

ANNEX. D GEORGETOWN DIVIDE PUBLIC UTILITIES DISTRICT

D.1 PURPOSE

This Annex summarizes the hazard mitigation elements specific to the Georgetown Divide Public Utilities District (GDPUD). This Annex supplements the El Dorado County (County) Multi-Jurisdictional Hazard Mitigation Plan (MJHMP); therefore, the Annex is not a stand-alone plan but intended to supplement the hazard information provided in the MJHMP Base Plan document. All other sections of the County MJHMP, or Base Plan, including the sections on the planning process, countywide risk assessment, and procedural requirements related to plan implementation and maintenance apply to GDPUD. This Annex provides additional information specific to GDPUD, including details on GDPUD’s profile, planning process, risk assessment, and mitigation strategy for the community.

D.2 COMMUNITY PROFILE

D.2.1 Mitigation Planning History and 2024 Process

This Annex was created during the development of the 2024 El Dorado County MJHMP update. GDPUD did not participate in the County’s 2019 Local Hazard Mitigation Plan (LHMP) process. During the current update process, GDPUD followed the planning process detailed in Chapter 3 of the Base Plan. This planning process consisted of participation in the Hazard Mitigation Planning Committee (HMPC) and the formation of a smaller internal planning team referred to as GDPUD’s Local Planning Committee (LPT).

The LPT was organized to support the broader planning process, coordinate with departmental staff, and develop customized mitigation actions and projects specific to GDPUD. GDPUD’s LPT is also responsible for the update, implementation, and maintenance of the plan. LPT members are listed in Appendix A. Table D-1 includes stakeholders who were invited to participate in GDPUD’s LPT.

Given rural services area for GDPUD the neighboring communities, representatives of businesses and academia, and representatives that provide support to underserved communities were the same for GDPUD as the County.

Table D-1 Stakeholders Who Participated in GDPUD’s LPT

STAKEHOLDER GROUP	STAKEHOLDER AGENCY
Agencies involved in hazard mitigation activities	GDPUD
	El Dorado County Planning and Building Department
	El Dorado County Emergency, Preparedness, and Response
	El Dorado County Board of Supervisors
Agencies that regulate development	GDPUD
	City of South Lake Tahoe
	El Dorado Hills Fire Department
Neighboring communities	El Dorado Irrigation District
	Pacific Gas & Electric (PG&E)

STAKEHOLDER GROUP	STAKEHOLDER AGENCY
	Marshall Hospital
Representatives that provide support to underserved communities	Mother Lode Rehabilitation Enterprise Inc. (MORE Workshop)
	El Dorado Food Bank
	Alta California Regional Center (ACRC)

D.2.2 Stakeholder Involvement

As a small and rural water district with very limited staff capacity, stakeholder outreach and engagement for GDPUD was carried out through the County Sheriff’s Office of Emergency Services as part of the larger MJHMP planning process. Invitations to the kick-off meeting were sent to key County departments, incorporated communities, special districts, and various federal, State, and local stakeholders, including interested public representatives. The invite list included representatives from participating jurisdictions, HMPC members from the 2019 update, and the Safety Element Advisory Committee from the 2024 General Plan Safety Element update. Prior to the first HMPC meeting, the invite list was expanded to include neighboring communities (including neighboring water districts like El Dorado Irrigation District), agencies involved in hazard mitigation, land use and development authorities, businesses, academia, non-profits, and community-based organizations (CBO’s) representing at-risk and socially vulnerable populations.

As part of the County planning process, the HMPC worked with the GDPUD’s LPT to invite several stakeholder organizations that represent socially vulnerable populations in the planning area. These stakeholder organizations were identified during the initial kick-off meeting and during HMPC Meeting #1. Several of these stakeholder organizations, including Elder Options, Inc., the El Dorado Food Bank, and Alta California Regional Center (ACRC) participated in the HMPC meetings and focused one-on-one stakeholder meetings.

The El Dorado Food Bank serves at-risk populations throughout the County at both their permanent location which stores food, water tanks, and more, and through a mobile rural outreach pantry; they participated in the HMPC meetings and focused one-on-one stakeholder meetings. They are also now working with the County on supporting continued emergency preparedness and hazard mitigation outreach targeted towards seniors, low-income, and Spanish-speaking populations. Other stakeholders listed above were invited to participate during the planning process, but were not able to attend the planning meetings.

Additionally, mitigation actions developed for GDPUD were selected and prioritized as part of a group activity during the third HMPC meeting. These mitigation actions were collected, ranked, and added to this Annex. GPUD-2 focuses on developing a secondary water supply and GPUD-3 aims to clear vegetation around critical facilities to protect them from wildfire.

D.2.3 Public Involvement

As a small and rural water district with very limited staff capacity, the public outreach and engagement for the GDPUD Annex was carried out through the County Sheriff’s Office of Emergency Services as part of the larger MJHMP planning process. GDPUD then used the public outreach materials, such as press releases, save the date flyers, and workshop announcements to post on the GDPUD website and social media channels.

Public input was gathered during an online public survey and two public workshops. One public workshop was held during the development of the plan update. A second public workshop was held once the plan was available for public review. Public input was also

collected during a 14-day public review period held from April 10, 2024, through April 23, 2024. During this time, the stakeholder representatives from neighboring communities (and special districts) like El Dorado Irrigation District, PG&E, Mashall Hospital, Mother Lode Rehabilitation Enterprise, Inc., El Dorado Food Bank, and ACRC were sent the Public Review Draft MJHMP and asked to circulate the plan among their constituents and partner agencies

D.2.4 .Geography and Climate

The GDPUD positioned on the western slope of the Sierra Nevada foothills, lies about 45 miles northeast of Sacramento, California. It spans a ridge dividing the Middle Fork American River and the Rubicon River drainage basin to the north from the South Fork American River drainage basin to the south. Bounded by these rivers on the north, south, and west, GDPUD’s sphere of influence covers approximately 173,000 acres (270 square miles), while the existing service area comprises around 75,000 acres (112 square miles), with about 30,000 acres currently having access to water services (see Figure D-1). At the heart of GDPUD’s water system lies the Stumpy Meadows Reservoir, a 20,000-acre-foot reservoir situated on Pilot Creek’s eastern edge.

GDPUD provides domestic water service to communities including Georgetown, Buckeye, Garden Valley, Kelsey, Spanish Dry Diggins, Greenwood, Cool, and Pilot Hill, all situated within the unincorporated area of El Dorado County. Additionally, parts of these communities receive untreated water for irrigation through separate facilities. Accessible via U.S. Highways 50 and Interstate 80, GDPUD is conveniently close to metropolitan areas like Sacramento and the recreational offerings of Lake Tahoe.

At lower elevations, summers are hot and dry with mild winters, while the eastern mountainous regions experience cool summers and fairly harsh winters. Near the western part of GDPUD, Folsom Lake receives an average annual precipitation of 25 inches, with minimal snowfall in winter. Precipitation rises with elevation, reaching 40 inches in Garden Valley, 50 inches in Georgetown, and 56 inches at Silver Hill Ridge. The eastern portion sees an average annual snowfall of around 16.6 inches. The majority of precipitation occurs between late October and mid-April. Climate summary for the two locations in GDPUD are shown in Table D-2. Please note that the period of record varies between the two locations.

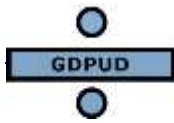
Table D-2 GDPUD Climate Summary

METRIC	GEORGETOWN RANGER STATION (043384)	FOLSOM DAM (043113)
Period of Record	11/01/1946 to 06/10/2016	10/26/1955 to 04/30/1993
Winter Mean Temperature *	43.8°F	47.8°F
Winter Average Minimum Temperature*	35.4°F	39.5°F
Lowest Recorded Temperature	9°F on December 11, 1972	16.0°F on December 9, 1972
Summer Mean Temperature**	72.5°F	75.4°F
Summer Average Maximum Temperature	86.2°F	91.9°F
Highest Recorded Temperature	107°F on July 15, 1972	115.0°F on July 15, 1972
Average Annual Number of Days >90°F	49.6	81.6
Average Annual Number of Days <32°F	47.1	12.6
Average Annual Precipitation	50.9 inches	23.9 inches
Average Annual Snowfall	15.5 inches	0.1 inches

Source: Western Regional Climate Center (WRCC) <https://wrcc.dri.edu/>

* Winter is defined as December, January, and February

** Summer is defined as June, July, and August



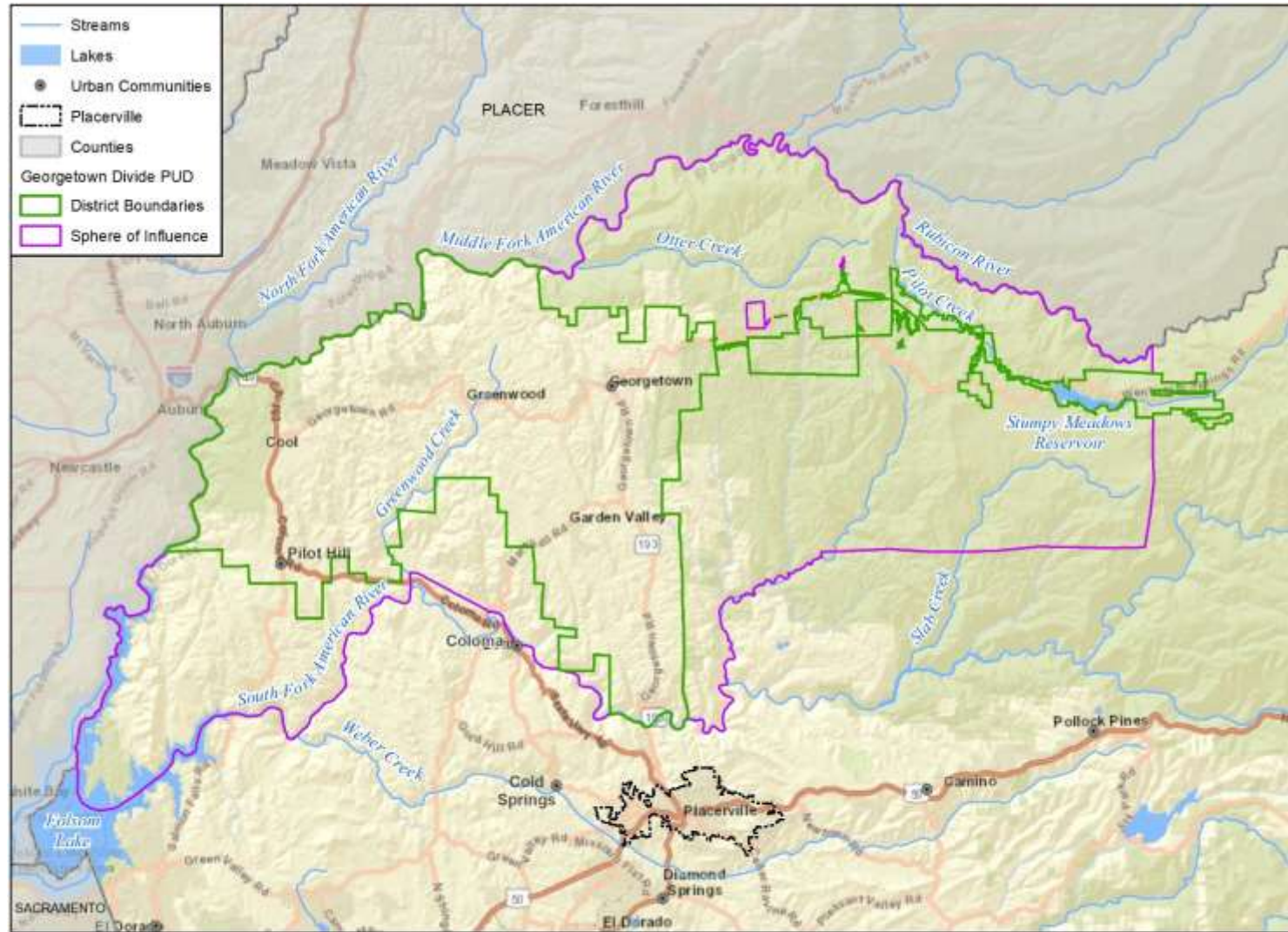
History

GDPUD, formed under California's Public Utility District Act, finds its roots in the El Dorado, Pilot, and Rock Creek Canal Companies, which date back to 1852, initially catering to the burgeoning needs following the gold discovery in nearby Coloma. Over the years, as gold production declined, the focus shifted to agriculture and lumbering, solidifying the region's reliance on water resources. By 1952, GDPUD had consolidated its infrastructure, acquiring the facilities of the Georgetown Water Company, the immediate predecessor to GDPUD.

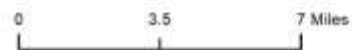
In the late 1950s, facing evolving water demands and opportunities, the GDPUD engaged in negotiations with the Sacramento Municipal Utility District (SMUD), resulting in a strategic sale of Upper Rubicon Basin facilities to finance the Stumpy Meadows Project. Concurrently, the GDPUD filed Application 12421 in 1948, aimed at formalizing water rights inherited from Georgetown Water Company, laying the groundwork for future acquisitions and water management strategies.

The collaboration with SMUD evolved further with Application 16212 in the early 1950s, where negotiations led to agreements regarding alternative water supply rights. This application sought additional diversion rights from Pilot Creek and its tributaries, eventually culminating in Decision 893, which delineated water allocations between GDPUD and SMUD. Permit No. 12827 in 1961 approved the 100 cubic feet direct diversion from Pilot Creek to the 20,000 acre-foot storage on Pilot Creek.

Figure D-1 Georgetown Divide Public Utility District Boundaries and Sphere of Influence



Map compiled 2/2024;
Intended for planning purposes only.
Data Source: El Dorado County,
Georgetown Divide PUD



D.2.5 Economy

GDPUD provides power generation, water, and wastewater services to the service area, described by the El Dorado Local Agency Formation Commission (ED LAFCO) as “South sides of the North and Middle Forks of the American River and the Rubicon river to the north side of the South Fork of the American River on the Western Slope of El Dorado County.” The 75,000 acre area contains 7,403 registered voters, but has an estimated population of 10,000 (ED LAFCO, 2023).

GDPUD is run by a five-chair board of directors comprised of a president, vice president, treasurer, and two directors, each with a term of four years. Assessment fees and charges for services, as well as special taxes, range from \$77 to \$393 county-wide, with fees varying across different districts.



According to the 2010 Urban Water Management Plan (UWMP), GDPUD serves nearly 4,000 customers with both untreated and treated water. Initially, the billing software only recognized three water use categories: residential and commercial for treated water, and agricultural for untreated water. However, in 2011, the GDPUD updated its billing software to include additional categories such as residential (both single and multi-family), commercial, large landscape, and governmental/institutional.

