93,757	$18,751
2	Critical	5	2	40.0%	$29,986	$7,500	$1,500
2	Non-Critical	223	120	53.8%	$153,761	$71,569	$14,314
3	Critical	98	7	7.1%	$633,237	$22,277	$4,455
3	Non-Critical	837	31	3.7%	$546,287	$19,475	$3,895
4	Critical	45	2	4.4%	$341,599	$27,500	$5,500
4	Non-Critical	1173	36	3.1%	$2,324,441	$32,480	$6,496
5	Critical	39	1	2.6%	$117,066	$750	$150
5	Non-Critical	940	11	1.2%	$631,117	$6,624	$1,325
6	Critical	43	4	9.3%	$247,076	$25,000	$5,000
6	Non-Critical	804	73	9.1%	$1,060,859	$111,263	$22,253
7	Critical	8	8	100.0%	$27,825	$27,825	$5,565
7	Non-Critical	242	207	85.5%	$145,845	$125,908	$25,182
GRIC Totals	Critical	259	30	11.6%	$1,488,732	$141,107	$28,221
	Non-Critical	4698	581	12.4%	$5,226,754	$461,077	$92,215

The results of the assessment indicate that District 7 facilities are at the most risk and likely so because of the confluence conditions of the Gila and Salt Rivers. District 2 is the second highest risk with the confluence of the McClellan Wash and Gila River occurring in Sacaton Flats Village.

Vulnerable Population Groups - The estimation of potential human exposure to the identified HIGH flood hazards was accomplished by using GIS tools to intersect the 2020 Census block level population data with the flood hazard limits depicted on the profile map.

Table 15. 2020 Census population flood exposure estimates by District and Community-wide totals

District	2020 Census Population			Exposed Population Count			Percentage of Population Exposure		
	Total	Under 18	Over 65	Total	Under 18	Over 65	Total	Under 18	Over 65
1	1,279	402	123	374	145	38	29.3%	36.0%	31.0%
2	619	205	58	394	124	39	63.6%	60.7%	66.4%
3	3,350	1,093	274	116	36	12	3.5%	3.3%	4.2%
4	2,775	962	230	150	48	20	5.4%	5.0%	8.7%
5	2,433	843	185	6	2	0	0.2%	0.3%	0.2%
6	2,956	1,059	208	435	151	36	14.7%	14.3%	17.2%
7	633	209	40	526	176	38	83.1%	84.3%	94.2%
GRIC Totals	**14,045**	**4,773**	**1,118**	**2,001**	**682**	**182**	**14.2%**	**14.3%**	**16.3%**

The results of the assessment indicate that District 7 population are at the most risk and likely so because of the confluence conditions of the Gila and Salt Rivers. District 2 is the second highest risk with the confluence of the McClellan Wash and Gila River occurring in Sacaton Flats Village.

Climate Change Considerations - The 4th Edition of the National Climate Assessment (NCA) report (Gonzales et al., 2018) is relatively silent on non-coastal flood-related impacts except as they are indirectly influenced by deepening drought, increased wildfire potential, etc. Prior work in the 3rd Edition (Garfin et al., 2014) notes that one of the anticipated impacts of climate change for the Southwest is a shift in rain patterns with more intense winter rains, less snow, and less frequent but more intense monsoon-related thunderstorms. Predictions also include a possible reduction in average annual precipitation and streamflow volumes.

A second study by Luong (Luong et al., 2015) notes that monsoon thunderstorms in the Central and Southern Regions of the state have become more intense over a recent 20-year period (1991-2010) when compared to events recorded in the past (1950-1970). The study concludes that the trend will likely continue as the temperatures rise and provide more moisture storage capacity in the lower atmosphere. The increased intensities may result in increased flood levels.

Development Trend Assessment –The Community has seen major residential growth over the past 5 years which includes over 700 housing units within established subdivisions and scattered sites. These sites include the development of infrastructure to suit the increased needs for water and electrical service along with drainage facilities to protect the new housing units.

During the past 3 years, the Community has seen an increase in commercial development along the Community's border which includes a new casino, a commercial subdivision and commercial parking lot for an off GRIC company.

The Community has also seen growth in Community buildings such as the veterans modular, new police department station and EMS building in our west end. Several

Districts have seen the placement of modular units for emergency housing. the Community has constructed three new schools in Gila Crossing, Casa Blanca and Blackwater.

The Community has also seen upgrades throughout the reservation to fiber optic lines, electrical lines, roads, construction of wireless towers, wastewater treatment plants and sidewalks.

Careful drainage planning and enforcement of drainage guidelines has produced new facilities that are more resilient against flood risks. The Community has allocated tribal funds to address flood hazard for high-risk areas across the reservation, which LUPZ Flood Control has used to plan, design and construct four (4) projects, 3 of which were completed within the past 5-yrs.

1. Komatke Flood Control Project – Phase 1 located in northern portions of Komatke in District 6, east of 51st Ave. This project began November 2019 and ended December 2020.
2. Komatke Flood Control Project – Phase 2 located in southern portions of Komatke in District 6, along Pecos Rd. and Tashquinth Rd. This project began April 2022 and ended February 2023.
3. Sacaton Southwest Flood Control Project located southwest of Sacaton, west of the Governance Center. This project began May 2023 and ended February 2024.

All these projects included mass earth excavation of retention basins, installation of spillways, riprap, culverts, levee compaction, channel excavation, utility relocation, and ecosystem restoration. These projects were identified to mitigate flooding threats identified from experience, historical record, construction of the South Mountain Freeway, and most importantly local testimony.

Future planning will continue the practice with the development of proactive drainage master planning and flood mitigation actions/projects in high flood risk areas.

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Profile Maps

Exhibit 2 – Flood Hazard Profile Map

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN

EXHIBIT 2
FLOOD HAZARD PROFILE MAP

EMERGENCY MANAGEMENT
GILA RIVER INDIAN COMMUNITY 1933 ARIZONA

N
W E
S

0 1 2 4
Miles

Hazard Profile
- High

Legend
- GRIC_Districts
- Interstate
- State Route
- Other Roads

4.3.3 SEVERE WIND

Description

Aerial view of thunderstorm microburst generated dust storm
Credit: Ryan Vermillion

For this Plan, the hazard of Severe Wind encompasses all climatic events that produce damaging winds. For the GRIC, severe winds usually result from either extreme pressure gradients that occur in the spring and early summer months, or from monsoon season thunderstorms. Occasionally, tropical storm activity (remnant hurricanes) can be accompanied by severe winds, but the wind speeds usually dissipate by the time the tropical storm front approaches the reservation. Thunderstorms can occur year-round and are usually associated with cold fronts in the winter, monsoon activity in the summer, and tropical storms in the late summer or early fall.

Damaging wind events that commonly accompany thunderstorms are categorized as one of three types: 1) downbursts, 2) straight line winds, and infrequently, 3) tornadoes.

Downbursts are columns of air moving rapidly downward through a thunderstorm. When the air reaches the ground, it spreads out in all directions, creating horizontal wind gusts of 80 mph or higher. Downburst winds have been measured as high as 140 mph. Some of the air curls back upward with the potential to generate a new thunderstorm cell. Downbursts are called macrobursts when the diameter is greater than 2.5 miles, and microbursts when the diameter is 2.5 miles or less. They can be either dry or wet downbursts, where the wet downburst contains precipitation that continues all the way down to the ground, while the precipitation in a dry downburst evaporates on the way to the ground, decreasing the air temperature and increasing the air speed. In a microburst the wind speeds are highest near the location where the downdraft reached the surface, and are reduced as they move outward due to the friction of objects at the surface. Typical damage from downbursts includes uprooted trees, downed power lines, mobile homes knocked off their foundations, block walls and fences blown down, and porches and awnings blown off homes.

Straight line winds are developed similarly to downbursts but are usually sustained for greater periods as a thunderstorm reaches the mature stage, traveling parallel to the ground surface at speeds of 75 mph or higher. These winds are frequently responsible for generating dust storms and sand storms, reducing visibility and creating hazardous driving conditions.

Tornado is a rapidly rotating funnel (or vortex) of air that extends toward the ground from a cumulonimbus cloud. Most funnel clouds do not touch the ground, but when the lower tip of the funnel cloud touches the earth, it becomes a tornado and can cause

extensive damage. For the GRIC, tornadoes are the least common severe wind to accompany a thunderstorm primarily due to the Estrella and South Mountains.

History

The GRIC has been included in two federal disaster declarations involving severe winds (DR 1304 and DR 1660). There have been many additional events reported for the GRIC over the last planning cycle, but only a few documented events resulted in reported damages. Those are discussed below.

- In July 2021, severe thunderstorms produced widespread 40-plus mph wind gusts with many areas of 60-70 mph gusts. There were numerous toppled trees, downed power lines, damaged roofs, and other infrastructure and property damage because of the severe winds. No damages specific to the GRIC were reported, but stormwide damages were estimated to exceed $450K. No injuries or deaths were reported. (NCEI, 2024).
- In July 2019, monsoon thunderstorms generated damaging winds that gusted to over 65 mph near Sacaton knocking over small trees near Ocotillo Road and See Farm Road, tearing off limbs of other trees, and blowing metal sheeting off some carport roofs in the area. No injuries were reported, and damages were estimated to exceed $8K. (NCEI, 2024).
- In September 1999, severe thunderstorm winds gusting to 70-plus mph caused damage to 13 homes in Sacaton and 41 homes in Blackwater. Damages included minor and major roof damages, coolers damaged, windows broken, carport damage, trailer sidings/skirtings and trailer damages. Property damages were estimated to exceed $150K and no injuries or fatalities were reported. The storm and several others resulted in a presidential disaster declaration (DR-1304). (NCEI, 2024).

Probably/Extent

Thunderstorm or Other Non-Tornado High Winds - for thunderstorm winds, the probability of a severe thunderstorm occurring with high velocity winds increases as the average duration and number of thunderstorm events increases. According to NCEI, 302 separate thunderstorm wind events reporting wind speeds exceeding 50 knots have been reported for Pinal County over the past 30 year period ending in July 2024 (NCEI, 2024). Of those events, 120 were reported as damaging with a total of approximately $14 million in estimated losses and 9 injuries. It is very likely that many of those reported events included impacts to the GRIC. On average, over 10 severe wind events have occurred per year and approximately two-thirds of those events can be expected to cause significant damage.

The NWS issues a severe thunderstorm watch when conditions are favorable for the development of severe thunderstorms. The Phoenix NWS office considers a thunderstorm severe if it produces hail at least 3/4-inch in diameter, wind of 58 mph (50 knots) or higher, or tornadoes. When a watch is issued for a region, residents are encouraged to continue normal activities but should remain alert for signs of approaching storms, and continue to listen for weather forecasts and statements from

the local NWS office. When a severe thunderstorm has been detected by weather radar or one has been reported by trained storm spotters, the Phoenix NWS office will issue a severe thunderstorm warning. A severe thunderstorm warning is an urgent message to the affected communities that a severe thunderstorm is imminent.

The American Society of Civil Engineers (ASCE) has identified a 3-second wind gust speed as the most accurate measure for identifying the potential for damage to structures. The 3-second wind gust criteria is recommended as a normal wind loading design standard. All of the GRIC is designated with a standard design 3-second gust wind speed of 90 mph, indicating relatively low levels of risk from severe winds when compared to other regions of the country (ASCE, 1999). FEMA has taken the work from ASCE and further identified wind speed zones for use in designing community shelters and safe-rooms that can withstand tornado and hurricane winds[17]. The GRIC is entirely located in Zone I, as illustrated in Figure 9. In these zones, a design wind speed of 130 mph is recommended for the design and construction of community shelters.

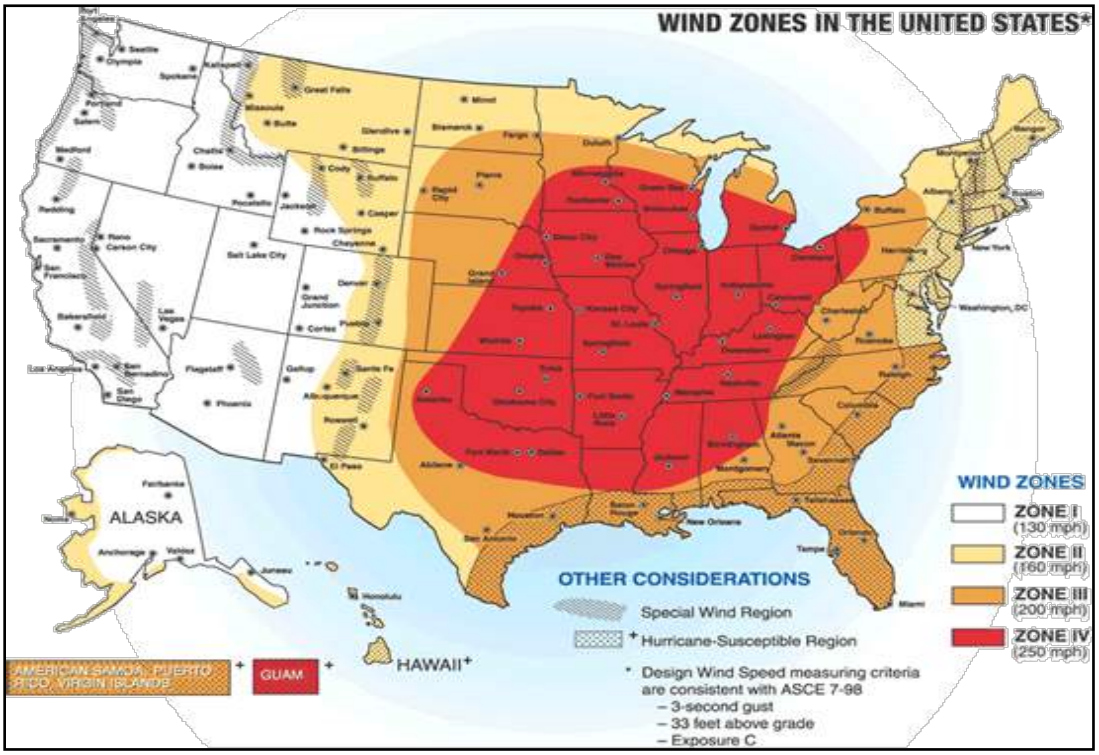

Figure 9. Illustration of FEMA Wind Zones

The Beaufort Wind Scale, indicated by Table 16, provides a measure of overland wind magnitude versus expected damages. According to the Beaufort Scale, wind gusts of 55-63 mph can result in uprooted trees and considerable structural damage to poorly constructed buildings. Wind gusts between 64-73 mph can result in more

[17] FEMA Website at the following URL: http://www.fema.gov/plan/prevent/saferoom/tsfs02_wind_zones.shtm

Table 16. Beaufort Wind Scale

Beaufort number	Wind Speed (mph)	Seaman's term		Effects on Land
0	Under 1	Calm		Calm; smoke rises vertically.
1	1-3	Light Air		Smoke drift indicates wind direction; vanes do not move.
2	4-7	Light Breeze		Wind felt on face; leaves rustle; vanes begin to move.
3	8-12	Gentle Breeze		Leaves, small twigs in constant motion; light flags extended.
4	13-18	Moderate Breeze		Dust, leaves and loose paper raised up; small branches move.
5	19-24	Fresh Breeze		Small trees begin to sway.
6	25-31	Strong Breeze		Large branches of trees in motion; whistling heard in wires.
7	32-38	Moderate Gale		Whole trees in motion; resistance felt in walking against the wind.
8	39-46	Fresh Gale		Twigs and small branches broken off trees.
9	47-54	Strong Gale		Slight structural damage occurs; slate blown from roofs.
10	55-63	Whole Gale		Seldom experienced on land; trees broken; structural damage occurs.
11	64-72	Storm		Very rarely experienced on land; usually with widespread damage.
12	73 or higher	Hurricane Force		Violence and destruction.

widespread structural damage to moderately constructed buildings. Wind gusts over 74 mph can do widespread damage to moderately constructed buildings and even well-constructed buildings.

Tornadoes - tornado severity is measured by the Enhanced Fujita Tornado Scale, which assigns a numerical value of 0 to 5 based on wind speeds and damage potential, as shown in Table 17, with the letter EF preceding the number (e.g., EFO, EF1, EF2). Most tornadoes last less than 30 minutes, but some last for over an hour. The path of a tornado can range from a few hundred feet to miles in length. The width of a tornado may range from tens of yards to more than a quarter of a mile.

The probability of tornadoes occurring is much less frequent than thunderstorm winds. For the 30-year period ending July 2024, NCEI reports 23 tornado events reported for both Maricopa and Pinal Counties, with one injury and $515 thousand in reported damages. Two of the tornados were EF1 (F1) and the remaining were EF0 (F0). Most of the tornadoes occurred outside of the GRIC reservation boundaries.

Table 17. Enhanced Fujita Scale for tornado classification

Enhanced Fujita Scale		Damage Description
ID	Wind Speed*	
EF0	65-85	**Minor or no damage**. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated F0 or EF0.
EF1	86-110	**Moderate damage.** Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	**Considerable damage.** Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off the ground.
EF3	136-165	**Severe damage.** Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations are badly damaged.
EF4	166-200	**Extreme damage.** Well-constructed and whole framed houses completely leveled; cars and other large objects thrown and small missiles generated.
EF5	>200	**Total Destruction of Buildings** Strong-framed, well-built houses leveled off foundations are swept away; steel-reinforced concrete structures are critically damaged; tall buildings collapse or have severe structural deformations; some cars, trucks, and train cars can be thrown approximately 1 mile.
* - Wind speeds in mph, 3-second gust *Source: DEMA, 2023 and National Weather Service*		

Warning Time

The warning time provided by a severe thunderstorm watch may be in the order of hours, while a severe thunderstorm warning typically provides an hour or less warning time. Tornado warnings are timed like the thunderstorm warnings.

Vulnerability Assessment

Facilities and Infrastructure Exposure and Loss Estimates - Exposure to severe wind events is generally the same across the Community, except for District 7 being somewhat sheltered by the adjoining mountains that tend to inhibit tornado development. Based on the historic record over the last 30 years, it is feasible to expect average annual losses of $100-200 thousand for the entire Community. It is difficult to estimate losses for individual Districts due to the lack of discrete historic loss data, but it is reasonable to assume that the communities with higher populations and more densely developed lands will suffer the greater impact.

Vulnerable Population Groups – With the exception of tornado exposure in District 7, it can be assumed that the remaining population of the GRIC are equally exposed to severe wind hazards, with the historical possibility of injury or even rare deaths.

Climate Change Considerations - The 4th Edition of the National Climate Assessment (NCA) report (Gonzales et al., 2018) is silent regarding a direct assessment of the impact of climate change on severe wind events in the Southwest. A study by Luong (Luong, et al., 2015) notes that monsoon thunderstorms in the Central and Southern Regions of Arizona have become more intense over a recent 20-year period (1991-2010) when compared to events recorded in the past (1950-1970). The study concludes that the trend will likely continue as the temperatures rise and provide more moisture storage capacity in the lower atmosphere. The increased thunderstorm intensities may correlate to increased wind intensities, and especially if the thunderstorm cells are stronger and larger. A 2017 study conducted by the University of Arizona found similar results. University researchers compared precipitation records from 1950 to 1970 to those from 1991 to 2010 for Arizona. This data was also used to validate the results of their climate model. While the record data only included rainfall, the high-resolution model developed by researchers modeled the winds induced by the summer monsoon and indicated that rainier monsoon storms were accompanied by higher winds and more downbursts. There are no further references specific to Arizona tornados and climate change impacts.

Development Trend Assessment –The Community has seen major residential growth over the past 5 years which includes over 700 housing units within established subdivisions and scattered sites. These sites include the development of infrastructure to suit the increased needs for water and electrical service along with drainage facilities to protect the new housing units.

During the past 3 years, the Community has seen an increase in commercial development along the Community's border which includes a new casino, a commercial subdivision and commercial parking lot for an off GRIC company.

The Community has also seen growth in Community buildings such as the veterans modular, new police department station and EMS building in our west end. Several Districts have seen the placement of modular units for emergency housing. The Community has constructed three new schools in Gila Crossing, Casa Blanca and Blackwater.

The Community has also seen upgrades throughout the reservation to fiber optic lines, electrical lines, roads, construction of wireless towers, wastewater treatment plants and sidewalks.

All the new developments increase the overall exposure to severe wind events. However, the use of modern building codes helps to ensure that facilities remain resilient.

References

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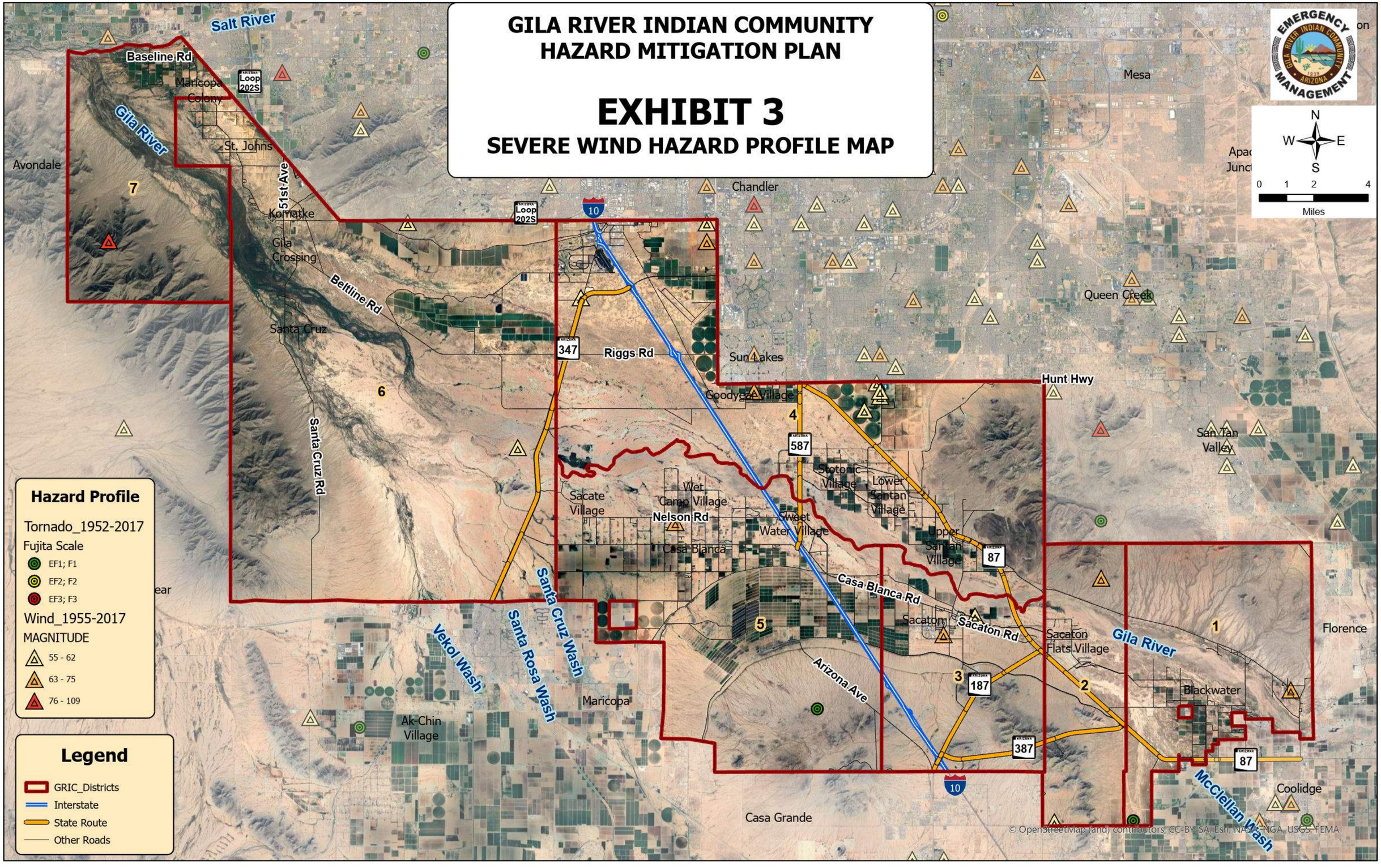
U.S. Dept of Commerce, NOAA National Weather Service, Storm Prediction Center, Fujita Scale information at the following URL: http://www.spc.noaa.gov/faq/tornado/ef-scale.html.

Profile Maps

Exhibit 3 – Severe Wind Hazard Profile Map

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN

EXHIBIT 3
SEVERE WIND HAZARD PROFILE MAP



4.3.4 WILDFIRE

Description

A wildfire is an uncontrolled fire spreading through wildland vegetative fuels and/or urban interface areas where fuels may include structures. They often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may fill the area for miles around. Wildfires can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives, resources, and destroy improved properties.

The indirect effects of wildfires can also be catastrophic. In addition to stripping the land of vegetation and destroying natural resources and personal property, large, intense fires can harm the soil, waterways and the land itself. Soil exposed to intense heat may temporarily lose its capability to absorb moisture and support life. Exposed soils in denuded watersheds erode quickly and are easily transported to rivers and streams thereby enhancing flood potential, harming aquatic life and degrading water quality. Lands stripped of vegetation are also subject to increased landslide hazards.

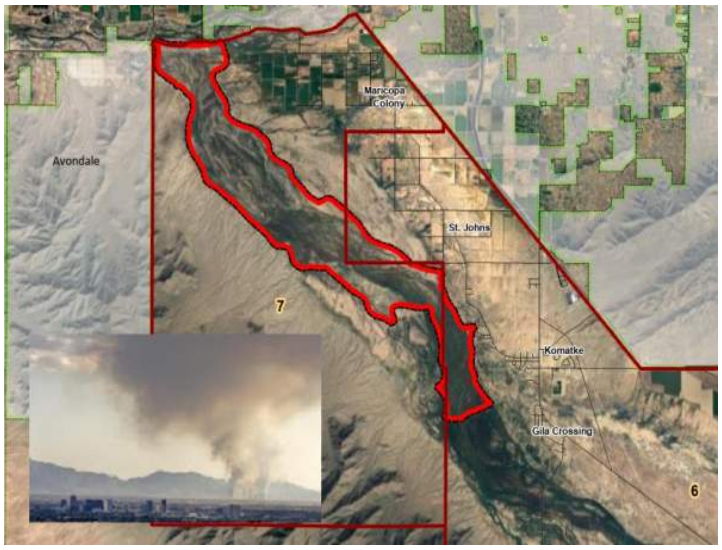
History

The Sonoran Desert vegetation typically found across the majority of the non-developed GRIC reservation lands, is less dense and wildfire prone when compared to other more heavily vegetated areas. The exception to this is found in the Gila River floodplain and riparian corridors along major washes, where dense thickets of Salt Cedar and Mesquite bosques comprise prime wildfire fuels, and especially when mixed with dry grasses and shrubs. Throughout the Community, these areas are often near development and structures that form the wildland urban interface.

Historic significant wildfire events that have occurred in the Community included:

- In September 2024, a wildfire was reported in the Gila River Indian Community, District 6, at approximately 1309 MST on September 28, 2024. The 553 acres fire threatened approximately 10 homes, and an evacuation was issued for west of Santa Cruz Road. The fire burned salt cedar and mesquite fuels in the Gila River bottom. The cause of the incident is currently under investigation. No damages or injuries were reported (Inciweb and GRIC, 2024)

- In June-July 2008, the Ethan Fire was started by a lightning strike and burned over 6,600 acres of the Gila River floodplain from the near the Phoenix International Raceway south to the St. Johns and Komatke areas of District 6. That fire, fueled by salt cedar growth in the riverbed, ended up displacing Community members from the area for an extended period (GRIC, 2015; NIFC, 2024)



In the period since the 2015 Plan, there have been 21 wildfire incidents reported for the GRIC that exceeded 10-acres in size and are highlighted in Figure 10 below. As previously noted, most of those fires were located along watercourses or adjacent to roadways.

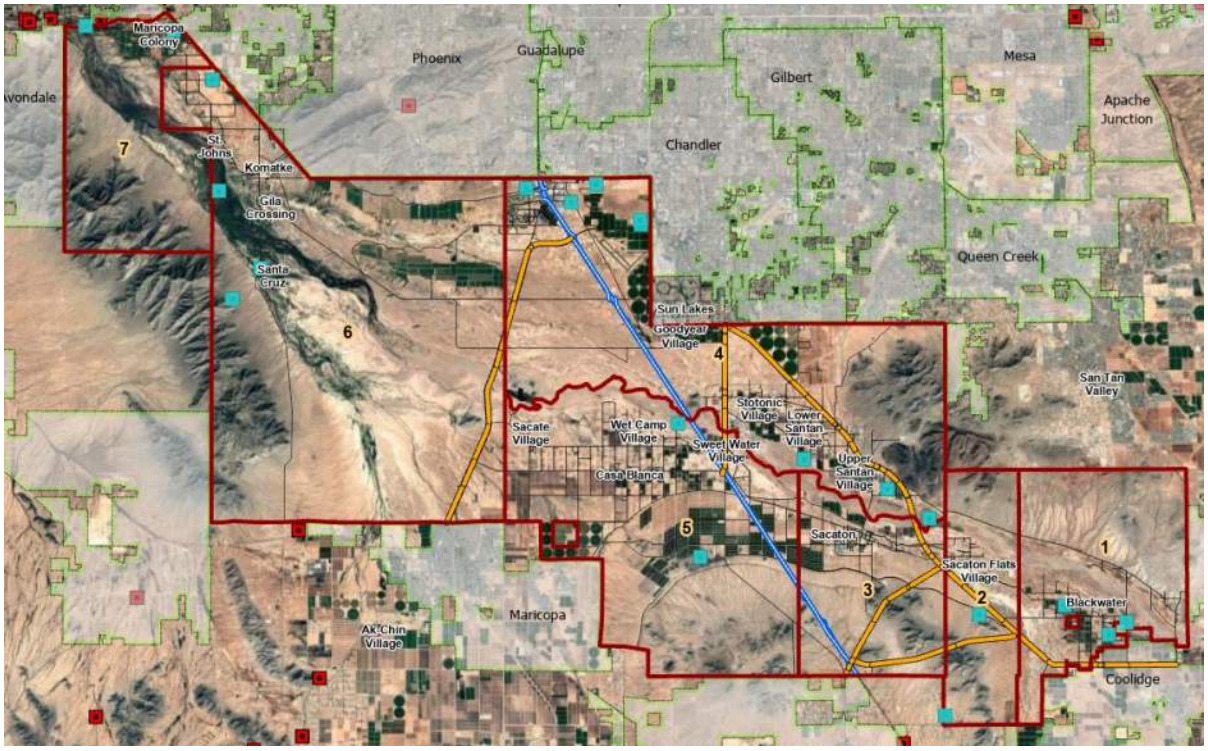


Figure 10. Locations of 10 acre plus wildfires for the period of 2016-2024.

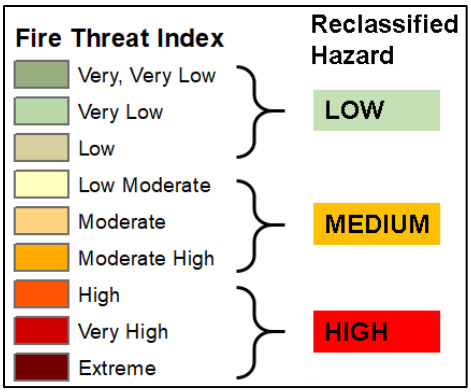
Probably/Extent

The probability and extent of wildfire incidents for the GRIC are influenced by numerous factors including vegetation densities, previous burn history, hydrologic conditions, climatic conditions such as temperature, humidity, and wind, ignition source (human or natural), topographic aspect and slope, and remoteness of area.

The primary dataset used to depict the threat of wildfire for the GRIC was recently developed as a part of the 2013 West Wide Wildfire Risk Assessment[18] (WWWRA) for the western US (Sanborn Map Company, 2013). The data and assessment results are hosted by the Arizona State Forestry and Fire Management Department on its website[19].

The wildfire hazards are derived from the Fire Threat Index (FTI) data distributed with the WWWRA. The FTI reflects the likelihood of one acre burning if a fire started at a specific grid location. The calculation process integrates the probability of an acre igniting and the expected final fire size into a single measure of wildland fire susceptibility. The assessed fire size is based on the rate of spread in four weather percentile categories. The key inputs used in the wildfire model to produce the FTI wildfire hazard layer are:

- Probability of fire occurrence, derived from:
  - Historic fire locations and fire occurrence areas
  - Weather influence zones (historic weather observations)
- Fire behavior (rate of spread) derived from:
  - Surface fuels
  - Canopy closure
  - Canopy characteristics
  - Topography
- Fire suppression effectiveness, derived from:
  - Historic fire sizes
  - Historic protection organization



For the purposes of this Plan, the nine FTI categories were reclassified into three generalized categories, Low, Medium and High wildfire hazard and applied as appropriate to the GRIC reservation limits. The limits of the FTI categories are shown on Exhibit 4 at the end of this section.

