Humboldt Operational Area Hazard Mitigation Plan; Volume 2—Planning Partner Annexes

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CHAPTER 1.
PLANNING PARTNER PARTICIPATION

1.1 BACKGROUND

Section 201.6.a(4) of Chapter 44 of the Code of Federal Regulations (44CFR) states:

> "Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan."

Region IX of the Federal Emergency Management Agency (FEMA) and the California Office of Emergency Services both encourage multi-jurisdictional planning. Therefore, in the preparation of this Humboldt Operational Area Hazard Mitigation Plan, a Planning Partnership was formed to leverage resources and to meet requirements of the federal Disaster Mitigation Act of 2000 (DMA) for as many eligible local governments in Humboldt County as possible. Humboldt County assumed the leadership role of this planning process by securing grant funding and selecting contractor assistance to facilitate the planning process. The DMA defines a local government as follows:

> "Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity."

There are two types of Planning Partners in this process, with distinct needs and capabilities:

- Cities and the County
- Special purpose districts

1.2 THE PLANNING PARTNERSHIP

1.2.1 Initial Solicitation and Letters of Intent

The County planning team solicited the participation of all incorporated cities and towns in Humboldt County and all County-recognized special purpose districts with junior taxing authority at the outset of this project. On March 23, 2006, a planning kickoff meeting was held at the Humboldt County Correctional Facility Training Room in Eureka. All eligible local governments within the planning area were invited to attend. Various agency and citizen stakeholders were also invited to this meeting. The purpose of this session was to:

- Provide an overview of the Disaster Mitigation Act
- Outline the Humboldt County work plan
- Illustrate the benefits of multi-jurisdictional planning
- Solicit planning partners
- Form a Steering Committee.

All interested local governments were provided with a list of planning partner expectations developed by the planning team and were informed of the obligations required for participation. Local governments

wishing to join the planning effort were asked to provide the planning team with a "Notice of Intent to Participate" that agreed to the planning partner expectations and designated a point of contact for their jurisdiction. In all, formal commitment was received from 25 planning partners by the planning team, and the Humboldt County Planning Partnership was formed. The following jurisdictions submitted letters of intent, representing 28 percent of the eligible local governments within the Humboldt County Operational Area:

- City of Arcata
- City of Blue Lake
- City of Eureka
- City of Ferndale
- City of Fortuna
- City of Rio Dell
- City of Trinidad
- Humboldt County
- Orleans Community Service District
- Orick Community Service District
- Humboldt Community Service District
- Willow Creek Community Service District
- Willow Creek Fire Protection District
- Weott Community Service District
- McKinleyville Community Service District
- Redway Community Service District
- Humboldt #1, Fire Protection District
- Arcata Fire Protection District
- Rio Dell Fire Protection District
- Samoa Peninsula Fire Protection District
- Resort Improvement District #1
- Garberville Sanitary District
- Humboldt Bay Municipal Water Dist.
- Humboldt Bay Harbor, Recreation & Conservation District
- Reclamation District #768
- St. Joesph's Health System

1.2.2 Planning Partner Expectations

The planning team developed the following list of Planning Partner expectations, which were confirmed at the first Steering Committee held on August 2, 2006:

- Provide a "Letter of Intent to Participate" or Resolution to Participate to the Humboldt County Planning Team.
- Support and participate in the selection and function of the Steering Committee selected to oversee the development of this plan. Support includes allowing this body to make decisions regarding plan development and scope on behalf of the partnership.
- Provide support in the form of mailing list, possible meeting space, media such as newsletters, newspapers or direct mailed brochures, required to implement the public involvement strategy formed by the Steering Committee.
- Participate in the process through opportunities such as:
  - Steering Committee meetings
  - Public meetings or open houses
  - Workshops/Planning Partner specific training sessions
  - Public review and comment periods prior to adoption.
- Attendance will be tracked at every opportunity, and attendance records will be used to track and document participation for each planning partner. No thresholds will be established as

minimum levels of participation. However, each planning partner should attempt to attend all possible opportunities.

- Each partner will be expected to perform a "consistency review" of all technical studies, plans, and ordinances specific to hazards identified within the defined planning area to determine the existence of plans, studies or ordinances not consistent with the equivalent documents reviewed in preparation of the County (parent) plan. For example: if a planning partner has a floodplain management plan that makes recommendations that are not consistent with any of the County's Basin Plans, that plan will need to be reviewed for probable incorporation into the plan for the partner's area.
- Each partner will be expected to review the Risk Assessment and identify hazards and vulnerabilities specific to its jurisdiction. Contract resources will provide the jurisdiction-specific mapping and technical consultation to aid in this task, but the determination of risk and vulnerability will be up to each partner.
- Each partner will be expected to review and determine if the mitigation recommendations chosen in the parent plan will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the parent plan recommendations will need to be identified and prioritized, and reviewed to determine their benefits and costs.
- Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.
- Each partner will be required to sponsor at least one public meeting to present the draft plan at least 2 weeks prior to adoption.
- Each partner will be required to formally adopt the plan.

1.2.3 Annex-Preparation Templates

Templates were created to help the Planning Partners prepare their jurisdiction-specific annexes. Since special purpose districts operate differently from towns or cities, separate templates were created for the two types of jurisdictions. The templates were created so that all criteria of Section 201.6 of 44CFR would be met, based on the partners' capabilities and mode of operation. Each partner was asked to participate in a technical assistance workshop during which key elements of the template were completed by a designated point of contact for each partner and a member of the planning team. The templates were set up to lead each partner through a series of steps that would generate the DMA-required elements that are specific for each partner. The templates and their instructions can be found in Appendix A to this volume of the Hazard Mitigation Plan.

1.2.4 Workshop

Three-hour workshops were held on May 9 and 10, 2007, for Planning Partners to learn about the templates and the overall planning process. These sessions were separated based on the type of planning partner to better address each type of partner's special needs. The purpose of these sessions was to provide technical assistance and an overview of the template completion process. Attendance at this workshop was mandatory under the planning partner expectations established by the Steering Committee. There was 100-percent attendance of the partnership at these sessions. Topics discussed during this session included:

- DMA
- Humboldt County plan background
- The templates
- Risk ranking
- Developing your action plan
- Cost/benefit review

In the risk-ranking exercise, each planning partner was asked to rank each risk specifically for its jurisdiction, based on order of impact on its constituency or facilities. Cities were asked to base this ranking on probability of occurrence and the potential impact on people, property and economy. Special purpose districts were asked to base this ranking on probability of occurrence and the impact on their constituency, their vital facilities and their functionality after an event. The methodology for both exercises followed the methodology used for the county-wide risk ranking presented in Volume 1. A principal objective of this exercise was to familiarize the partnership with how to use the risk assessment as a tool to support other planning and hazard mitigation processes that evaluate risk. Tools utilized during these sessions included:

- The Humboldt Operational Area Risk Assessment
- Hazard maps for all nine hazards of concern
- Special district boundary maps that illustrated the sphere of influence for each special purpose district partner.
- Hazard Mitigation Catalog

1.2.5 Benefit/Cost Review

Each jurisdiction's annex includes an action plan of prioritized initiatives to mitigate natural hazards. Section 201.6.c.3iii of 44CFR requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a cost/benefit review of the proposed projects and their associated costs. During the completion of their templates, the Planning Partners were asked to weigh the estimated benefits of a project versus the estimated costs to establish a parameter to be used in the prioritization of a project. This benefit/cost review was qualitative; that is, it did not include the level of detail required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. This qualitative approach was used because projects may not be implemented for up to 10 years, and the associated costs and benefits could change dramatically in that time. Each project was assessed by assigning subjective ratings (high, medium, and low) to its costs and benefits, as follows:

- Costs:
  - **High:** Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (for example, bonds, grants, and fee increases).
  - **Medium:** The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
  - **Low:** The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
- Benefits:
  - **High:** Project will have an immediate impact on the reduction of risk exposure to life and property.
  - **Medium:** Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
  - **Low:** Long-term benefits of the project are difficult to quantify in the short term

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly.

For many of the initiatives identified in the action plans, Planning Partners may seek financial assistance under FEMA's hazard mitigation grant programs such as: HMGP, PDM, Flood Mitigation Assistance Grant program (FMA), Repetitive Flood Claims grant program (RFC) or Severe Repetitive Loss grant program (SRL). Most of these programs will require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA model process. The Partnership is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Partnership reserves the right to define "benefits" according to parameters that meet its needs and the goals and objectives of this plan.

1.2.6 Completion of the Planning Process

All incorporated cities and towns in the County Operational Area completed the planning and annex-preparation process. All of the special purpose districts that committed to this process also completed their required elements. Any non-participating local government within the Humboldt County Operational area can "link" to this plan in the future by following the linkage procedures defined in Appendix B of this volume of the plan.

Figure 1-1 shows the location of participating special purpose districts within this initial planning effort. Maps for each of the cities is provided in individual jurisdictional annex. These maps will be updated periodically as changes to the partnership occur, either through linkage or by a partner dropping out due to a failure to participate. It should be noted that by adopting this plan, each planning partner agrees to the plan implementation and maintenance protocol established in Chapter 7 of Volume 1. Failure to meet these criteria may result in a partner being dropped from this partnership by the Steering Committee, and thus losing its eligibility under the scope of this plan.

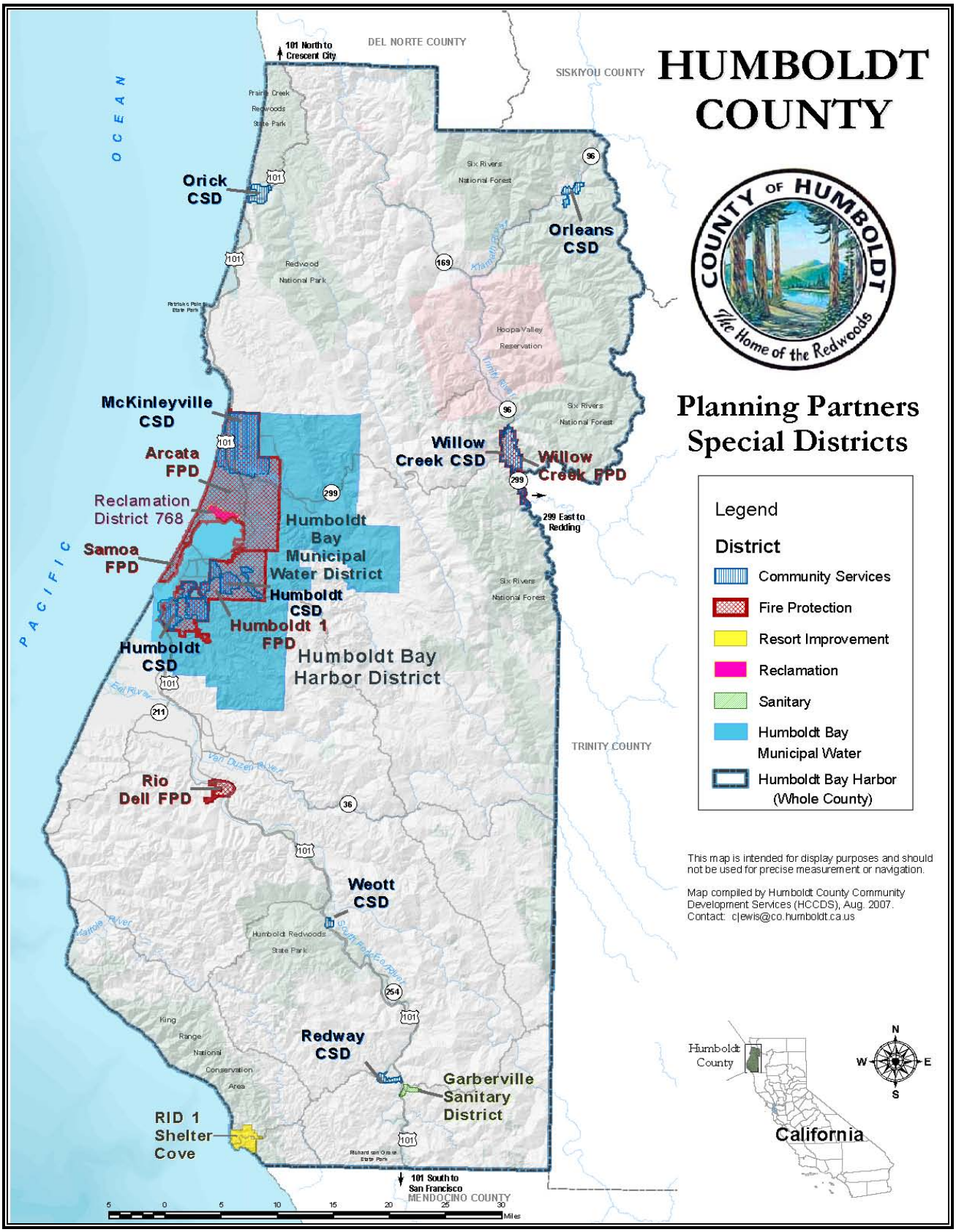

Figure 1-1: Participating District Partner Boundaries

CHAPTER 2.
HUMBOLDT COUNTY TRIBAL STAKEHOLDERS

2.1 BACKGROUND

Nearly 25 percent of California's Native American population resides in Humboldt County. Prior to European settlement, the Humboldt County area was populated by peoples of four language families in 14 tribal groups: the Karuk, Yurok, Hupa, Tsnungwe, Chilula, Chimariko, Wiyot, Sinkyone, Mattole, Walaki, Lassik, Nogatl, Wintun, and Whilkut Tribes. Many Tribes and Tribal members did not survive the contact period with Western settlers. Those that did survive banded together into eight distinct Tribal governments, including the following:

- The Big Lagoon Rancheria
- The Blue Lake Rancheria
- The Hoopa Valley Indian Tribe
- The Karuk Tribe of California
- The Bear River Band of the Rohnerville Rancheria
- The Table Bluff Tribe of Wiyot Indians
- The Cher-Ae Heights Indian Community of the Trinidad Rancheria
- The Yurok Tribe

* The Tsunangwe Tribe is a ninth Tribal government in Humboldt County that may soon be Federally recognized. Based in the town of Salyer, the Tsunangwe Tribe has a fully-functional Tribal government and a long-standing cultural history in the area. Federal recognition of this tribe in the coming years is highly likely.

Together, these eight Tribal governments constitute over 12,374 individuals. Each operating under its own independent Tribal Council, these eight sovereign tribal governments were federally recognized between 1864 and 1979. The Tsunangwe Tribe is a ninth Tribal government in Humboldt County that may soon be federally recognized. Based in the town of Salyer, the Tsunangwe Tribe has a fully-functional Tribal government and a long-standing cultural history in the area. Federal recognition of this Tribe in the coming years is highly likely.

Given their multi-millennial history of living in the area, the region's Native American peoples are proven experts in successfully mitigating every possible natural hazard faced in Humboldt County. Collectively, the County's tribal oral traditions tell of a long legacy of surviving natural hazards. For instance, Yurok and Wiyot oral histories tell of a massive tsunami over 300 years ago, which has recently been positively correlated with sediment tests in Humboldt Bay as well as with written history in Japan. These histories indicate that the Tribes are well-versed in the necessities of hazard mitigation.

The Humboldt Operational Area Hazard Mitigation Plan has been prepared by and for a group of 26 Planning Partners. The tribes are independent sovereign nations, many of whom have their own federally approved hazard mitigation plans, and are therefore not official Planning Partners. However, given the importance of the local tribes, the Humboldt Operational Area planning partnership chose to make an effort to consult with each of the eight Tribal governments in preparing this plan. On May 10, 2007, County staff, tribal representatives, and other stakeholders met in Eureka to discuss the inclusion of this supplemental chapter for tribes. The results of those discussions are the following tribal summaries that were developed in collaboration with and approved by their respective tribal governments.

2.2 HUMBOLDT COUNTY TRIBAL PROFILES

The following profiles provide a summary of the tribes' history, organization, geographical location in Humboldt County, land area and population, and whether they have an approved state level hazard mitigation plan. It should be noted, that even though the Disaster Mitigation Act of 2000 has created a definition of "local government" that could apply to tribes, the State of California has chosen to require tribal governments to meet the state level planning requirements specified under the DMA. This ensures tribal sovereignty and allows each tribe to deal with FEMA directly in post-disaster situations.

By acknowledging the tribes as stakeholders, the Humboldt Operational Area planning partnership recognizes the tribal state-level plans as existing mechanisms within the operational area that could support or enhance hazard mitigation within Humboldt County. This is a requirement of section 201.6.b.3, of 44CFR. These tribal plans offer an opportunity to partner and share information between planning efforts that can leverage resources within the operational area. The Humboldt Operational Area planning effort and those of the tribal governments are separate and autonomous efforts. However, these efforts are committed to working together as partners in pre-disaster and post-disaster mitigation of natural hazards within the Humboldt Operational Area.

2.2.1 The Big Lagoon Rancheria

Tribal Profile

The Big Lagoon Rancheria consists of members belonging to both the Yurok and Tolowa Tribes. Before the arrival of white settlers both Tribes used a large portion of northern Humboldt County and coastal Del Norte County for fishing, hunting, gathering, ceremonial purposes, and for their villages. The original Big Lagoon Rancheria land was purchased in 1918 and members of the Rancheria expanded the Rancheria in 1985 by purchasing additional property adjacent to the Rancheria. During 2005 and 2006 the Rancheria purchased additional properties totaling 21 acres within a half-mile of the Rancheria. In 2004, the Rancheria purchased 2.2 acres of commercial property in McKinleyville. The Rancheria's Constitution was approved on May 5, 1985.

Location

The Big Lagoon Rancheria is located north of the City of Trinidad, on the southern end of Big Lagoon, and adjacent to the Pacific Ocean.

Land Area

The Big Lagoon Rancheria lands include 22 acres of trust land and 21 acres of tribal fee property within the Big Lagoon area. The trust land is on the southern edge of Big Lagoon and nearly adjacent to the Pacific Ocean. A 5-acre tribal fee parcel is located adjacent to Highway 101, with another 16-acre tribal fee parcel adjacent to the Big Lagoon County Park and Big Lagoon. The developed area of the Rancheria is low-density residential, and the neighboring community of Big Lagoon is also low-density residential with one school. The land surrounding the Rancheria has been used for forestry and sawmills operations during the last 150 years and currently has 126 homes. There is a small but popular County Park that provides public access for boating on Big Lagoon near the Big Lagoon Rancheria. Highway 101 is the primary route from the Rancheria to the more urban portions of Humboldt County that have stores and medical services.

Hazard Overview

The primary hazards in the area are winter storms and earthquakes, and there is a potential for damage from Tsunami. In the event of a large earthquake and tsunami the Tribe would become isolated from

medical services by the closure of Highway 101 south of Trinidad/Westhaven. Highway 101 is vulnerable to both flooding and tsunamis as it passes over the Little River and behind Clam Beach. This area has been mapped by the Humboldt County Tsunami Working Group and was identified as being subject to high-velocity wave hazard. The tsunami danger has not been mapped for the Big Lagoon Rancheria but much of the developed portion of the Rancheria is below 35 feet in elevation and is therefore at risk of flooding. Further evaluation of the risk of a destructive wave hitting the community should be evaluated.

Winter storms bring large amounts of rain, large surf, and heavy winds. In the recent past homes in the non-Indian Community Development Corporation community of Big Lagoon were moved inland because of the erosion of the coastal bluffs during winter storms. The erosion caused by winter storms is likely to continue. Although this does often pose an immediate threat to property it has the potential to pose a long-term threat to property and the environment in the area. Winter storms also cause power outages and because Big Lagoon is relatively isolated it can take several days before power is restored.

Population

The total population of the Big Lagoon Rancheria is 24, according to the 2000 U.S. Census.

Approved Plan

The Big Lagoon Rancheria does not have a FEMA-approved, state-level, multi-hazard mitigation plan.

2.2.2 The Blue Lake Rancheria

Tribal Profile

Blue Lake Rancheria (BLR) is a Sovereign Indian Nation located 7 miles east of the City of Arcata and 12 miles northeast of Eureka. The Rancheria is dedicated to the education, self-confidence, and upward mobility of its members. Blue Lake Rancheria is a Wiyot Tribe located in historical Wiyot territory, but the Tribe includes members who are Wiyot, Tolowa, Hupa, Kuruk, Yurok, and Cherokee Indians. The Tribal Business Committee and the General Council have set as a priority the provision of education, social services, and community safety for tribal members, as well as for the Blue Lake Community as a whole. For decades, the Rancheria has worked hard in the areas of education, entrepreneurship, and philanthropy to become one of the most respected and prosperous tribes in Northern California.

Blue Lake Rancheria was established as a 30-acre reservation for homeless Native Americans through an Executive Order on December 24, 1908. The Executive Order was designed to aid Native Americans displaced by the immigration of Europeans. On August 18, 1958, the U.S. Congress terminated the Blue Lake Rancheria pursuant to Public Law 85-671 – later determined to be an illegal and unjust act. After a lawsuit spanning decades (Tillie Hardwick v. United States of America), the Blue Lake Rancheria was reinstated as a federally recognized tribe on December 15, 1983.

Wiyot territory historically extended from Little River, north of McKinleyville along the coast, south to Bear River Ridge, and inland 25 miles. Within this territory there existed many hundreds of historic and prehistoric villages, ceremonial, burial, and summer sites of the Wiyot Tribe. Of the three principal groups of Wiyot, the Mad River Wiyot were known as the Batawat, the Wiki on the Humboldt Bay, and Wiyat. Wiyat is a native name for the Eel River Delta; later the name was applied to all who spoke the language, whether living on the Eel River, Humboldt Bay or Mad River. Wiyot is used in preference to the old name of “Whishosk.”

Hazard Overview

Both the seismic and hydrologic settings of the Rancheria are very active. Hence, earthquakes and floods constitute the greatest level of threat to the Rancheria from natural hazards. BLR is less than 1,000 feet away from the Blue Lake Thrust Fault, 3,000 feet away from the primary trace of the Mad River Fault, and also subject to the influences of the regional Mendocino Triple Junction, the Coast Range thrust Fault, and the Cascadia Subduction Zone. Earthquakes with a Richter magnitude of 6.0 or higher have occurred nine times in the last fifteen years and larger earthquakes between 6.9 and up to 9.1 Richter magnitude are forecast. Peak ground acceleration (PGA) at BLR is anticipated up to 0.8g (the acceleration due to gravity - Pacific Watershed Associates, 2006) while FEMA loss models only calculate losses for earthquakes generating 0.55g PGA. Estimates of losses to structures, contents, and functions, including displacement costs, for an earthquake generating 0.55g PGA at BLR are $23.3 million. For earthquakes with 0.8g PGA, losses approach 100% and are valued at $71.5 million.

Earthquake events, along with many of the other hazard events, also have the potential to close down the Highway 299 transportation corridor and isolate BLR and the City of Blue Lake from critical municipal and county emergency services, hospitals, shelter, food, as well as from gaming industry patrons. Moreover, frequent closures of Highways 299 and 101 have effectively removed or sharply limited ground access to Humboldt County for state and federal emergency services to the county several times in the last decade. It is estimated that Humboldt County would not receive substantial state or federal aid in a regional or statewide seismic disaster for a minimum of one week and possibly up to three weeks.

BLR is situated within the 100-year floodplain of both the Mad River and Dave Powers Creek (Powers Creek) and contains lands designated as Zone A2, Zone B, and Zone C per the 1999 Flood Insurance Rate Map (FIRM). Each zone has varying degrees of susceptibility to flooding. Flood events much smaller than the 100-year flood but resulting in localized water depths from 9 to 18 inches have occurred three times in the last 15 years, in 1992, 1994 and 2003. The loss estimate methods provided in the How-To Manual (Sheets 3a, 3b, and 4) indicate that the Rancheria could sustain structural, content, and functional losses of up to $24.2 million in a flood event with water surface elevations two or more feet above grade. Using FEMA's HAZUS-MH model results in loss estimates for a two-foot flood event at an even greater value of $38.4 million.

After floods and earthquakes, wildfire is the hazard to which the Rancheria is most vulnerable and could generate the next greatest losses, up to $15.3 million. The last wildland fire at BLR occurred in the summer of 2003 when grasslands north of the Casino burned. The source of the fire remains unknown.

The Rancheria is surrounded on all but one side by wildlands or former agricultural lands consisting of infrequently maintained grasslands and heavily wooded riparian corridors, beyond which are heavily forested slopes. To the north and east the Rancheria is bounded by roads from which burning cigarettes thrown from cars or traffic accidents could ignite wildfires. To the south and west BLR interfaces with vegetation rooted along the Mad River and Powers Creek to which emergency vehicles have very limited access. Once wildland fire enters the Rancheria, there is a high probability that the fire would ignite residential areas comprised of wooden houses, wooden outbuildings, manufactured homes, trailers – most with combustible siding and decks and non-rated roofing materials – and combustible trees. There are also forty-four above-ground propane tanks immediately adjacent to individual residences that could explode in a single or multi-structure conflagration. Insufficient ingress and egress for emergency vehicles, less than 70% defensible space, and limited fire hydrants make portions of the Rancheria particularly vulnerable. The Tribal Office and gaming facilities, on the other hand, have large defensible spaces, sufficient fire hydrants, and more than one access road to reach them. The Sapphire Palace gaming facility is a plastics-based, tented building that will resist ignition but will easily melt where wind-blown hot embers land.

Severe winter storms with attendant saturated soils and wind gusts of up to 70 mph are responsible for annual nuisance damages and chronic power outages. Tree fall is a constant threat, particularly to residents of manufactured homes or trailers with less structural strength. Severe storms in the winter of 2006 resulted in blown-off roofing materials in several older buildings, a toppled communications tower on the Casino roof, and three power outages. The power outage of January 2006 lasted six days. Long power outages are of particular concern to BLR as a high percentage of the population are aging, elderly, or infirm, and many are dependent on properly-functioning medical devices and are particularly vulnerable when domestic heating, lighting, cooking, refrigeration, and media access are lost. Loss estimates from severe storms, including repairs and displacement, are $985,000.

Other natural hazards, including tsunamis, technological hazards such as chemical spills, poor air quality, and dam failure are also identified in the risk assessment. A failure of Matthews Dam would cause a high-velocity debris torrent at a depth roughly ten feet above the roof elevation of the Casino complex. This event would result in a devastating 100% loss of all BLR structures. If a properly executed, an approximately sixteen-hour warning period between the time of dam failure and arrival of the debris torrent at BLR would allow sufficient time to avert loss of life, and a small percentage of personal effects could be saved. The remaining hazards, such as tsunamis and hazardous spills would result primarily in indirect, mostly economic effects from associated road closures.

Vulnerabilities

In general, most vulnerable at BLR are the residential structures and inhabitants of the Rancheria. The greatest economic losses to residents result from the sum of structural replacement costs and displacement costs during reconstruction. Loss of contents in the residential structures is less substantial. Conversely, the gaming enterprises and Tribal government buildings, while the least structurally vulnerable, would suffer the most economic damage due to losses to high-value contents and, more importantly, the loss of functions. The gaming enterprise is the largest economic asset of the Tribe, and functional downtime equates with substantial economic losses. Downtime is particularly problematic for the gaming business because it cannot be temporarily relocated elsewhere – like most other businesses – due to permitting restrictions.

The greatest vulnerability for non-residents and patrons of the gaming enterprise are their automobiles during a large flood or earthquake. With an average of 750 patrons with 500 vehicles on site at any given time, potential economic losses could be as high as $10 million dollars in vehicle damage alone.

General Mitigation Activities

For most of the hazard event types, under personal mitigation before the event hazard, the CPC decided it was important to have an evacuation plan and have an emergency kit. The CPC emphasized the importance of an emergency kit for every family in the community. This kit will contain information on personal mitigations that individuals should be aware of, as well as lists of resources for additional information. The CPC also ranked a high priority to the establishment of a buddy system with neighbors especially for those members of the community who need more help like the elderly and the sick.

The workplace questionnaires described previously asked not only what staff found unsafe in their workplaces but also what mitigation activities they would suggest to mitigate the vulnerabilities. After reviewing these suggestions, the recommended mitigation activities for the Rancheria workplaces include (in order of priority):

- Assemble and install earthquake kits in the office buildings.
- Become a primary contact for the County OES for any nearby hazard events.

- Install a backup generator for the Tribal office.
- Perform regular emergency/evacuation drills and first responder/ICS refresher courses.
- Perform CPR training.
- Highlight the natural gas shutoff valve, and turn it off during/after an emergency.
- Develop written procedures for emergency response.
- Develop a central gathering location and a procedure for head counts after an emergency.

These activities are all feasible and generally cost-effective.

Approved Plan

Blue Lake Rancheria is submitting a FEMA, state-level, multi-hazard mitigation plan. The plan will be approved in 2008 and will be available online at: http://www.bluelakerancheria-nsn.gov.

2.2.3 The Hoopa Valley Tribe

Tribal Profile

The People of Hoopa Valley are one of California's first cultures. The first American trappers and gold miners entered Hoopa in 1828. They came up the Trinity River into the rich valley which has always been the center of the Hupa World, the place where the trails return. Legends say this is where the people came into being. The Tribe's treaty was signed providing the whole Hoopa Valley as a reservation. In 1876 an executive order was signed acknowledging this treaty. Since first European contact the culture and traditions remain to this day.

In 1864, a Peace and Friendship Treaty was negotiated with the United States. In 1896, the Department of the Interior began preparing a land allotment list and in 1909 a Proclamation was handed down by President Theodore Roosevelt. This list was not completed and approved until 1923. The Hupa People successfully avoided the physical destruction of their valley homeland, and in modern times created one of the first successful Self-Governance Tribal structures in the nation.

The Tribe's traditional language belongs to the Athabascan Language family, which relates the Tribe to other peoples in the region and, more remotely, to the Athabascans from the interior of Alaska and northern Canada, as well as to the Navajos and Apaches Tribes of the Southwest. The Tribe's traditional way of life was based on the semiannual king salmon runs that still occur on the Trinity River, which flows through the center of the Hoopa Valley Reservation. In addition, the Tribe made use of other indigenous foods, especially acorns. Both these resources remain important as ceremonial foods. Today some 2,500 Hupa people live on the Hoopa Valley Reservation, in the heart of the Tribe's traditional territory.

The Hupa people traditionally occupied lands in the far northwestern corner of California. The boundaries of the reservation were established by Executive Order on June 23, 1876 pursuant to the Congressional Act of April 3, 1864. The boundaries were expanded by Executive Order in 1891 to connect the old Klamath River (Yurok) Reservation to the Hoopa Valley Reservation. Further confirmation of the ownership by the Hupa Tribe of the Hoopa Valley Reservation came on October 31, 1988 with President Ronald Regan's signature on Public Law 100-580, the Hoopa/Yurok Settlement Act.

The Hupa People have occupied their lands since time immemorial, and the past century has really been the shortest in the Tribe's history. However, up until the late 1800s, there is little or no written record on the rich history and culture that is now the Hoopa Valley Tribe. Much of the tradition and lore that still

exists today has been passed along between generations via an extensive oral tradition. The ceremonies and traditions continue in the similar manners as they have since the beginning, and will continue in this custom.

Location

The Reservation is located in the northeastern corner of Humboldt County in Northern California. It lies approximately 50 miles inland from the Pacific Ocean and is bisected by the Trinity River as the river travels between the community of Willow Creek and its confluence with the Klamath.

Land Area

The Hoopa Valley Indian Reservation is the largest reservation in California. According to the Executive Order issued by President U.S. Grant on June 23, 1876, the Reservation encompasses 89,572 acres. As currently surveyed, the Reservation is nearly square with sides 12 miles in length or approximately 144 square miles. This area encompasses roughly 50% of the Hupa aboriginal territory.

The reservation consists of rugged, mountainous terrain and a broad valley that is bisected by the Trinity River and its many tributaries. The area is characterized by relatively wet, cool winters and dry summers. The primary hazards are earthquakes, flooding from winter storms, and wild land fire during the dry summer and fall.

Hazard Overview

Winter storms can bring large amounts of rain, damaging winds, and occasionally some snow. Rain can cause landslides that block Highway 96 and cause flooding on the Trinity River. The most significant flooding is caused during the late winter and early spring if a warm storm brings a large amount of rain that melts snow in the surrounding mountains. These rain-on-snow events can cause rapid increase in flows and flooding.

Earthquakes are possible at any time in northern California. Aside from damage to property and the potential for injuries, the largest problem associated with an earthquake is the loss of access to emergency medical care and the disruption of power. A clinic on the reservation can address many issues but if highway 96 or 299 are blocked all acute patients would need to be transported by air to Eureka or Redding.

During the summer months there is a consistent danger of wildland fire. The reservation has its own wild land fire department which responds to over 200 incidents a year. Fire has the potential to destroy homes, block roads, and cause respiratory problems for residents of the Reservation. Fire protection services are bolstered by mutual aid agreements with other fire services in the area.

Insufficient water in the Klamath and Trinity Rivers should also be considered when planning for hazards. As with all ‘natural’ disasters low water levels in the rivers are not entirely the consequence of natural weather patterns, such as drought, but the result of management decisions. Both rivers are controlled by upstream reservoirs and decisions as how much water is released are political decisions. Nevertheless these political decisions can have dramatic impacts on the ability of the rivers to support salmon. Fish kills have occurred in the past and caused harm to Tribes that rely on the Salmon for subsistence and ceremonial purposes.

Population

The 2000 census states the reservation population is 2,633. By utilizing the 1997 BIA Report and the 2000 census population statistics, the population on the reservation was determined to include 1,893

Hoopa, 337 other Native Americans, and 403 non-Indians. Children are continually being added to the Hoopa Valley Tribal Role following an applications process and finally approval by the Tribal Council.

Approved Plan

The Hoopa Tribe does not have a FEMA-approved, state-level, multi-hazard mitigation plan.

2.2.4 The Karuk Tribe

Tribal Profile

The Karuk Araara, the Upriver People, are from the middle course of the Klamath and lower course of the Salmon Rivers, a remote, forestland area of northwestern California. The Karuk have lived in this region since the beginning of time and retain millennial ties to the land. Today, the Karuk Tribe sustains its traditions and sovereignty as a Federally-recognized Tribe.

As a modern Tribal government, the Karuk Tribe provides a variety of social, educational, environmental, linguistic, cultural, health, general assistance, self-governance, housing, transportation, and land use planning services for Tribal Members and others residing in the communities. The Karuk Tribal Health Program operates Indian health clinics, which serve *all* residents of Orleans, Happy Camp, and Yreka, regardless of their ability to pay.

Location

The Karuk Tribe of California's present-day Service Area is comprised of northeastern Humboldt and the entirety of Siskiyou Counties. The *Federal Register* describes the area as "[t]he counties of Siskiyou, northeastern Humboldt from State Highway 96 milepost HUM 28.61 north to the Siskiyou County Line in the State of California."

Land Area

Karuk lands include approximately 650 acres of trust land and 1,000 acres of fee land (Fee land is owned by the Tribe, but not yet in trust.). These lands are mostly isolated parcels dispersed across central & western Siskiyou County and northeastern Humboldt County in California. They are generally located in small communities surrounded by National Forest Lands. The Karuk Tribe's "near reservation" Service area is described above.

In Humboldt County, the Tribe serves the community of Orleans (Panamnik) and those residing in the surrounding area. This area comprises 214 square miles and is extremely rural. The population density for the Tribe's Service Area is 6.87 per square mile, which the U.S. Census Bureau labels as a "frontier." Community members served include Tribal Members, members of other Tribes, and non-Indians.

Hazard Overview

The Tribe's Service Area consists of rugged, mountainous terrain that is bisected by the Klamath River and its many tributaries. It receives abundant sun from May through September. Winter weather consists of heavy rains (most of the region's annual rainfall is received between October and April); rock slides precipitated by rain; rain-on-snow events that cause severe landslides; and high winds. Travel through the Service Area is confined to California State Highway 96, a narrow two-lane road that winds along the Klamath River corridor. Highway 96 is built into steep mountains, making it subject to falling rocks year-round and landslides that cause the road to close during winter storm events. High winds and landslides during winter storms frequently destroy power lines, which may be unreachable by electrical utility workers until Highway 96 can be cleared and reopened. A February 2007 storm closed and/or restricted travel to one-way controlled traffic at two locations (one near Orleans) on Highway 96 for nearly two (2)

weeks; the accompanying power outage in Orleans lasted nine (9) days. Events such as these further isolate the Tribe's already rural communities and prohibit residents from accessing services outside the immediate area due to long distances and transportation barriers.

Population

The total population in the Humboldt County portion of the Tribe's Service Area, according to the 2000 U.S. Census, is 766. 126 of these residents are Karuk Tribal Members or Descendants.

Approved Plan

The Karuk Tribe of California has a FEMA-approved, state-level, Multi-Hazard Mitigation Plan. The plan was approved in August 2006. The plan may be viewed at: http://www.karuk.us. If you have questions, please contact Arch Super, Karuk Tribal Chairman, at asuper@karuk.us or (530) 493-1600, ext. 2019.

2.2.5 The Bear River Band of the Rohnerville Rancheria

Tribal Profile

The Bear River Band of the Rohnerville Rancheria currently occupy only a small portion of their ancestral lands which previously encompassed much of the Eel River delta. The original Rohnerville Rancheria was purchased by the United States in 1910 and consisted of 15.187 acres located just outside the city limits of Fortuna. This Rancheria was terminated on July 16, 1966, and the 15.187 acres were divided into individual parcels and given to individual members of the Tribe.

On March 4, 1986, the United States signed a Stipulation to Restoration of Indian Country and Order that established that the original boundaries of the Rohnerville Rancheria, among others, be as they existed immediately prior to the Rancheria Act. By the time the boundaries were re-established only a small portion of the land remained in Indian ownership. Since the land base on the original Rohnerville Rancheria was too small for providing housing and social services for Tribal members, it was necessary for the Tribe to acquire additional property. The Tribe acquired additional property on Singley Hill road. On July 12, 1991, the Tribe entered a grant deed transferring the 65-acre parcel to the United States in trust for the Tribe. The Secretary of Interior accepted this property in Trust on January 20, 1994.

As a modern Tribal government, the Bear River Band provides a variety of social, educational, environmental, linguistic, cultural, general assistance, self-governance, housing, transportation, and land use planning services for Tribal Members residing on and off of the Rancheria.

Location

The Rohnerville Rancheria is located north of the City of Fortuna and east of the community of Loleta. The Bear River Band has ownership or governmental control of four parcels of land within their aboriginal territory. The four parcels include the original Rohnerville Rancheria east of the city of Fortuna, the Singley Hill and the Fearrian Road parcels in Loleta, and the Basayo Subdivision in Fortuna.

Land Area

The Bear River Band lands include approximately 185 acres. The Old Rancheria lands are east of the City of Fortuna and the current Rancheria land is north of Fortuna off of Singley Hill Road. The Tribe owns an additional parcel within the city of Fortuna on which it has constructed housing for Tribal members.

The land is primarily rural residential with the exception of the property within the City of Fortuna. The Rancheria has a casino and housing and is surrounded by pasture and open space lands. The Tribe is

planning to construct additional housing on its property off of Singly Hill Road which will also be surrounding by ranch lands and open space.

Hazard Overview

Earthquakes and the possibility of wildland fire are the primary hazards in the area. Although the Rancheria is in a relatively coastal and moist area, the Rancheria is surrounded by grass-lands which have burned in the past. Very little sunshine is needed to dry the fuels sufficiently and increase the risk of wildland fire. The current roads are adequate for emergency access/egress to the Rancheria during dry weather, but may not be adequate for wet weather. In the event an evacuation is necessary, residents of the Rancheria and visitors to the Casino can either drive north or south on Singley Hill Road. Singley Hill Road connects with Highway 101 traveling in either direction. The Loleta Volunteer Fire Department provides fire protection services to the Rancheria and is partially funded by the Rancheria.

Storms with strong damaging winds and heavy rain are possible during the winter months. Tribal Officials have commented that it is difficult to drive on Bear River Road during many of the winter storms. The road was constructed without proper drainage and residents on the downhill side of the road often have to put sandbags across their driveways during winter rain events.

Population

The current enrollment of the Tribe is 279 members. Many of these members live in the surrounding communities of Loleta, Fortuna, Rio-Dell and Eureka.

Approved Plan

The Rohnerville Rancheria does not have a FEMA-approved, state-level, Multi-Hazard Mitigation Plan.

2.2.6 The Table Bluff Rancheria

Tribal Profile

Wiyot people have inhabited California's northern shores for thousands of years. Before the coming of white settlers, Wiyot people around Humboldt Bay and on Indian Island hunted the area's wildlife, fished for salmon and gathered roots for medicine, food and basketry. Before 1850, there were approximately 1500 to 2000 Wiyot people living within this area. After 1860 there was an estimated population of 200 people left. By 1910 there was an estimate of less that 100 full blood Wiyot people living with Wiyot territory. This rapid decline in population was due to disease, slavery, target practice, 'protection,' being herded from place to place, and of course, massacres.

After the massacres of 1860 nearly all Wiyot people were removed from their homelands, but some returned. In the early 1900's, a church group purchased 20 acres, in the Eel River estuary, for homeless Wiyot people. The Federal Government later transferred this land into trust status in 1908. This land became known as the Table Bluff Rancheria of Wiyot Indians, now referred to as "The Old Reservation".

In 1958, the Federal Government passed the California Rancheria Act that terminated the Tribe in 1961. In 1975, the Tribe filed suit against the Federal Government for unlawful termination, and in 1981, in Table Bluff Band of Indians v. Lujan (United States), it was determined the Tribe's termination was unlawful and trust status was reinstated. In 1991, during another lawsuit regarding drinking water contamination and other sanitation issues on the old Reservation, the court mandated new land be purchased and the Tribe moved to another location. This location was approximately 1 mile away up on the bluff, and serves as the present Table Bluff Reservation. The original 20 acres were put into fee simple under the individual families, but deemed to be under the Tribe's jurisdiction as long as held in

Indian hands. Some Wiyot people reside on 88 acres of land called Table Bluff Reservation, 16 miles south of the City of Eureka.

Location

Wiyot territory starts at Little River and continues down the coast to Bear River, then inland to the first set of mountains. Towns that are within the traditional Wiyot territory are McKinleyville, Blue Lake, Arcata, Eureka, Kneeland, Loleta, Fortuna, Ferndale, and Rohnerville. Rivers within this territory are Mad River (Batwat), Elk River, Eel River and the Van Duzen River.

Currently the Wiyot Tribal own lands an 88 acre parcel on the southern edge of Humboldt Bay and a 20 acre parcel known as the Old Rancheria. They recently acquired 1.5 acres of Indian Island which is the center of the Wiyot People's world.

Land Area

The Table Bluff Reservation is located 16 miles south of Eureka in the Eel River Bottom on the southern edge of Humboldt Bay. This property ranges in elevation from about 40 feet above sea level at the edge of Humboldt Bay to near 130 on the southern edge of the property near residential areas.

Hazard Overview

According to the hazard mapping conducted by Humboldt State University the residential portions of the Table Bluff Reservation are not at risk from a tsunami. However, the re-acquired property on Indian Island is at risk of flooding in the event of a tsunami. The Table Bluff Reservation, however, may be cut off from Eureka in the event of a Tsunami as Highway 101 North may be inundated by flood waters between College of the Redwoods and Eureka. Members of the Tribe would still have access to emergency medical services in Fortuna.

Other hazards include high winds and heavy rain from strong winter storms and earthquakes. Strong winter storms along with increased rates of runoff from bare slopes have caused flooding of the Eel River. Historically floods have covered much of the Eel River bottom. However, the Reservation is located on a bluff which may protect it from any flooding of the Eel River.

Earthquakes have the potential to isolate members of the Wiyot Tribe who live on the Table Bluff reservation from other members of the Tribe who live in the communities of Fortuna and Eureka. Earthquakes may damage area roads and may it impossible to get emergency medical care and to access goods and services.

Population

Currently there are over 550 enrolled members.

Approved Plan

The Table Bluff Rancheria does not have a FEMA-approved, stage-level, Multi-Hazard Mitigation Plan.

2.2.7 The Cher-Ae Heights Indian Community of the Trinidad Rancheria

Tribal Profile

The Trinidad Rancheria was established in 1917. Descendants of three tribes of California presently occupy the Rancheria including the Yurok, Weott, and Tolowa peoples. All three tribes share a similar

cultural heritage. Traditionally these groups lived throughout the coastal region of what is now northern California, residing on lands from the Humboldt Bay area to the Oregon coast.

Since the mid 1970s the tribe has accomplished an enormous revitalization, including the development of housing facilities and the provision of health and welfare benefits for its tribal members. A community council that is made up of the entire adult voting tribal membership governs the Trinidad Rancheria. A five member tribal council is elected from the Rancheria community.

Location

The Tribe owns property at two separate sites in Trinidad 46.5 acres on the west side of U.S. Highway 101 along the Pacific coast and 9 acres on the eastern side of U.S. Highway 101 approximately one-mile from the City of Trinidad. Highway 101 bisects the Rancheria on the northeast corner of the Rancheria in Trinidad. The Tribe also owns the Trinidad Pier and Seascape Restaurant in the City of Trinidad. The pier is the northernmost oceanfront pier in the state and sits in one of the state's most beautiful settings at Trinidad Harbor. It is accessible from Main Street in central Trinidad. A third parcel of 27.5 acres is located two miles north of McKinleyville east of the Eureka/Arcata Airport.

Land Area

The Trinidad Rancheria comprises of 83 acres on three parcels in Humboldt County. The land uses on the property include commercial, low density residential and sections of coastal beach and bluff. Land uses on surrounding the tribe include, both low and medium density residential, commercial, and state park. The potential hazards include: earthquakes, landslides, tsunami, winter storms, flooding, wildland fire, and toxic chemical/biological spills on Highway 101 (which bisects the Rancheria and is within very close proximity to Tribal homes).

Hazard Overview

Strong winter storms bring large surf which frequently damages portions of Scenic Drive. Scenic Drive is the only access road to portions of the Rancheria including the Casino. Northern parts of Scenic Drive near Trinidad are less susceptible to landslides and failure of the coastal bluff. The southern portion of scenic drive has been closed for up to a year at a time because of erosion of the coastal bluff supporting the road base.

A tsunami has the potential to damage additional portions of Scenic Drive and inundate the Trinidad Pier and Seascape Restaurant in the City of Trinidad. Both the pier and the accompanying restaurant are close to sea-level and would likely feel the impact of any change in sea-level, particularly a large rapid rise in sea level or a wave. If a large earthquake occurs patrons of the restaurant and restaurant staff would need to evacuate before any official tsunami warning is issued. In the event of a large earthquake and Tsunami the Tribe would also become isolated from medical services by the closure of Highway 101 south of Trinidad/Westhaven. Highway 101 is vulnerable to both flooding and Tsunamis as it passes over the Little River and behind Clam Beach. This area has been mapped by the Humboldt County Tsunami Working Group and was identified as being subject to 'High velocity wave hazard.

Earthquakes have the potential to damage property and injure people at any time. If an earthquake occurs while an event is in progress at the Casino the Tribe may need to provide food, water, and shelter for a large number of people. Highway 101 may be closed until bridges are inspected or repaired. If a tsunami accompanies the earthquake it may be several weeks before large portions of 101 are reconstructed.

The risk from wild land fire is relatively small. Fire in stands of Redwoods along the coast is infrequent although based on the fire history in other stands of Redwoods it does occur. Adequate defensible space as well as sufficient access/egress would help mitigate this risk.

Population

According to the 2000 U.S. Census, the total population of the Rancheria is 73. These numbers are for the Trinidad Rancheria and Off-Reservation Trust Land. There are 52 members on the Rancheria and 21 members on Off-Reservation Trust Land. However, Trinidad Rancheria has its own population records as recent as 2006, showing Reservation population at 102 Tribal members, an estimated 31 non-Tribal members, and 52 children living within the Rancheria boundaries.

Approved Plan

The Trinidad Rancheria has a FEMA-approved, state-level, Multi-Hazard Mitigation Plan. The plan was approved in April of 2006. The plan is kept on file with FEMA and on file in the Tribe's Operations building. Questions can be directed to Jonas Savage, EPA Technician and Emergency Planner for the Rancheria.

2.2.8 The Yurok Tribe

Tribal Profile

The Yurok Tribe is California's largest Indian Tribe with over 5,000 enrolled members. The Yurok Tribe's people are also known historically as the Pohlik-la, Ner-er-er, Petch-ik-lah and Klamath River Indians. For millennia, traditional Yurok religion and sovereignty was pervasive and practiced throughout all of the Tribe's historic villages along the Pacific Coast and inland on the Klamath River. The Yurok people carried on extensive trade and social relations through this region and beyond. Yurok commerce traditionally included a monetary system based on the use of dentalium shells, Terk-n-term and other items as currency. The Yurok traditional ceremonies include the Deerskin Dance, Doctor Dance, Jump Dance, Brush Dance, Kick Dance, Flower Dance, Boat Dance, and others, that have drawn Yurok people and neighboring Tribes together for renewal, healing and prayer. This whole land, this Yurok country, stayed in balance and was kept that way by the Tribe's good stewardship, hard work, wise laws and constant prayers to the Creator.

The Yurok social and ecological balance, thousands of years old, was shattered by the invasion of the non-Indians beginning in the 17th century. As white explorers, gold-miners and settlers came to this region, the Yurok people lost more than three-fourths of its population through fatal contact with European diseases and unprovoked massacres by vigilantes. The Yurok people agreed to sign a "Treaty of Peace and Friendship" with representatives of the President of the United States in 1851, however, the US Senate failed to ratify the treaty. In 1855, the US Government ordered the Tribe's people to be confined on the Klamath River Reserve which was created by Executive Order. The relocation of Yurok families to unfamiliar lands caused great hardships. The forced removal of children to US Government boarding schools where they were denied the right to practice their cultural traditions caused the disruption of the Tribe's heritage. Throughout the past history of Yurok contacts with the US Government and State of California, the Tribe has fought to protect and maintain access to its Ancestral Lands. These struggles were legally complicated by the fact that the Yurok people had never established a formal structure with a written form of government. After the land-based natural resources and fisheries of the Tribe's aboriginal lands had been decimated, and the traditional stewardship of the people ignored, the Yurok people knew it was time to establish a federally recognized Tribal Sovereignty and Authority to protect and preserve both the traditions of the Tribe's people and the land and river of its ancestors.

On November 24, 1993, the Constitution of the Yurok Tribe was certified and approved, after having passed a Ratification Election by a majority of the Yurok Tribal members. The Constitution defines the territory, jurisdiction and authority of its Tribal Government. The Yurok Tribe's main offices are located in Klamath, California and the Tribal government employs nearly 200 individuals. Enrolled and registered to vote Tribal members elect nine of its members to the Tribal Council. The Tribal Chairperson and Vice Chairperson are elected at-large. Seven council members represent the seven Tribal Districts. Each Council member serves a term of three years. The Council meets at least monthly. Individual council members have District meetings at least quarterly. All regular and special meetings of the Council are open to members of the Yurok Tribe. All votes of the Council are a matter of public record.

Location

The Yurok Tribe's Territory consists of all Ancestral Lands, specifically including, but not limited to, the Yurok Reservation's lands, which currently extend from one mile on each side from the mouth of the Klamath River and upriver for a distance of 44 miles.

Land Area

The Yurok Reservation is 63,035 acres. Only a small portion of the Yurok Reservation has been developed for residential housing, and much of that lacks basic services such as electricity and telephone.

Hazard Overview

The Yurok Hazard Mitigation Plan identified that there was a medium or high risk of the following hazards:

- Bridge Failure
- Dam Failure
- Drought
- Earthquake
- Extreme Heat
- Fish Kill
- Flood
- Hailstorm
- Landslide
- Road Failure
- Winter Storms
- Structural Fires
- Tsunami
- Water Contamination
- Wildfire
- Windstorm

The Hazard Mitigation Plan examines each hazard and outlines potential mitigation measures which are intended to lessen the impact of each hazard. The Yurok Hazard Mitigation Plan available from the Tribe should be consulted for an in-depth discussion of how hazards affect the Yurok.

Population

The Tribe has 5,074 enrolled members.

Approved Plan

The Yurok Tribe of California has a FEMA-approved, state-level, Multi-Hazard Mitigation Plan. The plan was approved in May 2006. The plan may be viewed at: http://www.yuroktribe.org

PART 2—PARTNER CITIES/ UNINCORPORATED COUNTY ANNEXES

CHAPTER 3.
CITY OF ARCATA ANNEX

3.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Doby Class, Director of Public Works 736 F street Arcata, CA 95521 Phone: 707-822-5957 e-mail: dclass@arcatacityhall.org	Karen Diemer, Deputy director of Environmental Sciences 736 F street Arcata, CA 95521 Phone: 707-822-8184 e-mail: kdiemer@arcatacityhall.org

3.2 CITY PROFILE

Population

17,289 (July 2006)

Location

The City of Arcata is located on California's redwood coast, approximately 760 miles north of Los Angeles and 275 miles north of San Francisco. The nearest seaport is Eureka, five miles south on Humboldt Bay. Arcata is the home of Humboldt State University and is situated between the communities of McKinleyville to the north and Blue Lake to the east. It sits at the intersection of US Highway 101 and State Route 299.