Treated water customers predominantly consist of residential accounts, with 96% serving single-family homes (3,411 accounts) and a smaller number of multi-family units (12 accounts, 94 households) as of 2010. Additionally, there were 15 unmetered connections at that time. Commercial accounts represented only 4% of total treated water accounts, amounting to 141 accounts in 2010. This category encompasses various businesses, governmental offices, schools, and a golf course owned by the Auburn Lake Trails Property Owner’s Association.

Agricultural usage, utilizing untreated water, accounted for 72% of water sales in GDPUD in 2010, with 393 agricultural accounts recorded. This water is utilized across various agricultural endeavors on the Divide, including Christmas tree farms, vineyards, pastures, orchards, and hay production. Notably, this untreated water usage is distinct from the analysis of potable water system demands.

D.2.6 Population

GDPUD’s service area encompasses portions of three census tracts. Table D-3 displays select demographic and social characteristics from the 2018-2022 US Census Bureau American Community Survey (ACS) for each Census Tract.

Table D-3 Georgetown Divide Housing Occupancy and Units, 2018-2022

HOUSING CHARACTERISTIC	6017030601		6017030602		6017030603	
	ESTIMATE	PERCENT	ESTIMATE	PERCENT	ESTIMATE	PERCENT
Housing Occupancy						
Total Housing Units	2,201	2,201	2,976	2,976	1,992	1,992
Units Occupied	1,972	89.6%	2,765	92.9%	1,381	69.3%
Vacant	229	10.4%	211	7.1%	611	30.7%

HOUSING CHARACTERISTIC	6017030601		6017030602		6017030603	
	ESTIMATE	PERCENT	ESTIMATE	PERCENT	ESTIMATE	PERCENT
Total Housing Units						
1-unit detached	2,038	92.6%	2,671	89.8%	1,735	87.1%
1-unit attached	84	3.8%	9	0.3%	13	0.7%
2 units	0	0.0%	0	0.0%	14	0.7%
3 or 4 units	0	0.0%	0	0.0%	23	1.2%
5-9 units	0	0.0%	35	1.2%	0	0.0%
10-19 units	0	0.0%	0	0.0%	0	0.0%
20 or more units	0	0.0%	0	0.0%	0	0.0%
Mobile Home	79	3.6%	245	8.2%	207	10.4%
Boat, RV, van etc.	2,038	92.6%	2,671	89.8%	1,735	87.1%
Selected Characteristics of Occupied Housing Units						
Lacking complete plumbing facilities	0	0.0%	0	0.0%	12	0.9%
Lacking complete kitchen facilities	0	0.0%	0	0.0%	12	0.9%
No telephone service available	31	1.6%	15	0.5%	33	2.4%
No vehicle available	32	1.6%	30	1.1%	44	3.2%

Source: U.S. Census Bureau, 2018-2022 ACS 5-year estimates, www.census.gov/

D.2.7 Disadvantaged Communities

Disadvantaged communities (DACs) are identified by the California Environmental Protection Agency (Cal EPA) based on geographic, socioeconomic, public health, and environmental hazard criteria, and may include, but not be limited to: areas disproportionately affected by environmental pollution or other hazards and areas with concentrations of people that are low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of education attainment (California Health and Safety Code Section 39711). One of the ways the Cal EPA's Office of Environmental Health Hazard Assessment (OEHHA) identifies DACs is using the CalEnviroScreen tool.

Employing a comprehensive approach, the OEHHA CalEnviroScreen tool applies a formula to generate a combined ranking score that considers 21 indicators for each census tract. These indicators span pollution measures like diesel emissions and concentrations of toxic sites, alongside demographic factors such as poverty and unemployment rates. Census tracts exhibiting CalEnviroScreen ranging from 75 to 100 percent (i.e., within the top 25% of all tracts statewide) are designated as DACs. Census tracts are also defined as disadvantaged based on the highest 5% cumulative pollution burden scores, as well as those tracts identified in the 2017 DAC designations, and lands under control of federally recognized Tribes.¹

GDPUD is situated within three census tracts – 6017030601, 6017030602, and 6017030603. As shown in Table D-4, which is based on data derived from the OEHHA CalEnviroScreen tool, none of these census tracts are designated as DACs based on their CalEnviroScreen Ranking. This indicates that households in these tracts aren't economically disadvantaged, nor are they significantly burdened by housing costs. Consequently, GDPUD households are less vulnerable to negative impacts during hazard events and are more resilient in disaster recovery. Given California's high housing costs, fewer households in GDPUD's service area have lower incomes,

¹ For more information on how DACs are designated refer to the final designations of DACs from May 2022 on the OEHHA CalEnviroScreen tool here: <https://oehha.ca.gov/calenviroscreen/sb53>

reducing the likelihood of spending a large proportion of income on housing and minimizing housing-induced poverty effects on disaster recovery. Still, it is important to note that many of the water customers in GDPUD’s planning area are considered rural and isolated communities, which may increase their likelihood to respond to and recover from natural hazard events.

Table D-4 Disadvantaged Communities Statistics

CENSUS TRACT	# PEOPLE	# HOUSING UNITS	# LOW-INCOME HOUSING UNITS	# LOW INCOME & HOUSING BURDENED HOUSING UNITS	% HOUSING BURDENED AND LOW-INCOME	CALIFORNIA ENVIROSCREEN RANKING
306.01	5,446	1,910	485	210	11%	3
306.02	7,911	2,645	1,060	330	13%	14
306.03	3,668	1,365	685	245	18%	17

Source: OEHA 2023, <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>

D.2.8 Development Trends

The 2014 County of El Dorado General Plan identifies land use areas within GDPUD’s boundaries as: agricultural lands; commercial; low, medium and high density residential; rural residential; and multi-family residential and are described as follows.

- **Commercial:** Commercial zoned areas are limited to the communities of Georgetown, Kelsey, Garden Valley, Greenwood, Cool and Pilot Hill. With the exception of Georgetown and Cool, less than ten commercial parcels are designated in each community. Georgetown and Cool have approximately 20 parcels each.
- **Agricultural Lands:** Agricultural lands are largely located between Georgetown and Garden Valley and a majority of the parcels have been developed.
- **Residential:** The majority of land within the GDPUD’s service boundary consists of low-density residential developments with limited areas of medium, high and rural residential. A few parcels of multi-family residential are developments located in Georgetown and Cool.

The communities of Georgetown, Garden Valley, Kelsey, Greenwood, Cool and Pilot Hill make up the majority of GDPUD’s customers. With the exception of Georgetown and Cool, the majority of parcels within GDPUD are greater than two acres reflective of a large geographical distribution of customers. The Auburn Lake Trails subdivision, located in the community of Cool, has approximately 1,200 customers, and makes up nearly one-third of GDPUD’s customer base. Future land use within the GDPUD’s service area is expected to consistent with the General Plan.

D.2.9 Future Development

Economic & Planning Systems (EPS) developed forecasts for both residential and non-residential (employment) land in the Western Slope area of El Dorado County during the 2004 County General Plan/EIR process. Considering factors such as topography, zoning, water supply, and sewage disposal limitations, the GDPUD’s growth rate is not anticipated to see significant upsurge in the foreseeable future.

The GDPUD’s 2010 UWMP Comparison of Supply and Demand, in the worst-case scenario dry years demand would exceed supply by 5%. However, only 28% of the water demand is for domestic water. If the worst-case dry years scenario were to occur, the GDPUD Board would address the situation by restricting agricultural water use (72% of demand) to the amount of water available. The GDPUD’s updated Draft 2020 UWMP shows an overall surplus in supply through the planning horizon (2040), even in multiple dry year scenarios.

D.3 HAZARD IDENTIFICATION AND SUMMARY

The LPT identified the hazards that affect GDPUD and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to their community. There are no hazards that are unique to GDPUD, although the hazard risk in the GDPUD varies and is distinct from the hazard risk in the County's planning area. The purpose of this section is to profile the GDPUD's hazards where different from the County and assess the GDPUD's unique vulnerabilities.

The hazards profiled in the County MJHMP Base Plan discuss the overall impacts to the County's planning area. This information is summarized in the hazard description, geographic extent, magnitude/severity, previous occurrences, and probability of future occurrences sections of the risk assessment. The information in the GDPUD's risk assessment summarizes where those hazards that vary from the County's planning area and that have a potential to affect the GDPUD. The hazard profile information is organized in a similar format here as a way to identify priority hazards for mitigation purposes.

Table D-5 summarizes the hazards profiled in the GDPUD's planning area and risk assessment.

Table D-5 Georgetown Divide Public Utilities District – Hazard Profiles

HAZARD	LIKELIHOOD OF FUTURE OCCURRENCE	GEOGRAPHIC AREA	MAGNITUDE/ SEVERITY	SIGNIFICANCE	PRIORITY HAZARD?
Avalanche	Unlikely	Negligible	Unlikely	Low	No
Dam Failure	Occasional	Negligible	Critical	High	Yes
Debris Flow and Landslide	Highly Likely	Significant	Critical	High	Yes
Drought, Water Shortage, and Tree Mortality	Likely	Extensive	Negligible	Medium	Yes
Earthquake	Unlikely	Limited	Negligible	Low	No
Erosion	Likely	Negligible	Negligible	Medium	No
Extreme Heat	Highly Likely	Extensive	Negligible	Medium	Yes
Flood	Unlikely	Limited	Negligible	Low	Yes
Seiche (Lake Tsunami)	Unlikely	Negligible	Negligible	Low	No
Severe Weather: Thunderstorms, Hail, Lightning, and Heavy Rain	Highly Likely	Extensive	Critical	Medium	Yes
Severe Weather: Tornadoes and High Wind	Unlikely	Limited	Negligible	Low	No
Severe Weather: Heavy Snow and Winter Storms	Highly Likely	Extensive	Negligible	Medium	Yes
Subsidence	Limited	Unlikely	Moderate	Low	No
Wildfire	Likely	Extensive	Critical	High	Yes

<p>Geographic Extent</p> <p><u>Negligible:</u> Less than 10 percent of planning area or isolated single-point occurrences</p> <p><u>Limited:</u> 10 to 25 percent of the planning area or limited single-point occurrences</p> <p><u>Significant:</u> 25 to 75 percent of planning area or frequent single-point occurrences</p> <p><u>Extensive:</u> 75 to 100 percent of planning area or consistent single-point occurrences</p> <p>Potential Magnitude/Severity</p> <p><u>Negligible:</u> Less than 10 percent of property is severely damaged, facilities and services are unavailable for less than 24 hours, injuries and illnesses are treatable with first aid or within the response capability of the jurisdiction.</p> <p><u>Limited:</u> 10 to 25 percent of property is severely damaged, facilities and services are unavailable between 1 and 7 days, injuries and illnesses require sophisticated medical support that does not strain the response capability of the jurisdiction, or results in very few permanent disabilities.</p> <p><u>Critical:</u> 25 to 50 percent of property is severely damaged, facilities and services are unavailable or severely hindered for 1 to 2 weeks, injuries and illnesses overwhelm medical support for a brief period of time or result in many permanent disabilities and a few deaths. overwhelmed for an extended period of time or many deaths occur.</p> <p><u>Catastrophic:</u> More than 50 percent of property is severely damaged, facilities and services are unavailable or hindered for more than 2 weeks, the medical response system is overwhelmed for an extended period of time, or many deaths occur.</p>	<p>Probability of Future Occurrences</p> <p><u>Unlikely:</u> Less than 1 percent probability of occurrence in the next year or has a recurrence interval of greater than every 100 years.</p> <p><u>Occasional:</u> Between a 1 and 10 percent probability of occurrence in the next year or has a recurrence interval of 11 to 100 years.</p> <p><u>Likely:</u> Between 10 and 90 percent probability of occurrence in the next year, or has a recurrence interval of 1 to 10 years</p> <p><u>Highly Likely:</u> Between 90 and 100 percent probability of occurrence in the next year or has a recurrence interval of less than 1 year.</p> <p>Overall Significance</p> <p><u>Low:</u> Two or more of the criteria fall in the lower classifications or the event has a minimal impact on the planning area. This rating is also sometimes used for hazards with a minimal or unknown record of occurrences/impacts or for hazards with minimal mitigation potential.</p> <p><u>Medium:</u> The criteria fall mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is also sometimes utilized for hazards with a high impact rating but an extremely low occurrence rating.</p> <p><u>High:</u> The criteria consistently fall along the high ranges of the classification and the event exerts significant and frequent impacts on the planning area. This rating is also sometimes utilized for hazards with a high psychological impact or for hazards that the jurisdiction identifies as particularly relevant.</p>
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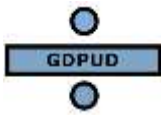
D.3.1 Vulnerability Assessment

The intent of this section is to assess the GDPUD’s vulnerability that is separate from that of the planning area as a whole, which has already been assessed in Chapter 4 Hazard Identification and Risk Assessment of the Base Plan. This vulnerability assessment analyzes the population, property, and other assets at risk of hazards ranked as a priority.

The information to support the hazard identification and risk assessment was based on a combination of the previous 2019 LHMP for the County and jurisdiction-specific information collected during the 2024 update. A Plan Update Guide and associated worksheets were distributed to each participating municipality or special district to complete during the 2024 update process. Information collected was analyzed and summarized in order to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify the related vulnerabilities unique to each jurisdiction.

Each participating jurisdiction was in support of the main hazard summary identified in the Base Plan (see Table 4-2). However, the hazard summary ranking for each jurisdictional annex may vary due to specific hazard risks and vulnerabilities unique to that jurisdiction. The information in this Annex helps differentiate the jurisdiction’s risk and vulnerabilities from that of the overall County, where applicable.

Note: The hazard “Significance” reflects the overall ranking for each hazard and is based on a combination of the GDPUD LPT’s input from the Plan Update Guide, the risk assessment



developed during the planning process (see Section 4 of the Base Plan), and the set of problem statements developed by the GDPUD LPT. The hazard significance summaries in Table D-5 above reflect the hazards that could potentially affect the GDPUD. The discussion of vulnerability for each of the following hazards are located in the Estimating Potential Losses section, which includes an overview on the local issues and areas of concern associated with the hazard, a problem statement for the priority hazard, and a quantitative risk assessment, where spatial data is available.

Based on this analysis, the priority hazards for mitigation purposes for GDPUD are identified below.

- Dam Failure
- Debris Flow and Landslide
- Drought, Water Shortage, and Tree Mortality
- Extreme Heat
- Flood
- Severe Weather: Thunderstorms, Hail, Lightning, and Heavy Rain
- Severe Weather: Heavy Snow and Winter Storms
- Wildfire

Hazards assigned a significance rating of low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not priority hazards for GDPUD. In GDPUD’s service area, those hazards include Avalanche, Earthquake, Erosion Extreme Heat, Flood, Seiche (Lake Tsunami), Severe Weather: Tornadoes and High Wind, and Subsidence.