Warning Time

Warning time for wildfire incidents is multi-faceted. There is little to no warning time for the ignition of most fires. Once a fire has started and has been detected, a second level of warning comes in the form of the potential need for evacuations, which can be

[18] Sanborn Map Company, 2013, West Wide Wildfire Risk Assessment, Final Report, prepared for the Oregon Department of Forestry in cooperation with the Western Forestry Leadership Coalition and Council of Western State Foresters.

[19] Arizona Wildfire Risk Assessment Portal (AZWRAP), accessed at: https://arizonawildfirerisk.com/

in hours or days, depending on the fire's location and proximity to populated areas. Most modern agencies can monitor the size and growth of a fire in real time, which optimizes the ability to give responders time to evacuate at-risk homes and residents when necessary.

Vulnerability Assessment

Facilities and Infrastructure Exposure and Loss Estimates - The estimation of potential exposure and loss to the identified HIGH and MEDIUM wildfire hazards was accomplished by using GIS tools to intersect the GRIC facilities and infrastructure (GRIC-FI) data with the modified FTI wildfire hazard limits as depicted on Exhibit 4. The loss calculations assume that facilities located within HIGH and MEDIUM hazard areas will be 25% and 10% damaged, respectively. The loss estimates presented are collective and based on a single event, assumimg that the entire region is burning to the depicted hazard at the same time. Table 18 presents the GRIC-FI exposure and loss estimates summarized by GRIC District and Community-Wide totals.

Table 18. GRIC-FI HIGH hazard wildfire exposure and loss estimates by District and Community-wide totals

GRIC District	Facility Classification	Total Facilities Reported for District	HIGH Hazard Wildfire Impacted Facilities	Percentage of Total Community Facilities Impacted	Total Replacement Value of All Facilities Reported by Community (x $1,000)	Estimated Replacement Value of Facilities Exposed to Hazard (x $1,000)	Estimated Loss to Facilities Exposed to Hazard (x $1,000)
1	Critical	21	13	61.9%	$91,942	$54,006	$13,501
1	Non-Critical	479	136	28.4%	$364,443	$80,821	$20,205
2	Critical	5	2	40.0%	$29,986	$17,486	$4,372
2	Non-Critical	223	64	28.7%	$153,761	$43,833	$10,958
3	Critical	98	61	62.2%	$633,237	$301,873	$75,468
3	Non-Critical	837	577	68.9%	$546,287	$371,396	$92,849
4	Critical	45	6	13.3%	$341,599	$26,076	$6,519
4	Non-Critical	1173	291	24.8%	$2,324,441	$482,884	$120,721
5	Critical	39	13	33.3%	$117,066	$23,519	$5,880
5	Non-Critical	940	178	18.9%	$631,117	$123,866	$30,967
6	Critical	43	39	90.7%	$247,076	$209,083	$52,271
6	Non-Critical	804	588	73.1%	$1,060,859	$724,346	$181,086
7	Critical	8	0	0.0%	$27,825	$0	$0
7	Non-Critical	242	111	45.9%	$145,845	$69,425	$17,356
GRIC Totals	Critical	259	134	51.7%	$1,488,732	$632,042	$158,011
	Non-Critical	4698	1945	41.4%	$5,226,754	$1,896,571	$474,143

Table 19. GRIC-FI MEDIUM hazard wildfire exposure and loss estimates by District and Community-wide totals

GRIC District	Facility Classification	Total Facilities Reported for District	MEDIUM Hazard Wildfire Impacted Facilities	Percentage of Total Community Facilities Impacted	Total Replacement Value of All Facilities Reported by Community (x $1,000)	Estimated Replacement Value of Facilities Exposed to Hazard (x $1,000)	Estimated Loss to Facilities Exposed to Hazard (x $1,000)
1	Critical	21	5	23.8%	$91,942	$25,000	$2,500
1	Non Critical	479	204	42.6%	$364,443	$180,097	$18,010
2	Critical	5	3	60.0%	$29,986	$12,500	$1,250
2	Non Critical	223	145	65.0%	$153,761	$101,811	$10,181
3	Critical	98	4	4.1%	$633,237	$141,369	$14,137
3	Non Critical	837	15	1.8%	$546,287	$6,222	$622
4	Critical	45	20	44.4%	$341,599	$159,604	$15,960
4	Non Critical	1173	402	34.3%	$2,324,441	$721,652	$72,165
5	Critical	39	12	30.8%	$117,066	$59,074	$5,907
5	Non Critical	940	292	31.1%	$631,117	$197,169	$19,717
6	Critical	43	2	4.7%	$247,076	$25,000	$2,500
6	Non Critical	804	67	8.3%	$1,060,859	$45,110	$4,511
7	Critical	8	4	50.0%	$27,825	$13,808	$1,381
7	Non Critical	242	25	10.3%	$145,845	$14,875	$1,488
GRIC Totals	Critical	259	50	19.3%	$1,488,732	$436,355	$43,636
	Non Critical	4698	1150	24.5%	$5,226,754	$1,266,938	$126,694

Vulnerable Population Groups - The estimation of potential human exposure to the identified HIGH and MEDIUM wildfire hazards was accomplished by using GIS tools to intersect the 2020 Census block level population data with the flood hazard limits depicted on the Exhibit 4 profile map.

Table 20. 2020 Census population HIGH hazard wildfire exposure estimates by District and Community-wide totals

District	2020 Census Population			HIGH Hazard Exposed Population Count			Percentage of Population Exposure		
	Total	Under 18	Over 65	Total	Under 18	Over 65	Total	Under 18	Over 65
1	1,279	402	123	323	96	29	25.2%	23.9%	23.3%
2	619	205	58	83	28	5	13.5%	13.7%	9.4%
3	3,350	1,093	274	2220	725	152	66.3%	66.3%	55.4%
4	2,775	962	230	757	253	68	27.3%	26.3%	29.7%
5	2,433	843	185	506	191	24	20.8%	22.7%	12.9%
6	2,956	1,059	208	2176	769	148	73.6%	72.6%	71.1%

District	2020 Census Population			HIGH Hazard Exposed Population Count			Percentage of Population Exposure		
	Total	Under 18	Over 65	Total	Under 18	Over 65	Total	Under 18	Over 65
7	633	209	40	176	56	10	27.8%	26.6%	25.5%
GRIC Totals	**14,045**	**4,773**	**1,118**	**6,241**	**2,117**	**436**	**44.4%**	**44.4%**	**39.0%**

Table 21. 2020 Census population MEDIUM hazard wildfire exposure estimates by District and Community-wide totals

District	2020 Census Population			MEDIUM Hazard Exposed Population Count			Percentage of Population Exposure		
	Total	Under 18	Over 65	Total	Under 18	Over 65	Total	Under 18	Over 65
1	1,279	402	123	510	184	39	39.9%	45.9%	31.4%
2	619	205	58	437	141	42	70.5%	68.9%	73.1%
3	3,350	1,093	274	118	35	4	3.5%	3.2%	1.6%
4	2,775	962	230	892	316	66	32.1%	32.9%	28.5%
5	2,433	843	185	559	173	47	23.0%	20.6%	25.5%
6	2,956	1,059	208	187	70	10	6.3%	6.7%	4.9%
7	633	209	40	44	14	2	7.0%	6.7%	5.8%
GRIC Totals	**14,045**	**4,773**	**1,118**	**2,746**	**935**	**211**	**19.6%**	**19.6%**	**18.8%**

Climate Change Considerations - The NCA reports (Garfin, et.al., 2014 and Gonzales, et.al., 2018) note that one of the anticipated impacts of climate change for the Southwest is an increase in the frequency and magnitude of wildfires due to increased temperatures and seasonal reductions in snowpack and spring runoff. The NCA report also notes that drought conditions are expected to be more frequent and more intense. The Ecological Restoration Institute's (ERI) Working Paper No. 34 (Kent, 2015) concludes:

"Climate change may impact fire through three pathways: alteration of fuel moisture, alteration of fuel loading, and alteration of ignitions. Alteration of fuel moisture in the Southwest may happen through longer fire seasons, increased temperatures, decreased relative humidity, or changes in precipitation. Alteration of fuel loading has been predicted due to tree mortality and loss of vegetation cover, range shifts, changes in regeneration patterns, and disturbances themselves, such as insect outbreaks and severe fire. Lightning ignitions may increase, but ignitions are the least understood aspect of how climate change may influence fire.

Different ecosystems will respond to climate change differently. Ecosystems in which fires are generally limited by fuel moisture (wetter, more productive ecosystems which typically need a drought year to burn) will be most affected by changes to fuel moisture. Ecosystems in which fires tend to be limited by fuel availability (drier, less productive ecosystems in which fire may be limited by fuel continuity) will be most affected by changes to fuel loading. Any changes in ignitions will likely affect all ecosystem types.

The impacts of climate change on fire regimes may change over time; fire risk may be high initially but decrease in the long term with changes in vegetation and fuels."

Development Trend Assessment – The Community growth discussed in the previous hazard sections has also resulted in some minor expansion of the wildland urban interface (WUI) and particularly in the areas that are adjacent to the Gila River floodplain and riparian wash corridors for the larger watercourses within the Community boundaries. By its very definition, the WUI represents the fringe of urban development as it intersects with the natural environment. As the Community pushes development further out, more WUI is created. Continued maintenance of weeds and grass accumulation within these WUI areas is key to mitigating the risk of damages by wildfire.

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National Interagency Fire Center, 2024, Wildland Fire Open Data Portal accessed at: https://data-nifc.opendata.arcgis.com/

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Profile Maps

Exhibit 4 – Wildfire Hazard Profile Map

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN

EXHIBIT 4
WILDFIRE HAZARD PROFILE MAP

EMERGENCY MANAGEMENT
GILA RIVER INDIAN COMMUNITY 1939 ARIZONA

N
W E
S

0 1 2 4
Miles

Hazard Profile

Wildfire Hazard
- Medium
- High

Legend
- GRIC_Districts
- Interstate
- State Route
- Other Roads

SECTION 5: MITIGATION STRATEGY

> ***§201.7(c)(3):*** *[The plan shall include…] A **mitigation strategy** that provides the Indian tribal government's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:*
> *(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*
> *(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.*
> *(iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the Indian Tribal Government.*
> *(iv) A discussion of the Indian tribal government's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: An evaluation of tribal laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas; and a discussion of tribal funding capabilities for hazard mitigation projects.*
> *(v) Identification of current and potential sources of Federal, tribal, or private funding to implement mitigation activities.*

The mitigation strategy provides the "what, when, and how" of actions that will reduce or possibly remove the Community's exposure to hazard risks. According to DMA 2000, the primary components of the mitigation strategy are generally categorized into the following:

- Capability Assessment
- Goals and Objectives
- Mitigation Actions/Projects and Implementation Strategy

The entire 2015 Plan mitigation strategy was reviewed and updated by the PT. Specifics of the changes and updates are discussed in the subsections below.

5.1 Capability Assessment

The PT reviewed the capability assessment section and Tables Q, R, S, and T of the 2015 Plan. Several changes were warranted, and, in some cases, departmental responsibilities have changed since the 2015 Plan. The following materials are the result of a complete overhaul by the PT for this Plan update.

The capability assessment in this Plan is comprised of the following components:

- **Legal and Regulatory Review** – a review of the legal and regulatory capabilities, including ordinances, codes, plans, manuals, guidelines, and technical reports that address hazard mitigation activities.
- **Technical Staff and Personnel** – this assessment evaluates and describes the administrative and technical capacity of the department and/or enterprise's staff and personnel resources.
- **Fiscal Capability** – this element summarizes the Community's fiscal capability to provide the financial resources to implement the mitigation strategy.
- **Pre- and Post-Disaster Hazard Management Practices** – this assessment lists and describes each GRIC department/agency's roles and responsibilities as they pertain to pre- and post-disaster management and policies.

5.1.1 Legal and Regulatory Review

The PT reviewed the 2015 Plan Table Q to update and revise the references to legal and regulatory tools and guidelines currently in use by the GRIC. The results of that action are listed in Table 22. In addition to the listed items, the GRIC officially updated the Community's Land Development Procedures via Resolution GR-027-20, adopted March 4, 2020. Included in that document is an exhaustive listing of codes, ordinances, guidance documents, and other references applicable to land development within the GRIC, with responsible GRIC department / agency listed. The contents of the Community's Land Development Procedures are included in this capability assessment and can be downloaded at: LAND-DEVELOPMENT-PROCEDURES.pdf

Table 22. Legal and regulatory capabilities for Gila River Indian Community (formerly Table Q)

Category	Regulatory Tool Name/List	Responsible Agency or Department	Purpose/ Description	Hazard Mitigation Impact
Building Codes	IHS Building Code (Sewer) – most current EPA Clean Water Drinking Act and Safe Water Drinking Act Regulations Natl Electric Building Code – latest available OSHA Codes	DPW	Codes for design and construction of water and wastewater systems Codes for industrial electrical elements of CFIs General worker safety	Conformance with standard operating, maintenance and construction requirements for DPW CFI.
	IFC 2012 NFPA Standards	GRFD	Building safety regarding fire related design and mitigation.	Adherence to codes will result in safer structures that are less at risk to damage from fires
	GRICUA Line Construction Standards	GRICUA	GRICUA power line construction standards based on RUS specifications and the National Electric Code.	Construction standards to ensure power lines are constructed to industry standards to mitigate potential hazards.

Category	Regulatory Tool Name/List	Responsible Agency or Department	Purpose/ Description	Hazard Mitigation Impact
Zoning Ordinance or Practices	GRIC Code Title 21 – Fire and Public Safety	GRFD	Contains IFC mods; requires all businesses to have an EOP for fire related risks	Same as above with the added benefit of providing safe evacuation routes for commercial and industrial structures.
	GRIC Code Title 20	LUPZ	To protect the character and stability of the residential, commercial, industrial, agricultural and open space areas with the Community and to promote the orderly and beneficial development of such areas; to regulate the location, erection, construction, reconstruction, alteration and use of buildings, structures and land for those use listed above	Prevents the construction of buildings and structures within hazardous areas to promote and protect the public health, safety and general welfare of the people
Special Purpose / Hazard Specific Ordinances	Disaster Relief and Emergency Assistance Plan (passed by Resolution GR-136-98)	GRIC OEM	The Disaster Relief and Emergency Assistance Plan provides funding for the Office of Emergency Management allowing for some funds for mitigation projects.	In the past the DREAP has been used for mitigation activities such as vegetation management and brush clearing to prevent wildfires.
	Waste Management Ordinance	DEQ	Regulates the solid waste disposal on reservation lands.	Mitigation of debris and trash accumulation during flooding events due to proper management. Mitigation of fire/wildfire through reduction of potential fuels in trash and debris.
	Wastewater and Reclaimed Water Management Ordinance	DEQ	Regulates treatment of wastewater and usage of reclaimed water.	Mitigating overflow of wastewater treatment facilities during extreme weather events (flood, power failure, etc.)
	Pesticide Ordinance	DEQ	Regulates the production, transportation, storage, and use of pesticides.	Mitigates the risk of potential fires through production, transportation, storage, and use of pesticides
	Air Quality Management Plan	DEQ	Overall air quality management tool by regulating emissions.	Mitigates risk of exposure to harmful air pollutants through regulation of air emission sources and monitoring of ambient air quality
Land Use Plan	General Land Use Plan	LUPZ	To manage and provide direction for land use in the Community by implementing the vision, goals and strategies of the Community while reflecting on best practices and projections for future growth	Guides appropriate land use and directs the construction of buildings and structures to appropriate areas within the Community; to promote and protect the public health, safety and general welfare of the people

Category	Regulatory Tool Name/List	Responsible Agency or Department	Purpose/ Description	Hazard Mitigation Impact
Capital Improvement Plans	GRIC CIP Program	Tribal Projects with participating departments and agencies providing projects for the CIP list	Provides and annual allocation of financial resources for implementing capital projects and other work as submitted by participating GRIC departments and agencies and approved by the Tribal Council	Many of the capital improvement projects are directly implemented for the purpose of hazard mitigation.
	GRICUA Capital Improvement Plans	GRICUA	The GRICUA Capital Improvement Plan provides guidance on GRICUA system growth and reliability upgrades.	Various capital improvement projects performed by GRICUA improve system reliability through the addition of redundant circuits and or hardened circuits to mitigate potential outages and hazards.
Emergency Operations Plan	GRIC Multi-Hazard Emergency Operations Plan (2003)	GRIC OEM Participating Depts: DPW, GRFD, GRHC, GRPD, GRICDOT	The EOP is an all-hazards plan that establishes a single comprehensive framework for the management of domestic incidents and provides the structure and mechanisms for the coordination among GRIC departments, districts and entities. It provides a framework in which the Community government, its officials, departments, programs, and entities, as well as other governmental and nongovernmental entities, may respond to a disaster or emergency.	The EOP identifies risks and vulnerabilities associated with natural disasters, provides organizational response and recovery structure and provides short term and long long-term strategies which promotes a rapid recovery that takes into consideration mitigation projects for the affected area(s) to reduce or eliminate impacts from future hazard events. After action reporting can help to identify future mitigation needs and actions/projects, training needs, and GRIC vulnerabilities.
Transportation Plans	Bridge Replacement Plan GRICDOT Chip Seal Plan	GRICDOT	Plan that identifies and prioritizes bridge replacement locations. Plan that identifies and prioritizes unpaved IRR Roads for installation of all-weather chip seal	Effective and timely bridge management avoids losses and maintains critical access and connection during hazard events like floods. Paving of IRR Roads reduces dust pollutants and elevates road safety for motorists traveling during hazard events.

Category	Regulatory Tool Name/List	Responsible Agency or Department	Purpose/ Description	Hazard Mitigation Impact
Drainage Master Plans	Flood Control and Drainage Design Guidance Manual, Sacaton Area Drainage Master Study, Casa Blanca Area Drainage Master Stud, Komatke Area Drainage Master Study	LUPZ	The manual is provided as a regulatory document to guide development on the reservation lands to ensure drainage does not impact existing and future development. The area drainage master studies quantify flooding impacts and recommendations on how to address those impacts.	The manual is a non-structural form of flood mitigation to regulate land development. The area drainage master studies report problematic areas so structural mitigation measures can be constructed.
Special Purpose Plans	Healthy Forest Initiative	DEQ	Fuels reduction in the Gila River corridor.	Mitigation of wildfire damages through active fuels reduction and vegetative management.
Development / Site Plan Review Process Design Standards	IHS and EPA Standard Compliance Reviews DPW Engineering Services Division has adopted the generally accepted Engineering Design Standards as presented by the American Water Works Association (AWWA) and the Maricopa Association of Governments (MAG) as the design standards for the GRIC.	DPW (for water and wastewater systems)	Ensure new or substantially updated water and wastewater systems meet code and generally accepted design standards	Ensure resiliency of water and wastewater CFIs to all forms of hazards

Category	Regulatory Tool Name/List	Responsible Agency or Department	Purpose/ Description	Hazard Mitigation Impact
	Commercial and Industrial building plan fire code compliance	GRFD	GRFD reviews all commercial and industrial building and site planning for fire code compliance and EOPs	See notes in codes and ordinance sections
	Flood Control and Drainage Design Guidance Manual	LUPZ	To implement flood control and interim drainage policies and standards for the Community.	To have a comprehensive storm water management program that protects the health, safety and welfare of the Community members, assets, land and the environment.
	Land Development Procedures	LUPZ	To protect the health, safety and general welfare of the Community by ensuring all developments on the Community are properly designed, in keeping with adopted standards	To protect the Community's natural environment by encouraging development practices that protect the wildlife, vegetation, land, watercourses, air quality, and water quality and supply, and avoiding development that poses a threat to the Community's environment and members
Maintenance Programs to Reduce Risk	O&M of Water and Wastewater Systems including Fire Hydrants	DPW (for water and wastewater systems)	Ensure existing water and wastewater systems are fully functioning and operational	Keeping water available for wildfire response and overall system reliability.
	GRHC Standard Maintenance Program	GRHC	Regular maintenance of GRHC facilities.	GRHC facilities are part of the critical facilities inventory and proper maintenance will ensure resource availability when needed.
	Gila River Woodlands Management Plan	DEQ	Fuels reduction in the Gila River corridor.	Mitigation of wildfire damages through active fuels reduction and vegetative management.
Various Hazard Mitigation Plans	BIA/PIMA Wildfire Management Plan	BIA – Pima Agency	National fire policy requires that all federally managed lands with burnable vegetation have approved wildland fire management plans (WFMP). BIA Pima Agency (PMA) currently has an approved WFMP. The intent of the WFMP is to define and document procedures regarding wildland fire management; and to consolidate all wildland fire management guidance, direction, and activities required to implement national fire policy and direction and to meet tribal goals and objectives.	Reduction in wildfire risk across the Community.

Category	Regulatory Tool Name/List	Responsible Agency or Department	Purpose/ Description	Hazard Mitigation Impact
LIST OF IDENTIFIED NEEDS OR GAPS: • DEQ - Need for an updated fuels and woodlands management plan. • DEQ - A plan of response to radioactive incidents. • DEQ - A plan of response to electric vehicle related battery fires. • GRFD - Need to update to most current IFC codes to address new technologies such as EV fires. • OEM - Departments/Agencies will need to develop natural disaster response and recovery plans and checklist in coordination with the GRIC EOP and DREAP. • OEM – Create and inventory of unreinforced masonry/adobe buildings in coordination with CRMD				

5.1.2 Technical Staff and Personnel

The PT reviewed the 2015 Plan Table S to update and revise the assessment of GRIC technical staff and personnel capabilities. The results of that action are listed in Table 23.

Table 23. Technical staff and personnel capabilities for the Gila River Indian Community (formerly Table S)

Technical Staff and Personnel	
Staff/Personnel Resources	**Department/Agency – Position(s)**
Planner(s) or engineer(s) with knowledge of land development and land management practices	• Department of Transportation – (Right of Way Agents and Civil Engineers) • Land Use Planning & Zoning– (Planning Project Manager, Land Use Planners, Flood Control Engineering Project Coordinator and Hydrologist) • Department of Public Works– (Director, Senior Civil Engineer, Civil Engineer)
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	• Department of Public Works– (Director, Senior Civil Engineer, Civil Engineering Technician, Right of Way Agent, Capital Projects Coordinator) • GRIC Utility Authority Engineering and Operations (General Manager, Director of Engineering, Director of Operations, General Foreman)
Planner(s) or engineer(s) with an understanding of natural and/or human-caused hazards	• Office of Emergency Management – (Public Health Emergency Preparedness Coordinator and Emergency Management Specialist) • Gila River Health Care – (Director of ECEM, Safety Officer, Employee Health Nursing) • Department of Transportation – (Civil Engineers) • Department of Environmental Quality – (Director, Program Manager)
Floodplain Manager	• Land Use Planning & Zoning – (Flood Control Engineering Project Coordinator)
Surveyors	• Land Use Planning & Zoning – (Land Survey Manager, Land Surveyor in Training, Civil Engineering Technicians, Survey Party Chiefs and Survey Instrument Technicians)

Technical Staff and Personnel	
Staff/Personnel Resources	**Department/Agency – Position(s)**
Staff with education or expertise to assess the community's vulnerability to hazards	• Office of Emergency Management – (All OEM Staff) • Fire Department – (Fire Chief and Deputy Chief) • Police Department – (Police personnel that have been here from several years including Police Officers, Sergeants, Lieutenants, Commanders, and Rangers) • Gila River Health Care – (Director of ECEM, Safety Officer, Employee Health Nursing, Chief Operating Officer) • Department of Environmental Quality – (Director, Program Manager)
Personnel skilled in GIS and/or HAZUS	• Land Use Planning & Zoning – (Director, GIS Program Manager, Flood Control Engineering Project Coordinator) • GRIC Utility Authority (Director of Operations, GIS Systems Analyst Foreman)
Emergency manager	• Office of Emergency Management – (OEM Director and Emergency Management Coordinator) • Gila River Fire Department and Gila River Police Department will send representative to EOC during activation (GRFD - Fire Chief, Deputy Chief, or Shift Commander) • Gila River Health Care – (Director of ECEM, Safety Office) • GRIC Utility Authority (General Manager, Director of Engineering, Director of Operations, General Foreman)
Grant writer(s)	• Office of Emergency Management – (Emergency Management Grants Specialist) • Individual departments are responsible for writing that department's grants
Others	• Gila River Fire and Police Departments as first responders • Cultural Resources – (Archaeologists)

Technical Staff and Personnel	
Staff/Personnel Resources	**Department/Agency – Position(s)**
LIST OF IDENTIFIED NEEDS OR GAPS: • DEQ - Additional training in hazard mitigation and emergency response. • DPW - Need resources (staff and/or professional services) to advance CIP projects and preventative maintenance programs • GRFD - Need more qualified fire personnel and training in responding to new technology fires from EVs, etc. • GRIC OEM - create and staff GIS position for natural disaster and emergency response mapping. • GRIC OEM - conduct more classes and outreach to the public in hazard mitigation with the focus on building preparedness and resiliency.	

5.1.3 Fiscal Capability

The PT reviewed the 2015 Plan Table T to update and revise the assessment of GRIC fiscal capabilities. The results of that action are listed in Table 24.

Table 24. Fiscal capabilities for the Gila River Indian Community (formerly Table T)

Fiscal Capabilities for Gila River Indian Community		
Potential Financial Resources for Mitigation Activities	**Potential Mitigation Use Descriptions and Funding Notes**	**Used for Past Mitigation Activities? (YES or NO)**
Capital Improvement Project Funding	• DPW - Construct new and maintain existing DPW CFI • GRHC – All capital improvements • LUPZ - Projects are submitted for CIP funding and approved by the Council. Projects include drainage and flood control studies and improvement projects • GRICUA – System related capital projects are geared towards system growth, improved system reliability, or grid resiliency / system hardening.	YES
Gaming Revenue	• Potential source of funding	Unknown
Enterprise Revenue	• Potential source of funding	Unknown
Fees for Water, Sewer, Gas, or Electric Services	• DPW – Fees for water and solid waste services to commercial and industrial users	YES
Community Development Block Grants	• GRIC is eligible for CDBG	Unknown

Fiscal Capabilities for Gila River Indian Community		
Potential Financial Resources for Mitigation Activities	**Potential Mitigation Use Descriptions and Funding Notes**	**Used for Past Mitigation Activities? (YES or NO)**
General Obligation or Special Tax Bonds	• GRIC can initiate these to source funding with Tribal Council approval	Unknown
Specific Purpose Tax Levees	• GRIC can initiate these to source funding with Tribal Council approval	Unknown
Non FEMA Federal Funds (BIA, FHWA, USBR, USDA, USACE, or ???)	• BIA-GRIC Cooperative Agreement for Wildland Fire Management – (Cooperative Agreement for Wildland Fire Management, which allows some tribal departments (CRMP and GRFD) to deploy to work on wildland fire incidents and to be reimbursed by BIA for those efforts.) • IHS Grants • HUD Grants (Septic Tank Replacements) • Federal Highways Program – Tribal Transportation Program (Funding to maintain, repair and construct roads and bridges) • BIA 638 Contract Funds (GRICUA uses some BIA 638 contract funds to fund approved system improvement projects) • EPA (Training, cleanup funds, Brownfield assessments, etc.)	YES
DREAP Funds	• Utilized to assist families and programs in bringing the community back to pre-disaster conditions	YES
General Tribal Funding	• DEQ general activities and expenses, training, and misc. • GRFD general activities and expenses • GRHC general activities and expenses • GRICDOT general operating budget • GRPD general activities and expenses	YES

Fiscal Capabilities for Gila River Indian Community		
Potential Financial Resources for Mitigation Activities	**Potential Mitigation Use Descriptions and Funding Notes**	**Used for Past Mitigation Activities? (YES or NO)**
LIST OF IDENTIFIED NEEDS OR GAPS: • DEQ – Additional funding for training and expenses. • DPW - Needed resources (funding) to advance CIP projects and preventative maintenance programs • GRFD - Help with grant writing and administration • GRIC OEM - the Community could consider expanding pursuit of FEMA mitigation grants by developing a scheduled 5-to-10-year project list based on cost-benefit, hazard and scope of work.		

5.1.4 Pre- and/or Post-Disaster Hazard Management Responsibility by Department/Agency

The PT reviewed and edited the 2015 Plan Table R to update and revise the roles and responsibilities for the various GRIC departments and agencies, with the updated responses summarized below in Table 25.

Table 25. Pre- and post-disaster hazard management responsibilities for the Gila River Indian Community (formerly Table R).

GRIC Department or Agency	Hazard Mitigation Activities
Executive Office	• Ultimate authority for all GRIC hazard management and mitigation activities and funding. • Aids with legal advice and services. • Grant and Contract writing support and administration.
Management Information Systems (MIS)	• IT infrastructure, services, and support. • Maintains all telecommunications.
Office of Emergency Management	• Disaster/emergency response, resource coordination and recovery coordination. • Management and update responsibility for the GRIC Emergency Operations Plan. • Management and Update responsibility of the Hazard Mitigation Plan. • Promoting/Providing programs and education aimed at community (members and governmental) preparedness.

GRIC Department or Agency	Hazard Mitigation Activities
Gila River Fire Department	• Provides protection for the life and property of the inhabitants and visitors of GRIC from adverse effects of fire, medical emergencies, hazardous materials, wild land fires or exposure to dangerous conditions. • Emergency response. • Fire Prevention. • Participation in the Chemical Tribal Emergency Response Committee.
Gila River Police Department	• Providing Public Safety and Law Enforcement services to the residences, employees, guests and visitors of the community through the enforcement of tribal, state, and Federal laws/ordinances. • Efficient and timely response to emergency situations within the community. • Enhancing the Quality of Life for GRIC through community partnerships. • Participation in the Chemical Tribal Emergency Response Committee.
Department of Environmental Quality	• Manages and regulates the storage, collection, transportation and disposal of solid waste and hazardous waste. • Actively investigates sites (when applicable) after environmental incidents such as releases or spills occur. • Subject matter resource for emergency response. • Participation in the Chemical Tribal Emergency Response Commission. • Environmental awareness and prevention programs • Post disaster sampling, monitoring, and testing for long-term. • Post disaster regulation of vector control. • Provide near-real-time weather and particulate matter (dust & visibility) conditions at three locations within GRIC (St. Johns, Casa Blanca, Sacaton).
Land Use Planning and Zoning	• Establishes and implements codes pertaining to land use, building and site development. • Development Review and Design Technical Assistance. • Mapping & Geographic Information Systems support and development. • Floodplain management and delineation. • Range conservation and management. • Livestock management. • Native Plant protection • Acquisition of rights of way, land sales and land exchanges
Community & Public Affairs Office	• Public information and warning. • Communication with all key stakeholders including employees, community members and leadership • Manages modes of communication

GRIC Department or Agency	Hazard Mitigation Activities
Health Resources Department	• Behavioral health services. • Case management.
Gila River Health Care	• Hospital and emergency medical services.
Gila River Indian Community Utility Authority	• Maintains all electrical facilities. • Emergency response and repair for hazard damaged electrical facilities.
Pima Leasing – BIA	• Assistance with right-of-way and land leases.
Community Services Department	• Volunteer support and coordination. • Transportation, mass care, and shelter assets.
Legislative Branch	• District representation for legislating Tribal codes, ordinances, and appropriations.
Judicial Branch	• Provide legal support. • Court system.
Department of Public Works	• Maintains and repairs water and wastewater systems. • Motor pool and fleet maintenance. • Solid waste management. • Water Supply (Wells) • Water treatment facilities (MBR Plants and RO Plants)
GRIC Facility Maintenance	• Facilities management. • Emergency repairs and restoration.
Cultural Resource Management Program	• Provides archaeological monitoring of emergency undertakings • Provides archaeological survey and monitoring for wildfire incidents
Department of Transportation	• Coordination with state DOT (ADOT) during emergencies • Provide equipment and barricades as work pertains the roadways • Provide equipment and labor to clear roads post-disaster.
LIST OF IDENTIFIED NEEDS OR GAPS: • DEQ - Need for resources and tools to respond effectively. • GRFD - Need for equipment, training and resources to deal with emerging technology like EVs to mitigate vehicle fires spawning roadside wildfires.	