Brief History

As the California gold rush brought gold fever to the interior mountains of northern California, the Arcata area was settled in the 1850s as a supply center for miners. As the gold rush died down, timber and fishing became the major resource based economy of the area. Arcata was incorporated in 1858 and by 1913 the Humboldt Teachers College, a predecessor to today's Humboldt State University was founded in Arcata. Recently, the presence of the college has come to shape Arcata's population into a young, liberal, and educated crowd. In 1981 Arcata developed the Arcata Marsh and Wildlife sanctuary, an innovative environmentally friendly, sewage treatment enhancement system. Its multiple uses include recreation, education, wildlife refuge along the Pacific Flyway, and wastewater treatment.

Date of Incorporation

1858

Climate

Arcata's weather is typical of the Northern California coast, with mild summers and cool, wet winters. It rarely freezes in the winter and it is rarely hot in the summer. Annual average rainfall is over 40 inches, with 80% of that falling in the six-month period of November through April. The average year-round temperature is 59 degrees. Humidity averages between 72 and 87 percent. Prevailing winds are from the north, and average 5 mph.

Governing Body Format

The City of Arcata is governed by a five-member City Council. This body will assume the responsibility for the adoption and implementation of this plan. The City consists of 6 departments: Finance, Environmental Services, Community Development, Public Works, Police and the City Manager's Office. The City has 13 Committees, Commissions and Task Forces, which report to the City Council.

Growth/Development Trends

Based on the data tracked by the California Department of Finance, Arcata has experienced a relatively flat rate of growth. The overall population has increased only 3.4% since 2000 and has averaged 0.74% per year from 1990 to 2007. With this rate of growth, the anticipated development trends for Arcata are considered low to moderate, consisting of primarily residential development. The majority of recent development within the City of Arcata has been infill development. Residentially, there has been a focus on affordable housing and a push for more secondary mother-in-law units on properties. Another characteristic of development is the adaptive use of former mill sites.

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. The City of Arcata adopted its General Plan pursuant to this state mandate in July of 2000. Future growth and development within the City of Arcata will be managed as identified in its General Plan.

3.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	11/8/1980	Not Available
Severe Weather / Flood	N/A	1/18/1981	Not Available
Severe Weather / Flood	N/A	12/19/1981	Not Available
Severe Weather / Flood	N/A	3/31/1982	Not Available
Severe Weather / Flood	DR-677	1/25/1983	Not Available
Landslide	N/A	1983	$63,000
Severe Weather / Flood	N/A	12/25/1983	Not Available
Severe Weather / Flood	DR-758	2/16/1986	Not Available
Earthquake	DR-943	4/25/1992	Not Available
Severe Weather / Flood	DR-935	02/25/1992	Not Available
Severe Weather / Flood	N/A	1/20/1993	Not Available
Earthquake	N/A	12/26/1994	Not Available
Severe Weather / Flood	DR-1046	1/9/1995	Not Available
Severe Weather / Flood	DR-1046	3/1/1995	Not Available
Landslide	N/A	1/27/1995	$68,000

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather / Flood	N/A	12/11/1995	Not Available
Severe Weather / Flood	N/A	12/29/1995	Not Available
Landslide	N/A	12/15/1995	$75,000
Severe Weather / Flood	N/A	12/8/1996	$186,000
Severe Weather / Flood	DR-1155	1/2/1997	$5,000
Landslide	DR-1155	1/3/1997	$115,000
Severe Weather / Flood	DR-1203	1/27/1998	$5,000
Severe Weather / Flood	N/A	11/21/1998	$5,000
Severe Weather / Flood	N/A	12/27/2002	$35,000
Landslide	N/A	2003	$100,000
Severe Weather / Flood	DR-1628	12/31/2005	$3.5 million

- Number of FEMA Identified Repetitive Flood Loss Properties: 1
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

3.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING					
		Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a]		Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
Rank	Hazard type	100-year	500-year		
1	Earthquake	$160,344,520	$529,821,920	High	54
2	Severe Weather	$3,259,395		High	51
3	Flood	$3,915,500	$4,461,200	High	27
3	Tsunami	$12,760,855	$640,435,654[c]	High	27
5	Landslide	$28,475,594		High	24
6	Dam Failure	$4,461,200		Low	9
7	Drought	No measurable impact to property		High	6
7	Fish Losses	No measurable impact to property		Low	6
8	Wild Fire	No measurable impact to property		Low	0[d]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. This value represents the loss estimate for a 300-year tsunami event
d. The probability of occurrence for these events is weighted at "0" due to no exposure

3.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

3.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	N	Y	Uniform Building Code with California amendments, Arcata Municipal Code (AMC) Title 8, November, 2002
2.) Zoning Ordinance	Y	N	N	Y	Title 9, AMC December, 1994
3.) Subdivision Ordinance	Y	N	N	N	Title 9, AMC December, 1994
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	N	N	N	Geologic Hazards Review, Title 9, Chapter 4, Article 3, AMC December 1994 Floodplain Management: Title 9, Chapter 4, Article 5, AMC December, 1999
5.) Growth Management	Y	N	N	Y	Chapter 2, Sections 23-34, Arcata General Plan July, 2000
6.) Floodplain Management or Basin plan	N	N	N	N	
7.) Stormwater Management Plan	Y	N	N	N	Plan: Adopted, October 2003 Ordinance: Title 9, Chapter 5, AMC March, 2001
8.) General Plan or Comprehensive Plan	Y	N	N	Y	Adopted July, 2000
9.) Capital Improvements Plan	N	N	N	N	
10.) Site Plan review requirements	Y	N	N	N	Title 9, Chapter 1, Article 5, AMC December, 1994
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	Y	N	N	N	September, 2004

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
13.) Emergency Response plan	Y	N	N	N	October, 2003
14.) Shoreline Management Plan	N	N	N	N	
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.

3.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Community Development: Senior Planners, Director Public Works: Engineering Technician, Director
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Public Works: Engineering Technician, Director
3.) Planners or engineers with an understanding of natural hazards	Y	Community Development: Senior Planners, Director Public Works: Engineering Technician, Director
4.) Floodplain Manager	Y	Public Works: Director
5.) Surveyor(s)	Y	Public Works: Engineer
6.) Personnel skilled or trained in “GIS” applications	Y	Environmental Services: GIS Specialist
7.) Scientist familiar with natural hazards in the City of Arcata	Y	Humboldt State University
8.) Emergency Manager	Y	City Manager, Humboldt County Office of Emergency Services
9.) Grant Writer(s)	Y	Community Development: Assistant Planner, Deputy Director of Redevelopment
10.) Staff with expertise or training in benefit/cost analysis	N	

3.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use (Yes/No/Don't know)
1.) Community Development Block Grants (CDBG)	Yes
2.) Capital Improvements Project Funding	Yes
3.) Authority to Levy Taxes for specific Purposes	Yes
4.) User fees for water, sewer, gas or electric service	Yes
5.) Impact Fees for homebuyers or developers of new development/homes	Yes in some areas
6.) Incur debt through general obligation bonds	Yes
7.) Incur debt through special tax bonds	Yes
8.) Incur debt through private activity bonds	Yes
9.) Withhold public expenditures in hazard-prone areas	Yes
10.) State sponsored grant programs	Yes
11.) Other	

3.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	99/99[a]	N/A
Public Protection	4/8B[b]	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A

a. 99/99 assigned to those communities that refused to participate in the BCEGS program.
b. Higher classification applies to when subject property is located beyond 1,000 feet of a creditable fire hydrant and is within 5 road miles of a recognized fire station.

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

3.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
A-1	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1,4,5,12	City Managers Office	Medium	General Fund	Short-term
A-2	Adopt a Long-term Capital Improvement Plan.	All Hazards Except Fish Loss	1-6,9	Department of Public Works	Low	General Fund	Short-term
A-3	Improve hillside stability in landslide-prone areas utilizing feasible approaches that provide the highest degree of benefit, for the least cost.	Landslide	2,3	Department of Public Works	Medium	Hazard mitigation Grant funding, General Fund	Long-term (pending funding)
A-4	Conduct an updated Dam Failure Flood Routing Analysis for City of Arcata Dam #2	Dam Failure	3,9	Department of Public Works Environmental Services department	Medium	General Fund, Forest Fund, Storm water Fund	Short-term
A-5	Prepare a Post Disaster Recovery Plan	All Hazards	1,3,12	Community Development Department Police department	Low	General Fund	Short-term
A-6	Install Emergency water inter-ties between neighboring jurisdictions	Earthquake, Severe weather, Drought	2,3,8,9,12	Environmental Services Department	High	Enterprise Fund	Long-term
A-7	Develop ring levees around at risk critical facilities	Tsunami, Flood, Severe Weather	1,2,3	Department of Public Works Environmental Services Department	High	General Fund, PDM, Enterprise Fund	Long-term
A-8	Perform seismic retrofits of critical facilities	Earthquake	1,2,3	Department of Public Works	High	General Fund, Capital Improvement Fund, Enterprise Fund, PDM	Long-term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
A-9	Work with the NOAA to attain the certifications of Storm Ready and Tsunami Ready.	Tsunami, Severe Weather	3,6,8	City Managers Office	Medium	General Fund,	Short-term
A-10	Perform preventive maintenance of Jane's Creek and other drainage ways.	Landslide, Dam Failure, Flood, Severe Weather,	2,9	Department of Public Works Environmental Services Department	Low	General Fund, Drainage Fund, Department of Water Resources	Ongoing, Short-Term
A-11	Adopt International Building Code.	Earthquake, Flood	11	Community Development Department	Low	Building Fees	Short-term
A-12	Improve alternative communication capabilities throughout the City, including acquisition of and licensing for HAM radios, satellite telephones, mobile backup dispatch devices and other communication devices.	All Hazards	1,4,5,12	Police Department	Medium	General Fund	Ongoing, Short-Term
A-13	Adopt an updated Emergency Response Plan	All Hazards	1,4,5,12	Police Department	Low	General Fund	Short-term
A-14	Establish a warning system for Dam Failure	Dam Failure	3,9	Department of Public Works	Medium	General Fund, Drainage Fund	Long-Term
A-15	Update City land use code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslide	10	Community Development Department	Low	General Fund	Short-Term
A-16	Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Arcata	All Hazards	3,5,8,12	Police Department	Medium	General Fund	Short-Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
A-17	Update floodplain mapping throughout the City, including continued participation with the National Flood Insurance Program.	Flood, Severe Weather	7,8,	Department of Public Works	Medium	General Fund, Drainage Fund	Ongoing, Long-Term
A-18	Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.	All Hazards	1,4,5,12	Department of Public Works	Low	General Fund,	Ongoing, Short-Term
A-19	Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.	All Hazards	7,8	Department of Public Works Environmental Services Department	Low	General Fund,	Ongoing Short-Term
A-20	Obtain and distribute current information about local natural hazard risks and emergency preparedness, including creating and maintaining a hazard mitigation informational web page on the City of Arcata website.	All Hazards	6,7	Police Department City Managers Office	Low	General Fund,	Ongoing, Short-Term
A-21	Raise flood prone areas adjacent to West End Rd. to an elevation that will not be inundated during flooding events.	Flood, Severe Weather	2, 9	Department of Public Works Environmental Services Department	Medium	Enterprise Fund, Drainage Fund, PDM, CDBG	Short-Term
A-22	For emergency preparedness, implement offsite parking for corporation yard equipment.	All Hazards	1,2,4,5	Department of Public Works	Low	General Fund	Short-Term

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
A-23	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7,9,10, 11	Department of Public Works	Low	Funded through existing, on-going programs	Short-term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

3.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
A-1	4	Medium	Medium	Yes	No	Yes	High
A-2	7	Low	Low	Yes	No	Yes	High
A-3	2	Low	Medium	Yes	Yes	Yes	Low
A-4	2	Medium	Medium	Yes	No	Yes	High
A-5	3	Low	Low	Yes	No	Yes	High
A-6	5	High	High	Yes	No?	No	Low
A-7	3	High	High	Yes	Yes	No	Medium
A-8	3	High	High	Yes	Yes	No	Medium
A-9	3	High	Medium	Yes	No	Yes	High
A-10	2	High	Medium	Yes	Yes	Yes	High
A-11	1	High	Low	Yes	No	Yes	High
A-12	4	Medium	Medium	Yes	No	Yes	Medium
A-13	4	High	Low	Yes	No	Yes	High
A-14	2	High	Medium	Yes	No	No	Low
A-15	1	High	Low	Yes	No	Yes	High
A-16	4	High	Low	Yes	No	Yes	High
A-17	2	Medium	Medium	Yes	No	Yes	Medium
A-18	2	High	Low	Yes	No	Yes	High

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
A-19	2	Medium	Low	Yes	No	Yes	High
A-20	2	High	Low	Yes	No	Yes	High
A-21	2	High	Medium	Yes	Yes	Yes	High
A-22	4	Medium	Low	Yes	No	Yes	High
A-23	6	Medium	Low	Yes	No	Yes	High

3.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

3.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

3.9 ADDITIONAL COMMENTS

None at this time.

3.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Arcata that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Arcata has significant exposure. These maps are illustrated in the following figures.

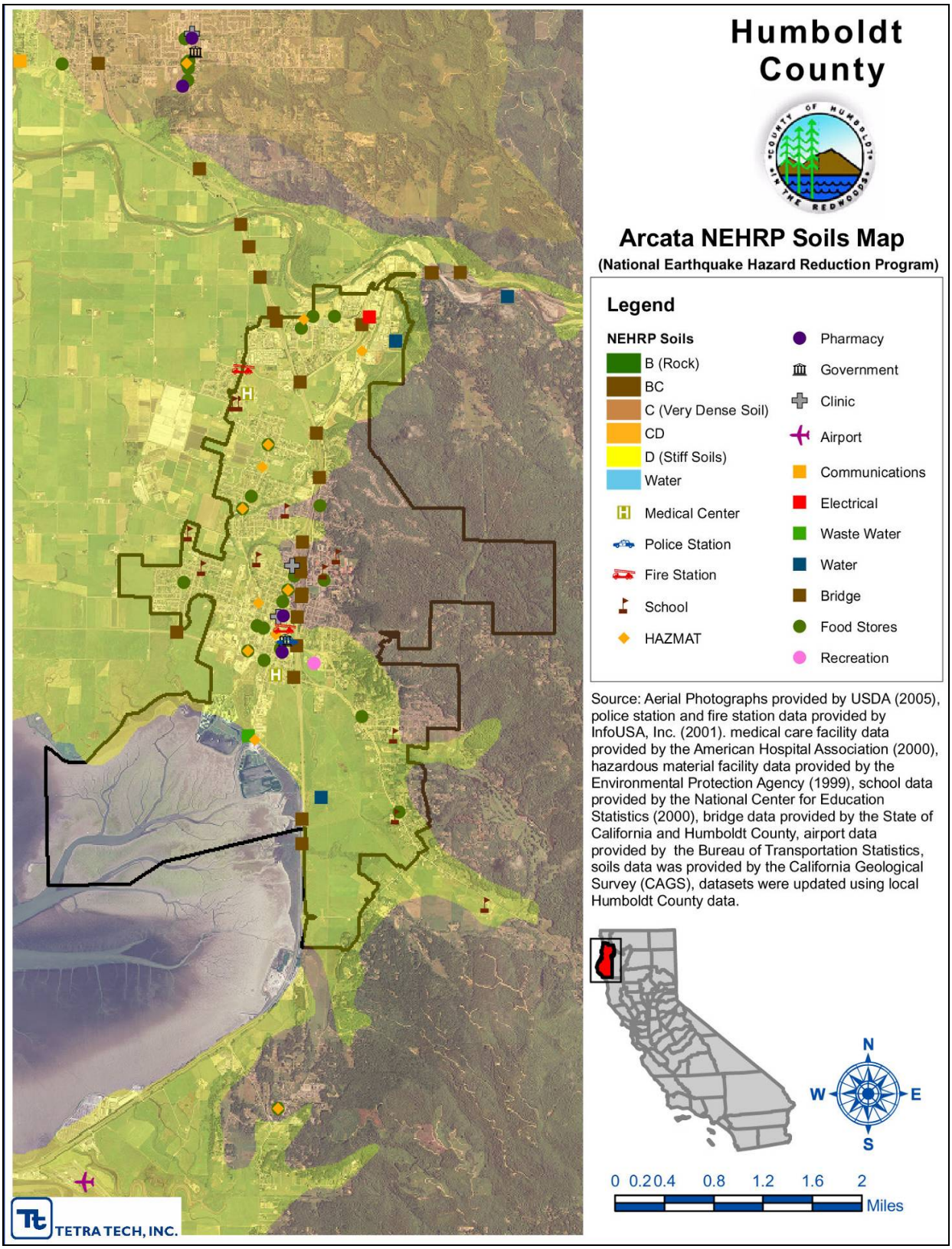

Figure 3-1: City of Arcata Earthquake Hazard Areas.

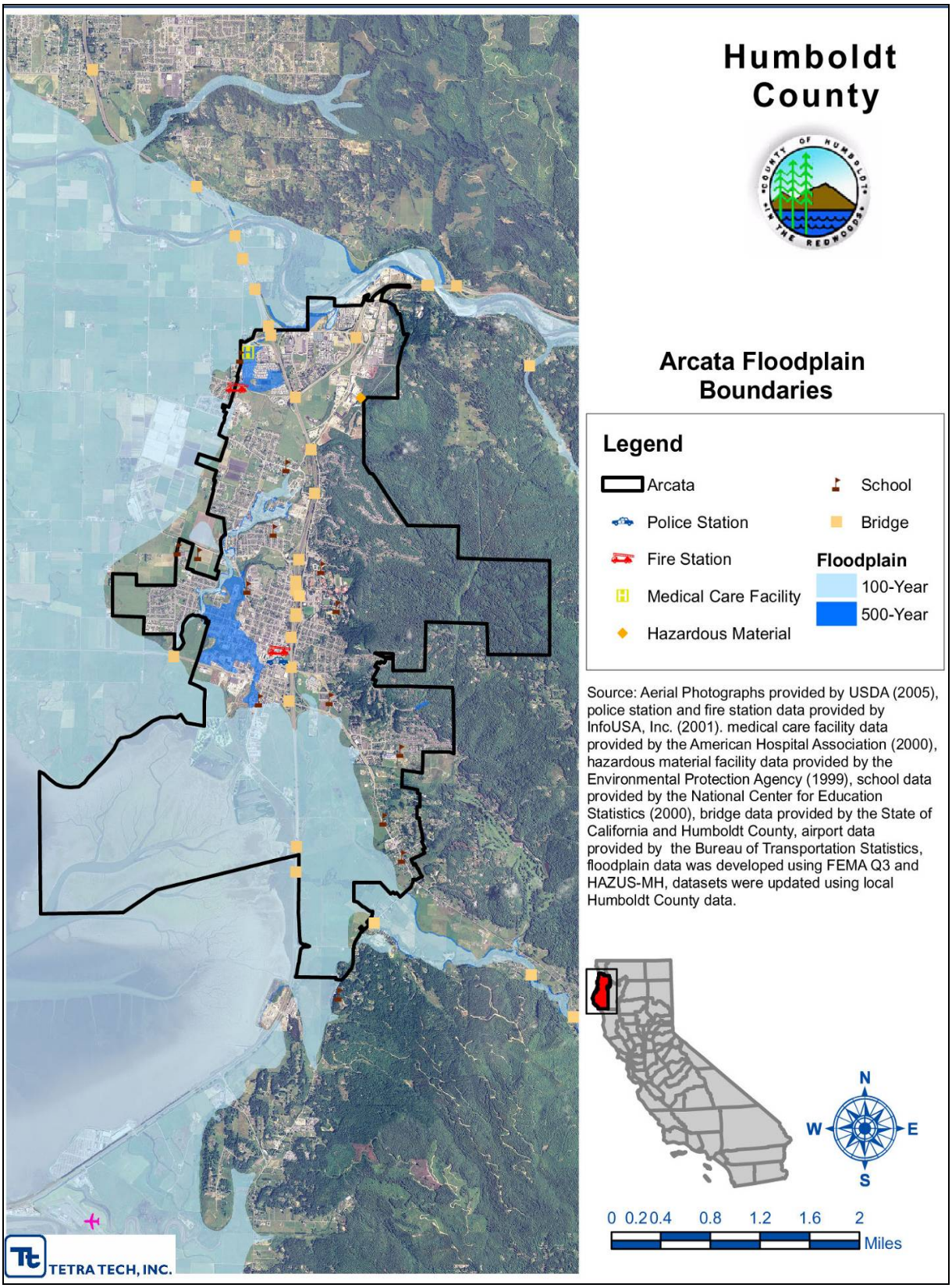

Figure 3-2: City of Arcata Floodplain, Extent and Location

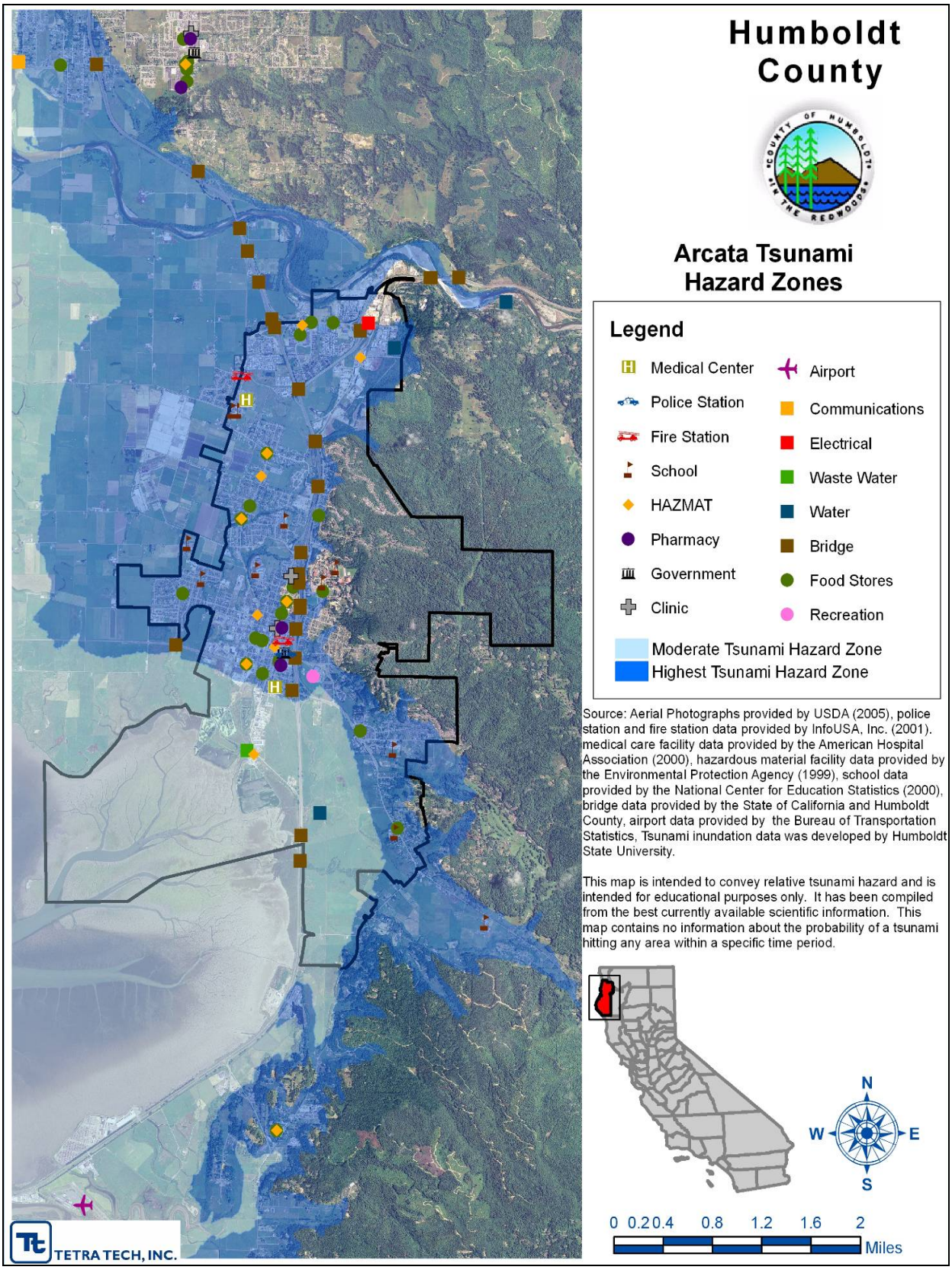

Figure 3-3: City of Arcata Tsunami Hazard Areas

CHAPTER 4.
CITY OF BLUE LAKE ANNEX

4.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Wiley Buck, City Manager/Director of Public Works P.O. Box 458 Blue Lake, CA 95525 Phone: 707-668-5655 e-mail: bluelakecm@aol.com	Karen Nessler, City Clerk P.O. Box 458 Blue Lake, CA 95525 Phone: 707-668-5655 e-mail: bluelakecity@aol.com

4.2 CITY PROFILE

Population

1,152 (July 2007)

Location: The City of Blue Lake is a small rural town situated in the Mad River Valley on California's beautiful north coast. A short and scenic freeway drive from Eureka (15 miles north east) and Arcata (4 miles east).

Date of Incorporation

1910

Climate

Located slightly inland along the Mad River, the characteristic heavy coastal fog is tempered so that Blue Lake enjoys more hours of sunshine and warmer temperatures during the summer than neighboring communities. Record temperatures in the past ten years were a chilly 11 degrees to a high of 101. Average yearly rainfall is 45 inches. Winter days of 45 – 50 and summer days of 65 – 70 degrees are most common.

Governing Body Format

The City of Blue Lake is governed by a five-member City Council. This body will assume the responsibility for the adoption and implementation of this plan. The City consists of 4 departments: Business Office, Public Works, Police and the City Manager's Office

Growth/Development Trends

Based on the data tracked by the California Department of Finance, Blue Lake has experienced a relatively flat rate of growth. The overall population has increased only 1.3% since 2000 and actually decreased at a rate of 1.92% per year from 1990 to 2000. With this rate of growth, the anticipated development trends for Blue Lake are considered low to moderate, consisting of primarily residential development. During the last 25-year period, Blue Lake made the final shift from being a "mill town" with jobs in or near Blue Lake to a "bedroom community". In this latter role Blue Lake represents a desirable residential location for persons employed in Arcata, Eureka and McKinleyville, and for students attending Humboldt State University (Arcata).

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. The City of Blue Lake adopted its General Plan pursuant to this state mandate in 1986 and is due to be updated within the next 2 years. Future growth and development within Blue Lake will be managed as identified in its General Plan.

4.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	11/8/1980	Not Available
Severe Weather / Flood	N/A	1/18/1981	Not Available
Severe Weather / Flood	N/A	12/19/1981	Not Available
Severe Weather / Flood	N/A	3/31/1982	Not Available
Severe Weather / Flood	DR-677	1/25/1983	$3.82 Million County Wide
Severe Weather / Flood	N/A	12/25/1983	Not Available
Severe Weather / Flood	DR-758	2/16/1986	Over $5 million County Wide
Earthquake	N/A	4/25/1992	Not Available
Severe Weather / Flood	N/A	12/31/1992	Not Available
Severe Weather / Flood	N/A	1/20/1993	Not Available
Earthquake	N/A	12/26/1994	Over $5 Million County Wide
Severe Weather / Flood	DR-1044	1/9/1995	$15 Million County Wide
Severe Weather / Flood	DR-1046	3/1/1995	$1.3 Million County Wide
Severe Weather / Flood	N/A	12/11/1995	Not Available
Severe Weather / Flood	N/A	12/29/1995	$252,255
Severe Weather / Flood	N/A	12/8/1996	Not Available
Severe Weather / Flood	DR-1155	1/2/1997	$35 Million County Wide
Severe Weather / Flood	DR-1203	1/27/1998	Over $6 Million County Wide
Severe Weather / Flood	N/A	11/21/1998	Not Available
Severe Weather / Flood	N/A	12/27/2002	Not Available
Severe Weather / Flood	N/A	12/31/2005	Not Available

- Number of FEMA Identified Repetitive Flood Loss Properties: 0
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

4.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a] 100-year	500-year	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$4,311,680	$25,210,790	High	54
2	Severe Weather	$159,568		High	51
3	Flood	$703,100	$1,270,900	High	27
3	Landslide	$747,744		High	27
5	Dam Failure	$4,325,297		Low	12
6	Drought	No Measurable impact to property		High	9
7	Wild Fire	No measurable impact to property		Medium	0[c]
7	Tsunami	No measurable impact to property		Low	0[c]
8	Fish Losses	No measurable impact to property		Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

4.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

4.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	N	Y	Uniform Building Code
2.) Zoning Ordinance	Y	N	N	Y	Ordinance #478 Adopted November 9, 2004.
3.) Subdivision Ordinance	Y	N	N	N	Ordinance #435 Adopted May 9, 1995.
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	N	N	N	Ordinance #478 Adopted November 9, 2004.
5.) Growth Management	Y	N	N	Y	General Plan 1986 Housing Element June 2004
6.) Floodplain Management or Basin plan	N	N	N	N	
7.) Stormwater Management Plan	Y	N	N	N	Storm Drainage Master Plan April 1980.
8.) General Plan or Comprehensive Plan	Y	N	N	Y	General Plan 1986
9.) Capital Improvements Plan	N	N	N	N	
10.) Site Plan review requirements	Y	N	N	N	
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	Y	N	N	N	
13.) Emergency Response plan	Y	N	N	N	October 2005
14.) Shoreline Management Plan	N	N	N	N	
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.

4.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Planning: Contract Services
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Engineer: Contract Services
3.) Planners or engineers with an understanding of natural hazards	Y	Engineer, and Planner: Contract Services.
4.) Floodplain Manager	Y	Public Works: Director
5.) Surveyor(s)	Y	Engineer: Contract Services
6.) Personnel skilled or trained in "GIS" applications	Y	Planning: Contract Services
7.) Scientist familiar with natural hazards in Humboldt County	Y	Humboldt State University
8.) Emergency Manager	Y	City Manager, Humboldt County Office of Emergency Services
9.) Grant Writer(s)	Y	City Manager, Parks and Recreation Director
10.) Staff with expertise or training in benefit/cost analysis	Y	Planning, Engineer: Contract Services

4.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use (Yes/No/Don't know)
1.) Community Development Block Grants (CDBG)	Yes
2.) Capital Improvements Project Funding	Yes
3.) Authority to Levy Taxes for specific Purposes	Yes
4.) User fees for water, sewer, gas or electric service	Yes
5.) Impact Fees for homebuyers or developers of new development/homes	Yes
6.) Incur debt through general obligation bonds	Yes
7.) Incur debt through special tax bonds	Yes
8.) Incur debt through private activity bonds	Yes
9.) Withhold public expenditures in hazard-prone areas	Yes
10.) State sponsored grant programs	Yes
11.) Other	None known of at this time

4.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	9/9[a]	N/A
Public Protection	5/8B[b]	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A

a. 99/99 assigned to those communities that refused to participate in the BCEGS program.
b. Higher classification applies to when subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

4.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
BL-1	Adopt a Long-term Capital Improvements Plan	All Hazard Except Fish Loss	1-5	City Manager's Office	Low	General Fund	Short-term
BL-2	Prepare a Post Disaster Recovery Plan	All Hazard Except Fish Loss	1-5	City Manager Office	Low	General Fund	Short-term
BL-3	Adopt International Building Code 2008	Earthquake and Flood	1,3	City Manager Office	Low	General Fund	Short-term
BL-4	Install Emergency water inter-ties between neighboring jurisdictions	Earthquake, Sever weather, Drought, Dam Failure	1-6	Public Works	High	Enterprise Fund. Possible Hazard Mitigation Grant funding	Long-term DOF
BL-5	Support county-wide initiatives in the Humboldt Operational Area Hazard mitigation Plan	All Hazards	All	City Manager Office	Low	Funded through existing/ ongoing programs	Short-term OG
BL-6	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7,9,10,11	Department of Public Works	Low	Funded through existing, on-going programs	Short-term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = Depending on funding

4.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
BL-1	5	Medium	Medium	Yes	No	Yes	High
BL-2	5	Low	Low	Yes	No	Yes	High
BL-3	2	Low	Low	Yes	No	Yes	Low
BL-4	6	High	High	Yes	Yes	No	Low
BL-5	12	High	Low	Yes	No	Yes	High
BL-6	6	Medium	Low	Yes	No	Yes	High

4.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

4.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

4.9 ADDITIONAL COMMENTS

None at this time.

4.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Blue Lake that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Arcata has significant exposure. These maps are illustrated in the following figures.

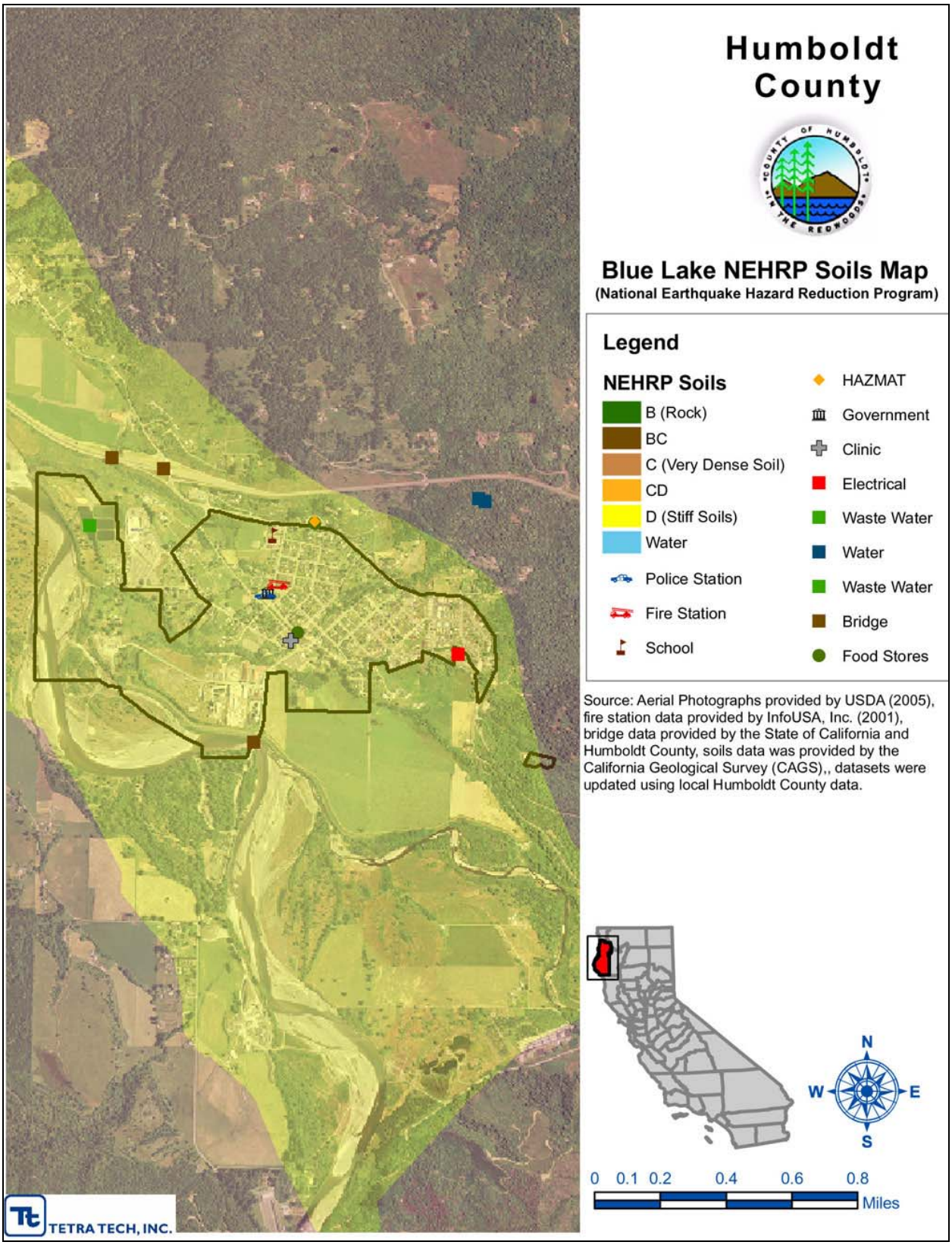

Figure 4-1: City of Blue Earthquake Hazard Areas

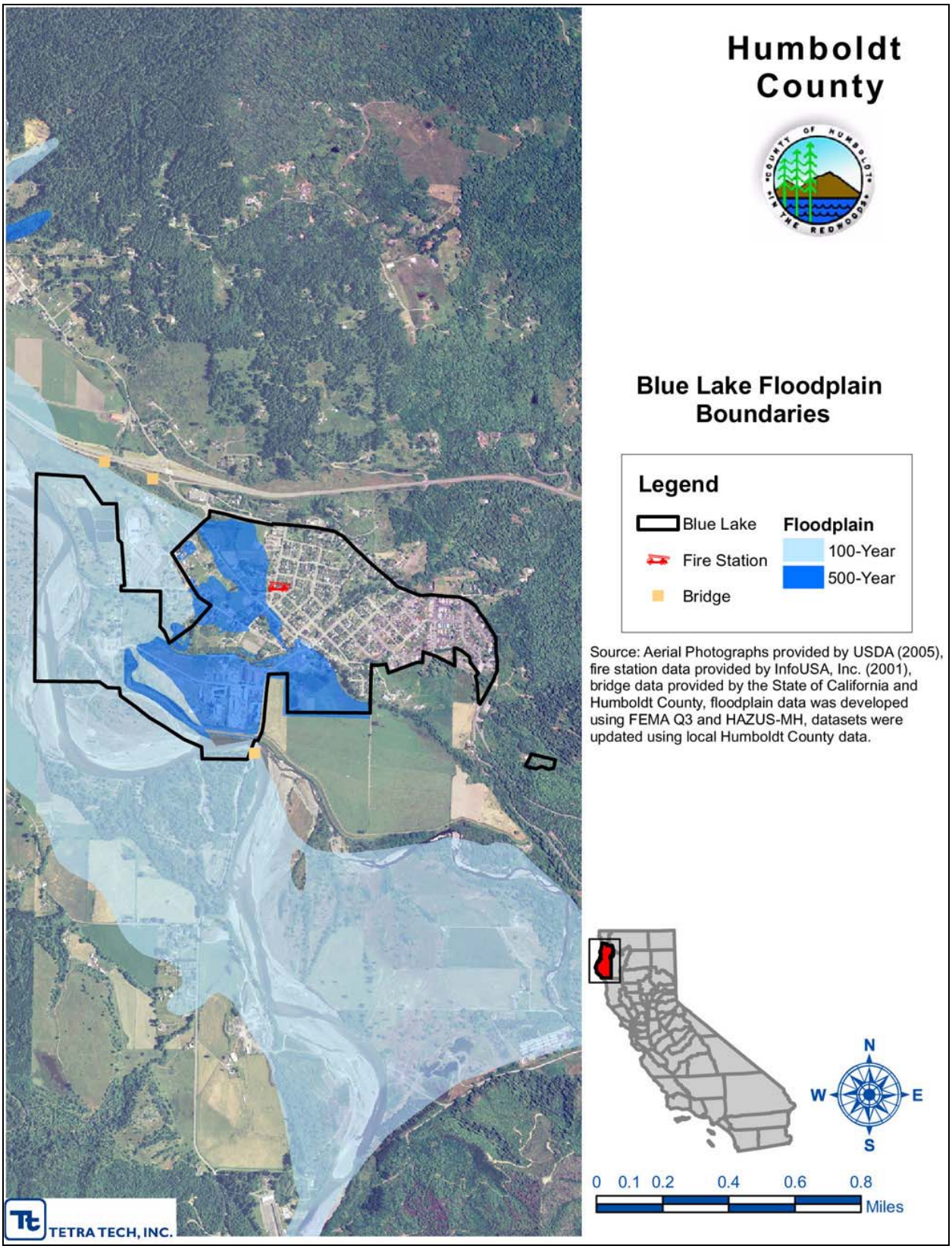

Figure 4-2: City of Blue Lake Floodplain Extent and Location

CHAPTER 5.
CITY OF EUREKA ANNEX

5.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Gary M. Bird. City of Eureka Special Projects Manager 531 K Street, Eureka CA Telephone: 707-441-4165 e-mail Address: gbird@ci.eureka.ca.gov	Bill Gillespie, City of Eureka Fire Captain Telephone: 707-441-4006 e-mail: bgillespie@ci.eureka.ca.gov

5.2 CITY PROFILE

Population

26,128 (as of Census 2000)

Location

Eureka is the Humboldt County seat and is located on the Pacific seacoast approximately 280 miles north of San Francisco. Within the continental United States, Eureka is the largest coastal city north of San Francisco, and has the largest protected deep-water port between San Francisco Bay and Puget Sound. Eureka was incorporated on April 18, 1956. The city serves as the regional center for health care, commerce, trade, and the arts for the north coast of California. Eureka's climate is characterized by mild, rainy winters and cool, dry summers, with an average temperature of 55 degrees Fahrenheit.

Eureka is ideally situated within California's Redwood Empire region due to its proximity to exceptional natural resources. These include the spectacular coast of the Pacific Ocean, Humboldt Bay, and several rivers in addition to Redwood National Park and various state parks including Humboldt Redwoods State Park. Located adjacent to Humboldt Bay, Eureka is renowned for the magnificent coastal redwoods. These trees are among the oldest living things on Earth and have played a vital role in fashioning Eureka's heritage.

Brief History

The history of Eureka starts with the indigenous Wiyot people. Perhaps never numbering more than a few thousand, they had lived harmoniously in the region for many centuries, and are particularly known for their basketry and fishery management. The initial Europeans arrived on Humboldt Bay in the early 1800's and encountered the indigenous Wiyot. They Wiyot were eventually supplanted by Europeans, as gold seekers and others arrived.

As the city of Eureka grew, it quickly became an important port city for northern California's logging, gold mining and commercial fishing industries, and by 1850 the vast potential for industry on the bay was soon realized. After only four years, there were seven mills processing lumber in Eureka. Within five years, 140 lumber schooners operated in Humboldt Bay, supplying lumber to other booming cities along the coast. Salmon fisheries sprang up as early as 1851, and within seven years, 50,000 pounds of smoked salmon were processed and shipped out of Humboldt Bay annually. The bay is also the site of one of the west coast's largest oyster farming operations, which began in the nineteenth century. The

Bay remains the home port to more than 200 fishing boats in two modern marinas which can berth at least 400 boats within the city limits of Eureka.

Date of Incorporation

1856

Climate

The climate of Eureka is completely maritime with high humidity prevailing throughout the year. The rainy season lasts from October through April, accounting for about 90 percent of the annual precipitation. The dry season, lasting from May through September, is typically marked by regular intrusions of low clouds and fog. Temperatures are quite moderate, and the annual range is one of the smallest in the lower 48 states.

The record high in Eureka is 87ºF while the record low is 20ºF. During a typical year, the colder lows are in the mid 30s and the warmer highs will reach the mid 70s. The reason for the small temperature range is the close proximity of Eureka to the Pacific ocean. The prevailing northwest wind blows across the cold up-welling water that is almost always present along the Humboldt County coast. While the immediate coast is largely affected by the cold California current, locations inland can have a much greater range of temperature. Areas just over the coastal mountains, or about 40 miles east of Eureka, can experience winter lows in the single digits and teens and summer highs from 100 to 110 degrees.

During the warm season, typically from June to October, northerly winds prevail over the coastal waters as a semi-permanent ridge dominates over the Eastern Pacific and a semi-permanent Heat Low develops over interior California. In the cool season, the North Coast periodically sees strong southerly winds as East Pacific storms make landfall.

Governing Body Format

The City of Eureka has a Mayor-Council system of governance. Primary power lies with the five council members, divided up into five wards. The Mayor has the power to appoint, as well as ceremonial duties, though the job includes presiding over council meetings, and meeting visiting dignitaries. This body will assume the responsibility for the adoption and implementation of this plan. Official city business is administered by the Office of the City Manager.

According to the U.S. Census Bureau, Eureka has a total area of 14.4 square miles, of which 9.4 square miles is land and 5 square miles is water. As of Census 2000, there were 10,957 households, and 5,883 families residing in the city. The growth rate has been virtually flat for decades due to the built out nature of the existing city lots. The median income for a household in the city was $25,849, and the median income for a family was $33,438.

Growth/Development Trends

Based on the data tracked by the California Department of Finance, Eureka has experienced a modest rate of growth. The overall population has increased only 4% since 2000 and has averaged 0.04% per year from 1990 to 2007. With this rate of growth, the anticipated development trends for Eureka are considered low to moderate.

The timber industry and the Pacific Northwest fisheries have declined steadily since the 1950s. Increased regulation and the creation of more parkland to preserve the remnants of once extensive virgin forests, rivers, and fisheries led to diminished profits and massive layoffs of blue collared mill workers and fisherman, beginning in earnest by the 1970s. Competition from other timber markets outside the nation only hastened the process of decline in logging and related industries. The challenge resulting from this

economic and social upheaval remains significant in the lives of many Eureka and North Coast residents. However, both the local fishing industry and the timber industry still figure large in the local and state economy, though in diminished form from the past.

Today, the major industries are tourism, timber (in value), and healthcare services (in number of jobs). Major employers today in Eureka include the following governmental entities: College of the Redwoods, County of Humboldt, and the Humboldt County Office of Education. St. Joseph Hospital in Eureka is now the largest private employer in Eureka.

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. The City of Eureka adopted its General Plan pursuant to this state mandate in July of 2000. Future growth and development within the City of Eureka will be managed as identified in its General Plan.

5.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Winter Storms/Wind/Flood	DR-1628	12/31/2005	$20,208,206 for County
Winter Storms/Wind/Flood	N/A	December 2005	Information not available
Winter Storms/Wind/Flood	DR-1203	02/09/1998	Over $6 million countywide
Winter Storms/Wind/Flood	DR-1155	01/04/1997	$35 Million countywide
Winter Storms/Wind/Flood	N/A	December 1996	Information not available
Winter Storms/Wind/Flood	DR-1046	03/12/1995	$1.3 Million countywide
Winter Storms/Wind/Flood	DR-1044	01/09/1995	$15 million countywide
Earthquake	N/A	December 1994	Over $5 million countywide
Winter Storms/Wind/Flood	N/A	January 1993	Information not available
Winter Storms/Wind/Flood	N/A	January 1993	Information not available
Winter Storms/Wind/Flood	N/A	December 1992	Information not available
Earthquake	DR-943	04/04/1992	$10 million
Winter Storms/Wind/Flood	DR-758	02/21/1986	$5 Million countywide
Winter Storms/Wind/Flood	DR-677	01/25/1983	$3.82 countywide
Winter Storms/Wind/Flood	N/A	March 1982	Information not available
Winter Storms/Wind/Flood	N/A	December 1981	Information not available
Earthquake	N/A	November 1980	$3 million

- Number of FEMA Identified Repetitive Flood Loss Properties: 0
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

5.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a]		Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
		100-year	500-year		
1	Earthquake	201,538,347	914,793,840	High	54
2	Severe Weather	$5,582,288		High	51
3	Flood	$1,944,500	$2,976,300	High	27
3	Tsunami	$84,828,700	$682,552,100[c]	Medium	24
5	Landslide	$2,976,300		Low	12
6	Dam Failure	No measurable impact to property		High	6
7	Drought	No measurable impact to property		Low	3
7	Fish Losses	No measurable impact to property		High	0 [d]
8	Wild Fire	No measurable impact to property		Low	0 [d]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. This value represents the loss estimate for a 300-year tsunami event
d. The probability of occurrence for these events is weighted at "0" due to no exposure

5.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

5.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	N	Y	2000 Building Code (UBC)
2.) Zoning Ordinance	Y	N	N	Y	Adopted 10-06-66; Ord. # 80-CS
3.) Subdivision Ordinance	Y	N	N	N	Adopted 12-06-84; Ord. # 416-CS
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	N	N	N	Flood Hazard Regulations Adopted 06-19-86; Ord. # 448-CS
5.) Growth Management	Y	N	N	Y	
6.) Floodplain Management or Basin plan	N	N	N	N	
7.) Stormwater Management Plan	Y	N	N	N	Adopted 01-24-06; Ord. # 705-CS
8.) General Plan or Comprehensive Plan	Y	N	N	Y	Adopted February 1999
9.) Capital Improvements Plan	N	N	N	N	Five year CIP adopted annually
10.) Site Plan review requirements	Y	N	N	N	Adopted with Zoning Ordinance 10-06-66; Ord. # 80-CS
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	Y	N	N	N	
13.) Emergency Response plan	Y	N	N	N	Adopted December 2004
14.) Shoreline Management Plan	N	N	N	N	Adopted with General Plan Feb. 1999
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.
18.) Other	Y	N	N	Y	

5.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Engineering and Community Development Departments/staff.
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Engineering and Public Works Departments/staff.
3.) Planners or engineers with an understanding of natural hazards	Y	Engineering and Community Development Departments/staff.
4.) Floodplain Manager	Y	Engineering and Community Development Departments/staff.
5.) Surveyor(s)	Y	Engineering and Public Works Departments/staff.
6.) Personnel skilled or trained in "GIS" applications	Y	Engineering Dept/GIS Coordinator
7.) Scientist familiar with natural hazards in Humboldt County	Y	Humboldt State University
8.) Emergency Manager	Y	City Manager and Fire Chief
9.) Grant Writer(s)	Y	City Manager Dept./Special Projects Manager
10.) Staff with expertise or training in benefit/cost analysis	N	

5.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use (Yes/No/Don't know)
1.) Community Development Block Grants (CDBG)	YES
2.) Capital Improvements Project Funding	YES
3.) Authority to Levy Taxes for specific Purposes	YES
4.) User fees for water, sewer, gas or electric service	YES
5.) Impact Fees for homebuyers or developers of new development/homes	NO
6.) Incur debt through general obligation bonds	NO
7.) Incur debt through special tax bonds	NO
8.) Incur debt through private activity bonds	NO
9.) Withhold public expenditures in hazard-prone areas	NO
10.) State sponsored grant programs	NO
11.) Other	

5.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not Participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	4/4	N/A
Public Protection	3/9	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

5.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
E1.	Replace/retrofit Eureka Fire Main Station and Emergency Operations Center (same location) to provide seismic strengthening to maintain essential emergency services.	All Hazards	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	$9,715,000	General Fund, OES, FEMA HMGP, PDM	Short term
E2.	Reconstruct Dock B to provide seismic strengthening to reduce risk of structural failure and sustain needed economic infrastructure.	Earthquake, severe weather, tsunami	O-2, O-12	Dept. of Public Works	$10,265,000	Harbor District, Redevelop-ment, EDA Grants, HMGP, PDM	Short term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
E3.	Construct Corporation Yard improvements to reduce risk of structural failure and increase efficiency and operations during natural disaster.	Earthquake, floods, tsunami	O-1, O-2, O-3, O-4	Dept. of Public Works	$675,000	General Fund, Redevelopment. City Water and Sewer Fund, HMGP, PDM	Short term
E4.	Construct Eureka Municipal Airport improvements to provide for increased use, safety and security of airport during a natural disaster.	Earthquake, severe weather, tsunami	O-4, O-5, O-12	Dept. of Public Works	$940,000	Hangar rental revenues, EDA Grants, CalTrans Aeronautics.	Long term
E5.	Construct a Fire Manipulative Training Facility in a central location to train emergency responders.	All Hazards	O-4, O-5, O-8,	Dept. of Public Works	$1,105,000	General Fund, FEMA grants, other Fire Districts.	Short term
E6.	Construct Fire Station 3 and 4 improvements to increase capacity for emergency apparatus and equipment and personnel.	Earthquake, severe weather	O-1, O-2, O-3, O-4, O-5,	Dept. of Public Works	$1,125,000	General Fund, OES, FEMA, HMGP, PDM.	Short term
E7.	Replace/retrofit/upgrade and cleanup fuel terminal facility to improve safety, minimize environmental impacts, and provide a more reliable fuel system.	Earthquake, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	$887,500	General Fund, Bay revenues, HMGP, PDM.	Short term
E8.	Construct Martin Slough Enhancement Project to reduce property and environmental damage caused by flooding.	Earthquake, flooding, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	$525,000	CA DWR, CA Coastal Conservancy, CA RWQCB, HMGP, PDM.	Short term
E9.	Construct Police Station Modifications to improve security and efficiency.	All Hazards	O-1, O-2, O-3, O-4, O-5,	Dept. of Public Works	$245,000	General Fund, Drug asset forfeitures.	Long term
E10.	Install, replace and repair or relocate Storm Drainage facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.	Earthquake, flooding, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	$50,000	General Fund, Gas tax, Assess. District, Grants.	Short term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
E11.	Repair and replace Sewer Lift Station facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.	Earthquake, severe weather	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	$765,000	Sewer revenues.	Short term
E12.	Construct Martin Slough Sewer Interceptor to protect and improve efficiency, safety and reliability of wastewater collection and transport system.	Earthquake, flooding	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	$31,700,000	Wastewater revenues, User fees, EPA grants, CA Prop 50 Grant.	Short term
E13.	Construct Standby Emergency Power Generator to ensure wastewater treatment plant is operational during critical emergencies and disasters.	Earthquake, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	$750,000	Wastewater revenues.	Long term
E14.	Construct Extended Fuel Storage Facilities to provide adequate fuel storage at additional locations during periods of extended power outage.	Earthquake, severe weather, flooding	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	$210,000	Water and sewer revenues.	Long term
E15.	Construct Mad River Water Pipeline project to strengthen system and ensure safe and reliable provision of public water to citizens and emergency service agencies.	Earthquake, tsunami	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	$7,365,000	Water Bond Proceeds	Short term
E16.	Construct Water Reservoir Maintenance and Security Improvement Project for seismic strengthening and to improve security and safety for Eureka's emergency water supply	Earthquake, severe weather, drought	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	$620,000	Water Bonds, Fund 501, HMGP, PDM	Short term
E17.	Implement Storm Water Management Plan to educate public about controlling/improving flooding events and water quality in the City.	Flooding, severe weather, drought	O-6, O-7, O-9, O-10	Dept. of Public Works	$50,000	General Fund	Short term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
E18.	Create and maintain a hazard mitigation informational web page on the City's website.	All Hazards	O-6, O-7	Office of City Manager	$3,000	General Fund	Short term
E19.	Support County wide initiatives to promote public education on the impacts of natural hazards and the risks they pose by emphasizing awareness, preparation, mitigation, response and recovery alternatives.	All Hazards	O-6, O-7, O-8, O-10	Office of City Manager	$10,000	General Fund	Short term
E20.	Partner with Humboldt County Emergency Service office in disaster response and preparedness, including updates to the Emergency Operations Plan, a post disaster action plan, training and support.	All Hazards	O-6, O-7, O-8, O-10	Office of City Manager	$10,000	General Fund	Short term
E21.	Enhance building codes and/or adopt International Building Code to improve and strengthen new construction to withstand the impacts of natural disasters and lessen the impact of that development on the environment.	All Hazards	O-11	Dept. of Public Works	$10,000	General Fund, HMGP.	Short term
E-22	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7,9,10,11	Dept. of Public Works	Low	Funded through existing, on-going programs	Short-term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

5.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
E1.	5	High	High	Yes	Yes	No	High
E2.	2	High	High	Yes	Yes	No	High
E3.	4	Medium	Medium	Yes	Yes	No	High
E4.	3	Medium	Medium	Yes	No	No	Low
E5.	3	Medium	Medium	Yes	No	No	Medium
E6.	5	High	High	Yes	Yes	No	Low
E7.	6	High	Medium	Yes	Yes	No	High
E8.	6	High	High	Yes	Yes	No	High
E9.	5	Medium	Medium	Yes	No	No	Low
E10.	6	High	Low	Yes	No	Yes	Medium
E11.	5	High	Medium	Yes	No	No	Medium
E12.	6	High	High	Yes	No	No	Medium
E13.	6	High	Medium	Yes	No	No	Low
E14.	6	High	Medium	Yes	No	No	Low
E15.	5	High	High	Yes	No	No	Medium
E16.	5	High	Medium	Yes	Yes	No	Medium
E17.	4	Medium	Low	Yes	No	Yes	Medium
E18.	2	Medium	Low	Yes	No	Yes	Medium
E19.	4	Medium	Low	Yes	No	Yes	Medium
E20	4	Medium	Low	Yes	No	Yes	Medium
E21.	1	High	Low	Yes	Yes	Yes	Medium
E22	6	Medium	Low	Yes	No	Yes	High

5.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).

- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions X

Prioritization of initiatives was based on parameters other than stated above: N/A

5.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

In addition to identifying vulnerable structures and facilities, it may be helpful to pay attention to the needs of vulnerable populations or those particularly at risk. These may include the very young, the very old, people with disabilities and homeless families. In Eureka we have a significant number of low and very low income (homeless) persons.

It may be beneficial to emergency managers and municipal planners to better understand and therefore be able to better meet the needs of their vulnerable populations in an emergency situation. This could involve distinguishing groups of people deemed to be among the "most vulnerable," their general locations within the community, and their expected capacity to respond or recover from disasters

5.9 ADDITIONAL COMMENTS

None at this time.

5.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Eureka that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Eureka has significant exposure. These maps are illustrated in the following figures.

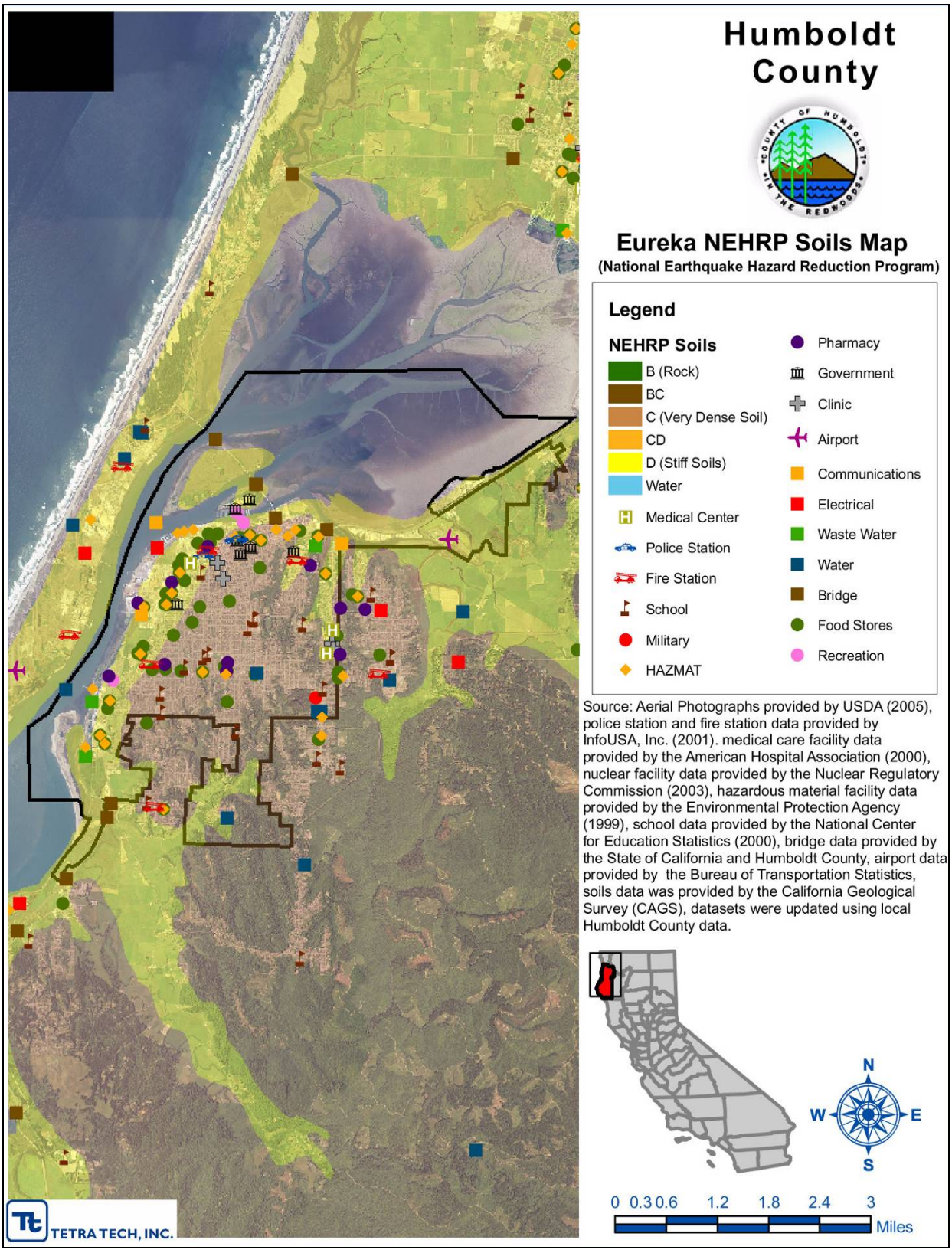

Figure 5-1: City of Eureka Earthquake Hazard Areas

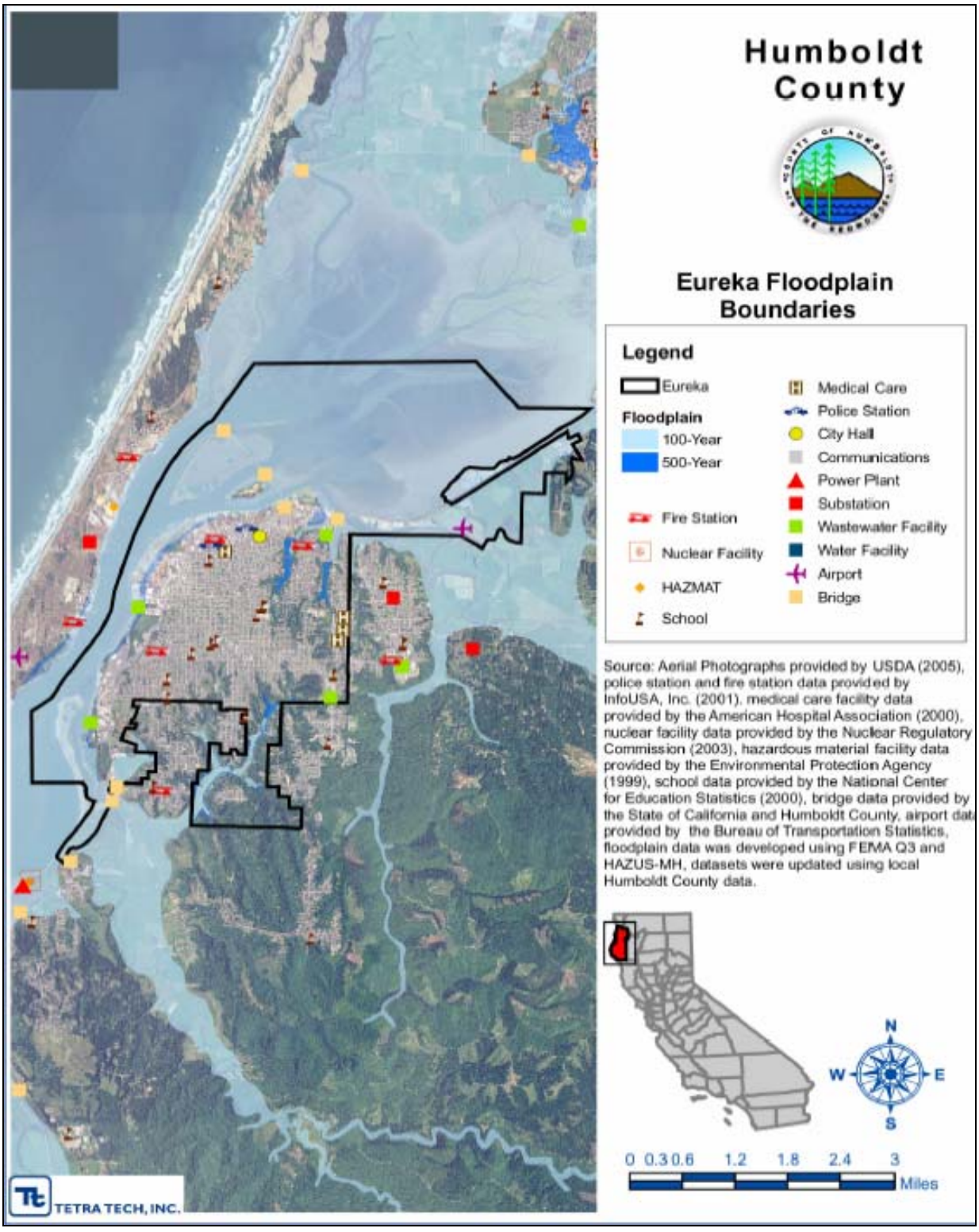

Figure 5-2: City of Eureka floodplain, extent and location

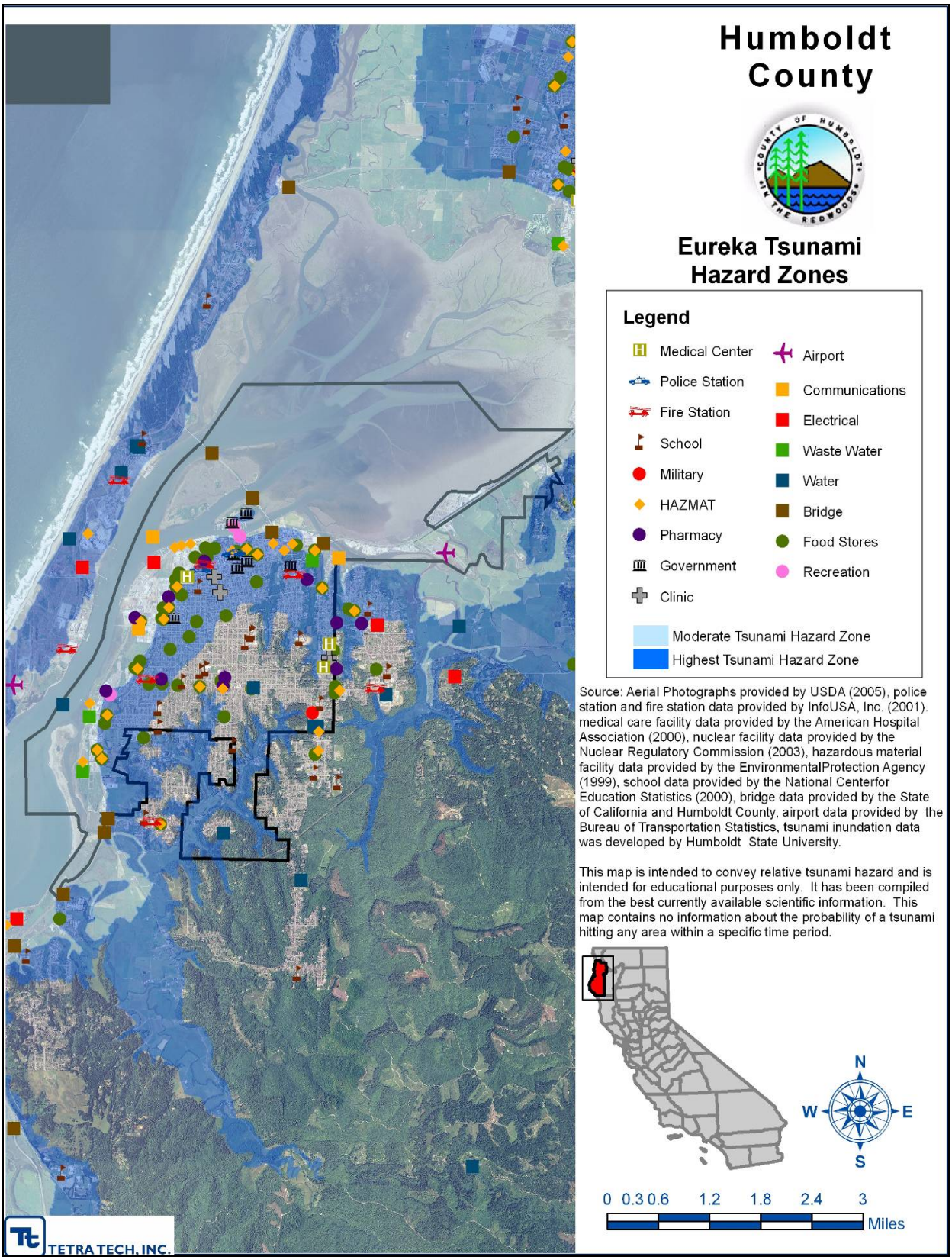

Figure 5-3: City of Eureka Tsunami Hazard Areas

CHAPTER 6.
CITY OF FERNDALE ANNEX

6.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Jay Parrish. City Manager City of Ferndale 834 Main St. Ferndale, CA 95536 Telephone: (707)786-4224 e-mail Address: Citymanager@ci.ferndale.ca.us	Nancy Katus Slocum, City Clerk City of Ferndale 834 Main St. Ferndale, CA 95536 Telephone: (707) 786-4224 e-mail: cityclerk@ci.ferndale.ca.us

6.2 CITY PROFILE

Population

1382 (As of 2000 Census)

Location

Ferndale is about 15 miles south of Eureka, the County Seat of Humboldt County, and about 2 miles west of the Fortuna. Highway 211 west from Highway 101 at Fernbridge runs directly through the middle of town.

Brief History

Ferndale is 15 miles south of Eureka, close to the Eel River and the Pacific Ocean. This small community in Northern California, Humboldt County traditionally has had an agricultural based economy that has transitioned to also include a very successful tourism economy. Specifically, the main industries in Ferndale are dairy, farming cattle ranching, tourism, lumber and wood products, and services. Ferndale is known for its architecturally stunning bed and breakfasts as well as the beautiful Victorian charm of antique shops, art galleries, and museums. These assets, as well as the beautiful country pasture, ocean views, and sweeping mountainsides, all help to attract tourists from around the world. Ferndale is so picturesque that even the movie industry has taken an interest in the town for its timeless appeal and cinematic possibilities. Several movies have been filmed there during the last decade.

The town has been incorporated since 1893, and has had a strong local government since. Ferndale's economy has experienced some shifts over the years. In the early 1900s, Ferndale's small creameries formed the Humboldt Creamery, which is still in operation. Since then, Ferndale has remained physically unchanged but has added tourism to its economic base making it one of Humboldt County's most desirable stops.

Ferndale is recognized as one of the most seismically active regions in the state and this has held true in its recent history as well. In addition to earthquakes the town has experienced other disasters such as fires and floods.

Climate

Ferndale's weather is typical of the Northern California coast, with mild summers and cool, wet winters, It rarely freezes in the winter and it is rarely hot in the summers. Annual average rainfall is over 40 inches, with 80% of that falling in the six-month period of November through April. The average year-round temperature is 59 degrees. Humidity averages between 72 and 87 percent. Prevailing winds a from north, and average about 5 mph.

Governing Body Format

The City of Ferndale is governed by a five member council with the Mayor being elected by the community. This body will assume the responsibility for the adoption and implementation of this plan. The City has a City Manager, Clerk and Deputy Clerk, as well as a Police department, Public Works and a Wastewater Operations department. The City has a variety of commissions and committees.

6.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	11/18/1980	Not Available
Severe Weather/Flood	N/A	1/18/1981	Not Available
Severe Weather/Flood	N/A	12/19/1981	Not Available
Severe Weather/Flood	N/A	3/31/1982	Not Available
Severe Weather/Flood	DR-677	1/25/1983	$3.82 Countywide
Severe Weather/Flood	N/A	12/25/1983	Not Available
Severe Weather/Flood	DR-758	2/16/1986	$5 Million Countywide
Earthquake	DR-943	4/25/1992	Not Available
Severe Weather/Flood	N/A	12/31/1992	Not Available
Severe Weather/Flood	N/A	1/20/1993	Not Available
Earthquake	N/A	12/26/1994	Over $5 million countywide
Severe Weather/Flood	DR-1044	1/9/1995	$15 million Countywide
Severe Weather/Flood	DR-1046	3/1/1995	$1.3 Million Countywide
Severe Weather/Flood	N/A	12/11/1995	Not Available
Severe Weather/Flood	N/A	12/29/1995	Not Available
Severe Weather/Flood	N/A	12/8/1996	Not Available
Severe Weather/Flood	DR-1155	½/1997	$35 Million countywide
Severe Weather/Flood	DR-1203	1/27/1998	Over $6 million countywide
Severe Weather/Flood	N/A	11/21/1998	Not Available
Severe Weather/Flood	N/A	12/27/2002	Not Available
Severe Weather/Flood	DR-1628	12/31/2005	$20,208,206 for County

- Number of FEMA Identified Repetitive Flood Loss Properties: 0
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

6.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a] 100-year	500-year	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$10,156,930	$28,632,430	High	54
2	Severe Weather	$296,695		High	42
3	Flood	$3,653,900	$3,654,500	High	18
3	Tsunami	$0	$11,088,000 [c]	Low	16
5	Landslide	$128,081		Medium	12
6	Wildfire	No loss estimation available		Medium	12
7	Drought	No measurable impact to property		High	9
7	Fish losses	No measurable impact to property		Low	3
8	Dam Failure	No measurable impact to property		Low	0 [d]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. This value represents the loss estimate for a 300-year tsunami event
d. The probability of occurrence for these events is weighted at "0" due to no exposure

6.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

6.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	N	Y	Ordinance 99-03
2.) Zoning Ordinance	Y	N	N	Y	Ordinance 02-02
3.) Subdivision Ordinance	Y	N	N	N	Ordinance 99-04
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	N	N	N	Ordinance Flood Damage Prevention 315
5.) Growth Management	Y	N	N	Y	General Plan Aug. 1986 Ordinance 2006-Housing Element June
6.) Floodplain Management or Basin plan	N	N	N	N	Ordinance Drainage 94-01
7.) Stormwater Management Plan	Y	N	N	N	Ordinance Stormwater 314 Jan. 1991
8.) General Plan or Comprehensive Plan	Y	N	N	Y	Aug. 1986
9.) Capital Improvements Plan	N	N	N	N	
10.) Site Plan review requirements	Y	N	N	N	Council adopted 2-10-03
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	Y	N	N	N	
13.) Emergency Response plan	Y	N	N	N	October 4, 2004
14.) Shoreline Management Plan	N	N	N	N	
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.
18.) Other	Y	N	N	Y	

6.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Planner and City Manager Public Works, Building inspector and City Engineer
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	City Engineer and Public Works Lead person
3.) Planners or engineers with an understanding of natural hazards	Y	City Engineer and Public Works Lead person
4.) Floodplain Manager	Y	City Engineer
5.) Surveyor(s)	Y	City Engineer
6.) Personnel skilled or trained in "GIS" applications	Y	City Engineer
7.) Scientist familiar with natural hazards in Humboldt County	Y	City Engineer
8.) Emergency Manager	Y	City Manager
9.) Grant Writer(s)	Y	City Manager, City Engineer, and Wastewater Operator
10.) Staff with expertise or training in benefit/cost analysis	Y	City Engineer

6.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use (Yes/No/Don't know)
1.) Community Development Block Grants (CDBG)	Yes
2.) Capital Improvements Project Funding	No
3.) Authority to Levy Taxes for specific Purposes	Yes
4.) User fees for water, sewer, gas or electric service	Yes
5.) Impact Fees for homebuyers or developers of new development/homes	Yes
6.) Incur debt through general obligation bonds	No
7.) Incur debt through special tax bonds	No
8.) Incur debt through private activity bonds	No
9.) Withhold public expenditures in hazard-prone areas	No
10.) State sponsored grant programs	No
11.) Other	

6.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)		
Community Rating System (CRS)	Not Participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	9/9	N/A
Public Protection	5/8B	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

6.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
F-1	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1, 3, 5, 7, 8, 10	CMO	Low	General Fund	Short-Term
F-2	Adopt a long-term Capital Improvement Plan	All Hazards Except Fish Loss	1-3, 5, 7	PW	Medium	General Fund	Long Term
F-3	Improve hillside stability in landslide-prone by improving drainage and planting plants that protect soil and retaining walls where needed.	Areas, Landslide	2, 3, 10	PW	Medium	PW	Long Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
F-4	Prepare a Post Disaster Recovery Plan	All Hazards	1, 3	CMO	Low	General Fund	Short Term
F-5	Develop ring levees around at risk facilities	Tsunami, Flood, Severe weather,	1-3	PW/WTF	High	WWF	Short-Term
F-6	Perform Seismic retrofits of critical facilities, such as the public works facility and the Wastewater facility	Earthquake	1-3	PW/WTF	High	General Fund/PW/SF	Short Term
F-7	Work with NOAA to attain the certificates of Storm Ready and Tsunami Ready	Tsunami, Severe Weather	3, 5-8	CMO	Medium	General Fund	Short Term
F-8	Perform Preventative Maintenance for Francis Creek	Landslide, flood, severe weather	1, 2, 9, 10	PW	Low	PW	Short Term
F-9	Adopt International Building Code on January 1, 2008	Earthquake, Flood	11	CMO	Low	Building Fees	Short Term
F-10	Establish redundant communication capabilities throughout the city.	All Hazards	1, 5	PD	Medium	General Fund	Short Term
F-11	Adopt an updated Emergency Response Plan	All Hazards	1, 5, 10	PD	Low	General Fund	Short Term
F-12	Update City Land Use Code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslides	10	CMO	Low	General Fund	Short Term
F-13	Update floodplain mapping throughout the City, including continued participation with a national flood insurance program	Flood, Severe weather	7, 8, 10	CMO/PW	Low	PW	Short Term
F-14	Maintain National Incident Management System and Incident Command System training for City staff	All Hazards	1, 4, 5, 10	PW	Low	General Fund	OG/Short Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
F-15	Obtain and distribute current information about local natural hazards risk and emergency preparedness including creating and maintaining current website information	All Hazards	3, 8, 10	WTF	Low	General Fund	OG/Short Term
F-16	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7,9,10,11	PW	Low	Funded through existing, on-going programs	Short-term OG

Key: CMO=City Manager's Office, PW=Public Works, WTF=Waste Treatment Facility, SF=Sewer Fund, PD=Police Department

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

6.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
F-1	6	Medium	Low	Yes	No	Yes	High
F-2	5	Medium	Medium	Yes	Yes	No	High
F-3	3	Medium	Low	Yes	No	Yes	High
F-4	2	Low	Low	Yes	No	Yes	High
F-5	3	High	High	Yes	Yes	No	High
F-6	3	High	High	Yes	Yes	No	High
F-7	5	Medium	Low	Yes	No	Yes	Medium
F-8	4	Medium	High	No	Yes	No	Medium
F-9	1	Low	Low	Yes	No	Yes	Low
F-10	2	Medium	Medium	Yes	Yes	No	High
F-11	3	Low	Low	Yes	Yes	No	Medium

F-12	1	Low	Low	Yes	No	Yes	Medium
F-13	3	Low	Low	Yes	No	Yes	High
F-14	4	Low	Low	Yes	No	Yes	High
F-15	3	Low	Low	Yes	No	Yes	High
F-16	6	Medium	Low	Yes	No	Yes	High

6.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

6.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

6.9 ADDITIONAL COMMENTS

None at this time.

6.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Ferndale that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Ferndale has significant exposure. These maps are illustrated in the following figures.

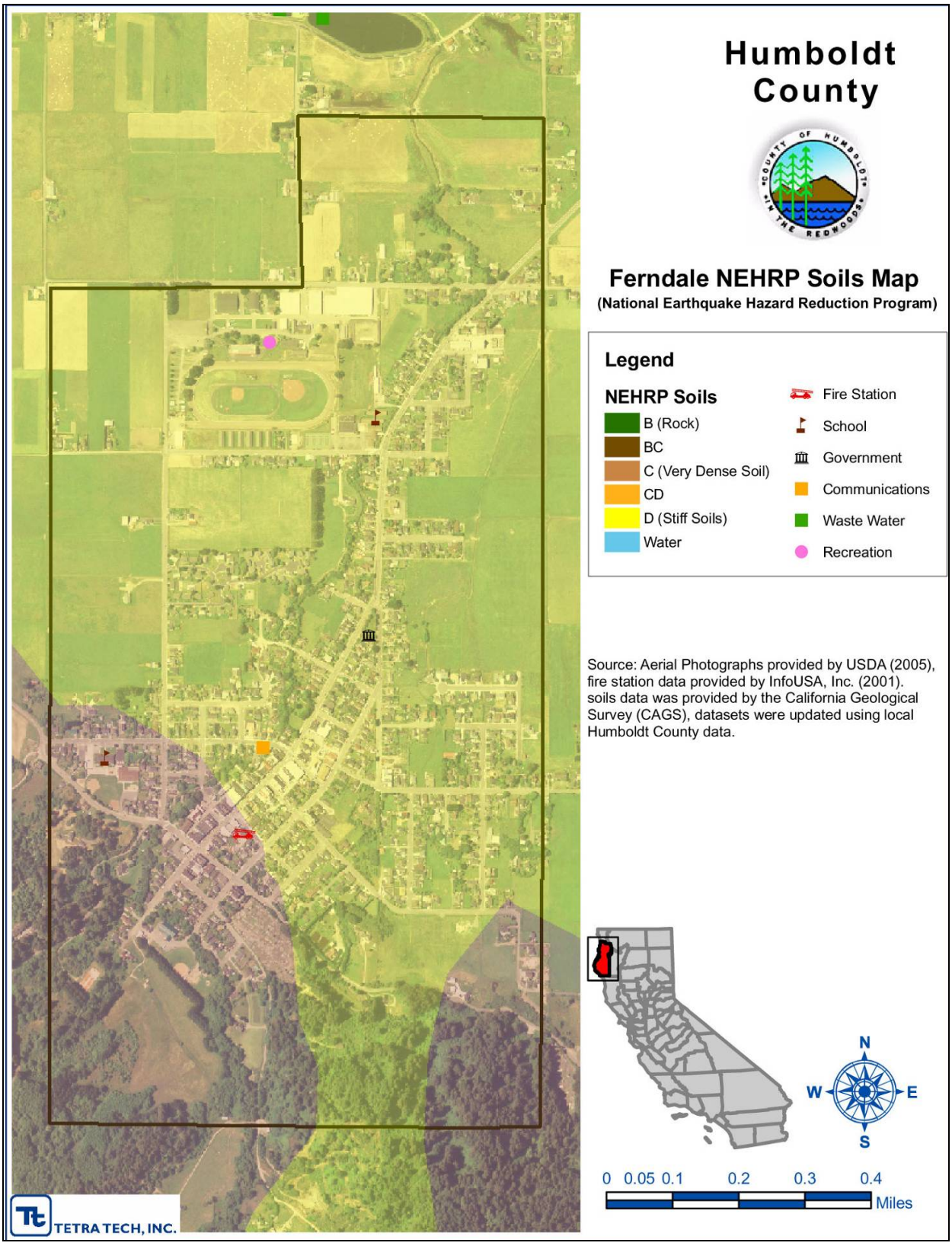

Figure 6-1: Ferndale Earthquake Hazard Areas

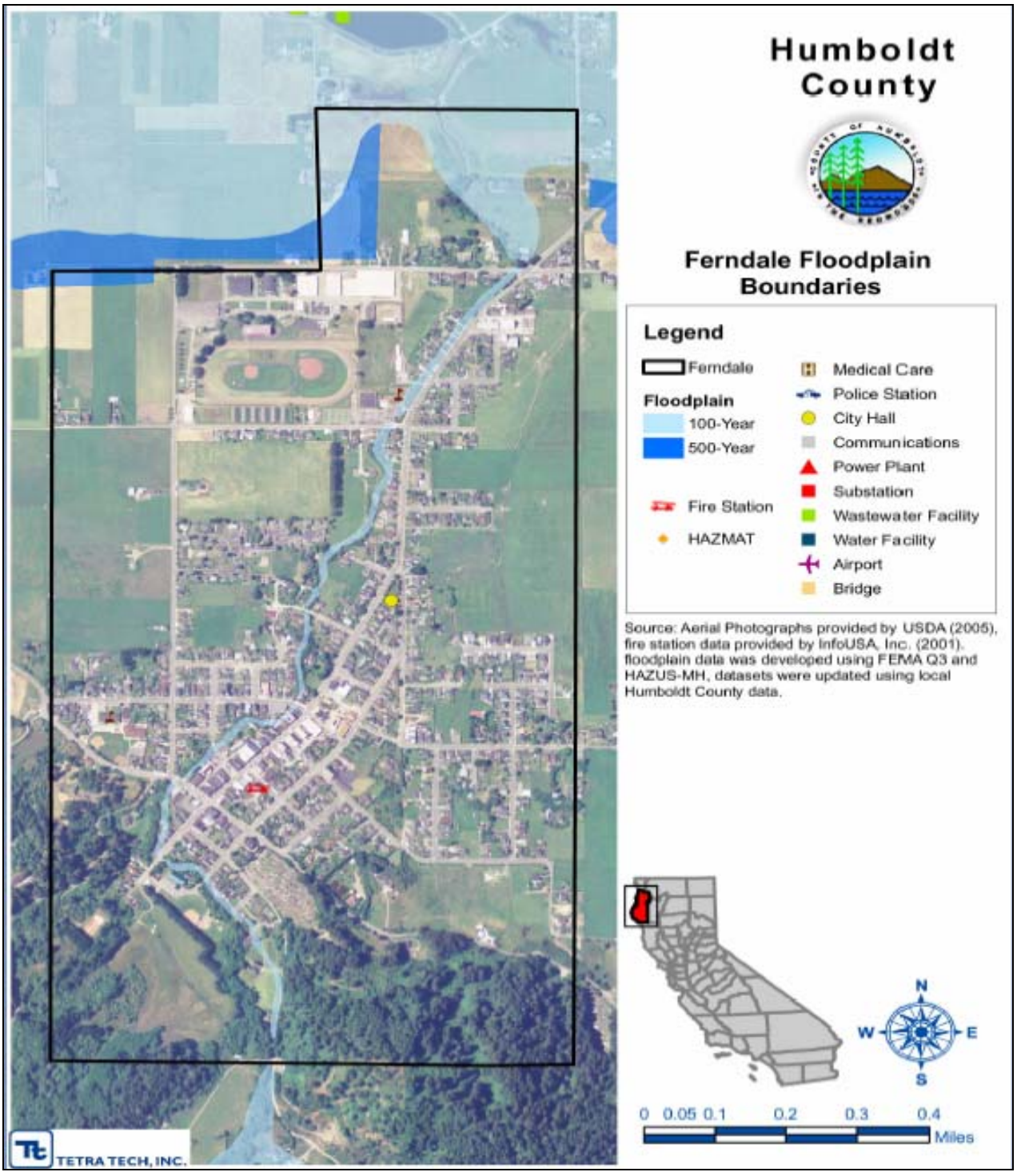

Figure 6-2: City of Ferndale floodplain, extent and location

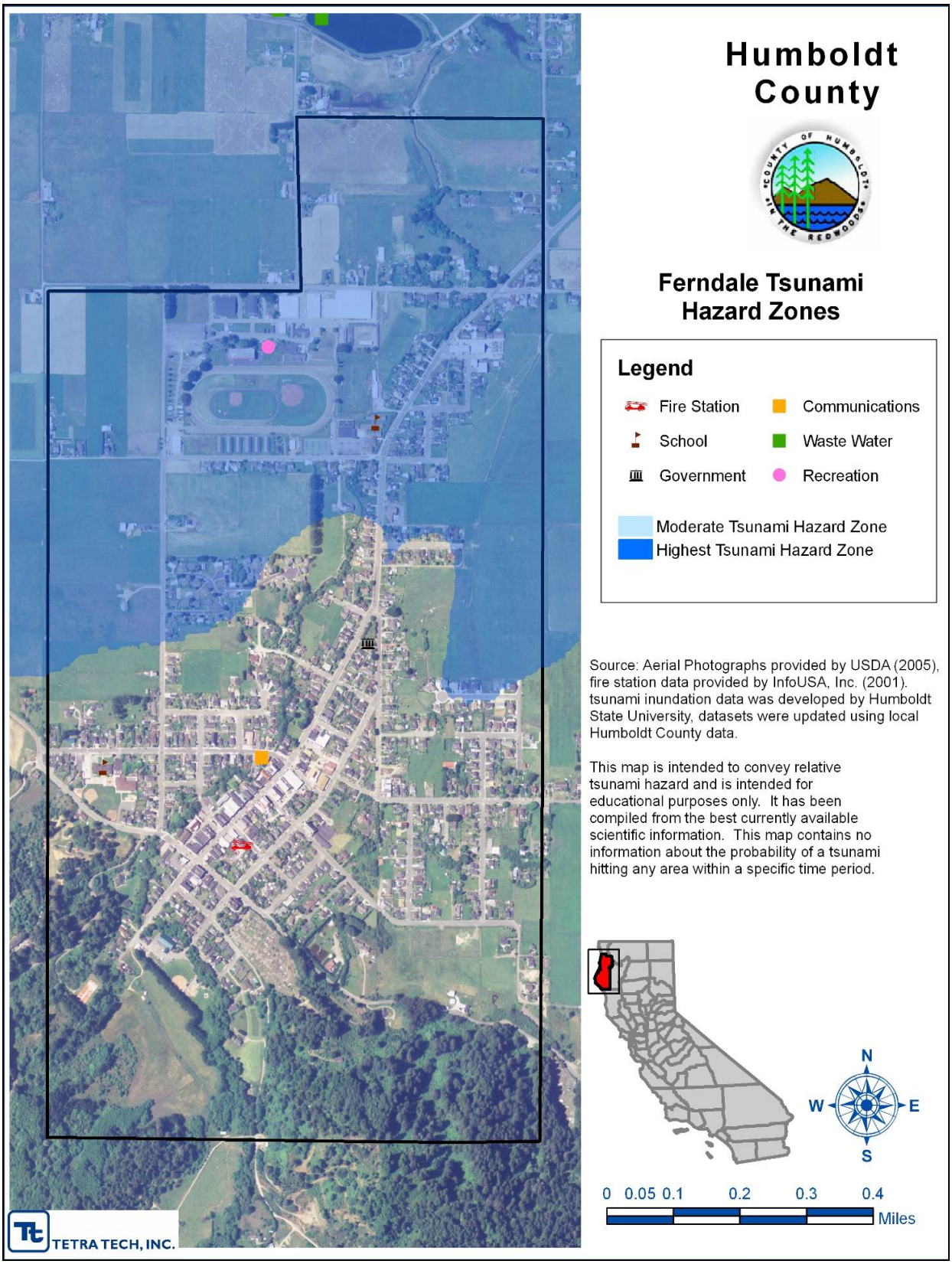

Figure 6-3: City of Ferndale Tsunami Hazard Areas

CHAPTER 7.
CITY OF FORTUNA ANNEX

7.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Duane Rigge City of Fortuna P.O. Box 545 Fortuna, CA 95540 Telephone: (707)725-1410 e-mail Address: drigge@ci.fortuna.ca.us	Liz Shorey, Deputy Director Community Development. Department City of Fortuna P.O. Box 545 Fortuna, CA 95540 Phone: 707-725-1408 e-mail: lshorey@ci.fortuna.ca.us

7.2 CITY PROFILE

Population

11,206 (July 2006)

The current population is 11, 250 with an anticipated increase of another 5,000 persons by the year 2030. Approximately 11% of the population is Hispanic and 25% of students in the elementary school district have Spanish as a first language. As of the census of 2000, there were 10,497 people, 4,185 households, and 2,778 families residing in the city. The population density was 2,179.9/mi². There were 4,414 housing units at an average density of 916.7/mi². The racial makeup of the city was 88.39% White, 0.45% Black or African American, 2.91% Native American, 0.97% Asian, 0.17% Pacific Islander, 3.95% from other races, and 3.16% from two or more races. 10.45% of the population were Hispanic or Latino of any race.

The median income for a household in the city was $31,129, and the median income for a family was $38,867. The per capita income for the city was $16,574. About 12.1% of families and 17.4% of the population were below the poverty line, including 24.8% of those under age 18 and 4.6% of those age 65 or over.

Location

The City of Fortuna is located seven miles from the Pacific coast within the Eel River Valley of Humboldt County in Northwest California. The community is affected by coastal weather patterns with the Pacific Ocean to the west. Fortuna is served by Hwy 101 providing direct access to San Francisco 253 miles to the south and to Eureka (County Seat) 15 miles to the north. The western terminus of Hwy 36 intersects Hwy 101 one-mile south of the city limits. Fortuna is located and is the gateway to the Sequoia Giant Redwood forests of Northern California. Fortuna is surrounded by National, State and County Redwood parks.

Brief History

The downtown is comprised primarily of wood framed buildings that date from the turn of the 20th Century through the early 1990s when earthquake damaged structures were replaced. The Eel River flows

northward near the western city limits. In 1955 and again in 1964 the city experienced major flooding. Following the 1955 event the Army Corp of Engineers raised the Eel River levees to the '55 flood levels but they have not been raised since. Strongs Creek is the principal drainage for the eastern watershed collecting water from Mill Creek, Jameson Creek, and Rohner Creek before passing alongside the City's wastewater treatment plant at the confluence of Strongs Creek and the Eel River. Drinking water wells are also located in an area subject to flooding. The city proposes to make more use of detention basins to reduce flooding potential from the local creeks during time of high water.

Growth/Development Trends

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. The City of Fortuna is currently in the process of revising its General Plan pursuant to this state mandate, with adoption anticipated in 2007. Future growth and development within the City will be managed as identified in its General Plan.

7.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather / Flood	DR-677	1/25/1983	Localized flooding on Fortuna Blvd. No known damage assessments.
Earthquake	DR-943	4/25/1992	89-106 homes damages @ $1.2 million estimate 41 commercial buildings @ 1.6 million estimate Public facilities @ $1.0 million estimate $3.8 to $4.0 million total damage in Fortuna
Severe Weather / Flood	DR-1046	1/9/1995	Streets flooded – minor damage. $1.3 million Countywide
Windstorm/flood	N/A	12/13/1995	1,000 homes without power.

Note: Humboldt County OES historical files were used in conjunction with Humboldt Beacon archives to determine natural hazard events related to the City of Fortuna.

- Number of FEMA Identified Repetitive Flood Loss Properties: 0
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

7.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a] 100-year	500-year	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Severe Weather	$1,979,210		High	42
2	Earthquake	$57,387,920	$226,157,750	High	33
3	Flood	$4,749,800	$7,396,400	High	27
4	Wild Fire	No loss estimation available		Medium	12
5	Dam Failure	$7,396,400		Low	8
6	Drought	No measurable impact to property		High	6
7	Fish Losses	No measurable impact to property		Low	3
8	Landslide	$0		Low	0[c]
8	Tsunami	$0	$0	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

7.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

7.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY

Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	N	Y	Uniform Building Code: Adopted by Ordinance 1980, Ord. 80-448
2.) Zoning Ordinance	Y	N	N	Y	Zoning Ordinance: Adopted by Ordinance 1978, Ord, 78-391

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
3.) Subdivision Ordinance	Y	N	N	N	Subdivision Ordinance: Adopted by Ordinance 1979, Ord. 79-426
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	N	N	N	Flood Damage Prevention Ordinance: adopted in 1979, Ord #79-420.
5.) Growth Management	Y	N	N	Y	
6.) Floodplain Management or Basin plan	N	N	N	N	
7.) Stormwater Management Plan	Y	N	N	N	Stormwater Management Plan: Adopted by ordinance in 2006. Ord, 2006-661
8.) General Plan or Comprehensive Plan	Y	N	N	Y	Currently under revision with adoption in late 2007.
9.) Capital Improvements Plan	N	N	N	N	
10.) Site Plan review requirements	Y	N	N	N	
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	Y	N	N	N	Redevelopment Agency
13.) Emergency Response plan	Y	N	N	N	
14.) Shoreline Management Plan	N	N	N	N	
15.) Post Disaster Recovery Plan	N	N	N	N	1-Emergency Operations Plan, (Standardized Emergency Management System) 2-Wastewater Treatment Plant Plan
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.

7.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Community Development Department/Planning & Engineering Divisions/Senior & Assistant Planner and City Engineer
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Community Development Department & Public Works Department/City Engineer & Deputy Directors of Public Works
3.) Planners or engineers with an understanding of natural hazards	Y	Community Development Department/Planning & Engineering Divisions/Senior & Assistant Planner and City Engineer
4.) Floodplain Manager	Y	Community Development Department/Engineering Division/City Engineer
5.) Surveyor(s)	Y	Consultant City Land Surveyor & In-house surveying capabilities via Community Development Department/Engineering Division/City Engineer & Engineering Technician
6.) Personnel skilled or trained in "GIS" applications	N	No current program for the establishment of a GIS database.
7.) Scientist familiar with natural hazards in Humboldt County	Y	Available as required through consulting services.
8.) Emergency Manager	Y	Chief of Police and City Manger upon activation of EOC
9.) Grant Writer(s)	Y	City Manager/Senior Planner/City Engineer/Consultants
10.) Staff with expertise or training in benefit/cost analysis	Y	City Manager/Director of Finance/City Engineer

7.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to use (yes/no/Don't know)
1) Community development Block Grants (CDBG)	Yes.
2) Capital Improvements Project Funding	Yes-5-year CIP program with a 20-year CIP in progress.
3) Authority to Levy Taxes for specific purposes	Yes – need successful election to pass.
4) User fees for water, sewer, gas or electric service	Yes-water and sewer. Gas & electric via franchise act.
5) Impact Fees for homebuyers or developers of new development/homes	Yes. Stormwater and traffic impact fees applicable.
6) Incur debt through general obligation bonds	Yes.
7) Incur debt through special tax bonds	Yes.
8) Incur debt through private activity bonds	Yes.
9) Withhold public expenditures in hazard-prone areas	No – unless adopted by ordinance.
10) State sponsored grant programs	Yes.
11) Other	Yes – need to research specific sources.

7.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not Participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	9/9	N/A
Public Protection	5/8B	N/A
Storm Ready	Not participating	N/A
Firewise	Not Participating	N/A
Tsunami Ready	N/A	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

7.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
FO-1	Protect City's major water supply storage from landslides and earthquake damage. CIP Project #s 9124 & 9327.	Landslides / Earthquakes / Wildfire	3, 4, 5	City	$2,100k + $1,800k	Bond financing leveraged with PDM grant funding.	Short Term
FO-2	Localized Detention Basin @ Strongs Creek headwaters. CIP Project #9603	Severe Storms / Flooding	1, 2	City	$151k	Bond financing and development impact fees leveraged with PDM grant funding.	Short Term
FO-3	Localized Detention Basin @ Rohner Creek headwaters. CIP Project #9602	Severe Storms / Flooding	1, 2	City	$302k	Bond financing, development impact fees leveraged with PDM grant funding.	Short Term
FO-4	Construct flap gate valves at various locations throughout City to prevent backwater inundation from major creek channel high water conditions.	Severe Storms / Flooding	1, 2	City	$150k	Bond financing leveraged with PDM grant funding.	Short Term
FO-5	Increase channel capacity through bank elevation improvements at localized regions of repetitive flooding incidents. CIP Project #9704	Severe Storms / Flooding	1, 2	City	$92k	Bond financing and development impact fees leveraged with PDM grant funding.	Short Term
FO-6	Vegetation clearing of existing drainage courses including ditches and creek channels. CIP Project 9709.	Severe Storms / Flooding / Wildfire	1, 2, 4	City	$150k	Bond financing leveraged with PDM grant funding.	Short Term
FO-7	Stabilize hillsides from mass landslide movements at or adjacent to street right-of-ways.	Severe Storms / Landslides	1, 5	City	$120k	Street CIP funds leveraged with PDM grant funding	Short Term
FO-8	Rohner Creek by-pass. CIP Project #9601	Severe Storms / Flooding	1, 2	City	$3,700k	Bond financing leveraged with PDM grant funding.	Short Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
FO-9	Rohner Creek widening. CIP Project #9600	Severe Storms / Flooding	1, 2	City	$362k	Bond financing leveraged with PDM grant funding.	Short Term
FO-10	New 48" storm drain at Third St. @ Stockyard. CIP Project #9702.	Severe Storms / Flooding	1, 2	City	$92k	Bond financing leveraged with PDM grant funding.	Short Term
FO-11	Detention Basin on Mill Creek. CIP Project #9804.	Severe Storms / Flooding	1, 2	City	$140k	Bond financing leveraged with PDM grant funding.	Short Term
FO-12	Detention basin cleaning. CIP Project #9601.	Severe Storms / Flooding	1, 2	City	$40k	Bond financing leveraged with PDM grant funding.	Short Term OG
FO-13	Dinsmore Drive flood control. CIP Project #9502.	Severe Storms / Flooding	1, 2	City	$26k	Bond financing leveraged with PDM grant funding.	Short Term
FO-14	Elevate emergency generator @ water supply/treatment facility above 100 year flood elev.	Severe Storms / Flooding	1, 2	City	$5k	Bond financing leveraged with PDM grant funding.	Short Term
FO-15	Strong's Creek by-pass @ US 101 box culvert to Riverwalk Detention Basin.	Severe Storms / Flooding	1, 2	City	$1,500k	Bond financing leveraged with PDM grant funding.	Long term Pending Funding
FO-16	Circle levee @ water supply/treatment facility above 100 year flood elev.	Severe Storms / Flooding	1, 2	City	$100k	Bond financing leveraged with PDM grant funding.	Short Term
FO-17	Seismic retrofit of at-grade water storage tanks (250k & 1 million gallons).	Earthquake / Wildfire	3, 4	City	$250k	Bond financing leveraged with PDM grant funding.	Short Term
FO-18	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7,9,10,11	City	Low	Funded through existing, on-going programs	Short-term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

7.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
FO-1	3	High	Medium	YES	YES	YES	HIGH
FO-18	6	Medium	Low	Yes	No	Yes	HIGH
FO-17	2	High	High	YES	YES	NO	Medium
FO-13	2	Medium	Medium	YES	YES	NO	Medium
FO-4	2	Medium	Medium	YES	YES	NO	Medium
FO-5	2	Medium	Medium	YES	YES	NO	Medium
FO-6	2	Medium	Low	YES	No	NO	Medium
FO-12	2	Medium	Low	YES	No	NO	Medium
FO-14	2	Medium	Low	YES	YES	NO	Medium
FO-16	2	High	High	YES	YES	NO	Medium
FO-10	2	High	High	YES	YES	NO	Medium
FO-2	2	High	High	YES	YES	NO	Medium
FO-3	2	High	High	YES	YES	NO	Medium
FO-8	2	High	High	YES	YES	NO	Medium
FO-9	2	High	High	YES	YES	NO	Medium
FO-11	2	High	High	YES	YES	NO	Medium
FO-15	2	High	High	YES	YES	NO	Medium
FO-7	2	High	High	YES	YES	NO	Medium

7.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10

years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

7.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

7.9 ADDITIONAL COMMENTS

None at this time.

7.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Fortuna that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Fortuna has significant exposure. These maps are illustrated in the following figures.

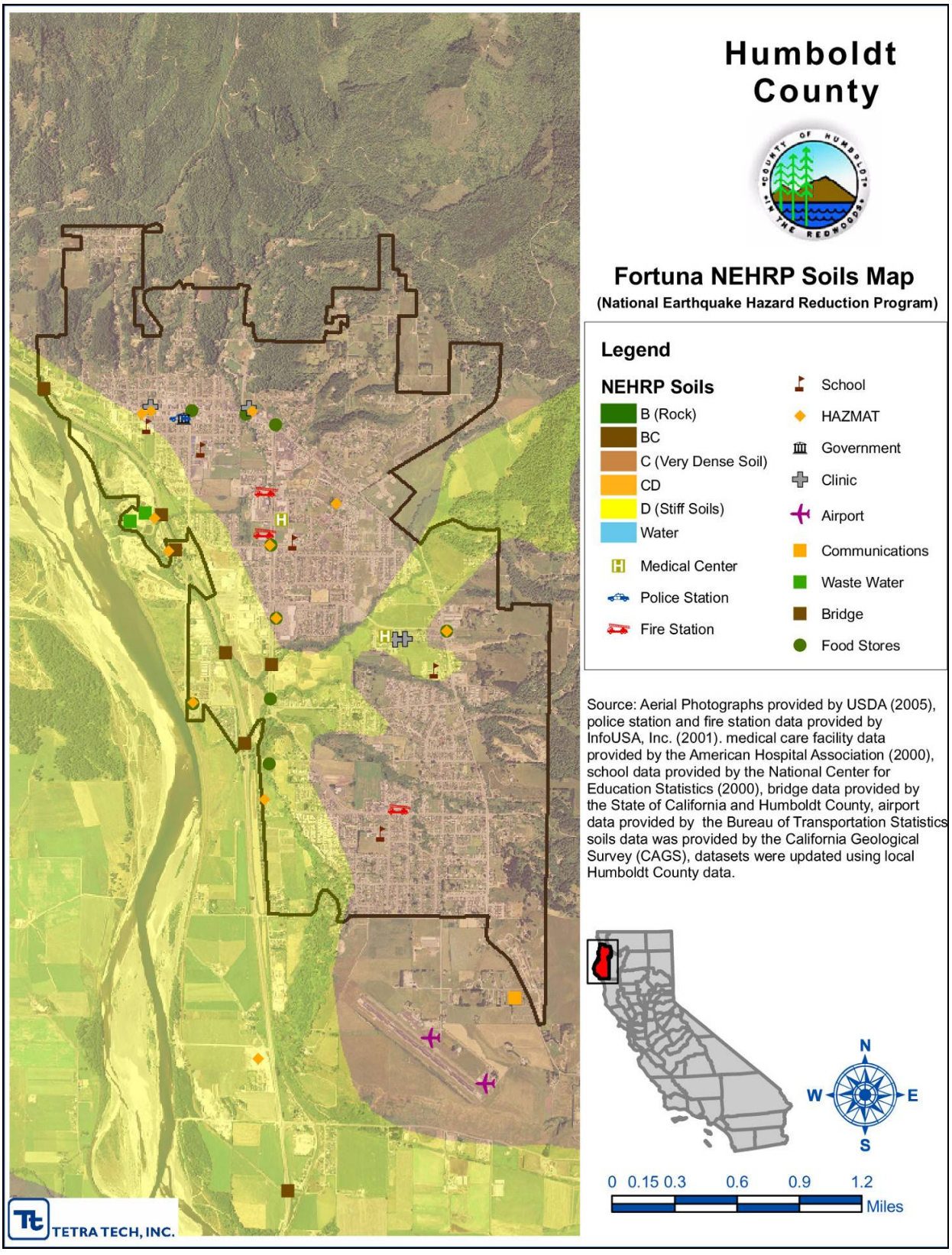

Figure 7-1: City of Fortuna Earthquake Hazard Areas

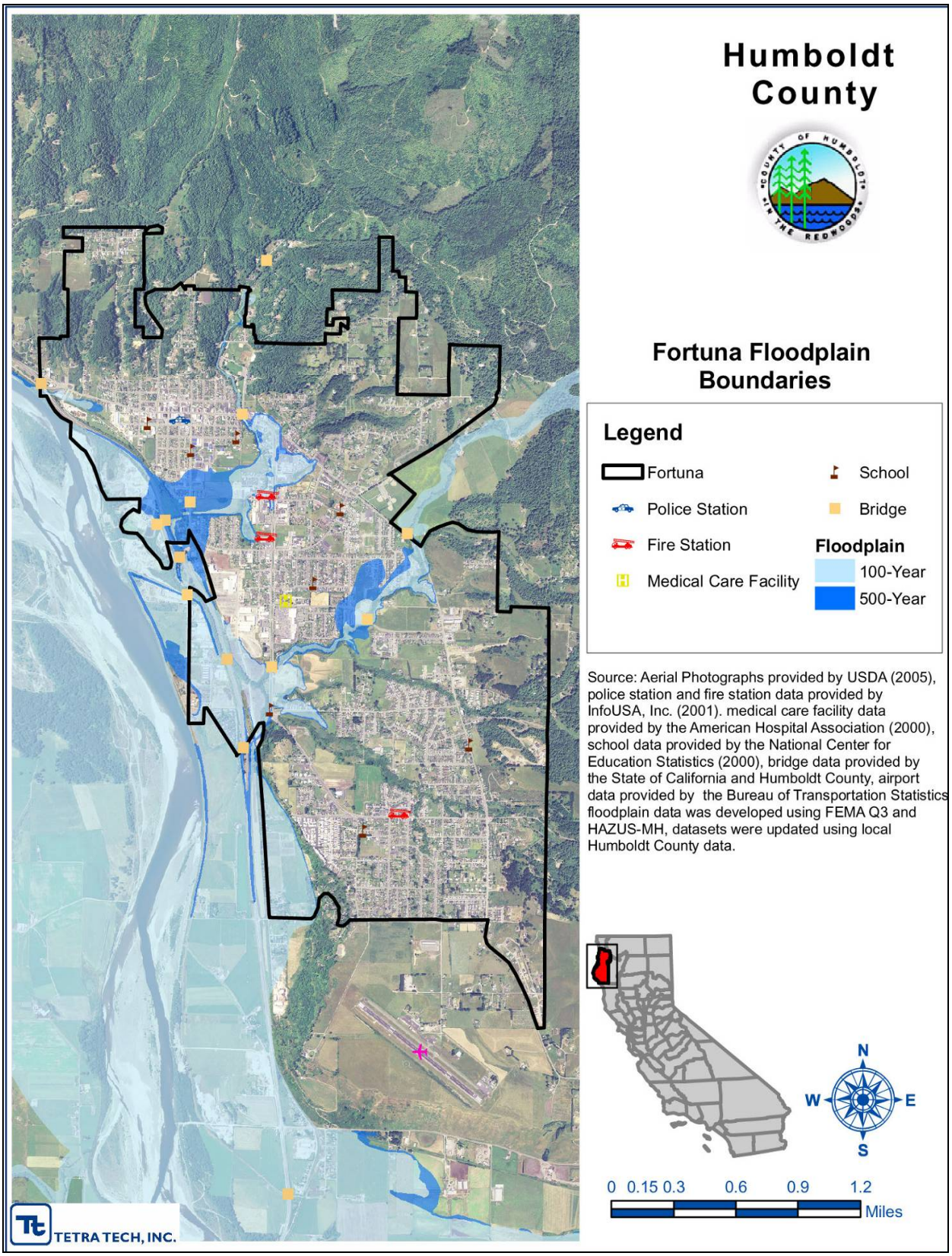

Figure 7-2: City of Fortuna floodplain, extent and location

CHAPTER 8.
CITY OF RIO DELL ANNEX

8.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Jim Hale. Director of Public Works City of Rio Dell 675 Wildwood Rio Dell, CA 95562 Telephone: (707)764-3532 e-mail Address: pwd@riodellcity.com	Graham Hill, Chief of Police Mailing address: 675 Wildwood Avenue, Rio Dell, CA 95562 Phone: (707) 764-5642

8.2 CITY PROFILE

Population

3,250 (as of July 2006)

Date of Incorporation

1965

Location

The City of Rio Dell is located 25 miles south of Eureka, along Highway 101 within the Eel River Valley.