D.3.2 Assets

This section considers the GDPUD’s assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets and growth and development trends.

D.3.2.1 Critical Facilities and Infrastructure

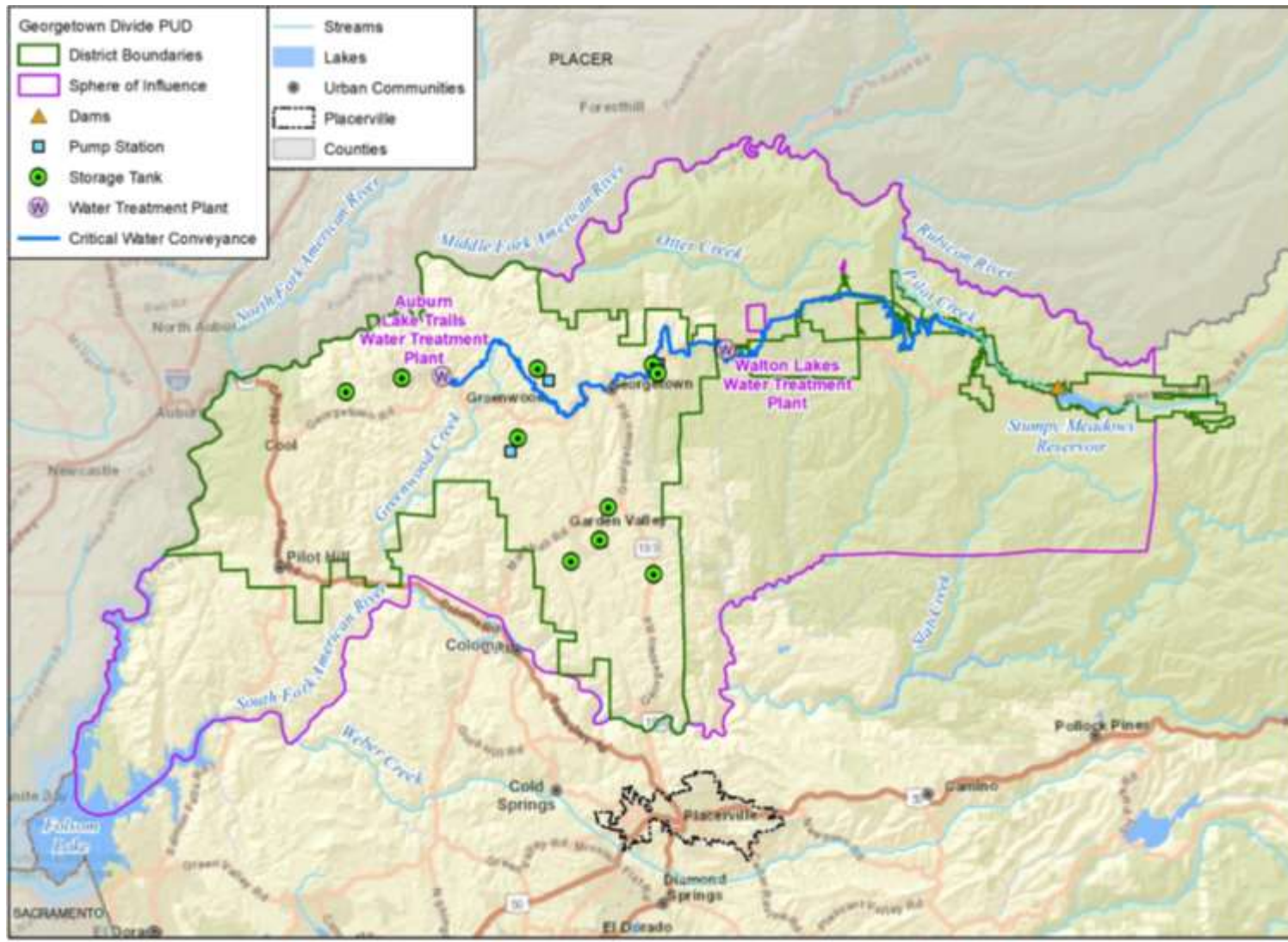
For the purposes of this plan, a critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA sorts critical facilities into eight lifeline categories as shown in Figure 4-1 in the Base Plan. Figure D-2 shows the location of the critical facilities and the critical water conveyance in the GDPUD. The critical facility analysis only includes point locations; linear facilities like major water supply and wastewater trunk lines were not included in the GDPUD’s critical facility analysis. Table D-6 displays a summary of the critical facilities within GDPUD. There are a total of 22 critical facilities in GDPUD’s service area. Critical facilities and other community assets are important to protect in the event of a disaster.

Table D-6 Critical Facilities within the Georgetown Divide Public Utilities District

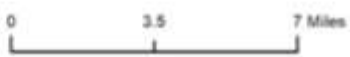
TYPE OF FACILITY	# OF FACILITIES
Dams	2
Pump Stations	5
Storage Tanks	13
Water Treatment Plants	2
Total	22

Source: GDPUD

Figure D-2 Critical Facilities within the Georgetown Divide Public Utility District



wsp Map compiled 4/2024;
Intended for planning purposes only.
Data Source: El Dorado County,
Georgetown Divide PUD



D.3.2.2 Historic, Cultural and Natural Resources

The focus of the GDPUD water supply system is the Stumpy Meadows Reservoir, a 21,206 acre-foot impoundment, at the eastern edge of the GDPUD service area. Stumpy Meadows Reservoir is located along the Pilot Creek channel, which is a tributary to Rubicon River and part of the larger American River Watershed. Flowing west from the peaks of the northern Sierra Nevada west of Lake Tahoe, the streams of the American River Watershed gradually converge into the South, Middle, and North Forks of the American River and covers 1,900 square miles of the Tahoe and El Dorado National Forests, including the Granite Chief Wilderness and Desolation Wilderness.



Stumpy Meadows Reservoir from the Boat Launch

Source: Kendra Smith for SF Gate, 2023

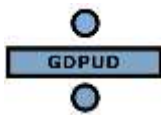
The Stumpy Meadows Reservoir holds a rich history, originally belonging to the Swift Family and later utilized by the Bacci Family for grazing cattle amidst its meadows.² The construction of the Mark Edson Dam, which impounds the Stumpy Meadows Reservoir, in 1960 marked a significant development, named after Mark Edson, the first engineer for the Department of Water Resources (DWR), who tirelessly secured water rights for the reservoir. Initially named Lake Edson, the reservoir was eventually renamed Stumpy Meadows Reservoir, retaining its historical moniker. Rainbow trout stocking occurs regularly from May through August, offering year-round fishing opportunities, although winter access is challenging due to snow accumulation. Situated at an elevation of 4,200 feet, the reservoir provides camping options at Stumpy Meadows Campground and Black Oak Group Campground. Accessible via State Route (SR) 49 and Wentworth Springs Road from Placerville, the reservoir boasts amenities such as a boat ramp and RV sites, providing an idyllic setting for outdoor enthusiasts to enjoy nature's beauty.

D.3.3 Estimating Potential Losses

D.3.3.1 Avalanche

Average snowfall in GDPUD does not accumulate in sufficient amounts to result in any avalanche risk, see Table D-2. As the climate warms and precipitation patterns shift toward more precipitation falling in the form of rain instead of snow, the risk from this hazard will continue to decrease. Refer to Section 4.3 of the Base Plan for a discussion of the avalanche risk relative to the GDPUD and the County.

² https://www.fs.usda.gov/detail/eldorado/learning/nature-science/?cid=fsbdev7_019102



D.3.3.2 Dam Failure

The GDPUD is reliant upon two dams to power its infrastructure. The Stumpy Meadows Reservoir, formed by the Mark Edson Dam on Pilot Creek, is a rock and earth fill type dam, holding 20,000 acre-feet of water over 330 acres. Its outlet structure features a precast concrete intake tower at 4,132', controlling flows through a 30" steel pipeline. The reservoir's watershed spans 15.1 square miles, ranging from 4,170 to 6,190 feet elevation. Water released via the spillway rejoins Pilot Creek and is diverted by Pilot Creek Diversion Dam, a reinforced concrete structure dam which feeds into the El Dorado Conduit. En-route diversions supplement GDPUD's supply from smaller watersheds, though reliance on these sources is secondary to the reservoir's primary supply due to variability in runoff.

While both dams have received a rating of "satisfactory" by the National Dam Safety Review Board, concerns have been raised about the aging spillway underdrain. A spillway assessment identified the need to evaluate the spillways underdrain system and determined that it may need rehabilitation.

Illustrated in Figure D-3 are the potential inundation risks posed by GDPUD's dams and other nearby dams to the infrastructure within GDPUD. Socially vulnerable groups within this dam inundation area, such as low-income communities, the elderly, and those with mobility impairments, may struggle to evacuate or access emergency services during such events, leading to higher rates of injury, displacement, and loss of life. Therefore, these individuals residing in the dam inundation areas would be at greater risk.

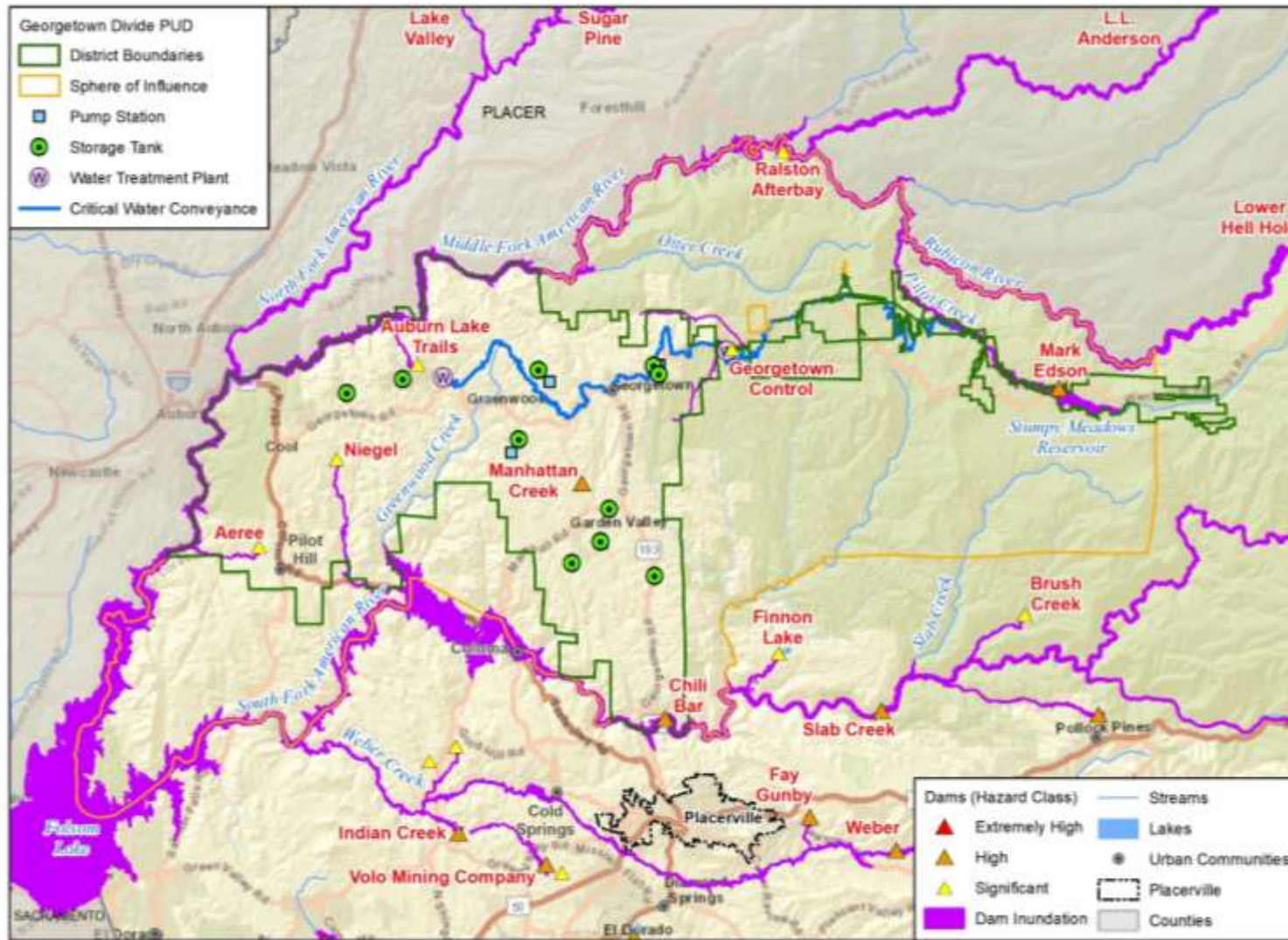
While no GDPUD facilities are located within dam inundation zones, a dam failure to either of the GDPUD-owned dams could be detrimental to the normal operations of GDPUD. A failure of the Mark Edson dam could result in a sudden and complete loss of water supply, disrupting daily life and essential services for residential and commercial users alike. The release of water from a failed dam can damage infrastructure along the distribution network, including pipelines, treatment facilities, and storage tanks.

Contaminated floodwaters can also jeopardize public health, leading to the spread of waterborne diseases and the need for emergency measures such as boil water advisories. Environmental impacts could be substantial, including habitat destruction, wildlife loss, and water quality degradation from pollutants like sediment and chemicals. Additionally, legal consequences may follow, with utilities facing liabilities, lawsuits, fines, and regulatory penalties, especially if negligence is involved.

Secondary effects from dam failure could further impact GDPUD infrastructure and operations. Dam failure can lead to increase risks of landslides and erosion, posing threat to water conveyance systems. The destabilization of terrain surrounding the dam could result in damaged or blocked channels and pipelines, and increased sedimentation and debris flow could complicate efforts to maintain and repair damaged infrastructure.

More frequent and severe weather events associated with climate change, like heavy rainfall and storms, can strain dams, increasing the likelihood of breaches. Climate change can also affect dam management by altering water availability and hydrological patterns. Droughts may lower reservoir levels at Stumpy Meadows Reservoir, potentially compromising dam integrity, while rising temperatures can change the timing and volume of water flows, posing challenges for dam operators in maintaining downstream safety.

Figure D-3 Georgetown Divide Public Utilities District Critical Facilities Dam Inundation



Map compiled 4/2024.
Intended for planning purposes only.
Data Source: El Dorado County, Georgetown Divide PUD,
Division of Safety of Dams, Department of Water Resources



Given the limited growth in GDPUD’s boundaries, current land use patterns and development trends are not expected to affect dam incidents. Refer to Section 4.3 of the Base Plan for a discussion of the dam failure risk relative to GDPUD’s service area and the County.