As is summarized in Tables 22-25, the GRIC has many good programs, policies, and regulations in-place to provide effective hazard mitigation, and has significantly expanded those capabilities since the 2015 Plan. An evaluation of the capabilities listed in those tables was performed by the PT and any mitigation related gaps and opportunities were identified and listed in the footer of each table. In general, the list included:

- A need for increased understanding and pursuit of available mitigation grant programs on the part of all tribal departments.
- A recognition that current building codes are slightly outdated and should be updated.

- A general ongoing need for additional resources and funds to meet the ever-changing technology and growth across the Community.

5.1.5 Presidential Disaster Declaration Actions

Upon receipt of a presidential disaster declaration, the GRIC OEM officials will work with FEMA to develop two post-disaster hazard management tools as follows:

- Public Assistance Administration Plan
- Hazard Mitigation Grant Program Administration Plan.

Both plans will be used by GRIC to identify the roles and responsibilities of the Community in administering the FEMA Public Assistance (PA) and Hazard Mitigation Grant Programs (HMGP), and to outline staffing requirements and the policies and procedures to be used. A result of developing these plans will be to further focus GRIC resources on the importance of hazard management and mitigation planning.

5.2 Hazard Mitigation Goals and Objectives

The 2015 Plan goals and objectives were reviewed and discussed by the PT during the 4th Planning Team meeting. The PT elected to make some minor modifications to the goal statement and objectives to add clarity and better definition. The updated goal and objectives for the 2024 Plan will read as follows:

GOAL: Reduce or eliminate risks that threaten the life, property, and infrastructure from natural hazards in Gila River Indian Community.

Objective 1: Conduct hazard mitigation activities and projects throughout the Community.

Objective 2: Increase public awareness and education of identified hazards and risks that threaten the Community.

Objective 3: Educate Community officials on hazards and risks that threaten the Community as well as increase knowledge of mitigation principles and practices.

Objective 4: Establish and maintain partnerships with internal and external stakeholders to improve coordination, communication, and to increase joint mitigation activities and projects.

Objective 5: Identify and pursue hazard mitigation project funding opportunities for use by Community.

5.3 Mitigation Actions/Projects and Implementation Strategy

Mitigation actions/projects (A/P) are those activities identified by the PT that, when implemented, will have the effect of reducing the community's exposure and risk to the hazard or hazards being mitigated. The implementation strategy addresses the "*how, when, and by whom?*" questions related to implementing an identified A/P.

The update process for defining the new list of mitigation A/Ps for the Plan was accomplished in three steps. First, an assessment of the actions and projects specified in Table V, Section 4.4 of the 2015 Plan was performed, wherein each of the A/Ps listed was reviewed and

evaluated by the PT and more specifically, the GRIC department/agency identified as responsible. Second, a new list of A/Ps for the Plan was developed by combining the carry forward results from the assessment with new A/Ps. Third, an implementation strategy for the combined list of A/Ps was formulated. Details of each step and the results of the process are summarized in the following sections.

5.3.1 Previous Mitigation Actions/Projects Assessment

The PT reviewed and assessed each of the A/Ps listed in Table V of the 2015 Plan. The assessment included evaluating and classifying each of the previously identified A/Ps based on the following criteria:

STATUS		***DISPOSITION***	
Classification	Explanation Requirement:	Classification	Explanation Requirement:
"***No Action***"	Reason for no progress	***"Keep"***	None required
"***In Progress***"	What progress has been made	***"Revise"***	Revised components
"***Complete***"	Date of completion and final cost of project (if applicable)	***"Delete"***	Reason(s) for exclusion.

Any A/P with a disposition classification of "Keep" or "Revise" was carried forward to become part of the new A/P list for the Plan. All A/Ps identified for deletion were removed and are not included in this updated plan. The results of the assessment for each of the 2015 Plan A/Ps are summarized in Table 26

5.3.2 New Mitigation Actions / Projects and Implementation Strategy

The first step in developing new mitigation actions/projects was to conduct a brainstorming session during Planning Team Meeting No. 4. Using the goals, results of the vulnerability analysis and capability assessment, the Planning Team's institutional knowledge of hazard mitigation needs in the Community, and the previous list developed for the 2015 Plan, the PT brainstormed to develop a comprehensive list of potential mitigation A/Ps that address multiple natural hazards. Many of the identified actions/projects were gleaned from prior planning documents, FEMA guides, and other tribal plans with similar hazard profiles. The results of that brainstorming effort are summarized in Appendix D. It is noted and acknowledged that several of the A/Ps listed are not purely mitigation and may not qualify as creditable mitigation A/Ps, but the PT chose to keep them anyway.

Table 26. GRIC Planning Team assessment of previous plan cycle mitigation actions/projects

ID	Description	• **Lead Agency** • **Proposed Cost** • **Proposed Comp Date**	Status	Disposition	Explanation
S9	D3 New Drainage Channels - Casa Grande Hwy Construct improved drainage channels along Casa Grande Hwy Revision-redesign future home development	• Dept of Transportation • $20K • 2018	No Action	Keep	Waiting to begin Casa Blanca Roadway Re-design project.
NS4	Identify specific code provisions and strengthen enforcement of provisions that will reduce damages due to high winds associated with monsoon storms.	• GRFD / Tribal Projects • TBD • 2016	In Progress	Keep	2012 IFC was adopted in 2017. This is primarily a Tribal Projects/Building Inspections task. GRFD will take responsibility for the fire code related tasks.
NS6	Provide coordination and funding for community-wide weed abatement in cooperation with the District Service Centers and Dept of Corrections. Project consists of a hazard assessment, scope of work and provision of labor, materials and equipment.	• OEM • $20K Annually • On-going	No Action	Delete	The project was not planned or completed. No further actions are anticipated by OEM
NS7	Fire Hazard Reduction Education & Outreach Initiative - annual education & outreach activities.	• OEM / GRFD • TBD • Annual	In Progress	Keep	This project continues in collaboration with GRFD. Both departments promote information to the community to include the "Ready Set Go" campaign. Education & outreach has been done on multiple occasions by GRFD throughout each year for the last planning cycle
NS11	Replacement of Route 7 Bridge over the Gila River - the project will provide double capacity. 95% design completed.	• Dept of Transportation • $2.7 million • Construction to begin 2014	Complete	Delete	Construction completed in 2015 Plan cycle period.
NS12	PMIP Drainage Easement Subdivision in D2	• PMIP • Unknown • TBD	Complete	Delete	Construction completed by P-MIP in June 2014. Total project cost was approximately $2.5M
NSOEM1	Emergency Power - Provide for emergency power to key facilities for use during extreme heat conditions and during power outages.	• OEM • $300,000 • TBD	In Progress	Keep	Continue to provide emergency power to key facilities for use during extreme heat conditions and during power outages, with equipment on hand and/or equipment outsourced.

ID	Description	• Lead Agency • Proposed Cost • Proposed Comp Date	Status	Disposition	Explanation
NS2	D3 Operation Maintenance Plan – District 3 Drainage System/Facilities. Prepare draft O&M guidelines	• LUPZ • TBD • 2016	In Progress	Keep	Construction of some flood control infrastructure is complete. Maintenance of new and old infrastructure in progress.
NS10	Enhance Water System Security. Coordinate with the Dept of Public Works to fund and implement recommended site improvements proposed in the Vulnerability Assessment.	• Dept Public Works • Unknow • 2016	In Progress	Keep	Camera and access control upgrades are being implemented at multiple critical facilities over the last planning cycle
S1a	D3 Cross Drainage Improvements – Pima Street Culvert	• Dept of Transportation • $100,000 • 2016	In Progress	Keep	Design is Complete. Set to go out to bid for construction in summer 2024.
S7	D3 Bluebird Channel. Construct new drainage channel along Bluebird from Ocotillo to Casa Grande Hwy	• LUPZ • $500,000 • 2017	In Progress	Keep	Project has been submitted for FY25 tribal Capital Improvement Projects consideration.
S8	D3 East Detention Basin. Construct new regional detention located east of existing cemetery. Phased Approach Design	• LUPZ • $4M • 2017	In Progress	Keep	Project has been submitted for FY25 tribal Capital Improvement Projects consideration.
NS13	PMIP Constructing Drainage on canal north of Highway 87	• PMIP • Unknown • 2016	Complete	Delete	Project completed as an integral part of Santan Canal IB. Primary purpose was to protect the canal. However, it cut off previous storm flows north of the canal and directed it into the East Maricopa Flood Channel. This eliminated erosion from flooding on District 4 roads and subdivisions in the affected area.
NS3	Adopt draft of detention and retention policy manual	• LUPZ • Unknown • 2015	Complete	Delete	Completed and listed in capability assessment.

Upon completion of the assessment summarized in Table 26 the PT members met with others in their respective departments/agencies to developed a new list of A/Ps using the goals and objectives, results of the vulnerability analysis and capability assessment, the above list of seed ideas, and the planning team's institutional knowledge of hazard mitigation needs in the Community. The A/Ps can be generally classified as either structural or non-structural. Structural A/Ps typify a traditional "bricks and mortar" approach where physical improvements are provided to affect the mitigation goals. Examples may include channels, culverts, bridges, detention basins, dams, emergency structures, and structural augmentations of existing facilities. Non-structural A/Ps deal more with policy, ordinance, regulation and administrative actions or changes, buy-out programs, and legislative actions. For each A/P, the following elements were identified:

- **ID No.** – a unique alpha-numeric identification number for the A/P.
- **Description** – a brief description of the A/P including a supporting statement that tells the "what" and "why" reason for the A/P.
- **Hazard(s) Mitigated** – a list of the hazard or hazards mitigated by action.
- **Community Assets Mitigated** – a brief descriptor to qualify the type of assets (existing, new, or both) that the proposed mitigation A/P addresses.
- **Estimated Costs** – concept level cost estimates that may be a dollar amount or estimated staff time.

Once the full list of A/Ps was completed to the satisfaction of the PT, the team then set to work developing the implementation strategy for those A/Ps. The implementation strategy addresses the *"priority, how, when, and by whom?"* questions related to the execution and completion of an identified A/P. Specific elements identified as part of the implementation strategy included:

- **Priority Ranking** – each A/P was assigned a priority ranking of either "High", "Medium", or "Low". The assignments were subjectively made using a simple process that assessed how well the A/P satisfied the following considerations:
    - A favorable benefit versus cost evaluation, wherein the perceived direct and indirect benefits outweighed the project cost.
    - A direct beneficial impact on the ability to protect life and/or property from natural hazards.
    - A mitigation solution with long-term effectiveness.
- **Planning Mechanism(s) for Implementation** – where applicable, a list of current planning mechanisms or processes under which the A/P will

be implemented. Examples could include CIPs, General Plans, Area Drainage Master Plans, etc.

- **Anticipated Completion Date** – a realistic and general timeframe for completing the A/P. Examples may include a specific target date, a timeframe contingent upon other processes, or recurring timeframes.
- **Primary Agency and Job Title Responsible for Implementation** – this would be the agency, department, office, or other entity and corresponding job title that will have responsibility for the A/P and its implementation.
- **Funding Source** – the source or sources of anticipated funding for the A/P.

Table 27 summarizes the updated mitigation A/P and implementation strategy for the Community.

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Table 27. Mitigation actions and projects and implementation strategy for the Gila River Indian Community

Mitigation Action/Project					Implementation Strategy				
ID No.	**Description**	**Hazard(s) Mitigated**	**Community Assets Mitigated (Ex/New)**	**Estimated Cost**	**Priority Ranking**	**Planning Mechanism(s) for Implementation**	**Anticipated Completion Date**	**Primary Agency / Job Title Responsible for Implementation**	**Funding Source(s)**
1	Fuel Break – Healthy Forest Initiative (HFI) Total of 66.79acre fuel breaks to be cut and treated. Retreatment and expansion of two existing fuels breaks. Gas Line 8.47acres and Tunnel Road 34.64acres. Establishment of three new fuel breaks. Santa Cruz Expansion 9.46acres, Kwi Street 7.18acres, and East Fuel Break 7.18acres.	Wildfire	Both	$200,000	High	Identifying funding resources; implement fuel breaks	Ongoing / Maintenance	DEQ / WEMP Program Manager	Healthy Forest Initiative (HFI) AZDFFM
2	Fuel Break – Preserving Our Himdag Improve and manage existing fuel breaks, Santa Cruz and Northern in District 6. Total of 47acres.	Wildfire	Both	$219,368	High	Identifying funding resources; implement fuel breaks	Awaiting funding	DEQ / WEMP Program Manager	BIA
3	Weed abatement to help brushfire, example: mow weeds, clean debris, trim trees. Clear area around critical and or key structures within the community and along perimeter areas of the wildland urban interface.	Wildfire	Both	$500,000	High	Annual Maintenance Schedule	On - Going	Director of Transportation	Federal, Tribal , OSG,etc.
4	Installation of CMPs to mitigate flood hazards in areas expected to grow or develop	Flood	Both	$600,000	High	Coord with LUPZ Flood Control	On-Going	Director of Transportation	Federal, Tribal, OSG, etc.
5	Install flood barriers at low water crossings to communicate the risk of entering flooded roadway crossings. Provide visual warnings to motorists of flood conditions at the crossing locations	Flood	Both	$500,000	High	Coord with LUPZ Flood Control	On-Going	Director of Transportation	Federal, Tribal, OSG, etc.
6	Enhance Water System Security. Continue implementing camera and access control security upgrades at DPW critical facilities to minimize potential for facility failures due to vandalism and maintain operational resiliency during disasters.	All Hazards	Both	$1,100,000	High	SCADA Implement station of new upgrade alarm systems software	December 2025	Department of Public Works, Senior Civil Engineer	Tribal Funds

Mitigation Action/Project					Implementation Strategy				
ID No.	Description	Hazard(s) Mitigated	Community Assets Mitigated (Ex/New)	Estimated Cost	Priority Ranking	Planning Mechanism(s) for Implementation	Anticipated Completion Date	Primary Agency / Job Title Responsible for Implementation	Funding Source(s)
7	Relocate a one mile stretch of wastewater lift stations that are currently flooded during heavy rainfall events to reduce or eliminate infiltration of floodwater and sediments adversely impacting each station and the wastewater treatment facility.	Flood	Existing	$3,400,000	High	Design through Kimley Horn Engineering and Construction Manager at Risk at 30% design	December 2025	Department of Public Works, Senior Civil Engineer	Tribal Funds and ARPA
8	Fire Hazard Reduction Education & Outreach Initiative – perform annual education & outreach activities with the Community such as information booths, social media blasts, website postings, etc.	Wildfire, Fire	Both	$2,000 plus Staff Time	High	N/A	Annual Ongoing	GRFD / Fire Chief	Operating Budget
9	Identify specific fire code provisions and strengthen enforcement of provisions that will reduce damages due to wildfire and fire events	Wildfire, Fire	Both	$2,000 plus Staff Time	High	N/A	2025	GRFD / Fire Chief	Operating Budget
10	Perform regular maintenance and update of HVAC systems for 50+ GRIC-owned structures to reduce exposure to extreme heat events.	Extreme Heat	Existing	$60-80K Annually	High	N/A	Continuous and Regular	Facilities Maintenance Dept/Director	General Fund
11	Emergency Power - Provide for emergency power to key facilities for use during extreme heat conditions and during power outages through use of portable emergency generators. Targeting 5 units.	Extreme Heat; Severe Wind	Both	$25K per unit	High	Emergency Operations Plan Disaster Relief Emergency Assistance Plan (DREAP)	Within 5-years	OEM / Director	FEMA Grants GRIC Funding
12	Provide grant application assistance to other GRIC departments seeking mitigation funding for various projects.	ALL	Both	Staff Time	High	N/A	As Needed	OEM / Director	GRIC Funding
13	Perform public outreach for extreme heat events using social media and participation in outreach events throughout the Community	Extreme Heat	Both	$5K annually	High	GRIC Heat Plan / DREAP	Annually	OEM / Director	GRIC Funding
14	Identify and stage cooling center locations and resources to mitigate the impacts of extreme heat.	Extreme Heat	Both	$10K annually	High	GRIC Heat Plan / DREAP	Annually	OEM / Director	GRIC Funding

Mitigation Action/Project					Implementation Strategy				
ID No.	Description	Hazard(s) Mitigated	Community Assets Mitigated (Ex/New)	Estimated Cost	Priority Ranking	Planning Mechanism(s) for Implementation	Anticipated Completion Date	Primary Agency / Job Title Responsible for Implementation	Funding Source(s)
15	Perform an annual sandbag staging operation in advance of Monsoon season to provide resources to the Community to mitigate flooding impacts.	Flood	Existing	$30K annually	High	DREAP	Annually	OEM / Director	GRIC Funding
16	Grid Resiliency / System Hardening. Project replaces approximately every 4th or 5th wooden transmission pole with a heavier wind shear rated ductile iron transmission pole. Replaces approximately 40 poles per year.	Extreme Heat, Severe Wind	Existing	$5.25M	High	Pole Replacement Plan	FY2028	GRICUA / Management Team	GRICUA Operating Funds, Community Infrastructure Funds
17	Electric Power Curtailment. Reduces electrical consumption during regional overload conditions by asking for voluntary reductions in load, followed by rolling brownouts if necessary to achieve load reduction goals.	Extreme Heat, Severe Wind	Existing	Staff Time	Medium	N/A	Ongoing	GRICUA / Management Team	GRICUA Operating Funds
18	Proactively pursue pre-disaster and hazard mitigation grants to supplement GRICUA expenses with mitigation activities.	All Hazards	Both	Determined by required matching funds.	Medium	GRICUA Executive Team	Annual / Recurring	GRICUA / Management Team	GRICUA Operating Funds, Community Infrastructure Funds
19	Publish suggested mitigation actions through newsletter, GRICUA website, and social media.	Extreme heat, severe wind, electrical hazards	Both	Staff time, $2,500 annually	Medium	Timely information distribution through social media, newsletter, website, and billing inserts.	Annual / Recurring	GRICUA Executive and Administrative Team	GRICUA Operating Funds
20	Perform regular weed abatement maintenance and removals for 50+ GRIC-owned structures to reduce the risk of wildfire damages.	Wildfire	Existing	$30K Annually	Medium	N/A	As Needed	Facilities Maintenance Dept/Director	General Fund
21	Grant development for additional wildfire mitigation	Wildfire	Both	120 Hours Staff time each for 2 grants each year	Medium	Identifying funding and work with State and/or Federal agencies	Ongoing	DEQ / WEMP Program Manager	Various

Mitigation Action/Project					Implementation Strategy				
ID No.	Description	Hazard(s) Mitigated	Community Assets Mitigated (Ex/New)	Estimated Cost	Priority Ranking	Planning Mechanism(s) for Implementation	Anticipated Completion Date	Primary Agency / Job Title Responsible for Implementation	Funding Source(s)
22	Develop a Community Wildfire Protection Plan to complement the Healthy Forest initiative and increase the Community resilience to wildfire events	Wildfire	Both	$100K plus Staff Time	Medium	None	2027	OEM / Director in coordination with DEQ	FMAG or BIA Pima Agency
23	Reinforce/harden power pole with transformer at District 5 lift station to mitigate damage and service interruptions resulting from severe wind impacts on current power pole/transformer configuration.	Severe Wind	Existing	$250,000	Low	Engineering Evaluation & Design, and Construction Manager at Risk at 30% design	June 2025	Department of Public Works, Senior Civil Engineer	Tribal Funds

SECTION 6: PLAN MAINTENANCE PROCEDURES

> ***§201.7(c)(4):*** *[The plan shall include] A **plan maintenance** process that includes:*
> *(i) A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan.*
> *(ii) A system for monitoring implementation of mitigation measures and project closeouts.*
> *(iii) A process by which the Indian tribal government incorporates the requirements of the mitigation plan into other planning mechanisms such as reservation master plans or capital improvement plans, when appropriate.*
> *(iv) Discussion on how the Indian tribal government will continue public participation in the plan maintenance process.*
> *(v) A system for reviewing progress on achieving goals as well as activities and projects identified in the mitigation strategy.*
> ***§201.7d)(3):*** *Indian tribal governments must review and revise their plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years in order to continue to be eligible for non-emergency Stafford Act assistance and FEMA mitigation grant funding, with the exception of the Repetitive Flood Claims program.*

According to the DMA 2000 requirements, each plan must define and document processes or mechanisms for maintaining and updating the hazard mitigation plan within the established five-year planning cycle. Elements of this plan maintenance section include:

- ☑ Monitoring and Evaluating the Plan
- ☑ Updating the Plan
- ☑ Continued Public Participation

The following sections provide a description of the past plan maintenance procedures and activities and documents the proposed procedures and schedule for the next planning cycle.

6.1 Monitoring and Evaluation

6.1.1 Past Plan Cycle

The GRIC PT recognizes that this hazard mitigation plan is intended to be a "living" document with regularly scheduled monitoring, evaluation, and updating. Section 5.1 of the 2015 Plan outlined a schedule of specific activities for annual evaluations of the 2015 Plan. A poll of the PT regarding the past execution of the plan maintenance strategy was taken and the following tasks were accomplished:

- GRIC OEM referenced the 2015 Plan during EOP updates and during activations of the Emergency Operations Center.
- LUPZ – Flood Control – referenced the 2015 Plan during the development of recent drainage master plans and CIP project formulation.

  Challenges to meeting the stated review schedule primarily included:

  - Staff turnover and lack of continuity to original planning team.
  - Lack of communicating plan maintenance responsibilities to successors during staff changes.

The PT discussed ways to improve the Plan review and maintenance process over the next five years. The results of those discussions are outlined in the following sections.

6.1.2 Proposed Schedule and Scope

The PT reviewed the 2015 Plan Section 5 and current 2017 FEMA guidance document and discussed a strategy for performing the required monitoring and evaluation of the Plan over the next 5-year cycle. The PT has established the following monitoring and evaluation procedures:

- **Schedule** – The Plan shall be reviewed on an annual basis on or around the anniversary of the Plan or following a major event or disaster. Additional reviews may occur when required and/or needed due to changes in Tribal or Federal regulations or legislation that have an impact on the hazard mitigation program.
- **Lead Agency** – GRIC OEM will continue to be the responsible lead agency with the Director position or his assigned being the Primary Point of Contact (PPOC). All GRIC Departments and Enterprises will be requested via an email contact to provide feedback at the OEM prompting.
- **Review Scope** – Within the email request distributed by GRIC OEM, each of the departments and enterprises will be requested to provide responses to the following questions:
    - **Hazard Identification:** Have the risks and hazards changed?
    - **Goals and Objectives:** Are the goals and objectives still able to address current and expected conditions?
    - **Policy and Program Review:** Are updates or revisions necessary for the policies and programs listed in Tables 22-25?
    - **Mitigation Projects and Actions:** For each mitigation action/project summarized in Table 27 and manage by your department/enterprise:
        - Has there been activity on the project – Yes or No?
        - If Yes, briefly describe what has been done and the current status of the action/project.
- **Documentation** – Each department and enterprise polled will review and evaluate the Plan as it relates to their area of responsibility and document responses to the above questions in the form of an email. GRIC OEM will receive and archive email responses in a digital format and store with the Plan for incorporation during the next Plan update. Any hard copies will be included in Appendix D.

At a minimum, an annual report and presentation will be made to the Community's Multi-Agency Coordination ("MAC") workgroup by GRIC OEM. The MAC is made up of GRIC departments, agencies, and enterprises and meets monthly to discuss emergency management issues.

6.2 Plan Update

According to DMA 2000, the Plan requires updating and re-approval from FEMA every five years. The plan update will adhere to that set schedule using the following procedure:

- ✓ One year prior to the plan expiration date, OEM will re-convene the PT to review and assess the Plan and any annual reviews.
- ✓ The PT will update and/or revise the appropriate or affected portions of the plan and produce a revised plan document.
- ✓ The revised plan will be drafted and submitted to FEMA for review, comment and issuance of an approvable pending adoption (APA) letter.
- ✓ Once the APA letter is received, the plan document will be presented before the Tribal Council for an official concurrence/adoption of the changes.

6.3 Continued Public Involvement

The GRIC PT are committed to keeping the public informed about hazard mitigation planning efforts, actions and projects. Continued public involvement activities pursued by various GRIC departments and enterprises over the 2015 Plan cycle are summarized in Table 28.

Table 28. Continued public involvement strategy

GRID Department or Enterprise	Public Involvement Activity or Opportunity	
	2015 Plan Cycle	2024 Plan Cycle
DEQ	• Routinely provided public outreach at District meetings, Standing Committee Meetings, Elderly Concerns Meetings and Tribal council meetings. • Maintained an interactive web page with links to various Community Ordinances and plans. • Sponsored an annual Winter Bird count, which solicits public participation. • Participated in Public Health Fair events within the Community. • Participated in Career Fair events sponsored by the Human Resources Department.	• Continue to provide public outreach during the DEQ sponsored annual Earth Day event and the Winter Bird Count Event. • Provide Outreach Events at 7 District Meetings on an annual basis related to Air Quality monitoring • Provide period outreach events at Elder Concerns Meetings at least twice per year. Information includes proper recycling, climate change mitigation projects and other environmental related topics.
DPW	• Earthday Booth to give out info about DPW • Community clean up in District 6 in response to GRPD request. • Participated in District meetings to provide DPW updates • Attended new homeowner orientations • Fleet branch provides vehicles for local events such as parades, clean ups, and haul trips.	• DPW will continue with all the past activities as listed to the left for the next Plan cycle. • Expand the community clean up (bulk trash) activity to all GRIC Districts.

GRID Department or Enterprise	Public Involvement Activity or Opportunity	
	2015 Plan Cycle	2024 Plan Cycle
GRFD	• Staff an informational booth at various District and/or Community-wide events throughout the year to hand-out fire mitigation fliers, interview participants, and communicate mitigation strategies. • Use social media outlets to communicate safety PSA's and burn moratorium information (EX – Fourth of July Fireworks, Christmas Tree Safety, etc.). • Provide safety information and fire alarms/drills/detection education at schools and businesses throughout the Community.	• GRFD will continue with all the past activities as listed to the left for the next Plan cycle.

GRICUA	• Extreme heat, storms, wind, and electrical hazard warnings, mitigation efforts, and public input have been shared with the Community via the following methods:
	  • GRICUA website
	  • GRICUA monthly newsletter
	  • GRICUA annual Customer Appreciation Day
	  • GRICUA quarterly Community Connect events
	  • GRICUA District Days
	  • GRICUA Social Media
	  • GRICUA participation at various Community and School events
		• GRICUA will continue with all the past activities as listed to the left for the next Plan cycle.

OEM	• Centralized posting of Plan was maintained on the GRIC OEM website. • Community outreach via social media outlets and website postings regarding hazard awareness and education. • Participation at Community events with information booths and hand-out materials • Prepare news articles through the Gila River Indian News (GRIN) • Perform regular training and exercise programs with Community departments.	• OEM will continue with all the past activities as listed to the left for the next Plan cycle. • Maintain the HMP Questionnaire on the website for continuous availability.

6.4 Monitoring of Tribal Mitigation Activities

The following sections describe the GRIC's strategy for reviewing and assessing the progress of the mitigation goals and actions/projects identified in the Plan. The strategy below is similar to the 2015 Plan, but updated to include additional detail in the form of a table format for use in the annual progress assessment of the defined mitigation actions/projects (A/P). Typically the review and assessment will be performed by the responsible department or enterprise indicated in Table 27. Details are summarized in the following subsections.

6.4.1 Goals Achievement

Unless otherwise directed or warranted, the goals and objectives review will coincide with the annual overall Plan review and update schedule presented in Section 6.1.2. Goals will be assessed using a subjective approach and a summary of the assessment will be included in the annual review memorandum.

6.4.2 Actions/Projects Progress

Table 27 summarizes the implementation strategy for each of the A/Ps identified in the GRIC mitigation strategy. For each annual review and plan update, GRIC OEM will coordinate with the agency or enterprise identified as the lead for each A/P, to assess the implementation status of the identified action/project and generate a brief memorandum summarizing the status of each project using the format below. Table 26 summarizes the assessments of the 2015 Plan mitigation A/Ps performed by the PT departments or enterprises for this update.

Project ID and Description	Lead Agency and Contact Info	Current Status of Action/Project	Project Disposition	Explanation
Include the ID and description of project as included in Table 6-8-7	Provide the name, agency affiliation, and contact information (phone and email) of person or persons contacted	Assign one of the following status descriptors as appropriate: • NO ACTION • IN-PROGRESS • COMPLETED	Provide a descriptor of either KEEP or DROP to identify future disposition of action/project.	Provide a description of the current project status including date of implementation, challenges faced, percent completed, funding sources used, etc..

6.4.3 Project Closeouts

Once an A/P is implemented, its progress will be monitored by OEM and the responsible department or enterprise on at least an annual basis as described in Section 6.4.2. For FEMA supported projects, progress reports will be required on a quarterly basis throughout the project duration. The degree of quarterly reporting will be dependent upon the type of A/P, its funding source, and the associated requirements. At a minimum, the quarterly report shall address:

- ✓ Project Completion Status
- ✓ Project Challenges/Issues (If any)
- ✓ Budgetary Considerations (Cost Overruns or Underruns)
- ✓ Detailed Documentation of Expenditures

Upon completion of projects, a member of OEM and the responsible department or enterprise will visit the project location to view the results. A closed project will also change status to "Completed" and will then be monitored for effectiveness in the intended mitigation. FEMA supported project closeouts will include an audit of the A/P financials as well as other guidelines/requirements set forth under the funding or grant rules, and any attendant administrative plans developed by the GRIC.

SECTION 7: PLAN TOOLS

7.1 Acronyms (GRIC Departments/Agencies)

CPAO.....Communications and Public Affairs Office
CRMP .....Cultural Resources Management Program
CSD.....Community Services Department
DCH.....Department of Community Housing
DEQ .....Department of Environmental Quality
DPW.....Department of Public Works
FM.....Facilities Maintenance
GRFD.....Gila River Fire Department
GRHC .....Gila River Health Care
GRICDOT.....Department of Transportation
GRICUA .....Gila River Indian Community Utility Authority
GRPD.....Gila River Police Department
LUPZ.....Land Use and Planning Department
MIS .....Management Information Systems
OCM .....Office of the Community Manager
OEM.....Office of Emergency Management
P-MIP .....Pima-Maricopa Irrigation Project
THD .....Tribal Health Department
TPD.....Tribal Projects Department

7.2 Acronyms (General)

A/P .....Mitigation Action/Project
ADEM .....Arizona Division of Emergency Management
ADEQ .....Arizona Department of Environmental Quality
ADOT .....Arizona Department of Transportation
ADWR .....Arizona Department of Water Resources
AGFD .....Arizona Game and Fish Department
ARS .....Arizona Revised Statutes
ASCE .....American Society of Civil Engineers
ASERC .....Arizona State Emergency Response Commission
ASLD .....Arizona State Land Department
ASU .....Arizona State University
AZDEQ .....Arizona Department of Environmental Quality
AZGS .....Arizona Geological Survey
BIA.....Bureau of Indian Affairs
BLM .....Bureau of Land Management
CAP .....Central Arizona Project
CAP .....Community Assistance Program
CFR .....Code of Federal Regulations
CRS .....Community Rating System
CWPP .....Community Wildfire Protection Plan

DEMA .....Arizona Department of Emergency and Military Affairs
DFIRM .....Digital Flood Insurance Rate
DMA 2000 ....Disaster Mitigation Act of 2000
DOT .....Department of Transportation
EHS .....Extremely Hazardous Substance
EPA .....Environmental Protection Agency
EPCRA .....Emergency Planning and Community Right to Know Act
FCDMC.....Flood Control District of Maricopa County
FEMA .....Federal Emergency Management Agency
FMA.....Flood Mitigation Assistance Grant Program
FMYN.....Fort McDowell Yavapai Nation
GIS .....Geographic Information System
GRIC.....Gila River Indian Community
GRIC-FI .....GRIC Facilities and Infrastructure
HAZMAT .....Hazardous Material
HAZUS-MH .Hazards United States Multi-Hazard
HMA.....Hazard Mitigation Assistance
IFCI .....International Fire Code Institute
LEPC .....Local Emergency Planning Committee
MCDEM .....Maricopa County Department of Emergency Management
MCDOT.....Maricopa County Department of Transportation
MJHMP .....Multi-Jurisdictional Hazard Mitigation Plan
MMI .....Modified Mercalli Intensity
NCA.....National Climate Assessment
NCDC .....National Climate Data Center
NDMC .....National Drought Mitigation Center
NESDIS .....National Environmental Satellite, Data and Information Service
NFHL.....National Flood Hazard Layer
NFIP .....National Flood Insurance Program
NFPA .....National Fire Protection Association
NHC .....National Hurricane Center
NIBS .....National Institute of Building Services
NID .....National Inventory of Dams
NIST .....National Institute of Standards and Technology
NSF .....National Science Foundation
NOAA .....National Oceanic and Atmospheric Administration
NRC .....National Response Center
NWS .....National Weather Service
PDSI .....Palmer Drought Severity Index
RL .....Repetitive Loss
SARA .....Superfund Amendments and Reauthorization Act
SRLP .....Severe Repetitive Loss Properties
SRL .....Severe Repetitive Loss
SRP .....Salt River Project
UBC .....Uniform Building Code
USACE .....United States Army Corps of Engineers

USDA .....United States Department of Agriculture
USFS .....United States Forest Service
USGCRP.....U.S. Global Change Research Program
USGS .....United States Geological Survey
VA.....Vulnerability Analysis
WUI .....Wildland Urban Interface

7.3 Definitions

The following terms and definitions are provided for reference and are a slight modification of the list originally presented in the Maricopa County Multi-Jurisdictional Hazard Mitigation Plan (2021).