Climate

Rio Dell's weather is typical of the Northern California climates with average temperatures of 67°F in July and an overall annual average temperature of 54°F. Although snow is rare in the city, it is often visible on the hills above Rio Dell in winter. The City receives significant rainfall each year, averaging approximately 48 inches. The statistically predicted 100 year rainfall is just over 80 inches per year.

Governing Body Format

The City of Rio Dell is governed by a five-member City Council. The City consists of six departments: Finance, Environmental Services, Community Development, Public Works, Police and the City Manager's Office.

Brief History

The history of the City of Rio Dell is unique. In the 1870s when Lorenzo Painter settled in what is now known as Rio Dell. He started a friendly farming community which he named Eagle Prairie. Over the years three separate small community areas evolved that was popularly named Wildwood (which is now downtown Rio Dell, Belleview (now a major area and avenue northwest of the center of town) and Eagle Prairie (now the Pacific Avenue area west of the center of town). The City was incorporated in 1965 and the three areas combined into the single City of Rio Dell.

Growth/Development Trends

Based on the data tracked by the California Department of Finance, Rio Dell has experienced a modest rate of growth. The overall population has increased only 2.04% since 2000 and has averaged 0.47% per year from 1990 to 2007. With this rate of growth, the anticipated development trends for Rio Dell are considered low to moderate.

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. The City of Rio Dell adopted its General Plan pursuant to this state mandate in October of 2003. Future growth and development within the City of Rio Dell will be managed as identified in its General Plan.

The City is completing significant upgrades to the water utility, including a new Eel River water intake structure and filtration system and a city-wide rehabilitation of the water distribution infrastructure. Other important projects include the Wildwood Avenue Gateway, and the City's ongoing efforts to address its wastewater system deficiencies as well as the repaving of all city streets.

8.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	11/8/1980	Not Available
Severe Weather / Flood	N/A	1/18/1981	Not Available
Severe Weather / Flood	N/A	12/19/1981	Not Available
Severe Weather / Flood	N/A	3/31/1982	Not Available
Severe Weather / Flood	DR-677	01/25/1983	$3.82 Countywide
Severe Weather / Flood	N/A	12/25/1983	Not Available
Severe Weather / Flood	DR-758	02/21/1986	$5 Million Countywide
Earthquake	DR-943	04/04/1992	$10 million
Severe Weather / Flood	N/A	12/31/1992	Not Available
Severe Weather / Flood	N/A	1/20/1993	Not Available
Earthquake	N/A	12/26/1994	Not Available
Severe Weather / Flood	DR-1044	01/09/1995	$15 million Countywide
Severe Weather / Flood	DR-1046	03/12/1995	$1.3 Million Countywide
Severe Weather / Flood	N/A	12/11/1995	Not Available
Severe Weather / Flood	N/A	12/29/1995	Not Available
Severe Weather / Flood	N/A	12/8/1996	Not Available
Severe Weather / Flood	DR-1155	01/04/1997	$35 Million countywide
Severe Weather / Flood	DR-1203	02/09/1998	Over $6 million countywide
Severe Weather / Flood	N/A	11/21/1998	Not Available
Severe Weather / Flood	N/A	12/27/2002	Not Available
Severe Weather / Flood	DR-1628	12/31/2005	$413,000 ($20,208,206 for County)

- Number of FEMA Identified Repetitive Flood Loss Properties: 0
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

8.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a] 100-year	500-year	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$10,360,310	$34,011,480	High	54
2	Severe Weather	$402,998		High	42
3	Flood	$12,150,700	$15,525,200	High	36
4	Wild Fire	$10,360,310		Med	24
5	Dam Failure	$15,525,200		Low	12
6	Drought	No measurable impact to property		High	6
6	Fish Losses	No measurable impact to property		Low	6
8	Landslide	$0		Low	0[c]
8	Tsunami	$0	$0	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

8.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

8.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	Y	Y	Ord. #202 Adopted Jan. 1990
2.) Zoning Ordinance	Y	Y	Y	Y	Ord. #252 Adopted Nov. 2004
3.) Subdivision Ordinance	Y	Y	Y	Y	Ord. #165 Adopted Aug. 1982
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	Y	Y	N	Ord. # 235 Adopted Feb. 1999
5.) Growth Management	Y	N	N	N	
6.) Floodplain Management or Basin plan	N	N	Y	N	
7.) Stormwater Management Plan	N	Y	Y	N	
8.) General Plan or Comprehensive Plan	Y	Y	Y	Y	Oct. 2003
9.) Capital Improvements Plan	Y	N	N	N	Oct. 2006 has yet to be updated
10.) Site Plan review requirements	Y	N	N	N	
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	N	N	N	N	
13.) Emergency Response plan	Y	N	N	N	Ord. # 179 Adopted Nov. 1983
14.) Shoreline Management Plan	N	Y	Y	N	
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.

8.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Professional Consultants
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Professional Consultants
3.) Planners or engineers with an understanding of natural hazards	Y	Professional Consultants
4.) Floodplain Manager	N	
5.) Surveyor(s)	Y	Professional Consultants
6.) Personnel skilled or trained in "GIS" applications	Y	Professional Consultants
7.) Scientist familiar with natural hazards in Humboldt County	Y	Professional Consultants
8.) Emergency Manager	Y	Graham Hill, Police Chief
9.) Grant Writer(s)	Y	Professional Consultants
10.) Staff with expertise or training in benefit/cost analysis	Y	Professional Consultants

8.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to use (yes/no/Don't know)
1) Community development Block Grants (CDBG)	Yes
2) Capital Improvements Project Funding	Yes
3) Authority to Levy Taxes for specific purposes	Yes
4) User fees for water, sewer, gas or electric service	Yes
5) Impact Fees for homebuyers or developers of new development/homes	Yes
6) Incur debt through general obligation bonds	Yes
7) Incur debt through special tax bonds	Yes
8) Incur debt through private activity bonds	Yes
9) Withhold public expenditures in hazard-prone areas	Yes
10) State sponsored grant programs	Yes
11) Other	Yes

8.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not Participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	99/99	N/A
Public Protection	7/9	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A
Tsunami Ready	N/A	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

8.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RD-1	Chlorine Generation Equipment Replacement and Seismic Retrofit	Earthquake, Severe Weather, Flood	1, 2	DPW	Med	General Fund, CDBG Grants, DMA Grants	Long Term
RD-2	Upgrade Pumps at Headworks	Earthquake, Severe Weather, Flood	1, 2	DPW	Med	General Fund, CDBG Grants, DMA Grants	Short Term
RD-3	Improvements to Wastewater Collection System Mains, Laterals, and Manholes	Earthquake, Flood, Severe Weather	1, 2	DPW	High	General Fund, CDBG and DHS Grants	Long Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RD-4	Wastewater Lift Stations Maintenance and Upgrades	Flood, Earthquake	1, 2	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-5	Install Stormproof Fuel Storage Tanks	Earthquake, Severe Weather, Flood	1, 2	DPW	Low	General Fund, DMA Grants	Long Term
RD-6	Belleview Creek Crossing Repair	Severe Weather, Floods	1, 2, 24	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-7	Painter Street to Highway 101 Drainage Ditch Repair	Severe Weather, Floods	1, 2, 24	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-8	Center Street to Painter Street Culvert Improvements	Severe Weather, Floods	1, 2, 24	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-9	City Hall Seismic Retrofit	Earthquakes	1, 2, 5, 32	DPW	High	General Fund, CDBG and DHS Grants	Long Term
RD-10	Fireman's Hall Seismic Retrofit	Earthquakes	1, 2, 5, 32	DPW	High	General Fund, DMA Grants	Long Term
RD-11	City Standby Power Generation Capabilities	All Hazards except Fish Loss	1, 2, 4, 32	DPW	Low	General Fund	Long Term
RD-12	Fire Sprinkler Installation at City Hall and Fireman's Hall	Wild Fire, Earthquake	1, 2, 5, 32	DPW	Med	General Fund, DMA Grants	Long Term
RD-13	Construct Retaining Wall on Road to Dinsmore	Earthquake, Severe Weather, Landslide	1, 2, 3	DPW	Med	General Fund, DMA Grant	Long Term
RD-14	Elevating Wastewater Plant	Flood, Severe Weather	1, 2, 3	DPW	High	General Fund, DHS, DMA CDBG Grants	Long Term
RD-15	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1, 4, 5, 12	DPW	Medium	General Fund, DMA	Short-term
RD-16	Adopt a Long-term Capital Improvement Plan	All Hazards Except Fish Loss	1-6, 9	DPW	Low	General Fund	Short-term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RD-17	Improve hillside stability in landslide-prone areas	Landslide	2, 3	DPW	Medium	General Fund, PDM	Long-term
RD-18	Prepare a Post Disaster Recovery Plan	All Hazards	1, 3, 12	DPW	Low	General Fund, DMA Grants	Short-term
RD-19	Install Emergency water interties between neighboring jurisdictions	Earthquake, Severe weather, Drought	2, 3, 8, 9, 12	DPW	High	General Fund, DHS, CBG, DMA, Grants	Long-term
RD-20	Work with the National Oceanic and Atmospheric Association to attain the certifications of Storm Ready and Tsunami Ready.	Tsunami, Severe Weather	3, 6, 8	DPW	Medium	General Fund, DMA Grants	Short-term
RD-21	Adopt International Building Code on January 1st, 2008	Earthquake, Flood	11	DPW	Low	Building Fees	Short-term
RD-22	Improve alternative communication capabilities throughout the City, including acquisition of and licensing for HAM radios, satellite telephones, mobile backup dispatch devices and other communication devices.	All Hazards	1, 4, 5, 12	DPW	Medium	General Fund	OG/ Short-Term
RD-23	Adopt an updated Emergency Response Plan	All Hazards	1, 4, 5, 12	DPW	Low	General Fund	Short-term
RD-24	Update City land use code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslide	10	DPW	Low	General Fund, DMA Grants	Short-Term
RD-25	Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Rio Dell	All Hazards	3, 5, 8, 12	DPW	Medium	General Fund	Short-Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RD-26	Update floodplain mapping throughout the City, including continued participation with the National Flood Insurance Program.	Flood, Severe Weather	7, 8,	DPW	Medium	General Fund, Drainage Fund	OG/ Short-Term
RD-27	Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.	All Hazards	1, 4, 5, 12	DPW	Low	General Fund, DMA Grants	OG/ Short-Term
RD-28	Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.	All Hazards	7, 8	DPW	Low	General Fund,	OG/ Short-Term
RD-29	Develop Focused Storm Drainage Facility Plan	Severe Weather, Flood	1-6, 9	DPW	Med	General Fund	Long Term
RD-30	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7,9,10,11	City	Low	Funded through existing, on-going programs	Short-term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

8.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
RD-1	2	High	High	Yes	Yes	No	High
RD-2	2	Med	Med	Yes	No	Yes	Med
RD-3	2	High	High	Yes	Yes	No	High
RD-4	2	Med	Med	Yes	Yes	No	Med
RD-5	2	Med	Med	Yes	No	No	Med
RD-6	3	High	Med	Yes	Yes	No	High
RD-7	4	High	High	Yes	No	No	High
RD-8	4	High	High	Yes	Yes	No	High
RD-9	4	High	High	Yes	Yes	No	Med
RD-10	4	High	High	Yes	Yes	No	Med
RD-11	3	High	Low	Yes	No	No	High
RD-12	3	Low	High	Yes	No	No	High
RD-13	4	High	High	Yes	No	No	High
RD-14	5	Low	High	Yes	Yes	No	Low
RD-15	2	High	Low	Yes	No	Yes	Low
RD-16	3	High	Low	Yes	Yes	Yes	High
RD-17	5	Low	High	Yes	No	No	Med
RD-18	3	High	Med	Yes	No	No	Med
RD-19	1	Low	High	Yes	No	No	Low
RD-20	4	Low	High	Yes	No	No	Low
RD-21	4	High	Low	Yes	No	Yes	Med
RD-22	1	High	High	Yes	Yes	Yes	High
RD-23	4	Low	Low	Yes	No	Yes	Med
RD-24	2	Med	High	Yes	No	Yes	Med
RD-25	3	Low	Med	Yes	No	Yes	Med
RD-26	3	High	High	Yes	Yes	No	High
RD-27	2	High	Med	Yes	No	Yes	High
RD-28	6	High	Low	Yes	No	Yes	High
RD-29	3	High	High	Yes	No	No	High
RD-30	6	Medium	Low	Yes	No	Yes	High

8.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

8.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

8.9 ADDITIONAL COMMENTS

None at this time.

8.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Rio Dell that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Rio Dell has significant exposure. These maps are illustrated in the following figures.

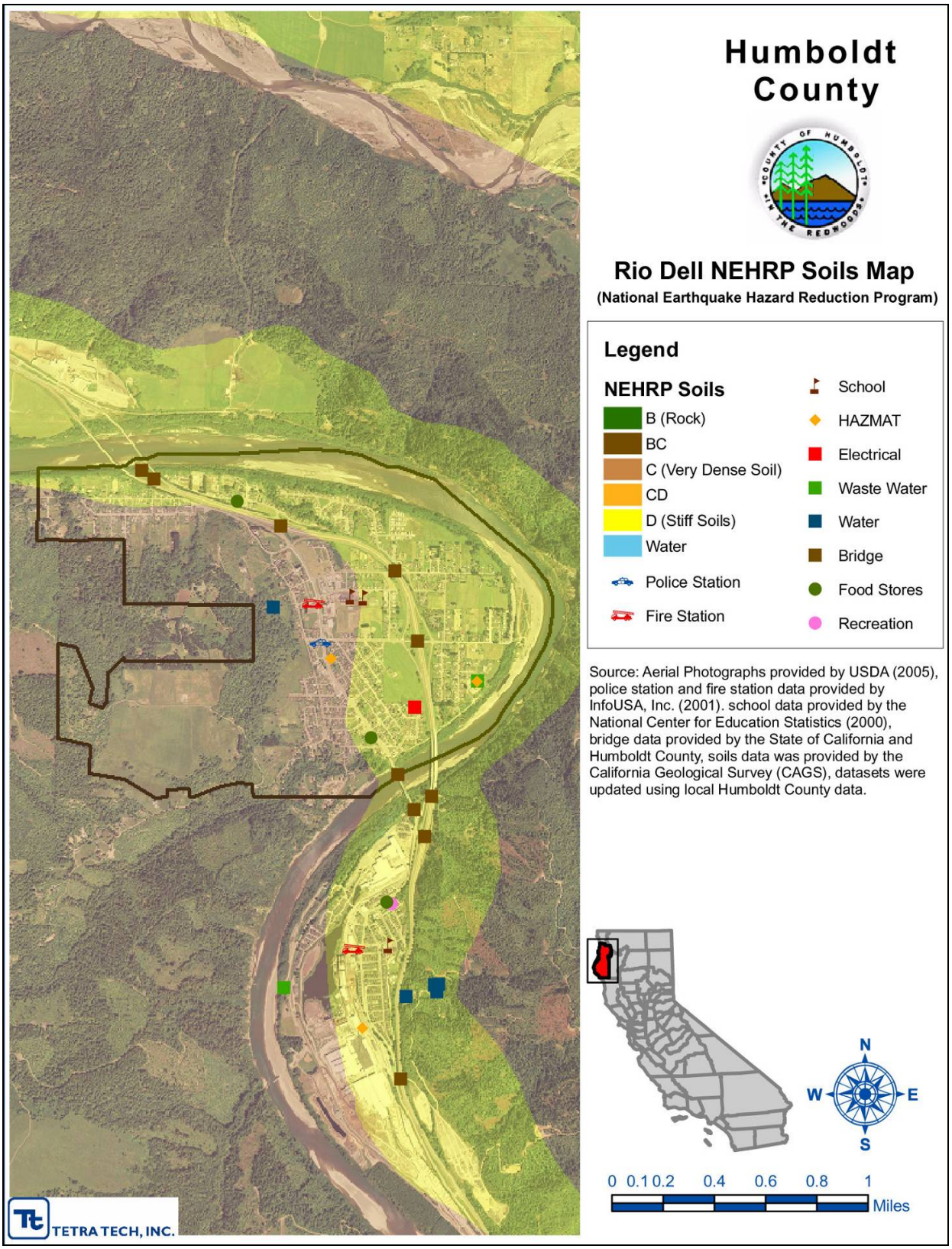

Figure 8-1: Rio Dell Earthquake Hazard Areas.

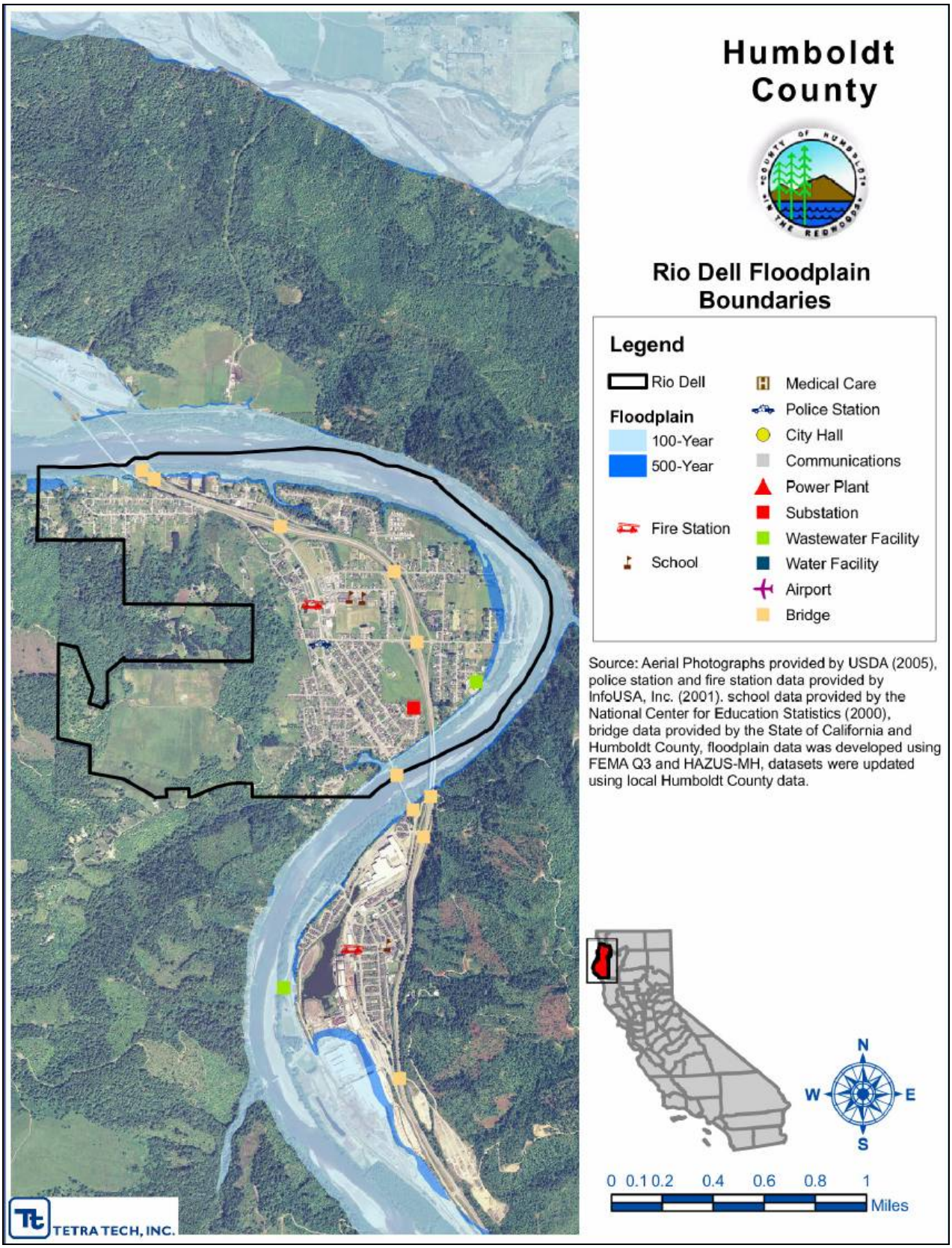

Figure 8-2: City of Rio Dell floodplain, extent and location.

CHAPTER 9.
CITY OF TRINIDAD ANNEX

9.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Kenneth J. Thrailkill Trinidad Chief of Police City of Trinidad P.O. Box 390 Trinidad, CA 95570 Telephone: (707)677-0133 e-mail Address: kthrailkill@trinidadpd.org	Floyd Stokes Lieutenant, Trinidad Police Department P.O. Box 390 Trinidad, CA 95570 Telephone: (707)677-0133 Email Address: fstokes@trinidadpd.org

9.2 CITY PROFILE

Population

311 as of 2007 (California Department of Finance)

Date of Incorporation

1870

Location

Trinidad, known as the smallest, oldest and most westerly city in California, is situated 17 miles north of Eureka, the Humboldt County seat. Adjacent to a major north-south freeway between San Francisco and Oregon (Highway 101), Trinidad, with its picturesque coastline and harbor, remains a well-known tourist attraction and ocean fishing port.

Although its permanent core population is small, the City of Trinidad acts as the commerce hub for around 1,500 inhabitants in the surrounding unincorporated communities, including Westhaven, Patrick's Point and Big Lagoon, Additionally, Trinidad is bordered by the Trinidad Indian Rancheria, with its Cher-Ae Heights Casino, which attracts numerous visitors each day.

Brief History

The Tsurai Indians settled the coastal area that is now Trinidad more than 350 years ago, establishing a village site along the bluff overlooking Trinidad harbor. On Trinity Sunday, June 9, 1775, it was "discovered" by Spanish sea captains Heceta and Bodega, who claimed the area for Spain and named its port La Santisima Trinidad. During the 1849 California Gold Rush, Josiah Gregg and seven companions found Trinidad after a month-long struggle over the mountains from the interior gold fields. From that time, Trinidad became a boomtown supplying gold-seekers heading for mines on the Klamath, Salman and Trinity Rivers. The City of Trinidad was officially incorporated in 1870. Trinidad harbor later became the only local seaport to ship lumber on Clipper ships from area sawmills. In the early 1900's, Trinidad Pier served as a whaling station and ship repair facility. Trinidad today continues as home to a diverse community consisting of "million dollar" properties overlooking the Pacific Ocean—to RV parks

and rental units near the freeway. It boasts a small fishing fleet, and it attracts thousands of visitors and tourists annually to its special events and picturesque beaches.

Climate

The climate of Trinidad is dominated by the Pacific Ocean, with high humidity prevailing throughout the year. There are definite rainy and dry seasons. The rainy season lasts from October through April, accounting for about 90 percent of the annual precipitation, which averages about 40 inches. The dry season, lasting from May through September, is typically marked by low clouds and fog in the morning, usually clearing by late morning, then moving back in the evening.

Temperatures in the Trinidad area are generally quite moderate, and the annual range of variation is one of the smallest in the lower 48 states. The annual mean temperature is about 51 degrees, with the colder lows rarely below the mid-30s and the warmer highs rarely above the mid-70s.

When the winter storms hit the Trinidad coast, people will line the headlands to watch these magnificent events. The winter swells travel hundreds of miles from the Gulf of Alaska—often reaching 25 to 30 feet or more in height. A fact not known to many is this: The highest wave ever recorded struck Trinidad during a ferocious winter storm on December 31, 1913. According to one documented report, during that storm, the Trinidad Lighthouse keeper, who was performing his duties in the lantern room perched 196 feet above sea level, turned to see "a sea of unusual height." In his words, "The sea itself fell onto the top of the bluff and struck the tower on a level with the balcony, making a terrible jar."

Governing Body Format

The City of Trinidad is governed by a five-member City Council and operates under the leadership of a mayor, with various department commissioner positions held by council members. It has no city manager. (Note: The City Council is moving forward with a plan to change the governing body structure to include a city manager position by the end of 2007.) Currently, the City has three major departments: the Office of the City Clerk, the Police Department and the Public Works/Water Department. Other departments include: the Trinidad Volunteer Fire Department, the City Planning Commission, the City Attorney, the City Accountant, the City Planner and the City Engineer.

Growth Rate/Development Trends

Based on the data tracked by the California Department of Finance, Trinidad has experienced a relatively flat rate of growth. The overall population experienced little or no change since 2000 and decreased at a rate of 1.5% per year from 1990 to 2000. With this rate of growth, the anticipated development trends for Trinidad are considered low to no new development. This can be attributed the limited availability of developable property within the incorporated area. The majority of recent development within the City of Trinidad has been residential-based—primarily in the construction of new homes—or renovation of existing homes—on or near ocean-front properties. Because its residential properties are limited and highly sought-after, a focus on affordable, multi-unit housing has not been feasible.

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. The City of Trinidad adopted its General Plan pursuant to this state mandate in May 2, 1978. Future growth and development within the City of Trinidad will be managed as identified in its General Plan.

9.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	11/8/1980	Not Available
Severe Weather / Flood	N/A	1/18/1981	Not Available
Severe Weather / Flood	N/A	12/19/1981	Not Available
Severe Weather / Flood	N/A	3/31/1982	Not Available
Severe Weather / Flood	N/A	1/25/1983	Not Available
Landslide	N/A	1983	$63,000
Coastal Storms, Floods, Slides, Tornados	M#677	1/25/1983	$3.82 million
Flood	M#758	2/21/1986	$5.0 million countywide
Earthquake	M#943	04/04/1992	Not Available
Severe Weather / Flood	N/A	12/31/1992	Not Available
Severe Weather / Flood	N/A	1/20/1993	Not Available
Earthquake	N/A	12/26/1994	Not Available
Winter storms, flooding, landslides, mud flows	M#1044	1/9/1995	$15 million Countywide
Severe winter storms, flooding	M#1046	3/12/1995	$1.3 million countywide
Landslide	N/A	1/27/1995	$68,000
Severe Weather / Flood	N/A	12/11/1995	Not Available
Severe Weather / Flood	N/A	12/29/1995	Not Available
Landslide	N/A	12/15/1995	$75,000
Severe Weather / Flood	N/A	12/8/1996	$186,000
Severe Weather / Flood	M#1203	2/9/1998	$5,000 $7.75 million countywide
Severe winter storms, flooding	M#1155	¼/1997	$115,000 $35 million countywide
Severe Weather / Flood	N/A	1/27/1998	$5,000
Severe Weather / Flood	N/A	11/21/1998	$5,000
Severe Weather / Flood	N/A	12/27/2002	$35,000
Landslide	N/A	2003	$100,000
Landslide	N/A	6/14/2005	$75,000
Severe Weather / Flood	N/A	12/31/2005	$3.5 million

- Number of FEMA Identified Repetitive Flood Loss Properties: 0
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

9.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a]		Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
		100-year	500-year		
1	Earthquake	$1,212,510	$9,385,510	High	54
2	Severe Weather	$92,063		High	48
3	Landslide	$1,545,333		High	27
4	Tsunami	$157,000	$1,562,000	Medium	24
5	Flood	$13,900	$13,900	High	18
5	Wild Fire	No estimate available		Medium	18
7	Drought	No measurable impact to property		High	9
8	Fish Losses	No measurable impact to property		Low	6
9	Dam Failure	No measurable impact to property		Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

9.5 COALITION PARTNER CITY CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

9.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	Y	Y	#99-3 October 13, 1999
2.) Zoning Ordinance	Y	Y	Y	Y	#17.04 "TMC" Ordinance #166 "1979"
3.) Subdivision Ordinance	Y	Y	Y	Y	16.04 "TMC" Ordinance #163 "1981
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	N	Y	Y	N	No FEMA mapped SFHA. Not participating in National Flood Insurance program.
5.) Growth Management	Y	N	N	N	General Plan , May 2, 1978
6.) Floodplain Management or Basin plan	N	N	Y	N	
7.) Stormwater Management Plan	N	Y	Y	N	
8.) General Plan or Comprehensive Plan	Y	Y	Y	Y	Gen Plan May 2, 1978
9.) Capital Improvements Plan	N	N	N	N	
10.) Site Plan review requirements	Y	N	N	N	Zoning Ordinance Ordinance #166 "1979"
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	N	N	N	N	
13.) Emergency Response plan	Y	N	N	N	December, 2003 "Approved by Resolution"
14.) Shoreline Management Plan	N	Y	Y	N	
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	
17.) Real Estate Disclosure requirement	Y	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.

9.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Professional Consultants
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Professional Consultants
3.) Planners or engineers with an understanding of natural hazards	Y	Professional Consultants
4.) Floodplain Manager	N	
5.) Surveyor(s)	Y	Professional Consultants
6.) Personnel skilled or trained in "GIS" applications	Y	Professional Consultants
7.) Scientist familiar with natural hazards in Humboldt County	Y	Professional Consultants
8.) Emergency Manager	Y	Graham Hill, Police Chief
9.) Grant Writer(s)	Y	Professional Consultants
10.) Staff with expertise or training in benefit/cost analysis	Y	Professional Consultants

9.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to use (yes/no/Don't know)
1) Community development Block Grants (CDBG)	Yes
2) Capital Improvements Project Funding	Yes
3) Authority to Levy Taxes for specific purposes	Yes
4) User fees for water, sewer, gas or electric service	Yes
5) Impact Fees for homebuyers or developers of new development/homes	Yes
6) Incur debt through general obligation bonds	Yes
7) Incur debt through special tax bonds	Yes
8) Incur debt through private activity bonds	Yes
9) Withhold public expenditures in hazard-prone areas	Yes
10) State sponsored grant programs	Yes
11) Other	Yes

9.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not eligible to Participate	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	9/9	N/A
Public Protection	6/9	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

9.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
T-1	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1, 4, 5, 12	PD	Medium	General Fund	Short-term
T-2	Adopt a Long-term Capital Improvement Plan	All Hazards Except Fish Loss	1-6	PW, CP	Low	General Fund	Short-term
T-3	Improve hillside stability in landslide-prone areas	Landslide	1, 2	CP	Medium	General Fund	Long-term
T-4	Prepare a Post Disaster Recovery Plan	All Hazards	1, 3, 12	PD	Low	General Fund	Short-term
T-5	Obtain emergency water supplies	Earthquake, Severe weather, Drought	1, 2, 5, 12	PW	High	Enterprise Fund	Long-term
T-6	Perform seismic retrofits of critical facilities	Earthquake	1, 2, 3	PW	High	General Fund, Capital Improvement Fund, Enterprise Fund	Long-term
T-7	Work with the National Oceanic and Atmospheric Association to attain the certifications of Storm Ready and Tsunami Ready.	Tsunami, Severe Weather	3, 6	CP, CE	Medium	General Fund,	Short-term
T-8	Adopt International Building Code on January 1st, 2008	Earthquake, Flood	11	CP, CE	Low	Building Fees	Short-term
T-9	Improve alternative communication capabilities throughout the City, including acquisition of emergency transceivers, satellite telephones, and/or other communication devices.	All Hazards	1, 4, 5, 12	PD	Medium	General Fund	OG/ Short-Term
T-10	Adopt an updated Emergency Response Plan	All Hazards	1, 4, 5	PD	Low	General Fund	Short-term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
T-11	Update City land use code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslide	10	CP, CE	Low	General Fund	Short-Term
T-12	Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Trinidad	All Hazards	3, 5, 8, 12	PD	Medium	General Fund	Short-Term
T-13	Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.	All Hazards	1, 4, 5, 12	PD	Low	General Fund,	OG/ Short-Term
T-14	Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.	All Hazards	7, 8	PD/PW	Low	General Fund,	OG/ Short-Term
T-15	Obtain and distribute current information about local natural hazard risks and emergency preparedness, including creating and maintaining a hazard mitigation informational web page on the City of Trinidad website.	All Hazards	6, 7	PD/CC	Low	General Fund,	OG/ Short-Term
T-16	For emergency preparedness, implement offsite parking/storage for City equipment.	All Hazards	1, 2, 4, 5	PW	Low	General Fund	Short-Term
T-17	Consider participation in the National Flood Insurance program when/if special flood hazard areas are designated by FEMA for the City of Trinidad.	Flood	3,6,7,9,10,11	City	Low	Funded through existing, on-going programs	Long-term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

9.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
T-1	4	Medium	Medium	Yes	No	Yes	High
T-2	7	Low	Low	Yes	No	Yes	High
T-3	2	Low	Medium	Yes	Yes	Yes	Low
T-4	3	Low	Low	Yes	No	Yes	High
T-5	5	High	High	Yes	No?	No	Low
T-6	3	High	High	Yes	Yes	No	Medium
T-7	3	High	Medium	Yes	No	Yes	High
T-8	1	High	Low	Yes	No	Yes	High
T-9	4	Medium	Medium	Yes	No	Yes	Medium
T-10	4	High	Low	Yes	No	Yes	High
T-11	1	High	Low	Yes	No	Yes	High
T-12	4	High	Low	Yes	No	Yes	High
T-13	2	High	Low	Yes	No	Yes	High
T-14	2	Medium	Low	Yes	No	Yes	High
T-15	2	High	Low	Yes	No	Yes	High
T-16	4	Medium	Low	Yes	No	Yes	High
T-17	6	Medium	Low	Yes	No	Yes	Medium

9.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other

programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

9.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

9.9 ADDITIONAL COMMENTS

Trinidad has no city manager position. Resultantly, a number of projects as listed in this template have been delayed or otherwise hampered by a lack of full-time leadership. The City Council is moving forward with its plan to change the governing body structure to include a city manager position by the end of 2007. It is anticipated that this major governing body change will greatly improve the City's ability to complete the above-listed objectives—and, it could substantially alter certain components of this plan.

9.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Rio Dell that illustrate the probable areas impacted within the City. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Rio Dell has significant exposure. These maps are illustrated in the following figures.

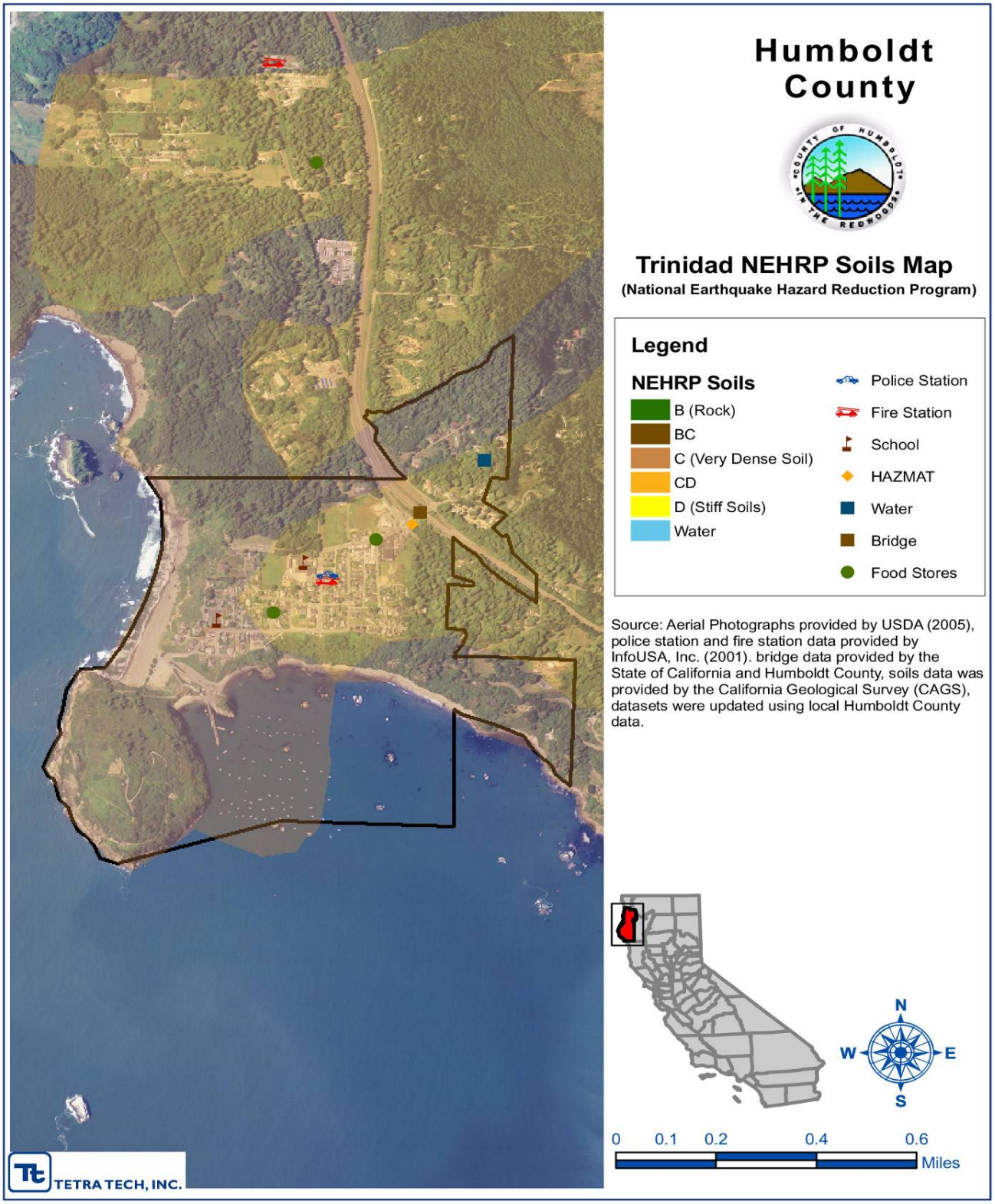

Figure 9-1: Trinidad Earthquake Areas

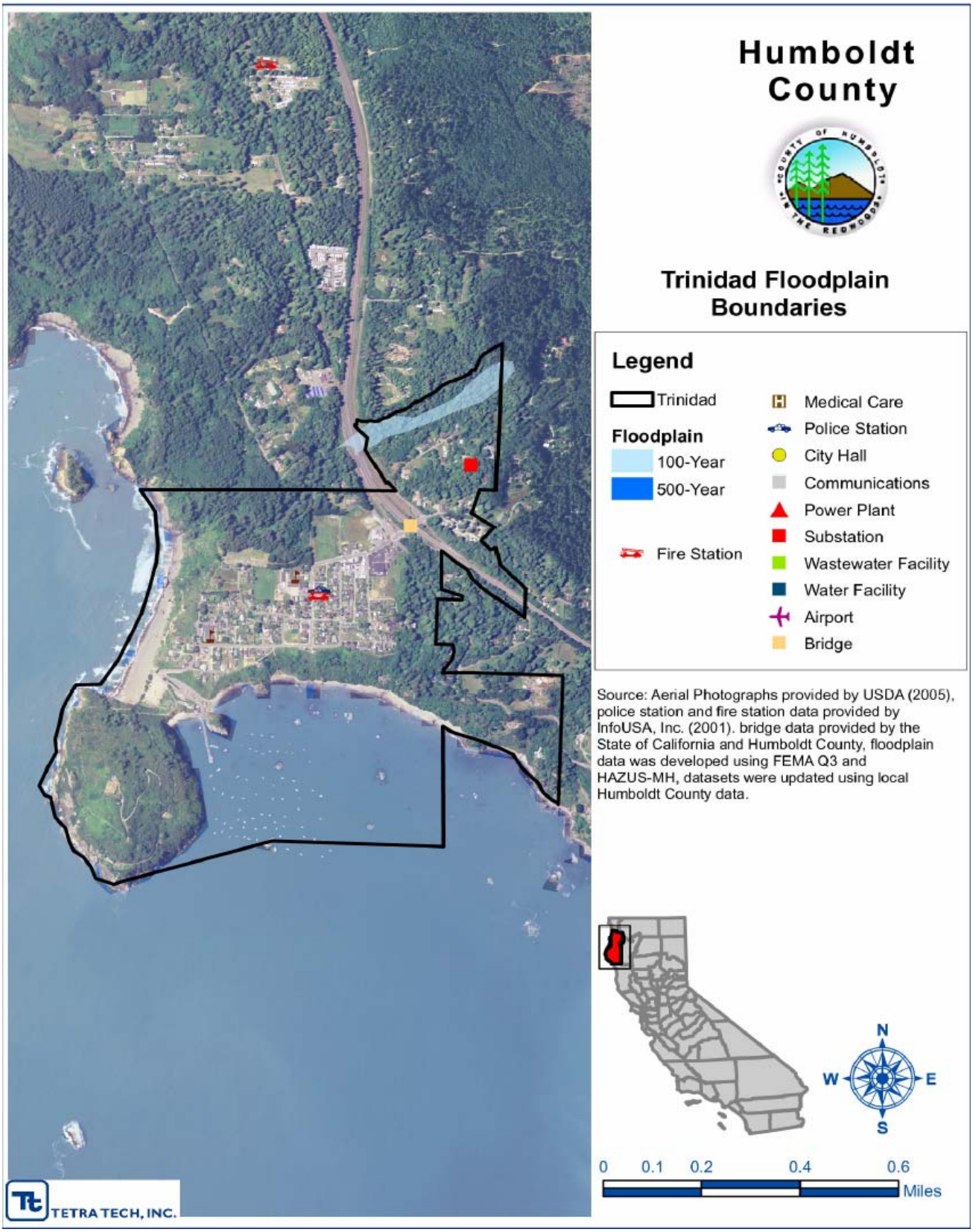

Figure 9-2: City of Trinidad floodplain, extent and location.

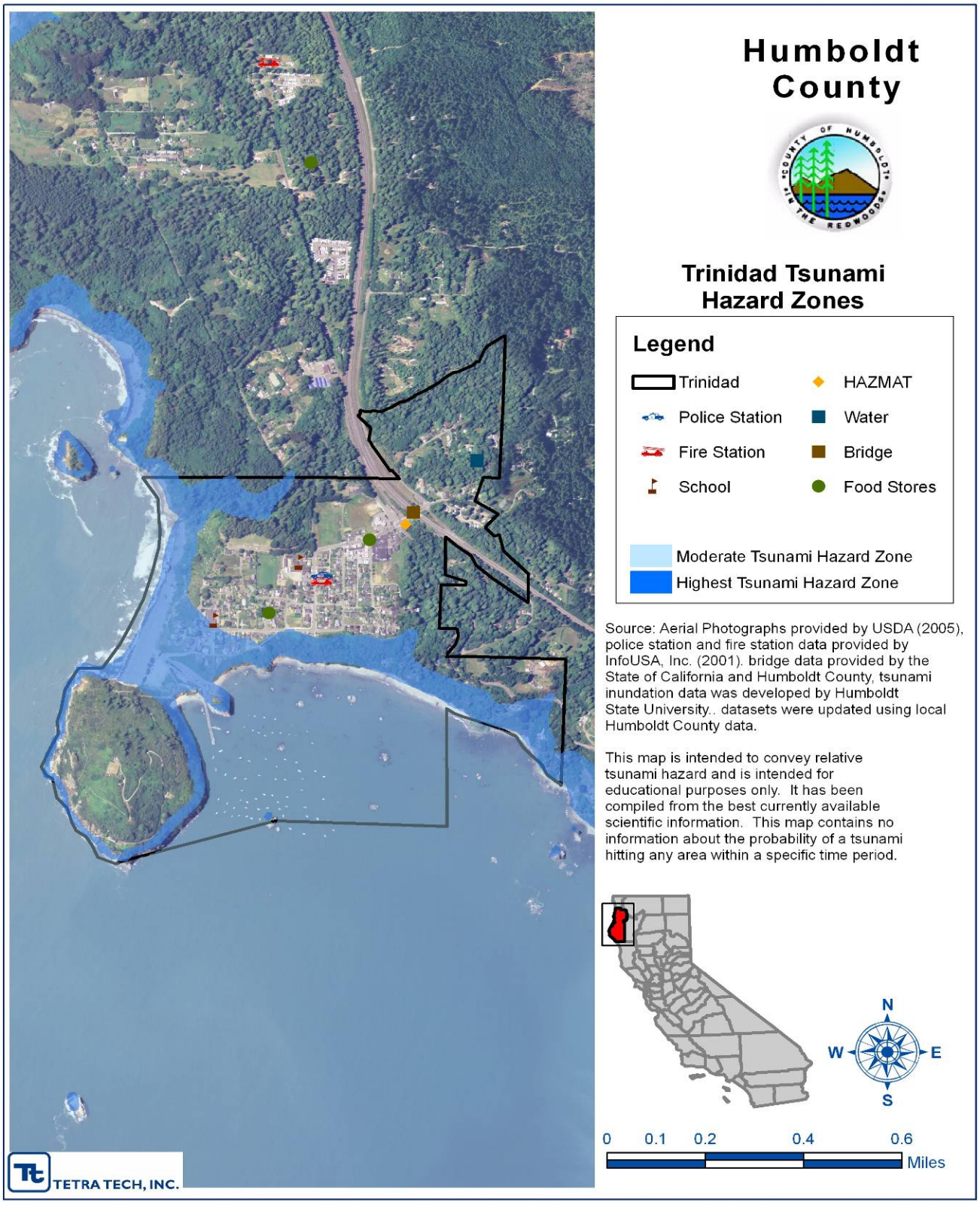

Figure 9-3: Humboldt County Tsunami Hazard Areas

CHAPTER 10.
HUMBOLDT COUNTY ANNEX

10.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Mr. Dan Larkin Emergency Services Coordinator Humboldt County Office of Emergency Services 826 4th street Eureka, CA 95501 Phone#: (707) 268-2502 e-mail: dlarkin@co.humboldt.ca.us	Mr. Tom Hofweber Supervising Planner Humboldt County Community Development Services Dept. 3015 H street Eureka, CA 95501-4484 Phone#: (707) 268-3738 e-mail: thofweber@co.humboldt.ca.us

10.2 COUNTY PROFILE

Population

128,330 (July 2006)

Location

The County of Humboldt is in northwest California, approximately 200 miles north of San Francisco.

Date of Incorporation

May 12, 1853

Brief History

The original inhabitants of the area now known as Humboldt County include the Wiyot, Yurok, Hupa, Karuk, Chilula, Whilkut, and the southern Athabascans, including the Mattole and Nongat. The first recorded entry of Humboldt Bay by non-natives was an 1806 visit from a sea otter hunting party from Sitka employed by the Russian American Company. In 1850, Douglas Ottinger and Hans Buhne entered the bay, naming it Humboldt in honor of the great naturalist and world explorer, Baron Alexander von Humboldt; the county derived its name from Humboldt Bay. Humboldt County was formed in 1853 from parts of Trinity County.

Geographical Area

Humboldt County is the southern gateway to the Pacific Northwest. The County is bounded on the north by Del Norte County; on the east by Siskiyou and Trinity counties; on the south by Mendocino County and on the west by the Pacific Ocean. The County encompasses 2.3 million acres, 80 percent of which is forestlands, protected redwoods and recreation areas. Thirty percent of the County is State or Federal public lands, with major land holdings including Redwood National and State Parks in the north, Six Rivers National Forest in the east, King Range National Conservation Area along the south coast, and Humboldt Redwoods State Park along the Avenue of the Giants in the south-central area.

The Coast Ranges dominate the landscape of much of the County, and include the Eel, Van Duzen, Mattole, and Mad River drainages in the central and southern areas, and the Redwood Creek drainage in the northwest. In the northeast, the higher steeper terrain of the Klamath Mountains province is drained by the Klamath and Trinity Rivers. Offshore of Cape Mendocino is one of the most seismically active areas in the world, where three tectonic plates converge. It is also an area of intensive ocean upwelling and rich marine productivity.

Climate

Humboldt County is an area of moderate temperatures and considerable precipitation. Temperatures along the coast vary only 10 degrees from summer to winter, although a greater range is found over inland areas. Temperatures of 32 degrees or lower are experienced nearly every winter throughout the area, and colder temperatures are common in the interior. Maximum readings for the year often do not exceed 80 on the coast, while 100 degree plus readings occur frequently in the mountain valleys. In most years, rainfall is experienced each month of the year, although amounts are negligible from June through August. Seasonal totals average more than 40 inches in the driest area, and exceed 100 inches in the zones of heavy precipitation.

Growth Rate/Development Trends

Based on the data tracked by the California Department of Finance, Unincorporated Humboldt County has experienced a relatively flat rate of growth. The overall population has increased only 4.1% since 2000 and has averaged 0.73% per year from 1990 to 2007.

The Humboldt County planning area has experienced a relatively low rate of growth in past years (less than 1%/yr). Considering these historical trends and future population projections produced by the state, anticipated development trends for the planning area are considered low, consisting primarily of residential development. Higher rates of growth tend to increase demand for new development. With this fact in mind, the hazard information contained in this risk assessment will be utilized as best available data to support wise land use decisions as development potential expands into known hazard areas.

Humboldt County is subject to state general planning law and the California Coastal Act. The County and its cities have adopted critical areas and resources lands regulations pursuant to these laws. These process govern land use decision and policy making within Humboldt County. Decisions on land use will be governed by these well established, state mandated programs, and not this plan. This plan will work together with these programs to support wise land use in the future. Maintaining the agricultural heritage of Humboldt County is a high priority for its land use programs and managers.

Governing Body Format

The County of Humboldt is a general law County. The Board of Supervisors which serves as the legislative and executive body of County government and many special districts is comprised of five, full-time members elected by their respective districts. Pursuant to the California Government Code, the Board enacts legislation governing Humboldt County and determines overall policies for County departments and various special districts, adopts the annual budget and fixes salaries. The Board also hears appeals from decisions of the Planning Commission, and considers General Plan amendments.