D.3.3.3 Debris Flow and Landslide

Figure D-4 illustrates the GDPUD's risk to landslides. Specific GDPUD facilities at risk are included below in Table D-7, categorized by landslide susceptibility class as determined by the California Geological Survey. Classes range from zero (low risk) to ten (high risk).

Table D-7 Georgetown Divide Public Utilities District Facilities at Risk of Landslide

LANDSLIDE CLASS	FACILITY TYPE	FACILITY NAME
9	Dam High Hazard Class	Mark Edson
8	Storage Tank	Hotchkiss Hill
6	Pump Station	Black Ridge Pump Station
	Storage Tank	Angel Camp Tank
		WLT Walton
3	Pump Station	Angel Camp Pump Station
		Hotchkiss Hill Sub. Booster Pump Station
		Irish Ln Pump Station
	Storage Tank	Black Oak Mine Tank
		Black Ridge Tank
		Irish Lane Tank

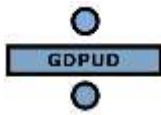
Source: California Geological Survey, Department of Conservation, El Dorado County, GDPUD

The Mark Edson dam is located in a very high landslide susceptibility class, putting GDPUD’s main water source at extreme peril to landslide and debris flow risks. If a landslide were to cause a break in the dam, impacts would be similar to those discussed in the dam inundation profile. Several storage tanks and pump stations are also in moderate to high landslide susceptibility classes.

Landslides and debris flows pose a particular risk to GDPUD’s water conveyance system. The natural topography of the Georgetown Divide features steep slopes, which makes these areas prone to geological instability and erosion events. A significant portion, roughly 5-7 miles, of the GDPUD’s upper canal traverses through steep terrain prone to debris flows. These flows can stem from various factors including long-term slope equilibrium processes, water conveyance, or adverse weather events.

Landslides and debris flows can obstruct or damage channels, pipelines, and access roads, disrupting the flow of water and compromising the system’s integrity. In addition to causing blockages, landslides and debris flows can deposit sediment and debris within conveyance structures, reducing capacity and increasing risk of subsequent flooding or sedimentation issues. In some cases, these events can cause complete structural failure of components within the system. Landslide events are also likely to worsen with climate change, as increased temperatures, increased precipitation, and also drought conditions will increase wildfire risk, and post-wildfire landslide and debris flow conditions.

If a landslide were to occur, the response efforts may be complicated by the rural nature of GDPUD’s service area. The road network is mostly comprised of rural roads, which connect rural communities, agricultural areas, and outdoor recreation areas. These roads often traverse steep slopes and rugged terrain, making them susceptible to erosion and slope instability. Any

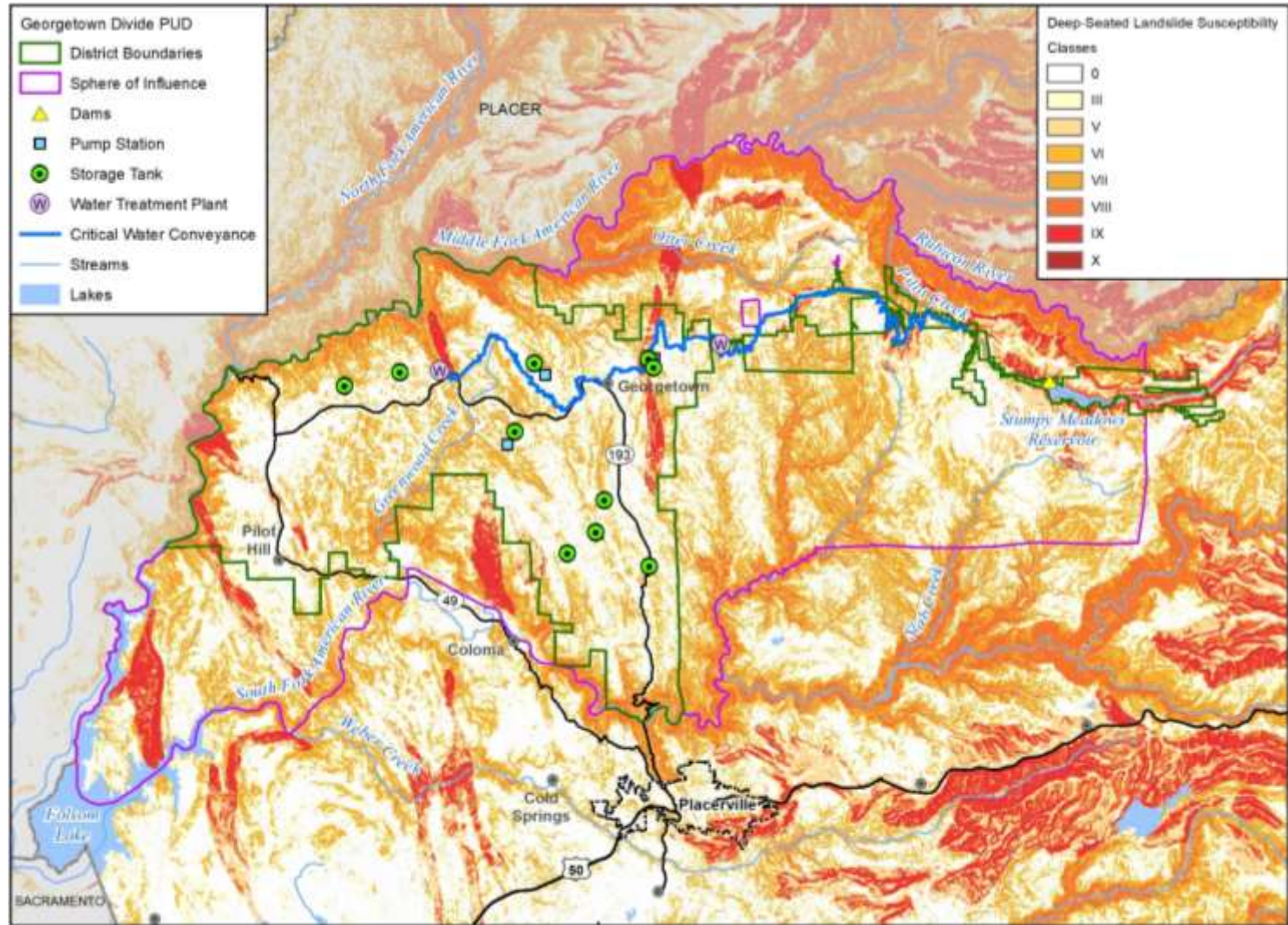


failure on these roads can isolate GDPUD facilities, hindering repair or replacement efforts while alternate means of access are determined.

Customers in isolated and rural areas like Cool, Georgetown, Pilot Hill, and Garden Valley are also at increased risk, as damage to any part of the water infrastructure could cut off their only source of water, leading to secondary effects such as dehydration or decreased hygiene which could lead to increased incidents of disease. Isolation of agricultural activities can further impact the economy if a landslide were to disrupt water services. Some of the rural communities between Greenwood and Cool were also identified as socially vulnerable populations (see Figure D-5). The LPT noted severe landslide events occurring during the 2023 winter weather events impacting the County which made road access difficult as there was road closures and failures.

For a detailed discussion of the risk of debris flows and landslides in GDPUD's service area and the County, please refer to Section 4.3 of the Base Plan.

Figure D-4 Georgetown Divide Public Utilities District Deep-Seated Landslide Susceptibility



Map compiled 4/2024;
Intended for planning purposes only.
Data Source: El Dorado County, Georgetown Divide PUD,
Department of Conservation, California Geological Survey



D.3.3.4 Drought, Water Shortage, and Tree Mortality

As a surface water storage facility, the GDPUD's availability of water from year-to-year hinges solely on annual precipitation, including rainfall and snowpack. Despite this reliance, Stumpy Meadows Reservoir has proven to be a relatively dependable source of surface water for GDPUD, which does not have wholesale water obligations or depend on purchased supplies. As GDPUD relies on a sole source of water, drought and water shortages is a high significance hazard.

Historically, the lowest reservoir level recorded during the second week of April was in 1977 when the reservoir's water storage level was recorded at 11,890 ac-ft. To be conservative, GDPUD elected to use the worst-case single year condition from 1977 as the basis for estimating the worst-case five-year condition in their 2020 Draft UWMP. Calculations show that there is adequate water available for treated use for the next five years based on the worst-case five-year condition described above. The 20-year analysis also shows there would be an adequate supply of treated water based on projected water demands.

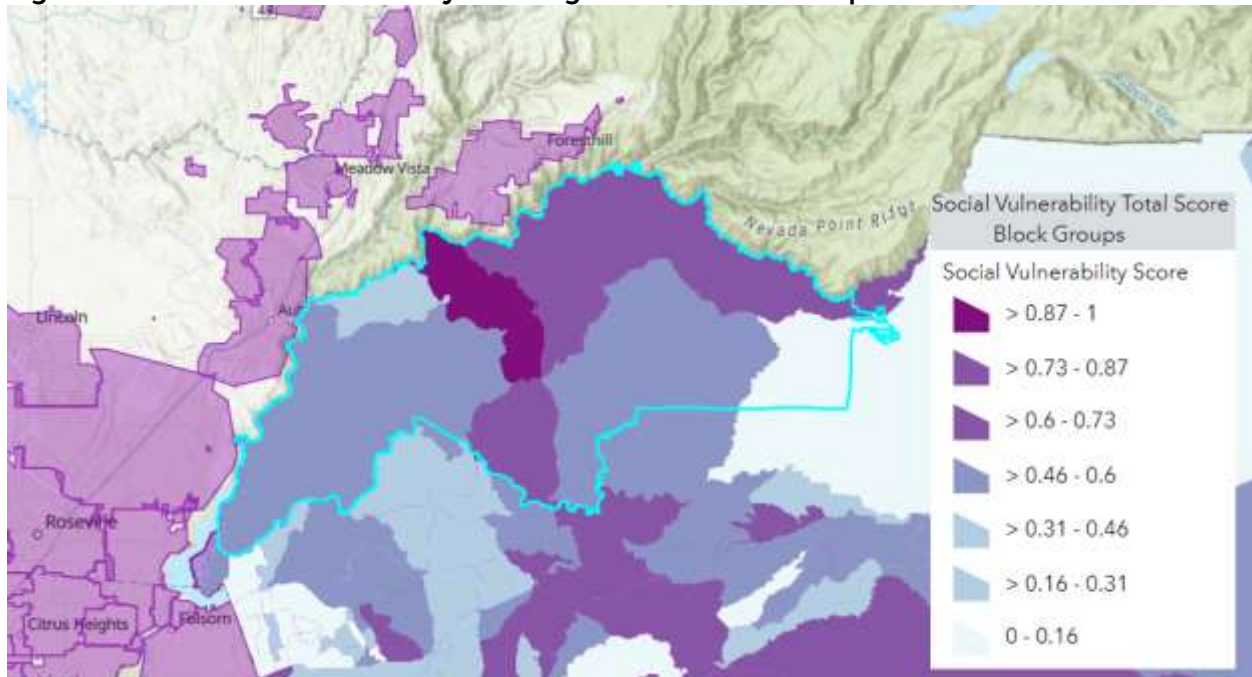
About seventy percent of GDPUD water use is for irrigation water, with annual irrigation demand of approximately 5,000 ac-ft. While the current supply and demand projections do not forecast any water shortages through 2040, in their 2010 UWMP GDPUD states that if there were a supply-demand imbalance, the Board would address the situation by restricting agricultural water use to the amount of water available.

If such a situation were to occur, the water available in the Stumpy Meadows Reservoir could be degraded as reduced water flow can lead to a higher concentration of pollutants due to decreased dilution capacity. Extended periods of drought can also put stress on water infrastructure, including GDPUD pipelines, treatment plants, and pumping stations. Increased demand for water from limited resources can also strain aging infrastructure, leading to increased maintenance costs and increased risk of system failure.

In addition to the costs incurred to GDPUD, drought can have a disproportionate impact on the most vulnerable populations within GDPUD's service area. Several demographic and socioeconomic characteristics of a population have been shown to be associated with a reduced ability to prepare for or otherwise mitigate impacts of drought, water shortage, and other disasters. Social vulnerability to these hazards is influenced by social inequalities, which affect the susceptibility of different groups to harm from hazard events and their ability to respond. Social vulnerability also places inequalities on households and individuals due to the characteristics of communities and the built environment, such as urbanization levels, growth rates, and economic vitality. Figure D-5 shows DWR's Water Shortage Vulnerability Scoring and Tool's total drought social vulnerability score by Census block groups within GDPUD's sphere-of-influence (SOI).

For every Census block group in California with at least one domestic well or State small water system, the mean social vulnerability index score was 0.48, with a standard deviation of 0.29. As can be seen in Figure D-5, the majority of GDPUD's SOI has a social vulnerability index score of 0.46 and higher, meaning that the majority of GDPUD is more socially vulnerable to droughts than the average California census block group.

Figure D-5 Social Vulnerability to Drought within District’s Sphere of Influence



Source: DWR Water Shortage Vulnerability Scoring Tool, 2024.

In addition to the natural variability in water supply, GDPUD will have to prepare for and adapt to the effects of climate change on water supply and demand. The most likely changes to GDPUD may include increased average temperatures and periods of extended drought, as well as intensified storm events. Changes in annual precipitation and temperature could have an impact on the GDPUD’s overall water use as well as available supply volumes.

Climate change impacts identified by the El Dorado Water District’s (EDWA’s) Water Resources Development and Management Plan (WRDMP) include:

- **Water Supply – Demand Imbalance:** The WRDMP found climate change will likely result in increased runoffs during winter months, and reduced snowmelt in spring months. This would likely result in earlier filling of Stumpy Meadows Reservoir and earlier use of storage.
- **Vulnerability During Droughts:** The west-slope generally relies on surface water as a primary source of supply. Similarly, GDPUD relies on a single surface water supply and is geographically isolated from neighboring purveyors. GDPUD employs documents such as the UWMP and drought contingency plans to manage water supplies during periods of drought.
- **Impacts of Wildfires:** In 2022, the Mosquito Fire damaged 3.5 miles of the GDPUD’s upper canal conveyance system and a tunnel that transports raw water. GDPUD also had to address indirect impacts including erosion and landslides.

Additional limitations related to drought planning include:

- **Limited Groundwater Resources:** GDPUD is not planning to use groundwater as a source of water to supplement its sole surface water source because the local ground water resources are not of sufficient quality or quantity to be a viable augmenting resource.