ARIZONA HAZARDS

Dam Failure

A dam failure is a catastrophic type of failure characterized by the sudden, rapid and uncontrolled release of impounded water. Dam failures are typically due to either overtopping or piping and can result from a variety of causes including natural events such as floods, landslides or earthquakes, deterioration of foundation or compositional materials, penetration by vegetative roots or animal burrows, fissures or improper design and construction. Such a failure presents a significant potential for a disaster as significant loss of life and property would be expected in addition to the possible loss of power and water resources.

Drought

A drought is a deficiency of precipitation over on extended period of time, resulting in water shortage for some activity, group or environmental sector. "Severe" to "extreme" drought conditions endanger livestock and crops, significantly reduce surface and ground water supplies, increase the potential risk for wildland fires, increase the potential for dust storms, and cause significant economic loss. Humid areas are more vulnerable than arid areas. Drought may not be constant or predictable and does not begin or end on any schedule. Short term droughts are less impacting due to the reliance on irrigation and groundwater in arid environments.

Earthquake

An earthquake is a naturally-induced shaking of the ground, caused by the fracture and sliding of rock within the Earth's crust. The magnitude is determined by the dimensions of the rupturing fracture (fault) and the amount of displacement that takes place. The larger the fault surface and displacement, the greater the energy. In addition to deforming the rock near the fault, this energy produces the shaking and a variety of seismic waves that radiate throughout the Earth. Earthquake magnitude is measured using the Richter Scale and earthquake intensity is measured using the Modified Mercalli Intensity Scale.

Extreme Heat

Extreme Heat refers to environmental conditions with high air temperatures, often in combination with high shortwave or longwave radiation (sunlight, or heat radiated from buildings and other surfaces) and/or high humidity. Under certain conditions, low or high wind speeds can also increase the risks associated with high heat. Extreme heat poses threats to the health and well-being of humans, animals, and plants, as well as critical infrastructure systems

including food, water, energy, and transportation. The major human health risks associated with extreme heat are as follows:

- Heat Cramps: May occur in people unaccustomed to exercising in the heat and generally ceases to be a problem after acclimatization.
- Heat Syncope: This refers to sudden loss of consciousness and is typically associated with people exercising who are not acclimated to warm temperatures. Causes little or no harm to the individual.
- Heat Exhaustion: While much less serious than heatstroke, heat exhaustion victims may complain of dizziness, weakness, or fatigue. Body temperatures may be normal or slightly to moderately elevated. The prognosis is usually good with fluid treatment.
- Heatstroke: Considered a medical emergency, heatstroke is often fatal. It occurs when the body's responses to heat stress are insufficient to prevent a substantial rise in the body's core temperature. While no standard diagnosis exists, a medical heatstroke condition is usually diagnosed when the body's temperature exceeds 105°F due to environmental temperatures. Rapid cooling is necessary to prevent death, with an average fatality rate of 15 percent even with treatment.

Fissure

Earth fissures are tension cracks that open as the result of subsidence due to severe overdrafts (i.e., pumping) of groundwater, and occur about the margins of alluvial basins, near exposed or shallow buried bedrock, or over zones of differential land subsidence. As the ground slowly settles, cracks form at depth and propagate towards the surface, hundreds of feet above. Individual fissures range in length from hundreds of feet to several miles, and from less than an inch to several feet wide. Rainstorms can erode fissure walls rapidly causing them to widen and lengthen suddenly and dangerously, forming gullies five to 15- feet wide and tens of feet deep.

Flooding

Flooding is an overflowing of water onto normally dry land and is one of the most significant and costly of natural disasters. Flooding tends to occur in Arizona during anomalous years of prolonged, regional rainfall (typical of an El Nino year), and is typified by increased humidity and high summer temperatures.

Flash flooding is caused by excessive rain falling in a small area in a short time and is a critical hazard in Arizona. Flash floods are usually associated with summer monsoon thunderstorms or the remnants of a tropical storm. Several factors contribute to flash flooding: rainfall intensity and duration, topography, soil conditions, and ground cover. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area and can occur within a few minutes or hours of excessive rainfall, or a quick release from a dam or levee failure. Thunderstorms produce flash flooding, often far from the actual storm and at night when natural warnings may not be noticed.

Landslide / Mudslide

Landslides like avalanches are massive downward and outward movements of slope-forming materials. The term landslide is restricted to movement of rock and soil and includes a broad range of velocities. Slow movements, although rarely a threat to life, can destroy buildings or break buried utility lines. A landslide occurs when a portion of a hill slope becomes too weak to support its own weight. The weakness is generally initiated when rainfall or some other

source of water increases the water content of the slope, reducing the shear strength of the materials. A mud slide is a type of landslide referred to as a flow. Flows are landslides that behave like fluids: mud flows involve wet mud and debris.

Levee Failure / Breach

Levee failures are typically due to either overtopping or erosive piping and can result from a variety of causes including natural events such as floods, hurricane/tropical storms, or earthquakes, deterioration of foundation or compositional materials, penetration by vegetative roots or animal burrows, fissures, or improper design, construction and maintenance. A levee breach is the opening formed by the erosion of levee material and can form suddenly or gradually depending on the hydraulic conditions at the time of failure and the type of material comprising the levee.

Severe Wind

Thunderstorms are characterized as violent storms that typically are associated with high winds, dust storms, heavy rainfall, hail, lightning strikes, and/or tornadoes. The unpredictability of thunderstorms, particularly their formation and rapid movement to new locations heightens the possibility of floods. Thunderstorms, dust/sand storms and the like are most prevalent in Arizona during the monsoon season, which is a seasonal shift in the winds that causes an increase in humidity capable of fueling thunderstorms. The monsoon season in Arizona typically is from late-June or early-July through mid-September.

Tornadoes are violently rotating columns of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds in excess of 250 mph. Damage paths can exceed a mile wide and 50 miles long. The damage from tornadoes is due to high winds. The Fujita Scale of Tornado Intensity measures tornado / high wind intensity and damage.

Tropical Storms are storms in which the maximum sustained surface wind ranges from 39-73 mph. Tropical storms are associated with heavy rain and high winds. High intensity rainfall in short periods is typical. A tropical storm is classified as a hurricane when its sustained winds reach or exceed 74 mph. These storms are medium to large in size and are capable of producing dangerous winds, torrential rains, and flooding, all of which may result in tremendous property damage and loss of life, primarily in coastal populated areas. The effects are typically most dangerous before a hurricane makes landfall, when most damage occurs. However, Arizona has experienced a number of tropical storms that caused extensive flooding and wind damage.

Subsidence

Land subsidence in Arizona is primarily attributed to substantial groundwater withdrawal from aquifers in sedimentary basins. As the water is removed, the sedimentary layers consolidate resulting in a general lowering of the corresponding ground surface. Subsidence frequently results in regional bowl-shaped depressions, with loss of elevation greatest in the center and decreasing towards the perimeter. Subsidence can measurably change or reverse basin gradients causing expensive localized flooding and adverse impacts or even rupture to long-baseline infrastructure such as canals, sewer systems, gas lines and roads. Earth fissures are the most spectacular and destructive manifestation of subsidence-related phenomena.

Wildfire
Wildfire is a rapid, persistent chemical reaction that releases heat and light, especially the exothermic combination of a combustible substance with oxygen. Wildfires present a significant potential for disaster in the southwest, a region of relatively high temperatures, low humidity, low precipitation, and during the spring moderately strong daytime winds. Combine these severe burning conditions with people or lightning and the stage is set for the occurrence of large, destructive wildfires.

Winter Storm
Winter storms bring heavy snowfall and frequently have freezing rain and sleet. Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Freezing rain begins as snow at higher altitudes and melts completely on its way down while passing through a layer of air above freezing temperature, then encounters a layer below freezing at lower level to become super cooled, freezing upon impact of any object it then encounters. Because freezing rain hits the ground as a rain droplet, it conforms to the shape of the ground, making one thick layer of ice. Snow is generally formed directly from the freezing of airborne water vapor into ice crystals that often agglomerates into snowflakes. Average annual snowfall in Arizona varies with geographic location and elevation, and can range from trace amounts to hundreds of inches. Severe snow storms can affect transportation, emergency services, utilities, agriculture and basic necessities supply to isolated communities. In extreme cases, snow loads can cause significant structural damage to under-designed buildings.

GENERAL PLAN TERMS

Actions/Projects
Specific actions or projects that help achieve goals and objectives.

Asset
Any natural or human-caused feature that has value, including, but not limited to people; buildings; infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.

Building
A structure that is walled and roofed, principally above ground and permanently affixed to a site. The term includes a manufactured home on a permanent foundation on which the wheels and axles carry no weight.

Critical Facilities and Infrastructure
Systems or facilities whose incapacity or destruction would have a debilitating impact on the defense or economic security of the nation. The Critical Infrastructure Assurance Office (CIAO) defines eight categories of critical infrastructure, as follows:

Telecommunications infrastructure: Telephone, data services, and Internet communications, which have become essential to continuity of business, industry, government, and military operations.

Electrical power systems: Generation stations and transmission and distribution networks that create and supply electricity to end-users.

Gas and oil facilities: Production and holding facilities for natural gas, crude and refined petroleum, and petroleum-derived fuels, as well as the refining and processing facilities for these fuels.

Banking and finance institutions: Banks, financial service companies, payment systems, investment companies, and securities/commodities exchanges.

Transportation networks: Highways, railroads, ports and inland waterways, pipelines, and airports and airways that facilitate the efficient movement of goods and people.

Water supply systems: Sources of water; reservoirs and holding facilities; aqueducts and other transport systems; filtration, cleaning, and treatment systems; pipelines; cooling systems; and other delivery mechanisms that provide for domestic and industrial applications, including systems for dealing with water runoff, wastewater, and firefighting.

Government services: Capabilities at the federal, state, and local levels of government required to meet the needs for essential services to the public.

Emergency services: Medical, police, fire, and rescue systems.

Disaster Mitigation Act of 2000 (DMA2K)
A law signed by the President on October 30, 2000 that encourages and rewards local and state pre-disaster planning, promotes sustainability as a strategy for disaster resistance, and is intended to integrate state and local planning with the aim of strengthening statewide mitigation planning.

Emergency Preparedness and Response (EPR) Directorate
One of five major Department of Homeland Security Directorates which builds upon the formerly independent Federal Emergency Management Agency (FEMA). EPR is responsible for preparing for natural and human-caused disasters through a comprehensive, risk-based emergency management program of preparedness, prevention, response, and recovery. This work incorporates the concept of disaster-resistant communities, including providing federal support for local governments that promote structures and communities that reduce the chances of being hit by disasters.

Emergency Response Plan or Emergency Operations Plan
A document that contains information on the actions that may be taken by a governmental jurisdiction to protect people and property before, during, and after a disaster.

Federal Emergency Management Agency (FEMA)
Formerly independent agency created in 1978 to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response and recovery. As of March 2003, FEMA is a part of the Department of Homeland Security's Emergency Preparedness and Response (EPR) Directorate.

Flood Insurance Rate Map (FIRM)
Map of a community, prepared by FEMA that shows the special flood hazard areas and the risk premium zones applicable to the community.

Frequency
A measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a 1% chance – its probability – of happening in any given year. The reliability of this information varies depending on the kind of hazard being considered.

Geographic Information Systems (GIS)
A computer software application that relates physical features on the earth to a database to be used for mapping and analysis.

Goals
General guidelines that explain what you want to achieve. Goals are usually broad statements with long-term perspective.

Hazard
A source of potential danger or adverse condition. Hazards include both natural and human-caused events. A natural event is a hazard when it has the potential to harm people or property and may include events such as floods, earthquakes, tornadoes, tsunami, coastal storms, landslides, and wildfires that strike populated areas. Human-caused hazard events originate from human activity and may include technological hazards and terrorism. Technological hazards arise from human activities and are assumed to be accidental and/or have unintended consequences (e.g., manufacture, storage and use of hazardous materials). While no single definition of terrorism exists, the Code of Federal Regulations defines terrorism as "…unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."

Hazard Event
A specific occurrence of a particular type of hazard.

Hazard Identification
The process of identifying hazards that threaten an area.

Hazard Mitigation
Cost effective measures taken to reduce or eliminate long-term risk associated with hazards and their effects.

Hazard Profile
A description of the physical characteristics of hazards and a determination of various descriptors including magnitude, duration, frequency, probability, and extent.

HAZUS
A GIS-based nationally standardized earthquake, flood and high wind event loss estimation tool developed by FEMA.

Implementation Strategy
A comprehensive strategy that describes how the mitigation actions will be implemented.

Mitigate
To cause to become less harsh or hostile; to make less severe or painful. Mitigation activities are actions taken to eliminate or reduce the probability of the event, or reduce its severity of consequences, either prior to or following a disaster/emergency.

Mitigation Plan
A systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards typically present in a defined geographic area, including a description of actions to minimize future vulnerability to hazards.

Objectives
Defined strategies or implementation steps intended to attain the identified goals. Objectives are specific, measurable, and have a defined time horizon.

100-Hundred Year Floodplain
Also referred to as the Base Flood Elevation (BFE) and Special Flood Hazard Area (SFHA). An area having a 1% or greater chance of being flooded in any given year.

Planning
The act or process of making or carrying out plans; the establishment of goals, policies, and procedures for a social or economic unit.

Probability
A statistical measure of the likelihood that a hazard event will occur.

Promulgation
To make public and put into action the Hazard Mitigation Plan via formal adoption and/or approval by the governing body of the respective community or jurisdiction (i.e. – town or city council, county board of directors, etc.).

Repetitive Loss Property
A property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least $1,000 each have been paid within any 10 year period since 1978.

Risk
The estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage beyond a particular threshold due to a specific type of hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

Substantial Damage
Damage of any origin sustained by a structure in a Special Flood Hazard Area whereby the cost of restoring the structure to its before-damaged condition would equal or exceeds 50% of the market value of the structure before the damage.

Vulnerability
Describes how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of

another. For example, many businesses depend on uninterrupted electrical power–if an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect effects can be much more widespread and damaging than direct effects.

Vulnerability Analysis
The extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability analysis should address impacts of hazard events on the existing and future built environment.

Vulnerable Populations
Any segment of the population that is more vulnerable to the effects of hazards because of things such as lack of mobility, sensitivity to environmental factors, or physical abilities. These populations can include, but are not limited to, senior citizens and school children.

GENERAL HAZARD TERMS

Fujita Scale of Tornado Intensity
Rates tornadoes with numeric values from F0 to F5 based on tornado winds peed and damage sustained. An F0 indicates minimal damage such as broken tree limbs or signs, while an F5 indicates severe damage sustained.

Liquefaction
The phenomenon that occurs when ground shaking (earthquake) causes loose soils to lose strength and act like viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of bearing strength.

Modified Mercalli Intensity Scale
The Modified Mercalli Intensity Scale is commonly used in the United States by seismologists seeking information on the severity of earthquake effects. Intensity ratings are expressed as Roman numerals between I at the low end and XII at the high end. The Intensity Scale differs from the Richter Magnitude Scale in that the effects of any one earthquake vary greatly from place to place, so there may be many Intensity values (e.g.: IV, VII) measured from one earthquake. Each earthquake, on the other hand, should have just one Magnitude, although the several methods of estimating it will yield slightly different values (e.g.: 6.1, 6.3).

Monsoon
A monsoon is any wind that reverses its direction seasonally. In the Southwestern U.S., for most of the year the winds blow from the west/northwest. Arizona is located on the fringe of the Mexican Monsoon which during the summer months turns the winds to a more south/southeast direction and brings moisture from the Pacific Ocean, Gulf of California, and Gulf of Mexico. This moisture often leads to thunderstorms in the higher mountains and Mogollon Rim, with air cooled from these storms often moving from the high country to the deserts, leading to further thunderstorm activity in the desert. A common misuse of the term monsoon is to refer to individual thunderstorms as monsoons.

Richter Magnitude Scale
A logarithmic scale devised by seismologist C.F. Richter in 1935 to express the total amount of energy released by an earthquake. While the scale has no upper limit, values are typically between 1 and 9, and each increase of 1 represents a 32-fold increase in released energy.

Urban Heat Island Effect

The EPA defines Urban Heat Islands (UHI) as urbanized areas that experience higher temperatures than outlying areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. Urban areas, where these structures are highly concentrated and greenery is limited, become "islands" of higher temperatures relative to outlying areas. Daytime temperatures in urban areas are about 1–7°F higher than temperatures in outlying areas and nighttime temperatures are about 2-5°F higher.

APPENDIX A

Official Resolution of Adoption, Plan Distribution Records, and FEMA Approval Letter

APPENDIX B

Planning Process Documentation

Scott Ogden

From: Bruce Harvey <Bruce.Harvey@gric.nsn.us>
Sent: Friday, January 12, 2024 9:33 AM
To: Suzanne Jones; Michael Preston; Roberto Jackson; Kyle Woodson; Derwin Cooper; Lisa Gover; Jesus Haro; Steven Johnson; Kathy Garcia; 'kstock@gricua.net'; Kimberly Cooper; Bruce Harvey; Derwin Cooper; Jesse Crabtree; Howard Reno; Laurie Thomas; 'Doug Simpson'; Kurt Rainbolt
Cc: Hector Andrade; Adam T. Sainz; Scott Ogden; Mary Evans
Subject: Hazard Mitigation Plan Planning Team
Attachments: GRIC 2024 Hazard Mitigation Plan.pdf

Good Morning and Happy New Year,

As mentioned in our December 21, 2023 Director's meeting, OEM identified your department/agency (Table 1 below) as being a key component of the Hazard Mitigation Planning (HMP) Team. The Director and/or Subject Matter Expert with decision-making authority will attend these meetings. Active participation by your department/agency will be critical to the success of this planning update process. OEM scheduled four planning team meetings (Table 2 below) over the next 6 months. OEM staff, *Hector Andrade*, will be sending out calendar invitations. Each meeting will be in-person format at OEM lasting no more than *2 hours*. Department/Agency worksheets provided at each meeting. Attendance at all planning team meetings and completion of assigned worksheets will be important for the successful completion of the plan update.

Attached is the 2014 GRIC Hazard Mitigation Plan for review.

Table 1 HMP Planning Team

GRIC DEPARTMENT/AGENCY	ANTICIPATED ROLES/CONTRIBUTIONS
Office of Community Manager (OCM)	• Promulgation Authority
Communications and Public Affairs (CPAO)	• Public Outreach
Cultural Resources Management Department (CRMD)	• Risk Assessment • Mitigation Strategy
Department of Community Housing (DCH)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Department of Environmental Quality (DEQ)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Department of Public Works (DPW)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Department of Transportation (DOT)	• Hazard Identification • Risk Assessment • Mitigation Strategy

GRIC DEPARTMENT/AGENCY	ANTICIPATED ROLES/CONTRIBUTIONS
Fire Department (FD)	• Hazard Identification • Risk Assessment • Mitigation Strategy
GRICUA (GRICUA)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Land Use Planning and Zoning Department (LUPZ)	• Development Trends • Mitigation Strategy
Office of Emergency Management (OEM)	• Lead Agency • Hazard Identification • Risk Assessment • Mitigation Strategy
Pima Maricopa Irrigation Project (PMIP)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Police Department (PD)	• Hazard Identification • Risk Assessment • Mitigation Strategy
Tribal Projects Development (TPD)	• Hazard Identification • Risk Assessment • Mitigation Strategy
• Gaming Entity (GAMING) • Community Services Director (CSD) • Emergency Medical Services (EMS)	• Invited Planning Team Participation

Table 2 Projected HMP Meeting Dates/Location

HMP Meeting Dates / OEM EOC
• Meeting 1 February 1, 2024 / 0900 - 1100
• Meeting 2 February 29, 2024 / 0900 - 1100
• Meeting 3 April 11, 2024 / 0900 - 1100
• Meeting 4 May 16, 2024 / 0900 - 1100

Thank you for your time and consideration.

Respectfully,

Bruce Harvey, Director
Office of Emergency Management
Office (520) 796-3755 / Mobile (520) 610-1299
bruce.harvey@gric.nsn.us

OEM Leadership Team Kick-Off Meeting
NOTES

DATE: December 15, 2023

TIME: 9:00 to 11:00am

LOCATION: GRIC OEM 1676 S. Nelson Dr., Chandler, AZ 85226/Zoom Conference

ATTENDEES: Bruce Harvey, OEM Director
Adam Sainz, Emergency Services Coordinator
Ervin Juan, OEM Planner
Hector Andrade, OEM Planner
Scott Ogden, JE Fuller
Mary Evans, JE Fuller

Minutes:

NOTE: Items highlighted in yellow are action items.

1. **Introductions**
2. **Contracting/Invoicing/NTP Date –** The signed contract for the Plan Update has been received but no Notice to Proceed (NTP) has been provided. The contract states that the period of performance for the contract is 335 days from the date of the NTP.
   - Bruce will check to see if an NTP has been created. Scott indicated that, if no NTP has been created, OEM may want to use a later NTP date to make sure that the project can be completed within the period of performance.

   Invoicing will occur in or about the first week of every month. OEM staff requested that all tasks, as specified within the project contract, worked on during a billing period be identified on the submitted invoice.
   - JE Fuller will provide a draft invoice for review by Adam to ensure format is acceptable.
3. **Roles / Responsibilities –** Bruce, Hector and Adam are to be copied on any correspondence with the planning team as it relates to general plan update information. Where follow up / direct contact with planning team members who are falling behind in completing assignments is necessary, OEM will lead correspondence and copy JEF.
4. **Planning Team – Composition / Meetings / Format:**
   - **Format –** It was generally agreed that at least the first planning team meeting should be held in person. The format (i.e. web-based or in-person) for meetings 2 through 4 will be determined after the first meeting. The first planning meeting will be held at the GRIC OEM building. The meeting will be held from 9-11 am (tentative).
   - **Composition –** A brief review of the planning team composition from the previous update cycle was conducted. Participants from the previous update include:
     - Community Services
     - Communication & Public Affairs Office
     - Cultural Resources Department
     - Department of Environment Quality

- Department of Health Resources
- Department of Public Works
- Department of Transportation
- Emergency Medical Services
- Fire Department
- Facilities Maintenance
- Gila River Health Care
- GRIC Utility Authority
- Land Use Planning & Zoning
- Management Information Systems
- OEM
- Pima/Maricopa Irrigation Project
- Police Department
- Tribal/Capital Projects
- Gaming
- ASU – State Climatologist
- Arizona Division of Emergency Management - SHMO

Though several of the entities (i.e. Tribal Gaming) included in the last plan update will have little to no input on the current update, it was generally agreed that these entities should be invited to participate for their awareness. Based upon discussion, entities to be removed from the planning team will include Facilities, EMS, MIS, Tribal Health, and Tribal Recreation. It was recommended that the team consider adding the BIA and possibly San Carlos Irrigation District to the planning team invite. Additionally, it was recommended that a secondary list of invitees be compiled to provide neighboring entities with a nexus to hazard mitigation within the GRIC area an opportunity to participate. Recommended invitees include Counties (Maricopa and Pinal), Cities, Flood Control Districts (Maricopa and Pinal), adjacent tribes, Arizona State Climatologist, ADOT, AZGS, AZDEMA, NWS, and possible others.

5. **Plan Format –** The plan format will remain similar to the existing document. JE Fuller will use the format employed for most recently approved plans (i.e. Maricopa County HMP update). OEM staff asked who would be responsible for incorporating updated information from the planning team into the Plan document. Scott responded that JEF would be responsible for taking the information gathered from the planning team and incorporating it into the plan document.

6. **OEM Q&A**

- *What challenges has JE Fuller experienced when working with tribes?* Though not necessarily a challenge, one thing that has come up when working with tribes is what can and cannot be provided graphically within the published Plan. For the GRIC THMP Update, it is proposed that JEF will provide samples of the proposed mapping for the plan (in terms of hazard profiles, critical facilities, etc.) to the planning team. The planning team will determine what maps can be included and published with the Plan Update.
- *How do you present information in basic terms to ensure efficient tribal participation?* JEF has been providing HMP Update support to counties, cities, and tribes within the State for quite some time. Over the years we have refined and adjusted our presentations to better meet the needs of the communities we serve. As a result, most of our presentation materials and worksheets have been formatted and written in such a way that they are clear, concise and easily understood by most participants.
- *Will JE Fuller staff lead/facilitate all (planning/public) meetings?* Yes

- *What are your expectations from OEM staff?* For the purposes of the Plan Update, our expectation is that OEM staff will coordinate with JEF to ensure the efficient transfer of necessary data for the plan update and assist in reaching out to/supporting participants who need extra help in completing assigned tasks.
- *What are the normal/anticipated issues expected during this process?* It is anticipated that some participants will not be as active as necessary or will not complete assigned tasks within a reasonable timeframe. Our response to the question below shows how we intend to mitigate this issue for the GRIC HMP Update.
- *What is your strategy when agencies/departments to not fully participate/complete worksheets?* Planning Team Members not participating or completing worksheets within the allotted timeframe is a common issue in the Plan update process. In the past, JEF has identified and reached out to participants who are delinquent on assignments to offer 1 on 1 support to complete the assignments. This can be done in person or remotely and typically can resolve any outstanding tasks within a few hours. It does require that the representative from the community is familiar with the contents of the plan and the subject matter requested within the worksheet so that they can answer questions regarding updates to this information.
- *What do GRIC team members need to bring for 1st meeting?* All planning team members should have reviewed the current 2014 Plan prior to the 1st Planning Team Meeting.
- *What Level department representatives should attend the meetings?* Ideally, the individuals who are familiar with the hazards, previous plan actions and projects, and any mitigation actions/projects. These individuals should have the capability to propose any new actions/projects.
- *Any shortcuts to speed up the process?* The process can be sped up by shortening the plan review time for planning team members. There is also the potential of saving time associated with the scheduled planning team meetings, but this will depend on how quickly planning team members are able to complete assigned tasks between the meetings.

7. **General Meeting Agendas –** The agenda for each planning meeting was briefly reviewed to highlight the components of the plan and where community worksheets would be assigned for completion by planning team members.
8. **Public Involvement –** Scott explained that the two primary components that need to be decided to satisfy the public involvement requirements for the update are:

   a. A definition of who the public are, and

   b. How to accomplish public involvement.

   For the purposes of the plan update, the planning team will need to define who the public are for the community. OEM staff suggested that it would be beneficial to provide a suggested definition based upon previous work/other plans to the planning team rather than have the planning team generate a definition from scratch. Once the definition is agreed upon, OEM staff prefer to use an online Questionnaire to solicit public input. In order to mitigate issues with access for some members of the public, printed questionnaires will also be provided to District Leaders to disseminate within the individual districts. Announcements of the Questionnaire availability will be posted on social media and community websites in addition to a recorded PowerPoint presentation explaining the purpose of the project and instructions for filling out the Questionnaire.

   - JEF will provide PowerPoint and script for the presentation. OEM staff will select an individual from within GRIC to narrate the presentation and record.

- JEF to provide language for brief announcement to Directors informing them of the Plan update process by 12/20.

9. **Schedule –** The project team briefly reviewed the project schedule for meetings and submittals, as presented within the meeting agenda. The layout of the timeline as proposed was considered acceptable. OEM staff indicated that Planning Team Meetings should be scheduled for Thursday mornings (approx. 9-11am) within the proposed weeks. All meetings will be scheduled with the 1st planning meeting to take place the week of Jan 22nd, 2024. The allotted review time for planning team members will be 1 week, beginning the week of June 17th, 2024, in order to expedite project completion. Reducing the interval between planning meetings was also discussed as a potential place to save time in project completion. *(**POST MEETING NOTE**: Scott received a notice of Jury duty that will require pushing the first meeting out to February 1st)*

10. **Other -** None

Planning Team Meeting No. 1
Minutes

DATE: February 1, 2024

TIME: 9:00am to 11:00am (MST)

LOCATION: GRIC OEM EOC, 1676 S. Nelson Dr., Chandler, AZ 85226

ATTENDEES:
Adam Sainz, GRIC OEM
Bruce Harvey, GRIC OEM
Erviin Juan, GRIC OEM
Scott Ogden, JE Fuller
Mary Evans, JE Fuller
Charles Anderson, CRGE Fire/Safety
Laurie Thomas, CSD
Jesse Crabtree, GRPD
Suzanne Jones, OCM
Andrew McBride, GRICUA
Rudy Mix, DEQ
Patrick Peterson, GREMS
Billy Bragg, GRIC OEM
Miyana Manus, GRIC CPAO
Kyle Woodson, CRMP
Michael Preston, OCM
Jesus Haro, GRIC DPW
Julie Smith, GRIC Fire
Steve Johnson, GRIC DOT
Kimberly Cooper, LUPZ
Kyle Flores, BSD/TPD
Chris Miller, GRICUA

Minutes:

1. **Welcome –** Bruce Harvey, GRIC OEM Emergency Management Director, began the meeting at 9:06 a.m.
2. **Introductions –** 23 planning team members were in attendance for the planning meeting, as listed above. Each participant gave a brief introduction, including their name, agency and their experience with the Plan/hazard mitigation planning.
3. **DMA2K Overview and Update Requirements –** Scott provided a brief overview of the Disaster Mitigation Act of 2000. This included the origins of the act and explanation of the different plans (State, Tribe, and Local). The GRIC HMP is a Tribal Plan. It was further explained that as GRIC operated in mitigation, they have direct contact with FEMA and do not go through State OEM. This relationship results in subtle differences in the Plan.

   For the purpose of mitigation planning, FEMA provides planning policy guides. For Tribal Plans, the latest guide became effective in December of 2018. This guidance was not in place at the time of the last update, which will result in some changes to the plan. The latest planning handbook for Tribal Plans is from May 2019.

   The reasons for maintaining and up-to-date plan were reviewed. These include that 1) maintaining an HMP helps to community mitigate know hazards and 2) provides eligibility for several FEMA funding sources specific to hazard Mitigation. These include:

   - HMGP Funds – 15% of declaration cost becomes available for mitigation planning, brick & mortar projects, etc.
   - BRIC Funds – Annually funded. Congress sets aside money for mitigation projects. This fund is competitive. Several communities in AZ have received BRIC funds.

     A team member asked if tribes go directly to FEMA for BRIC funds. ANSWER: Yes

- FMAC & HMGP Post Fire Funds – Available for mitigation, management & control of wildfires. (underutilized)
- Safeguarding Tomorrow Revolving Loan Fund – This fund allows communities to apply to FEMA for loan $$ to provide entities with low interest loans for mitigation within the Community.

*Note that FMA & High Hazard Dam Funds are not included in the list because they do not apply to the GRIC Community.

The plan elements were briefly reviewed and are outlined below:

- Planning Process
  - Planning Team
  - Public Involvement
  - Plan Integration
  - Plan Promulgation
- Risk Assessment
  - Hazard Identification
  - Profiling
  - Vulnerability Analysis (Critical Facilities, Loss Estimation, Repetitive Loss, Development Trend)
- Mitigation Strategy
  - Capability Assessment
  - Goals & Objectives
  - Mitigation Actions/Projects
    * No NFIP participation
- Plan Update Considerations

Finally, the status of the current Plan was reviewed. The current Plan was approved in May 2015 and expired in 2020. The existing Plan will be used as a reference for the update process and all Planning Team Members are strongly encouraged to review the document, which is available on the OEM Website.

Action Items:

- OEM will share the 2015 Plan with participants.

4. **Scope and Schedule –** The scope of the Plan Update was reviewed. The project included a full update to the 2015 GRIC HMP. There will be a minimum of 4 Planning Team meetings, during which each section of the plan will be updated. At the conclusion of the Team meetings, the group will be provided with a draft of the updated Plan for review and comment. Once all Team comments are addressed, the Plan will be submitted to FEMA for review. FEMA will provide an "Approvable Pending Adoption" (APA) letter. Once the APA is received, the Plan must be formally promulgated by GRIC for Final FEMA approval.