10.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE COUNTY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	2/26/2007	n/a
Wildfire	N/A	2006	n/a
Fish Loss	N/A	2006	n/a
Earthquake	N/A	7/16/2006	n/a
Earthquake	N/A	3/25/2006	n/a
Flooding, severe winters storms, and landslides	M#1628	02/03/2006	$20,208,206
Wildfire	N/A	2005	n/a
Severe Weather (Storm Surge)	N/A	12/31/2005	n/a
Severe Weather (Landslide)	N/A	12/28/2005	n/a
Severe Weather (High Wind)	N/A	11/28/2005	n/a
Earthquake	N/A	6/14/2005	n/a
Severe Weather (Astronomical High Tide, King Salmon)	N/A	1/9/2005	n/a
Severe Weather (Heavy Snow, Inland Humboldt County)	N/A	1/2/2005	n/a
Wildfire	N/A	2004	n/a
Severe Weather (Thunderstorm, Wind, Orick)	N/A	2/25/2004	n/a
Wildfire	N/A	2003	n/a
Severe Weather (Funnel Cloud, Orick)	N/A	12/7/2003	n/a
Earthquake	N/A	8/15/2003	n/a
Fish Loss	N/A	2002	n/a
Wildfire	N/A	2002	n/a
Earthquake	N/A	6/17/2002	n/a
Wildfire	N/A	2001	n/a
Earthquake	N/A	9/20/2001	n/a
Earthquake	N/A	1/13/2001	n/a
Fish Loss	N/A	2000	n/a
Wildfire	N/A	2000	n/a
Severe Weather (Rip Currents, Shelter Cove)	N/A	3/25/2000	n/a
Earthquake	N/A	3/16/2000	n/a
Wildfire	E#3140	09/01/1999	n/a
Severe Weather (Urban/small stream flooding)	N/A	3/24/1999	n/a
Severe Weather (Funnel Cloud, Arcata Airport)	N/A	1/18/1999	n/a
Severe Weather (Urban/small stream flooding)	N/A	12/21/1998	n/a

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather (Urban/small stream flooding)	N/A	11/20/1998	n/a
Severe Weather (Rip Currents, Big Lagoon)	N/A	10/30/1998	n/a
Severe Weather (Urban/small stream flooding)	N/A	2/21/1998	n/a
Severe Weather (Beach erosion, Big Lagoon)	N/A	2/17/1998	n/a
Severe winter storms, flooding	M#1203	2/9/1998	$7.75 Million
Severe Weather (Lightning, Loleta)	N/A	2/3/1998	n/a
Severe Weather (Hail, Honeydew)	N/A	1/29/1998	n/a
Severe Weather (Funnel cloud, Bridgeville, Fields Landing)	N/A	4/23/1997	n/a
Severe winter storms, flooding	M#1155	1/4/1997	$35 Million
Severe Weather (urban/small stream flooding)	N/A	12/29/1996	n/a
Severe Weather (Wind damage, Fieldbrook)	N/A	10/25/1996	n/a
Severe Weather (Hail, Shelter Cove)	N/A	3/4/1996	n/a
Severe Weather (Water spout, Arcata Airport)	N/A	2/21/1996	n/a
Severe Weather (Flood)	N/A	12/29/1995	n/a
Severe Weather (Flooding)	N/A	12/12/1995	n/a
Severe Weather (Orleans, Thunderstorm, Winds)	N/A	5/24/1995	n/a
Severe Weather (Shelter Cove, Hail)	N/A	3/20/1995	n/a
Severe winter storms, flooding	M#1046	3/12/1995	$1.3 Million
Winter storms, flooding, landslides, mud flows	M#1044	1/9/1995	$15 Million
Severe Weather (S of Honeydew; Heavy Rain)	N/A	12/06/1993	n/a
Tsunami	N/A	4/25/1992	n/a
Earthquake	M#943	04/04/1992	n/a
Flood	M#935	2/25/1992	n/a
Flood	M#758	2/21/1986	$5.0 Million
Coastal Storms, Floods, Slides, Tornados	M#677	1/25/1983	$3.82 Million
Severe Weather (Hail)	N/A	6/24/1982	n/a
Drought	E#3023	1975-1977	n/a
Severe storms, High Tides, flooding	M#364	2/8/1973	n/a

M: Presidential Major Disaster Declaration;
E: Presidential Emergency Declaration

- Number of FEMA Identified Repetitive Flood Loss Properties: 9
- Number of Repetitive Flood Loss Properties that have been mitigated: 2

10.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard[a] 100-year	500-year	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	409,036,463	1,397,949,050	High	54
2	Severe Weather	$12,369,135		High	45
3	Flood	$151,725,676	$171,578,242	High	36
4	Wildland Fire	(High Hazard) $3,028,146,719	(Extreme Hazard) $98,462, 027	High	24
4	Tsunami	$51,130,404	$874,656,546[c]	Medium	24
5	Landslide	$696,950,198		High	18
5	Drought	$0 [d]		High	18
6	Dam Failure	$171,578,242		Low	12
6	Fish Losses	$0 [d]		Medium	12

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. This value represents the loss estimate for a 300-Year Tsunami event
d. The probability of occurrence for these events is weighted at "0" due to no exposure

10.5 COALITION PARTNER CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

10.5.1 Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code	Y	N	N	Y	California Building Code (CBC) as currently adopted by the California Building Standards Commission.
2.) Zoning Ordinance	Y	N	N	Y	Humboldt County Zoning Regulations Adopted June 6, 2000 Last revised April, 2007 Higher jurisdiction in coastal zone.
3.) Subdivision Ordinance	Y	N	N	N	Humboldt County Subdivision Regulations Originally adopted 7/19/77 Last revised 10/10/95 Higher jurisdiction in coastal zone.
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)	Y	N	N	N	Flood Damage Prevention Regulations County code section 335, 1982 SRA Fire Safe Regulations, County Code 3111-1 1991, Grading, Erosion Control (County Code Section 331-14), Geological Hazards (County Code Section 336), Streamside Management Areas (County Code Section 314-61.1), and Related Ordinance Revisions (Board of Supervisors Approved Ordinances June 2002) Soil Reports for Building Permits (County Code Section 332-1) 1974.
5.) Growth Management	Y	N	N	Y	General Plan provides guidance for this.
6.) Floodplain Management or Basin plan	N	N	N	N	Regional Water Quality Control Board Basin Plan
7.) Stormwater Management Plan	Y	N	N	N	Stormwater Management Plan - McKinleyville Erosion sediment control ordinance part of grading ordinance. Adopted date – code section

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
8.) General Plan or Comprehensive Plan	Y	N	N	Y	The current General Plan was adopted in 1984 and the County is currently going through a General Plan Update. Higher jurisdiction in coastal zone.
9.) Capital Improvements Plan	N	N	N	N	There is an established list of capital improvement projects that is approved by the Board of Supervisors on an annual basis.
10.) Site Plan review requirements	Y	N	N	N	Through Building and Planning requirements.(Plot Plan and Construction Plan Checklists)
11.) Habitat Conservation Plan	N	N	N	N	
12.) Economic development plan	Y	N	N	N	Prosperity! For Humboldt - an economic development strategy
13.) Emergency Response plan	Y	N	N	N	County of Humboldt Emergency Operations Plan, Humboldt Operational Area, June 2002
14.) Shoreline Management Plan	N	N	N	N	Local Coastal Program per California Coastal Act
15.) Post Disaster Recovery Plan	N	N	N	N	
16.) Post Disaster Recovery Ordinance	N	N	N	N	County Ordinance 1973 - Structural Repair Ordinance (adopted in 1992)
17.) Real Estate Disclosure requirement	N	N	Y	Y	CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.

10.5.2 Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Humboldt County Community Development Services, Planners Humboldt County Public Works, Engineers
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Humboldt County Community Development Services, Building Division, Building officials. Humboldt County Public Works, Infrastructure Engineers.
3.) Planners or engineers with an understanding of natural hazards	Y	Humboldt County Community Development Services, Planners Geo tech. Humboldt County Public Works, Engineers.
4.) Floodplain Manager	Y	Humboldt County Community Development Services, Building Division, Chief Building Official. NFIP
5.) Surveyor(s)	Y	Humboldt County Public Works, Surveyors
6.) Personnel skilled or trained in "GIS" applications	Y	Humboldt County Community Development Services, Planners. Planning (informal agreement with a few cities) countywide initiative training and software for HAZUS training)
7.) Scientist familiar with natural hazards in Humboldt County	Y	Humboldt State University and College of the Redwoods faculty
8.) Emergency Manager	Y	Humboldt County Office of Emergency Services, Sheriffs Department, Emergency Services Coordinator
9.) Grant Writer(s)	Y	Humboldt County Community Development Services, Economic Development Division and Planning Division. Most County Departments have some grant writing capabilities.
10.) Staff with expertise or training in benefit/cost analysis	N	

10.5.3 Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use (Yes/No/Don't know)
1.) Community Development Block Grants (CDBG)	Yes
2.) Capital Improvements Project Funding	Yes
3.) Authority to Levy Taxes for specific Purposes	Yes
4.) User fees for water, sewer, gas or electric service	No
5.) Impact Fees for homebuyers or developers of new development/homes	Yes
6.) Incur debt through general obligation bonds	Yes
7.) Incur debt through special tax bonds	Yes
8.) Incur debt through private activity bonds	No
9.) Withhold public expenditures in hazard-prone areas	Yes
10.) State sponsored grant programs	Yes
11.) Other	Yes

10.5.4 Community Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)	Not participating	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	9/9	12/06/2004
Public Protection		
County Service Area #4	10	N/A
Humboldt County Fire District #1	5/9	N/A
Storm Ready	Not Participating	N/A
Firewise	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

10.6 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-1	FEMA training in Benefit/Cost Analysis	All Hazards	1, 3, 4, 5, 6 8, 12	To be initiated by OES, made available to all dept.	Med	A request will be submitted to CAOES and FEMA. Funded under FEMA's HMTAP program	Short Term
HC-2	Join CRS program	Flood/Tsunami	6, 7, 9, 10, 11	CDS-Building	Med	General Fund	Short Term
HC-3	Obtain Firewise Certification	Wildfire	2, 3, 5, 6, 8, 9	OES	Med	National Fire Plan Grant Program, General Fund	Short Term
HC-4	Draft and adopt a Post-Disaster Action Plan	All Hazards	1, 3, 4 , 5, 8, 9, 12	OES, CDS	Med	PDM Grant, HMGP, General Fund	Short Term
HC-5	Develop, map, and communicate evacuation routes for all applicable hazards	All Hazards	1, 3, 5, 6, 12	CDS, OES	Med	PDM Grant, HMGP, General Fund, CAOES	Long Term DOF
HC-6	Identify priority locations for landslide mitigation projects and move forward on implementing the most appropriate mitigation for each location. Mitigation could include building rock buttress (or other type of buttress fill) and retaining walls. Also, address the landslide hazard by mitigating subsurface and surface water in roadway prism (use culverts and ditching for surface water and under drains and interceptor trenches for subsurface water)	Landslide, Wildfire, Fish Loss, Severe Weather, Earthquake	1, 2, 3, 6, 7, 8, 9, 10, 11	PW	Med	PDM Grant, HMGP, General Fund, Road Funds	Short Term DOF

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-7	Update Post-Disaster Recovery Ordinance	All Hazards	1, 3, 4, 5, 9, 10, 12	CDS-Building, PW	Med	General Fund	Short Term
HC-8	Implement priority recommendations from the Humboldt County Master Fire Protection Plan	Wildfire, Landslide, Fish Loss	12, 3, 4, 5, 6, 7, 9, 10, 11, 12	HCFSC and CDS	High	Grant Funding (National Fire Plan Grant Program, PDM Grants and HMGP Grants, County Payments Title III, other programs)	Short Term
HC-9	Evaluate flood zones for the establishment of Base Flood Elevations	Flood/ Tsunami,	3, 7	CDS-Building, OES	Med	Grant funding, General Fund	Long Term DOF
HC-10	Adopt International Building Code pursuant to state mandate as soon as it is adopted by the State.	Earthquake, Wildfire, Flood, Severe Weather, Dam Failure, Landslide	2, 3, 11	CDS	Med	General Fund, Building Funds	Short Term
HC-11	Conduct a systematic assessment of all important/critical County buildings and infrastructure in high hazard zones, to identify their specific vulnerabilities and to identify cost effective mitigation solutions.	Earthquake, Tsunami, Flood	1, 2, 3, 7, 8, 9	PW, CDS	Med	General Fund, PDM Grants and other Grants	Short Term
HC-12	Engineering or retrofitting new and existing roads and bridges to withstand hazards.	Dam Failure, Earthquake, Landslide, Severe Weather, Tsunami, Wildfire	1, 2, 3, 4, 5, 8, 9, 11	PW	High	General Fund, PDM Grant, HMGP, Other State Grants, STIP	OG Short Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-13	Complete a comprehensive inventory of unreinforced masonry buildings within the unincorporated area of Humboldt County and include a Cost/Benefit Analysis of each URM structure to determine if the benefits of reinforcement outweigh the costs.	Earthquake	2, 4, 8, 9	CDS-Building and Planning	Med	General Fund, PDM Grant, HMGP	OG Short Term
HC-14	Adopt an ordinance to require strengthening and/or reinforcement of unreinforced masonry buildings (per the requirements of the 1986 Government Code 8875 et seq.), except residential structures and warehouses. This will require a strong public education program coupled with financial incentives to achieve community support. Based on the Cost/Benefit Analysis in 14 above, provide funding options and assistance to reduce owner expense and accomplish this initiative.	Earthquake	2, 4, 6, 11	CDS-Building, OES	Med	General Fund	Short Term
HC-15	Join the NOAA Tsunami Ready Program (includes Storm Ready)	Tsunami, Flood Severe Weather	3, 4, 5, 6, 7, 8, 9	OES	Med	NOAA funding/support, Grants	OG Short Term
HC-16	Develop probabilistic tsunami hazard maps or other methodology suitable for flood insurance risk use and make available to the public	Tsunami	2, 3, 5, 6, 7, 9	OES/ CDS	Med	PDM Grant, HMGP, Other State Grants	OG Long Term DOF
HC-17	Develop and implement a tsunami signage program	Tsunami	1, 3, 5, 8, 10, 12	OES, NOAA, PW	Med	General Fund, other partner agency funding & Grants	OG Short Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-18	Support the State of California in its effort to develop criteria, with guidance from an expert panel, for addressing the Tsunami hazard in local land use planning	Tsunami	1, 3, 5, 8, 10, 12	BOS	Low	General Fund	Short Term
HC-19	Develop a tsunami warning and response system	Tsunami	1, 3, 5, 8, 10, 12	OES/NOAA	High	Donations, NOAA Grants, and one time Development Fees	OG Long Term DOF
HC-20	Provide training for appropriate staff within the County on the use of HAZUS-MH software	All Hazards	1, 5, 7, 9, 10	CDS	Med	General Fund, ESRI grants, EMPG Funding	Short Term
HC-21	Develop a public education program to demonstrate steps citizens can take to make their homes less vulnerable to natural hazard impacts and inform them about hazard mitigation and preparedness via county website and other media sources.	All Hazards	3, 6, 7	OES	Med	General Fund, grants & Partnership funding	OG Short Term
HC-22	Design, post to the web and publicize the availability of a web GIS mapping tool providing detailed maps of natural hazard overlays with site address and/or parcel locations	Al Hazards	1, 3, 5, 6, 8	CDS	Med	General Fund, ESRI grants	Short Term
H -23	Secure property interests (fee title or easements) for sediment detention facilities and/or develop these facilities in areas where excessive sediment is a primary cause of flooding	Flood, Fish Losses	1,2,3, 9	PW	Med	PDM Grant, Prop 50, other grants	Short-Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-24	Seek funding and authorization to include seismic upgrades to planned major repairs of county buildings to increase resistance to earthquake damage, especially buildings critical to emergency response and recovery (including designs and feasibility studies associated with the construction project) These include, but shall not be limited to, the buildings proposed for remodeling in the Capital Project Plan.	Earthquake	1, 2, 3, 7, 11	PW	Med	General Fund, PDM, HMGP	OG Long Term DOF
HC-25	Design and distribute building guides to help citizens comply with hazard mitigation code requirements.	All Hazards	3, 6, 7, 8, 11	CDS-Building	Med	General Fund, HMGP & Building Finds	Short Term
HC-26	Upgrade landslide hazard mapping by producing a complete uniform dataset following the CDMG North Coast Watersheds Mapping project methodology, or similar acceptable mapping approach and make easily accessible to public.	Landslide	2, 3, 6, 7, 10, 12	CDS - GIS	Med	General Fund & Grant Funding	Long Term DOF
HC-27	Establish an agreement with haulers to assist with the development of emergency plans for transporting and disposing of post disaster event debris, ahead of a disaster.	All Hazards	1, 3, 4, 5, 8, 12	EH, PW, CAO	Low	General Fund, Federal and State post disaster grants	Short Term
HC-28	Identify and develop adequate locations for the temporary storage of post disaster event debris.	All Hazards	1, 3, 4, 5, 8, 12	PW supported by EH	Med	Grants	Short Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-29	Secure funding for additional GIS staffing capacity to provide interagency coordination and consolidated, integrated GIS capabilities including all county departments and other applicable agencies	All Hazards	1, 3, 5, 7, 8	All applicable County Departments	Low	General Fund, ESRI grants, Department of Homeland Security & all applicable County departmental funding sources.	Short Term DOF
HC-30	Hardening and reinforcement of repeater sites (retrofit)	All Hazards	1, 2, 3, 4, 5	CAO/Communications, OES, PW	Med	Homeland Security, HERSA/CDC Grant,	Short Term
HC-31	Public education for identified isolated islands of humanity. This could include the development of CERTS.	All Hazards	3, 5, 6, 7	PH and OES	High	Homeland Security, HERSA/CDC Grant, Volunteers	Short Term
HC-32	Retrofit airport runways to be able to receive larger aircrafts-Rohnerville, Arcata/McKinleyville, Murray	All Hazards	1, 2, 4, 5, 12	PW-Aviation	Low	PDM Grants, HMGP, other grants	Long Term DOF
HC-33	Update County Operations Plan for better integration and training coordination	All Hazards	1, 3, 5, 8, 12	OES	High	HERSA/CDC, CAOES, General Fund	Short Term
HC-34	Develop County COOP (Continuity of Operations Plan)	All Hazards	1, 3, 8, 12	CDS/OES	Med	Homeland Security, HERSA/CDC, General Fund, CAOES,	Short Term
HC-35	Relocate and/or develop a mobilization plan for PW maintenance yards.	All Hazards	1, 2, 3, 5, 8	PW	Med	Grants	Short Term
HC-36	Relocation/digitize stored County Records	Flood, Earthquake, Tsunami, Severe Weather	1, 3, 8	CAO	High	All applicable County Department funding sources & Grants	Short Term
HC-37	Establish alternate OES Emergency Operations Center	All Hazards	1, 2, 4, 5	CAO/ OES	Med	General Fund, State Funds, Grants	Short Term Long Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-38	Retrofit/upgrade Redwood Acres and Humboldt County Fairgrounds for use as critical infrastructure for response and recovery activities	All Hazards	1, 3, 4, 5	PW	Med	General Fund, State Funds, Grants	Long Term
HC-39	Upgrade/develop redundant interoperable communication systems (fiber optic, wireless,, radio, other)	All Hazards	1, 2, 3, 4, 5, 12	CAO	Med	State Funding, Homeland Security & Partnership funding	Short Term
HC-40	Include in Capital Improvements Plan --back-up emergency energy sources	All Hazards	1, 2, 3, 10	PW/OES	High	General Fund, CAOES, Homeland Security	Short Term
HC-41	Current EH program provides regulatory oversight of high hazard facilities which includes Process Hazard Analysis, what if checklists, Hazard and Operability Studies, Failure Mode and Effects Analysis	All Hazards	1, 2, 3, 5, 6, 7, 10	EH	High	CUPA (Certified Unified Program Agency funding)	Long Term DOF
HC-42	Current EH program provides regulatory oversight of high hazard facilities which includes a Hazard Assessment in accordance with CalARP requirements.	Dam or Levee Failure, Earthquake, Landslide, Severe Weather, Tsunami, Wildfire	1, 7, 10	EH	Med	CUPA (Certified Unified Program Agency funding)	Long Term DOF
HC-43	Support fisheries enhancement, maintenance, restoration programs, and native stock replenishment programs	Fish Losses	3, 7, 8, 9	CDS	Med	Prop 50, other grants	Short Term OG
HC-44	Support conservation easement programs intended to preserve or restore healthy fish species habitat	Fish losses	3, 7, 8, 9	CDS	Low	Title III, Grants	OG
HC-45	Support wetland/riparian protection, restoration, enhancement and maintenance programs	Fish losses	3, 7, 8, 9	PW, CDS	Low	General Fund	OG

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HC-46	Support studies to evaluate fish populations as well as disease impact studies	Fish losses	3, 7, 9	PW, CDS	Low	General Fund	Long Term
HC-47	Perform "risk-based" analysis of non-accredited levees within the planning area (Redwood Creek) to identify the most cost-beneficial remediation of those facilities. Implement recommendation of the analysis.	Fish losses and Flood	3, 6, 7, 8, 9, 10	CDS, Public Works	High	General Fund, Grants (FEMA, USACE)	Long Term DOF
HC-48	Support studies to evaluate the effect of the major dams operating procedures on resident fish.	Fish losses	3, 7, 8, 9, 10	CDS	Med	General Fund	Long Term
HC-49	Develop a Habitat Conservation Plan.	Fish losses	3, 7, 8, 9, 10	CDS-Planning	Low	General Fund, Grants	Long Term
HC-50	Dam and levee reinforcement and new construction.	Flood	1, 2, 3, 4, 5, 9, 11	PW	Med	HMGP	Long Term
HC-51	Amend or enhance the Hazard Mitigation Plan on an "as needed" basis to comply with state or federal mandates (i.e. CA. Assembly Bill # 2140) as guidance for compliance with these programs become available.	All	All	CDS, OES	Med	Ongoing programs; grant funding depending on mandate	Long Term OG
HC-52	Continue participation and maintain good standing in the National Flood Insurance Program.	Flood	3,6,7, 9,10, 11	CDS, Building Division	Low	Funded through existing, on-going programs	Short-term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = Depending upon funding

CalAPR = California Accidental Release Program; CAOES = California Office of Emergency Services; CDMG = California Department of Mines and Geology; CDS = Community Development Services; CERTS = Community Emergency Response Teams; COOP = Continuity of Operations Plan; CRS = Community Rating System; CUPA = Certified Unified Program Agency Funding; EH = Humboldt County Environmental Health; EMPG = Emergency Management Performance Grant; ESRI = Environmental System Research Institute; HAZUS-MH= Hazards U.S. Multi-Hazard; HCFSC = Humboldt County Fire Safe Council; HMGP = Hazard Mitigation Grant Program; MFPP = Master Fire Protection Plan; NOAA = National Oceanic and Atmospheric Administration's; OES = Humboldt County Office of Emergency Services; PDM = Pre-Disaster Mitigation Grant Program; PH = Humboldt County Public Health; PW = Humboldt County Public Works; STIP = State Transportation Improvement Program

10.7 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
HC-1	7	High	Medium	Yes	Yes	No	Medium
HC-2	5	Medium	Medium	Yes	Yes	Yes	Medium
HC-3	6	High	Medium	Yes	Yes	Yes	High
HC-4	7	High	Medium	Yes	Yes	Yes	High
HC-5	5	High	Medium	Yes	Yes	Yes	Medium
HC-6	9	High	Medium	Yes	Yes	No	Medium
HC-7	7	High	Medium	Yes	Yes	Yes	Medium
HC-8	11	High	Med or High	Yes	Yes	Yes	Medium
HC-9	2	Medium	Medium	Yes	Yes	Yes	Low
HC-10	3	High	Medium	Yes	Yes	Yes	High
HC-11	6	High	Medium	Yes	Yes	Yes	High
HC-12	8	High	High	Yes	Yes	Yes	Medium
HC-13	4	High	Medium	Yes	Yes	Yes	Medium
HC-14	4	Medium	Medium	Yes	Yes	Yes	High
HC-15	7	Medium	Medium	Yes	Yes	Yes	Medium
HC-16	6	Medium	Medium	Yes	Yes	Yes	Medium
HC-17	6	High	Medium	Yes	Yes	Yes	High
HC-18	6	Medium	Low	Yes	Yes	Yes	High
HC-19	6	High	Medium	Yes	Yes	Yes	High
HC-20	6	High	Medium	Yes	Yes	Yes	Medium
HC-21	5	High	Medium	Yes	Yes	Yes	High
HC-22	3	High	Medium	Yes	Yes	Yes	Medium
HC-23	4	Medium	Medium	Yes	Yes	Yes	High
HC-24	5	High	Medium	Yes	Yes	Yes	Medium
HC-25	5	High	Medium	Yes	Yes	Yes	Medium
HC-26	5	High	Medium	Yes	Yes	Yes	High
HC-27	6	High	Low	Yes	Yes	Yes	Medium
HC-28	6	Medium	Medium	Yes	Yes	Yes	Medium
HC-29	6	Medium	Low	Yes	Yes	Yes	High
HC-30	5	High	Medium	Yes	Yes	Yes	Medium
HC-31	5	High	High	Yes	Yes	Yes	High
HC-32	4	Medium	Low	Yes	Yes	Yes	High

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
HC-33	5	High	High	Yes	Yes	Yes	Medium
HC-34	5	High	Medium	Yes	Yes	Yes	High
HC-35	4	High	Medium	Yes	Yes	Yes	Medium
HC-36	5	High	High	Yes	Yes	Yes	Low
HC-37	3	Medium	Medium	Yes	Yes	Yes	Medium
HC-38	5	High	Medium	Yes	Yes	Yes	Medium
HC-39	4	High	Medium	Yes	No	Yes	Low
HC-40	6	High	High	Yes	Yes	Yes	Medium
HC-41	5	Low	High	Yes	Yes	Yes	Low
HC-42	7	High	Medium	Yes	No	Yes	Medium
HC-43	3	High	Medium	Yes	No	Yes	Medium
HC-44	4	High	Low	Yes	No	Yes	Medium
HC-45	4	High	Low	Yes	Yes	Yes	High
HC-46	4	High	High	Yes	Yes	No	Medium
HC-47	3	High	Low	Yes	Yes	Yes	Medium
HC-48	6	High	Medium	Yes	Yes	Yes	Low
HC-49	5	High	Low	Yes	Yes	Yes	Medium
HC-50	5	High	Medium	Yes	Yes	Yes	Medium
HC-51	16	Medium	Medium	Yes	Maybe	Maybe	Medium
HC-52	6	Medium	Low	Yes	No	Yes	High

10.7.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other

programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [N/A]

10.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Tsunami hazard area maps that can be used on the land use planning level will be important for understanding the level of risk for specific areas. This information will help planners guide development patterns and design appropriate mitigation requirements. In assessing the tsunami threat to California, the California Seismic Safety Commission recommended "… Develop probabilistic tsunami hazard maps appropriate for building code and land-use regulation." (CSSC 05-03, December, 2005).

Improved landslide hazard mapping will help planners better understand the vulnerability of exposed communities and to identify appropriate mitigation actions.

Improved understanding of and tools to evaluate the hazards associated with the possibility of climate change to better prepare for and mitigate impacts on the planning area.

10.9 ADDITIONAL COMMENTS

None at this time.

10.10 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the Humboldt County Operational area and are included in Part 3 of Volume 1 of this plan. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

PART 3—SPECIAL PURPOSE DISTRICT ANNEXES

CHAPTER 11.
ORLEANS COMMUNITY SERVICES DISTRICT ANNEX

11.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Shirley Reynolds, Office Manager PO Box 303 Orleans, CA 95556 Phone: 530-6273454 e-mail: ocsdshirleyr1@juno.com	James Slusser, Fields Operation Manager PO Box 303 Orleans, CA 95556 Phone: 530-6273454 e-mail: same

11.2 DISTRICT PROFILE

Orleans Community Services District (OCSD) is a public agency formed by a special election held November 15th, 1977. The District was organized on December 30, 1977 under the Community Services District Law, Division 3, of Title 6 of the California Government Code commencing with Section 61000. The district is governed by a five member elected Board of Directors. The Board will assume the responsibility for the adoption and the implementation of this plan. Orleans Community Services District is engaged in supplying potable water to the area totally from a groundwater source. As of June 1, 2007, the district serves 150 water meters. Current staff level is three paid employees. Funding is provided through water rates, and county tax funds. Community Services include but are not limited to the Orleans Volunteer Fire Department (OVFD). The Fire Department operates as a separate entity under the Orleans Community Services Board of Directors. The Orleans Volunteer Fire Department provides services from Siskiyou County line at Somes Bar to below Bluff Creek. The Fire Department services 30 square miles, and provides mutual aid on another 30 square miles.

- **Land Area Served**—1018.1 acres, 1.59 square miles within the OCSD boundary. The OVFD has 30 square miles of response area, 1.59 square miles of which is within the OCSD Boundary.
- **Population Served**—300 for the OCSD and approximately 800-1,000 for the OVFD.
- **List of Critical Infrastructure/Equipment**—
  - Approx 100 miles of water mains, water treatment facility, 3 filters,
  - One 100,000 gallon redwood tank, 1 pump station with one 5-hp pump
  - And two computerized pumps, 33 fire hydrants**.**
- **Value of Critical Infrastructure/Equipment**—
  - OCSD $1,016,962
  - OVFD $ 300,000
- **List of Critical Facilities (Owned by District)**
  - Rolling stock—OCSD office building (three offices) 1 metal storage
  - Building for equipment/supplies and housing district pickup.

  - Owned by OVFD five bay fire house; 4 engines, 1 rescue truck, 1 water tender

- **Value of Critical Facilities:**
  - OCSD $46,737
  - OVFD $ 200,000
- **Value of Area Served:**
  - $11,113,475 (Value within the OCSD jurisdictional boundary)

11.3 OUTLINE OF AREA SERVED

Boundaries of OCSD are as follows: In the west starting at Eyesee Road, east on Highway 96 to East Pearch Creek Rd., east up East Pearch Creek Rd. to end of road, south on Red Cap Rd. to Mace Drive. Includes the Ferris Ranch Road area. North on Ishi Pishi Road ending at Sandy Bar Ranch, north on old Highway 96 to end of road. See map in Chapter 1 (Figure 1-1).

11.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Portions of the District have experienced a large growth trend with the addition of 25 Karuk Tribal houses (not in the District's tax base, but adds to the District's water service needs and revenue). The Karuk Tribe has future plans of adding another five or more houses. Private single family houses are anticipated in other areas of the District. None of the proposed or future building can be done with the District's current water storage facility. An additional 100,000 gallon water storage tank is needed to allow addition of more demand on storage capabilities.

11.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Landslide	N/A	1996	Landslide occurred under main water line coming from infiltration gallery to main storage tank, making water line unstable. Cost of repairs = $2500

11.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Severe Weather	Estimate 100% of Value	High	54
2	Wildfire	Estimate 100% of Value	Medium	36
2	Landslide	Estimate 100% of Value	High	36
2	Flood	Estimate 100% of Value	High	36
5	Earthquake	Estimate 25% of value	High	18
6	Drought	No measurable impact to property	High	9
7	Dam Failure	Estimate 25% of value	Low	6
8	Tsunami	No Exposure	Low	0[c]
8	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

11.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

None Applicable

11.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

Adding a second 100,00 gallon water storage tank at main tank site for additional water storage. Engineering plans have been obtained; easement for additional tank has been obtained and recorded with county. Extending the main line on highway 96 from Eyesee Rd. to Camp creek Rd. for the installation of three fire hydrants. This area is a high risk area for fires. Three brush fires in the past four years, endangering community of Orleans due to the prevailing winds coming up river. Engineering plans have been obtained for this project. Cal Trans Easement beside Highway will be obtained when project is in advanced stage of planning. DISASTER AND TERRORISM ACTION PLANS HAVE BEEN IN PLACE FOR OVER FIVE YEARS. Water conservation action plan has been in place since 1998. OVFD is in planning stages to retrofit firehouse, and is looking for grants.

11. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	7/9	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	N/A	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

11.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
OCSD-1	Retrofit existing water storage tank for the impacts of earthquake and landslides, while increasing the storage capacity for fire protection capability.	EQ, LS, WF	1, 2	OCSD Board	High	OCSD general fund, FEMA Hazard Mitigation Grant	Long Term, DOF
OCSD-2	Retrofit existing water distribution system for the impacts of earthquake, flood and landslide. Retrofit to include where feasible, extension of existing system to non-serviced areas to provide fire hydrant protection.	EQ, Fld, LS, WF	1, 2, 3, 8	OCSD / Humboldt County	High	Potential partnering opportunity with Humboldt County. OCSD general fund, FEMA hazard Mitigation grant funding	Long Term, DOF

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
OCSD-3	Structural/nonstructural seismic retrofit of OFPD fire house.	EQ	1, 2, 3	OVFD	High	OCSD general fund, FEMA Hazard Mitigation Grant	Long term, DOF
OCSD-4	Support county-wide initiatives identified in the Humboldt County Hazard Mitigation Plan	All Hazards	All Objectives	OCSD Board	Low	Funded through existing/ongoing programs	Short term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

11.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
OCSD-1	2	High	High	Yes	Yes	No	Medium
OCSD-2	4	High	High	Yes	Yes	No	Medium
OCSD-3	3	High	High	Yes	Yes	No	Medium
OCSD-4	12	Medium	Low	Yes	No	Yes	High

11.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant

programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.

- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

11.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

11.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 12.
ORICK COMMUNITY SERVICES DISTRICT ANNEX

12.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Karla Cummings, Program Manager P O Box 63 Orick, CA 95555 Phone: 707-845-0935	Neal Youngblood, Fire Captain P O Box 63 Orick, CA 95555 Phone: 707-845-6753
e-mail: ocsdww@gmail.com	e-mail: neal_youngblood@nps.gov

12.2 DISTRICT PROFILE

Orick Community Services District is operated by a five-person elected Board of Directors. This Board will assume responsibility for the adoption and implementation of this plan. There are two part-time office staff, an office manager and an administrative assistant who take care of day-to-day operations. There is also a water operator who works mostly on an on-call basis. The district is funded by local taxes, water customer fees, and donations. The following information is taken from the 1989 Humboldt County *Sphere of Influence Report*:

- **Location**—The Orick Community Services District is located on Highway 101 in the northwestern corner of Humboldt County. The District is situated between the Pacific coastline and Redwood National Park, approximately 40 miles north of Eureka and 13 miles south of the Humboldt – Del Norte County border.
- **Principle Act**—California Government Code Section 61000 et seq.
- **Services**:
  - Potable water supple and distribution.
  - Fire Protection Services.
- **Latent Powers:**
  - Sewage Collection
- **Land Area Owned**— 3.5 acres
- **Land Area Served**— 2.3 mi^2
- **List of Critical Infrastructure/Equipment**—
  - (2) 100,000-gal tanks
  - pumps (xxx),
  - chlorinator,
  - 5 miles of pipeline,
  - 23 hydrants,

  - 132 hook ups,
  - Fire protection equipment
- **Value of Critical Infrastructure/Equipment**— **$4,062,000**
  - Infrastructure: $3,497,000
  - Equipment: $565,000
- **List of Critical Facilities (Owned by District)** —
  - Office building, 25X30
  - Fire hall, 35X60
  - Community Hall 65X80
- **Value of Critical Facilities**:
  - Office: $180,000
  - Fire Hall: $420,000
  - Community Hall: $1,560,000
  - Total: **$2,589,000**
- **Value of Area Served**—
  - $47,650,000
  - per acre AG ($10,000/acre=$14,720,000)
  - per hook up (132X$200,000)=$26,400,000 residential + $4.7m (DeBeni) + market ($300,000)+ motels (2X $300,000) + theater ($300,000) + bar ($300,000) + restaurants (2X $300,000)

12.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

12.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Current Services:

- Potable water supple and distribution.
- Fire Protection Services.
- Latent Powers:
- Sewage Collection

Anticipated changes in service trends:

- Provide waste water
- Additional 100 unit motel and additional tourist ‘attractions’ through the Redwood Lodge Association developments

Based on the data tracked by the California Department of Finance, Unincorporated Humboldt County has experienced a relatively flat rate of growth. The overall population has increased only 4.1% since 2000 and has averaged 0.73% per year from 1990 to 2007. Considering these historical trends and future

population projections produced by the state, anticipated development trends for the planning area are considered low, consisting primarily of residential development.

12.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding, severe winters storms, and landslides	DR-1628	02/03/2006	$20,208,206 Countywide Minor damages to district facilities
1964 Flood	DR-183	12/24/1964	Losses in the millions countywide

12.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING				
Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	No estimates available	High	54
2	Severe Weather	No estimates available	High	42
3	Tsunami	No estimates available	Low	12
4	Drought	No measurable impact to property	High	12
5	Flood	No estimates available	High	6
5	Wild Fire	No estimates available	Low	6
5	Land Slide	No estimates available	Low	6
8	Dam Failure	No estimates available	Low	6
8	Fish Losses	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

12.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

- CEQA,
- ESA for anadromous fish (4), spotted owl, marbled murrelet, snowy plover
- Coastal Zone

- Applicable county permits

12.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

Environmental documents for potential waste water system currently being developed (2007)

12. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Awareness level	N/A
Storm Ready	yes	2007
Tsunami Ready	yes	2007

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

12.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
O-1	Provide public outreach for tsunami awareness	Tsunami	3, 6, 7, 8, 10	Orick tsunami ready	$500	NOAA, NPS	Short Term/OG
O-2	Seismic retro fit of water supply system	EQ, Wildfire	1, 2, 4, 9	OCSD	$10 mil	OCSD District funding, Hazard Mitigation Grant	Long term, DOF
O-3	Upgrade levees to 250 years flood Protection Level	Flood	1, 2, 3, 9	Humbol dt County	High	Benefit assessment, USACE 205 funding, Hazard Mitigation Grant Funding	Long term, DOF

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

12.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
O-1	5	Med	Low	Yes	No	Yes	High
O-2	4	High	High	Yes	yes	No	Med
O-3	4	high	high	Yes	Yes	No	Low

12.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation

Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).

- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions X

Prioritization of initiatives was based on parameters other than stated above: X

12.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Realistic flood mapping for Redwood Creek and zones of isolation

12.13 ADDITIONAL COMMENTS

In many of the potential hazard scenarios, Orick will be faced with isolation issues. Much of the future hazard planning (outside of appropriately upgraded infrastructure) requires community preparedness education, shelter, sustenance and back up communication abilities.

CHAPTER 13.
HUMBOLDT COMMUNITY SERVICES DISTRICT ANNEX

13.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Mark Bryant, General Manager P O Box 158 Cutten, CA 95534 Phone: 707.443.4558 e-mail: :mbryant@humboldtcsd.com	Tim Latham, Maintenance Division P O Box 158 Cutten, CA 95534 Phone: 707.443.4558 e-mail: dlovett@humboldtcsd.com

13.2 DISTRICT PROFILE

Humboldt Community Services District (HCSD) is a Special District created in 1952 to provide water, sewer, and street lighting to the unincorporated area surrounding the City of Eureka known as Pine Hill & Cutten. The District's designated service areas expanded throughout the years to include other unincorporated areas of Humboldt County known as Myrtletown, Humboldt Hill, Fields Landing, King Salmon, and Freshwater. A five-member elected Board of Directors governs the District. The Board assumes responsibility for the adoption of this plan while the General Manager will oversee its implementation. As of April 30, 2007, the District serves 7,305 water connections, 6,108 sewer connections, and Street Lights with a current staff of 21. Funding comes primarily through rates and revenue bonds. See attached map for specific District boundaries.

- **Land Area Owned**— HCSD owns approximately 10.91 acres or 475,480 square feet of land.
- **Land Area Served**— HCSD's Service area consists of approximately 17,571 acres or 27.5 square miles.
- **List of Critical Infrastructure/Equipment**— HCSD consists of:
  - Approximately 87 miles of water main
  - 3 water wells
  - 10 water booster stations
  - 10 steel water storage tanks
  - 3 metered connections to the City of Eureka
  - 5 un-metered connections to the City of Eureka
  - 1 metered connection to Humboldt Bay Municipal Water District
  - Approximately 70 miles of sewer collection main
  - 29 Sewer Lift Stations
  - 7 Metered sewer connections with the City of Eureka (3 are incorporated as part of the sewer lift stations, 4 are stand-alone).
  - Rolling stock (26 vehicles)

  - Main office compound complete with vehicle and equipment storage and parts storage facilities.

- **Value of Critical Infrastructure/Equipment**— (total "replacement cost" value of the infrastructure/equipment listed in 3 above) $1,487,500
- **List of Critical Facilities (Owned by District)** —
  - Transmission and distribution pipelines
  - Wells 1 through 3
  - Water Booster Stations 1 through 10
  - 10 Water storage tanks
  - 3 metered connections to the City of Eureka
  - 5 un-metered connections to the City of Eureka
  - 1 metered connection to Humboldt Bay Municipal Water District
  - Sewer collection system mains
  - Sewer lift stations 1 through 29
  - Sewer meter stations, 4, 5, 6 and 7
  - Office, equipment and parts facilities
- **Value of Critical Facilities**—(replacement cost value of the buildings/facilities listed above) $10,882,000
- **Value of Area Served**—As of April 30, 2007, the County assessed value of the District, net of exemptions, is $1,087,540,799.

13.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

13.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Portions of the District have experienced a 1.93% growth over the last 5 years and land use regulations based on GMA project an increase in residential land uses within the District service area. This increase in density of land use will represent and increase the number of housing units within the service area and thus represent an expansion of the District's delivery network. Currently, the General Plan designates 5,500 potential new housing units.

13.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	N/A	7-09-07	$150,000
Flooding, severe winters storms, and landslides	DR-1628	02/03/2006	$22,000 $20,208,206 Countywide
Severe Weather	N/A	12-1995	$57,161
Winter storms, flooding, landslides, mud flows	DR-1044	1/9/1995	$3,875 $15 Million Countywide
Earthquake	N/A	1994	$158,446
Earthquake	DR-943	04/04/1992	$23,993

13.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This district is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING				
Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$332,439	High	54
2	Severe Weather	$82,875	High	42
3	Tsunami	No estimates available	Low	12
4	Drought	No measurable impact to property	High	12
5	Flood	No estimates available	High	6
5	Wild Fire	No estimates available	Low	6
5	Land Slide	No estimates available	Low	6
8	Dam Failure	No estimates available	Low	6
8	Fish Losses	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

13.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

- California Department of Public Health

- California and U.S. Environmental Protection Agencies
- Federal Energy Regulatory Commission
- Army Corp of Engineers
- California Environmental Quality Act
- Federal Endangered Species Act
- California Coastal Commission
- Cal Fire

13.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

- Humboldt County Operational Area Hazard Mitigation Plan
- HCSD Water Management Plan

13.9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

13.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HCSD-1	Retrofit Tanks, Ridgewood, Walnut, and Freshwater among others.	Earthquake	1, 2, 3, 4	HCSD	600 K	CIP	Short Term
HCSD-2	Enhance water supply system for fire prevention, in areas rated high by Cal Fire	Wildfire	1, 3, 4, 5	HCSD	1.5 M	Grant and General Funds	Short Term DOF
HCSD-3	Acquire support equipment such as: backup generators and water pumps	All Hazards	1, 2, 3, 5, 8	HCSD	500 K	DHS Grant, and General Funds	Short Term DOF
HCSD-4	Engineering feasibility study of Critical Facilities for structural and non-structural mitigation.	Flood and Earthquake	1, 2, 4, 5	HCSD	350 K	District funds	Short Term
HCSD-5	Promote public awareness of the risk associated with natural hazards to HCSD rate payers via public information means available to HCSD (is there a problem with this one?)	All Hazards	1, 2.4	HCSD	15 K	District Funds trough ongoing programs	Short Term/OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

13.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
HCSD-1	4	High.	High	Yes	Yes	Yes	High
HCSD-2	4	High	Medium	Yes	Yes	No	Medium
HCSD-3	5	High	Low	Yes	Yes	No	Medium
HCSD-4	4	High	Low	Yes	No	No	Low
HCSD-5	3	Medium	Medium	Yes	No	Yes	High

13.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions X

Prioritization of initiatives was based on parameters other than stated above: X

13.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Focused engineering studies of critical infrastructure/facilities.

13.13 ADDITIONAL COMMENTS

None.

CHAPTER 14.
WILLOW CREEK COMMUNITY SERVICES DISTRICT

14.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Steve Pain, District Manager P.O. Box 8 Willow Creek, CA 95573 Phone: 530-629-2136	Lonnie Danel, Chief Operator P.O. Box 8 Willow Creek, CA 95573 Phone: 530-629-2136
e-mail: willowcreekcsd@hotmail.com	e-mail: willowcreekcsd@hotmail.com

14.2 DISTRICT PROFILE

In 1967 the Willow Creek Community Services District was formed after three years of planning, which was interrupted by the 1964 flood that devastated the Klamath Trinity Area. The original role of the District was to provide water and unify multiple small private water systems. In the middle seventies the District entered the role of recreation followed shortly by asking LAFCO for wastewater empowerment. In the early eighties we became involved in downtown street lighting.

The District employs a general manager, office manager, chief operator and an operator-recreation tech as full time employees and during the summer season hires a temporary recreation person.

The District operates on a rate based financial structure with recreation fees and facility's rents supplementing its economic base. The District also receives some property tax support.

The District is governed by five elected directors with who established policy and enacts ordinances. The Board directs the manager to conduct the District's business within described guidelines. This Board will assume the responsibility for the adoption and implementation of this plan.

The community has 935 service connections representing just fewer than 2,000 customers. We are located in the Trinity River Valley eastern terminus of Humboldt County along Hwy. 299 at the South Fork of the Trinity River. We extend north 3 miles along Hwy 96 toward the Hoopa Indian Reservation which is 12 miles away. There are 22 miles of roads and pipelines within the district.

- **Land Area Owned**— 50+ acres, including multiple structures
- **Land Area Served**— The District owns around 50 acres of land with numerous structures including the District office, water plant, pump stations, park facilities, Kimtu Cookhouse, The Six River's Community Center, Dr. Rowland Grubb's dental office, the W.C. Museum, visitor's center, and several bathroom facilities. The District Comprises around 3700 of private land. We have a new water treatment facility within the floodplain of the Trinity River. We have six water tanks, three of them redwood and three metal which are all of prone to fire disasters
- **List of Critical Infrastructure/Equipment**—See above
- **Value of Critical Infrastructure/Equipment**—20 million dollars-included pipelines

- **List of Critical Facilities (Owned by District)**—The water treatment plant, tanks and pump stations
- **Value of Critical Facilities**—$2,394,000
- **Value of Area Served—**$135,000,000.

14.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

14.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Due to high summer water demand, a doubling of the current storage capacity of 1.2 million gallons is planned to offset prohibitive daytime utility rates and to provide fire protection storage capacity for wildfire protection. We anticipate placing a 500,000 gallon tank on Brannan Mountain Road a quarter-mile above Hwy 96 which will improve chlorine contact time, improve storage and service to the Hwy 96 corridor, and improve the District's ability to serve peak demand. We plan a tank east of town along Hwy. 96 in the area near Wooden Ranch, above Campora Gas. Another site will be developed as part of the proposed Walton subdivision. We are also planning to replace the three 40 year old redwood tanks within this decade.

14.5 NATURAL HAZARD EVENT HISTORY

Flooding and wildfire have been part of the District's recent history and will no doubt remain at the top of the threat list. Earthquake and dam failure are also risks. Flooding and fire are both high risk priorities, with fire being annual and continuous.

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Fire	—	1945	Multiple structures etc today= $1,000,000
Flood	—	1955 W.C.	Bridges, homes, hwys. today= $20,000,000
Flood	—	1964 W.C.	Roads, bridges, homes, etc. today=$50,000,000

14.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Wild Fire	Estimate $2 million	High	54
2	Earthquake	Estimate $25 million	High	45
3	Flood	Estimate $15 million	High	39
4	Severe Weather	No estimates available	High	36
5	Drought	No measurable impact to property	High	18
6	Land Slide	No estimates available	Medium	12
7	Dam Failure	No estimates available	Low	6
8	Tsunami	No Exposure	Low	0[c]
9	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

14.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

None

14.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

None

14.9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS

Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

14.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
WCCSD-1	Retrofit existing water storage tank for the impacts of earthquake and landslides, while increasing the storage capacity for fire protection capability.	EQ, LS, WF	1,2	WCCSD	$1,000,000 High	District funds leveraged with Hazard Mitigation Grant funding	Long Term DOF
WCCSD-2	Retrofit existing water distribution system for the impacts of earthquake, flood and landslide. Retrofit to include where feasible, extension of existing system to non-serviced areas to provide fire hydrant protection.	EQ, Fld, LS, WF	1,2,3,8	WCCSD	$2,000,000 High	District funds leveraged with Hazard Mitigation Grant funding	Long Term DOF
WCCSD-3	Support county-wide initiatives identified in the Humboldt County Hazard Mitigation Plan	All Hazards	All Objectives	WCCSD	Low	Funded through existing/ongoing programs	Short term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

14.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
WCCSD-1	2	High	High	Yes	Yes	No	Medium
WCCSD-2	4	High	High	Yes	Yes	No	Medium
WCCSD-3	12	Medium	Low	Yes	No	Yes	High

14.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

14.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

14.13 ADDITIONAL COMMENTS

Hopeful this will be a rewarding effort.

CHAPTER 15.
WILLOW CREEK FIRE PROTECTION DISTRICT ANNEX

15.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Frederick R. Filyau, President/Chairman P.O. Box 762 Willow Creek ,CA 95573 Phone: 530-629-2953 Cell Phone: 707-499-6230 e-mail: willowcreekfpd@yahoo.com	Nathan Falk, Fire Chief Phone: 530-629-4161 e-mail: neen10@msn.com

15.2 DISTRICT PROFILE

The Willow Creek Volunteer Fire Department was established in 1957 shortly after a major fire disaster that destroyed most of the downtown business area. The Willow Creek Fire Protection District was established in 1959. Both entities occupy the original fire hall located at 51 Willow Road in Willow Creek, California. Today, the Fire District averages between 15 and 22 active firefighters including two dispatchers. A publicly elected Board of Directors consisting of a panel of five, including a board president/chairman governs the Fire District. This Board will assume the responsibility for the adoption and implementation of this plan. All members of the Fire Department and the Board of Directors are volunteers. The Board of Directors employs a Clerk of the Board.

The Willow Creek Fire Department responds to both structural and wildland fires in and outside the district. The fire fighting staff is cross trained and outfitted for both types of fire response. In addition to fire response calls, the Fire Department staff is often asked to respond to medical emergencies, assist to Emergency Medical Services and called to traffic accidents. District staff is also trained and certified in handling medical emergencies. These skills are often employed during the sometimes-lengthy wait for EMS to arrive on scene. The District's rate of calls for service average between 250 and 300 per year and seems to be on the rise with the increase of higher population growth/density.

The District has grown over the years and has acquired some updated personal safety equipment for the fire fighters as well as upgrading some firefighting apparatus. We currently operate one rescue vehicle, a primary (first out) Urban Interface fire truck, and a primary structural fire engine with one secondary structural fire engine. The District currently has no water tender to supplement fire suppression units in the field. The District currently has direct access to an appropriate fire hydrant system that is maintained by the Willow Creek Community Services District. The Fire District is funded through grant applications, a 1% proportional tax base and a local fire fee assessment schedule.

- **Land Area Owned**—1.5 acres
- **Land Area Served**— (Includes auto-aid areas)
  - Willow Creek: 204.4 Square Miles (info from City Data.Com)
  - Salyer (Trinity Co): 30.1 Square Miles (info from City Data.Com)

- **List of Critical Infrastructure/Equipment**— See inventory list below
- **Value of Critical Infrastructure/Equipment**— See inventory list below
- **List of Critical Facilities (Owned by District)** —51 Willow Way, Willow Creek, California 95573
- **Value of Critical Facilities**—$300,000 (Structure only)
- **Value of Area Served**—
  - Secured: $114,633,172 (County assessed value)
  - Unsecured: $5,430,603

INVENTORY LIST

Date Acquired	Description	Cost
6-2006	SCBAs (20 units)	50,000
unknown	Generator	6,000
1991	Air Machine	10,000
1990	SCBAs (7 units)	7,000
1997	1996 Dodge 4x4 rescue	95,000
2002	2002 International 4000 (Engine #6)	264,000
1978	1978 Ford 900 (Engine #5)	80,000
1990	1989 Spartan (Engine #4)	134,000
2003	1990 Chevy ½-ton pickup (Command 1)	5,000
1962	1961 Ford Can Pelt (Engine #2)*	20,000
1998	Halmatro-Jaws of Life	20,000
1965	Master Stream monitor	8,000
1990	Automatic Defibrillator	5,000
2005	Thermal Imager	10,000
2005	CO2 monitor	2,700
1972	1968 Ford 350 Tanker	1,740
12-2005	Dell Computer w/flat screen monitor	708
12-2005	Dell Photo All in one printer	122
	Sub Total	***719,270***
	* Minus inventory donated to Bridgeville VFD, 2007	20,000
	Total	**$699,270**

15.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

15.4 CURRENT AND ANTICIPATED SERVICE TRENDS

The District currently responds to 250 to 300 calls for service annually. The calls for service are increasing as the population base grows and ages. Recent land development projects are bringing new construction into the area. These new development projects are for both residential and business sites. The increase in new construction projects has added further requirements on the volunteer fire administrative staff to complete fire inspections as required under the county's building code and construction project permit process.