- **Limited Stormwater Resources:** There are no stormwater capture systems located within the GDPUD boundaries and there are no plans to develop such systems. Based on previous studies, stormwater capture is not viable option to augment their water supply.
- **Limited Recycled Water Resources:** There is currently no recycled water being used in GDPUD's service area. GDPUD is the managing entity for the on-site wastewater disposal system in the Auburn Lake Trails Subdivision. Treatment from these systems is limited to septic tank treatment and disposal is mainly via leach fields. GDPUD has studied the feasibility of recycling wastewater and it was determined the development of a recycled water supply from the Auburn Lake Trails Subdivision disposal system is not practical nor economically feasible.

Inevitably, as GDPUD experiences growth and the demand for treated and irrigation water rises, the necessity for a supplemental supply to the Stumpy Meadows Reservoir becomes apparent in order to meet demands. Such a supplemental water supply would not only alleviate the magnitude and frequency of projected water supply deficiencies during critical drought periods, but also enhance overall water service reliability. Historically and presently, GDPUD has been proactive in implementing measures to improve system reliability, enhance water conservation efforts, and optimize available water supply for future needs through its ongoing Capital Improvement Program (CIP).

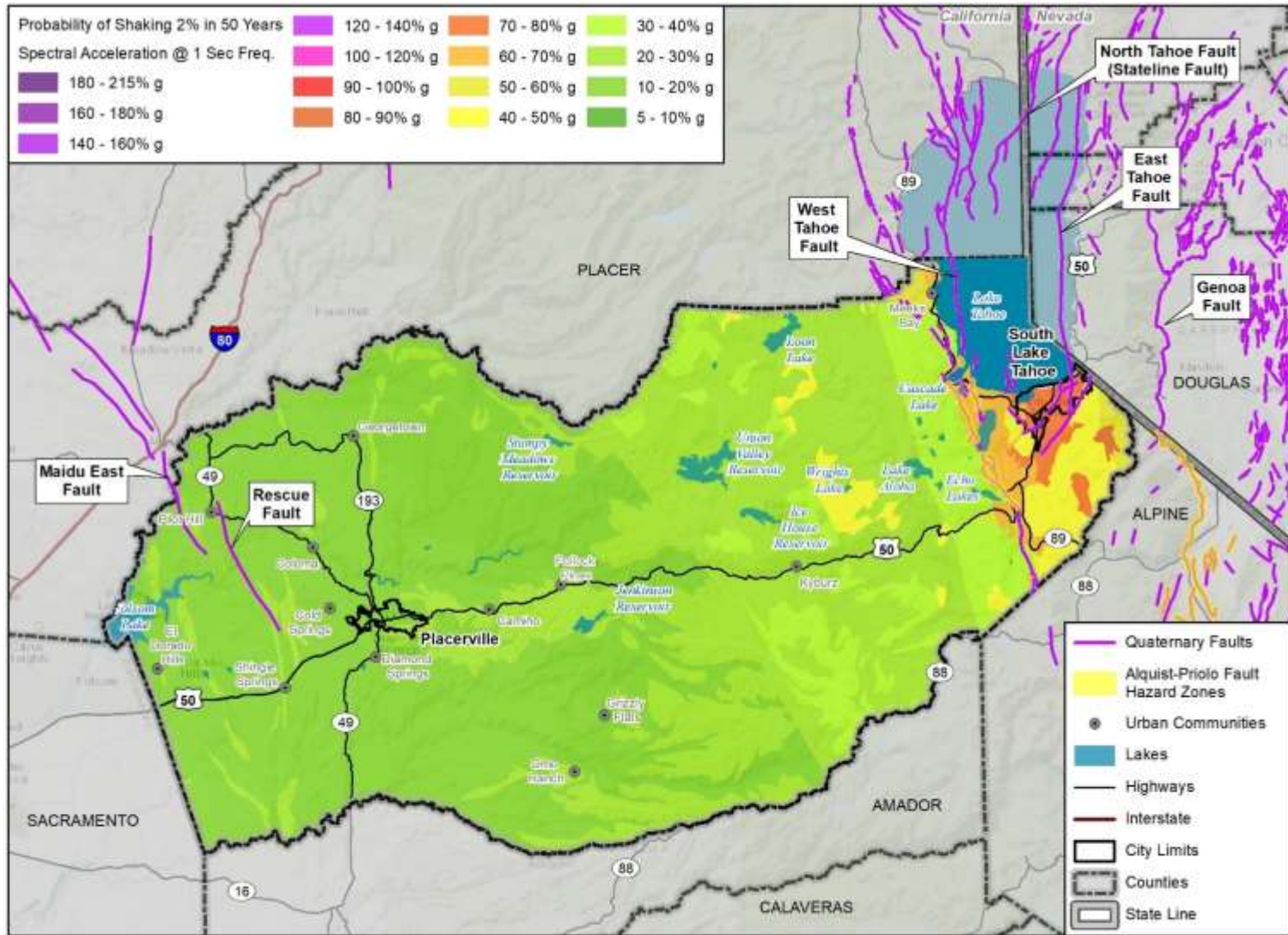
Refer to Section 4.3 of the base plan for a discussion of drought risk relative to GDPUD and County.

D.3.3.5 Earthquake

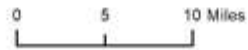
The Rescue Fault and the Maidu East Fault both traverse GDPUD's boundaries. The Rescue Fault and the Maidu East Fault are both part of the Bear Mountains Fault Zone, also called the Foothill Fault System. According to a report by Caltrans, the maximum magnitude of this fault system is 6.5. It is a late quaternary fault, meaning that it was active in the past 700,000 years, although there is no record of movement in recent times. If an earthquake were to occur in the Bear Mountains Fault Zone, the ground shaking potential in GDPUD is expected to be low, see Figure D-6.

Refer to Section 4.3 of the base plan for a discussion of earthquake risk relative to the GDPUD and County.

Figure D-6 Known Fault Lines in the County



wsp Map compiled 1/2024;
Intended for planning purposes only.
Data Source: El Dorado County, California
Geological Survey, USGS



D.3.3.6 Erosion

Erosion poses a potential risk wherever water flows. GDPUD is bounded by the North and Middle Forks of the American River, as well as the Rubicon River on the north, and the South Fork of the American River on the South, see Figure D-2. However, the only GDPUD facility on a waterway is the Stumpy Meadows Reservoir. As the primary supply of GDPUD's water, the Reservoir is closely watched and maintained. Therefore, any erosion will likely be remedied before serious impacts occur.

Erosion may also affect GDPUD indirectly, particularly through the erosion of rural roads that provide access to GDPUD's facilities. These roads often traverse steep slopes and rugged terrain, making them vulnerable to erosion and slope failure, particularly following intense storms. The failure of these roads could isolate GDPUD facilities in need of repair, hindering efforts until alternate access routes are identified.

Refer to Section 4.3 of the base plan for a discussion of erosion risk relative to GDPUD and County.

D.3.3.7 Extreme Heat

While the average maximum summer temperature in the GDPUD averages around approximately 80-90°F, recorded temperatures have reached up to 115°F, see Table D-2.

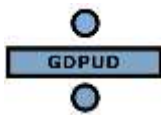
Extreme heat can pose significant challenges to GDPUD, which can impact various aspects of water supply, infrastructure, and public health. Increased water demand during heatwaves strains water resources and infrastructure, leading to potential shortages and pressure issues. This demand surge often stems from heightened outdoor water usage and personal consumption for hydration.

Additionally, drought conditions that have been exacerbated by extreme heat further limits water availability as demand surges. Extreme heat places stress on water infrastructure, causing expansion and contraction of materials, leading to leaks, breaks, and service disruptions, further restricting uncertain supply. Water shortages or disruptions can impede firefighting efforts during wildfires, endangering rural and isolated communities further.

Extreme heat can present health and safety risks to workers maintaining water infrastructure and vulnerable populations susceptible to heat-related illnesses. See Section 4.3.7.7 of the base plan for a discussion of the impacts of extreme heat on populations in the County. Increased energy consumption to meet higher water demand during heatwaves can contribute to green house gas emissions, exacerbating climate change.

Climate change further exacerbates the impacts of extreme heat by leading to more frequent and intense heatwaves, which can result in prolonged periods of extreme heat and increased water demand, straining water resources and identifying the challenges faced by GDPUD in meeting the needs of its customers.

Climate change alters precipitation patterns, leading to more frequent and severe droughts in the County, disrupting water availability, exacerbating water shortages during droughts, and increasing the risk of flooding and erosion during heavy rainfall events, both of which can negatively impacting water infrastructure.

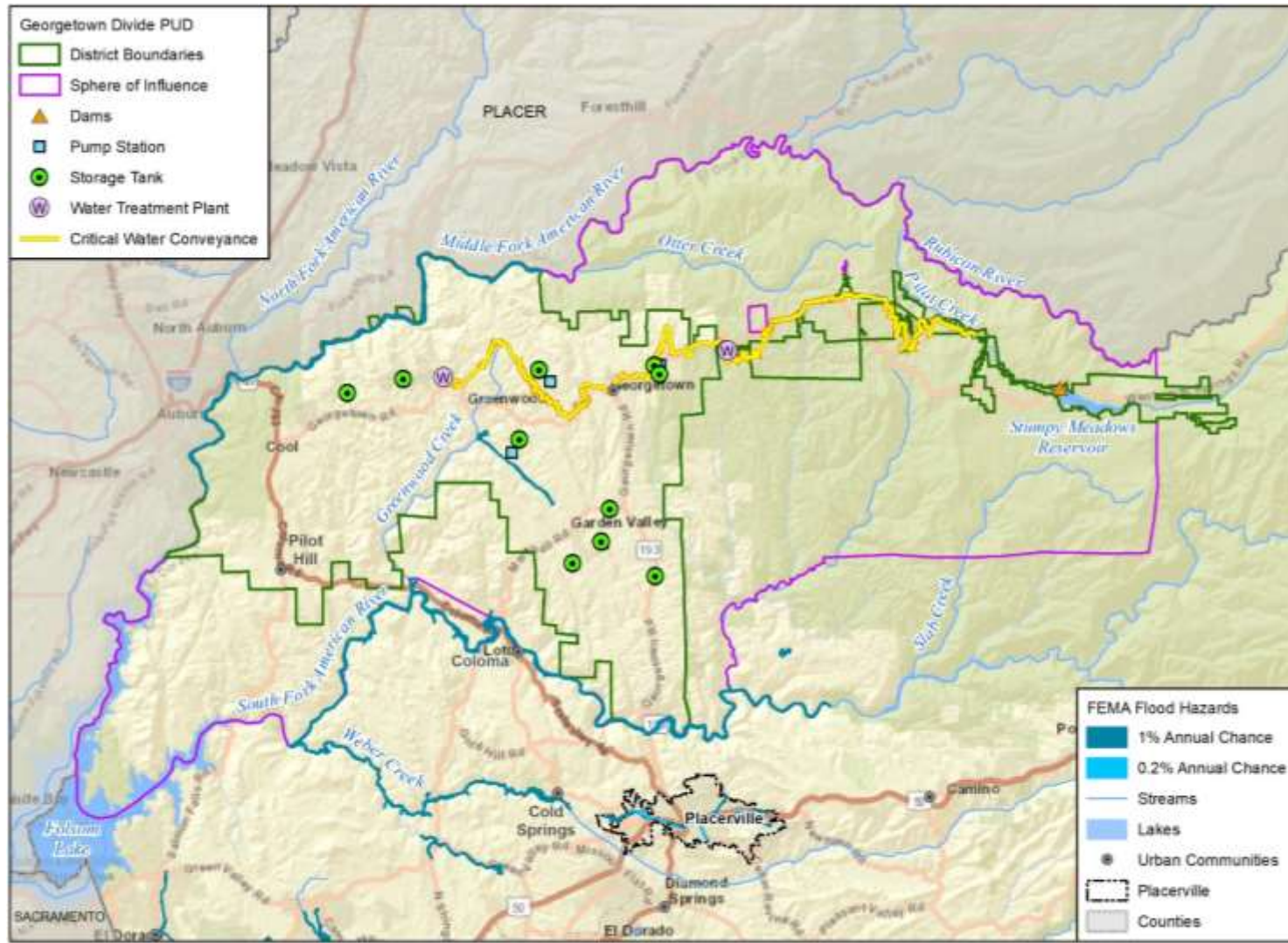


Rising temperatures globally contribute to higher atmospheric and water temperatures, reducing water quality, increasing evaporation rates, and exacerbating water scarcity, further stressing water resources and infrastructure. The increased frequency and severity of wildfires due to climate change also pose significant risks, damaging watershed health, compromising water quality, and impacting water supply sources and infrastructure. Refer to Section 4.3 of the base plan for a discussion of the risk of extreme heat relative to GDPUD and County.

D.3.3.8 Flood

Although there are 1% annual chance floodplains within the GDPUD boundaries, GDPUD does not possess any facilities situated in these flood-prone areas, see Figure D-7. Any potential risk to the GDPUD stemming from these floodplains would likely arise from damage to surrounding areas in the service area. However, GDPUD facilities may also be susceptible to localized flooding. Even if GDPUD facilities remain untouched by flooding associated with the 1% annual chance floodplains, transportation routes to and from these locations could face disruptions, impeding maintenance and repair activities. Flooding might affect the accessibility of essential services and personnel necessary for operating and maintaining water supply systems. Refer to Chapter 4 for a discussion of flood risk relative to GDPUD and County.

Figure D-7 FEMA Flood Hazards Within the Georgetown Divide Public Utilities District



wsp Map compiled 4/2024;
Intended for planning purposes only.
Data Source: El Dorado County, Georgetown Divide PUD,
FEMA NFHL 4/3/2012

0 3.5 7 Miles



D.3.3.9 Seiche (Lake Tsunami)

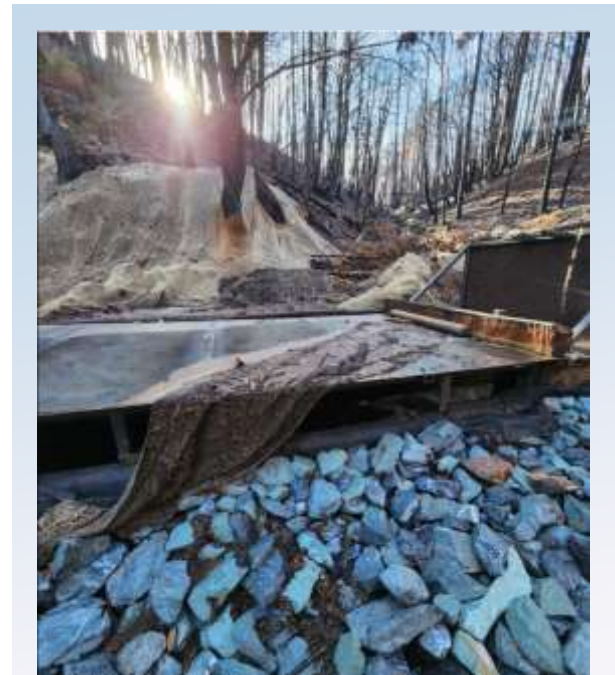
There are no large water basins in GDPUD’s boundaries that are vulnerable to lake seiche. Refer to Section 4.3 of the base plan for a discussion of seiche relative to the County.