   The schedule of Planning Team meeting and Draft submittal dates was also reviewed. The schedule below was set in order to achieve FEMA APA around September 23, 2024.

- Meeting 1 – February 1, 2024
- Meeting 2 – February 29, 2024
- Meeting 3 – April 11, 2024
- Meeting 4 – May 16, 2024
- Meeting 5 – ONLY IF NEEDED
- Draft to Planning Team – June 17, 2024
- 2-week Planning Team review
- Final Draft Plan to FEMA – July 8, 2024
- FEMA Review (45 days or less) – August 26, 2024
- FEMA APA – September 23, 2024 **Tentative**

5. **Planning Process and Team Roles –** The structure of the Planning Team was outlined. Three levels to the team have been identified including:

   - Primary Point of Contact (PPOC) – Hector Andrade, GRIC OEM - will coordinate meetings and the promulgation of the Plan.
   - Agency/Department Point of Contact (A/D POC) – Team Members Participating in Meetings. – Provide information necessary to update the Plan and attend all meetings.
   - Agency Department Teams – Those supporting the A/D POC's and providing necessary data/information.

   It was emphasized that full participation in all planning meetings by the A/D POC's is crucial to the update of the existing plan.

   A list of departments/agencies who are expected to participate on the Planning Team was provided to attendees. Along with this list, the sections of the plan and information that these departments/agencies are anticipated to provide support in were also listed. The attendance requirements for each department/agency were also indicated. It was noted that "**optiona**l" attendance does not equal **unimportant**.

   A Team member asked if the Plan was specific to community owned infrastructure, excluding others. Scott explained that the community will decide what entity infrastructure is considered in the plan. While the Team will not collect, map, and assess all outside infrastructure, if the community is aware of problem areas that are associated with outside infrastructure, it can be discussed in the Plan. As part of the Public Involvement Strategy, the Planning Team will reach out to outside agencies with a nexus to hazard mitigation within the community. These agencies will be invited to participate in the Update process but the Team will not propose actions to mitigate hazards associated with outside infrastructure.

6. **Public Involvement Strategy –** The team reviewed the requirements for public involvement through the Plan update process. It was explained that there are many ways the public outreach and involvement can be achieved, but it is required that the process must provide an opportunity for the public to participate throughout.

As part of the Public Involvement Strategy, the Team must first provide a community specific definition of who the Public are. Scott presented the definition from the 2015 Plan for consideration, as well as two examples from other tribes within the State. The Team was asked to provide feedback on the current definition and any changes that they would like to see. Scott reminded the Team that anyone included in the definition of public should have input and be affected by the Plan. Most Team Members liked the definition used within the Salt River Pima-Maricopa Indian Community Plan because it incorporated enterprises and employees of the community but would want to keep the language indicating that on/off tribal members be included in the definition of public. There was discussion regarding the incorporation of enterprises in the definition of a public, as some individuals felt that they should not be included. The term enterprise was clarified to include non-tribal enterprises and a vote was taken to determine whether it should be included in the definition of public. The majority was in favor of including enterprises. The draft definition of public to be presented to the Team for review and comment is as follows:

"Public is to be all enrolled GRIC members living on and off the reservation, employees, and non-tribal enterprises. GRIC enterprises are considered as stakeholders."

After the group discussion of the definition of public, the Team reviewed past efforts for public involvement as noted within the 2015 Plan. Additionally, recommended strategies for public involvement for this Update were provided to the group for consideration. Scott explained that past experience has shown the physical public meetings to not often yield significant public input specific to the Plan. The proposed strategy includes announcement of update process via social media and GRIC website(s), a questionnaire available online and in printed format, regular public comment process associated with Council Meetings at the time of Plan adoption, and outreach to neighboring jurisdictions and outside agencies with hazard mitigation nexus. The Team was presented with a draft of the questionnaire proposed to be used to gather input from the general public. This questionnaire will be provided on-line via the GRIC website(s) and in paper format at district offices for those who would prefer to complete and mail in their responses. It was requested that Team members review the draft questionnaire and provide comments/concerns by the next planning meeting.

It was asked if the questionnaire could be provided at district meetings to be filled out by attendees. Scott indicated that this would be a good idea and that a presentation/instructions on filling out the survey will also be developed that could be played at the district meetings for the audience.

Immediate feedback on the questionnaire included the following:

- The questionnaire format is confusing.
- Purpose of the questionnaire is unclear.
- Clarify that the survey is to be completed from a personal perspective.
- Provide clarification on the definition of "out-building."

Scott asked the group if there were any other mechanisms for public involvement we should use for the update process. A representative of the Communications & Public Affairs Office indicated that they could create a web-page specific to the HMP update. This will be the landing page for this effort and will host the 2015 Plan, the public outreach questionnaire and instructions, and provide a general description of the need for the Plan, update process, and status of update. It was also recommended that two social media blasts be used to notify the public. One after the HMP webpage has been created and one while FEMA is reviewing the Plan.

In addition to providing the general public with an opportunity to provide input on the Plan, the Team will reach out to Agencies and Communities that have a hazard mitigation nexus to GRIC. A preliminary list of agencies to reach out to was provided to the Team for consideration. The team was

asked to provide any feedback on listed agencies and any additional entities that should be included on the list. All agencies listed were kept and additional agencies/enterprises were added as follows:

- ASU – State Climatologist
- AzDEMA – Planning Branch
- Maricopa and Pinal County Emergency Managers
- Arizona Geological Survey
- Bureau of Indian Affairs
- National Weather Service (PHX AFO)
- Neighbor City/Town Ems
- Maricopa and Pinal Flood Control Districts
- Inter Tribal Council of Arizona
- **All GRIC Enterprises**
- **ADOT Central and Southern Regions**
- **APS, WAPA, & SRP**
- **MCDOT**

It was asked if there should be a distinction between stakeholders and agencies in reaching out to the listed entities. Based upon discussion and group consensus it was determined that separate invites would be sent to stakeholders and agencies.

Action Items:

- Steve Johnson will provide BIA & ADOT contacts.
- OEM will provide list of all GRIC Enterprise/contacts & Count/City/Town EMs.

7. **Risk Assessment: Initial Elements –** The team reviewed a brief explanation of the need for and purpose of the risk assessment portion of the plan. Scott explained the components of a risk assessment, which include identification of the hazards, asset inventory and development trend information, which are used to determine the area of vulnerability for a community. This effort focuses the actions and projects of the plan to those areas that are at elevated risk the profiled hazards. A brief overview of how the hazard assessment is practically accomplished was also provided. This typically involves intersection of the available hazard spatial data with asset inventory and population data using GIS software in order to identify areas of elevated risk.

   Scott discussed the types of hazards that should be considered in the Plan. The team was reminded that for FEMA's purposes, the Plan includes natural hazards that the community is at risk to, and that FEMA does not require man-made hazards to be included in the plan. Man-made hazards can be included if the community feels they should be but addressing them is not a requirement for the Plan. It was also noted that hazards profiled in the plan should have historic precedent/a high probability of occurrence within the Community. Finally, it was noted that all profiled hazards within the plan should pose a significant risk to the community, as mitigation actions/project will be required for each hazard.

   With this understanding of the risk assessment process and the types of hazards to be addressed in the Plan, the team was asked to review the list of current hazards. The 2023 AZ State hazard list was also provided for comparison with the GRIC list. Preliminary maps depicting the spatial data available for Flood, Wildfire, Extreme Heat, and severe wind were displayed to illustrate the current data available

and potential gaps for the risk assessment. Additional hazards, including Fissure and Subsidence, were also mapped based upon best available data for the Team's consideration. Based upon the information presented, the group decided that no new hazards would be added to the Plan. The existing hazards, including Flooding, Sever Weather, Severe Temperature, and Wildfire will be maintained within the 2024 update.

Data Needs:

- Floodplain delineation within the GRIC boundary
- Unless better data is available through the community, will use statewide wildfire risk mapping data.
- OEM/JE Fuller will be reaching out to departments/agencies for:
    - District Boundaries
    - Community specific road/canal data
    - Historical problem areas associated with any of the profiled hazards.
    - Photos related to past events associated with profiled hazards.

8. **Closing Items –** Action Items/Assignments for the meeting include:

- Assignments:
    - Define/assign A/D POC for each agency/department
    - Review Questionnaire handout and provide comments back by next meeting.
    - Review Current Plan
    - Data Collection Coordination
- Action Items:
    - JE Fuller to provide meeting minutes & handouts to OEM for Distribution
    - OEM will provide meeting materials to attendees

Planning Team Meeting No. 2 will be held on February 29th from 9 to 11 a.m. The meeting concluded at 11:12 a.m.

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
Hector Andrade	Gila River Indian Community	Office of Emergency Management	Emergency Management Planner	520-796-3763 (O); 520-610-3341 (M)	hector.andrade.oem@gric.nsn.us
Adam Sainz	Gila River Indian Community	Office of Emergency Management	Emergency Management Coordinator	520-796-3769 (O); 520-610-0080 (M)	adam.sainz@gric.nsn.us
Bruce Harvey	Gila River Indian Community	Office of Emergency Management	Emergency Management Director	520-796-3755 (O); 520-610-1299 (M)	bruce.harvey@gric.nsn.us
Erviin Juan	Gila River Indian Community	Office of Emergency Management	Emergency Management Planner	520 610- 5886	ervin.juan@gric.nsn.us
Scott Ogden	JE Fuller	Tempe, AZ Office	Project Manager	480-299-3394	scott@jefuller.com
Mary Evans	JE Fuller	Silver City, NM Office	Project Engineer	575-956-6159	mary@jefuller.com
Charles Anderson	GRGE	Fire/Safety	Fire System/Safety	480-747-8952	Charles.Anderson@gila.casino
Laurie Thomas	CSD	CSD	Director	610.0770	laurie.thomas@gric.nsn
Jesse Cimarron	GRPD	PD	Chief	(520)610 7418	
Suzanne Jones	OCM	OCM	Community Manager	520-610-0801	Suzanne.Jones@gric
Anne Marie McBride	GRICHA	EMS	Dir of ENG	509-844-3183	amcbride@grichca.net
Rudy Mix	DEQ	DEQ	Program Manager	562-2234	rudy.mix@gric.nsn.us.
Patrick Peterson	GREMS		Division Chief	602 768 6321	Patrick.Peterson@gric.nsn.us
Billy Bragg	OEM Gila River	OEM	Planner	5206108877	Billy.Bragg.OEM@gric.nsn.us
Miyana Manus	Gila River	CPAO	Marketing Specialist	520 562 9717	miyana.manus@gric.nsn.us
Kyle Woodson	CRMP		Director	562 7169	
Michael Preston	OCM	OCM	Asst. Com Mgr	562 9701	
Jesus Hays	~~DPW~~ GRIC	DPW	Director	520 562 3343	Jesus.Hays@GRIC.nsn.us
Julie Smith	Gila River Fire	Fire	Deputy Chief	520-610-2465	julie.smith@gric.nsn.us

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
Steve Johnson	GRICDOT	DOT	Acting Director	520-562-0952	steven.Johnson@gric.nsn.us
Kimberly Cooper	WUPZ		Director	562-6003	

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
Kyle Flores	BSD/HPD	" "	BLDG INSPECTOR	(520) 610-8281	KYLE.FLORES.TP@GRIC.NSN.US
Chris Miller	GRICUA		Dir of Ops	520 796-1577	cmiller@gricua.net

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN 2024 UPDATE

Planning Team Meeting No. 1 – February 1, 2024

Presented by:

Bruce Harvey
Adam Sainz
Hector Andrade

and

Scott Ogden
Mary Evans

GRIC-HMP – 2024 Update
INTRODUCTIONS

- **Please share the following:**
  - **Name**
  - **Department / Agency / Organization**
  - **New to Hazard Mitigation or Returning Planning Team Member?**

GRIC-HMP – 2024 Update
Planning Team Meeting No. 1 Agenda

- **DMA2K Overview and Update Requirements**
- **Scope and Schedule**
- **Planning Process and Team Roles**

******** ***15 minute break*** ********

- **Public Involvement Strategy**
- **Risk Assessment – Initial Elements**

What is Hazard Mitigation?

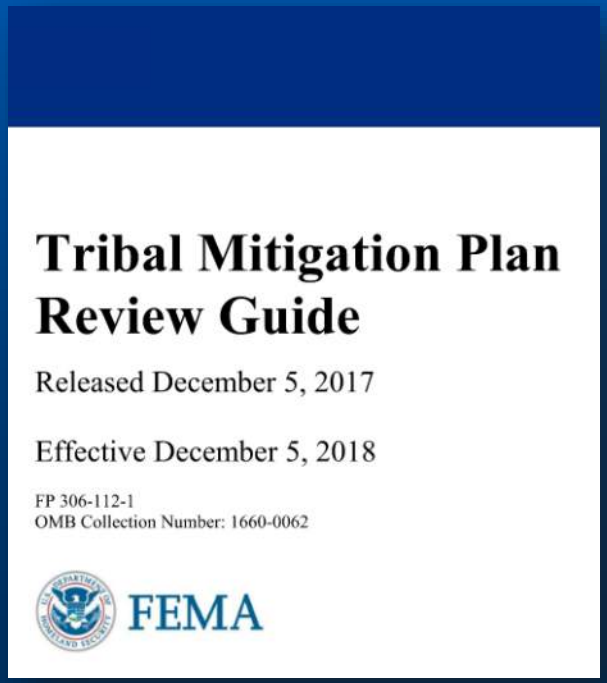
According to FEMA:

Disaster Mitigation Act of 2000

- **Passed by Congress in October 2000**
- **Amended Stafford Act**
- **TRIBAL Hazard Mitigation Planning Requirements at 44 CFR Part 201.7**
  - **Grantee/Applicant Status**
- **DMA2K became effective November 2004 with Tribal Planning Requirements starting October 2008.**

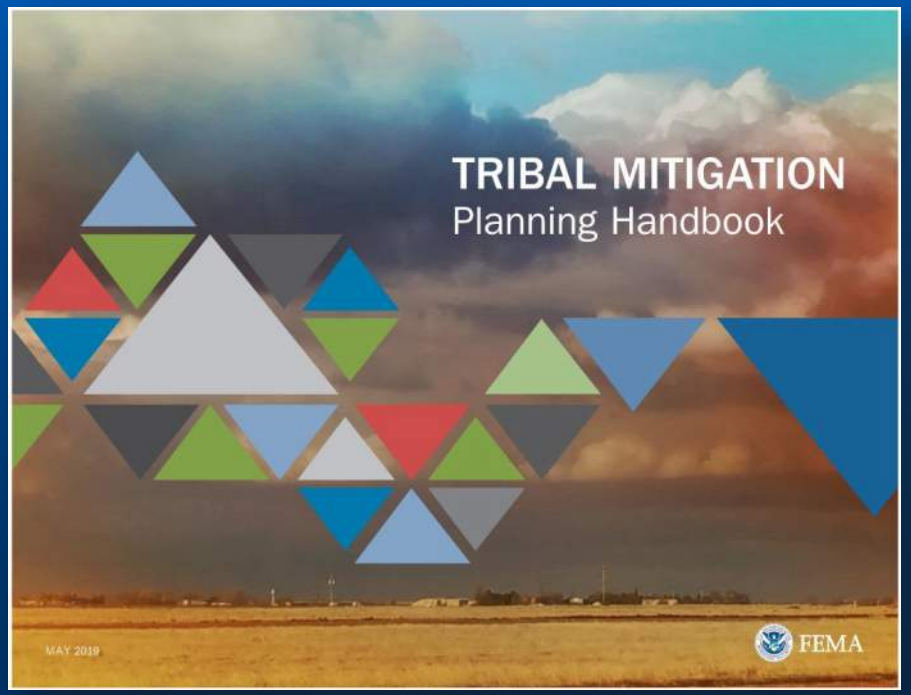
Disaster Mitigation Act of 2000

- **FEMA issues "planning policy guides" that serve as the "official interpretation" of the requirements in the Stafford Act.**
- **Latest TRIBAL guide was issued December 2017 and became effective December 2018.**
- **Lists and explains all the "shall" and "must" requirements for achieving plan approval.**



Disaster Mitigation Act of 2000

- **FEMA released an updated Tribal Planning Handbook in May 2019.**
- **Serves as a resource for the planning process.**
- **Includes templates for worksheets and other guidance.**

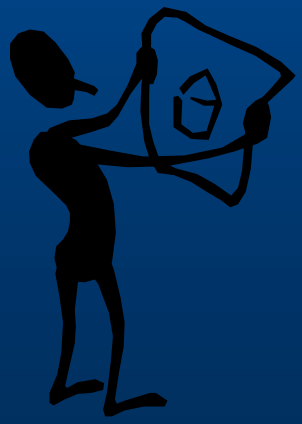


Disaster Mitigation Act of 2000

- **ELIGIBILITY IMPACTED GRANT PROGRAMS**

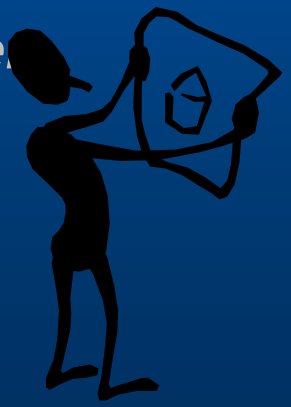
  [STATE and TRIBES ONLY]

  - **Public Assistance Funds (PA), Permanent Restorative Work, Categories C-G**
    - **Initiated by presidential disaster declaration**
    - **State and Tribal Only**



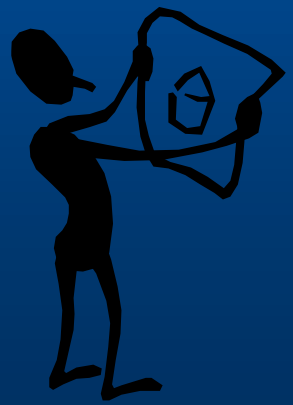
Disaster Mitigation Act of 2000

- **ELIGIBILITY IMPACTED GRANT PROGRAMS**
  - **Hazard Mitigation Grant Program (HMGP)**
    - **Initiated by presidential disaster declaration**
    - **Projects and planning**
  - **Building Resistant Infrastructure and Communities (BRIC)** *[formerly the Pre-Disaster Mitigation Program (PDM)]*
    - **Annual and nationally competitive**
    - **Projects and planning**



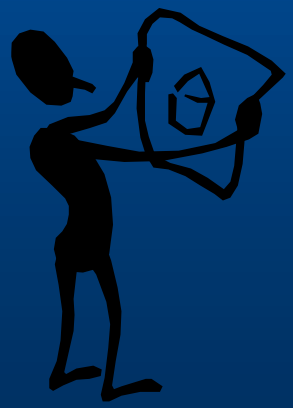
Disaster Mitigation Act of 2000

- **ELIGIBILITY IMPACTED GRANT PROGRAMS**
  - **Flood Mitigation Assistance (FMA)**
    - **Applicant must be a participant in the National Flood Insurance Program (NFIP)**
    - **NFIP Insured Structures**
    - **Annually funded - State allocations**
    - **Projects and planning**



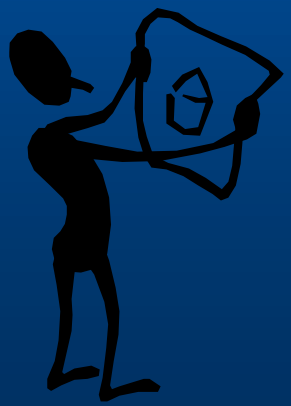
Disaster Mitigation Act of 2000

- **ELIGIBILITY IMPACTED GRANT PROGRAMS**
  - **Fire Management Assistance Grants (FMAG)**
    - **Available for mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster.**
  - **HMGP – Post Fire (Post Oct 2018)**
    - **Based on a percentage of FMAG declaration**
    - **Wildfire related mitigation measures**



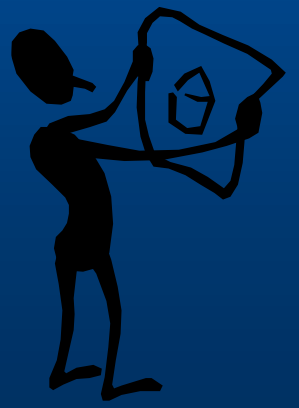
Disaster Mitigation Act of 2000

- **ELIGIBILITY IMPACTED GRANT PROGRAMS**
  - **Safeguarding Tomorrow Revolving Loan Fund (RLF)**
    - **FEMA grant to capitalize a low-interest loan program to eligible communities for reducing their vulnerability to disasters, fostering greater resilience, and reducing disaster impacts.**



Disaster Mitigation Act of 2000

- **ELIGIBILITY IMPACTED PROGRAMS**
  - **Rehabilitation Of High Hazard Potential Dam (HHPD) Grant Program**
    - **Added to National Dam Safety Program via the Water Infrastructure Improvements for the Nation Act or the "WIIN Act," on December 16, 2016**
    - **Provides technical, planning, design and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams**



DMA 2000 General Plan Elements

Step 1: Planning Process

- **Planning Team**
- **Public Involvement**
- **Plan Integration**
- **Plan Promulgation**

Step 2: Risk Assessment

Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- **Hazard Identification**
- **Hazard Profiling**
- **Vulnerability Analysis**
  - **Critical Facilities**
  - **Loss Estimation**
  - **Repetitive Loss Properties**
  - **Development Trend Analysis**

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- **Capability Assessment**
- **Goals and Objectives**
- ~~**NFIP Participation and Compliance**~~
- **Mitigation Activities/ Projects and Implementation Strategy**

DMA 2000 General Plan Elements

Step 1: Planning Process

Step 2: Risk Assessment

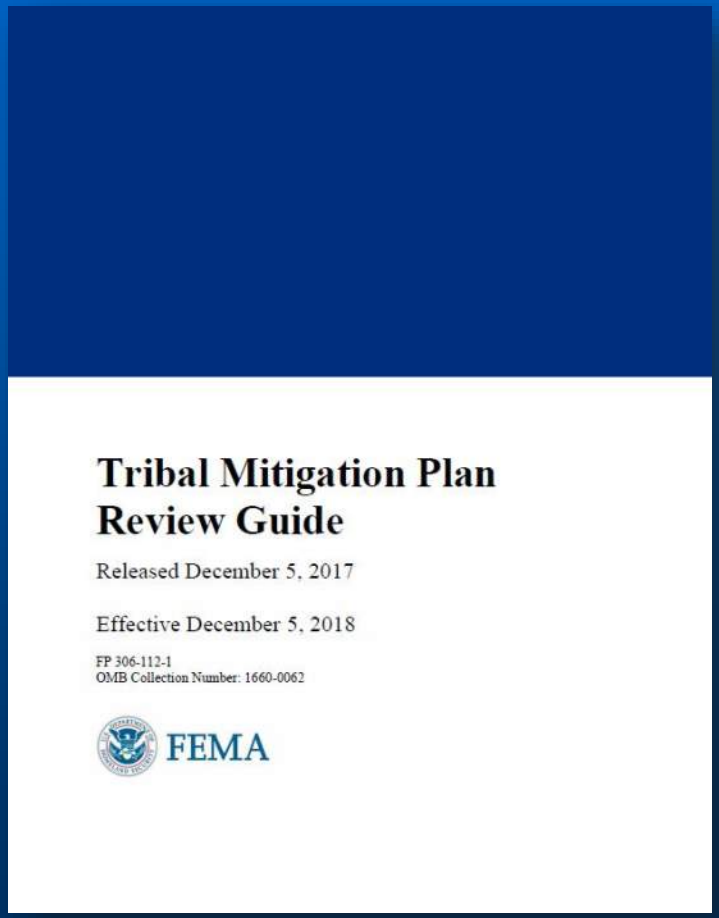
Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

- Monitoring, Evaluation
- Plan Update Process
- Continued Public Involvement

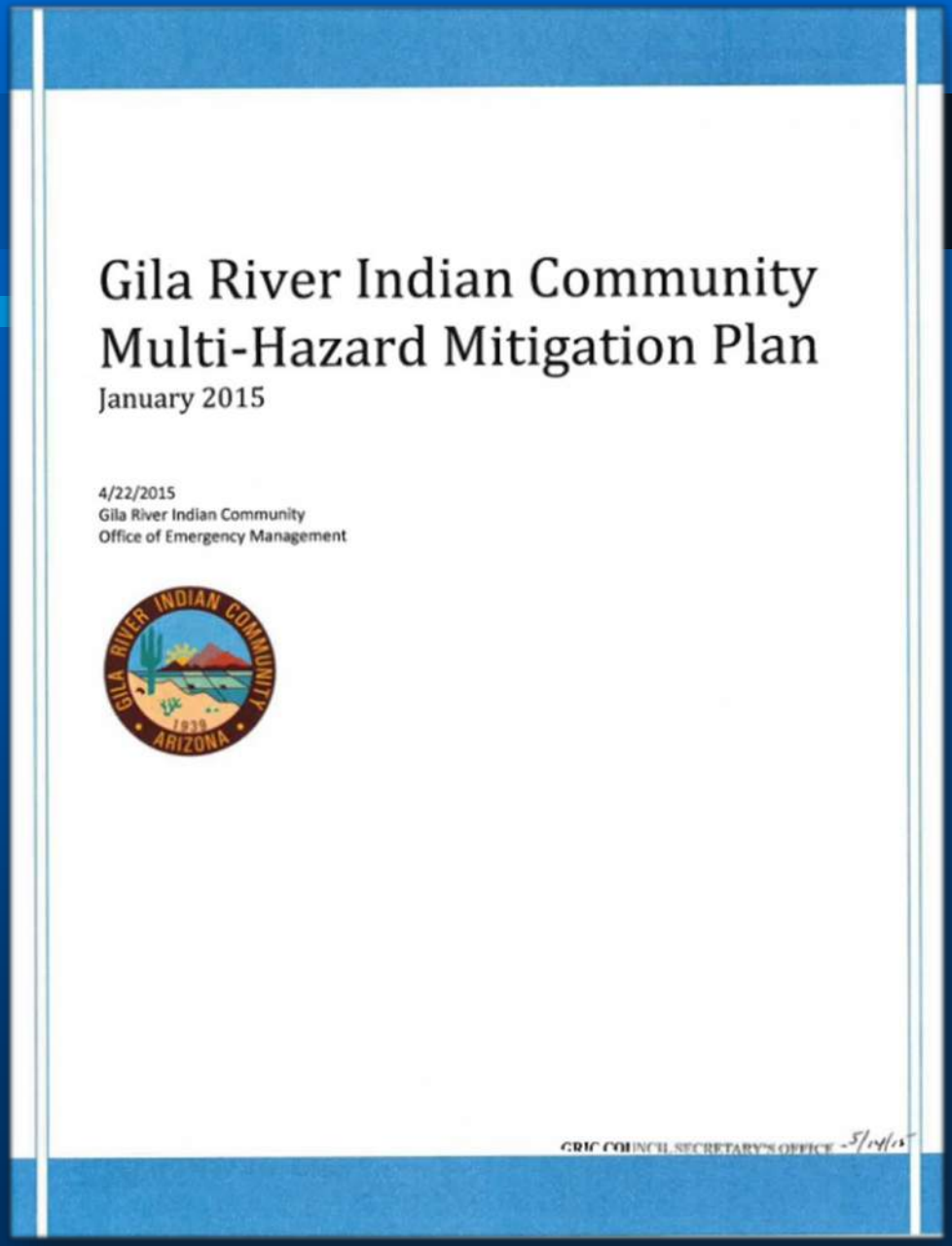
Plan Update Considerations

- **TRIBAL Plan review guidance released December 5, 2017**
  - **New since last update**
  - **Revised crosswalk**
  - **Addresses Tribal Planning requirements for "Grantee" status**
  - **Highlight changes when we come to them**



Current Plan

- **Approved by FEMA in May 2015**
- **Expired in May 2020**
- **Will be used and referenced during update process**



GRIC-HMP – 2024 Update
Scope and Schedule

- **Scope**
  - **Completely review, revise and update the current 2015 Plan through a full hazard mitigation planning process.**
  - **Prepare and submit Draft Plan to Planning Team first, then FEMA for review.**
  - **FEMA approval will result in an "Approvable Pending Adoption" (APA) letter.**
  - **Upon receipt of FEMA APA, the new Plan will be formally promulgated by GRIC for final FEMA approval.**

GRIC-HMP – 2024 Update
Scope and Schedule

- **MEETING SCHEDULE (All In-Person Meetings)**

No. 1	• **February 1, 2024**
No. 2	• **February 29, 2024**
No. 3	• **April 11, 2024**
No. 4	• **May 16, 2024**
No. 5	• *ONLY IF NEEDED*

GRIC-HMP – 2024 Update
Scope and Schedule

- **Schedule (Target Dates)**
  - **Draft Plan to Planning Team: June 17, 2024**
  - **2 Week Planning Team Review**
  - **Final Draft Plan to FEMA: July 8, 2024**
  - **FEMA Review 45 days for less: August 26, 2024**
  - **FEMA APA: ??? (September 23, 2024) ???**

DMA 2000 General Plan Elements

Step 1: Planning Process

- **Planning Team**
- **Public Involvement**
- **Plan Promulgation**

Step 2: Risk Assessment

Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

Multi-Agency Planning Team Levels

- **Three Levels**
  - **Primary Point of Contact (PPOC)**
  - **Agency/Department Point of Contact (A/D POC)**
  - **Agency/Department Team**

Multi-Agency Planning Team
Roles

- **Primary Point of Contact (PPOC)**
  - **GRIC Emergency Manager or designee**
  - **Hector Andrade – GRIC OEM**
- **PPOC Responsibilities**
  - **Organize planning team**
  - **Organize / arrange planning team meetings**
  - **Arrange for official plan adoption**

Multi-Agency Planning Team
Roles

- **Agency/Dept Point of Contact (A/D POC)**
  - **Ensure attendance/representation at Planning Team meetings**
  - **Convey information to and from Agency/Department**
  - **Ensure timely completion of assignments**

Multi-Agency Planning Team Roles

- **Agency/Department Team**
  - **Work with A/D POC to collect data, perform tasks, and review plan documents as directed by A/D POC**

Multi-Agency Planning Team
Roles

- **Several Departments/Agencies will have KEY roles in the update process (see handout)**
- **FULL Participation by ALL KEY Departments/Agencies is NECESSARY for a successful planning effort.**

15 MINUTE BREAK

DMA 2000 General Plan Elements

Step 1: Planning Process

- Planning Team
- Public Involvement
- Plan Promulgation

Step 2: Risk Assessment

Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

Public Involvement Strategy

Minimum requirement:

the public must have an *opportunity* to comment on the plan at least

once during development

and

once after draft is completed and prior to final adoption

Public Involvement Strategy

- Newspapers, radio, television
- Brochures and fliers
- Outreach activities; local festivals, fairs and bazaars
- Web-based or printed questionnaires
- A connection to planning team via internet website
- Public input workshops

Public Involvement Strategy
Defining "Public"

- **FEMA requires the Community to define "public"**

A2. Does the plan document an opportunity for public comment during the drafting stage and prior to plan approval, including a description of how the tribal government defined "public"? 44 CFR § 201.7(c)(1)(i) ***Intent**: To ensure that tribal members understand what the tribal government is doing on their behalf and to provide a chance for input.*	a. The plan shall describe how the tribal government defined "public." For example, "public" is sometimes defined as including only tribal membership, or tribal citizens. It might also be identified as those living on tribal land or in the tribal service area. Tribal members/citizens who do not live on the tribal lands may also want to provide input or comment on the plan. b. The plan shall describe how the public was given the opportunity to be involved in the planning process and how their feedback was incorporated into the plan. Examples of

- **Purpose is to help the Planning Team in understanding what "public" will be targeted with outreach or given opportunities to comment.**

Public Involvement Strategy
Defining "Public"

- **The 2015 Plan included the following:**

The definition of "Public" was determined with input from the Planning Team. It equates to those GRIC meetings that are open to any and all enrolled GRIC members, including members who live on and off the reservation.

- **Definitions by others:**
  - FMYN: ***"All FMYN tribal members, community members, and employees."***
  - SRPMIC: ***"All enrolled Community members, employees and enterprises."***

- **Suggested Update for 2024 Plan:**

For the purposes of this Plan, the Planning Team has defined "Public" to be all enrolled GRIC members living on and off the reservation.