15.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Fire	—	1945	Multiple structures etc today= $1,000,000
Flood	—	1955 W.C.	Bridges, homes, hwys. today= $20,000,000
Flood	—	1964 W.C.	Roads, bridges, homes, etc. today=$50,000,000

15.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Wild Fire	Estimate $2 million	High	54
2	Earthquake	Estimate $25 million	High	45
3	Flood	Estimate $15 million	High	39
4	Severe Weather	No estimates available	High	36
5	Drought	No measurable impact to property	High	18
6	Land Slide	No estimates available	Medium	12
7	Dam Failure	No estimates available	Low	6
8	Tsunami	No Exposure	Low	0[c]
9	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

15.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

None at this time, but the California Fire Codes and (NFPA) National Fire Protection Association regulations/recommendations are being considered for adoption.

15.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

Willow Creek Fire Safe Counsel is working on a local/residential fuels mitigation plan for the Willow Creek community. I have seen no documents to support a plan as of this date.

15. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	5/9	N/A
Firewise	Not Participating	N/A
Storm Ready	Not participating	N/A
Tsunami Ready	NA	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

15.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
WCFPD-1	Seismic retrofit fire hall	EQ	1, 2, 3	WCFPD	Medium	Tax apportionment and fire assessment fee schedule. FEMA Hazard Mitigation Grant Funding	Long Term DOF
WCFPD-2	Multi-Agency Emergency Management Facility	All Hazards	All	WCFPD	Medium	Tax apportionment and fire assessment fee schedule	Long Term DOF
WCFPD-3	Support county-wide initiatives identified in the Humboldt County Hazard Mitigation Plan	All Hazards	All	WCFPD	Low	Funded through existing/ongoing programs	Short Term OG

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

15.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
WCFPD-1	3	Medium	High	Yes	Yes	No	Medium
WCFPD-2	12	Low	Medium	Yes	No	Yes	Medium
WCFPD-3	12	Medium	Low	Yes	No	Yes	High

15.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).

- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions X

Prioritization of initiatives was based on parameters other than stated above: X

15.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

15.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 16.
WEOTT COMMUNITY SERVICES DISTRICT ANNEX

16.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Name: Lou Iglesias Title: Director Mailing address: P.O. Box 237, Weott, CA 95571 Telephone #:946-2643 E-mail Address: dogwood62@humboldt.net	Name: Barbara Kennedy Title: Director Telephone: 946-2248 Email Address: bkenn202@sbcglobal.net

16.2 DISTRICT PROFILE

Weott Community Services District, located approximately 50 miles south of Eureka on State Highway 101, was incorporated within Humboldt County on September 28, 1965. The purpose of the district is to provide potable water, septic and fire protection to the community of Weott, population of about three hundred residents. The district has adopted authority and is governed by five elected board members. This board will assume responsibility for the adoption and implementation of this plan. They are, Brien Smith, Chair, Barbara Kennedy, Vice Chair, and Directors, Lou Iglesias, Steve Mello and Bill Wells. The Board meets at the sewer treatment plant office every fourth Tuesday of the month. The District has two part time employees, Barbara Smith (secretary) and Greg Teasley (facilities maintenance engineer). The Fire Department is managed by Volunteer Chief Tom Milligan who supervises a nine member volunteer firefighting staff, and manages operations, administration, training and maintenance of the fire station, fire engine and rescue vehicle.

Along with the fire department, the district operates and maintains a water system consisting of source springs, well, water treatment plant; transmission lines a septic waste water plant leach field, lift station and community center. The operations of the district are funded by monthly fees levied on each parcel service hook up within the Weott service area. According to recent Humboldt County Planning data, Weott Community Services District boundary is three hundred sixteen acres. Additionally, the response area for the fire department is slightly over 26,000 acres. Geographically, Weott is centered within Humboldt Redwoods State Park. The Eel River is the District's western boarder and has historically flooded the district dramatically changing the footprint of a once thriving logging town. Currently the district services about one hundred and forty users which include Agnes Johnson primary school, Cal Fire Weott Station, two Churches and US Post Office 95571. The last commercial retail establishment closed December 2006.

- **Land Area Owned**—approximately 1 acre: site of water purification plant, site of sewer plant, and site of A & B water tanks.
- **Land Area Served**—Weott Community Services District boundary is 316 acres. The response area for the fire department is slightly over twenty six thousand acres.
- **List of Critical Infrastructure/Equipment**—Water Collection Lines, Water Transmission Lines, Sewer Collection Lines, Leach Field Lines, Water Purification Equipment, Sewer

Treatment Equipment, Back-Up Generators, Water Purification Equipment including Filters, Chemicals, Tools, Vehicles, Fire Engine, Fire Fighting Equipment, Water Storage Tanks, Fire House.

- **Value of Critical Infrastructure/Equipment**—Fire Rescue Equipment - $17,400; Biofilters, nozzles and piping - $141,785, Sodium Hypochlorite Feed Equipment with metering pump - $2,267; Submersible Pump - $20,514, Office Equipment - $3,500; Emergency Generator - $24,826; Pressure Filtration System with vessels, controls, piping, instrumentation, ancillary devices - $208,880; Kenworth Fire Truck - $168,000, John Deere Generator, 80 KW - $18,000; Chevrolet Suburban Rescue Unit - $5,000; Ford, F8000, Fire Engine - $40,000.
- **List of Critical Facilities (Owned by District)**—Fire House, Sewerage Treatment Center, Water Treatment Plant, Water Storage Tank "A", Water Storage Tank "B", Milligan Community Center, Water Collection System, Water Transmission System, Sewerage Collection System, Leach Field System.
- **Value of Critical Facilities**—Fire House - $80,000; Sewer Treatment Center - $102,300; Water Treatment Plant - $78,600; Water Storage Tank "A" - $100,000; Water Storage Tank "B" - $105,200; Milligan Community Center - $155,850; Sewerage Collection & Transmission Lines and Water Collection and Transmission Lines - $4,000,000.
- **Value of Area Served**— $11,832,390 (Secured Value), $132,750 (Unsecured Value)

16.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

16.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Very limited increase in population due to the fact that public lands surround the town and few building sites are available. Also, town is remote from centers of employment and commuting is too expensive due to cost of fuel. Based on these points, it is not anticipated that needs for services from this district will significantly increase in the short term.

16.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe winter storms, flooding	DR-1203	2/9/1998	$5,000
Storm	N/A	12-13-02	$5,000
Storm	N/A	12-17-05	$5,000

16.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Severe Weather	$1,000,000	High	48
1	Earthquake	$5,000,000	Medium	48
2	Flood	$1,000,000	High	36
2	Landslide	$1,000,000	Medium	36
2	Wildfire	$500,000	Medium	36
6	Drought	$500,000	High	9
7	Tsunami	No Exposure	Low	0[c]
8	Dam Failure	No Exposure	Low	0[c]
9	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

16.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

See County Ordinances such as Air Quality/Burn Permits – no local ordinances

16.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

Plan to install water meters as repairs are made to current system; plans to upgrade transmission lines as repairs are made to existing system; plan in progress to install and implement back-up well facility; plan to upgrade community hall to provide for emergency shelter; regular program to clear brush around District facilities

16. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS

Program	Classification	Date Classified
Public Protection	8/9	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	NA	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an

underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

16.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
WCSD-1	Install Water Meters	Drought	1,2,3	WCSD	$100,000	Cal Dept Health Svcs Prop 50	Long Term
WCSD-2	Retrofit/Upgrade Transmission Lines for possible impacts from earthquake and landslides	EQ/LS	1,2,3	WCSD	$1,000,000	Prop 50, District funds, possible FEMA hazard mitigation grant	Long Term DOF
WCSD-3	Develop redundancy to water supply by establishing a Back-Up Well Facility	EQ, LS and Drought	1,2,3	WCSD	$50,000	Self-Funded	Short Term
WCSD-4	Retrofit the community hall for the probable impacts of earthquake, flooding and severe weather	EQ, Fld, SW	1,2	WCSD	High	District Funds, possible FEMA Hazard mitigation Grant	Long Term DOF
WCSD-5	Establish “defensible” spaces around identified critical facilities and infrastructure by clearing accumulated brush around facilities	WF, SW, Drought	1,2,3	WCSD	$20,000	Self-Funded	Short Term OG
WCSD-6	Support county-wide initiatives identified in the Humboldt County Hazard Mitigation Plan	All Hazards	All Objectives	WCSD	Low	Funded through existing/ongoing programs	Short term OG

a. “Short term” = 1 to 5 years; “Long Term”= 5 years or greater, “OG” = Ongoing program, “DOF” = depending on funding

16.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
WCSD-1	8	High	Medium	Yes	Yes	No	High
WCSD-2	11	High	High	Yes	Yes	No	High
WCSD-3	11	High	Medium	Yes	Yes	Yes	High
WCSD-4	9	High	Medium	Yes	Yes	No	Medium
WCSD-5	12	High	Low	Yes	Yes	Yes	Medium
WCSD-6	12	Medium	Low	Yes	No	Yes	High

16.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions X

Prioritization of initiatives was based on parameters other than stated above: X

16.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

We need better communication on weather forecasting for storm alerts and alerts on fuel moisture levels.

16.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 17.
MCKINLEYVILLE COMMUNITY SERVICES DISTRICT ANNEX

17.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Tom Marking, General Manager P O Box 2037 McKinleyville, CA 95519 Phone: 707-839-3251 e-mail: mcsdgm@mckinleyvillecsd.com	Greg Orsini, Operations Director P O Box 2037 McKinleyville, CA 95519 Phone: 707-839-3251 e-mail: operations@mckinleyvillecsd.com

17.2 DISTRICT PROFILE

McKinleyville Community Services District is a small community located just north of the Mad River in Humboldt County. The District was formed on April 14, 1970 when the District residents voted for water and sewer services. The District serves an area of about 12,140 acres located between Little River on the north and the Mad River on the south. At later dates, drainage, street lights, parks and recreation and library services were added to the District's authorities. The District is governed by a five member publicly elected Board that meets monthly. The District purchases all drinking water from Humboldt Bay Municipal Water District. Wastewater is collected and treated within the District, then discharged to the Mad River in winter. During summer, treated effluent is recycled by pasture irrigation to ranch lands.

The District serves a population base of about 13,800 with 6500 water services and 4300 sewer services. Most water and sewer revenues are from monthly service charges. The District does receive a small percentage of property tax to fund the park and recreation department. Additionally, Proposition 218 assessment districts for the library, park and recreation, street lights and open space have been voted in by the area residents. McKinleyville is primarily a residential area with light commercial and no heavy industry.

- **Land Area Owned**— 320 acres
- **Land Area Served**— 12,140 acres
- **List of Critical Infrastructure/Equipment**:
  - Water Reservoirs: six water reservoirs with capacity of 5.25 MG;
  - Wastewater Treatment Plant: a thirty-acre site with six treatment ponds and headworks.
  - Water Distribution System: 82 miles of pipe, an 18" transmission line under the Mad River, three reservoir sites and three water distribution pumping stations.
  - Sewer Collection system: 61 miles of sewer main and four sewer pumping stations.
  - Wastewater Treatment Plant: a thirty-acre site with a control building and six-waste treatment ponds.
  - Wastewater Disposal Areas: A 150-acre Ranch for waster water disposal.

  - Stormwater Marsh System: a 10-acre stormwater marsh consisting of four separate marshes.
  - Street Lights (329).
- **Value of Critical Infrastructure/Equipment**—$178.242 million
- **List of Critical Facilities (Owned by District)**—District Office Building, Equipment Garages, Azalea Hall, Activities Center, Engineering Office, Library, Law Enforcement Building and Fisher Ranch barns and house.
- **Value of Critical Facilities**—$14.334 million
- **Value of Area Served**— $1,042,763,764

17.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

17.4 CURRENT AND ANTICIPATED SERVICE TRENDS

The District has been growing at a 3% growth rate for sewer and water services over the last 25 years and that trend is expected to continue. Growth will probably lessen to some degree as the area builds out. The population growth is about 1.8% annually but has been dropping steadily as more seniors and single parents move into the area. Expansion projects will include a new water reservoir, waste treatment plant upgrade, and upgraded pumping stations for water and sewer to accommodate the expected growth. Approximately 150 residential units will be added on an annual basis. We do expect growth to slow over the next ten-year cycle due to infrastructure costs and land availability.

17.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Winter storms, flooding, landslides, mud flows	DR-1044	1/9/1995	$10,000 $15 Million Countywide
Flooding, severe winters storms, and landslides	DR-1628	02/03/2006	$85,000 $20,208,206 Countywide

17.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	Information not available	High	54
2	Severe Weather	Information not available	High	42
3	Flood	Information not available	High	21
4	Tsunami	Information not available	Medium	20
5	Dam Failure	Information not available	Low	11
6	Drought	No measurable impact to property	High	9
7	Land slide	Information not available	Low	6
7	Wildfire	Information not available	Low	6
9	Fish losses	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

17.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

The District has an Emergency Operations Plan that provides instruction to the General Manager and staff what authorities and responsibilities we have in emergency conditions. The Board of Directors would enact specific ordinances and authorities in an emergency session that would allow rationing of water to the District customers. For water system or water storage facility vandalism, the District would work in a cooperative manner with the Department of Health Services, HBMWD, Arcata Fire Department and local law enforcement to contain and react to an emergency condition affecting water quality. The nature of the emergency would define the event as a local or area command and control event for FEMA purposes. In a major event affecting the region, we are part of the WARN system whereupon other agencies and utilities out of the District's region would respond in a mutual aid request to the area. These responses are currently being reviewed in light of the new FEMA response system that is being required as part of Disaster Mitigation Response to the local area or region.

17.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

The McKinleyville Community Services District has a number of Emergency Plans up to date that define specific actions to be taken depending on the type of emergency.

- County of Humboldt Emergency Operations Plan
- MCSD Risk Control and Safety Plan (Emergency Operations Plan)

- Process Safety Management Plan (For Accidental release of Chlorination and Sulfur Dioxide)
- Hazard Communication Control Plan (Humboldt County Requirement)
- Security Vulnerability Assessment Template (EPA requirement)

The Hazard Mitigation Plan could affect some of the MCSD plans that now exist insofar as the potential for a possible hazard or event could be eliminated or reduced if a mitigation project were to be instituted prior to the event. The MCSD has been mitigating as many of the foreseeable events as funding will provide, but some events are clearly beyond the District's financial scope or control. The District has taken an aggressive posture to mitigate possible problems by installing automatic seismic control valves on the water reservoirs, but the most pressing issue is the potential loss of the water transmission main across the Mad River from HBMWD, the District's wholesale water purveyor. We are currently looking at engineering methods to overcome this concern and have identified seven different possible alternatives to consider for mitigation. All are quite expensive and have been resisted by the voters as of this date. We have yet to resolve this concern.

17. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	NA	NA
Firewise	Not Participating	NA
Storm Ready	Not Participating	NA
Tsunami Ready	Not Participating	NA

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

17.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
MCSD- 1	Earthquake :Mitigate for loss of water transmission line under the Mad River	EQ	1, 2	McKCSD	$800,000 (High)	Capital Reserves	Short Term
MCSD- 2	Flooding: River bank stabilization of Mad River west of the Ocean Avenue area	FL	1, 2, 4, 5	Hum. County	$1.5 M (High)	NRCS	Short Term
MCSD- 3	Water Well for backup system supply	All Hazards	1, 2, 4, 5	McKCSD	$500,000 (Medium)	Capital Reserves	Short Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater

17.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
MCSD- 1	2	High	High	Yes	Yes	Yes	High
MCSD- 2	4	High	High	Yes	Yes	No	Medium
MCSD-3	4	Medium	Medium	Yes	No	Yes	High

17.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant

programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.

- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

17.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

The most serious and likely issue to the residents of the McKinleyville Area is a large seismic event or terrible storm that causes massive disruption and damage to water and wastewater distribution and treatment systems. Were that event to occur, the electrical, gas and communication systems would also be affected both locally and regionally. We would require massive amounts of outside help from Federal and State agencies to repair infrastructure for the basic water, sewage, electrical, communications, public safety and hospital needs. A regional plan needs to be developed with State representatives that states how soon and what support could be brought into this area. A seismic event of an 8.5 + would devastate this region and create massive amounts of damage to the community. This is a doomsday scenario, but its only limited by the imagination.

To a lesser degree, some sort of bioterrorism attack through the water system or an airborne agent that would cause illness or death to a large segment of the population via the water system is a less likely but serious issue for the McKinleyville area. This would cause immediate panic among the citizens and due to the District's isolation the response would be complicated, involving State Public Health, the FBI and numerous local agencies. Regaining public confidence, identification of the agent and obtain immediate water and food supplies would be complex and difficult. Such an event would require immediate outside response and could overwhelm law enforcement, public health, hospital care, transportation and communication infrastructure.

17.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 18.
REDWAY COMMUNITY SERVICES DISTRICT ANNEX

18.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Ms. Troy Harrington Dean, Business Manager P.O. Box 40 Redway, CA 95560 Phone: 707-923-3101 e-mail: rcsd@earthlink.net	Virginia Graziani, Board Chair P.O. Box 40 Redway, CA 95560 Phone: 707-923-3101 e-mail: vgraziani@aeesolar.com

18.2 DISTRICT PROFILE

Redway CSD was formed in 1965 from a private water system. In 1977 Redway CSD was reorganized to include the former Redway Sanitary District. The Eel River flows around the community from the southwest to the north. The eastern boundary is Highway 101 and State Park lands. The District is governed by a Board of 5 members of the community. The Board members are elected to four year terms, or can be appointed if there is no opposition. The Board of Directors meets once a month or more often as needed. Redway CSD is an enterprise district that bills for its services. Clients are billed monthly for water and wastewater treatment. As a Special District, Redway CSD also receives some property tax revenues that are added to the operating funds. The District currently employs one Operations Manager and one Business Manager. In addition to the Operations Manager there are two licensed operators and one operator in training. There is also one part time office assistant.

- **Land Area Owned**—Redway CSD owns 8 small parcels within Redway, as well as many easements and the acreage for the wastewater treatment and disposal facilities
- **Land Area Served**— Approximately one and one-half square miles are served by RCSD
- **List of Critical Infrastructure/Equipment**—Water Treatment Plant and control Building, two storage reservoirs, one booster station, two pressure reducing vaults. Also Waste Water Treatment Plant, five lift stations, and aerial discharge pipe from the wastewater treatment plant. The sewer force main that crosses under the river is also a critical component.
- **Value of Critical Infrastructure/Equipment**—$2,072,000 (This figure does not reflect replacement value.)
- **Value of Area Served— (Property values from the Auditor's Office)**$83,603,000

18.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

18.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Portions of Redway CSD have experienced a 13 percent growth over the last 5 years; while other areas have only a 2 percent growth. Land use regulation based on GMA project an increase in light commercial and residential land uses within the district's service area. Based on these projections, it is anticipated that needs for services within the district may increase at similar levels.

18.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding, severe winters storms, and landslides	DR-1628	2/03/2006	$10,000 $20,208,206 Countywide
Severe winter storms, flooding	DR-1155	1/4/1997	$19,780 $35 Million Countywide
Severe winter storms, flooding	DR-1046	3/12/1995	$65,700 $1.3 Million Countywide

18.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Severe Weather	Estimate $3000 to $50,000	High	48
1	Earthquake	Estimate $10,000 to $500,000	Medium	48
2	Flood	Estimate $5000 to $3 Million	High	36
2	Landslide	Estimate $200,000 to $1 million	Medium	36
2	Wildfire	Estimate $5,000 to $500,000	High	36
6	Drought	No measurable impact to property	High	9
7	Tsunami	No Exposure	Low	0[c]
8	Dam Failure	No Exposure	Low	0[c]
9	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

18.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

There is currently no existing applicable natural hazard mitigation codes, ordinances or policies in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

18.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

There is currently no existing Applicable natural hazard mitigation plans and/or documents in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

18. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	N/A	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

18.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RW-1	Reinforce Riverbank at Water treatment plant to mitigate the impacts of stream bank erosion	Flood	1,2,9	RCSD	250 to 750K	Grant	Long term DOF
RW-2	Enhance stormwater management capability within the district, with an emphasis on upgrades to existing stormwater conveyance system	SW, Flood	1,2,3,8	RCSD and Humbol dt County	High	Bonds, Benefit assessments, Capital Improvement funds, Hazard Mitigation Grant	Long term DOF
RW-3	Community outreach/Education Disaster Preparedness	All Hazards	All Objectives	RCSD	Low	District Funds Partnering with Stakeholders	Short term OG
RW-4	Add Alternate/Redundant aerial crossing for effluent from Wastewater Plant	EQ, Flood, LS	1,2,9	RCSD	750K	District Funds, Grant	Long term, DOF

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

18.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
RW-1	3	High	High	Yes	Yes	No	Medium
RW-2	4	High	High	Yes	Yes	No	Medium
RW-3	12	Low	Low	Yes	No	Yes	High
RW-4	3	Medium	High	No	Maybe	No	Low

18.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions X

Prioritization of initiatives was based on parameters other than stated above: X

18.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

18.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 19.
HUMBOLDT #1, FIRE PROTECTION DISTRICT ANNEX

19.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Kathi Hendricks, Executive Secretary 3455 Harris St. Eureka, CA 95501 Phone: 707-445-4900 e-mail: humfire@hfd1.org	Glenn W. Zeimer, Fire Chief 3455 Harris St. Eureka, CA 95501 Phone: 707-445-4900 e-mail: glezeimer@hfd1.org

19.2 DISTRICT PROFILE

Humboldt No. 1 Fire Protection District was formed in 1929, and has been reorganized two times, most recently under The Fire Protection District Law of 1987, which is the source of statutory authority. A five member Board of Directors, elected by the voters of the District, governs the District. The District currently employs 2 Chief Officers, 18 career Firefighters and an administrative assistant. The District also utilizes 14 Volunteer Firefighters. Operations are funded by property taxes and fire benefit assessments passed in 1985 and 2004. The District covers approximately 40 square miles surrounding the City of Eureka in a wildland urban interface, and serves about 22,000 residents. We operate with Eureka Fire Department under an auto-aid agreement, which increases the District's response and service areas. The City of Eureka's population is 26,128 and the area served is 14.4 square miles.

- **Land Area Served**— The District consists of approximately 40 square miles and works under an auto-aid agreement with the City of Eureka that is 14.4 square miles, making the total land area served 54.4 square miles.
- **Population Served**— The District's population is approximately 22,000 and the City of Eureka's population is 26,128 totaling 48,128. The District holds 18 care homes, seven elementary schools, three veterinary clinics and the state fairgrounds. The only hospital is in the District's first-in response area, as is the Surgicenter and many doctors' offices.
- **List of Critical Infrastructure/Equipment**—The District responds with two first-in 1500 gpm pumpers and has a 2000 gallon water tender for use in non-hydranted areas. The Duty Officer responds in a 2002 Dodge 4 wheel drive duty vehicle. The non-duty officer uses a 2006 Honda Ridgeline Utility vehicle. The District has one reserve pumper, one 1987 Ford Utility vehicle, and one 1993 Ford Sedan. The District owns a radio tower structure and building that houses the radio equipment and a standalone generator. The Radio Tower and building are on land owned by the Humboldt Community Services District.
- **Value of Critical Infrastructure/Equipment**—$980,000
- **List of Critical Facilities (Owned by District)**:
  - Headquarters Station, 3455 Harris Street, Eureka, CA
  - Bayview Fire Station, 755 Herrick Road, Eureka, CA
- **Value of Critical Facilities**—$2,700,000

- **Value of Area Served**—
  - $1,239,681,471 Secured
  - $37,705,694 Unsecured

19.3 OUTLINE OF AREA SERVED

Humboldt No. 1 Fire Protection District - Legal Boundary Description August 12, 1929 (See map in Chapter 1 (Figure 1-1)).

Beginning at the southwest corner of the City of Eureka which is at the point where the east and west line through the center of Section 33, T 5 N, R 1 W, H. M., intersects the shore line of Humboldt Bay; thence easterly along the south line of the City of Eureka to the southeast corner of said city, which is the quarter section corner between Sections 35 and 36, T 5 N, R 1 W,. H. M., thence northerly along the east line of said city and the prolongation thereof to the intersection of said prolonged line with the southerly line of the State Highway leading from Eureka to Arcata; thence easterly and northerly along said southerly line of said State Highway to its intersection with the quarter section line east and west through section 17, T 5 N, R 1 E, H. M., thence easterly along the quarter section line to the quarter section corner between sections 14 and 15, T 5 N, R 1 E, H. M., thence southerly along the section line to the southeast corner of section 3, T 4 N, R 1 E, H. M., thence westerly along the section line to the southeast corner of section 3, T 4 N, R 1 W, H. M., thence southerly along the section line to the southeast corner of section 15, T 4 S, R 1 W, H. M., thence westerly along the section line to the southeast corner of section 17, T 4 N, R 1 W, H. M., thence southerly to the ¼ section corner between sections co and 21, T 4 N, R 1 W, H. M., thence westerly along the east and west line through the center of sections 20 and 19, T 4 N, R 1 W, H. M., to the intersection of said last mentioned east and west line with the shore line of Humboldt Bay; thence northerly following the shore line of Humboldt Bay to the point of beginning, to be known as Humboldt No. One County Fire Protection District. Several annexations have changed this description.

19.4 CURRENT AND ANTICIPATED SERVICE TRENDS

The District has experienced a 33% increase in call volume in the last 10 years. There is a current planning application for a large housing development within the District (900-1422 units). The funding for infrastructure would currently be based solely upon the increased property taxes and benefit assessments. The development does include space for a fire station, but no funding. Several other significant development areas exist in the Cutten area that could add up to 7,000 parcels.

19.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake 7.4[a]	N/A	11/8/80	None available
Coastal Storm[a]	N/A	1/18/81	None available
Storm	N/A	11/13-16/81	None available
Storm/Flood	N/A	12/19/81	None available
Storm/Flood	N/A	3/31/82	None available
Storm	N/A	12/18-21/82	None available

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Coastal Storms, Floods, Slides, Tornados	DR-677	1/25/1983	$3.82 million countywide
Storm/Flood[a]	N/A	12/25/83	None available
Flood	DR-758	2/21/1986	$5.0 million countywide
Storm	N/A	1/29/87	None available
Storm	N/A	1/3/88	None available
Storm	N/A	11/22/88	None available
Storm	N/A	1/6-11/89	None available
Storm	N/A	2/15/89	None available
Storm	N/A	3/9/89	None available
Storm	N/A	1/8/90	None available
Storm	N/A	3/5-14/91	None available
Flood	DR-935	2/25/1992	N/A
Earthquake	DR-943	04/04/1992	356 injured/$48.3 million property damage
Storm/Flood	N/A	12/31/92	None available
Storm	N/A	1/4-6/93	None available
Storm/Flood	N/A	1/20/93	None available
Storm	N/A	1/24-26/94	None available
Storm	N/A	2/15/94	None available
Earthquake[b]	N/A	12/26/94	None available
Winter storms, flooding, landslides, mud flows	DR-1044	1/9/1995	$15 million countywide
Severe winter storms, flooding	DR-1046	3/12/1995	$1.3 million countywide
Windstorm/Flood[b]	N/A	12/11-13/95	None available
Storm/Flood[b]	N/A	12/29-31/95	None available
Storm/Flood[b]	N/A	12/8-15/96	None available
Severe winter storms, flooding	M#1155	1/4/1997	$35 million countywide
Severe winter storms, flooding	M#1203	2/9/1998	$7.75 million countywide
Flood	N/A	1/10/2001	Flooding to residences in King Salmon—2’
Terrorism	N/A	9/11/01-many days	None available
Severe Weather	N/A	11/28/2001	Trees / power lines down, long term power outages
Landslides on Broadway, flooding Elk River-evacuations	N/A	12/27/02	None available
Storm/Flood[b]	N/A	12/02-4/03	None available

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather	N/A	12/23/2003	Flooding, roof blown from structure King Salmon
Severe Weather	N/A	10/25/04	Damaged several homes, Hillary Ct., Walnut Dr.
Severe Weather	N/A	12/17/05-1/03/06	Trees/power lines down entire service area, 101 closed
Severe Weather	N/A	12/27/06	Trees/power lines down entire service area

a. Declared Local Disaster indicates local activation of OES and/or other jurisdictions incurring staff costs to respond to the emergency.
b. Gubernatorial Proclamation or Director's Concurrence indicates state-funded programs and relief efforts available to County agencies and residents.

19.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$4,000,000	High	54
2	Severe Weather	$10,000-$100,000	High	48
3	Tsunami	Damage estimate not available	Medium	24
4	Flooding	Damage estimate not available	High	18
4	Dam Failure	No measurable impact to property	Low	18
6	Landslide	Damage estimate not available	Medium	12
7	Drought	No measurable impact to property	High	3
8	Fish Losses	No measurable impact to property	Low	0[c]
8	Wild Fire	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

19.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

Mission Statement

It is the mission of the Humboldt No. 1 Fire Protection District to provide the best possible protection from fire, medical and other emergencies to the citizens of the District.

- To arrive at the emergency scene within four (4) minutes of the receipt of ninety-five percent (95%) of the Department's calls.
- To utilize relevant regulations to insure that structures and occupant practices are as safe as possible.
- To provide regular fire safety education programs in schools and other forums, to minimize fire injury and death.
- To provide the safest possible work environment for Humboldt No. 1 Fire Protection District career and volunteer firefighters.
- To provide quality equipment and training for the rapid management and control of emergency incidents.
- To regularly evaluate District performance and provide a strategic vision for public safety in the community.
- To accomplish necessary change, institute quality programs, and nurture employee relationships with a strong commitment to innovation.
- To facilitate employee and volunteer career development by sharing of responsibility and authority so that they may ultimately reach their full potential.
- To conserve Humboldt No. 1 Fire Protection District resources by operating in an efficient and cost effective manner.
- To cooperate with other public agencies to improve service and efficiency.
- To promote a strong relationship with local news media to support public education and to maintain a positive public image of the fire service in general, and Humboldt No. 1 Fire Protection District in particular.

We promote the enforcement of building codes established by the State and the County of Humboldt. We are subject to the regulations of CEQA and the California Coastal Commission. We also actively provide education to residents of the District for emergency situations.

19.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

The District's two fire stations were determined to be seismically vulnerable. We have a FEMA approved station retrofit plan in place. We were awarded a 75/25 grant from FEMA, but were unable to come up with the 25% match at the time. We are better able, currently, to fund a retrofit. However, the grant is no longer available to us. The plans were put out for a construction bid about two years ago and came in at $890,000.

The County's hazard mitigation plan identifies public bridges as being at risk in several disaster scenarios. We have 12 private bridges in District jurisdiction. We had applied for, and were denied, a Fire Act grant for private bridge safety certification. We asked for assistance from the County of Humboldt and were

told they will ensure future bridges be certified, but they couldn't help with bridges already in use. We independently asked landowners across private bridges to provide certification of the load capacities of the bridges we may have to cross for emergency responses. We have received Engineer Certifications on seven of twelve private bridges in the District's jurisdiction. We have notified landowners across non-certified bridges that emergency response to their homes will be delayed, and may not be possible at all. I have included a copy of the grant application that provides more detail and a cost benefit analysis.

We have in place CPR and First Aid education programs for the citizens of the District. We encourage participation from the schools in an annual open house, holding a poster contest for the fourth graders in the District. Several prizes are awarded each year.

We are currently helping finance a training classroom and training tower with the City of Eureka Fire Department for regional training purposes. The facilities will be completed within a year.

We have a Confined Space Rescue Plan, including specialized equipment and training, with the City of Eureka that would be of use in any natural disaster.

We have a Disaster Response Plan for District employees and their families. They are encouraged to come to the District Headquarters Station post disaster where we have an enclosed trailer, filled with emergency food supplies, blankets, first aid supplies and fresh water. The District's hope is that would relieve emergency response personnel from worrying about their own families in a post disaster situation, enabling them to respond more effectively as needed, much like a continuity of operations plan.

We recently lobbied successfully to have hydrants placed in a heavily populated area of the District that has no community services available for private users. This helped in achieving a better ISO rating for the residences nearby.

19. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	5/9	2006
Firewise	N/a	N/A
Storm Ready	N/a	N/A
Tsunami Ready	N/a	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

19.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HFD-1	Seismic Retrofit Station 12	Earthquake	1, 2, 4	HFD#1	1,000,000	Grant/Loan/Bond	Short Term
HFD-2	Private Bridge Safety Program	All Hazards	1, 2, 3, 4, 5, 11	HFD#1	160,000	Grant/Loan/Bond	Short Term
HFD-3	Training Facilities - multi-agency	All Hazards	3, 5, 7, 8, 12	City of Eureka	280,000	Reserves/ Operational Budget	Short Term
HFD-4	Support the District's CPR education program	All Hazards	6, 7, 9, 10	HFD#1	1,000/yr	Operational Budget	OG
HFD-5	Employee Disaster Response Plan	All hazards	1, 4, 5, 6, 7	HFD#1	750/yr	Operational Budget	OG
HFD-6	Seismic Retrofit Station 11	Earthquake	1, 2, 4	HFD#1	1,700,000	Grant/Loan/Bond	Short Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program,

19.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
HFD-1	3	High	High	Yes	Yes	No	Medium
HFD-2	6	High	High	Yes	No	No	Medium
HFD-3	5	Medium	Low	Yes	Yes	Yes	High
HFD-4	5	Low	Low	Yes	No	Yes	High
HFD-5	3	High	High	Yes	Yes	No	Medium
HFD-6	3	High	High	Yes	Yes	No	Medium

19.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions ☒

Prioritization of initiatives was based on parameters other than stated above: ☒

19.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Better hazard mapping and demographics of unincorporated areas with associated cumulative damages and losses

19.13 ADDITIONAL COMMENTS

It was difficult to quantify losses in the District's jurisdiction from the many natural disasters we have experienced. The District's own records show only dollar losses associated with fire. Even that is hard to quantify as we can only estimate the damages.

CHAPTER 20.
ARCATA FIRE PROTECTION DISTRICT ANNEX

20.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Mr. Curt Watkins, Captain 631 9th Street Arcata, CA 95221 Phone: 707-825-2000	Mr. Desmond Cowan, Assistant Chief 631 9th Street Arcata, CA 95221 Phone: 707-825-2000
e-mail: cwatknis@arcatafire.org	e-mail: dcowan@arcatafire.org

20.2 DISTRICT PROFILE

The Arcata Fire Protection District was established in 1949 and operates as an all-risk agency. We are a combination (60 % volunteer) fire department protecting the 36,000 residents of the City of Arcata, the communities of McKinleyville, Bayside, Manila and other rural areas for a total service area of 63 square miles on the remote coast of Northern California. The District is governed by an elected Board of Directors and employs 19 career personnel. Our local response area consists of industrial, commercial, residential, agricultural, beaches and wildland areas. Our district and local auto/mutual aid areas contain a significant urban/wildland interface threat. Located just off the coast is the Cascadia Subduction Zone, a seismically active area, which makes our communities vulnerable to significant earthquakes and tsunamis resulting in possible fires and natural disasters**.**

The Arcata Fire Protection District is a Special District, which under California law cannot charge or receive supplementary tax revenue such as Sales Tax, Utility Tax, Bed Tax or Vehicle License Fees. The District depends upon property taxes for the majority of our funding. In 1977, California's Proposition 13 shifted a large portion of property tax revenues away from local government agencies causing the loss of nearly 50% of our property tax funding. It also fixed future tax rates, limiting future income. In 1986, and again in 2001, our citizens voted to assess themselves an annual Special Fire Tax in an effort to preserve the level of service we have historically provided.

In 2006, we were successful in establishing a new special tax to hire additional firefighters and increase our staffing to two firefighters per station. We reopened a closed fire station but continue to maintain our third fire station with volunteer staff. This special tax currently accounts for 42% of our annual budget. Our 2006-2007 income (including property tax and special tax revenue, donations and grants) is approximately $2,935,608. The expenses are dedicated to personnel (57%) and operating costs (43%). Personnel costs continue to remain low as volunteer firefighters supplement the needed staff. A Chief Officer position remains unfilled keeping our career staff personnel at a bare minimum to cover operational costs. Our reserve funds are allocated for operating and personnel expenses prior to receiving our yearly tax allocation.

- **Land Area Owned**—The District owns 3 Fire Stations that encompass approximately 1.5 acres of land.
- **Land Area Served**—62 square miles

- **List of Critical Infrastructure/Equipment:** 5 Type 1 Fire Engines, 1 Type 3 Fire Engine, 1 100' Aerial**,** 1 Water Tender, 1 Rescue Truck, 3 Ford F350 Command Vehicles, 1 Ford Expedition, 1 Chevy Blazer, and all associated emergency equipment.
- **Value of Critical Infrastructure/Equipment**—$4,000,000
- **List of Critical Facilities (Owned by District)**:
  - McKinleyville Fire Station
  - Arcata Fire Station
  - Arcata Fire Station (owned by Arcata Volunteers, leased by District)
- **Value of Critical Facilities**—$2,394,000
- **Value of Area Served**—Approximately $2 Billion in assessed value within the service area.

20.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

20.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Areas within the District continue to be developed for housing and commercial uses. Infill is planned in the Arcata area and the McKinleyville area continues to see housing developments constructed. Increased population will create an increased demand for service and call volume. Fire District revenues will need to increase to allow us to maintain and improve service levels. Additional personnel will be needed to staff stations and respond to calls. Upgrades to stations will need to be considered. Long-range plans should include the construction of a station to serve the Bayside/Jacoby Creek/Sunny Brea area along with a satellite station on the north end of McKinleyville.

Based on the data tracked by the California Department of Finance, Arcata and its surrounding areas has experienced a relatively flat rate of growth. The overall population has increased only 3.4% since 2000 and has averaged 0.74% per year from 1990 to 2007. With this rate of growth, the anticipated development trends for Arcata and its surrounding areas are considered low to moderate, consisting of primarily residential development Areas within the District continue to be developed for housing and commercial uses. Infill is planned in the Arcata area and the McKinleyville area continues to see housing developments constructed. Increased population will create an increased demand for service and call volume. Fire District revenues will need to increase to allow us to maintain and improve service levels. Additional personnel will be needed to staff stations and respond to calls. Upgrades to stations will need to be considered. Long-range plans should include the construction of a station to serve the Bayside/Jacoby Creek/Sunny Brea area along with a satellite station on the north end of McKinleyville.

20.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather (Wind)	DR-1628	12/31/2005	$18,000
Earthquake	DR-943	4/25/1992	$50 million (county-wide)

20.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING				
Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$6,394,000	High	54
2	Severe Weather	$1,918,200	High	45
3	Tsunami	$3,133,060	Medium	24
4	Drought	No measurable impact to property	High	18
5	Flood	$0	Medium	12
5	Landslide	$0	High	12
5	Wild Fire	$0	Medium	12
8	Dam Failure	$0	Low	6
8	Fish Losses	No measurable impact to property	Low	6

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years

20.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

- CA. Environmental Quality Act (CEQA)
- American Disabilities Act (ADA)
- CA. Fire Code
- CA. Building Code
- Health and Safety Code

20.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

- Humboldt County Fire Safe Plan
- Humboldt County Tsunami Plan
- Humboldt County Emergency Operations Plan

20. 9 COMMUNITY CLASSIFICATIONS

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	4/8B	As of 11/1/2005
Firewise	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

20.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
AFPD-1	Continue/enhance ongoing public education programs to include components on hazard awareness and mitigation.	All Hazards	6, 7, 8	Arcata Fire Protection District	Low	District Budget	OG
AFPD-2	Update District sponsored website to include preparedness, warning and mitigation information on the Earthquake, Tsunami and Wildfire Initiatives.	Earthquake, Tsunami, Wild Fire	6, 7, 8	Arcata Fire Protection District	Low	District Budget	OG
AFPD-3	Retrofit all fire stations with non-combustible roofing material.	Wild Fire, Severe Weather	1, 2, 4	Arcata Fire Protection District	Medium	District Budget	Short-Term
AFPD-4	Provide/update new radios for all "First responders".	All Hazards	1, 2, 4, 5, 6	Arcata Fire Protection District	Medium	District Budget Fire Service - DHS grant	Short-Term
AFPD-5	Outfit/equip 2 apparatus to meet USAR capabilities.	All hazards	1, 2, 3, 4, 5, 8, 12	Arcata Fire Protection District	High	District Budget	Short-Term
AFPD-6	Acquire transmitter for thermal imager.	All Hazards	2, 3, 4, 5	Arcata Fire Protection District	Medium	District Budget	Short-Term
AFPD-7	Support/adopt county-wide Fire apparatus program	All Hazards	2, 4, 8, 10, 12	Arcata Fire Protection District	Low	District Budget	Short-Term
AFPD-8	Support/implement county-wide initiatives of the Humboldt County Hazard Mitigation Plan.	All Hazards	2, 4, 8, 10, 12	Arcata Fire Protection District	Low	District Budget	Short-Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program,

20.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
AFPD-1	3	Low	Low	Yes	No	Yes	High
AFPD-2	3	Low	Low	Yes	No	Yes	High
AFPD-3	3	Medium	Medium	Yes	Yes	No	Medium
AFPD-4	5	High	Medium	Yes	Yes	No	Medium
AFPD-5	7	High	High	Yes	Yes	Yes	High
AFPD-6	4	Medium	Medium	Yes	Yes	Yes	High
AFPD-7	5	Medium	Low	Yes	No	No	Medium
AFPD-8	5	Medium	Low	Yes	No	No	Medium

20.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

20.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

AFPD should conduct a Standards of Coverage study to determine the distribution of our call activity relative to the location of fire stations and our ability to minimize response times while optimizing our ability to bring all firefighting forces together at one location during a major incident.

Facility locations and conditions should be studied to determine their survivability in a major earthquake or natural disaster.

20.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 21.
RIO DELL FIRE PROTECTION DISTRICT ANNEX

21.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Shane Wilson, Fire Chief 50 West Center St. Rio Dell, CA 95562 Phone: 707-764-3329 e-mail: shawil22@aol.com	Leroy Martinelli, Chairman of the Board 50 West Center St. Rio Dell, CA 95562 Phone: 707-764-3329

21.2 DISTRICT PROFILE

Rio Dell Fire Protection District serves the City of Rio Dell and surrounding areas of Monument Rd, and Blueslide Rd. The fire department was formed in 1944 and operates with a 100% volunteer staff. The District is an elected board consisting of 5 commissioners. This board will assume the responsibility for the adoption and implementation of this plan. The Rio Dell Fire Protection District is a Special District, which under California law cannot charge or receive supplementary tax revenue such as Sales Tax, Utility Tax, Bed Tax or Vehicle License Fees. The District depends upon property taxes for the majority of our funding.

Under the direction of the fire chief, we consist of two assistant chiefs and three fire companies, totaling 22 volunteer firefighters. Rio Dell Fire responds to and average of 325 calls per year including fires, vehicle accidents, and medical aid calls. We respond to both incorporated areas as well as rural and wild land areas.

- **Land Area Owned**—4.3 acres of commercial property
- **Land Area Served**—62 square miles
- **List of Critical Infrastructure/Equipment**:
  - Fire Station-11,000 sq ft
  - Library / Chamber of Commerce building-1,000 sq ft
  - Public Park with facilities (playground, bathrooms, baseball field, etc) 176,000 sq ft.
  - 3 – Engine/Pumpers
  - 1 – Rescue/Quick Attack
  - 20 kw Station Generator
  - Hose Dryer, Hose Washer
  - 10,000 ft of Fire Hose.
- **Value of Critical Infrastructure**:
  - Station = $900,000

  - Library Building = $150,000
  - Park = $150,000
- **Value of Critical Equipment**:
  - Engines = $425,000
  - Rescue Truck = $125,000
  - Generator = $9,000
  - Hose Dryer = $12,000
  - Hose Washer = $2,500
  - Fire Hose = $50,000
- **List of Critical Facilities (Owned by District)**—Fire Station, Fire Apparatus
- **Value of Critical Facilities**—$900,000; Apparatus = $550,000
- **Value of Area Served**— $121,398,185 (within city limits)

21.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

21.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Based on the data tracked by the California Department of Finance, Rio Dell has experienced a relatively flat rate of growth. The overall population has increased only 2.03% since 2000 and has averaged 0.47% per year from 1990 to 2007. With this rate of growth, the anticipated development trends for Rio Dell are considered low to moderate, consisting of primarily residential development. The Fire District is currently in the process of annexing the Scotia Fire District which would double the current services and equipment. New development and construction is also anticipated to increase over the next 5 years.

21.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding, severe winters storms, and landslides	DR-1628	02/03/2006	$3,000 $20,208,206 Countywide
Severe Weather	N/A	11/1997	$10,000
Earthquake	DR-943	04/04/1992	$20,000

21.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	Estimate $20 Million	High	54
2	Severe Weather	Estimate $5 Million	High	48
3	Flood	Estimate $20 Million	Medium	24
4	Wild Fire	Estimate $20 Million	Medium	22
5	Landslide	Estimate $20 Million	Low	6
6	Drought	No Exposure	Low	0[c]
6	Dam Failure	No Exposure	Low	0[c]
6	Tsunami	No Exposure	Low	0[c]
6	Fish losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

21.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

There is currently no existing applicable natural hazard mitigation Codes, ordinances or policies in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

21.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

There is currently no existing Applicable natural hazard mitigation plans and/or documents in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

21. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS

Program	Classification	Date Classified
Public Protection	7/9	N/A
Firewise	Not participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	N/A	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an

underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

21.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RDFD-1	Develop a post disaster action plan	All Hazards	1, 4, 5, 8	RDFPD	Medium	RDFPD City of Rio Dell	Short Term
RDFD-2	Initiate Public outreach and education efforts, including an active Firewise program.	Wildfire	6, 7, 8	RDFPD	Medium	City of Rio Dell, Humboldt County, Cal-Fire, RDFPD	Short Term
RDFD-3	Clear fuels on land that can trigger or maintain wildfires.	Wildfire	2, 3, 9	RDFPD	Medium	Cal-Fire, Private land owners	Long Term, DOF
RDFD-4	Establish and maintain mutual aid agreements between fire service agencies.	All Hazards	1, 4, 5, 8, 12	RDFPD	Low	RDFPD	Short Term, OG
RDFD-5	Identify and create emergency vehicle access in high hazard areas.	All Hazards	1, 4, 5, 8	RDFPD	Medium	City of Rio Dell, Humboldt County, Private land owners	Long Term, DOF
RDFD-6	Install fire suppression sprinkler system throughout fire station at 50 West Center St.	Wildfire	1, 2, 4	RDFPD	Medium	RDFPD	Long Term, DOF

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

21.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
RDFD-1	4	High	Medium	Yes	Yes	No	Medium
RDFD-2	3	High	Medium	Yes	Yes	No	Medium
RDFD-3	3	High	Medium	Yes	Yes	No	Medium
RDFD-4	5	High	Low	Yes	Yes	Yes	High
RDFD-5	4	High	Medium	Yes	Yes	No	Medium
RDFD-6	3	High	Medium	Yes	Yes	No	Medium

21.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

21.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

21.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 22.
SAMOA PENINSULA FIRE PROTECTION DISTRICT ANNEX

22.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Troy Nicolini, Chair of Board of Directors 1982 Gass Street Samoa, CA 95562 Phone: 707-496-5959 e-mail: nicolini@noaa.gov	Noreen Obrien, Manager 1982 Gass Street Samoa, CA 95562 Phone: 707-496-5959 e-mail: samoapen@suddenlink.net

22.2 DISTRICT PROFILE

The Samoa Peninsula Fire District was formed in 1902. The Fairhaven Fire District was formed in 1952. The two districts merged in 1994 and formed the Samoa Peninsula Fire Protection District. The district is organized and governed by the Fire Protection District Act of 1987 (Health & Safety Code section 13800 et seq. ; the "Act") and former Health & Safety Code section 13800 et seq. The district is governed by a five member Board of Directors, elected by the voters of the District. This board will assume responsibility for the adoption of this plan. The district is served by 22 volunteers, a chief, training officer, and a district manager. The district covers 8 square miles and serves 350 residents including a public school, US Post Office, a county campground, several industrial sites and an off road vehicle park. The Samoa Peninsula Fire Protection District operates with the Arcata Fire District under an auto-aid agreement, which increases our response and service area by more than double of our first response area. Our district is funded by property taxes under the AB 8 process and by a voter approved special tax, which the voters passed in 1997.

- **Land Area Owned**—1.5 acres and one separate parcel of approximately 11-acres.
- **Land Area Served**—The district is 8 square miles and works under an auto-aid agreement with the Arcata Fire District that has approximately 16 square miles making for a total of 24 square miles.
- **List of Critical Infrastructure/Equipment**—The district owns two 1,500-gpm pumper fire engines, one 1,000-gpm pumper fire engine, and two rescue vehicles
- **Value of Critical Infrastructure/Equipment**— $ 350,000
- **List of Critical Facilities (Owned by District)—**Main station located on the Samoa Peninsula in the community of Fairhaven. Fire house garages used to house fire apparatus. District owns one house located in the community of Fairhaven.
- **Value of Critical Facilities**—$800,000
- **Value of Area Served**:
  - $53,422,772 Secured
  - $4,564,542 Unsecured

22.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

22.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Based on the data tracked by the California Department of Finance, Unincorporated Humboldt County has experienced a relatively flat rate of growth. The overall population has increased only 4.1% since 2000 and has averaged 0.73% per year from 1990 to 2007. Considering these historical trends and future population projections produced by the state, anticipated development trends for the planning area are considered low, consisting primarily of residential development. The district call volume decreased over the past 10 years due to the closure of businesses in the industrial region. Recently a new industrial park and recycling center have been developed in our district. In addition, plans for new homes and businesses are being considered. The district also serves an off road vehicle park and campground. We anticipate more call volume because of the new growth in our district.

22.5 NATURAL HAZARD EVENT HISTORY

There are no records indicating damages received by the district for past natural hazard events. The exposure to natural hazards is considered to be the same as has been assigned to the overall planning area.

22.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank[d]	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Tsunami	Estimate $800,000	Medium	36
2	Earthquake	Estimate $200,000	Medium	36
3	Severe Weather	Information not available	High	33
4	Flood	Information not available	High	18
5	Drought	No measurable impact to property	High	9
6	Dam Failure	Information not available	Low	0[c]
6	Wild Fire	No measurable impact to property	Low	0[c]
6	Landslide	No measurable impact to property	Low	0[c]
6	Fish Losses	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure
d. The overall ranking of risk was based on other subjective factors that the risk ranking methodology specified for the risk ranking exercise.

22.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

Efforts are ongoing at the County level and at the California Coastal Commission to mitigate for tsunami hazard with any future development in the tsunami hazard zones of the District.

It is the mission of the Samoa Peninsula Fire Protection District to provide the best possible protection from fire, medical and other emergencies to the citizens of the District:

- To arrive at the emergency scene within the shortest amount of time.
- To use relevant regulations to ensure that structures and occupant practices are as safe as possible.
- To provide regular fire safety education programs in schools and other forums, to minimize fire injury and death.
- To provide the safest possible work environment for Samoa Peninsula Fire Protection District employees and volunteer firefighters.
- To provide quality equipment and training for the rapid management and control of emergency incidents.
- To regularly evaluate our performance and provide a strategic vision for public safety in the community.
- To accomplish necessary change, institute quality programs, and nurture employee relationships with a strong commitment to innovation.
- To facilitate employee and volunteer career development by sharing of responsibility and authority so that they may ultimately reach their full potential.
- To conserve Samoa Fire Protection District resources by operating in an efficient and cost effective manner.
- To cooperate with other public agencies to improve service and efficiency.
- To promote a strong relationship with local news media to support public education and to maintain a positive public image of the fire service in general, and Samoa Peninsula Fire Protection District in particular.

22.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

There is currently no existing applicable natural hazard mitigation plans and/or documents in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

22. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	5/9	ISO 2002
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

22.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
SP-1	Seismic and Tsunami Retrofit Fairhaven Station	EQ/ Tsunami	1, 2, 4	Samoa Fire	High ($200,00)	grant/loan/bond	Long Term, DOF
SP-2	Achieve Tsunami Ready Status for Fairhaven	Flood/ Tsunami	6, 10	Samoa Fire	Low (up to $30,000)	Funded via ongoing district programs. Possible NOAA grant	Short Term, DOF
SP-3	Build vertical evacuation site for Fairhaven	Tsunami	3	Hum County	High ($250,000)	grant/loan/bond	Long Term, DOF
SP-4	Achieve Tsunami Ready Status for Samoa	Flood/ Tsunami	6, 10	Samoa Fire	Low (up to $30,000)	Funded via ongoing district programs. Possible NOAA grant	Short Term, DOF

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

22.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
SP-1	3	High	High	Yes	Yes	No	Medium
SP-2	2	High	Low	Yes	Maybe	No	Medium
SP-3	1	High	High	No	Yes	No	Medium
SP-4	2	High	Low	Yes	Maybe	No	Medium

22.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

22.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Tsunami hazard mapping needs to be done to assess the region's risk from tsunamis. Both distant source and near source analysis should be included and inundation maps are needed to support parcel scale planning for tsunami hazards

22.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 23.
(SHELTER COVE) RESORT IMPROVEMENT DISTRICT NO. 1

23.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Richard Culp, General Manager 91226 Shelter Cove Rd. Whitethorn, CA 95589 Phone: 707-956-7447 e-mail: gm@shelertcove-ca.gov	Susan Sack, Administrative Secretary 91226 Shelter Cove Rd. Whitethorn, CA 95589 Phone: 707-956-7447 e-mail: sue@sheltercove-ca.gov

23.2 DISTRICT PROFILE

The Resort Improvement District No. 1 (RID) is located on the Pacific coast 23 miles west of Garberville and was formed in February, 1965 pursuant to the provisions of Division 11 of the Public Resources Code to provide services to Shelter Cove inhabitants including water, electric, waste water treatment, fire and rescue protection, recreation and airport operation and maintenance. The RID is governed by a publicly elected five member Board of Directors and is staffed by 13 employees. This board will assume the responsibility for the adoption of this plan. The RID is funded by revenues generated primarily from water, electric, and waste water rates, assessments, and property taxes.