D.3.3.10 Severe Weather: Heavy Rain, Thunderstorms, Hail, And Lightning

Heavy rain, thunderstorms, hail, and lightning events can affect a large percentage of people and properties in both the GDPUD and the County. These weather events can also damage infrastructure and shutdown facilities.

Runoff from heavy rain can carry pollutants, debris, and sediments into water sources, affecting water quality and requiring additional treatment. Excessive rainfall can overwhelm drainage systems, causing flooding in treatment plants, pump stations, and storage facilities, potentially damaging equipment and causing shut-downs.

Thunderstorms often cause power outages, disrupting the operation of water treatment plants and pumping stations. Backup power systems may be necessary to maintain operations. Large hailstones can damage infrastructure, such as facility rooftops, pipelines, and storage tanks, potentially leading to leaks and other structural damage. Additionally, hail can damage exposed water sensors, water meters, and monitoring equipment, impairing GDPUD's ability to manage and monitor water systems effectively.



A covering placed over a GDPUD flume allows sediment to pass over instead of going into the flume.

Source: Georgetown Gazette Online, 2023

Direct lightning strikes on facilities or nearby power lines can lead to immediate service interruptions, impacting water supply and treatment processes. Lightning strikes can cause electrical surges, damaging electronic control systems and other critical infrastructure.

Refer to Chapter 4 for a discussion of heavy rain, thunderstorms, hail, and lightning risk relative to GDPUD and County.

D.3.3.11 Severe Weather: Tornadoes and High Wind

Tornadoes and high wind are an overall low significance hazard for GDPUD. While there are not recorded instances of damage to GDPUD infrastructure due to high wind, high wind could cause damage to pipelines, treatment plants, pumping stations, storage tanks, and distribution systems. Strong winds and tornadoes could uproot trees, topple structures, and propel debris, leading to leaks, breaks, and other structural damage. Tornadoes and high winds could also introduce contaminants, debris, and pollutants into water sources, degrading quality, increasing turbidity, and posing risks to public health and safety, requiring additional treatment measures to ensure water safety for customers.

The possible impacts could result in service disruptions and reduced water supply reliability for customers. Broken pipelines, damaged treatment plants, and power outages may prevent GDPUD from supplying water, potentially leading to shortages and emergency response challenges if high winds are combined with wildfires.

Additionally, high winds can pose significant challenges and risks for socially vulnerable populations that are customers of the water district, increasing existing vulnerabilities and creating additional hardships. When high winds occur, they can lead to various hazards such as structural damage, power outages, transportation disruptions, and health concerns, all of which can disproportionately affect vulnerable communities. Given many of the GDPUD customer base live in rural areas of the County, many of these households are more susceptible to high winds than other communities because downed trees and road closures could mean these households are isolated for longer periods of time than communities closer to Placerville.

Refer to Section 4.2 of the base plan for a discussion of the risk of tornadoes and high wind relative to GDPUD and the County.

D.3.3.12 Severe Weather: Heavy Snow and Winter Storms

Although GDPUD receives moderate amounts of snow on an average year, see Table D-2, the cumulative effects of heavy snow or winter storms can still impact GDPUD. An abnormally heavy snow load can weigh down and damage above ground infrastructure such as pipelines, storage tanks, and pumping stations that were not designed to handle such a snow load. Any strong winds that accompany such storms can cause trees and branches to fall onto infrastructure, leading to damage and service disruptions.

Even moderate amounts of snow accumulation or icy conditions can make roads impassable, especially in rural areas. This can hinder access for maintenance crews, delaying response efforts and repair of damaged infrastructure. In remote areas, limited secondary road access can further exacerbate the challenges in reaching affected areas. Winter storms can also disrupt normal operations of water treatment plants and distribution systems, particularly if power outages occur or equipment is damaged by severe weather conditions, leading to service interruptions and reduced water supply reliability for customers.

Snowmelt from heavy snow load accumulation or above-average precipitation can lead to increased runoff, carrying sediment, debris, and pollutants into water sources. This can degrade water quality, increase turbidity, and introduce contaminants, necessitating additional treatment measures to ensure water safety for customers. Overall, heavy snow and winter storms are a medium significance hazard for GDPUD. Refer to Section 4.2 of the base plan for a discussion of winter storm risks relative to GDPUD and the County.

D.3.3.13 Subsidence

There are several known active and abandoned mine sites in GDPUD's jurisdictional boundaries, see Figure 4-48 and 4-49 of the base plan. While the likelihood of subsidence affecting GDPUD facilities is low due to the limited geographical extent of the facilities, the possibility continues to exist in any areas with a history of mining. If subsidence were to occur, it would be more likely to affect access to the facilities through damaging or blocking roads. See Section 4.2 of the base plan for a discussion of the subsidence risk relative to GDPUD and the County.

D.3.3.14 Wildfire

Wildfire is a high significance hazard for GDPUD. The majority of GDPUD's facilities are located in wildfire threat areas, primarily in high and very high wildfire threat areas, see Table D-8 below.

In 2022 GDPUD declared a local emergency due to the damage caused by the Mosquito Fire to its water service infrastructure. The fire, which spanned over 76,700 acres, damaged approximately 3.5 miles of GDPUD's upper canal conveyance system, and charred a wooden flume covering the entrance to a tunnel in the raw water conveyance system.

GDPUD dealt with various challenges associated with the fire, including erosion, post-wildfire landslides, blocked ditches, debris clearance, and system repairs. GDPUD also had

to stabilize roadways, repair drainage points, coordinate with property owners to remove fallen trees for landslide prevention and erosion control, and collaborate with the US Forest Service's Burned Area Emergency Response and Watershed Emergency Response teams to identify stabilization issues and potential hazards.

To address the situation, the GDPUD Board of Directors sought assistance funding, including FEMA emergency protective measures, by filing public assistance applications and infrastructure loss claims. The emergency declaration enabled the allocation of emergency funds for post-fire recovery and stabilization projects, with expenses being tracked for reimbursement through disaster funding programs.

The Stumpy Meadows Reservoir is surrounded by high and moderate fire threat areas, it also incurred damage from the 2014 King Fire. The fire did not directly damage GDPUD facilities, the rural nature and limited access to the Stumpy Meadows Reservoir strained emergency response resources, making the fire harder to extinguish. Table D-8 summarizes GDPUD facilities at risk to very high, high, moderate, and low wildfire risk.

Future fires may damage or destroy infrastructure, including pipelines, treatment plants, pumping stations, and storage tanks. Heat from fires could also melt pipes, warp equipment, and compromise the integrity of structures. This can disrupt normal operations, particularly if power outages occur or if equipment is damaged. Projected wildfire risk is also forecasted to worsen with climate change, particularly from increased temperatures.

Additional impacts can include impacts on water quality of supply. The release of ash, sediment, and other pollutants into water sources can degrade water quality, increase turbidity, and introduce contaminants to the water supply, posing risk to public health and requiring additional treatment measures to ensure water safety for consumers. Public health



This image captures the King Fire actively burning through Stumpy Meadows Campground located on Stumpy Meadows Reservoir on October 1, 2014.

Source: U.S. Forest Service Region 5 for the Land Processes Distributed Active Archive Center

risk that impact the quality of drinking water and air quality may have a particularly greater effect on socially vulnerable populations in GDPUD’s service area, especially the elderly, young children, and those with pre-existing health conditions. Wildfires may also damage watersheds and reduce water availability in rivers and streams, leading to decreased water flow, increased sedimentation, and changes in water quality.

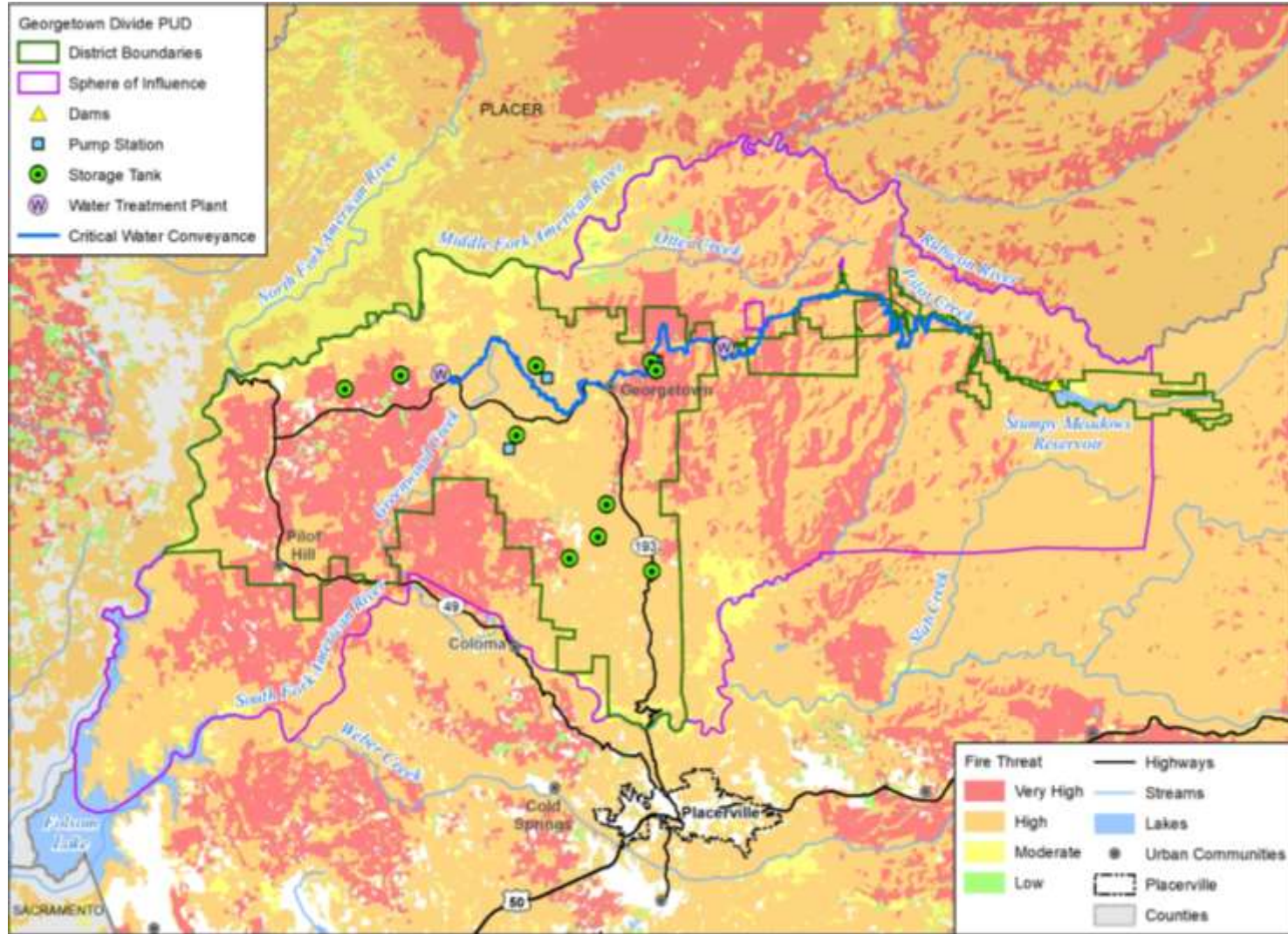
Refer to Section 4.2 of the base plan for a discussion of wildfire risk relative to GDPUD and the County.

Table D-8 District Facilities in Wildfire Threat Zones

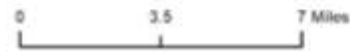
WILDFIRE THREAT	FACILITY TYPE	NAME
Very High	Dam	Georgetown Control Dam
	Pump Station	Hotchkiss Hill Sub. Booster Pump Station
	Storage Tank	Angel Camp Tank
		Hotchkiss Hill
		Hotchkiss Hill Sub.
		Kelsey Tank
High	Pump Station	Black Ridge Pump Station
		Irish Ln Pump Station
		Reservoir Road Pump Station
	Storage Tank	Black Oak Mine Tank
		Deer Ravine Tank
		Garden Park Tank
		Irish Lane Tank #1 & #2
		Spanish Dry Diggins Tank
		WLT Walton #1
Moderate	Storage Tank	Black Ridge Tank
Low	Pump Station	Angel Camp Pump Station

Source: CAL FIRE, FRAP, El Dorado County, GDPUD

Figure D-8 Georgetown Divide Public Utility District Wildfire Threat Areas



Map compiled 4/2024;
Intended for planning purposes only.
Data Source: El Dorado County, Georgetown Divide PUD,
EDCOE, California Department of Education, HIFLD, CALFIRE, FRAP



D.4 CAPABILITY ASSESSMENT

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts. To develop this capability assessment, the jurisdictional planning representatives on GDPUD’s LPT reviewed a matrix of common mitigation activities to inventory which of these policies or programs and shared any updates or changes through the GDPUD Plan Update Guide. The GDPUD LPT then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contribute to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional planning representatives and WSP consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. Additionally, in summarizing current capabilities and identifying gaps, the GDPUD’s LPT considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. GDPUD’s capabilities are summarized below.

D.4.1 Regulatory Capability

The regulatory and planning capabilities table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table D-9 identifies those regulatory and planning capabilities specific to GDPUD. As GDPUD defers to County building and zoning codes, they are not listed as a regulatory tool used by the District. However, since GDPUD has a District specific Capital Improvement Plan, that and other applicable planning capabilities, such as irrigation ordinances, water connection ordinances, and assessment levy policies are listed.