Public Involvement Strategy
Past Efforts for the 2015 Plan

- **Attendance and announcement/presentation of the planning update process at one-each of the 7 GRIC Districts regular meetings.**
- **Posting of the plan being updated to the GRIC OEM website.**
- **Opportunity for public discussion/comment at the GRIC Community Council adoption process meeting(s).**

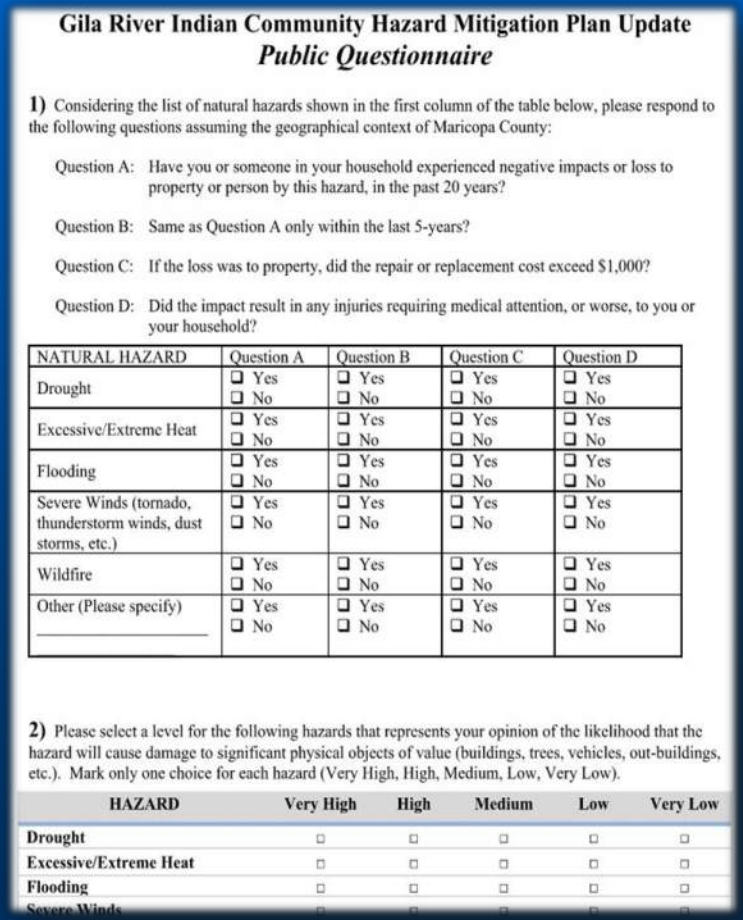
Public Involvement Strategy

- **DRAFT Strategy Proposed by OEM Leadership**
  - **Announcement of update process via social media and GRIC website(s) with appropriate links to the 2015 Plan.**
  - **Questionnaire in both web-based and printed format**
  - **Regular public comment process associated with GRIC Community Council meetings at time of formal adoption of the updated Plan.**
  - **Outreach to neighboring jurisdictions and outside agencies with hazard mitigation nexus.**

Public Involvement Strategy

Draft Questionnaire

- Formatted for both online and paper completion
- Can be distributed by District Leadership locally
- Online version will include a brief recorded instruction
- Planning Team to review and comment before next meeting.



Gila River Indian Community Hazard Mitigation Plan Update
Public Questionnaire

1) Considering the list of natural hazards shown in the first column of the table below, please respond to the following questions assuming the geographical context of Maricopa County:

Question A: Have you or someone in your household experienced negative impacts or loss to property or person by this hazard, in the past 20 years?

Question B: Same as Question A only within the last 5-years?

Question C: If the loss was to property, did the repair or replacement cost exceed $1,000?

Question D: Did the impact result in any injuries requiring medical attention, or worse, to you or your household?

NATURAL HAZARD	Question A	Question B	Question C	Question D
Drought	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Excessive/Extreme Heat	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Flooding	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Severe Winds (tornado, thunderstorm winds, dust storms, etc.)	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Wildfire	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Other (Please specify) _____	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No

2) Please select a level for the following hazards that represents your opinion of the likelihood that the hazard will cause damage to significant physical objects of value (buildings, trees, vehicles, out-buildings, etc.). Mark only one choice for each hazard (Very High, High, Medium, Low, Very Low).

HAZARD	Very High	High	Medium	Low	Very Low
Drought	❑	❑	❑	❑	❑
Excessive/Extreme Heat	❑	❑	❑	❑	❑
Flooding	❑	❑	❑	❑	❑
Severe Winds	❑	❑	❑	❑	❑

Public Involvement Strategy

Agency/Organizational Invitations

A3. Does the plan document, as appropriate, an opportunity for neighboring communities, tribal and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as other interests to be involved in the planning process?	a. The plan shall identify all tribal members/citizens, and partners who were given an opportunity to be involved in the planning process. During plan review, it is important for the reviewer to consider that variations in tribal capability and/or cultural practice may influence participation. b. The plan shall identify how tribal members/citizens and partners were invited to participate in the process.

List of Invited Agency/Organizations

- ASU - State Climatologist
- AzDEMA – Planning Branch
- Maricopa and Pinal County EMs
- Arizona Geological Survey
- Bureau of Indian Affairs
- ADOT (Central & South)
- National Weather Service – PHX AFO
- Neighbor City/Town EMs
- Neighbor Flood Control Districts (Maricopa and Pinal)
- Inter Tribal Council of Arizona
- List of gric enterprises
- WAPA, APS, SRP
- MCDOT

DMA 2000 General Plan Elements

Step 1: Planning Process

Step 2: Risk Assessment

Step 3: Mitigation Strategy

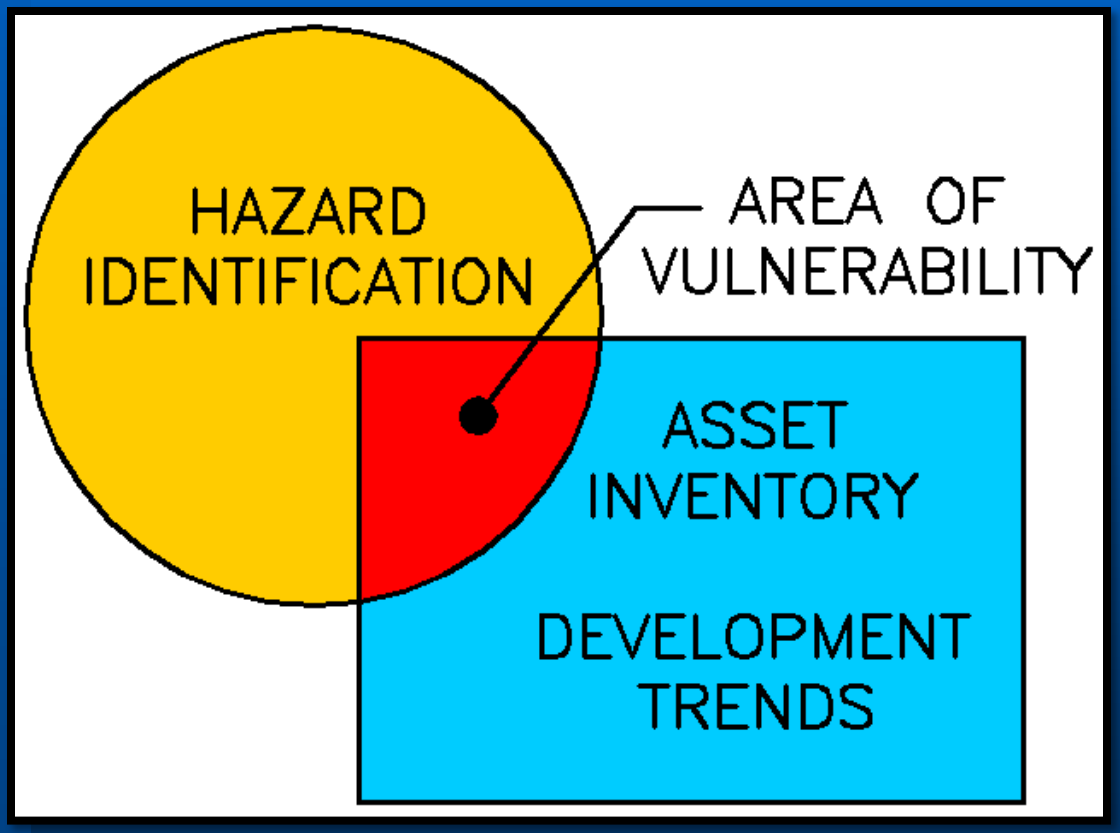
Step 4: Plan Maintenance Procedures

- **Hazard Identification**
- **Hazard Profiling**
- **Vulnerability Analysis**
  - **Critical Facilities**
  - **Loss Estimation**
  - **Repetitive Loss Properties**
  - **Development Trend Analysis**

RISK ASSESSMENT

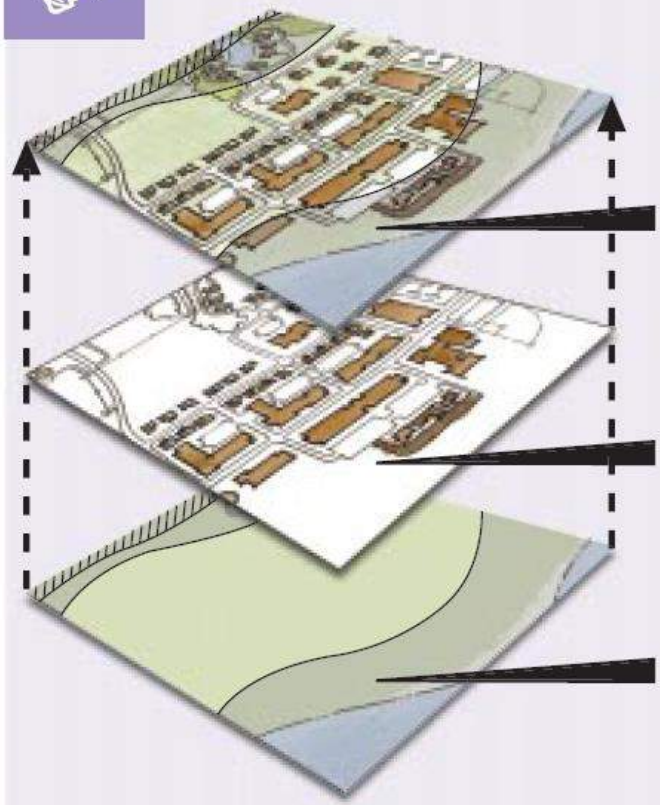
- Risk Assessment will provide:
  - *"the factual basis for activities proposed in the strategy to reduce losses from identified hazards"*
  - *"sufficient information to enable the tribe to identify and prioritize appropriate mitigation actions"*

RISK ASSESSMENT



RISK ASSESSMENT

An overlay can be produced by hand using a light table or through the use of GIS.



A map showing the location of the community's assets can be produced…

…by overlaying the base map for the community…

…with a map delineating hazard area boundaries.

RISK ASSESSMENT

In Summary…

A Risk Assessment determines "what" can occur, "when" (how often) it is likely to occur, and "how bad" the effects could be.[1]

[1] – National Fire Protection Association, 2000, *Standard on Disaster/Emergency Management and Business Continuity Programs*, NFPA 1600.

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
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- **Hazard Identification**
- **Hazard Profiling**
- **Vulnerability Analysis**
  - **Critical Facilities**
  - **Loss Estimation**
  - **Repetitive Loss Properties**
  - **Development Trend Analysis**

Initial Hazard Identification

- **Start with Current Plan hazards**
- **DMA2000 – *Natural Hazards* focus**
- **Arizona State HMP 2023 – source of hazard info**
- **Historic precedent or high probability of future risk**
- **Profiled Hazards ===> Mitigation Actions/Projects**
  - **Must be A/Ps for each hazard identified as presenting a measurable risk to the Community.**

Initial Hazard Identification

Current Plan List:

- Flooding
- Severe Weather (Thunderstorms and High Winds)
- Severe Temperature (Extreme Heat)
- Wildfire

AZ State HMP List:

- ~~Dam Failure~~
- Drought
- ~~Earthquake~~
- Extreme Heat
- ~~Fissure~~
- Flooding
- ~~HAZMAT~~
- ~~Infectious Disease~~
- ~~Landslide~~
- Levee Failure
- Severe Wind
- ~~Subsidence~~
- ~~Terrorism~~
- Wildfire
- ~~Winter Storm~~

Initial Hazard Identification

Initial Hazard Profile List:

- **Extreme Heat**
- **Flooding**
- **Severe Wind**
- **Wildfire**

Initial Hazard Identification

INITIAL DATA COLLECTION:

- **Base GIS Layers (Community and District Boundaries, Roads, Canal System, etc.)**
- **Hazard Profile Mapping (preferably in GIS format)**
  - **Floodplain or Flood Prone Area Mapping**
  - **Wildfire Risk Mapping**
  - **Other Hazard Mapping ???**
- **Historic Hazard Events (photos, dates, descriptions, reported damages, declarations, etc.). Focus on past 10-years.**

CLOSING ITEMS…

- **ACTION ITEMS:**
  - **Define/assign A/D POC for each agency/department**
  - **Start on Public Involvement**
  - **Review Current Plan**
  - **Data Collection Coordination**

NEXT STEPS…

Next Meeting:

Date: February 29, 2024

Time: 9am to 11am

Place: GRIC – Office of Emergency Management
Emergency Operations Center
1676 S. Nelson Dr, Chandler, AZ 85226

GRIC DEPARTMENT/AGENCY	ANTICIPATED CONTRIBUTIONS	PLANNING TEAM PARTICIPATION LEVEL
Office of Community Manager	• Promulgation Authority	Optional
Communications and Public Affairs	• Public Outreach	Required
Community Services Department – Tribal Recreation and Wellness	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Cultural Resources Management Department	• Risk Assessment • Mitigation Strategy	Required
Department of Community Housing	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Department of Environmental Quality	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Department of Public Works	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Department of Transportation	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Emergency Medical Services	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Fire Department	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
GRIC Utility Authority	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Land Use Planning and Zoning Department	• Development Trends • Mitigation Strategy	Required
Office of Emergency Management	• Lead Agency • Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Pima Maricopa Irrigation Project	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Police Department	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Tribal Projects Development	• Hazard Identification • Risk Assessment • Mitigation Strategy	Required
Gaming (Casinos)	• Funding Source	Required
• Facilities Maintenance • Gila River Health Care • Management Information Systems • Tribal Health Department	• Invited Planning Team Participation	Optional

Gila River Indian Community Hazard Mitigation Plan Update
Public Questionnaire

1) Considering the list of natural hazards shown in the first column of the table below, please respond to the following questions assuming the geographical context of Maricopa County:

Question A: Have you or someone in your household experienced negative impacts or loss to property or person by this hazard, in the past 20 years?

Question B: Same as Question A only within the last 5-years?

Question C: If the loss was to property, did the repair or replacement cost exceed $1,000?

Question D: Did the impact result in any injuries requiring medical attention, or worse, to you or your household?

NATURAL HAZARD	Question A	Question B	Question C	Question D
Drought	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Excessive/Extreme Heat	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Flooding	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Severe Winds (tornado, thunderstorm winds, dust storms, etc.)	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Wildfire	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No
Other (Please specify) _____ _____	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No	❑ Yes ❑ No

2) Please select a level for the following hazards that represents your opinion of the likelihood that the hazard will cause damage to significant physical objects of value (buildings, trees, vehicles, out-buildings, etc.). Mark only one choice for each hazard (Very High, High, Medium, Low, Very Low).

HAZARD	Very High	High	Medium	Low	Very Low
Drought	□	□	□	□	□
Excessive/Extreme Heat	□	□	□	□	□
Flooding	□	□	□	□	□
Severe Winds	□	□	□	□	□
Wildfire	□	□	□	□	□
Other (Please Specify): _____	□	□	□	□	□

3) Please select a level for the following hazards that represents your opinion of the likelihood that the hazard will or may cause personal harm or injury to you or someone within your community. Mark only one choice for each hazard (Very High, High, Medium, Low, Very Low).

HAZARD	Very High	High	Medium	Low	Very Low
Drought	□	□	□	□	□
Extreme Heat	□	□	□	□	□
Flooding	□	□	□	□	□
Severe Winds	□	□	□	□	□
Wildfire	□	□	□	□	□
Other (Please Specify): _____	□	□	□	□	□

4) To aid us in defining your community, please provide the District or zip code in which you live: _____

5) Are you aware that the Gila River Indian Community has a hazard mitigation plan — a plan that is written to guide how each community will lower its risk and exposure to natural disasters?

❍ Yes ❍ No

6) What types of projects should your Community focus on to reduce hazard impacts? (Please rank each option on a scale of 1 to 5, with 1 being least favorable and 5 being the most favorable)

_____ Structure/Infrastructure Improvements (culverts, bridges, channels, levees, etc.)

_____ Critical Facility Upgrades (flood protection, backup generators, fire buffers, relocation)

_____ Public Education and Outreach (digital outreach, newsletters, webinars, information booths, social media, etc.)

_____ Environmental Protection of Natural Buffers (for example, open space in a floodplain)

_____ Regulatory Standards, Building Codes, and/or Strategic Plans

_____ Other (please specify)

7) What is the most effective way for you to receive information about how to protect your family and prepare your home for hazard events? (Please rank each option on a scale of 1 to 5, with 1 being least favorable and 5 being the most favorable)

_____ Television

_____ Radio

_____ Newspapers

_____ Websites

_____ Mailers / Utility Bill Inserts

_____ Email

_____ Public Meetings / Workshops

_____ Fair/Show Booths

_____ Webinars

_____ Social Media (Facebook, Twitter, NextDoor, etc.)

8) You know better than most what hazards affect your home, neighborhood, and community and as your local government, we want to do our best to work with you to mitigate those hazards. What else do you think we should know?

_____
_____
_____
_____

9) Do you want to be notified of upcoming mitigation public events? If so, please provide your contact information below.

Name: _____

Email: _____

Phone: _____

10) Do you have any additional comments?

_____
_____
_____

Please return this completed form to:

Hector Andrade – Emergency Management Specialist

Gila River Indian Community Office of Emergency Management

Email: Hector.Andrade.OEM@gric.nsn.us | Phone: 520-796-3763

Thank you!!!!

Planning Team Meeting No. 2
Minutes

DATE: February 29, 2024

TIME: 9:00am to 10:35am

LOCATION: GRIC OEM EOC, 1676 S. Nelson Dr., Chandler, AZ 85226

ATTENDEES: (See Attached Sign In Sheet)

Minutes:

1. **Welcome –** Bruce Harvey, GRIC OEM Emergency Management Director, opened the meeting and welcomed the group.
2. **Introductions –** 27 people were in attendance for the planning meeting, as listed in the attached sign-in sheet. All gave a brief introduction, including their name, agency, and their experience with the Plan/hazard mitigation planning. Several attended in response to a recent invitation to neighboring agencies and entities. A total of 8 attendees were also at meeting number 1.
3. **Action Item Review -** the table at the end of the notes summarizes the action items from Meeting No. 1 and the progress reported.
4. **Plan Maintenance Strategy Update** – The Planning Team (PT) reviewed the current FEMA requirements for monitoring, evaluating and updating the plan from the 2017 guidelines, and the text and strategy currently outlined in the 2015 Plan. The following key items were discussed:
   - **Schedule** – the PT chose to keep the "annual or following a major disaster event" as the schedule for the monitoring and evaluation**.**
   - **Lead Agency** – GRIC OEM will continue to be the responsible lead agency with the Director position or his assigned being the Primary Point of Contact (PPOC). All GRIC Departments and Enterprises will be requested to provide feedback at the OEM prompting.
   - **Scope** – the scope of the annual review will remain substantially the same as what is written in the 2015 Plan.
   - **Past Performance** – No reported reviews were conducted over the 2015 Plan duration.
   - **5-Year Plan Update** – the same schedule will be kept as what is outlined in the 2015 Plan with one addition. GRIC OEM will begin the process of procuring grant funding to prepare the update two years prior to the current plans expiration date.
5. **Risk Assessment – Critical Facility Inventory** – An overview of what would normally comprise a critical facility and infrastructure (CFI) dataset was presented and discussed by the PT. The PT discussed the availability of CFI for use in the plan's risk assessment. The LUPZ maintains a set of building polygons that are attributed with data for defining the type/classification of the buildings (residential, industrial, commercial, school, fire station, etc.). FEMA HAZUS also maintains a national database of CFI but is was found to be very limited in content for GRIC. Community lifeline type data are also available from LUPZ and AZ GEO. JE Fuller and OEM will meet with LUPZ representatives to view the datasets maintained by LUPZ. If needed, JE Fuller will reach out to the rest of the PT for help with compiling a dataset for this Plan.

6. **Development Trends** – The PT discussed compiling a depiction of the development trends for the past and future 5-year periods. The results of this data when evaluated in reference to the hazards profiled, will inform on potential development related risks. The intent is to keep the assessment simple and reflecting "best available" resources and data.

7. **Closing Items –** Action Items/Assignments for the meeting are summarized in the attached table. The presentation slide deck is also appended to these notes. Otherwise, ***Planning Team Meeting No. 3 will be held on April 11th, from 9 to 11am at OEM's EOC (same location as Mtg Nos 1 & 2)***.

   The meeting concluded at 10:35am.

ACTION ITEM SUMMARY:

ITEM NO.	DESCRIPTION	RESPONSIBILITY [DUE DATE]	STATUS
1-1	OEM to share 2015 Plan with PT	OEM Team [2/29/2024]	Completed
1-2	Provide BIA and ADOT contacts	Steve Johnson [2/29/2024]	Complete – contact info provided by Steve via email on 2/29/24.
1-3	Provide list of all GRIC Enterprise/contacts and neighboring County/City/Town EMs	OEM Team [2/29/2024]	Completed
1-4	Review questionnaire handout and provide comments to OEM before Meeting No. 2	All Planning Team [2/29/2024]	OEM provided edited version and submitted to PT for review week of 2/20/2024. Copies were handed out at Mtg No. 2 for final review. **All comments are due by COB 3/8/2024**
1-5	Create a landing webpage for the HMP	Roberto Jackson, Miyana Manus, GRIC CPAO [2/29/2024]	Pending. Requested that landing page be completed by the **end of March 2024** so remainder of public involvement tasks can begin.
1-6	Research for source data shown on flood and wildfire hazard profile maps in 2015 Plan	Kimberly Cooper, Seaver Fields, RFIC LUPZ [2/29/2024]	Pending. Discussed further at Mtg No. 2. JE Fuller and OEM will meet separately with Seaver to view available flood data and discuss usage. Wildfire data came from AZ WRAP. **Meeting and data exchange to be completed by April 11, 2024**
2-1	JE Fuller/OEM to meet with LUPZ to view building polygons and associated data to use for risk assessment. Gaps can be submitted through use of the CFI spreadsheet discussed in the meeting.	JE Fuller, OEM, LUPZ [4/11/2024]	
2-2	Provide brief discussion of 5-year past and 5-year future development trends and any supporting maps as appropriate	All GRIC Departments and Enterprises as appropriate [4/11/2024]	

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
Charles Anderson	Gila River Gaming Enterprise	Fire/Safety	Fire System/Safety	480-747-8952	charles.anderson@gila.casino
Hector Andrade	Gila River Indian Community	Office of Emergency Management	Emergency Management Planner	520-796-3763 (O); 520-610-3341 (M)	hector.andrade.oem@gric.nsn.us
Billy Bragg	Gila River Indian Community	Office of Emergency Management	Planner	520-610-8877	billy.bragg.oem@gric.nsn.us
Kimberly Cooper	Gila River Indian Community	Land Use Planning and Zoning	Director	520-562-6003	kimberly.cooper.lupz@gric.nsn.us
Jesse Crabtree	Gila River Indian Community	Police Department	Chief	520-610-7418	Jesse.Crabtree@gric.nsn.us
Mary Evans	JE Fuller	Silver City, NM Office	Project Engineer	575-956-6159	mary@jefuller.com
Kyle Flores	Gila River Indian Community	Building Safety Division/TPD	Building Inspector	520-610-8281	kyle.flores.tp@gric.nsn.us
Jesus Haro	Gila River Indian Community	Department of Public Works	Director	520-562-3343	jesus.haro@gric.nsn.us
Bruce Harvey	Gila River Indian Community	Office of Emergency Management	Emergency Management Director	520-796-3755 (O); 520-610-1299 (M)	bruce.harvey@gric.nsn.us
Steve Johnson	Gila River Indian Community	Department of Transportation	Acting Director	520-562-0952	steven.johnson@gric.nsn.us
Suzanne Jones	Gila River Indian Community	Office of the Community Manager	Community Manager	520-610-0801	suzanne.jones@gric.nsn.us
Ervin Juan	Gila River Indian Community	Office of Emergency Management	Emergency Management Planner		ervin.juan@gric.nsn.us
Miyana Manus	Gila River Indian Community	Communication and Public Affairs Office	Marketing Specialist	520-562-9717	miyana.manus@gric.nsn.us
Andrew McBride	Gila River Indian Community Utility Authority	Engineering	Director of Engineering	509-844-3183	amcbride@gricua.net
Chris Miller	Gila River Indian Community Utility Authority		Director of Operations	520-796-1577	cmiller@gricua.net
Rudy Mix	Department of Environmental Quality	Department of Environmental Quality	Program Manager	520-562-2234	rudy.mix@gric.nsn.us
Scott Ogden	JE Fuller	Tempe, AZ Office	Project Manager	480-299-3394	scott@jefuller.com
Patrick Peterson	Gila River Indian Community	Emergency Medical Services	Division Chief	602-768-6321	patrick.peterson@gric.nsn.us
Michael Preston	Gila River Indian Community	Office of the Community Manager	Assistant Community Manager	520-562-9701	michael.preston.OCM@gric.nsn.us
Adam Sainz	Gila River Indian Community	Office of Emergency Management	Emergency Management Coordinator	520-796-3769 (O); 520-610-0080 (M)	adam.sainz@gric.nsn.us
~~Julie Smith~~ KATHY GARCIA	Gila River Indian Community	Fire	~~Deputy~~ Chief	520-610-2465 520 796 5700	~~julie.smith@gric.nsn.us~~
Laurie Thomas	Gila River Indian Community	Community Services Department	Director	520-610-0770 52	laurie.thomas@gric.nsn.us
Kyle Woodson	Gila River Indian Community	Cultural Resources Management Program	Director	520-562-7169	kyle.woodson@gric.nsn.us
George Burger	City of Maricopa	Emergency Manager	Emergency Manager	520-316-6816	george.burger@maricopa-az.gov
Seaver Fields	GRIC LUPZ	LUPZ	Project Coord.	520-562-6003	Seaver.fields.ii@gric.nsn.us
Joseph Cruz	MCDEM	OPS	EM Coordinator	602-725-6896	Joseph.cruz@maricopa.gov
Demi Cubbage	MCDEM	OPS	intern	480-845-4940	demi.cubbage@maricopa.gov
Derwin Cooper	DCH			520 610 4784 562 3904	derwin.cooper.dch@gric.nsn.
Robert Yakes	CLAD		Dir	5261 1614	Robert.yakes@gov
Kore Redden	Pinal county EM/PH	EM/PH	EM / Deputy Director	5202512850	Kore.redden@pinal.gov
JOSHUA PLUMB	PINAL COUNTY FLOOD CONTROL		ASST. COUNTY ENGINEER	520-866-6638	joshua.plumb@pinal.gov
Joe LaFortune	Town of Queen Creek	Fire and Medical EM	Program Manager Emergency Management	480 358-3502	joe.lafortune@queencreekaz.gov
Donna Eaton	MCDOT	Transportation	O&M Supervisor	602-803-2639	Donna.Eaton@maricopa.gov
Joanne Brewer	CSD - GRIC	CSD	Dep Director	520 610-4486	Joanne.Brewer.CSD@gric.nsn.us
KENDALL FOSTER	WHPWA	WHPWA	AGM Business	~~520~~ 623 698 2091	KFOSTER@WHITEMOUNTAIN.COM

GRICHMP Planning Team Meeting No. 2

DATE: February 29, 2024

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
Kim Gathers	City of Phoenix	Fire-OEM	Emergency Mgmt. Coord.	602-534-9223	Kim.gathers@phoenix.gov
Joseph Cruz	MCDEM	OPS	EM Coordinator	602-725-6896	joseph.cruz@maricopa.gov
Ethan Paul	DEMA/EM	Planning	Mitigation Planner	480-450-9284	ethan.paul@azdema.gov
Elizabeth Rockwell	Flood Control District of Maricopa County	Engineering	Special Projects Branch Manager	602-506-4104	elizabeth.rockwell@maricopa.gov
M. Talamantez	WHPDA	Facilities	Ops Manager	480 797-0778	m.talamantez@wildhorsepass.u
Teresa Rodrigues	Cultural Resources GRIC		Project Manager	520 562 7160 602 7418342	Teresa.Rodrigues@gric.nsn.us
Steve Johnson	GRICDOT		Acting Director	520-562-0952	steven.johnson@gric.nsn.us
Jesse Crabtree	GRPD		COD		jesse.crabtree@gric.nsn.us

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN 2024 UPDATE

Planning Team Meeting No. 2 – February 29, 2024

Presented by:

Bruce Harvey
Adam Sainz
Hector Andrade

and

Scott Ogden
Mary Evans

GRIC-HMP – 2024 Update
Planning Team Meeting No. 2 Agenda

- **INTRODUCTIONS / ROLL CALL**
- **ACTION ITEM REVIEW**
- **PLAN MAINTENANCE STRATEGY UPDATE**
- **RISK ASSESSMENT**
  - **Asset Inventory Discussion**
  - **Discuss and Profile Development Trends**

GRIC-HMP – 2024 Update

Action Item Review

ACTION ITEM SUMMARY:

ITEM NO.	DESCRIPTION	RESPONSIBILITY [DUE DATE]	STATUS
1-1 ✓	OEM to share 2015 Plan with PT	OEM Team [2/29/2024]	Completed
1-2 ✓	Provide BIA and ADOT contacts	Steve Johnson [2/29/2024]	Completed
1-3 ✓	Provide list of all GRIC Enterprise/contacts and neighboring County/City/Town EMs	OEM Team [2/29/2024]	Completed
1-4 ?	Review questionnaire handout and provide comments to OEM before Meeting No. 2	All Planning Team [2/29/2024]	OEM provided edited version and submitted to PT for review week of 2/20/2024
1-5 ?	Work on creating a landing webpage for the HMP	Miyana Manus (GRIC CPAO) [2/29/2024]	Pending
1-6 ?	Research for source data shown on flood and wildfire hazard profile maps in 2015 Plan	Kimberly Cooper (RFIC LUPZ) 2/29/2024	Pending

DMA 2000 General Plan Elements

Step 1: Planning Process

Step 2: Risk Assessment

Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

- Monitoring and Evaluation
- Plan Update
- Continued Public Involvement

Plan Maintenance Strategy

A6. Does the plan include a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within the plan update cycle)?

44 CFR § 201.7(c)(4)(i)

***Intent**: To establish a process for the tribal government to track the progress of the plan's implementation and ensure the plan remains current and viable.*

a. The plan shall identify how, when, and by whom the plan will be monitored. ***Monitoring*** *means tracking the relevance and implementation of the plan over time and includes all elements of the plan.*

b. The plan shall identify how, when, and by whom the plan will be evaluated. ***Evaluating*** *means assessing the effectiveness of the plan at achieving its stated purpose and goals.*

c. The plan shall identify how, when, and by whom the plan will be updated. ***Updating*** *means reviewing and revising the plan at least once every 5 years.*

d. The plan shall include the title of the individual or name of the department/agency responsible for leading these efforts.

Plan Maintenance Strategy

Go to 2015 Plan, Section 5.1 and 5.2:

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- **Hazard Identification**
- **Hazard Profiling**
- **Vulnerability Analysis**
  - **Critical Facilities**
  - **Loss Estimation**
  - **Development Trend Analysis**

Critical Facilities and Infrastructure

- **Critical Facilities and Infrastructure**

  Those systems or assets within a community whose incapacity or destruction would:

  1. **Have a debilitating impact on the defense or economic security of that community.**
  2. **Significantly hinder a community's ability to recover following a disaster.**

Critical Facilities and Infrastructure

- **Critical Facilities and Infrastructure**
  - **Communications Infrastructure**
  - **Electrical Power Systems**
  - **Gas and Oil Facilities**
  - **Banking and Finance Institutions**
  - **Transportation Networks**
  - **Water Supply Systems**
  - **Government Services**
  - **Emergency Services**

Critical Facilities and Infrastructure

Name	Description	Physical Address	City	Zip	Longitude	Latitude	Estimated Replacement Cost	Community	County
Fire Station No. 1	Fire Station at First & Main	101 Main	Floodville	12345	-109.87354	32.79358	$1,500,000	Floodville	River
Floodville Elementary	Elementary School	500 E First Ave	Floodville	12345	-109.76543	32.80236	$2,500,000	Floodville	River
Highway One Bridge	Bridge over Flood Creek	MP 214	Floodville	12345	-109.45932	33.00023	$1,800,000	River County	River
Floodville Market	Grocery Store	300 W. 20th St.	Floodville	12345	-109.24332	32.98765	$3,500,000	Floodville	River
River County Hospital	County Hospital	20 N. 51st Ln.	Floodville	12345	-109.35541	32.68547	$25,000,000	Floodville	River
Floodville City Hall	City Hall	60 W. Main St.	Floodville	12345	-109.45268	32.78625	$5,500,000	Floodville	River
Floodville PW Gas Depot	Vehiucle Fuel Storage for PW	250 W. Hwy 1	Floodville	12345	-110.00120	32.84521	$500,000	Floodville	River

Name – The name should be a short and somewhat descriptive (e.g. – Water Tank No. 1)

Brief Description – Provide a brief description of the facility

Physical Address, City, Zip Code – Provide street level physical address for facility if available (No PO Boxes).