- **Land Area Owned**— The RID owns approximately 1,200 acres of land which is either greenbelt or is used to provide services or recreation
- **Land Area Served**—The RID serves Shelter Cove which covers a 2640 acre area. Shelter Cove has approximately 4170 private taxable lots and 176 public tax exempt lots with the remainder designated as greenbelt.
- **List of Critical Infrastructure/Equipment**:
  - 3 Fire Engines (old)
  - 1 Foam fast attack 4x4 P/U
  - 1 Ambulance
  - 1 Rescue boat
  - 1 Waste water treatment plant and laboratory
  - 9 Sewer lift stations
  - 1 Water treatment plant, reservoir, dam, and water intake facilities
  - Approx 40 miles of water mains
  - 11 Water storage tanks
  - 13 Booster pump stations
  - Approx 15 miles of sewer mains

  - 1 Electric generator plant
  - Approx 30 miles of electrical power lines
  - 3400 ft Airport?
- **Value of Critical Infrastructure/Equipment**—$8,918,000
- **List of Critical Facilities (Owned by District)**—1 Fire station/District office. (This is just critical building - not including critical infrastructure/equipment)
- **Value of Critical Facilities**—$350,000 (This is just critical buildings not including critical infrastructure/equipment)
- **Value of Area Served**:
  - $9,860,000, Approx assessed value of RID owned properties.
  - $204,138,793, Approx assessed value of other properties within the area served

23.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

23.4 CURRENT AND ANTICIPATED SERVICE TRENDS

The RID has been growing at a rate of approximately 25 connections per year over the last 10 years with the majority of the growth in the lower more desirable sewered area of the Cove. We expect this trend to continue based on the numbers of people already in the planning and building process. The RID Board of Directors recently approved a $14 million 10 year Capital Improvement Plan that will be used to facilitate expanding the District's electric infrastructure, water source and storage capacity, water treatment and water delivery infrastructure

23.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather (Storm Surge)	N/A	12/31/2005	$16,111 to RID facilities, private property damage occurred but value of damage unknown.
Severe Weather (thunderstorm Wind, Orick)	N/A	2/25/2004	$31,500 to RID facilities, private property damage occurred but value of damage unknown.
Severe winter storms, flooding	DR-1203	2/9/1998	$79,840 to RID facilities $7.75 Million Countywide
Earthquake	DR-943	04/04/1992	Private property occurred but value unknown.

23.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Wildfire	Estimate $9.5 million	High	51
2	Earthquake	Estimate $8.9 million	High	45
2	Severe Weather	Estimate $8.9 million	High	45
4	Tsunami	Estimate 8.9 million	Medium	28
5	Drought	No measurable impact to property	High	9
6	Landslide	Estimate $2 million	Low	6
7	Flood	No measurable impact to property	Low	0[c]
7	Dam Failure	No measurable impact to property	Low	0[c]
7	Fish Losses	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

23.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

There is currently no existing applicable natural hazard mitigation codes, ordinances or policies in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

23.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

There is currently no existing Applicable natural hazard mitigation plans and/or documents in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

23. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS

Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not participating	N/A
Storm Ready	Not participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to

flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

23.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RID-1	Development and initial implementation of vegetative management program on greenbelt and other RID property.	WF	1,2,9	RID	100,000	Property taxes	Short Term OG
RID-2	Annual power line tree trimming	SW	1,2,3,8	RID	50,000	Electric utility revenue	Short Term OG
RID-3	Building extra water storage capacity to counteract drought and fight fires	WF	1,2,9	RID	5 million	Hookup fees/Future bonds?	Short Term
RID-4	Seismic retrofit or replacement of 11 water tanks.	EQ/WF	1,2,9	RID	1 million	Hookup fees/Future bonds? Grant	Long term DOF
RID-5	Automation of the existing tsunami siren	TS	1,2,3,4	RID	25,000	Property taxes	Short Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

23.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
RID-1	3	Medium	Medium	Yes	No	Yes	High
RID-2	4	Medium	Medium	Yes	No	Yes	High
RID-3	3	High	High	Yes	Yes	No	Medium
RID-4	3	High	High	Yes	Yes	No	Medium
RID-5	4	High	Low	Yes	No	Yes	High

23.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

23.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

23.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 24.
GARBERVILLE SANITARY DISTRICT ANNEX

24.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Herb Schwartz, Chairperson PO Box 211 Garberville, CA 95542 Phone: 707-923-9566	Ron Copenhafer, Chief Operator PO Box 211 Garberville, CA 95542 Phone: 707-223-4566
e-mail: herb@changemediation.com	Email Address: gsd@asis.com

24.2 DISTRICT PROFILE

The Garberville Sanitary District is a public entity created pursuant to the laws of the State of California, specifically, the Sanitary District Act of 1923.

On April 12, 1932, the District was formed for the purpose of providing sanitary waste water collection, treatment and disposal for the residents in the Garberville area by vote of the Humboldt County Board of Supervisors.

On November 2004, the District purchased the Garberville Water Company which was privately owned. The Garberville Water Company was incorporated in 1936, although the water system has been privately operated by the Hurlbutt family since the 1920s. Garberville Sanitary District in addition to providing sewer service now provides water service.

Garberville Sanitary District is an "Independent District" governed by five members of the Board of Directors elected by the Districts' voters or appointed to a fixed term of office by the Board of Supervisors. The governing board is responsible for setting and adopting policies and the District Administrator creates and implements procedures according to the adopted policies.

Garberville Sanitary District's purpose is to safeguard and enhance the environment of the community it serves. The District provides two types of services sewer and water services. The funding sources are from customer payments for these services.

The District's wastewater rate structure is based upon units for connection instead of individual services. The District's rates are based upon units such as the number of toilets in a commercial or retail building, the number of beds in a hotel, etc. The District's water rate structure is based upon usage. The basic residential water rate includes the first 1000 cubic feet of water. A cubic foot equals approximately 7.5 gallons. Water use over the first 1000 cubic feet is an additional charge.

The District employs four full time employees. The District is located in Southern Humboldt County on the South Fork Eel River approximately 65 miles south of Eureka, California • **Land Area Owned**— The District owns 3 pump Stations that encompass approximately 1.5 acres of land.

- **Land Area Served**—When formed, the Garberville Sanitary District encompassed approximately 96 acres. The present service area consists of downtown Garberville and nearby developed areas, including the Meadows Subdivision, which was later annexed. The Meadows Subdivision occupies approximately 427 acres of hillside. The District also annexed the County Yard, Maple Lane and Sunny Bank Lane areas totaling about 30 acres. The District now encompasses approximately 649 acres.
- **Population Served**— The District serves an existing population of 3,000 inhabitants and services approximately 640 unit connections within the unincorporated community of Garberville.
- **List of Critical Infrastructure/Equipment**—See the following table.

CRITICAL INFRASTRUCTURE/EQUIPMENT

Item	Value
US Govt Surplus Portable Generator	$30,000
Portable Generator-Trailer Mounted	$25,000
Airman Portable Generator	$11,600
1989 Chevy Truck	$4,501
1999 Ford Truck	$17,561
Gas Detector	$752 (Shared with Redway)
Air Blower	$595 (Shared with Redway)
Tripod	$150 (Shared with Redway)
Harness	$50 (Shared with Redway)
4” Waterline	$335,700
6” Waterline	$724,800
4” Waterline-fire house to pump house	$15,750
4” Gate Valve	$2,000
6” Gate Valve	$6,000
AWWA Blowoff	$2,000
¾” Service	$24,400

Water Mains--majority are in downtown Garberville, installed prior to 1940. Some lines are lead joint, some are copper, most are either iron or asbestos cement. Only the line in Redwood Drive is 8 inches. Most of the mains are only 4 inch lines. With the exception of a 2-inch PVC water main that was installed in 1993, the remaining of the water mains in downtown Garberville are in conformance with the California Waterworks standards. Water Mains in Wallen & Johnson Subdivision were installed in 1978. Waterline installed are Schedule 40 instead of C900. The waterline was installed in several creek crossing and the line was not sleeved. The valves installed were not epoxy coated.

- **Value of Critical Infrastructure/Equipment**— $1,200,859
- **List of Critical Facilities (Owned by District)—**See the following table.

CRITICAL FACILITIES		
Item	Building Value	Content Value
Eel River Infiltration Galley installed 1940	$10,000	
Electrical shed at river pump at Sprowl Creek Rd		
Water Treatment Plant-1974 (1160 Hillcrest Dr)	$1,200,000	$800,000
Main Tank 200,000 gallons-1940 (1160 Hillcrest Dr)	$150,000	
Tank #2 20,000 gallons (Arthur Rd)	$50,000	
Tank(Robertson) 50,000 gallons – 1936	$240,000	
Tank (Alderpoint Rd) 30,000 gallons - 1970s	$30,000	
Tank (Wallen Rd) 10,000 gallons – 1970s	$10,000	
Booster Station – Main (Hillcrest Dr)	$30,000	
Booster Station (Alderpoint Rd)	$15,000	
Booster Station (Wallan Rd)	$15,000	
Booster Station on Oak St	$15,000	
Storage at Oak St	$10,000	$1,000
Tobin well pump house at Pine St-1931	$20,000	
Storage structure on Tobin well property at Pine St	$40,000	
Chlorination Bldg	$18,000	$15,000
Laboratory at Bear Creek Rd	$9,000	$5,000
Rental House at Bear Creek Rd	$125,000	$10,000
Lift Station at Meadows at Linda Ln	$9,750	$10,000
Lift Station at Sunnybank	$4,250	$40,000
Comminutor Bldg (Thomas Ln)-1984	$9,000	$13,000
Comminutor Bldg (Alderpoint Rd)	$40,000	$55,000

- **Value of Critical Facilities**—$1,905,000
- **Value of Area Served**—The assessed value for the area served based on Humboldt County information provided is:
  - Secured - $57,683,655
  - Unsecured - $3,971,889

24.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

24.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Back in 2004 there was talk about consolidating Redway Community Services District and Garberville Sanitary District. Redway has a population of approximately 1,200 people and Garberville has a population base of approximately 3,000 (1,200 permanent residents and 2,800 visitors). Currently, Redway's water system is supplied by Redway Community Services and is not in need of the extensive work that Garberville requires. Their systems are currently not compatible. If combined in the future there

could be add additional redundancies to existing systems. To construct 2 miles of pipeline would cost in excess of a couple of million dollars. Consolidating these two water systems at the present time does not appear to be viable. However, the two districts have executed a written memorandum of understanding to provide mutual support for both regular and emergency operations.

Talks have just begun regarding bringing Kimtu Water Company into the Garberville Sanitary District. Kimtu will need to acquire their own financing before incorporating them into the District. If this proceeds forward, the District is looking at adding about 30 new water connections.

GSD is now planning and has initiated and received preliminary approvals from the Department of Health Services to install a new water treatment plant with a budget of $2.32 million dollars. The District is also exploring funding for and installation of one or two separate one million gallon water storage tanks for pump failures in the winter and fire and in stream flow protection for the Eel River in the summer.

Other than what was stated above there is no new development in the community proposed over the next 10 years.

24.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding, severe winters storms, and landslides	DR-1628	2/03/2006	$19,633
Storm/Flood	N/A	2002	$17,541
Severe winter storms, flooding	DR-1203	2/9/1998	$13,721
Severe winter storms, flooding	DR-1155	1/4/1997	$35,500
Winter storms, flooding, landslides, mud flows	DR-1044	1/9/1995	$13,757
Storm	N/A	1989	$8,504
Flood	DR-758	2/21/1986	$8,052
Storm/Flood	N/A	1982	$7,576

24.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Severe Weather	$2,900,250	High	48
1	Earthquake	$2,900,250	High	48
2	Flood	$1,450,125	High	36
2	Landslide	$1,450,125	High	36
2	Wildfire	$1,000,000	High	36
6	Drought	No measurable impact to property	High	9
7	Tsunami	No Exposure	Low	0[c]
8	Dam Failure	No Exposure	Low	0[c]
9	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

24.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

- Garberville Sanitary District Board of Directors
- County of Humboldt
  - Department of Public Works
  - Health Department
  - Planning Department
  - Land Use/Encroachment Permit Division
  - Planning Commission
  - Board of Supervisors
- Local Agency Formation Commission (LAFCO)
- California Regional Water Quality Control Board (CRWQCB)
- California Department of Fish and Game
- U.S. Army Corps of Engineers
- National Marine Fisheries Service
- Federal Fish and Wildlife Service

- California Environment Quality Act (CEQA)
- Department of Health Services (DHS)
- State Water Resources Control Board (SWRCB)

24.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

None applicable at this time.

24. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	N/A	N/A
Storm Ready	N/A	N/A
Tsunami Ready	N/A	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

24.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
GSD-1	Map out the water and wastewater system	All exposed hazards	1,2,3,4	GSD BOD	$23,000	Operating funds	Short Term
GSD-2	Consider store water/captured water techniques	All exposed hazards	1,3	GSD BOD	$750,000	SRF/Prop 50	Short Term
GSD-3	Educate the public in awareness, preparation, mitigation response, and recovery alternatives	All exposed hazards	3,5,6	GSD BOD	$15,000	Operating funds	Short Term
GSD-4	Purchase generator for back up power	All exposed hazards	1,3,4	GSD BOD	$45,000	Operating funds	Short Term
GSD-5	Prepare an update to the Hazard Mitigation Plan for the District	All exposed hazards	3,5,6,9	GSD BOD	$1,000	Operating funds	Short Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater

24.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
GSD-1	4	H	$23,000	Y	Y	Y	H
GSD-2	2	H	$45,000	Y	N	N	H
GSD-3	3	M	$15,000	Y	Y	Y	M
GSD-4	3	H	$750,000	Y	Y	Y	H
GSD-5	4	H	$1,000	Y	Y	Y	H

24.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

24.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Feasibility study of both the water and wastewater infrastructure to assess which lines need replacement or repair. The funding to acquire the tools and equipment needed for these replacements and repairs. Secondary source for water storage during clean out or repair of tank. Also funding to acquire the tools and equipment for this repair.

24.13 ADDITIONAL COMMENTS

Winter storms cause high water along the Eel River. Our pump station is too close to the river and periodically gets flooded and silted out causing a temporary complete shutdown and/or permanent damages to the pump. It places the town at risk for a water source and periodically requires trucking water to fill our small storage tanks until the water pump is repaired. Our pending Office of Emergency Services mitigation request to repair, replace, and move the pump station to higher ground was placed on hold because we were told that it could not be funded until the new Hazard Mitigation Plan was completed. We look forward to renew our request, receive funding and to move the pump station to avoid repeating the same scenario.

CHAPTER 25.
HUMBOLDT BAY MUNICIPAL WATER DISTRICT ANNEX

25.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
John Palmquist, Business Analyst PO Box 95 Eureka, CA 95502 Phone: 707-443-5018 e-mail: Palmquist@hbmwd.com	Carol Rische, General Manager PO Box 95 Eureka, CA 95502 Phone: 707-443-5018 e-mail: office@hbmwd.com

25.2 DISTRICT PROFILE

The Humboldt Bay Municipal Water District was formed on March 19, 1956 pursuant to the California Municipal Water District Act. It is a special district created to develop a regional water system to provide a reliable supply of drinking and industrial water to customers in the greater Humboldt Bay area of Humboldt County. The District's governing body is its Board of Directors which has adoptive powers. This board will assume the responsibility for the adoption and implementation of this plan. The District has 20 employees – 4 at the Eureka office, 15 at the operations center near Essex, and 1 at the District's Ruth Lake facilities. Operations are primarily funded by charging costs incurred to its customers for water delivered.

The District has two separate and distinct pipeline systems – one delivers treated drinking water and the other untreated raw water. The District supplies treated drinking water on a wholesale basis to the following 7 municipal agencies: the cities of Arcata, Eureka and Blue Lake and the community services districts of Fieldbrook-Glendale, Humboldt, Manila and McKinleyville. Via this wholesale relationship, the District serves water to a population of approximately 80,000. The District also directly serves treated drinking water to approximately 200 retail customers. The District supplies untreated, raw water on a wholesale basis to industrial customers located on the Samoa Peninsula for industrial purposes. Revenue generated from fees for service fund the district operations. Currently, the District serves only one industrial customer, Evergreen Pulp, with 15 million gallons per day (mgd).

The District's service area is the greater Humboldt Bay area, including the community of McKinleyville to the north, College of the Redwoods to the south, and the City of Blue Lake to the east. The map and legal description of the District's boundary has been attached.

- **Land Area Served**—225,000 acres, or 350 square miles
- **Population Served**—Approximately 80,000 (via 7 wholesale municipal customers and 200 retail customers).
- **List of Critical Infrastructure/Equipment**:
  - R.W. Matthews Dam/Ruth Reservoir
  - Gosselin Hydro-Electric Power House
  - Diversion, pumping, and control facilities

  - Treatment and storage facilities
  - Pipeline systems (35 miles of pipe)
- **Value of Critical Infrastructure/Equipment**—$12,800,000 (scheduled value for insured items only); Hundreds of millions of dollars to replace critical infrastructure
- **List of Critical Facilities (Owned by District)**
  - Eureka Office Building (Alternate EOC)
  - Essex Control Building (Alternate EOC)
  - Ruth Headquarters Building
- **Value of Critical Facilities—**$9,500,000 (scheduled value for insured items only)
- **Value of Area Served—**$9,172,422,491 (Tax Year 2006).

25.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

25.4 CURRENT AND ANTICIPATED SERVICE TRENDS

0.4% per year currently and through 2030 (Source: District's Urban Water Management Plan). Identified potential growth areas are Cutten, Glendale, and the Samoa Peninsula. All could require significant new infrastructure.

25.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flood	DR-183	12/24/1964	Significant; amount unknown
Drought	Emergency declaration #3023	1977	Minimal (short duration)
Earthquake	N/A	Dec 1994	$7,000
Winter storms, flooding, landslides, mud flows	DR-1044	1/9/1995	$22,500
Severe winter storms, flooding	DR-1046	3/12/1995	$97,000
Severe Weather	N/A	12/12/1995	$115,000
Severe winter storms, flooding	DR-1155	1/4/1997	$204,500
Severe winter storms, flooding	DR-1203	2/9/1998	$59,000
Flooding, severe winters storms, and landslides	M#1628	02/03/2006	$84,000

25.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	$25,000 to $50,000,000	High	54
2	Flood	$25,000 to $10,000,000	High	45
3	Severe weather	$25,000 to $250,000	High	39
4	Tsunami	$25,000 to $5,000,000	Med	24
5	Drought	$0	High	18
6	Dam Failure	$100,000,000	Low	9
7	Landslide	Minimal	Low	6
7	Wildfire	Minimal	Low	6
9	Fish Losses	No measurable impact to property	High	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

25.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

- California Department of Public Health
- California and U.S. Environmental Protection Agencies
- Federal Energy Regulatory Commission
- Army Corp of Engineers
- California Environmental Quality Act
- Federal Endangered Species Act
- California Coastal Commission

25.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

- Humboldt County Operational Area Hazard Mitigation Plan
- HBMWD Seismic Vulnerability Study
- HBMWD Capital Improvement Plan
- HBMWD Vulnerability Assessments

25.9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

25.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HBMWD-1	Retrofit emergency water supply interties for the communities of McKinleyville, Blue Lake, Fieldbrook-Glendale and possibly Arcata and Eureka	EQ, Fld, SW	1,2,3,4,9	HBMWD	$1,750,000	HMGP, District Funds, Other Funding	Short-term
HBMWD-2	Acquire Emergency Response Equipment – Yellowmine Pipe, K-Rails, traffic plates, portable fencing, gravel/sand	All Hazards	1,4,5	HBMWD	$50,000	District Funds	Short-term
HBMWD-3	Acquire Support Equipment for Emergency Operations Centers at Essex, Korblex and Eureka	All Hazards	1,4,5	HBMWD	$12,000	District Funds	Short-term
HBMWD-4	Conduct public awareness education regarding hazards affecting water supply	All Hazards	6,7	Humboldt County	$10,000	District Funds	Short-term
HBMWD-5	Conduct design and feasibility studies for construction of critical infrastructure/facilities	EQ, Fld, SW, Ts	1,2,3,4,9	HBMWD	$50,000	HMGP, District Funds	Short-term
HBMWD-6	Retrofit Techite domestic waterline on Samoa Peninsula	EQ, Fld, Ts	1,2,3,4,9	HBMWD	$12,000,000	HMGP, District Funds, Other Funding	Short-term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

25.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
HBMWD-1	5	High	High	Yes	Yes	No	High
HBMWD-2	3	High	Low	Yes	Yes	Yes	High
HBMWD-3	3	Medium	Low	Yes	Yes	Yes	High
HBMWD-4	2	Medium	Medium	Yes	Yes	Yes	High
HBMWD-5	5	Medium	Medium	Yes	Yes	No	Medium
HBMWD-6	5	High	High	Yes	Yes	No	Medium

25.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

25.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

25.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 26.
HUMBOLDT BAY HARBOR, RECREATION, AND CONSERVATION DISTRICT ANNEX

26.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
David Hull, Chief Executive Officer PO Box 1030 Eureka, CA 95502 Phone: 707-443-0801 e-mail: dhull@portofhumboldtbay.org	Patti Tyson, Director of Administrative Services PO Box 1030 Eureka, CA 95502 Phone: 707-443-0801 e-mail: ptyson@portofhumboldtbay.org

26.2 DISTRICT PROFILE

The Humboldt Bay Harbor, Recreation and Conservation District was formed by an act of the State of California legislature in 1970 and ratified by the local electorate in 1973. The Harbor District's purpose is to promote the orderly development of commerce, fisheries, navigation, recreation and the protection of the Humboldt Bay environment as defined in the District's enabling legislation contained in Appendix II of the California Harbors and Navigation Code. The territory of the Harbor District is all of Humboldt County and is governed by five elected Commissioners that share the same division boundaries as the Humboldt County Board of Supervisors. The District has development regulation authority over all of Humboldt Bay. The District presently has 13 full-time employees that oversee the operation and maintenance of Woodley Island Marina, Fields Landing Boat Yard, Redwood Marine Terminal, Park Street Marsh, King Salmon Beach and the Shelter Cove Boat Launching Facility.

- **Land Area Served**— All of Humboldt County
- **Population Served**—128,330
- **List of Critical Infrastructure/Equipment**:
  - (2) Vessels
  - 48-kw generator
  - 1 ton and 2-ton hoists
  - Wacker light tower
  - 150 ton
  - Travelift
  - oil spill response equipment
  - sewer pump station
  - fire water storage tank and pumps
  - ~700' submerged pressure sewer line
  - gas line, electrical line and phone
  - fish cleaning station and outfall pipe
  - emergency communications
  - (4) service vehicles
- **Value of Critical Infrastructure/Equipment**— $3,570,000
- **List of Critical Facilities (Owned by District):**

  - Redwood Marine Terminal (Berth 1 – 1,1100 foot wooden wharf, Berth 2 – 1,000 foot wooden pier; pump dock; six warehouses (~67,000 SF); ~ 20 acres paved laydown area; 2.3 miles paved road)
  - Woodley Island Marina (Government office complex; restaurant; 10 docks with slips and utilities; work dock)
  - Fields Landing Boat Yard (Travelift storage building with office and shop; two Travelift piers)
  - Shelter Cove Boat Launch Facility (concrete launch ramp; rock breakwater; paved access road)
  - King Salmon (two rock groins)
- **Value of Critical Facilities:** $93,360,000
- **Value of Area Served:** $5,828,497,443

26.3 OUTLINE OF AREA SERVED

See map of District boundaries in Chapter 1.

26.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Growth is expected in the harbor, recreation and conservation sectors of Harbor District responsibility. Humboldt Bay is one of 11 publicly-owned deep water ports in the State of California. Goods movement demands are expected to double throughout the State within the next 10 years. Humboldt Bay presently contains approximately 1,000 acres of underutilized coastal dependent industrial property that is available to meet these goods movement challenges. Several new recreational projects and project planning are underway that will grow the recreational use of Humboldt Bay and Shelter Cove. These include the completion of a boating center, initiation of a water trails program and several boat launch ramp improvement projects. Presently a number of wetland restoration projects are either planned or underway. All of these that touch the bay will require development permitting and oversight by the Harbor District.

26.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Storm/Flood	N/A	12-26-06	$30,000
Flooding, severe winters storms, and landslides	DR-1628	02/03/2006	$1,000,000 $20,208,206 Countywide
Storm/Flood	N/A	12-31-04	$300,000
Earthquake	N/A	Nov 2004	$10,000
Storm/Flood	N/A	Nov 1998-March 1999	$114,000
Earthquake	DR-943	04/04/1992	$500,000

26.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Severe weather	~$2,000,000	High	45
1	Earthquake	~$1,000,000	High	45
2	Flood	~$1,000,000	High	24
2	Tsunami	~$90,000,000	Med	24
2	Landslide	~$1,000,000	High	24
6	Wildfire	~$500,000	Low	12
7	Dam Failure	~$1,000,000	Low	9
8	Drought	No measurable impact to property	High	0[c]
8	Fish Losses	No measurable impact to property	High	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

26.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

None applicable at this time.

26.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

None applicable at this time.

26.9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS

Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not participating	N/A
Storm Ready	Not participating	N/A
Tsunami Ready	Not participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

26.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HB-1	Assess and enhance the Harbor District's storm and tsunami warning capability by joining NOAA "Storm Ready" and "Tsunami Ready" programs	Severe Storm, Tsunami, Flooding	O-8,O-9,O-10,,O-21,O-25	NOAA/ HBHRCD Board	$30K	NOAA; Harbor District; Humboldt County	Short Term
HB-2	Rebuild/retrofit warehousing at Redwood Marine Terminal	Earthquake Severe Storm	O-2,O-14,O-16	Harbor District	$25 Mil	Harbor District; CA Maritime Infrastructure Bank; Private Investment; HMGP/PDM	Long Term DOF
HB-3	Rebuild breakwater at Woodley Island Marina	Severe Storm	O-2 O-16	Harbor District	$400K	Harbor District; HMGP/PDM	Short Term
HB-4	Rebuild work dock at Woodley Island Marina	Earthquake Severe Storm	O-2 O-16	Harbor District	$1 Mil	Harbor District, CA Department of Boating and Waterways HMGP/PDM	Short Term
HB-5	Rebuild breakwater at Shelter Cove	Severe Storm	O-2 O-16	Harbor District	$1.7 Mil	Harbor District; CA Department of Boating and Waterways; HMGP/PDM	Short Term
HB-6	Install floating breakwater on east end of Woodley Island Marina	Severe Storm Flooding	O-2	Harbor District	$1 Mil	Harbor District; CA Department of Boating and Waterways; HMGP/PDM	Long Term DOF

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
HB-7	Develop standard specifications for levee repair/rehabilitation to minimize breaching and overtopping	Flooding Severe Storm	O-2, O-16, O-20, O-40	Harbor District	$100K	Harbor District;	Short Term
HB-8	Develop Dredge Material Management Program in order to ensure adequate water depths necessary for safe navigation and emergency access	Severe Storm Tsunami Flooding	O-1 O-5 O-20	Harbor District	$300K	Harbor District	Short Term
HB-9	Rebuild Redwood Marine Terminal and Fields Landing Terminal Berths	Severe Storm Earthquake	O-2 O-14 O-16	Harbor District	$125 Mil	Harbor District; Prop 1B; HMGP/PDM; Private Investment	Long Term DOF

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program, "DOF" = depending on funding

26.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
HB-1	5	Med	Low	Yes	Yes	Yes	High
HB-2	3	High	High	Yes	No	No	Medium
HB-3	2	High	High	Yes	Yes	No	Medium
HB-4	2	High	High	Yes	Yes	No	Medium
HB-5	2	High	High	Yes	Yes	No	Medium
HB-6	1	Med	High	Yes	Yes	No	Medium
HB-7	4	Med	Med	Yes	Yes	Yes	High
HB-8	3	Med	Med	Yes	Yes	Yes	High
HB-9	3	Med	High	Yes	Yes	No	Low

26.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

26.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

26.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 27.
RECLAMATION DISTRICT #768 ANNEX

27.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Domingo Santos, Board President Reclamation District #768 2580 Vaissade Road Phone: 707-822-1366	Mark Andre, Environmental Services Director City of Arcata 736 F Street Arcata, CA 95521
E-mail address: N/A	Email address: mandre@cityofarcata.org

27.2 DISTRICT PROFILE

Reclamation District #768 The Humboldt County Board of Supervisors approved a petition request (filed on March 16, 1904) to create Reclamation District #768 on May 11th, 1904. This request was recorded on August 7th, 1905. The purpose of the Reclamation District was to maintain a series of previously constructed dykes that enclosed 1499 acres that protected agricultural lands from saltwater inundation from Humboldt Bay and the tidal sloughs titled Mad River and Daniels. The District is governed by Board of Trustees with assessment funds collected on as needed basis through the County Treasurer and placed in a separate fund designated as "Maintenance Fund of Reclamation District #768" and is paid out upon warrants of the Trustees of the District.

- **Land Area Owned**— Levee 4.9 Miles Long x 30 foot footing
- **Land Area Served**— 1500 Acres
- **List of Critical Infrastructure/Equipment**—Floodgates and levee along Mad River Slough and North Humboldt Bay
- **Value of Critical Infrastructure/Equipment**— Estimated value $30,000,000
- **List of Critical Facilities (Owned by District)**—Levee and Flood Gates
- **Value of Critical Facilities**—Property owner's personal improvement values
- **Value of Area Served**— Approximately $2 Billion in assessed value within the service area.

27.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

27.4 CURRENT AND ANTICIPATED SERVICE TRENDS

Based on the data tracked by the California Department of Finance, Unincorporated Humboldt County has experienced a relatively flat rate of growth. The overall population has increased only 4.1% since 2000 and has averaged 0.73% per year from 1990 to 2007. Considering these historical trends and future population projections produced by the state, anticipated development trends for the planning area are considered low, consisting primarily of residential development.

The current services of this district are centered on operation and maintenance of the flood protection levee system along the Mad River Slough and North Humboldt Bay. There are currently no immediate plans or needs for expansion of this system, or do the anticipated growth trends suggest a need to do so.

27.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding, severe winters storms, and landslides	DR-1628	02/03/2006	$6,000,000 in district damages $20,208,206 Countywide
Severe Weather (Funnel Cloud, Orick)-Levee Breach	N/A	12/7/2003	$250,000
1964 Flood	DR-183	12/24/1964	Losses in the millions countywide

27.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	No estimates available	High	54
2	Flood	$6.2 Million a	High	48
3	Severe Weather	No estimates available	High	42
4	Tsunami	No estimates available	Medium	24
5	Dam Failure	No estimates available	Low	12
6	Landslide	No measurable impact to property	Low	0[c]
6	Drought	No measurable impact to property	Low	0[c]
6	Wild Fire	No measurable impact to property	Low	0[c]
6	Fish Losses	No measurable impact to property	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

27.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

There are currently no existing Applicable natural hazard mitigation Codes, ordinances or policies in effect by this district that could support or enhance the mitigation initiatives identified in this annex.

27.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

Levee Reconstruction Specifications - Oscar Larson Engineers

27. 9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	Not Applicable	N/A
Firewise	Not Applicable	N/A
Storm Ready	Not participating	N/A
Tsunami Ready	Not Participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

27.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
RD-1	Ongoing Levee Maintenance and Flood Gate upkeep	EQ, Flood, SW, Tsunami	1, 2, 8, 9	District	Medium	District Funds	Short-term, OG
RD-2	Levee Raising / Tsunami Ready Certification	EQ, Flood, SW, Tsunami	1, 2, 9	District	High	District Funds	Long-Term
RD-3	Levee Improvements for Storm Ready Certification	EQ, Flood, SW, Tsunami	1, 2, 9	District	High	District Funds	Long-Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program,

27.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
RD-1	4	High	Medium	Yes	No	Yes	High
RD-2	3	High	High	Yes	Yes	No	Medium
RD-3	3	High	High	Yes	Yes	No	Medium

27.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

27.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

27.13 ADDITIONAL COMMENTS

None at this time.

CHAPTER 28.
ST. JOSEPH HEALTH SYSTEM, HUMBOLDT COUNTY (REDWOOD MEMORIAL HOSPITAL, ST. JOSEPH HOSPITAL)

28.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
JoAnn Warzynski VP Operations St. Joseph Hospital 2700 Dolbeer St. Eureka, Ca 95501 Email: JoAnn.Warzynski@stjoe.org	Mr. Desmond Cowan, Assistant Chief 631 9th Street Arcata, CA 95221 Phone: 707-825-2000 e-mail: dcowan@arcatafire.org

28.2 SYSTEM PROFILE

St. Joseph Health System – Humboldt County (SJHS-HC) owns and operates Redwood Memorial Hospital and St. Joseph Hospital. Redwood Memorial Hospital is a 25 bed critical access facility located in Fortuna which provides acute hospital care, emergency services and related ancillary procedures (lab, diagnostic imaging, physical/occupational/speech therapy, etc.) associated with those services. St Joseph Hospital is a 189 bed facility located in Eureka and provides acute hospital care, emergency services, cardiac surgery, radiation therapy, in/out patient rehabilitation services and related ancillary procedures (lab, diagnostic imaging, physical/occupational/speech therapy, etc)

SJHS-HC is a private, not for profit entity and is a Ministry of the Sisters of St. Joseph of Orange. Following the flu epidemic of 1918 the first St Joseph Hospital was opened in 1920 and the current facility was opened in 1954. Redwood Memorial Hospital was opened in l957.

A twenty-four-member Board of Trustees governs SJHS-HC and will assume responsibility for the adoption and implementation of this plan. The members of this board are elected commissioners for a term of six years. Appointments are staged so no more than one-third of the board is up for election at one time. The board is required to elect a president, president-elect and a secretary. The Board delegates the day-to-day operations of the hospital's to the Chief Executive Officer.

Redwood Memorial Hospital employs approximately 225 employees and according to 2006 statistics, had over 35,000 outpatient or emergency visits and approximately 1600 inpatient discharges. St. Joseph Hospital employees approximately 1075 employees and according to 2006 statistics had approximately 6400 inpatient discharges and 95,000 outpatient visits.

- **Land Area Owned**— The Redwood Memorial Hospital owns 8.23 acres and St. Joseph Hospital owns 16.65 acres.
- **Land Area Served** SJHS-HC serves all of Humboldt County and areas of southern Del Norte County.

- **List of Critical Infrastructure/Equipment**—Medical equipment located within the hospital facility that includes: surgical, laboratory and radiological equipment. Infrastructure includes the hospital's utilities but not the information technology or communication systems.
- **Value of Critical Infrastructure/Equipment**— Redwood Memorial is > $4 million and St. Joseph Hospital is > $12 million
- **List of Critical Facilities** owned by St. Joseph Hospital:
  - The main hospital building
  - The general hospital campus building
  - A laboratory facility at 2425 Harrison Avenue
  - Medical office building in McKinleyville, Ca
- **List of Critical Facilities** owned by Redwood Memorial Hospital:
  - The main hospital building
  - Medical office building adjacent to hospital
- **Value of Critical Facilities**: N/A

28.3 OUTLINE OF AREA SERVED

See map in Chapter 1 (Figure 1-1).

28.4 CURRENT AND ANTICIPATED SERVICE TRENDS

SJHS-HC has seen steady and consistent growth in services for Humboldt County. In anticipation of further outpatient activity and a variety of other healthcare related areas SJHS-HC is partnering with the local community and physicians to accommodate the growing community needs for quality healthcare.

Humboldt County has experienced a relatively flat rate of growth. The overall population increase is stable at only about 2%. With this rate of growth, the anticipated service trends for SJHS-HC could remain consistent with current levels. However, factors such as aging, spread of contagious diseases or other health related factors can impact service volumes for this county without a net increase in population

28.5 NATURAL HAZARD EVENT HISTORY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Earthquake	DR-943	4//25/1992	Information not available
Earthquake	N/A	12/26/1994	Information not available
Severe Weather	N/A	12/31/2005	Information not available
Earthquake	DR-943	4//25/1992	Information not available
Earthquake	N/A	12/26/1994	Information not available
Severe Weather	N/A	12/31/2005	Information not available

28.6 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

This District is most vulnerable to the following natural hazards, ranked based on risk ranking exercise:

NATURAL HAZARD RISK RANKING

Rank	Hazard type	Estimate of Potential Dollar Losses to District Facilities Vulnerable to the Hazard[a]	Probability of Occurrence[b]	Risk Rating Score (Probability x Impact)
1	Earthquake	Damage would be relative to the magnitude and location of the event but 100% loss would be in excess of $300 million	High	54
1	Severe Weather	This event may not have a direct impact on the hospital buildings but could impact the ability to provide services.	High	45
2	Tsunami	Loss estimate not available	Medium	24
2	Drought	No impact on property	High	3
2	Wildfire	No Exposure	Low	0[c]
6	Landslide	No Exposure	Low	0[c]
7	Flood	No Exposure	Low	0[c]
8	Dam Failure	No Exposure	Low	0[c]
9	Fish Losses	No Exposure	Low	0[c]

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
b. High = Hazard event is likely to occur within 25 years; Medium = Hazard event is likely to occur within 100 years; Low = Hazard event is not likely to occur within 100 years
c. The probability of occurrence for these events is weighted at "0" due to no exposure

28.7 EXISTING APPLICABLE NATURAL HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

Our facilities require plan approvals through the Office of Statewide Healthcare Planning and Development (OSHPD). Local and county ordinances apply to non-OSHPD regulated buildings.

28.8 EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

SJHS-HC has an all-hazards incident command based disaster plan that directs their facilities response to disaster events. SJHS-HC's facilities are designated base stations for Humboldt County Emergency Management. There are also Hospital Campus Master Plans that directs facility capital improvements.

28.9 COMMUNITY CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection	N/A	N/A
Firewise	Not Participating	N/A
Storm Ready	Not Participating	N/A
Tsunami Ready	Not participating	N/A

The above classifications are a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation). These classifications are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance; the BCEGS and Public Protection classifications apply to standard property insurance. Classifications are on a scale of 1 to 10, with 1 being the best classification, and 10 representing no classification benefit. Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The Fire Suppression Rating Schedule

28.10 PROPOSED NATURAL HAZARD MITIGATION INITIATIVES

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
SJ-1	Structural seismic retrofit of hospital facility according to Hospital Campus Master Plan. Construction of new facility to meet seismic standards.	Earthquake	2, 4, 5	OSHPD	High ($.110 M)	Hospital revenues; Health System Support; Grant Funding; Community Donations	Short Term
SJ-2	Non-structural seismic retrofit of hospital facilities according to Hospital Campus Master Plan.	Earthquake	2, 4, 5	OSHPD	High ($3 M)	Hospital revenues; Health System Support; Grant Funding; Community Donations	Short Term

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]
SJ-3	Support County Wide Initiatives that promote the education of the public on the impacts of natural hazards within Humboldt County, and the preparedness for and the mitigation of those impacts. This support will be in the form dissemination of appropriate information to the residents of Humboldt and continuing support/participation in the Humboldt County Hazards Mitigation Planning Partnership.	All Hazards	4, 6, 7	SJHS-HC	Low	General Revenues; Grant Funding	OG/Short Term
SJ-4	Utilize information provided in the Humboldt County risk assessment to consider emergency management provisions that will reduce the vulnerability to, and enhance the preparedness for the impacts of natural hazards that SJHS-HC has exposure.	All Hazards	2, 4	SJHS-HC	Low	General Revenue; Grant Funding	Long Term
SJ-5	Continue to coordinate and work with Humboldt County Emergency Management in disaster response and preparedness. This level of coordination should include: updates to the Emergency response plan, development of a post disaster action plan, training and support.	All Hazards	2, 4, 5, 12	SJHS-HC	Low	General Revenue; Grant Funding	OG/Short Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program,

28.11 PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
SJ-1	3	High	High	Yes	Yes	Yes	High
SJ-2	3	High	High	Yes	Yes	Yes	High
SJ-3	3	Low	Low	Yes	Yes	Yes	High
SJ-4	2	Medium	Low	Yes	No	Yes	High
SJ-5	4	High	Low	Yes	Yes	Yes	High

28.11.1 Explanation of Priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions [X]

Prioritization of initiatives was based on parameters other than stated above: [X]

28.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

28.13 ADDITIONAL COMMENTS

None at this time.

APPENDIX A.
PLANNING PARTNER EXPECTATIONS, TEMPLATES AND INSTRUCTIONS

PLANNING PARTNER EXPECTATIONS

ACHIEVING DMA COMPLIANCE FOR ALL PLANNING PARTNERS

One of the goals of the multi-jurisdictional approach to hazard mitigation planning is to achieve compliance with the Disaster Mitigation Act (i.e. DMA compliance) for all participating members in the planning effort. DMA compliance must be certified for each member in order to maintain eligibility for the benefits under the DMA after November 1, 2004. Whether our planning process generates 10 individual plans or 1 large plan that has a chapter for each partner jurisdiction, the following items must be addressed to achieve DMA compliance for each Coalition member:

- ✓ Participate in the process. It must be documented in the plan that each planning partner "participated" in the process that generated the plan. There is flexibility in defining "participation". Participation can vary based on the type of planning partner (i.e.: City or County, vs. a Special Purpose District).

- ✓ Review of existing documents pertinent to each jurisdiction to identify policies or recommendations that are not consistent with those documents reviewed in producing the "parent" plan or have policies and recommendations that compliment the hazard mitigation initiatives selected (i.e.: comp plans, basin plans or hazard specific plans).

- ✓ Personalize the Risk Assessment for each jurisdiction. Remove hazards not associated with the defined area or redefine vulnerability based on a hazard's impact to a jurisdiction. This phase will include:
    - A ranking of the risk
    - A description of the number and type of structures at risk
    - An estimate of the potential dollar losses to vulnerable structures
    - A general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

- ✓ Personalize mitigation recommendations. Identify and prioritize mitigation recommendations specific to the each jurisdiction's defined area.

- ✓ Create an Action Plan.

- ✓ Each jurisdiction must present the Plan to the public for comment at least once, within 2 weeks prior to adoption.

- ✓ Plan must be adopted

One of the benefits to multi-jurisdictional planning is the ability to pool resources. This means more than monetary resources. Resources such as staff time, meeting locations, media resources, technical expertise will all need to be utilized to generate a successful plan. There will most likely be a need for a monetary contribution by some if not all committed planning partners. This amount cannot be determined until we determine the actual number of partners that will commit to this process. This issue will have to be addressed once the planning area is defined, and will most likely be the first order of business addressed by the Steering Committee selected to oversee the development of this plan.

With the above requirements in mind, each partner is expected to aid this process by being prepared to develop its section of the plan. Each Planning Partner should expect to provide the following:

A. Provide a "Letter of Intent to Participate" or Resolution to participate to the Humboldt County Planning Team.

B. Support and participate in the selection and function of the Steering Committee selected to oversee the development of this plan.

C. Provide support in the form of mailing list, possible meeting space, media such as newsletters, newspapers or direct mailed brochures, required to implement the public involvement strategy formed by the Steering Committee.

D. Participate in the process. There will be many opportunities as this plan evolves to participate. Opportunities such as:

    a. Steering Committee meetings.

    b. Public meetings or open houses.

    c. Workshops/ Planning Partner specific training sessions.

    d. Public review and comment periods prior to adoption

At each and every one of these opportunities, attendance will be tracked. These attendance records will be used to track and document participation for each planning partner. No thresholds will be established as minimum levels of participation. However, each planning partner should attempt to attend all possible opportunities.

E. All technical studies, plans, ordinances specific to hazards identified within the defined planning area. Each partner will be expected to perform a "consistency review" of all such documents to determine the existence of plans, studies or ordinances not consistent with the same such documents reviewed in the preparation of the County (parent) Plan. For example: if your community has a floodplain management plan that makes recommendations that are not consistent with any of the County's Basin Plans, that plan will need to be reviewed for probable incorporation into the plan for your area.

F. Each partner will be expected to review the Risk Assessment and identify hazards and vulnerabilities specific to its jurisdiction. Contract resources will provide the jurisdiction specific mapping and technical consultation to aid in this task, but the determination of risk and vulnerability will be up to each partner.

G. Each partner will be expected to review and determine if the mitigation recommendations chosen in the parent plan will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the parent plan recommendations will need to be identified and prioritized, and reviewed to determine their benefits vs. costs.

H. Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.

I. Each partner will be required to sponsor at least one public meeting to present the draft plan at least 2 weeks prior to adoption.

J. Each partner will be required to formally adopt the plan.

Templates and instructions to aid in the compilation of this information will be provided to all committed planning partners. Each Partner will be expected to complete their templates in a timely manner and according to the timeline specified by the Steering Committee.

Once this plan is completed, and DMA compliance has been determined for each partner, maintaining that eligibility will be dependant upon each partner implementing the plan implementation-maintenance protocol identified in the plan. At a minimum, this means completing the on-going plan maintenance protocol identified in the plan. Partners that do not participate in this plan maintenance strategy may be deemed ineligible by the partnership, and this lose their DMA eligibility.

Partner City/County Template

(Insert City/County name)

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Name: Title: Mailing Address: Telephone #: E-mail Address	Name: Title: Mailing Address: Telephone #: E-mail Address

B.) CITY/COUNTY PROFILE

Population: _____ (As of _____)

(Insert text profile of community as described in instructions)

C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY/COUNTY

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment

Number of FEMA Identified Repetitive Flood Loss Properties:

Number of Repetitive Flood Loss Properties that have been mitigated:

D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

NATURAL HAZARD RISK RANKING				
Rank #	Hazard type	Estimate of potential dollar losses to structures vulnerable to the hazard	Probability of Occurrence[a]	Risk Rating Score (Probability x Impact)
1				
2				
3				
4				
5				

a. High - Hazard event is likely to occur within 25 years; Medium – Hazard event is likely to occur within 100 years; Low – Hazard event in not likely to occur within 100 years

E.) CAPABILITY ASSESSMENT

E.1) Legal and Regulatory Capability

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
1.) Building Code					
2.) Zoning Ordinance					
3.) Subdivision Ordinance					
4.) Special Purpose Ordinances (floodplain management, critical or sensitive areas)					
5.) Growth Management					
6.) Floodplain Management or Basin plan					
7.) Stormwater Management Plan					
8.) General Plan or Comprehensive Plan					
9.) Capital Improvements Plan					
10.) Site Plan review requirements					

LEGAL AND REGULATORY CAPABILITY					
Regulatory Tools (Codes, Ordinances. Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated	Comments
11.) Habitat Conservation Plan					
12.) Economic development plan					
13.) Emergency Response plan					
14.) Shoreline Management Plan					
15.) Post Disaster Recovery Plan					
16.) Post Disaster Recovery Ordinance					
17.) Real Estate Disclosure requirement					

E.2) Administrative and Technical Capability

ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Y or N)	Department/Agency/Position
1.) Planner(s) or Engineer(s) with knowledge of land development and land management practices		
2.) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure		
3.) Planners or engineers with an understanding of natural hazards		
4.) Floodplain Manager		
5.) Surveyor(s)		
6.) Personnel skilled or trained in “GIS” applications		
7.) Scientist familiar with natural hazards in Humboldt County		
8.) Emergency Manager		
9.) Grant Writer(s)		
10.) Staff with expertise or training in benefit/cost analysis		

E.3) Fiscal Capability

FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use (Yes/No/Don't know)
1.) Community Development Block Grants (CDBG)	
2.) Capital Improvements Project Funding	
3.) Authority to Levy Taxes for specific Purposes	
4.) User fees for water, sewer, gas or electric service	
5.) Impact fees for homebuyers or developers of new development/homes	
6.) Incur debt through general obligation bonds	
7.) Incur debt through special tax bonds	
8.) Incur debt through private activity bonds	
9.) Withhold public expenditures in hazard-prone areas	
10.) State sponsored grant programs	
11.) Other	

E.4 Community Mitigation Related Classifications

COMMUNITY CLASSIFICATIONS		
Program	Classification	Date Classified
Community Rating System (CRS)		
Building Code Effectiveness Grading Schedule (BCEGS)		
Public Protection		
Storm Ready		
Firewise		
Tsunami Ready		

F.) HAZARD MITIGATION ACTION PLAN

HAZARD MITIGATION ACTION PLAN MATRIX

Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

G.) PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)

Explanation of priorities

- **High Priority**—A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an ongoing project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority**—A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority**—Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

H.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

I.) ADDITIONAL COMMENTS

PARTNER CITY/COUNTY TEMPLATE

Instructions for completion

The following are instructions for the completion of the Partner City/County annex template that will need to be completed for each partner City and the County in the Humboldt County Natural Hazards Mitigation plan. The purpose of these instructions is to guide each Partner in the preparation of the information required for Disaster Mitigation Act (DMA) compliance. Each Partner should try to complete as much of the information as possible. Technical assistance will be available to each planning partner in the form of a workshop and/or a technical assistance visit with each partner depending on funding availability. Each planning partner should have completed the following prior to completion of this template:

Reviewed the draft Risk Assessment for Humboldt County.

Reviewed the Results from the Hazard Mitigation Plan Questionnaire.

Review of the catalog of mitigation alternatives.

Any questions on what is required or how to complete this document should be directed to:

Rob Flaner, CFM

Tetra Tech Inc.

90 South Blackwood Ave.

Eagle, ID 83616

(208) 939-4391

e-mail: rflaner@msn.com

This template has been set up as a word document in a format that will be used in the final plan. Each Partner is asked to use this template with no other derivations or versions so that a uniform product will be completed for each partner. Please provide both a hard copy and digital copy of the completed template to Tetra Tech upon completion. If a Partner does not have "Word" capability, prepare the document in whatever format you do have and the planning team will convert it to the Word format.

Instructions:

Title Block: In the Title box, type in the complete official name of your Jurisdiction (i.e., The City of Arcata, The City of Eureka, Humboldt County, etc.). At this time, also change the name in the "header" box to coincide with this title.

A.) Hazard Mitigation Plan Point of Contact

Please provide the name, title, mailing address, telephone number, fax number and e-mail address for the primary point of contact for your jurisdiction for the elements that pertain to your jurisdiction for this plan. This person would be that person responsible for monitoring, evaluating and updating the annex for your jurisdiction as outlined in this plan. This person should also be the principle liaison between your jurisdiction and the Steering Committee overseeing the development of this plan.

In addition, designate an alternate point of contact. This would be the person to contact should the primary point of contact is not available, or no longer employed by the community.

B.) City/County Profile

Complete the population box. State the most current population figure for your community based on an official means of tracking (i.e.: US census of California Office of Financial Management). Indicate when this population was, "as of". In this section please provide a profile of your community. Provide information specific to your community that was not provided in the risk assessment such as:

- Location within Humboldt County
- Date of Incorporation
- Brief history
- Geographical area
- Climate
- Growth Rate
- Development trends
- Governing body format

C.) Natural Hazard Event History

List in chronological order (most recent first) any natural hazard event that has occurred since 1975 that caused damage to your Community. Include the date of the event and the ***estimated*** dollar amount of damage it caused. Please refer to the summary of natural hazard events within Humboldt County included in the Draft Risk Assessment. Sources of damage information could include:

- Preliminary damage estimates (PDA's) filed by your community to County and California OES.
- Insurance claims data.
- Newspaper archives.
- Other plans/documents that deal with emergency management (i.e.: safety elements, emergency response plans)

Also under this section, indicate whether or not your community has any FEMA identified Repetitive Flood Loss properties. A repetitive Loss property is any property that has had 2 or more flood insurance claims paid in excess of $1000 in any rolling 10-year period since 1978. If you have identified RL properties, indicate the number (your technical assistance provider will be able to help you confirm this information). If you have none, indicate "none" in the box. Next, indicate the number (if any) of your Repetitive Loss structures have been mitigated. Mitigated for this exercise means, flood protection has been provided to the structure from the source of flood damage potential.

D.) Natural Hazard Risk/Vulnerability Risk Ranking

Under this step, a ranking of risk will be performed as it pertains to your community. A county –wide risk ranking has been performed for the entire planning areas and is contained in the risk assessment chapter of volume 1 of the plan. However, each community will have differing degrees of risk exposure and vulnerability aside from the whole, and therefore will need to rank the degree of risk to each hazard as it pertains to them. This will allow for the appropriate selection and prioritization of initiatives that will reduce the highest levels of risk for each community. The exact same methodology that will be applied to the county-wide risk ranking will be applied to each planning partner. This will assure consistency in the overall ranking of risk.

This risk ranking exercise serves two purposes: To describe the probability of occurrence for each hazard and to describe the impact each would have on the people, property and economy of Humboldt County. Estimates of risk for Humboldt County were developed using methodologies promoted by FEMA's hazard mitigation planning guidance and generated by FEMA's HAZUS-MH risk assessment tool.