Table D-9 GDPUD—Regulatory and Planning Capabilities

REGULATORY TOOL (ORDINANCES, CODES, PLANS)	YES/NO	COMMENTS
General Plan	No	
Zoning ordinance	No	County Title 130 Zoning Articles 1-9
Subdivision ordinance	No	County Title 120 Subdivision Chapters 120.04 through 120.76
Growth management ordinance	No	
Floodplain ordinance	No	County Chapter 130.32 Flood Damage Prevention
Other special purpose ordinance (stormwater, steep slope, wildfire)	No	County Title 8 Public Health and Safety Chapter 8.79 Stormwater Quality
Building code	No	County Title 110 Building and Construction Chapter 110.04 through 110.80
Fire department ISO rating	No	
Erosion or sediment control program	No	County Title 110 Buildings and Construction Chapter 110.14 Grading, Erosion, and Sediment Control
Stormwater management program	No	Storm Water Management Plan (SWMP) for Western El Dorado County

REGULATORY TOOL (ORDINANCES, CODES, PLANS)	YES/NO	COMMENTS
Site plan review requirements	No	County Title 130 Zoning Articles 1-9
Capital improvements plan	Yes	Capital Improvement Plan 2019/2020 to 2023/2024
Economic development plan	No	
Local emergency operations plan	No	GDPUD Emergency Response Plan, included in the Water Shortage Contingency Plan
Other special plans	Yes	El Dorado County Water Agency Water Resources Development and Management Plan
Flood insurance study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	
Other		2020 Urban Water Management Plan 2007 Drought Action Plan

EDWA Upper American River Basin Regional Drought Contingency Plan (2023)

Lays out a plan to increase the resiliency of water resources in the face of future climate change conditions and droughts for the El Dorado County area west of the Sierra Nevada Crest (i.e., the West Slope). The 2021 Caldor Fire, a federally-declared disaster, and the ongoing drought, after only a few years of respite from the 2012-2016 drought, are a constant reminder to water managers and consumers in the West Slope of the severe vulnerabilities faced during droughts. The three major public water agencies in the West Slope have drought plans which establish drought stage water supply conditions and ways to respond to those varying conditions when needed. Their water supplies rely mainly on the American River and local streams, of which the reliability is threatened by climate change and reduction in snowpack. These three major public water agencies only serve a small portion of the West Slope. The remainder of the West Slope (termed Other County Area [OCA]) instead relies on water from small water systems or domestic wells which are predominately supplied by fractured rock groundwater or local springs. Understanding how droughts affect all areas throughout the West Slope and laying out a plan to mitigate and respond to those effects are imperative, and the plan helps accomplish this.

EDWA Water Resources Development and Management Plan (2019)

Through the 1959 El Dorado County Water Agency Act, the El Dorado County Water Agency's (EDCWA or Agency) mission is to ensure that El Dorado County has adequate water for today and in the future. The Agency's responsible area covers the entire El Dorado County, on both sides of the Sierra Nevada in the Tahoe Basin as well as the West Slope foothill area (West Slope). This diverse landscape has headwaters and national forests with some urbanization and general rural-agricultural surroundings. This 2019 update of the Water Resources Development and Management Plan (WRDMP) marks a new beginning of the Agency's service to El Dorado County. It reflects the Agency's progression toward countywide long-term water security and a renewed focus on advancing integrated water management to realize the vision of the General Plan adopted by the County of El Dorado (County) for economic development, environmental protection, and quality of life for all residents.

Capital Improvement Plan (2019-2024)

A multi-year planning instrument to guide the construction of new facilities/infrastructure; and for the expansion, rehabilitation or replacement of existing District assets. The five-year CIP is developed by Staff and adopted by the Board of Directors, then becomes the guiding document for the prioritization of projects. The information included in the CIP is based on the

current information available and updated regularly to reflect changing priorities, funding availability and project completion. A new five-year CIP will be submitted to the Board annually with recommended adjustments to project budgets, funding sources, descriptions, and/or schedules. Inclusion of a project in the CIP does not commit GDPUD to specific expenditures or appropriations for any particular project. The CIP includes all projects and programs expected to be undertaken during the next five fiscal years. Specific projects and related schedules are selected based upon: availability of funding, minimizing disruptions associated with construction activity, and based on Board direction. Approximately \$8.6 million in CIP programs and projects over the next five years have been identified.

Urban Water Management Plan (2020)

GDPUD’s latest published UWMP is the 2020 Draft UWMP. Since the adoption of the 2010 UWMP, projections have been updated using the latest science, showing that GDPUD now has sufficient resources to maintain a water surplus through all single and multiple dry year scenarios through 2040. The UWMP describes the water conservation measures that are in place, with thresholds established to ensure demand is met during droughts. These water conservation measures are also outlined in GDPUD’s 2021 Water Shortage Contingency Plan (Chapter 8 of the 2020 UWMP).

The focus of GDPUD’s conservation efforts is on managing annual raw irrigation water deliveries, which make up about 70% of the GDPUD’s water supply. GDPUD policies mandate annual evaluations of water supply to allow adjustments in deliveries to meet health and safety priorities and ensure a consistent supply of safe drinking water to customers. Additionally, GDPUD continually assesses demand measurement methods to ensure water supply remains adequate and reliable, especially with projected increases in demand.

Drought Action Plan (2007)

GDPUD’s Drought Action Plan provides actions to prevent drought and maintain water supply during drought periods. This plan was last updated in 2007.

D.4.2 Administrative and Technical Capability

Table D-10 identifies District’s personnel with responsibilities for activities related to mitigation and loss prevention in GDPUD. Many positions are full time and/or filled by the same person. A summary of technical resources follows. The comment column notes whether the capability is currently used, whether mitigation actions from the existing HMP were integrated the roles and responsibilities of personnel duties, and whether there are future opportunities to expand or improve GDPUD’s personnel resources.

Table D-10 District –Personnel Capabilities

PERSONNEL RESOURCES	YES/NO	DEPARTMENT/POSITION	COMMENTS
Emergency Manager	Yes	Operations Manger	
Emergency Manager			
Floodplain Administrator	No		
Community Planning:	No		
- Planner/Engineer (Land Development)	No		
- Planner/Engineer/Scientist (Natural Hazards)	No		
- Engineer/Professional (Construction)	Yes	Operations Manager	Consultant Support
- Resiliency Planner	Yes	Operations Manager	Consultant Support

PERSONNEL RESOURCES	YES/NO	DEPARTMENT/POSITION	COMMENTS
- Transportation Planner	No		
Full-Time Building Official	No		
GIS Specialist and Capability	Yes	Operations Manager	Consultant Support
Grant Manager, Writer, or Specialist	Yes	Operations Manager	Consultant Support
Housing Authority	No		
Warning Systems: (list the hazards each system is used for)	No		
- Sirens	No		
- Reverse 911	No		
- IPAWS/Wireless Emergency Alerts (WEA)	No		
- Opt-In Notifications (CodeRed, Everbridge, etc.)	No		
- Other system	Yes	Administrative	WaterSMART Software
Other?			

The GDPUD's Mission Statement is to:

- Provide reliable water supplies
- Ensure high quality drinking water
- Promote stewardship to protect community resources, public health and quality of life
- Provide excellent and responsive customer services through dedicated and valued staff
- Ensure fiscal responsibility and accountability are observed by balancing immediate and long term needs

Board Members

GDPUD operates under a five-member Board of Directors elected at-large for four-year overlapping terms. GDPUD's management is under the direction of the General Manager, Clerk, and ex-officio Secretary to the Board, who is appointed by and serves at the pleasure of the Board.

Financial Advisory Committee

The Finance Committee was established as an advisory body to the Board on matters related to GDPUD's finances, budgeting, auditing, financial policies, and reports. The Finance Committee meets the 4th Thursday of every month at 3:00 p.m. at GDPUD office. Meetings are open to the public. Due to its advisory nature, the Committee and its members have no authority to set policy, expend funds, or make obligations on behalf of the Board and/or GDPUD. Committee members are appointed by the Board of Directors. Committee officers are elected by committee members.

Irrigation Advisory Committee

The Irrigation Committee was established in January 2020 to provide recommendations to the Board of Directors on matters related to GDPUD's Irrigation services and allow Irrigation customers an opportunity to provide feedback to this committee. The committee meets on the 3rd Tuesday of every month at 2:00 p.m. The Committee is advisory in nature and has no

authority to set policy, expend funds, or make obligations on behalf of the Board and/or GDPUD.

General Manager

A critical leadership role responsible for overseeing all aspects of GDPUD's operations. Reporting directly to the Board of Directors, the General Manager is tasked with developing and implementing strategic plans, goals, and objectives that align with GDPUD's mission and vision. This includes managing financial aspects such as budgeting, revenue management, and expenditure control to ensure fiscal responsibility and sustainability. The General Manager also plays a key role in regulatory compliance, ensuring adherence to local, state, and federal regulations governing water and wastewater utilities, environmental standards, and public health requirements. In addition to overseeing day-to-day operations across departments like administration, engineering, operations, and customer service, the General Manager fosters positive relationships with customers, stakeholders, and community members through effective communication and engagement.

Operations Manager

Responsible for overseeing the day-to-day operational activities of the utility district. Reporting to the General Manager, the Operations Manager plays a vital role in ensuring the efficient delivery of water and wastewater services to the community. This includes managing and supervising all aspects of utility operations, such as water treatment, distribution, wastewater collection, and infrastructure maintenance. The Operations Manager ensures compliance with regulatory standards related to water quality, environmental protection, and public health. Additionally, the position involves coordinating with internal teams and external stakeholders to optimize asset management strategies, enhance system reliability, and implement emergency response plans.

Office/Financial Manager

Responsible for overseeing financial operations and administrative functions crucial to GDPUD's efficiency. This position requires strong financial management skills to develop and maintain financial systems, including budgeting, forecasting, revenue management, and expenditure tracking. The Office/Financial Manager collaborates with department heads to prepare and monitor annual budgets, ensuring compliance with accounting principles and regulations. Additionally, managing accounts payable and receivable, payroll administration, and financial reporting are central responsibilities of this role. The Office/Financial Manager also provides administrative support, coordinates audits, and contributes to financial planning and analysis efforts.

Water Resources Manager

Responsible for overseeing the management, conservation, and sustainability of GDPUD's water resources. This role involves developing and implementing strategies to efficiently manage both surface water and groundwater sources while ensuring compliance with water quality regulations and environmental standards. This position involves leading water conservation initiatives, education campaigns, and incentive programs to promote responsible water use and reduce water waste within the community.

Human Resources/IT Specialist

A multifaceted position that bridges the essential functions of managing human capital and overseeing information technology systems within the organization. This role involves a diverse range of responsibilities, starting with HR functions such as recruitment, employee onboarding,

training and development, performance management, and compliance with labor laws and regulations. The HR aspect also includes managing employee benefits, handling payroll processes, and fostering a positive work environment through effective communication and employee engagement initiatives.

Simultaneously, the IT aspect of the role involves managing the organization's information technology infrastructure, including hardware, software, networks, and data security. The IT Specialist oversees the installation, configuration, and maintenance of IT systems, troubleshoots technical issues, and implements cybersecurity measures to protect sensitive data and systems. They also provide technical support to employees, ensuring smooth operation of IT resources and assisting in technology-related training initiatives.

D.4.3 Fiscal Capability

Table D-11 identifies financial tools or resources that GDPUD could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

Table D-11 Available Financial Tools and Resources

FINANCIAL RESOURCES	ACCESSIBLE/ ELIGIBLE TO USE	HAS THIS BEEN USED FOR MITIGATION IN THE PAST?	COMMENTS
Ability to fund projects through Capital Improvements funding	Yes	Yes	
Ability to incur debt through general obligation bonds	No	-	
Ability to incur debt through private activities	No	-	
Ability to incur debt through special tax bonds	No	-	
Authority to levy taxes for a specific purpose with voter approval	No	-	
Authority to withhold spending in hazard prone areas	Yes	-	
Community Development Block Grants	Yes	Yes	
FEMA Hazard Mitigation Assistance grants	Yes	Yes	
FEMA Public Assistance funds	Yes	Yes	
Stormwater Service Fees	No	-	
System Development Fee	Yes	Yes	
Utility fees (water, sewer, gas, electric, etc.)	Yes	Yes	
Other	No	-	

D.4.4 Outreach and Partnerships

GDPUD continually works with EDWA to develop planning documents and procedures that relate to hazard mitigation efforts with community-based organizations. GDPUD also works with private landowners when completing select projects.

D.4.5 Other Mitigation Efforts

The County Sheriff's Department provides emergency preparedness support for GDPUD.

D.4.6 Opportunities for Enhancement

Based on the capability assessment, GDPUD has existing regulatory, administrative/technical, fiscal mechanisms in place that help to mitigate hazards. In addition to these existing capabilities, there are opportunities for GDPUD to expand or improve on these policies and programs to further protect the community. These are organized below by regulatory, administrative/technical, fiscal, and outreach opportunities.

D.4.6.1 Regulatory Opportunities

The GDPUD is prioritizing the revision and strengthening of regulatory frameworks. This involves a multifaceted approach, beginning with comprehensive risk assessments and GIS mapping to identify vulnerable areas. Future enhancements related to hazard mitigation may build off these assessments to develop an erosion or sediment control program, enhanced building codes, or a floodplain ordinance update, both at the County level.

D.4.6.2 Administrative/Technical Opportunities

Other future enhancements may include providing hazard training for staff or hazard mitigation grant funding in partnership with El Dorado County and Cal OES. Existing District staff are aware of the benefits of participating in training and webinars offered by Cal OES Hazard Mitigation Assistance (HMA) Team related to Hazard Mitigation Grant Program (HMGP) opportunities, HMGP Sub application Development support, and other funding programs, such as Prepare California Jumpstart. Other opportunities may be related to coordinating and educating key stakeholders in GDPUD. Other stakeholders may be interested in aligning efforts related to hazard mitigation and also supporting HMGP Sub applications and other hazard mitigation trainings.

D.4.6.3 Fiscal Opportunities

GDPUD can update other plans, such as their CIP to incorporate hazard information and include hazard mitigation actions and climate adaptation strategies that relate to infrastructure systems resiliency associated with the water and wastewater systems. Once projects related to hazard mitigation are approved, the most recent Capital Improvement Plan (CIP) can be shared with the community on GDPUD's webpage. Capital investments and improvements related to seismic retrofits, cooling center upgrades, and WWTP upgrades should all be emphasized in the outreach materials as they are related to hazard mitigation. GDPUD should also apply for HMGP grants to fund implementation costs associated with key CIP projects, and related projects in GDPUD's mitigation strategy. These fiscal capabilities may be supported by District staff or augmented with Consultant staff.

D.4.6.4 Outreach Opportunities

GDPUD can expand their outreach capabilities related to the implementation of the 2023-2028 El Dorado County MJHMP and the GDPUD Annex. Specific enhancements may include continued public involvement through social media posts and advertisements focused on projects successes related to the Annex Mitigation Strategy as well as focused outreach to under-represented and special-interest groups in GDPUD. GDPUD can also develop outreach kits for partner organizations by expanding on the information include in the MJHMP Outreach Strategy included in Appendix F.