Geospatial Position – this data tells where the facility is located and will be used for creating a GIS database. The data for this can be provided in one of two ways:

1. Provide an annotated map depicting the structure location relative to streets, roads, or other readily identifiable features.

2. Provide geospatial position coordinates as either:
   Lat/Long data in either:
   Decimal degree format to 5 significant digits – e.g. – 33.47398 degrees)
   Degrees, minutes, seconds to the nearest hundredth of a second (e.g. – 33 deg, 28 min, 26.33 sec)

Estimated Replacement Cost - the replacement cost for the structure (usually no land value included). Sources for these costs could be insurance records, original construction costs, county assessor's data, or estimates base on building square footage or some other unit cost measurement.

Critical Facilities and Infrastructure

- **FEMA HAZUS Data (a few fire stations, schools, police station, and hospital/care centers – pretty sparse.**
- **Worksheet Assignment**
  - **Add New CFI to Worksheet with Required Data**
    - **Focus on major structures**
    - **Focus on Structures/Facilities that can be generally represented by a point (no linear features)**
  - **Return worksheet to OEM before the next meeting (Oct 8th).**

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- **Hazard Identification**
- **Hazard Profiling**
- **Vulnerability Analysis**
  - **Critical Facilities**
  - **Loss Estimation**
  - **Repetitive Loss Properties**
  - **Development Trend Analysis**

Development Trend Analysis

- **Residential, Commercial, Industrial**
- **Past Plan Cycle (last 5 years)**
- **Future Development (5-year horizon)**
- **Need a paragraph or two discussing both scenarios. Illustrative maps are also helpful.**

CLOSING ITEMS…

- **ACTION ITEMS:**
  - **Complete Mtg 1 items**
  - **CFI Worksheet**
  - **Development Trend Text/Maps**

NEXT STEPS…

Next Meeting:

Date: April 11, 2024

Time: 9am to 11am

Place: GRIC – Office of Emergency Management
Emergency Operations Center
1676 S. Nelson Dr, Chandler, AZ 85226

Planning Team Meeting No. 3
Minutes

DATE: April 11, 2024

TIME: 9:00am to 10:15am

LOCATION: GRIC OEM EOC, 1676 S. Nelson Dr., Chandler, AZ 85226

ATTENDEES: (See Attached Sign In Sheet)

Minutes:

1. **Welcome –** Bruce Harvey, GRIC OEM Emergency Management Director, opened the meeting and welcomed the group.
2. **Introductions –** 21 people were in attendance for the planning meeting, as listed in the attached sign-in sheet. All gave a brief introduction, including their name, agency, and their experience with the Plan/hazard mitigation planning.
3. **Action Item Review -** The table at the end of the notes summarizes the action items from Meeting No. 1 and the progress reported.

   A brief overview of the mitigation planning webpage and online questionnaire was presented.
4. **Existing Mitigation Action/Project (A/P) Assessment** – The Planning Team (PT) reviewed the current FEMA requirements for reviewing and assessing the mitigation A/Ps presented in the 2015 Plan. This activity will be the first of 3 steps in updating the mitigation strategy. For each 2015 Plan A/P, the work will generally assess the status, determine the disposition, and provide explanations of those responses as needed. A worksheet will be prepared and provided to the PT for completion. A generic example of a completed worksheet was reviewed, along with guidance for responses to each of the assessment topics. See the attached slide deck for details. The worksheet responses will aid with the development of the updated mitigation A/P list and are due on or before Meeting No. 4 currently scheduled for May 16, 2024.
5. **Capability Assessment Update** – The PT reviewed the FEMA requirements a capability assessment along with the 2015 Plan assessment summarized in Tables Q through T. A worksheet with some of the data from the 2015 Plan preloaded, will be prepared, and provided to the PT for completion by each GRIC department/agency. Details and guidance for that work are summarized in the attached slide deck and as follows:
   - **Table Q – Legal and Regulatory** – The intent of this assessment is to identify and list relevant codes, ordinances, policies, standards, guidelines, manuals, and plans that are available for hazard mitigation. Gaps and needs should be identified and documented in the plan.
   - **Table R – Pre- and Post-Disaster Management** – The 2015 Plan lists each GRIC department/agency with a summary of their roles regarding pre- and post-disaster management. Each department is requested to review the list and provide updates/edits as appropriate. Gaps and needs should be identified and documented in the plan.
   - **Table S – Technical Staff and Personnel** – The worksheet includes the 2015 Plan responses to listing available staff and personnel for hazard mitigation. Each department/agency is asked to review the table and add a responsible position for each department listed. Gaps and needs should be identified and documented in the plan.

- **Table T – Fiscal / Funding Capabilities** – Similar to others, the worksheet will need to be completed by each department, to represent a full depiction of the GRIC. Gaps and needs should be identified and documented in the plan.

6. **Plan Integration and Incorporation** – The PT reviewed the current FEMA requirements which are slightly different than what was required for the 2015 Plan. The 2015 Plan generally discusses this topic in Section 1.2. The update will require more detail. The PT was polled to check on any current FEMA funded activities or programs and none were mentioned. Each department is asked to evaluate activity during the last 5-years and summarize anticipated opportunities for the next 5-years:

7. **Closing Items –** Action Items/Assignments for the meeting are summarized in the attached table. The presentation slide deck and attendance sheet is appended to these notes. Each of the three worksheet files will be distributed by GRIC OEM early the week of April 15th. Otherwise, ***Planning Team Meeting No. 4 is currently scheduled for May 16th, from 9 to 11am at OEM's EOC (same location as prior meetings)***.

   The meeting concluded at 10:15am.

GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN 2024 UPDATE

Planning Team Meeting No. 3 – April 11, 2024

Presented by:

Bruce Harvey
Adam Sainz
Hector Andrade

and

Scott Ogden
Mary Evans

GRIC-HMP – 2024 Update

Planning Team Meeting No. 3 Agenda

- **INTRODUCTIONS / ROLL CALL**
- **MITIGATION STRATEGY**
  - **Existing Mitigation Action/Project Assessment**
  - **Capability Assessment**
  - **Plans / Manuals / Guidelines / Studies Integration and Incorporation**

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- **Capability Assessment**
- **Goals and Objectives**
- ~~**NFIP Participation and Compliance**~~
- **Mitigation Activities/ Projects and Implementation Strategy**

Mitigation Actions/Projects

- **3 Steps to Update Process**
  - **Review and Evaluate Current 2015 Plan Mitigation A/Ps**
  - **Identify New Mitigation A/Ps and Implementation Strategy (next mtg)**
  - **Rank Updated List (next mtg)**

EX Mitigation A/P Assessment

- **2015 Plan Assessment of 2007 Plan Mitigation A/Ps – See Section 4.3 – Table U**
- **2015 Plan Mitigation A/Ps to Assess – See Section 4.4 – Table V**

EX Mitigation A/P Assessment

- **Mitigation A/Ps**
  - **Assess the STATUS**
  - **Determine the DISPOSITION**
  - **Provide EXPLANATIONS as needed**

EX Mitigation A/P Assessment

Action / Project Title	• Lead Agency • Proposed Cost • Proposed Comp Date	Status	Disposition	Explanation
Develop a water conservation plan to guide decision making processes for mitigating the impacts of drought on the public water supply	• *Public Works* • *$10,000* • *Jan 2010*	*In progress*	*Revise*	*Project started in March 2008 but has been tabled in deference to other priorities. Revise project to "finish" the WC Plan.*
Adopt the latest Codes, (with exceptions where needed) to provide better mitigation of hazards for new and future critical buildings and infrastructure	• *Development Services* • *$5,000 + staff time* • *Jan 2008*	*Complete*	*Delete*	*Codes have been updated to 2007 series of international codes.*
Coordinate/cooperate with the Noname County Flood Control District in the study, design, and construction of rehabilitation measures for the Floodville Dam	• *Public Works* • *$120K (IGA Cost Share)* • *Jan 2009*	*No Action*	*Keep*	*Project has been on hold due to lack of funding, but is now ready to begin in 2011.*
Design and implement a comprehensive, concerted campaign for community awareness and education regarding hazards impacting the City of Floodville	• *Emergency Mgmt* • *$10,000 + staff time* • *May 2008*	*In Progress*	*Revise*	*Program is designed and will now be part of an annual campaign. Revise description to reflect an on-going annual occurrence.*

EX Mitigation A/P Assessment

- **Review and Classify Existing A/Ps**

STATUS:

Enter either:	Enter in ***EXPLANATION*** column:
"*No Action*"	Reason for no progress
"*In Progress*"	What progress has been made
"*Complete*"	Date of completion and final cost of project (if applicable)

EX Mitigation A/P Assessment

- **Review and Classify Existing A/Ps**

DISPOSITION:

Enter either:	Enter in ***EXPLANATION*** column:
"Keep"	**N/A**
"Revise"	**Document needed revisions**
"Delete"	**Reason(s) for exclusion.**

EX Mitigation A/P Assessment

Gila River Indian Community assessment of previous plan cycle mitigation actions/projects

ID	Description	• Lead Agency • Proposed Cost • Proposed Comp Date	Status	Disposition	Explanation
S9	D3 New Drainage Channels - Casa Grande Hwy Construct improved drainage channels along Casa Grande Hwy Revision-redesign future home development	• Dept of Transportation • $20K • 2018			
NS4	Identify specific code provisions and strengthen enforcement of provisions that will reduce damages due to high winds associated with monsoon storms.	• GRFD / Tribal Projects • TBD • 2016			
NS6	Provide coordination and funding for community-wide weed abatement in cooperation with the District Service Centers and Dept of Corrections. Project consists of a hazard assessment, scope of work and provision of labor, materials and equipment.	• OEM • $20K Annually • On-going			
NS7	Fire Hazard Reduction Education & Outreach Initiative - annual education & outreach activities.	• OEM / GRFD • TBD • Annual			
NS11	Replacement of Route 7 Bridge over the Gila River - the project will provide double capacity. 95% design completed.	• Dept of Transportation • $2.7 million • Construction to begin 2014			

ONLY COMPLETE THIS SECTION

DMA 2000 General Plan Elements

Step 1: Planning Process

Step 2: Risk Assessment

Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

- **Capability Assessment**
- **Goals and Objectives**
- ~~**NFIP Participation and Compliance**~~
- **Mitigation Activities/ Projects and Implementation Strategy**
- **Plan Integration**

Capability Assessment

- **Purpose:**
  - ID Legal and Regulatory Capabilities
  - ID Administrative and Technical Resources
  - ID Community Fiscal Capabilities
  - ID Plans / Manuals / Guidelines / Studies
  - Assess Pre- and Post-Disaster Hazard Management Responsibilities

Capability Assessment

- **Legal and Regulatory Capabilities**
  - **Codes and Ordinances**
  - **Plans, Manuals and/or Guidelines**
  - **Studies**
- **Administrative and Technical Resources**
  - **List by Position and Department**

Capability Assessment

- **Community Fiscal Capabilities**
  - **Provide a brief description to help clarify**
- **2015 Plan Capability Assessment is in Section 4.1**
  - **Table Q – Legal and Regulatory**
  - **Table R – Pre- and Post-Disaster Mgmt**
  - **Table S – Tech Staff & Personnel**
  - **Table T – Fiscal Capabilities**

Capability Assessment

- **Review Worksheet**
- **ASSIGNMENT: Review and update Tables Q, R, S, and T for your department or agency. ONLY applies to GRIC entities.**

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- Planning Team
- Public Involvement
- Plan Integration
- Plan Promulgation

Plan Integration / Incorporation

ELEMENT		REQUIREMENTS
A5. Does the plan include a discussion on how the planning process was integrated, to the extent possible, with other ongoing tribal planning efforts as well as other FEMA programs and initiatives? 44 CFR § 201.7(c)(1)(iv) ***Intent***: *To identify how the tribal government leveraged any other planning activities or FEMA programs to accomplish hazard mitigation and reduce risk.*	a.	The plan shall describe how the tribal government integrated the current planning process and/or findings with other ongoing tribal planning efforts. ***Planning efforts*** *means governance structures that are used to manage land use and development and other tribal government decision-making, such as tribal master plans, capital improvement plans, natural and/or cultural resource plans, plans for sacred sites, emergency operations plans, and/or other long-range plans.*
	b.	The plan shall describe how the tribal government integrated the current planning process with other FEMA programs and initiatives. *Examples of other FEMA programs and initiatives include, but are not limited to, the National Flood Insurance Program (NFIP), HMA grant programs, Threat and Hazard Identification and Risk Assessment (THIRA), and recovery programs.* ***To the extent possible*** *means that consideration will be given to the inherent differences in governance and capabilities among tribal governments.*

Plan Integration / Incorporation

- **2015 Plan Integration / Incorporation covered in Section 1.2**
- **Past Integration with FEMA programs???**
- **Worksheet Review:**
  - **Past plan cycle (5 years)**
  - **Ideas for future cycle (next 5 years)**

CLOSING ITEMS…

- **ACTION ITEMS:**
  - **Complete Existing Mitigation A/P Assessment worksheet**
  - **Complete Capability Assessment Worksheet**
  - **Complete Plan Integration / Incorporation Worksheet**

NEXT STEPS…

Next Meeting:

Date: May 16, 2024

Time: 9am to 11am

Place: GRIC – Office of Emergency Management
Emergency Operations Center
1676 S. Nelson Dr, Chandler, AZ 85226

GRICHMP Planning Team Meeting No. 3

DATE: April 11, 2024

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Ethan Paul	AZ Dept of Emergency and Military Affairs	Planning Branch	Mitigation Planer	480-450-9284	ethan.paul@azdema.gov
Patrick Peterson	Gila River Indian Community	Emergency Medical Services	Division Chief	602-768-6321	patrick.peterson@gric.nsn.us
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134 Gover	DEQ			520 562 2234	@134.gover.deq@gric.nsn.us

GRICHMP Planning Team Meeting No. 3

DATE: April 11, 2024

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
Shannon Reekard		CPAO	Comm Rlat. Spl st	(520) 562-9859	
DUANE ADAMS		GRICDOT	ACTING ON. MANAGER	(520) 610-0051	
Devon Cooper		DCH	Director	520 562 3904	

Planning Team Meeting No. 4
Minutes

DATE: July 11, 2024

TIME: 9:00am to 10:55am

LOCATION: GRIC OEM EOC, 1676 S. Nelson Dr., Chandler, AZ 85226

ATTENDEES: (See Attached Sign In Sheet)

Minutes:

1. **Welcome –** Bruce Harvey, GRIC OEM Emergency Management Director, opened the meeting and welcomed the group.
2. **Introductions –** 30 people were in attendance for the planning meeting, as listed in the attached sign-in sheet. All gave a brief introduction, including their name and agency/department.
3. **Vulnerability Assessment Results Overview** – The results from the final hazard profile mapping and vulnerability analysis were presented. Hazard profile maps for Extreme Heat, Flood, Severe Wind, and Wildfire were presented and discussed. Summary tables of critical facilities and infrastructure (CFI) and residential, commercial and industrial structure loss estimates and population exposures for flood and wildfire were presented and discussed. Losses due to extreme heat are more people related and not so much structural. Losses from severe wind events can be estimated using historic losses.
4. **Goals and Objectives Review** – The PT reviewed the 2015 Plan goal and objectives and collectively made edits to the objectives to add clarity. The updated goal and objectives for the 2024 Plan will read as follows:

   GOAL: Reduce or eliminate risks that threaten the life, property, and infrastructure from natural hazards in Gila River Indian Community.

   Objective 1: Conduct hazard mitigation activities and projects throughout the Community.

   Objective 2: Increase public awareness and education of identified hazards and risks that threaten the Community.

   Objective 3: Educate Community officials on hazards and risks that threaten the Community as well as increase knowledge of mitigation principles and practices.

   Objective 4: Establish and maintain partnerships with internal and external stakeholders to improve coordination, communication, and to increase joint mitigation activities and projects.

   Objective 5: Identify and pursue hazard mitigation project funding opportunities for use by Community.
5. **New Action/Project Identification** – The PT reviewed the current FEMA requirements for the mitigation strategy identification of a comprehensive list of mitigation actions/projects (A/Ps) to address the updated Plan hazards of Extreme Heat, Flood, Severe Wind, and Wildfire and the implementation of those A/Ps. Various categories of A/Ps were reviewed along with key items that will be developed for each proposed A/P. The PT reviewed a list of potential mitigation A/Ps for mitigation of multiple hazard types and walked through an example development of an A/P identified by OEM. A worksheet for use by each department/agency will be distributed for completion.

Example A/Ps from other tribal plans in AZ will also be distributed for reference. The worksheet will be due August 2, 2024.

6. Continued Public Involvement – the PT reviewed the FEMA requirements for including a discussion on the Community's plans for continuing public engagement and involvement activities for the next plan cycle. A simple worksheet was assigned for each department/agency to complete regarding a summary of the past plan-cycle public involvement performance and a listing of future plan cycle public involvement. The worksheet will be due August 2, 2024.

7. **Promulgation Process** – The PT was presented with the schedule of activities that will occur from the date of this meeting to the final FEMA approval of the 2024 Plan. Key target milestone dates were reviewed and are as follows:

   Draft Plan to PT for Review: August 30, 2024

   Final Draft Plan to FEMA: September 27, 2024

   Receipt of FEMA Approvable Pending Adoption (APA) letter: Mid-December 2024

   Formal Adoption by Community: January-February 2025

   Final FEMA Approval: February-March 2025

8. **Closing Items –** Action Items/Assignments for the meeting are summarized in the attached table. The presentation slide deck and attendance sheets are appended to these notes. Worksheets and reference materials are provided digitally under separate cover. Each of the two worksheet files will be distributed by GRIC OEM early the week of July 15th. No other Planning Team meetings are anticipated for this update cycle.

   The meeting concluded at 10:55am.

ACTION ITEM SUMMARY:

ITEM NO.	DESCRIPTION	RESPONSIBILITY [DUE DATE]	STATUS
1-1	OEM to share 2015 Plan with PT	OEM Team [2/29/2024]	Completed
1-2	Provide BIA and ADOT contacts	Steve Johnson [2/29/2024]	Complete – contact info provided by Steve via email on 2/29/24.
1-3	Provide list of all GRIC Enterprise/contacts and neighboring County/City/Town EMs	OEM Team [2/29/2024]	Completed
1-4	Review questionnaire handout and provide comments to OEM before Meeting No. 2	All Planning Team [2/29/2024]	Questionnaire has been reviewed and completed
1-5	Create a landing webpage for the HMP	Roberto Jackson, Miyana Manus, GRIC CPAO [2/29/2024]	Completed
1-6	Research for source data shown on flood and wildfire hazard profile maps in 2015 Plan	Kimberly Cooper, Seaver Fields, RFIC LUPZ [2/29/2024]	Completed. AZWRAP will be used for wildfire and flooding data will be provided by LUPZ
2-1	JE Fuller/OEM to meet with LUPZ to view building polygons and associated data to use for risk assessment. Gaps can be submitted through use of the CFI spreadsheet discussed in the meeting.	JE Fuller, OEM, LUPZ [4/11/2024]	Meeting was convened on Mar 15th at LUPZ. Data deliveries discussed and working towards resolution.
2-2	Provide brief discussion of 5-year past and 5-year future development trends and any supporting maps as appropriate	All GRIC Departments and Enterprises as appropriate [4/11/2024]	Complete. Data provided by LUPZ, Flood Control, EMS, DEQ, and GRICUA
3-1	Each Department shall complete the Existing Mitigation A/P Assessment Worksheet for A/Ps related to their department	All GRIC Departments and Enterprises as appropriate [5/16/2024]	Complete. Worksheets were provided by multiple departments/stakeholder agencies

ACTION ITEM SUMMARY:

ITEM NO.	DESCRIPTION	RESPONSIBILITY [DUE DATE]	STATUS
3-2	Each Department shall complete the Capability Assessment Worksheet as related to their department's responses	All GRIC Departments and Enterprises as appropriate [5/16/2024]	Complete. Worksheets were provided by multiple departments/stakeholder agencies
3-3	Each Department shall complete the Plan Integration and Incorporation Worksheet as related to their department's responses	All GRIC Departments and Enterprises as appropriate [5/16/2024]	Complete. Worksheets were provided by multiple departments/stakeholder agencies
4-1	Each Department shall complete the New Mitigation Action/Project Worksheet as related to their department's desired mitigation pursuits	All GRIC Departments and Enterprises as appropriate [8/2/2024]	
4-2	Each Department shall complete the Continued Public Involvement Worksheet as related to their department's public involvement activities	All GRIC Departments and Enterprises as appropriate [8/2/2024]	

Name	Jurisdiction/Agency/Organization	Department/Division/Branch	Title	Phone	E-Mail Address
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Billy Bragg	Gila River Indian Community	Office of Emergency Management	Planner	520-610-8877	billy.bragg.oem@gric.nsn.us
Joanne Brewer	Gila River Indian Community	Community Services Department	Deputy Direct	520-610-4486	joanne.brewer.esd@gric.nsn.us
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Jesse Crabtree	Gila River Indian Community	Police Department	Chief	520-610-7418	Jesse.Crabtree@gric.nsn.us
Joseph Cruz	Maricopa County	Department of Emergency Management - OPS	Emergency M agement Coordinator	602-725-6896	joseph.cruz@maricopa.gov
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GRICHMP Planning Team Meeting No. 4

DATE: July 11, 2024

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VIGN Inc.	GRIC				
MEGAN JEFFERSON	GRIC DOT →		OFFICE MANAGER	5206102768	
HANNAH ARRIOLA	GRIC DOT		AA		
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GILA RIVER INDIAN COMMUNITY
HAZARD MITIGATION PLAN 2024 UPDATE

Planning Team Meeting No. 4 – July 11, 2024

Presented by:

Bruce Harvey
Adam Sainz
Hector Andrade

and

Scott Ogden
Mary Evans

GRIC-HMP 2024 Update

Planning Team Meeting No. 4 Agenda

- **INTRODUCTIONS / ROLL CALL**
- **RISK ASSESSMENT**
  - **Vulnerability Analysis**
- **MITIGATION STRATEGY**
  - **Goals Review**
  - **New Action / Project Identification**
  - **Implementation Strategy**
- **PROMULGATION PROCESS**

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- **Hazard Identification**
- **Hazard Profiling**
- **Vulnerability Analysis**
  - **Critical Facilities**
  - **Loss Estimation**
  - **Development Trend Analysis**

Vulnerability Analysis Highlights

- **Substantially updated Extreme Heat Section per recent Arizona State Plan updates thanks to ASU and NWS contributions**
- **Hazard Profile Maps Updated (go to maps)**
- **CFI, Population and Residential, Commercial, and Industrial Building Exposures and Losses all updated (go to summary tables)**
- **Population Exposures based on 2020 Estimates at Census Block Level**

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

- Capability Assessment
- Goals and Objectives
- Mitigation Activities/ Projects and Implementation Strategy
- Plan Integration

Mitigation Goals

"The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards"

Mitigation Goals

GOALS are ***general guidelines that explain what you want to achieve.***

- ***Broad statements***
- ***Long-term***
- ***Global in vision***

Mitigation Goals

- **Review 2015 Plan Goals**
- **Update/Edit...**

2015 GRIC-HMP

Goal and Objectives:

GOAL: Reduce or eliminate risks that threaten the life, property, and infrastructure from natural hazards in Gila River Indian Community.

Objective 1: Promote hazard mitigation activity and projects throughout the Community.

Objective 2: Increase public awareness and education of hazards and risks that threaten the Community as well as increasing knowledge of mitigation principles and practice among local public officials.

Objective 3: Establish and maintain partnerships to improve coordination and communication, resulting in increased mitigation activity.

Objective 4: Pursue hazard mitigation project funding opportunities for use by OEM and individual Districts.

DMA 2000 General Plan Elements

- Step 1: Planning Process
- Step 2: Risk Assessment
- Step 3: Mitigation Strategy
- Step 4: Plan Maintenance Procedures

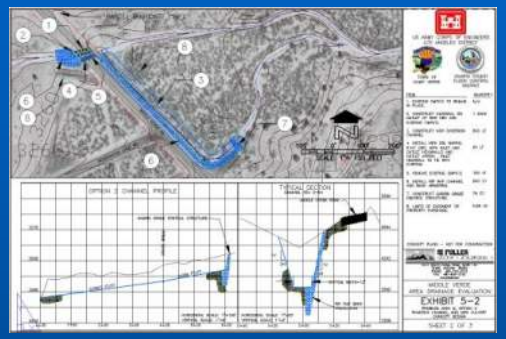
- Capability Assessment
- Goals and Objectives
- Mitigation Activities/ Projects and Implementation Strategy
- Plan Integration

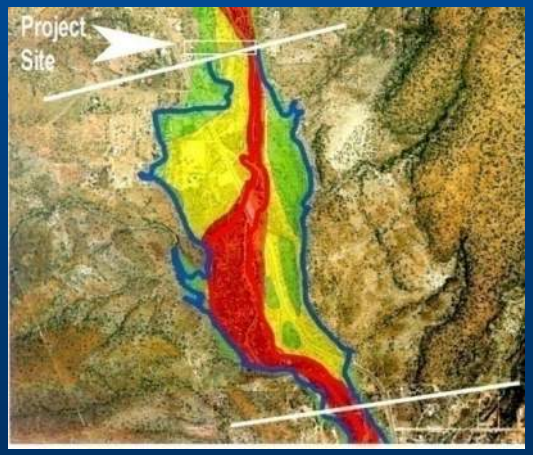
Mitigation Actions/Projects

- **3 Steps to Update Process**
  - **Existing Mitigation A/P Evaluation (Meeting No. 2)**
  - **Identify New Mitigation A/Ps and Implementation Strategy**
  - **Rank Updated List**

Mitigation Actions/Projects

- **Mitigation Measure Categories:**
  - **Prevention**
  - **Property Protection**
  - **Public Education and Awareness**
  - **Natural Resource Protection**
  - **Emergency Services Protection**
  - **Structural Projects**





Mitigation Actions/Projects

- **Prevention**
  - **Land development regulations**
  - **Open space preservation**
  - **Planning and zoning ordinances**
  - **Storm water management plans**
  - **CIP**

Mitigation Actions/Projects

- **Property Protection**
  - **Acquisition**
  - **Relocation**
  - **Rebuilding**
  - **Floodproofing**

Mitigation Actions/Projects

- **Public Education and Awareness**
  - **Inform people about hazards and how they can reduce damages and injury**
  - **Directed toward property owners, businesses, and visitors**

Mitigation Actions/Projects

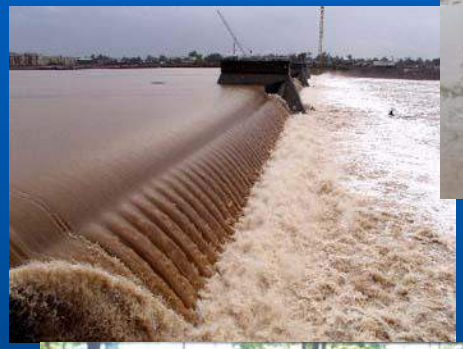
- **Natural Resource Protection**
  - **Erosion and sediment control**
  - **Wetlands protection**
  - **Public open space expansion**
  - **Environmental restoration**
  - **Cultural Resource Protection**

Mitigation Actions/Projects

- **Emergency Services Protection**
  - **Installation and protection of warning capability**
  - **Protection of critical facilities**
  - **Protection of infrastructure needed for emergency response capability**

Mitigation Actions/Projects

- **Structural Projects**
  - **Reservoirs**
  - **Levees and floodwalls**
  - **Culverts/Bridges**
  - **Channel construction and modifications**
  - **Storm sewers**



Mitigation Actions/Projects

- **ID No.: Unique identification number**
- **Description: A brief description of the action/project including *a supporting statement of the reason for the action/project***
- **Hazard(s) Mitigated: List the hazard or hazards mitigated by action**

Mitigation Actions/Projects

- **Community Assets Mitigated (Existing/Future/Both): Descriptor to qualify the disposition of assets that the mitigation action/project addresses. Will be either "Existing", "Future" or "Both"**

Mitigation Actions/Projects

- **Estimated Cost: Concept level cost estimate for action/project**
  - **$$Dollar Costs**
  - **Staff Time**

Mitigation Actions/Projects

- **Priority Ranking**
  - **Use a simple, subjective process that will result in either a "High", "Medium", or "Low".**
  - **Consider the following characteristics:**
    - **Cost versus benefit**
    - **Direct beneficial risk reduction to life and/or property**
    - **Long-term effectiveness as a solution**

Mitigation Actions/Projects

- **Planning Mechanism(s) for Implementation: List of current planning mechanisms under which the A/P will be implemented. Examples:**
  - **Capital Improvement Program**
  - **General / Comprehensive Plan**
  - **Community Wildfire Protection Plan**
  - **NFIP Program**
  - **N/A if not applicable**

Mitigation Actions/Projects

- **Anticipated Completion Schedule: Anticipated schedule for realistically completing project. Should generally be within 5 yrs or less. Formats might include:**
  - **FY 2010**
  - **March 2010**
  - **Within 2-years of funding**
  - **Annually**
  - **As Needed**
  - **Ongoing**

Mitigation Actions/Projects

- **Primary Agency / Job Title Responsible for Implementation: Agency or department and job title that will have responsibility for the A/P and its implementation. For example:**
  - **Public Works Department / City Engineer**
  - **Fire Department / Fire Chief**
  - **Planning Department / Lead Planner**

Mitigation Actions/Projects

- **Funding Source(s): Source or sources envisioned for providing project funding. Be as specific as possible.**

http://www.grants.gov/web/grants/home.html

Mitigation Actions/Projects

- **Things to Remember:**
  - **The Community must:**
    - **Address every Plan hazard for which the Community has a vulnerability.**
    - **Provide at least 2 A/Ps for each of the vulnerability identified hazards.**
  - **Be as specific as possible with descriptions...tell the "what" and "why" in project descriptions.**

Mitigation Actions/Projects

- **Things to Remember:**
  - **A/Ps should be measurable with regard to performance and success, and have some kind of a projected schedule for completion. For example:**
    - **"Reduce flooding in the community of Floodville" versus "Reduce flooding of structures at 1st and Main by installing a new culvert at the Highwater Creek crossing."**

Mitigation Actions/Projects

- **Things to Remember:**
  - **Should be clear enough to be implemented by anyone tasked with completing it.**
  - **Generally should consider a 5-year timeframe**

Mitigation Actions/Projects

- **Review Example Sheet**
- **Workshop**
  - **Brainstorm a range of potential mitigation A/Ps for each hazard (start with handout)**

DMA 2000 General Plan Elements

Step 1: Planning Process

Step 2: Risk Assessment

Step 3: Mitigation Strategy

Step 4: Plan Maintenance Procedures

- Monitoring and Evaluation
- Plan Update
- Continued Public Involvement

Continued Public Involvement

A7. Does the plan include a discussion of how the tribal government will continue public participation in the plan maintenance process?

44 CFR § 201.7(c)(4)(iv)

Intent: *To identify how the public will continue to have an opportunity to participate in the plan's maintenance and implementation over time.*

a. The plan shall describe how the tribal government will continue to seek public participation after the plan has been approved and during the plan's maintenance process.

Examples include, but are not limited to, periodic presentations on the plan's progress to tribal officials, schools, or other tribal groups; annual questionnaires or surveys; tribal gatherings; and/or postings on social media and websites.

Continued Public Involvement

5.4 Member and Stakeholder Involvement

44 C.F.R. § 201.7(c)(4)(iv) states that the plan maintenance process shall include a discussion on how the Indian Tribal government will continue public participation in the plan maintenance process.

- Gila River OEM will continue to use various public forums, meetings and events to keep the public informed about the ongoing and future hazard mitigation planning efforts, actions, and projects.
- OEM will continue to present the updated MHMP to each District.
- OEM will post copies of current and future MHMP drafts on the GRIC internet and intranet websites, and provide copies to key departments.