This risk ranking exercise works under the following parameters:

- Impacts are evaluated with an emphasis on property. The primary purpose for this is that FEMA mitigation programs focus on loss reduction to improved property, critical facilities and critical infrastructure. This is not to say that FEMA is not concerned about life safety issues, because they are. However, Stafford Act mitigation programs focus on property because it is generally accepted that life safety initiatives are addressed in the preparedness and response components of FEMA and DHS Emergency Management programs.
- To be able to quantitatively rank risk, you must be able to generate measurable components to quantify. For improved property, this is fairly easy in that you apply an estimated damage function, to a determined value of property and you get a loss estimate. Since buildings don't voluntarily move, you can inventory buildings at risk based on their location to determine exposure. These approaches are measurable, quantifiable, and regionally consistent. The same can not be said for less tangible components such as people or economy.
- The reason we want to attempt to quantitatively rank risk is create a consistent platform that can be justified for all the partners in this planning effort. A more subjective approach eliminates consistency. Regional consistency is a primary objective for multi-jurisdictional planning effort. By having quantifiable results that have been generated using substantiated data, you are better able to justify initiatives and their priorities.

Probability of Occurrence

The probability of occurrence of a hazard event provides an estimation of how often the event occurs. This is generally based on the past hazard events that have occurred in the area and the forecast of the event occurring in the future. This is done by assigning a probability factor, which is based on yearly values of occurrence. The numerical value assigned to each category will be used to determine the risk rating of each hazard. In table 1, Table 1 lists the probability of occurrence for each hazard as it pertains to your community. This would be the occurrence of an event that caused property damage within your jurisdiction. These values were assigned by high, medium and low occurrence:

- High—Hazard event is likely to occur within 25 years **(Numerical value =3)**
- Medium—Hazard event is likely to occur within 100 years **(Numerical value =2)**
- Low—Hazard event is not likely to occur within 100 years **(Numerical value =1)**

- No exposure—If there is no exposure to a hazard, there is no probability of occurrence **(Numerical value = 0)**

For example: If you community has experienced 2 damaging floods in the last 25 years, the probability of occurrence is high for flooding and scores a 3 under this category. If your community has experienced no damages from landslides in the last 100 years, your probability of occurrence for landslide is low, and scores a 1 under this category.

TABLE 1.
PROBABILITY OF HAZARDS

Hazard Event	Probability	Numerical Value
Drought	High	
Earthquake	High	
Fish Losses	Low	
Flood	High	
Landslide	Medium	
Severe Weather	High	
Tsunami	Medium	
Wild Fire	High	

IMPACT

The impact of each hazard was divided into three categories: impacts on people, property or the economy. Tables 2, 3 and 4 summarize the identified impacts for each hazard. These categories were also assigned weighted values. Impact on people was given a weighted factor of 3, impact on property was given a weight of 2 and impact on the economy was given a weighted factor of 1.

For impact of people, the values were assigned based on the percentage of the total population of your jurisdiction that may be directly impacted by a hazard event. For the purposes of this exercise, "impacted means exposed. We are not attempting to quantify the impact for this step. If a person is exposed to a hazard because they live in a hazard zone, they will be impacted when that event occurs. The degree of that impact will vary and is not measurable. Therefore, we will focus solely on exposure for this step. For example, if 50% or more of your population is exposed to a hazard, then the impact on people for that hazard is high. If 25% to 49% of your population is exposed to a hazard, then the impact is considered to be medium, and the impact is low if 25% or less of the population is exposed to the hazard. No impact would mean that there is no exposure to a hazard.

For impact on property, the values represent the value of the property exposed to a hazard in comparison to the total assessed value of property within your community. For the purposes of this exercise, a building has been defined as: "an improvement to real property that has 4 walls, a roof, and a replacement cost value of $1000 or more. For example, if the exposure of property is 50% or more of the total assessed property value for your community, the impact on property is high. If the vulnerability of property is between 15% and 49% of the total assessed property value for your community, the impact on property is medium, and if the vulnerability is 14% or less of the total assessed property value for your community, the impact on property is low. No impact would mean that that there is no exposure to the hazard or that the impact of the hazard typically will not cause damage to property. For example, droughts do not damage buildings; therefore they have no impact on buildings.

For the economic impact, the values represent estimates of what the loss would be from a major event of each hazard. Once again, this is a comparison with the total assessed property value for your community. It should be noted that for some of the hazards such as wildfire, landslide and severe weather, vulnerability was considered to be the same as exposure due to the lack of loss estimation tools specific to those hazards. Loss estimations were generated for the earthquake, flood and tsunami hazards using the HAZUS-MH, loss estimation tool. For example, if the loss potential of property is 25% or more of the total assessed property value for your community, the impact on property is high. If the loss potential of property is between 10% and 24% of the total assessed property value for your community, the impact on property is medium, and if the loss potential is 9% or less of the total assessed property value for your community, the impact on property is low. No impact would mean that there is no exposure to the hazard, or that that the occurrence of the hazard would not cause measurable damages to improved property.

A numerical value has been assigned for impact based on the following definitions:

- High Impact (numerical value = 3)
- Medium Impact (numerical value = 2)
- Low Impact (numerical value = 1)
- No impact (numerical value = 0)

TABLE 2.
HAZARD IMPACT ON PEOPLE

Hazard Event	Impact	Numerical Value	Multiplied by weighted value of 3
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

TABLE 3.
HAZARD IMPACT ON PROPERTY

Hazard Event	Impact	Numerical Value	Multiplied by weighted value of 2
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

TABLE 4.
HAZARD IMPACT ON ECONOMY

Hazard Event	Impact	Numerical Value	Multiplied by weighted value of 1
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

RISK RANKING

The risk ranking for each hazard is determined by multiplying the assigned numerical value for probability by the sum of the weighted numerical values of impact on people; property and economy (see Table 5). The following equation shows the risk rating calculation:

Risk Rating = Probability X Impact (people + property + economy)

TABLE 5.
RISK RATING

Hazard Event	Probability	Impact	Total= (Probability x Impact)
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

Once Table 5 has been completed above, complete the table under section D of your template. Please be advised that it is not the intent of this exercise to eliminate subjectivity based on your knowledge of the history of natural hazard events within your jurisdiction. If this risk ranking exercise generates results other that what you know based on substantiated data and documentation, you may alter this ranking based on this knowledge. If this is the case, please note this fact in the comments at the end of the template. Remember, one of the purposes of this exercise is to support your selection and prioritization of initiatives in your plan. If you identify an initiative with a high priority that mitigates the risk of a hazard you have ranked low, that project will not be competitive in the grant arena.

E.) Capability Assessment

1.) Legal and regulatory capability

Describe the legal authorities available to your community and/or enabling legislation at the state level affecting all types of planning and land management tools that can support hazard mitigation initiatives. Complete the table as indicated. Which of these regulatory tools does your community have available. If you do not have the regulatory tool as described, indicate as such. This may help you identify an initiative.

For the purposes of this section, "prohibitions" and "higher jurisdictional authority" are defined as follows:

Prohibitions: Are there any regulations or laws that may prohibit an initiative you have selected. Examples would be: floodway regulations, Endangered Species Act or Clean Water act regulations, etc.

Higher Regulatory Authority: Are there regulations that may impact your initiative that are enforced or administered by another agency. For example; a state agency, special purpose district.

Under the comments section, please site the code or ordinance # and its data of adoption.

2.) Administrative and Technical Capability

This section requires you to take inventory of the staff/personnel resources available to your community to help your community in hazard mitigation planning and implementation of specific mitigation actions. This information can be utilized in the preparation of the mitigation strategy for your community

3.) Financial Resources

Identify what financial resources are available to your community to aid you in the implementation of possible mitigation initiatives. The Hazard Mitigation Grant Program and the Pre-disaster mitigation grant program are not listed here since it is assumed that the grant programs will be pursued since this plan is a prerequisite for these programs. "Accessible" means this is a resource that is accessible to your community, or there are limitations or prerequisites that may hinder your eligibility for this resource.

4.) Community Mitigation Related Classifications

The classification listed in table E.4 are related to your community's effectiveness in providing services that may impact your vulnerability to the natural hazards identified. If your community does not participate in a program, indicate N/A in the appropriate field. Access to the various classifications will be provided through technical assistance.

F.) Hazard Mitigation Action Plan:

Complete the table to include those initiatives your community would like to pursue with this plan. Some important points to remember when completing this section:

Know what is, and is not grant eligible under the Hazard Mitigation Grant Program (HMGP) and Pre-disaster Mitigation Grant Program (PDM). (*See attachment "B"*). It is key to remember, that listing HMGP or PDM as a potential funding source for an ineligible project will be a huge red flag once this plan goes through review.

Know the overall goals, objectives and guiding principles of the Humboldt County Natural Hazard Mitigation Plan.

Identify projects where the benefits will exceed the costs. (see section G).

Include any project that your community has committed to pursuing regardless of grant eligibility.

Refer to the ***Mitigation Catalog*** for mitigation options you might want to consider that are hazard specific and consistent with the goals and objectives of the plan.

A lot of detail is not needed in the description of the initiative. This will come when you apply for the project grant. Provide enough information to identify the project's scope and impact. For example:

Address NFIP identified Repetitive Loss properties. Through targeted mitigation, acquire, relocate or retrofit the 5 repetitive loss structures within Anytown as funding opportunities become available.

Non-structural, seismic retrofit of Arcata City Hall.

Floodplain Property acquisition in Freylands subdivision.

Assess and enhance the County flood warning capability by joining the NOAA "Storm Ready" program.

Also, if you have projects that are not HMGP or PDM grant eligible, but do mitigate part or all of the hazard and may be eligible for other grant programs sponsored by other agencies, include them in this section. Also, a hazard specific project ***is not*** required for each hazard you have ranked in order to be eligible for an HMGP project grant after a "declared" disaster. In other words, if you have not identified an earthquake related project, and an earthquake occurs that causes damage within your community, you are not discounted from HMGP project grant eligibility. The key here is to identify at least 1 initiative for your highest ranked risk.

Identify the hazard(s) the initiative will mitigate and illustrate who will be the lead in administering the project. This will most likely be your governing board. Identify funding source(s) for project. If it is a grant, include the funding source(s) for the cost share. Refer to your capability assessment to identify possible sources of funding. Indicate the time line as "short term" (1 to 5 years) or "long term" 5 years or greater. Identify by number the Humboldt County Natural Hazard Mitigation plan objective(s) the project will meet. There is no need to list the goals since we made sure that our objectives would meet all goals through the selection process. These have been provided in the Steering Committee meeting minutes that were forwarded to you in the past. Technical assistance will be available to your community in completing this section during the technical assistance visit.

G.) Prioritization of Mitigation Initiatives

Complete the information in table G. The purpose of this exercise is to prioritize your initiatives in a matter such that meets the requirements of section 201.6 of 44CFR. A brief description of each category is a s follows:

- Initiative #: indicate the number of the initiative from Table F.
- # of Objectives met: How many objectives will the initiative meet?
- Benefits: Enter high, medium or low as defined below.
- Costs: Enter high medium or low as defined below. If you know the estimated cost of a project because it is part of an existing/ongoing program, indicate the amount.
- Do benefits exceed the cost ?: Enter yes or no. This is an anecdotal assessment. For example, a high benefit over a medium cost would = yes.
- Is the project grant eligible?: Refer to attachment A.
- Can Project be funded under existing program budgets?: Yes or no. in other words, is this initiative currently budgeted for? Or would it require a new budget authorization or funding from another source such as grants?
- Priority: List the initiative priority as high, medium or low as defined below.

Benefit/Cost Review

This is not intended to be a detailed benefit/cost analysis that is required of HMGP/PDM project grants. This is a "review" to determine that the initiatives you have identified meet one of the primary objectives of the Disaster Mitigation Act. What this exercise hopes to achieve is to identify projects where the probable benefits ***will not*** exceed the probable costs of this project. When performing an anecdotal B/C review, use the following parameters to define the benefits and costs of a proposed project as high, medium or low.

COSTS

High: Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Medium: Could budget for under existing work-plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

Low: Possible to fund under existing budget. Project is part of, or can be part of an existing ongoing program.

BENEFITS

High: Project will have an immediate impact on the reduction of risk exposure to life and property.

Medium: Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.

Low: Long term benefits of the project are difficult to quantify in the short term.

In using this approach, projects that result in positive benefits versus costs categorical ratios (i.e., high over high, high over medium, medium over low, etc.), will be considered cost beneficial and should be prioritized accordingly.

Prioritize you projects as "high," "medium" or "low" priorities as defined below.

Remember, it is not the intent of this exercise to be overly technical. It is a "review" exercise meant to provide additional information in identifying and prioritizing mitigation initiatives.

Explanation of priorities

- **High Priority**: A project that meets multiple plan objectives, benefits exceeds cost, has funding secured under existing programs or authorizations, or is grant eligible, and can be completed in 1 to 5 years (i.e., short term project) once project is funded.
- **Medium Priority**: A project that meets at least 1 plan objective, benefits exceeds costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.
- **Low Priority**: Any project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and time line for completion is considered long term (5 to 10 years).

H.) Future needs to better understand risk/vulnerability

In this section, identify any future studies, analyses, reports, or surveys your community needs to better understand its vulnerability to identified or currently unidentified risks. These could be needs based on federal or state agency mandates such as EPA's Bio-terrorism assessment requirement for Water District.

I.) Additional comments:

Use this section to add any additional information pertinent to hazard mitigation and your district not covered in this template.

Attachment "A"

Hazard Mitigation Grant Program (HMGP)
Pre-Disaster Mitigation Grant Program (PDM)

FACT SHEET

I. HAZARD MITIGATION GRANT PROGRAM (HMGP)

What is the Hazard Mitigation Grant Program?

Authorized under Section 404 of the Stafford Act, the Hazard Mitigation Grant Program (HMGP) administered by the Federal Emergency Management Agency (FEMA) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

Who is eligible to apply?

Hazard Mitigation Grant Program funding is only available to applicants that reside within a Presidentially declared disaster area. Eligible applicants are

- State and local governments
- Indian tribes or other tribal organizations
- Certain non-profit organizations

What types of projects can be funded by the HMGP?

HMGP funds may be used to fund projects that will reduce or eliminate the losses from future disasters. Projects must provide a long-term solution to a problem, for example, elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood. In addition, a project's potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. Examples of projects include, but are not limited to:

- Acquisition of real property for willing sellers and demolition or relocation of buildings to convert the property to open space use
- Retrofitting structures and facilities to minimize damages from high winds, earthquake, flood, wildfire, or other natural hazards
- Elevation of flood prone structures
- Development and initial implementation of vegetative management programs
- Minor flood control projects that do not duplicate the flood prevention activities of other Federal agencies
- Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities
- Post-disaster building code related activities that support building code officials during the reconstruction process

What are the minimum project criteria?

There are five issues you must consider when determining the eligibility of a proposed project.

- Does your project conform to your State's Hazard Mitigation Plan?
- Does your project provide a beneficial impact on the disaster area? i.e. the State
- Does your application meet the environmental requirements?
- Does your project solve a problem independently?
- Is your project cost-effective?

II. PRE-DISASTER MITIGATION GRANT PROGRAM (PDM)

What is the Pre-Disaster Mitigation competitive grant program?

The Pre-Disaster Mitigation (PDM) competitive grant program provides funds to State, Tribal, and local governments for pre-disaster mitigation planning and projects primarily addressing natural hazards. Cost-Effective pre-disaster mitigation activities reduce risk to life and property from natural hazard events before a natural disaster strikes, thus reducing overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. Funds will be awarded on a competitive basis to successful Applicants for mitigation planning and project applications intended to make local governments more resistant to the pacts of future natural disasters.

Who can apply for a PDM competitive grant?

Eligible PDM competitive grant Applicants include State and Territorial emergency management agencies, or a similar office of the State, District of Columbia, U.S. Virgin Islands, Commonwealth of Puerto Rico, Guam, American Samoa, Commonwealth of the Northern Mariana Islands, and Federally-recognized Indian Tribal governments.

Eligible Sub-applicants include State agencies; Federally-recognized Indian Tribal governments; and local governments (including State recognized Indian Tribal governments and Alaska native villages).

Applicants can apply for PDM competitive grant funds directly to FEMA, while Sub-applicants must apply for funds through an eligible Applicant.

Private non-profit organizations are not eligible to apply for PDM but may ask the appropriate local government to submit an application for the proposed activity on their behalf.

What are eligible PDM projects?

Multi-hazard mitigation projects must primarily focus on natural hazards but also may address hazards caused by non-natural forces. **Funding is restricted to a maximum of $3M Federal share per project.** The following are eligible mitigation projects:

Acquisition or relocation of hazard-prone property for conversion to open space in perpetuity;

Structural and non-structural retrofitting of existing buildings and facilities (including designs and feasibility studies when included as part of the construction project) for wildfire, seismic, wind or flood hazards (e.g., elevation, flood proofing, storm shutters, hurricane clips);

Minor structural hazard control or protection projects that may include vegetation management, Stormwater management (e.g., culverts, floodgates, retention basins), or shoreline/landslide stabilization; and,

Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities and that do not constitute a section of a larger flood control system.

Mitigation Project Requirements

Projects should be technically feasible (see Section XII. Engineering Feasibility) and ready to implement. Engineering designs for projects must be included in the application to allow FEMA to assess the effectiveness and feasibility of the proposed project. The project cost estimate should complement the engineering design, including all anticipated costs. FEMA has several formats that it uses in cost estimating for projects. Additionally, other Federal agencies' approaches to project cost estimating can be used as long as the method provides for a complete and accurate estimate. FEMA can provide technical assistance on engineering documentation and cost estimation (see Section XIII.D. Engineering Feasibility).

Mitigation projects also must meet the following criteria:

1. Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster, consistent with 44 CFR 206.434(c)(5) and related guidance, and have a Benefit-Cost Analysis that results in a benefit-cost ratio of 1.0 or greater (see Section X. Benefit-Cost Analysis). **Mitigation projects with a benefit-cost ratio less than 1.0 will not be considered for the PDM competitive grant program**;

2. Be in conformance with the current FEMA-approved State hazard mitigation plan;

3. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed, consistent with 44 CFR 206.434(b)(4);

4. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR Part 10, consistent with 44 CFR 206.434(c)(3);

5. Not duplicate benefits available from another source for the same purpose, including assistance that another Federal agency or program has the primary authority to provide (see Section VII.C. Duplication of Benefits and Programs);

6. Be located in a community that is participating in the NFIP if they have been identified through the NFIP as having a Special Flood Hazard Area (a FHBM or FIRM has been issued). In addition, the community must not be on probation, suspended or withdrawn from the NFIP; and,

7. Meet the requirements of Federal, State, and local laws.

What are examples of Ineligible PDM Projects?

The following mitigation projects are ***not*** eligible for the PDM program:

Major flood control projects such as dikes, levees, floodwalls, seawalls, groins, jetties, dams, waterway channelization, beach nourishment or re-nourishment;

Warning systems;

Engineering designs that are not integral to a proposed project;

Feasibility studies that are not integral to a proposed project;

Drainage studies that are not integral to a proposed project;

Generators that are not integral to a proposed project;

Phased or partial projects;

Flood studies or flood mapping; and,

Response and communication equipment.

Partner Special Purpose District Template

(Insert District name)

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	**Alternate Point of Contact**
Name: Title: Mailing Address: Telephone #: E-mail Address	Name: Title: Mailing Address: Telephone #: E-mail Address

B.) DISTRICT PROFILE

(Insert text profile of District as described in instructions)

1) **Land Area Served**
2) **Population Served**
3) **Land Area Owned**
4) **List of Critical Infrastructure/Equipment**
5) **Value of Critical Infrastructure/Equipment**
6) **List of Critical Facilities (owned by District)**
7) **Value of Critical Facilities**
8) **Value of Area Served**

C.) OUTLINE OF AREA SERVED

See map in Chapter 1.

D.) CURRENT AND ANTICIPATED SERVICE TRENDS

E.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE DISTRICT SERVICE AREA

NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment

F.) NATURAL HAZARD RISK RANKING

NATURAL HAZARD RISK RANKING			
Rank #	Hazard type	Estimate of potential dollar losses to District-owned facilities exposed to the hazard	Probability of Occurrence[a]
1			
2			
3			
4			
5			

a. High - Hazard event is likely to occur within 25 years; Medium – Hazard event is likely to occur within 100 years; Low – Hazard event in not likely to occur within 100 years

G.) EXISTING APPLICABLE HAZARD MITIGATION CODES, ORDINANCES OR POLICIES

H.) EXISTING APPLICABLE NATURAL HAZARDS MITIGATION ASSOCIATED PLANS AND/OR DOCUMENTS

I.) DISTRICT MITIGATION RELATED CLASSIFICATIONS

DISTRICT CLASSIFICATIONS		
Program	Classification	Date Classified
Public Protection		
Storm Ready		
Firewise		
Tsunami Ready		

J.) HAZARD MITIGATION ACTION PLAN

HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline[a]

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater, "OG" = Ongoing program

K.) PRIORITIZATION OF MITIGATION INITIATIVES

PRIORITIZATION OF MITIGATION INITIATIVES							
Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)

Explanation of priorities

- **High Priority**: A project that meets multiple plan objectives, benefits exceeds cost, has funding secured under existing programs or authorizations, or is grant eligible, and can be completed in 1 to 5 years (i.e., short term project) once project is funded.
- **Medium Priority**: A project that meets at least 1 plan objective, benefits exceeds costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.
- **Low Priority**: Any project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and time line for completion is considered long term (5 to 10 years).

L.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

M.) ADDITIONAL COMMENTS

SPECIAL PURPOSE DISTRICT TEMPLATE

Instructions for completion

The following are instructions for the completion of the Special Purpose District annex template that will need to be completed for each partner City and the County in the Humboldt County Natural Hazards Mitigation plan. The purpose of these instructions is to guide each Partner in the preparation of the information required for Disaster Mitigation Act (DMA) compliance. Each Partner should try to complete as much of the information as possible. Technical assistance will be available to each planning partner in the form of a workshop and/or a technical assistance visit with each partner depending on funding availability. Each planning partner should have completed the following prior to completion of this template:

Reviewed the draft Risk Assessment for Humboldt County.

Reviewed the Results from the Hazard Mitigation Plan Questionnaire.

Review of the catalog of mitigation alternatives.

Any questions on what is required or how to complete this document should be directed to:

Rob Flaner, CFM

Tetra Tech Inc.

90 South Blackwood Ave.

Eagle, ID 83616

(208) 939-4391

e-mail: rflaner@msn.com

This template has been set up as a word document in a format that will be used in the final plan. Each Partner is asked to use this template with no other derivations or versions so that a uniform product will be completed for each partner. Please provide both a hard copy and digital copy of the completed template to Tetra Tech upon completion. If a Partner does not have "Word" capability, prepare the document in whatever format you do have and the planning team will convert it to the Word format.

Instructions:

Title Block: In the Title box, type in the complete official name of your Jurisdiction (i.e., Humboldt County Fire District #1, Willow Creek Community Services District, Humboldt Bay Municipal Water District, etc.). At this time, also change the name in the "header" box to coincide with this title.

A.) Hazard Mitigation Plan Point of Contact

Please provide the name, title, mailing address, telephone number, fax number and e-mail address for the primary point of contact for your district for this plan. This person would be that person responsible for monitoring, evaluating and updating the annex for your District as outlined in this plan. This person should also be the principle liaison between your jurisdiction and the Steering Committee overseeing the development of this plan. In addition, designate an alternate point of contact. This would be the person to contact should the primary point of contact is not available, or no longer employed by the District.

B.) District Profile:

Please provide a brief summary to profile your district. Include purpose of the district, date of inception, organization, number of employees, mode of operation (i.e., how operations are funded), who/what is the governing body of the district and who has adoptive authority. Also include who are your customers (if applicable, include #'s of users or subscribers). Include a geographical description of your service area.

B.1) Land Area served/owned:

In these 2 boxes enter the total acreage or square miles of all land owned by your District, and the area served by your District.

B.2) Population Served

In this section list the estimated population that your district provides services to. If you do not know this number directly, you can create estimate (i.e.; number of service connections times the average household size for Humboldt County based on Census data)

B.2) List of Critical Infrastructure/equipment:

List all infrastructure/equipment that is critical to your Districts operations and/or you have identified to be housed or located in a natural hazard risk zone. Examples are as follows:

Fire Districts: Apparatus, equipment (note: we do not need a detailed inventory of each engine, truck and there contents. A simple statement like 5 Engines, 2 ladders, and their contents will suffice) that is housed in a facility located in an identified natural hazard risk zone. This is the equipment that is essential for you to deliver services to this area should a natural hazard occur. Do not consider reserve equipment.

Dike/Flood Control Districts: Miles of levees, pump stations, R/D ponds, tide gates, miles of ditches, etc., within identified natural hazard risk zones.

Water Districts: Miles of pipe (does not need to be broken down into size and type), pump stations, treatment facilities and most importantly dams and reservoirs, within identified natural hazard risk zones.

Public Utility Districts: Miles of power line (above ground and under ground), generators, power generating sub-stations, miles of pipeline, etc., within identified natural hazard risk zones.

School Districts: Include anything (besides school buildings) that is critical for you to operate (i.e., school buses if you own a fleet of school buses) within identified natural hazard risk zones.

B.3) Value of Critical Infrastructure/Equipment:

This should be a single dollar amount representing the total "replacement cost" value of the infrastructure/equipment listed in B.2.

B.4) List of Critical Facilities:

This is a list of buildings and other critical facilities that are critical to your districts operations and/or you have identified to be located in a risk zone.

B.5 Value of Critical Facilities:

This is the replacement cost value of the buildings/facilities listed in B.4.

B.6 Value of Area Served:

What is the *approximate* County assessed value of your service area. Basically this would be the property value of your constituency. If you do not have this information, the County should be able to provide a number using their assessor's database.

C.) Outline of your service area:

The County will attempt to create maps that will illustrate the service area boundary for all of the special District partners. This most likely will be multiple maps segregated based on district type (i.e., fire districts, water districts, school districts, etc.). These maps will be provided at the workshop. Please confirm that the boundaries reflected on the maps are current and accurate for your district. In the box for this section, include reference to the map that includes your district's boundaries.

D.) Current and Anticipated Service Trends:

A brief description on how your Districts services are projected to expand in the foreseeable future. Also include in this section reference to any identified capital improvement needs identified to meet this projected expansion. Include in the description the probable cause for the expanded services. For example:

Portions of the district have experienced a 13 percent growth over the last 5 years and land use regulations based on GMA project an increase in light commercial and residential land uses within the district service area.

(For a Fire District) *This increase in density of land uses will represent an increase in population and thus a projected increase in call volume. Our District is experiencing an average annual increase in call volume of 13 percent.*

(For Dike/Drainage/Flood Control District) *This increase in density of land use will result in an increase in impermeable surface within our service area and thus increase the demand on control facilities.*

(For a Water District) *This increase in density of land use will represent and increase in the number of housing units within the service area and thus represent an expansion of the districts delivery network.*

E.) Natural Hazard Event History:

List in chronological order (most recent first) any natural hazard event that has occurred since 1975 that caused damage to your district and/or service area. Include the date of the event and the estimated dollar amount of damage it caused. Please refer to the summary of natural hazard events within Humboldt County included in the risk assessment.

F.) Natural Hazard Risk/Vulnerability Risk Ranking:

Under this step, a ranking of risk will be performed as it pertains to your District. A county –wide risk ranking has been performed for the entire planning area and is contained in the risk assessment chapter of volume 1 of the plan. However, each planning partner will have differing degrees of risk exposure and vulnerability aside from the whole, and therefore will need to rank the degree of risk to each hazard as it pertains to them. This will allow for the appropriate selection and prioritization of initiatives that will reduce the highest levels of risk for each planning partner. The exact same methodology that will be applied to the county-wide risk ranking will be applied to each planning partner. This will assure consistency in the overall ranking of risk.

This risk ranking exercise serves two purposes: To describe the probability of occurrence for each hazard and to describe the impact each would have on the people, property and operability of the special purpose districts within Humboldt County. Estimates of risk for Humboldt County were developed using methodologies promoted by FEMA's hazard mitigation planning guidance and generated by FEMA's HAZUS-MH risk assessment tool.

PROBABILITY OF OCCURRENCE

The probability of occurrence of a hazard event provides an estimation of how often the event occurs. This is generally based on the past hazard events that have occurred in the area and the forecast of the event occurring in the future. This is done by assigning a probability factor, which is based on yearly values of occurrence. The numerical value assigned to each category will be used to determine the risk rating of each hazard. Table 1 lists the probability of occurrence for each hazard as it pertains to your district. This would be the occurrence of an event that caused property damage within your jurisdiction. These values were assigned by high, medium and low occurrence:

- High—Hazard event is likely to occur within 25 years **(Numerical value 3)**
- Medium—Hazard event is likely to occur within 100 years **(Numerical value 2)**
- Low—Hazard event is not likely to occur within 100 years **(Numerical value 1)**

For example: If your service area has experienced 2 damaging floods in the last 25 years, the probability of occurrence is high for flooding and scores a 3 under this category. If your service area has experienced no damages from landslides in the last 100 years, your probability of occurrence for landslide is low, and scores a 1 under this category.

TABLE 1.
PROBABILITY OF HAZARDS

Hazard Event	Probability	Numerical Value
Drought		
Earthquake		
Fish Losses		
Flood		
Landslide		
Severe Weather		
Tsunami		
Wild Fire		

IMPACT

The impact of each hazard was divided into three categories: impacts on people, property or the operability of your District. Tables 2, 3 and 4 summarize the identified impacts for each hazard. These categories were also assigned weighted values. Impact on people was given a weighted factor of 3, impact on property was given a weight of 2 and impact on operability was given a weighted factor of 1.

For impact of people, the values were assigned based on the percentage of the total population of your service area that may be directly impacted by a hazard event. For example, if 50% or more of your service area population is exposed to a hazard, then the impact on people for that hazard is high. If 25% to 49% of your service area population is exposed to a hazard, then the impact is considered to be medium, and the impact is low if 25% or less of the service area population is exposed to the hazard.

For impact on property, the values represent the value of your buildings, equipment and infrastructure (critical facilities) that is exposed to a hazard in comparison to the total assessed value of that property. This component is strictly looking at exposure, and not taking into account vulnerability. The assumption here is that being exposed will result in a degree of functional downtime. For example, if the exposure of critical facilities is 50% or more of the total assessed property value for all of your facilities, the impact on property is high (i.e.: 50% of your buildings lie within a designated floodplain). If the exposure of critical facilities is between 25% and 49% of the total assessed value all your facilities, the impact on property is medium, and if the exposure is 24% or less of the total assessed value of all your facilities, the impact on property is low.

For the operability impact, the values represent estimates of how long it will take your district to become 100% operable after the occurrence of an event for which you have exposure. The assumption here is that facilities owned and operated by your district have been defined and identified as critical facilities by the Steering Committee. The estimated functional downtime for critical facilities has been estimated for most hazards within the planning area. This impact looks at the number of days it may take to re-establish

100% operability after an event. Note, if your district has no exposure to a hazard, then there would be no impact on operability. The flowing thresholds have been established to rank the impact on operability:

- High = functional downtime of 365 days or more.
- Medium = Functional downtime of 180 to 364 days.
- Low = Functional downtime of 180 days or less

You will need to consult the risk assessment for this task. The critical facilities exposed to each hazard have been identified, and the impacts on operability have been estimated for most of the hazards within the planning area. ***(Note: if the functional downtime component has not been provided for a hazard in the risk assessment, consider the impact on operability of that hazard to be low).***

A numerical value has been assigned for impact based on the following definitions:

- High Impact (numerical value = 3)
- Medium Impact (numerical value = 2)
- Low Impact (Numerical value = 1)

TABLE 2.
HAZARD IMPACT ON PEOPLE

Hazard Event	Impact	Numerical Value	Multiplied by weighted value of 3
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

TABLE 3.
HAZARD IMPACT ON PROPERTY

Hazard Event	Impact	Numerical Value	Multiplied by weighted value of 2
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

TABLE 4.
HAZARD IMPACT ON OPERABILITY

Hazard Event	Impact	Numerical Value	Multiplied by weighted value of 1
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

RISK RANKING

The risk ranking for each hazard is determined by multiplying the assigned numerical value for probability by the sum of the weighted numerical values of impact on people; property and operability (see Table 5). The following equation shows the risk rating calculation:

Risk Rating = Probability x Impact (people + property + economy)

TABLE 5.
RISK RATING

Hazard Event	Probability	Impact	Total= (Probability x Impact)
Drought			
Earthquake			
Fish Losses			
Flood			
Landslide			
Severe Weather			
Tsunami			
Wild Fire			

Once table 5 has been completed above, complete the table under section F of your template. Please be advised that it is not the intent of this exercise to eliminate subjectivity based on your knowledge of the history of natural hazard events within your jurisdiction. If this risk ranking exercise generates results other that what you know based on substantiated data and documentation, you may alter this ranking based on this knowledge. If this is the case, please note this fact in the comments at the end of the template. Remember, one of the purposes of this exercise is to support your selection and prioritization of initiatives in your plan. If you identify an initiative with a high priority that mitigates the risk of a hazard you have ranked low, that project will not be competitive in the grant arena.

G.) Existing Applicable Hazard Mitigation Laws, Ordinances, and Codes

List any federal, state, local or district laws, ordinances, codes and policies that govern your district that include elements addressing hazard mitigation. Describe how these laws may support or conflict with the mitigation strategies of this plan. None applicable is a possible answer for this section.

H.) Existing Applicable Hazard Mitigation associated plans/studies/documents

List any other plans, studies or other documents that address hazard mitigation issues for your district. Note whether the documents could have a positive or a negative impact on the mitigation strategies of this plan. None applicable is a possible answer for this section.

I.) District Mitigation Related Classifications:

The classifications listed in table E.4 are related to your community's effectiveness in providing services that may impact your vulnerability to the natural hazards identified. If your community does not participate in a program, indicate N/A in the appropriate field. Access to the various classifications will be provided through technical assistance.

J.) Hazard Mitigation Action Plan:

Complete the table to include those initiatives your community would like to pursue with this plan. Some important points to remember when completing this section:

> Know what is, and is not grant eligible under the Hazard Mitigation Grant Program (HMGP) and Pre-disaster Mitigation Grant Program (PDM). (*See attachment "A"*)
>
> Know the overall goals, objectives and guiding principles of the Humboldt County Natural Hazard Mitigation Plan.
>
> Identify projects where the benefits will exceed the costs. (See Table G).
>
> Include any project that your community has committed to pursuing regardless of grant eligibility.
>
> Refer to the ***Mitigation Catalog*** for mitigation options you might want to consider that are hazard specific and consistent with the goals and objectives of the plan.

A lot of detail is not needed in the description of the initiative. This will come when you apply for the project grant. Provide enough information to identify the project's scope and impact. For example:

> Address NFIP identified Repetitive Loss properties. Through targeted mitigation, acquire, relocate or retrofit the 5 repetitive loss structures within Anytown as funding opportunities become available.
>
> Seismic retrofit of Sultan City Hall.
>
> Floodplain Property acquisition in Freylands subdivision.
>
> Assess and enhance the County flood warning capability by joining the NOAA "Storm Ready" program.

Also, if you have projects that are not HMGP or PDM grant eligible, but do mitigate part or the entire hazard and may be eligible for other grant programs sponsored by other agencies, include them in this section. Also, a hazard specific project ***is not*** required for each hazard you have ranked in order to be eligible for an HMGP project grant after a "declared" disaster. In other words, if you have not identified an earthquake related project, and an earthquake occurs that causes damage within your community, you are not discounted from HMGP project grant eligibility. The key here is to identify at least 1 initiative for your highest ranked risk.

Identify the hazard(s) the initiative will mitigate and illustrate who will be the lead in administering the project. This will most likely be your governing board. Identify funding source(s) for project. If it is a grant, include the funding source(s) for the cost share. Refer to your capability assessment to identify possible sources of funding. Indicate the time line as "short term" (1 to 5 years) or "long term" 5 years or greater. Identify by number the Humboldt County Natural Hazard Mitigation plan goal(s) and objective(s) the project will meet. These have been provided in the Steering Committee meeting minutes that were forwarded to you in the past. Technical assistance will be available to your community in completing this section during the technical assistance visit.

K.) Prioritization of Mitigation Initiatives

Complete the information in table G. The purpose of this exercise is to prioritize your initiatives in a matter such that meets the requirements of section 201.6 of 44CFR. A brief description of each category is as follows:

- Initiative #: indicate the number of the initiative from Table F.
- # of Objectives met: How many objectives will the initiative meet?
- Benefits: Enter high, medium or low as defined below.
- Costs: Enter high medium or low as defined below. If you know the estimated cost of a project because it is part of an existing/ongoing program, indicate the amount.
- Do benefits exceed the cost: Enter yes or no. This is an anecdotal assessment. For example, a high benefit over a medium cost would = yes.
- Is the project grant eligible? Refer to attachment A.
- Can Project be funded under existing program budgets? Yes or no. In other words, is this initiative currently budgeted for? Or would it require a new budget authorization or funding from another source such as grants?
- Priority: List the initiative priority as high, medium or low as defined below.

Benefit/Cost Review

This is not intended to be a detailed benefit/cost analysis that is required of HMGP/PDM project grants. This is a "review" to determine that the initiatives you have identified meet one of the primary objectives of the Disaster Mitigation Act. What this exercise hopes to achieve is to identify projects where the probable benefits ***will not*** exceed the probable costs of this project. When performing an anecdotal B/C review, use the following parameters to define the benefits and costs of a proposed project as high, medium or low.

Costs

High: Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Medium: Could budget for under existing work-plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

Low: Possible to fund under existing budget. Project is part of, or can be part of an existing ongoing program.

Benefits

High: Project will have an immediate impact on the reduction of risk exposure to life and property.

Medium: Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.

Low: Long term benefits of the project are difficult to quantify in the short term.

In using this approach, projects that result in positive benefits versus costs categorical ratios (i.e., high over high, high over medium, medium over low, etc.), will be considered cost beneficial and should be prioritized accordingly.

Prioritize you projects as "high," "medium" or "low" priorities as defined below.

Remember, it is not the intent of this exercise to be overly technical. It is a "review" exercise meant to provide additional information in identifying and prioritizing mitigation initiatives.

Explanation of priorities

- **High Priority**: A project that meets multiple plan objectives, benefits exceeds cost, has funding secured under existing programs or authorizations, or is grant eligible, and can be completed in 1 to 5 years (i.e., short term project) once project is funded.

- **Medium Priority**: A project that meets at least 1 plan objective, benefits exceeds costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.

- **Low Priority**: Any project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and time line for completion is considered long term (5 to 10 years).

L.) Future needs to better understand risk/vulnerability

In this section, identify any future studies, analyses, reports, or surveys your community needs to better understand its vulnerability to identified or currently unidentified risks. These could be needs based on federal or state agency mandates such as EPA's Bio-terrorism assessment requirement for Water District.

M.) Additional comments:

Use this section to add any additional information pertinent to hazard mitigation and your district not covered in this template

Attachment "A"

Hazard Mitigation Grant Program (HMGP)
Pre-Disaster Mitigation Grant Program (PDM)

FACT SHEET

III. HAZARD MITIGATION GRANT PROGRAM (HMGP)

What is the Hazard Mitigation Grant Program?

Authorized under Section 404 of the Stafford Act, the Hazard Mitigation Grant Program (HMGP) administered by the Federal Emergency Management Agency (FEMA) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

Who is eligible to apply?

Hazard Mitigation Grant Program funding is only available to applicants that reside within a presidentially declared disaster area. Eligible applicants are

- State and local governments
- Indian tribes or other tribal organizations
- Certain non-profit organizations

What types of projects can be funded by the HMGP?

HMGP funds may be used to fund projects that will reduce or eliminate the losses from future disasters. Projects must provide a long-term solution to a problem, for example, elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood. In addition, a project's potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. Examples of projects include, but are not limited to:

- Acquisition of real property for willing sellers and demolition or relocation of buildings to convert the property to open space use
- Retrofitting structures and facilities to minimize damages from high winds, earthquake, flood, wildfire, or other natural hazards
- Elevation of flood prone structures
- Development and initial implementation of vegetative management programs
- Minor flood control projects that do not duplicate the flood prevention activities of other Federal agencies
- Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities
- Post-disaster building code related activities that support building code officials during the reconstruction process

What are the minimum project criteria?

There are five issues you must consider when determining the eligibility of a proposed project.

- Does your project conform to your State's Hazard Mitigation Plan?
- Does your project provide a beneficial impact on the disaster area? i.e. the State
- Does your application meet the environmental requirements?
- Does your project solve a problem independently?
- Is your project cost-effective?

IV. PRE-DISASTER MITIGATION GRANT PROGRAM (PDM)

What is the Pre-Disaster Mitigation competitive grant program?

The Pre-Disaster Mitigation (PDM) competitive grant program provides funds to State, Tribal, and local governments for pre-disaster mitigation planning and projects primarily addressing natural hazards. Cost-Effective pre-disaster mitigation activities reduce risk to life and property from natural hazard events before a natural disaster strikes, thus reducing overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. Funds will be awarded on a competitive basis to successful Applicants for mitigation planning and project applications intended to make local governments more resistant to the pacts of future natural disasters.

Who can apply for a PDM competitive grant?

Eligible PDM competitive grant Applicants include State and Territorial emergency management agencies, or a similar office of the State, District of Columbia, U.S. Virgin Islands, Commonwealth of Puerto Rico, Guam, American Samoa, Commonwealth of the Northern Mariana Islands, and Federally-recognized Indian Tribal governments.

Eligible Sub-applicants include State agencies; Federally-recognized Indian Tribal governments; and local governments (including State recognized Indian Tribal governments and Alaska native villages).

Applicants can apply for PDM competitive grant funds directly to FEMA, while Sub-applicants must apply for funds through an eligible Applicant.

Private non-profit organizations are not eligible to apply for PDM but may ask the appropriate local government to submit an application for the proposed activity on their behalf.

What are eligible PDM projects?

Multi-hazard mitigation projects must primarily focus on natural hazards but also may address hazards caused by non-natural forces. **Funding is restricted to a maximum of $3M Federal share per project.** The following are eligible mitigation projects:

Acquisition or relocation of hazard-prone property for conversion to open space in perpetuity;

Structural and non-structural retrofitting of existing buildings and facilities (including designs and feasibility studies when included as part of the construction project) for wildfire, seismic, wind or flood hazards (e.g., elevation, flood proofing, storm shutters, hurricane clips);

Minor structural hazard control or protection projects that may include vegetation management, Stormwater management (e.g., culverts, floodgates, retention basins), or shoreline/landslide stabilization; and,

Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities and that do not constitute a section of a larger flood control system.

Mitigation Project Requirements

Projects should be technically feasible (see Section XII. Engineering Feasibility) and ready to implement. Engineering designs for projects must be included in the application to allow FEMA to assess the effectiveness and feasibility of the proposed project. The project cost estimate should complement the engineering design, including all anticipated costs. FEMA has several formats that it uses in cost estimating for projects. Additionally, other Federal agencies' approaches to project cost estimating can be used as long as the method provides for a complete and accurate estimate. FEMA can provide technical assistance on engineering documentation and cost estimation (see Section XIII.D. Engineering Feasibility).

Mitigation projects also must meet the following criteria:

8. Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster, consistent with 44 CFR 206.434(c)(5) and related guidance, and have a Benefit-Cost Analysis that results in a benefit-cost ratio of 1.0 or greater (see Section X. Benefit-Cost Analysis). **Mitigation projects with a benefit-cost ratio less than 1.0 will not be considered for the PDM competitive grant program**;

9. Be in conformance with the current FEMA-approved State hazard mitigation plan;

10. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed, consistent with 44 CFR 206.434(b)(4);

11. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR Part 10, consistent with 44 CFR 206.434(c)(3);

12. Not duplicate benefits available from another source for the same purpose, including assistance that another Federal agency or program has the primary authority to provide (see Section VII.C. Duplication of Benefits and Programs);

13. Be located in a community that is participating in the NFIP if they have been identified through the NFIP as having a Special Flood Hazard Area (a FHBM or FIRM has been issued). In addition, the community must not be on probation, suspended or withdrawn from the NFIP; and,

14. Meet the requirements of Federal, State, and local laws.

What are examples of Ineligible PDM Projects?

The following mitigation projects are ***not*** eligible for the PDM program:

Major flood control projects such as dikes, levees, floodwalls, seawalls, groins, jetties, dams, waterway channelization, beach nourishment or re-nourishment;
Warning systems;
Engineering designs that are not integral to a proposed project;
Feasibility studies that are not integral to a proposed project;
Drainage studies that are not integral to a proposed project;
Generators that are not integral to a proposed project;
Phased or partial projects;
Flood studies or flood mapping; and,
Response and communication equipment

APPENDIX B.
LINKAGE PROCEDURES

ADMINISTRATIVE PROCESS FOR "LINKAGE" TO THE HUMBOLDT OPERATIONAL AREA HAZARD MITIGATION PLAN

Even though the initial development of the Humboldt Operational Area Hazard Mitigation Plan (HOAHMP) included 26 planning partners, not all eligible local governments within the defined planning area are included in this plan. It is assumed that some or all of these non-participating local governments may chose to "link" to the HOAHMP at some point in time to gain eligibility for programs under the DMA. In addition, some of the current partnership may not continue to meet eligibility requirements due to the lack of active participation as prescribed by the plan. These "linkage" procedures will define the requirements established by the HOAHMP Steering Committee and all planning partners for dealing with the increase or decrease in planning partners linked to this plan. It should be noted that a currently non-participating jurisdiction within the defined planning area is not obligated to link to this plan. These jurisdictions can chose to do their own "complete" plan that addresses all required elements of section 201.6 of 44CFR. It is their choice.

Increasing the Partnership through Linkage

Any eligible jurisdiction wishing to link to the HOAHMP must complete ***all*** of the following steps:

1. The Steering Committee and Planning team has established an annual window for which linkage to the plan can occur. The window of opportunity to initiate the linkage process will be open from February 1st to the last calendar work day of April during any year. Linking jurisdictions are instructed to complete the following procedures during this time frame. All elements of this linkage procedure must be completed no later than April 30 of any given year.

2. The currently non-participating jurisdiction contacts the Humboldt Operational Area Point of Contact (HOAPOC) for the plan and requests a "Linkage Package". The Humboldt Operational Area Point of Contact is:

   Mr. Dan Larkin

   Emergency Services Coordinator

   Humboldt County Office of Emergency Services

   826 4th street

   Eureka, CA 95501

   Phone#: (707) 268-2502

   e-mail: dlarkin@co.humboldt.ca.us

3. The HOAPOC will provide a linkage packages that includes:
   - Copy of Volume 1 and 2 of the plan
   - Planning partner's expectations package.

- A sample "letter of intent" to link to the HOAHMP.
- A Special Purpose District or City template and instructions.
- Catalog of Hazard Mitigation Alternatives
- A "request for technical assistance" form.
- A copy of section 201.6 of Chapter 44, the Code of Federal Regulations (44CFR), which define the federal requirements for a Local Hazard Mitigation Plan.

4. The new jurisdiction will be required to review both volumes of the HOAHMP which includes the following key components for the planning area:
   - The operational area risk assessment;
   - The plans goals and objectives;
   - Plan implementation and maintenance procedures;
   - Comprehensive review of alternatives; and
   - County-wide initiatives.

   Once this review is complete, they will complete their jurisdiction specific annex by following the template and its instructions for completion provided by the HOAPOC. Technical assistance can be provided upon request by completing the request for technical assistance (TA) form provided in the linkage package. This TA may be provided by the HOAPOC or any other resource within the Planning Partnership such as a member of the Steering Committee or a currently participating City or Special Purposes District partner. The HOAPOC will determine who will provide the TA and the possible level of TA based on resources available at the time of the request.

5. The new jurisdiction will also be required to develop a public involvement strategy that ensures their public's ability to participate in the plan development process. At a minimum, the new jurisdiction must make an attempt to solicit public opinion on hazard mitigation at the onset of this linkage process and a minimum of one public meeting to present their draft jurisdiction specific annex for comment, prior to adoption by the governing body. The Planning Partnership will have available resources to aid in the public involvement strategy such as the Plan website. However, it will be the new jurisdictions responsibility to implement and document this strategy for incorporation into their annex. It should be noted that the Jurisdictional Annex templates ***do not*** include a section for the description of the public process. This is because the original partnership was covered under a uniform public involvement strategy that covered the operational area that is described in volume 1 of the plan. Since the new partner was not addressed by that strategy, they will have to initiate a new strategy, and add a description of that strategy to their annex. For consistency, new partners are encouraged to follow the public involvement format utilized by the initial planning effort as described in Volume 1 of the Regional plan.

6. Once their public involvement strategy is completed and they have completed their template, the new jurisdiction will submit the completed package to the HOAPOC for a pre-adoption review to ensure conformance with the Regional plan format.

7. The HOAPOC will review for the following:
   - Documentation of Public Involvement strategy;
   - Conformance of template entries with guidelines outlined in instructions;

- Chosen initiatives are consistent with goals, objectives and mitigation catalog of the Operational Area hazard mitigation plan;
- A Designated point of contact; and
- A ranking of risk specific to the jurisdiction.

The HOAPOC may utilize members of the Steering Committee or other resources to complete this review. All proposed linked annexes will be submitted to the Steering Committee for their review and comment prior to submittal to the California Office of Emergency Services (CAOES).

8. Plans approved and accepted by the Steering Committee will then be forwarded to the CAOES for review with cover letter stating the forwarded plan meets local approved plan standards and whether the plan is submitted with local adoption or for criteria met/plan not adopted review.

9. CAOES will reviews plans for DMA2K compliance. Non-Compliant plans are returned to the Lead agency for correction. Compliant plans are forwarded to FEMA Region IX office for review with annotation as to the adoption status.

10. FEMA Region IX reviews the new jurisdiction's plan in association with the approved plan to ensure DMA compliance. Region IX notifies new jurisdiction of results of review with copies to CAOES and approved planning authority.

11. New jurisdiction corrects plans shortfalls (if necessary) and resubmits to CAOES through the approved plan lead agency.

12. For plans with no shortfalls from the Region IX review that have not been adopted, the new jurisdiction governing authority adopts the plan (if not already accomplished) and forwards adoption resolution to Region IX with copies to lead agency and CAOES.

13. Region IX Director notifies new jurisdiction governing authority of plan approval.

The new jurisdiction plan is then included with the Regional plan with the commitment from the new jurisdiction to participate in the on-going plan implementation and maintenance.

Decreasing the Partnership

The eligibility afforded under this process to the planning partnership can be rescinded in two ways. First, a participating planning partner can voluntarily ask to be removed from the partnership. This may be done because the partner has decided to develop their own plan or has identified a different planning process for which they can gain eligibility. For what ever the reason, a partner that wishes to voluntarily leave the partnership, shall inform the HOAPOC of this desire in writing. This notification can occur any time during the calendar year. A jurisdiction wishing to pursue this avenue is advised to make sure they are deemed eligible under the new planning effort, before they initiate this action to avoid any period where they would be considered non-complaint with the Disaster Mitigation Act.

Once the HOAPOC has received this notification, they shall immediately notify both CAOES and FEMA Region IX in writing that the partner in question is no longer covered by the HOAHMP, and that the eligibility afforded that partner under this plan should be rescinded based on this notification.

The second way a partner can be removed from the partnership is by failure to meet the participation requirements specified in the "Planning Partner Expectations" package provided to each partner at the

beginning of the process, or the plan maintenance and implementation procedures specified under chapter 7 or Volume 1 of the plan. It should be noted, that each partner agreed to these specified terms by adopting the plan.

Eligibility status of the planning partnership will be monitored by the HOAPOC. The determination of whether a partner is not meeting its participation requirements will be based on the following parameters:

- Are annual progress reports being submitted annually by the specified time frames?
- Are partners notifying the HOAPOC of changes in designated points of contact?
- Are the partners supporting the Steering Committee by attending designated meetings or responding to needs identified by the body?
- Are the partners continuing to be supportive as specified in the Planning Partners expectations package provided to them at the beginning of the process?

The point here is that participation in the effort does not end with plan approval. This partnership was formed on the premise that a group of planning partners would pool resources and work together to strive to reduce risk within the operational area. Failure to support this premise, lessen the effectiveness of this effort. The following procedures will be followed to remove a partner due to the lack of participation:

1. The HOAPOC will advise the Steering Committee of this pending action and provide evidence or justification for the action. Examples of justification may include: multiple failures to submit annual progress reports, failure to attend meetings determined to be mandatory by the Steering Committee, unable to contact designated staff at a minimum of 5 attempts, or failure to act on their action plan.

2. The Steering Committee will review information provided by HOAPOC, and determine action by a vote. The Steering Committee will invoke the voting process established in the ground rules established during the formation of this body.

3. Once the Steering Committee has approved an action, the HOAPOC will notify the planning partner of the pending action in writing via certified mail. This notification will outline the grounds for the action, and ask the partner if it is their desire to remain as a partner. This notification shall also clearly identify the ramifications of removal from the partnership. The partner will be given 30 days to respond to the notification.

4. Confirmation by the partner that they no longer wish to participate or failure to respond to the notification shall trigger the procedures for voluntary removal discussed above.

5. Should the partner respond that they would like to continue participation in the partnership, they must clearly articulate an action plan to address the deficiencies identified by the HOAPOC. This action plan shall be reviewed by the Steering Committee to determine whether the actions are appropriate to rescind the action. Those partners that satisfy the Steering Committee's review will remain in the partnership, and no further action is required.

6. Automatic removal from the partnership will be implemented for partners where these actions have to be initiated more than once in a 5 year planning cycle.