D.5 MITIGATION STRATEGY

D.5.1 Goals and Objectives

GDPUD adopted the hazard mitigation goals and objectives developed by the HMPC and described in Section 5 Mitigation Strategy of the Base Plan. Like the Mitigation Strategy in the Base Plan, this section outlines GDPUD's roadmap for future hazard mitigation administration and implementation. The purpose of the strategy is to reduce vulnerabilities from key priority hazards outlined in the risk assessment through regulatory tools and projects.

D.5.2 Continued Compliance with the NFIP

The National Flood Insurance Program (NFIP) does not apply to GDPUD as they do not have any land parcels in floodplains. As such, there are no repetitive loss structures under jurisdiction of GDPUD.

D.5.3 Mitigation Actions

As part of the 2024 planning process GDPUD's LPT developed a list of new hazard mitigation actions or projects specific to GDPUD based on the risk assessment, goals, and objectives. The process used to identify, develop, and prioritize these actions is described in Chapter 5 of the Base Plan. GDPUD's LPT identified and prioritized 16 actions, as summarized in Table D-12.

Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described. Per the DMA requirement, actions have been identified that address reducing losses to existing development as well as future development. Because the GDPUD's did not participate in the 2019 LHMP, the LPT did not have existing mitigation actions to review and did not provide status updates on past hazard mitigation planning efforts.

The mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of GDPUD to implement over the next five years covered by this plan. GDPUD has focused on identifying those projects which are realistic and reasonable for them to implement. If future projects are identified for significant hazards where GDPUD has the capacity to implement, GDPUD will add those projects to their Annex. The GDPUD also recognizes that other mitigation actions proposed in the County's mitigation strategy will cover the significant hazards in GDPUD's service area that are not currently linked to a mitigation action.

The Cost Estimate column describes the estimated project costs using the following categories:

- **Little to no cost**
- **Low:** Less than \$10,000
- **Moderate:** \$10,000-\$100,000
- **High:** \$100,000-\$1,000,000
- **Very High:** More than \$1,000,000

The Timeline column describes the estimated time of completion for each project using the following categories:

- **Short Term:** 1-2 years
- **Medium Term:** 3-5 years

- **Long Term:** 5+ years
- **Ongoing:** action is implemented every year

The Status/Implementation Notes column that describe progress made on the actions so far, using the following categories, and, where applicable, notes if there were changes in the priority level from the previous plan:

- **Not Started:** Action is carried over from the previous plan; little to no work has begun.
- **In Progress:** Action is carried over from the previous plan; work has begun but not completed.
- **Annual Implementation:** Action is carried over from the previous plan; Ongoing with no specific end date.
- **New in 2024:** The Action is new to this plan update; little to no work has been completed.

Table D-12 Georgetown Divide Public Utility District Mitigation Action Plan

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
GPUD-1	1, 2, 3, 4	Debris Flow and Landslide, Erosion	Reduce Erosion And Debris Flows. Along Upper Canal. Issue burned areas. Steep slopes. Unstable soils. Open water conveyance canals; Limit the number of debris or sediment into the canal.	GDPUD	GDPUD (Lead Agency), County EDWA	Very High	CAL FIRE and Cal OES Grants, Sierra Nevada Conservancy	Water Systems	Medium	Short-Term	New in 2024
GPUD-2	3, 4, 5	Extreme Heat, Drought	Redundant Electrical Supply. District has one supply for electrical power for 210,000 customers. A second source would benefit the district in the event of failure.	GDPUD	GDPUD (Lead Agency), County EDWA	High	FEMA BRIC, CALFIRE	Water Systems	High	Medium-Term	New in 2024
GPUD-3	1, 2, 4, 5	Wildfire	Distribution System Protection. Clear vegetation surrounds critical facilities (Treatment Plants/ Storage tanks).	GDPUD	District Staff (Lead Agency), County EDWA, Fire Safe Councils/Districts	High	Community Power Resiliency Allocation Program, EMPC, FEMA HMA HMGP, BRIC, SHSGP Grant Program, HMGP, BRIC	Water Systems	High	Short-Term	New in 2024
GPUD-4	1,2	Dam Failure, Flood	Annual Canal Lining Program. Prioritized repair and lining of water conveyance canals and ditches.	GDPUD	GDPUD (Lead Agency), County Long Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$150,000.00. An additional \$100,000 is allocated each fiscal year until 2026/2027.	Water Systems	High	Ongoing	New in 2024
GPUD-5	1,2	Flood, Erosion, Severe Weather: Heavy Rain, Hail, Lightning, Tornadoes and High Wind, Heavy Snow and Winter Storms	Replace Pump Stations. Replacement of aging pump stations.	GDPUD	District Staff (Lead Agency), County Long Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$50,000.00. An additional \$12,000 is allocated each fiscal year until 2026/2027.	Water Systems	High	Ongoing	New in 2024

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
GPUD-6	1,3,4	Flood, Erosion, Severe Weather: Heavy Rain, Heavy Snow	Sweetwater Treatment Plant Storage Tank. Install a two-million-gallon storage tank adjacent to Sweetwater Treatment Plant.	GDPUD	District Staff (Lead Agency), County Longe Range Planning, County EPR, County EDWA	High	GDPUD Funded: \$3,000,000.	Water Systems	High	Ongoing	New in 2024
GPUD-7	1,2	Flood, Erosion, Severe Weather: Hail and Lightning, Extreme Heat, Wildfire	Angel Camp Tank Recoating. Project. Will clean and recoat Angel Camp Storage Tank to maintain high water quality.	GDPUD	County Longe Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$366,800.00	Water Systems	High	Ongoing	New in 2024
GPUD-8	1,2,3	Flood, Erosion, Severe Weather: Heavy Rain, Hail, Lightning	Treated Water Line Replacement. Projects will include treated water line replacements.	GDPUD	District Staff (Lead Agency), County Longe Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$300,000.0, An additional \$50,000 is allocated each fiscal year until 2026/2027.	Water Systems	High	Ongoing	New in 2024
GPUD-9	1,2,3,4	Drought	Parshall Flume. This project allocates \$20,000 for the installation of Parshall Flumes along the raw water canal.	GDPUD	District Staff (Lead Agency), County Longe Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$20,000.00	Water Systems	High	Ongoing	New in 2024
GPUD-10	1,2	Flood, Erosion, Severe Weather: Heavy Rain, Hail, High Wind and Tornado	Tunnel Hill Inspection and Lining. Inspect Tunnel Hill raw water conveyance tunnel to access condition.	GDPUD	District Staff (Lead Agency), County Longe Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$65,000.00	Water Systems	High	Ongoing	New in 2024
GPUD-11	1,2	Flood, Erosion, Severe Weather: Heavy Rain, Thunderstorms, Lightning, and Hail, Tornadoes and High Wind, Heavy	Wastewater Lift Station Upgrade. Upgrade wastewater lift station for increased capacity and replace worn out components that have been exposed to long-term severe weather.	GDPUD	District Staff (Lead Agency), County Longe Range Planning, County EPR, County EDWA	Medium	GDPUD Funded: \$150,000	Safety and Security	High	Ongoing	New in 2024

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
		Snow and Winter Storms									
GPUD-12	1,2	Dam Failure	Mark Edson Dam Spillway Facility Rehabilitation and Mitigation. Spillway underdrain is again and may need rehabilitation and mitigation. Spillway assessment identified the need to evaluate the spills underdrain system. Failure could threaten integrity of Dam.	GPUD	District Staff (Lead Agency County EDWA	High (\$5M)	GPUD	Safety and Security, Water Systems	Low	Short Term	New in 2024
GPUD-13	1,2,3	Debris Flows, Severe Weather: Heavy Rain, Heavy Snow Flood	Debris Flows Mitigation Along Upper Canal. Approximately 5-7 miles of the Districts upper canal is located within a high slope area that is threatened by debris flows. The debris flows and be contributed to longer term slope equilibrium process, water conveyance or weather events. Piping would protect the system from severe rain events. The water conveyance system along this area is the sole source for the Water District	GPUD	District Staff (Lead Agency) County EDWA	High (\$10-\$20M)	FEMA HMGP, USDA, USBR, FEMA BRIC, Local funds	Safety and Security, Water Systems	High	Medium Term	New in 2024
GPUD-14	1,2	Drought, Extreme Heat, Wildfire, Flood	Water Reliability. The District relies on one main source of water supply to serve the community. Water reliability would include developing a second source to mitigate long-term	GPUD	District Staff (Lead Agency) County EDWA	High (\$50-\$100M)	FEMA BRIC, USDA, Local funds	Safety and Security, Hydration, Water Systems	High	Long Term (15-20 Years)	New in 2024

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
			droughts or extreme heat where supplies would be stressed. Additional supplies could be developed from a second reservoir or pumping facility.								
GPUD-15	1,3	Debris Flows, Flood, Drought Extreme Heat, Wildfire, Subsidence	Construct Rubicon River Diversion Conveyance System from South Fork Rubicon to Pilot Creek upstream of Stumpy Meadows Reservoir. Construct a gravity diversion conveyance system from the South Fork of the Rubicon to Pilot Creek upstream of Stumpy Meadows Reservoir. It will require the Agency to negotiate with SMUD under the reopener provision of the El Dorado-SMUD Cooperation Agreement and would likely require payment to SMUD. This will provide water supply redundancy and improve water supply reliability, particularly during dry year conditions.	GDPUD	District Staff	High	FEMA BRIC, SMUD, County EDWA	Safety and Security, Water Systems	High	Long Term	New in 2024
GPUD-16	1,2	Earthquake	GDPUD Earthquake Mitigation for All Water Systems. The District should ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to	GDPUD	District Staff (Lead Agency) DWR	High	FEMA HMA, BRIC, USACE	Safety and Security; Health and Medical	Medium	Medium Term	New in 2024

ID	LINKS TO GOALS	HAZARD(S) MITIGATED	DESCRIPTION/ BACKGROUND	JURISDICTION	LEAD AGENCY AND PARTNERS	COST ESTIMATE	POTENTIAL FUNDING	FEMA LIFELINE	PRIORITY	TIMELINE	IMPLEMENTATION STATUS
			withstand seismic shaking and the effect of seismically induced ground failure.								
GPUD-17	1,2,3,4	Flood	Improve Grading and Drainage around Water Treatment Plants, Storage Tanks, and Pump Stations. Monitor annual conditions around GDPUD facilities in order to track and mitigate flooding impacts and address through grading, stabilization, and drainage improvements.	GDPUD	District Staff (Lead Agency), EDWA	Low	FEMA HMA, BRIC	Safety and Security	Low	Long-Term	New in 2024
GPUD-18	1,3,4	Extreme Heat	Harden Water Facilities and Electrical SCADA Communications Systems. GDPUD facilities may lack necessary retrofits and need to be upgraded. Electrical, SCADA, and communication systems that are located outdoors are also susceptible to extreme heat and severe weather hazards. These facilities also lack roofing, windows, siding, and other enclosures making them more vulnerable to high temperatures and weather. This action would involve adding construction materials to improve exposure to extreme heat.	GDPUD	District Staff (Lead Agency)	Low	FEMA HMA	Safety and Security	Low	Long-Term	New in 2024

Acronyms and abbreviations referenced above are defined below:

- BRIC – Building Resilient Infrastructure and Communities
- CAL FIRE - California Department of Forestry and Fire Protection

- DWR – Department of Water Resources
- CDBG – Community Development Block Grant
- GDPUD/GPUD – Georgetown Divide Public Utility District
- EDWA - El Dorado County Water Agency
- OES - El Dorado Office of Emergency Services
- EPR - El Dorado County Emergency Preparedness and Response
- FEMA – Federal Emergency Management Agency
- HMA – Hazard Mitigation Assistant Program
- HMGP – Hazard Mitigation Grant Program
- HUD – US Dept. of Housing and Urban Development
- OWPR- Office of Wildfire Preparedness and Resilience
- USACE – US Army Corps of Engineers

D.6 IMPLEMENTATION AND MAINTENANCE

Moving forward, GDPUD will use the mitigation action table in the previous section to track the progress on the implementation of each project. Implementation of the plan overall is discussed in Section 6 in the Base Plan.

D.6.1 Incorporation into Existing Planning Mechanisms

The information contained within this plan, including results from the Vulnerability Assessment and the Mitigation Strategy, will be used by GDPUD to help inform updates and the development of local plans, programs and policies. The Development Services and Public Works departments may utilize the hazard information when implementing the GDPUD's capital projects and may utilize the hazard information when reviewing a site plan or other type of development applications.

As noted in Section 6 of the Base Plan, GDPUD, LPT representatives will report on efforts to integrate the hazard mitigation plan into local plans, programs and policies and will report on these efforts at the annual LPT plan review meeting.

D.6.2 Monitoring, Evaluation and Updating the Plan

GDPUD will follow the procedures to monitor, review, and update this plan in accordance with El Dorado County as outlined in Section 6 of the Base Plan. The GDPUD will continue to involve the public in mitigation, as described in Section 6.2.1 of the Base Plan. The GDPUD Manager and will be responsible for representing the GDPUD in the County HMPC, and for coordination with GDPUD staff and departments during plan updates. GDPUD realizes it is important to review the plan regularly and update it every five years in accordance with the Disaster Mitigation Act Requirements as well as other State of California requirements.

D.6.3 Continued Public Involvement

Continued public involvement is imperative to the overall success of the GDPUD's plan's implementation. The update process provides an opportunity to solicit participation from new and existing stakeholders and to publicize success stories from the plan implementation and seek additional public comment. The plan maintenance and update process will include continued public and stakeholder involvement and input through attendance at designated committee meetings, web postings, social media postings, press releases to local media, and through public hearings. GDPUD can also continue public involvement through regular outreach and engagement activities related to water conservation, drought contingency measures, and public health and safety education around heat illnesses during extreme heat events. They can also engage with the public about hazard mitigation during annual fishing derby events during the summer months. Further, if GDPUD secures federal funding for storage tank replacement or other mitigation actions they can advertise these successes in the Mountain Democrat or other local newspapers. Lastly, they plan to continue to share news blasts and updates from the County Sheriff's Office of Emergency Services on their social media channels (i.e., Facebook).

When the County's HMPC reconvenes for the update, they will coordinate with all stakeholders participating in the planning process—including those that joined the committee since the planning process began—to update and revise the plan. This process should involve the GDPUD's LPT. Public notice will be posted, and public participation will be invited, at a minimum, through available website postings and press releases to the local media outlets,



primarily newspapers. Per DMA requirements the public will be provided an opportunity to provide input during the plan update process, and before the plan is finalized. This means the GDPUD will also advertise the plan update process within their jurisdiction using their local social media channels and relevant outreach tools and touchpoints. This can be accomplished through public surveys or meetings. Public comments will be solicited on the plan update draft by posting the plan online and soliciting review and comment for a minimum of two weeks.

D.7 REFERENCES

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