Continued Public Involvement

- **Review worksheet**

Plan Draft and Promulgation Process

- **FEMA Requires an Official Adoption via a Board/Council Resolution**
- **Schedule**
  - **Prepare Draft Plan and Submit to PT for review (Target = 8/30/24)**
  - **PT comments will be due by COB 9/13/24 (2 weeks)**

Plan Draft and Promulgation Process

- **Schedule (Cont)**
  - **Final Draft Plan to FEMA by COB 9/27/24**
  - **FEMA Review (assume 60 days).**
  - **Post Draft Plan to website/social media for comment**
  - **Address FEMA comments and resubmit (if needed)**
  - **FEMA will issue an "Approvable Pending Adoption" letter (?Mid December 2024?).**

Plan Draft and Promulgation Process

- **Schedule (Cont)**
  - **Once we have and APA, JE Fuller will:**
    - **Provide final digital copy of full plan**
    - **Assist with promulgation as requested by OEM**
  - **Once Final HMP is promulgated, final adoption documentation will be forwarded to FEMA for final plan approval.**

CLOSING ITEMS…

- **ACTION ITEMS:**
  - **Complete New Mitigation A/P worksheet (DUE: COB August 2, 2024)**
  - **Complete Continued Public Involvement worksheet (DUE: COB August 2, 2024)**

APPENDIX C

Public Involvement Records (Digital Only)

Scott Ogden

From: Hector Andrade <Hector.Andrade.OEM@gric.nsn.us>
Sent: Thursday, February 15, 2024 7:48 AM
To: jdean@lbidc.com; jburkhalter@gilarivertel.com; pvanderveen@wildhorsepass.com; craig.cottrell@gilbertaz.gov; Blas.minor@chandleraz.gov; Brian.lee@phoenix.gov; Kore.redden@pinal.gov; Richard.Peel@Maricopa.Gov; George.burger@maricopa-az.gov; joe.lafortune@queencreekaz.gov
Cc: Bruce Harvey; Adam T. Sainz
Subject: GRIC OEM HMP

Good Morning,
The Gila River Indian Community (GRIC) Office of Emergency Management (OEM) is in the process of updating its Hazard Mitigation Plan (HMP), in coordination with a professional contractor. As a prominent agency and/or organization in or near the Community, you are invited to attend the upcoming planning team meetings as a subject matter expert and/or representative of the neighboring community at large. Agency/organization input on the mitigation planning process is important to the planning team. Each meeting will be an in-person format at GRIC OEM EOC (1676 S. Nelson Dr. Chandler AZ 85226) and last no more than 2 hours. I will follow this e-mail with calendar invitations.

Dates for upcoming meeting:

- Meeting #1 Conducted February 1, 2024
- Meeting #2 February 29, 2024
- Meeting #3 April 11, 2024
- Meeting #4 May 16, 2024

If you have any questions feel free to contact:

- Bruce Harvey 520-610-1299 / bruce.harvey@gric.nsn.us
- Adam Sainz 520-610-0800 / adam.sainz@gric.nsn.us
- Hector Andrade 520-610-3341 / hector.andrade.oem@gric.nsn.us

Regards,
Hector

HECTOR ANDRADE
Emergency Management Specialist
Office of Emergency Management
Email: hector.andrade.oem@gric.nsn.us
Direct: (520) 796-3763 Cell: (520) 610-3341

Scott Ogden

From: Hector Andrade <Hector.Andrade.OEM@gric.nsn.us>
Sent: Thursday, February 15, 2024 7:50 AM
To: ethan.paul@azdema.gov
Subject: GRIC OEM HMP

Good Morning,
The Gila River Indian Community (GRIC) Office of Emergency Management (OEM) is in the process of updating its Hazard Mitigation Plan (HMP), in coordination with a professional contractor. As a prominent agency and/or organization in or near the Community, you are invited to attend the upcoming planning team meetings as a subject matter expert and/or representative of the neighboring community at large. Agency/organization input on the mitigation planning process is important to the planning team. Each meeting will be an in-person format at GRIC OEM EOC (1676 S. Nelson Dr. Chandler AZ 85226) and last no more than 2 hours. I will follow this e-mail with calendar invitations.

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- Adam Sainz 520-610-0800 / adam.sainz@gric.nsn.us
- Hector Andrade 520-610-3341 / hector.andrade.oem@gric.nsn.us

Regards,
Hector

HECTOR ANDRADE
Emergency Management Specialist
Office of Emergency Management
Email: hector.andrade.oem@gric.nsn.us
Direct: (520) 796-3763 Cell: (520) 610-3341

Scott Ogden

From: Hector Andrade <Hector.Andrade.OEM@gric.nsn.us>
Sent: Thursday, February 15, 2024 8:12 AM
To: erinanne.saffell@asu.edu; azgs-info@email.arizona.edu; info@itcaonline.com; tom.frieders@noaa.gov; Joseph.Freed@aps.com; John.padilla@srpnet.com; Degliskis@azdot.gov; elizabeth.rockwell@maricopa.gov; patrick.mcmurray@maricopa.gov; john.hatler@maricopa.gov; Joshua.plumb@pinal.gov
Cc: Bruce Harvey; Adam T. Sainz
Subject: GRIC OEM HMP

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- Adam Sainz 520-610-0800 / adam.sainz@gric.nsn.us
- Hector Andrade 520-610-3341 / hector.andrade.oem@gric.nsn.us

Regards,
Hector

HECTOR ANDRADE
Emergency Management Specialist
Office of Emergency Management
Email: hector.andrade.oem@gric.nsn.us
Direct: (520) 796-3763 Cell: (520) 610-3341

Scott Ogden

From: Hector Andrade <Hector.Andrade.OEM@gric.nsn.us>
Sent: Thursday, February 15, 2024 8:16 AM
To: wbanham@lbidc.com
Cc: Bruce Harvey; Adam T. Sainz
Subject: GRIC OEM HMP

Good Morning,
The Gila River Indian Community (GRIC) Office of Emergency Management (OEM) is in the process of updating its Hazard Mitigation Plan (HMP), in coordination with a professional contractor. As a prominent agency and/or organization in or near the Community, you are invited to attend the upcoming planning team meetings as a subject matter expert and/or representative of the neighboring community at large. Agency/organization input on the mitigation planning process is important to the planning team. Each meeting will be an in-person format at GRIC OEM EOC (1676 S. Nelson Dr. Chandler AZ 85226) and last no more than 2 hours. I will follow this e-mail with calendar invitations.

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- Adam Sainz 520-610-0800 / adam.sainz@gric.nsn.us
- Hector Andrade 520-610-3341 / hector.andrade.oem@gric.nsn.us

Regards,
Hector

HECTOR ANDRADE
Emergency Management Specialist
Office of Emergency Management
Email: hector.andrade.oem@gric.nsn.us
Direct: (520) 796-3763 Cell: (520) 610-3341

GRIC OEM 2024 HMP Update Community Questionnaire

The GRIC Office of Emergency Management (OEM) is leading an effort to update the 2014 Hazard Mitigation Plan (HMP). The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. This survey was designed so that you can provide your opinion on community and business disaster preparedness and identify actions that could reduce risk and loss from natural hazards. The information you provide will help prioritize and/or validate community risk reduction activities. This survey will take 5 minutes to complete.

1. In the past 20 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?*

- ○ Yes
- ○ No

2. In the past 5 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?*

- ○ Yes
- ○ No

3. If the loss was to property, did the repair or replacement cost exceed $2,500?*

- ○ Yes
- ○ No

4. Did the impact result in any injuries requiring medical attention, or worse, to you or your household?*

- ○ Yes
- ○ No

5. In your opinion, please select a level for the following hazards which would or may cause damage to buildings, trees, vehicles. Check only one box for each hazard.

Drought*

- ○ Very High
- ○ High
- ○ Medium
- ○ Low
- ○ Very Low

Excessive/Extreme Heat*

- ○ Very High
- ○ High
- ○ Medium
- ○ Low
- ○ Very Low

Flooding*

- ○ Very High
- ○ High
- ○ Medium

- Low
- Very Low

Severe Winds*

- Very High
- High
- Medium
- Low
- Very Low

Wildfire*

- Very High
- High
- Medium
- Low
- Very Low

Other

- Very High
- High
- Medium
- Low
- Very Low

If Other Hazard, Please specify

6. In your opinion, please select the level for the following hazards which would or may cause personal harm or injury to you or someone within your community. Check only one box for each hazard.

Drought*

- Very High
- High
- Medium
- Low
- Very Low

Excessive/Extreme Heat*

- Very High
- High
- Medium
- Low
- Very Low

Flooding*

- Very High
- High
- Medium
- Low
- Very Low

Severe Winds*

- Very High
- High
- Medium
- Low
- Very Low

Wildfire*

- Very High
- High
- Medium
- Low
- Very Low

Other

- Very High
- High
- Medium
- Low
- Very Low

If Other Hazard, Please specify

7. Please Provide the District or zip code in which you live:*

8. Are you aware the the Gila River Indian Community has a Hazard Mitigation Plan - a plan that is written to guide how each community will lower risk and exposure to natural disasters?*

- Yes
- No

9. What types of project should the Community focus on to reduce hazard impacts? Please rank the project types below from most favorable (1) to least favorable (6).*

To rank project types, please drag individual types listed below up (more favorable) or down (less favorable) in the list based upon level of favorability.

- Structural/Infrastructure Improvements (culverts, bridges, channels, levees, etc.)
- Critical Facility Upgrades (flood protection, backup generators, fire buffers, relocation)
- Public Education and Outreach (digital outreach, newsletters, information booths, social media, etc.)
- Environmental Protection of Natural Buffers (for example, open space in a floodplain)
- Regulatory Standards, Building Codes, and/or Strategic Plans
- Other

Reset

If Other Project Type, Please specify

10. What is the most effective way for you to receive information about how to protect your family and prepare your home for hazard events? Please rank the methods below from most favorable (1) to least favorable(10).*

To rank communication types, please drag individual types listed below up (more favorable) or down (less favorable) in the list based upon level of favorability.

- Television

- [ ] Radio
- [ ] Newspapers
- [ ] Websites
- [ ] Mailers
- [ ] Email
- [ ] Public Meetings / Workshops
- [ ] Fair/Show Booths
- [ ] Webinars
- [ ] Social Media (Facebook, Twitter, NextDoor)

Reset

11. You know better than most what hazards affect your home, neighborhood, and community and as your local government, we want to do our best to work with you to mitigate those hazards. What else do you think we should know?*

12. Do you have additional comments?

Thank you for taking the time to complete the Community Survey for

the GRIC Hazard Mitigation Plan Update!

If you have any questions regarding this survey, please email 2024HMP.OEM@gric.nsn.us , GRIC OEM staff will review your question/s and respond as soon as possible.

Submit

GRIC OEM 2024 HMP Update Community Questionnaire

Submitted By: Anonymous user

Submitted Time: May 9, 2024 6:41 PM

The GRIC Office of Emergency Management (OEM) is leading an effort to update the 2014 Hazard Mitigation Plan (HMP). The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. This survey was designed so that you can provide your opinion on community and business disaster preparedness and identify actions that could reduce risk and loss from natural hazards. The information you provide will help prioritize and/or validate community risk reduction activities. This survey will take 5 minutes to complete.

1. In the past 20 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

No

1.a. If yes, which of these natural disasters have you or someone you know experienced?

Specify other.

2. In the past 5 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

No

2.a. If yes, which of these natural disasters have you or someone you know experienced?

Specify other.

3. If the loss was to property, did the repair or replacement cost exceed $2,500?
No

4. Did the impact result in any injuries requiring medical attention, or worse, to you or your household?
No

5. In your opinion, please select a level for the following hazards which would or may cause damage to buildings, trees, vehicles. Check only one box for each hazard.

Drought
Medium

Excessive/Extreme Heat
High

Flooding
Very High

Severe Winds
High

Wildfire
Very High

Other

If Other Hazard, Please specify

6. In your opinion, please select the level for the following hazards which would or may cause personal harm or injury to you or someone within your community. Check only one box for each hazard.

Drought
High

Excessive/Extreme Heat
Very High

Flooding
Very High

Severe Winds
Very High

Wildfire
Very High

Other

If Other Hazard, Please specify

7. Please Provide the District or zip code in which you live:
3

8. Are you aware the the Gila River Indian Community has a Hazard Mitigation Plan - a plan that is written to guide how each community will lower risk and exposure to natural disasters?

No

9. What types of project should the Community focus on to reduce hazard impacts? Please rank the project types below from most favorable (1) to least favorable (6).

1. Critical Facility Upgrades (flood protection, backup generators, fire buffers, relocation), 2. Structural/Infrastructure Improvements (culverts, bridges, channels, levees, etc.), 3. Public Education and Outreach (digital outreach, newsletters, information booths, social media, etc.), 4. Environmental Protection of Natural Buffers (for example, open space in a floodplain), 5. Regulatory Standards, Building Codes, and/or Strategic Plans, 6. Other

If Other Project Type, Please specify

10. What is the most effective way for you to receive information about how to protect your family and prepare your home for hazard events? Please rank the methods below from most favorable (1) to least favorable(10).

1. Social Media (Facebook, Twitter, NextDoor), 2. Television, 3. Radio, 4. Newspapers, 5. Websites, 6. Mailers, 7. Email, 8. Public Meetings / Workshops, 9. Fair/Show Booths, 10. Webinars

11. You know better than most what hazards affect your home, neighborhood, and community and as your local government, we want to do our best to work with you to mitigate those hazards. What else do you think we should know?

Need for emergency mass communication system

12. Do you have additional comments?

Thank you for taking the time to complete the Community Survey for the GRIC Hazard Mitigation Plan Update!

If you have any questions regarding this survey, please email 2024HMP.OEM@gric.nsn.us , GRIC OEM staff will review your question/s and respond as soon as possible.

GRIC OEM 2024 HMP Update Community Questionnaire

Submitted By: Anonymous user

Submitted Time: May 9, 2024 4:26 PM

The GRIC Office of Emergency Management (OEM) is leading an effort to update the 2014 Hazard Mitigation Plan (HMP). The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. This survey was designed so that you can provide your opinion on community and business disaster preparedness and identify actions that could reduce risk and loss from natural hazards. The information you provide will help prioritize and/or validate community risk reduction activities. This survey will take 5 minutes to complete.

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1.a. If yes, which of these natural disasters have you or someone you know experienced?

Specify other.

2. In the past 5 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

Yes

2.a. If yes, which of these natural disasters have you or someone you know experienced?

Severe Winds

Specify other.

3. If the loss was to property, did the repair or replacement cost exceed $2,500?
No

4. Did the impact result in any injuries requiring medical attention, or worse, to you or your household?
No

5. In your opinion, please select a level for the following hazards which would or may cause damage to buildings, trees, vehicles. Check only one box for each hazard.

Drought
High

Excessive/Extreme Heat
Very High

Flooding
Medium

Severe Winds
High

Wildfire
High

Other
Medium

If Other Hazard, Please specify

6. In your opinion, please select the level for the following hazards which would or may cause personal harm or injury to you or someone within your community. Check only one box for each hazard.

Drought
Medium

Excessive/Extreme Heat
High

Flooding
Medium

Severe Winds
High

Wildfire
Medium

Other

If Other Hazard, Please specify

7. Please Provide the District or zip code in which you live:
85147

8. Are you aware the the Gila River Indian Community has a Hazard Mitigation Plan - a plan that is written to guide how each community will lower risk and exposure to natural disasters?

No

9. What types of project should the Community focus on to reduce hazard impacts? Please rank the project types below from most favorable (1) to least favorable (6).

1. Critical Facility Upgrades (flood protection, backup generators, fire buffers, relocation), 2. Structural/Infrastructure Improvements (culverts, bridges, channels, levees, etc.), 3. Public Education and Outreach (digital outreach, newsletters, information booths, social media, etc.), 4. Environmental Protection of Natural Buffers (for example, open space in a floodplain), 5. Regulatory Standards, Building Codes, and/or Strategic Plans, 6. Other

If Other Project Type, Please specify

10. What is the most effective way for you to receive information about how to protect your family and prepare your home for hazard events? Please rank the methods below from most favorable (1) to least favorable(10).

1. Social Media (Facebook, Twitter, NextDoor), 2. Television, 3. Radio, 4. Newspapers, 5. Websites, 6. Mailers, 7. Email, 8. Public Meetings / Workshops, 9. Fair/Show Booths, 10. Webinars

11. You know better than most what hazards affect your home, neighborhood, and community and as your local government, we want to do our best to work with you to mitigate those hazards. What else do you think we should know?

Flooding

12. Do you have additional comments?

No

Thank you for taking the time to complete the Community Survey for the GRIC Hazard Mitigation Plan Update!

If you have any questions regarding this survey, please email 2024HMP.OEM@gric.nsn.us , GRIC OEM staff will review your question/s and respond as soon as possible.

GRIC OEM 2024 HMP Update Community Questionnaire

Submitted By: Anonymous user

Submitted Time: May 9, 2024 12:42 PM

The GRIC Office of Emergency Management (OEM) is leading an effort to update the 2014 Hazard Mitigation Plan (HMP). The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. This survey was designed so that you can provide your opinion on community and business disaster preparedness and identify actions that could reduce risk and loss from natural hazards. The information you provide will help prioritize and/or validate community risk reduction activities. This survey will take 5 minutes to complete.

1. In the past 20 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

No

1.a. If yes, which of these natural disasters have you or someone you know experienced?

Specify other.

2. In the past 5 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

No

2.a. If yes, which of these natural disasters have you or someone you know experienced?

Specify other.

3. If the loss was to property, did the repair or replacement cost exceed $2,500?
No

4. Did the impact result in any injuries requiring medical attention, or worse, to you or your household?
No

5. In your opinion, please select a level for the following hazards which would or may cause damage to buildings, trees, vehicles. Check only one box for each hazard.

Drought
High

Excessive/Extreme Heat
Very High

Flooding
Medium

Severe Winds
Low

Wildfire
Very High

Other

If Other Hazard, Please specify

6. In your opinion, please select the level for the following hazards which would or may cause personal harm or injury to you or someone within your community. Check only one box for each hazard.

Drought
Low

Excessive/Extreme Heat
High

Flooding
Low

Severe Winds
Very Low

Wildfire
Very High

Other

If Other Hazard, Please specify

7. Please Provide the District or zip code in which you live:
District Five

8. Are you aware the the Gila River Indian Community has a Hazard Mitigation Plan - a plan that is written to guide how each community will lower risk and exposure to natural disasters?

No

9. What types of project should the Community focus on to reduce hazard impacts? Please rank the project types below from most favorable (1) to least favorable (6).

1. Structural/Infrastructure Improvements (culverts, bridges, channels, levees, etc.), 2. Critical Facility Upgrades (flood protection, backup generators, fire buffers, relocation), 3. Public Education and Outreach (digital outreach, newsletters, information booths, social media, etc.), 4. Environmental Protection of Natural Buffers (for example, open space in a floodplain), 5. Regulatory Standards, Building Codes, and/or Strategic Plans, 6. Other

If Other Project Type, Please specify

10. What is the most effective way for you to receive information about how to protect your family and prepare your home for hazard events? Please rank the methods below from most favorable (1) to least favorable(10).

1. Social Media (Facebook, Twitter, NextDoor), 2. Websites, 3. Newspapers, 4. Public Meetings / Workshops, 5. Fair/Show Booths, 6. Mailers, 7. Email, 8. Radio, 9. Television, 10. Webinars

11. You know better than most what hazards affect your home, neighborhood, and community and as your local government, we want to do our best to work with you to mitigate those hazards. What else do you think we should know?

I think creating a stronger focus on public education about various topics that fall under hazards and natural disasters would be a benefit. Along with sharing in deep tips about areas that the community can sit in on and learn.

12. Do you have additional comments?

Thank you for taking the time to complete the Community Survey for the GRIC Hazard Mitigation Plan Update!

If you have any questions regarding this survey, please email 2024HMP.OEM@gric.nsn.us , GRIC OEM staff will review your question/s and respond as soon as possible.

GRIC OEM 2024 HMP Update Community Questionnaire

Submitted By: Anonymous user

Submitted Time: May 9, 2024 10:40 AM

The GRIC Office of Emergency Management (OEM) is leading an effort to update the 2014 Hazard Mitigation Plan (HMP). The purpose of the Plan is to better understand the natural hazards that pose a threat to the area and develop actions that reduce the risk associated with these hazards. This survey was designed so that you can provide your opinion on community and business disaster preparedness and identify actions that could reduce risk and loss from natural hazards. The information you provide will help prioritize and/or validate community risk reduction activities. This survey will take 5 minutes to complete.

1. In the past 20 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

Yes

1.a. If yes, which of these natural disasters have you or someone you know experienced?

Flooding

Specify other.

2. In the past 5 years have you or someone you know experienced a natural disaster which resulted in loss of property or negative impacts?

No

2.a. If yes, which of these natural disasters have you or someone you know experienced?

Specify other.

3. If the loss was to property, did the repair or replacement cost exceed $2,500?
No

4. Did the impact result in any injuries requiring medical attention, or worse, to you or your household?
No

5. In your opinion, please select a level for the following hazards which would or may cause damage to buildings, trees, vehicles. Check only one box for each hazard.

Drought
Very High

Excessive/Extreme Heat
Very High

Flooding
Medium

Severe Winds
Medium

Wildfire
Medium

Other

If Other Hazard, Please specify

6. In your opinion, please select the level for the following hazards which would or may cause personal harm or injury to you or someone within your community. Check only one box for each hazard.

Drought
High

Excessive/Extreme Heat
High

Flooding
High

Severe Winds
Medium

Wildfire
Medium

Other

If Other Hazard, Please specify

7. Please Provide the District or zip code in which you live:
85339

8. Are you aware the the Gila River Indian Community has a Hazard Mitigation Plan - a plan that is written to guide how each community will lower risk and exposure to natural disasters?

Yes

9. What types of project should the Community focus on to reduce hazard impacts? Please rank the project types below from most favorable (1) to least favorable (6).

1. Critical Facility Upgrades (flood protection, backup generators, fire buffers, relocation), 2. Structural/Infrastructure Improvements (culverts, bridges, channels, levees, etc.), 3. Public Education and Outreach (digital outreach, newsletters, information booths, social media, etc.), 4. Environmental Protection of Natural Buffers (for example, open space in a floodplain), 5. Regulatory Standards, Building Codes, and/or Strategic Plans, 6. Other

If Other Project Type, Please specify

10. What is the most effective way for you to receive information about how to protect your family and prepare your home for hazard events? Please rank the methods below from most favorable (1) to least favorable(10).

1. Websites, 2. Television, 3. Radio, 4. Newspapers, 5. Mailers, 6. Email, 7. Public Meetings / Workshops, 8. Fair/Show Booths, 9. Webinars, 10. Social Media (Facebook, Twitter, NextDoor)

11. You know better than most what hazards affect your home, neighborhood, and community and as your local government, we want to do our best to work with you to mitigate those hazards. What else do you think we should know?

n/a

12. Do you have additional comments?

Thank you for taking the time to complete the Community Survey for the GRIC Hazard Mitigation Plan Update!

If you have any questions regarding this survey, please email 2024HMP.OEM@gric.nsn.us , GRIC OEM staff will review your question/s and respond as soon as possible.

https://www.facebook.com/gilariver

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Intro

The Gila River Indian Reservation was established in 1859, and the Gila River Indian Community forma

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GILA RIVER INDIAN COMMUNITY IS PREPARING AN UPDATE TO THEIR HAZARD MITIGATION PLAN IN 2024

The Gila River Indian Community is updating our Hazard Mitigation Plan (HMP), which evaluates risk and potential natural hazards. Participating in an HMP provides the community several benefits such as identifying specific high-risk areas, evaluating strategies, building relationships, and gaining eligibility for FEMA mitigation grant programs and disaster assistance funding.

Go to https://www.gricsafety.org/.../emergenc.../hazard-mitigation for more information and to take the 2024 Hazard Mitigation Questionnaire and comment on the current plan.

GILA RIVER INDIAN COMMUNITY IS PREPARING AN UPDATE TO THEIR HAZARD MITIGATION PLAN IN 2024

The Gila River Indian Community departments and agencies are actively participating in a collaborative working group updating the Gila River Indian Community Hazard Mitigation Plan (HMP). A HMP is a community-driven document that evaluates local risk and vulnerabilities to a range of natural hazards and identifies projects to reduce or mitigate this vulnerability. Natural hazards include flooding, drought, or wildfire. Participating in an HMP provides the community several benefits such as: identifying specific high-risk areas, evaluating strategies to reduce local community risk to both people and property, building relationships locally to increase resiliency, and gaining eligibility for FEMA mitigation grant programs and disaster assistance funding.

The community has the opportunity to comment on the current plan, as well as the final draft of the updated 2024 plan. The comment period has begun for the current 2015 plan, which can be viewed by clicking here. Comments may be submitted emailing 2024HMP.oem@gric.nsn.us. Once plan revisions are complete, the final draft will be made available for review and comment, so please check back regularly.

Additionally, a survey has been created to so that you can provide your opinion on community and business disaster preparedness and identify actions that could reduce risk and loss from natural hazards. The information you provide will help prioritize and/or validate community risk reduction activities. Click here to access the Survey.

GRIC 2015 MULIT-HAZARD MITIGATION PLAN

2024 HAZARD MITIGATION PLAN UPDATE COMMUNITY QUESTIONNAIRE

APPENDIX D

Comprehensive List of Potential Mitigation Actions/Projects for Consideration by GRIC Departments/Enterprises

GENERAL MULTI-HAZARD:
Install early warning sirens in select strategic locations as a part of a comprehensive emergency notification system to inform citizens of impending hazards such as dam failure, severe weather conditions, and severe wind events (particularly tornados). ****Addresses: Dam Failure, Flood, Severe Wind, Wildfire ******
Use newsletters, flyers, utility bill inserts, website notices, radio and television announcements, social media and newspaper articles to educate the public about hazards impacting the county and how to be prepared in the case of a disaster event. ****Addresses: Dam Failure, Drought, Flood, Severe Wind, Wildfire ******
Provide links on the community's website to sources of hazard mitigation educational materials (e.g. – www.fema.gov) encouraging private citizens to be prepared for hazard emergencies. ****Addresses: Dam Failure, Drought, Flood, Severe Wind, Wildfire ******
Review and assess building and residential codes currently in use to determine if newer, more up-to-date codes are available or required ****Addresses: Dam Failure, Drought, Flood, Severe Wind, Wildfire ******
Promote the use of weather radios, especially in schools, hospitals and other locations where people congregate to inform them of the approach of severe weather events. ****Addresses: Extreme Heat, Flood, Severe Wind, Wildfire****
Install early warning sirens in select strategic locations as a part of a comprehensive emergency notification system to inform citizens of impending hazards such as dam failure, severe weather conditions, and severe wind events (particularly tornados). ****Addresses: Dam Failure, Flood, Severe Wind, Wildfire ******
DROUGHT:
Public education of water conservation best practices through newsletter, flyers, social media and website notices.
Develop and/or update an ordinance requiring strategic watering times and volumes during times of drought.
Mandate/Encourage/Incentivize the use of drought resistant landscaping through ordinance development and/or enforcement.
Coordinate with State Drought Task Force to perform drought management at the tribal level.
Develop/Update a local Drought Management Plan to define various levels of conservation requirements that are based on drought severity triggers and enforced through utility billing structures and ordinance.
Implement a water harvesting program through the location, design and construction of dual functioning stormwater retention facilities with enhanced recharge elements designed into the basin. ****Addresses both Drought and Flood****
EXTREME HEAT:
Identify, stock, and communicate locations within the community that can serve as cooling stations during times of extreme heat.
Perform a public information campaign at the onset of the extreme heat season to help educate the public on ways to remain safe during periods of extreme heat.
Partner with NGO's (e.g. – The Salvation Army, church organizations, homeless shelters, etc.) to provide respite care and hydration stations to mitigate loss of life during extreme temperature events.
Investigate and develop an implementation strategy for using "cool roofs" on any new or major roof rehabilitation projects of tribal owned buildings to lower the urban heat island effects.
Include conservation areas, bioretention and other site appropriate green stormwater infrastructure/low impact development (GSI/LID) in mitigation planning, actions and education to

address multiple risks (drought, extreme heat, and flooding) while providing additional quality of life and other co-benefits.
Investigate and develop an implementation strategy for using "cool pavements" on road resurfacing projects to lower urban heat island effects
Conduct feasibility, vulnerability, and prioritization studies to identify at-risk places and populations and effective solutions to reduce heat exposure
Add and maintain trees and other green infrastructure to provide shade and/or cooling
Develop an urban forestry master plan to as a part of an overall strategy for maintaining heat reducing green infrastructure
Increase the availability of shade structures at outdoor gathering places including transit stops, parks and playgrounds, schools, and recreation centers
Revise Tribal or Community building and zoning codes to reduce the use of materials that contribute to the urban heat island effect
Coordinate with other municipalities, county, regional, and state authorities, academic institutions, NGOs, and other partners to share information resources, best practices, community needs, and technical expertise related to management of heat and heat impacts
Adopt and enforce adjusted activity schedules and protocols for sports, recreation, and other outdoor programs when days exceed locally relevant thresholds for heat-health risks
Install and maintain new water fountains and water bottle filling stations at public places
Extend hours for cooling centers and water distribution sites during extreme heat events
Hire personnel with dedicated responsibilities for management of heat risks, and/or assign specific responsibilities to existing personnel
Conduct cross-department and cross-agency training and coordination meetings for aligning programming and resources related to heat
FLOOD:
Implement a water harvesting program through the location, design and construction of dual functioning stormwater retention facilities with enhanced recharge elements designed into the basin. ****Addresses both Drought and Flood****
Develop a community-wide, stormwater management plan that will analyze and identify problem flooding areas and propose long-term mitigation alternatives designed to reduce or eliminate the flood problems.
Review, update and/or augment flood control ordinances to provide a greater level of protection than the minimum required by the NFIP.
Identify and map flood hazards in areas expected to grow or develop in the foreseeable future.
Develop/augment a county/city/town wide GIS program that is integrated into Public Works, Development Services, Police, Fire/Rescue and Emergency Management to help prevent development in flood prone regions.
Install automated flood barriers at low water crossings to discourage motorists from entering flooded road crossings.
Install stream depth indicators at low water crossings to communicate the risk of entering flooded roadway crossings and provide a visual warning to motorists of flood conditions at the crossing location.
FISSURE:
Include addressing fissure risk as a regular part of the land development and public works projects review and permitting.
Provide links to the Arizona Geologic Service website as a part of a public campaign to raise awareness to the hazards and locations of fissures.

Coordinate with state and federal agencies (USGS, AZGS, ADWR, etc.) to study and map fissure activity in critical or key areas of the community so that effective mitigation or avoidance strategies can be implemented.
Include geologic hazards in the next General or Comprehensive Plan update to inform land use decision making and zoning efforts. ****Addresses: Earthquake, Fissure, Landslide/Mudslide, Subsidence****
Develop/Increase/Enhance groundwater recharge to mitigate expansion of fissures and subsidence areas. ****Addresses: Drought, Fissure, Subsidence****
SEVERE WIND:
Encourage homeowners to use tie-down straps and/or anchors to secure ancillary buildings and metal awnings or porches to mitigate the potential for flying debris during severe wind events.
Retrofit sub-standard roofs of key critical facilities and infrastructure to meet modern building code standards and mitigate damages and impacts of severe wind events.
Maintain/Install backup generators at key critical facilities such as fire and police stations, water pumping stations, sewer lift stations, etc., to provide emergency power for critical operations during power failures caused by severe wind events.
SUBSIDENCE:
Include addressing subsidence risk as a regular part of the land development and public works projects review and permitting.
Provide links to the Arizona Department of Water Resources website as a part of a public campaign to raise awareness to the hazards and locations of active subsidence.
Establish survey monuments and monitor elevations in critical or key areas of the community to measure impacts and trends of subsidence, with the goal of determining long term mitigation strategies to reduce the damage and losses that may yet be experienced.
WILDFIRE:
Develop and/or enforce a weed abatement ordinance.
Educate public on proper fuels thinning, setbacks, and water storage for wildfire mitigation using Firewise type of programs and guidance documents.
Conduct Fire safety education programs in local public schools.
Enact and enforce burn and fireworks bans as needed during extraordinarily dry and extreme wildfire conditions / seasons to mitigate possible, unintended wildfire starts.
Perform, or encourage the performance of, routine roadside vegetation control to mitigate wildfire starts within the right-of-way areas along roadways and highways.
Clear vegetation and wildfire fuels to create a defensible space around critical or key structures within the community and along perimeter areas of the wildland urban interface.

APPENDIX E

Plan Maintenance Review Memorandums