

**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

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 e-mail: ocsdww@gmail.com	Neal Youngblood, Fire Captain P O Box 63 Orick, CA 95555 Phone: 707-845-6753 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 supply and distribution.
 - Fire Protection Services.
- **Latent Powers:**
 - Sewage Collection
- **Land Area Owned**— 3.5 acres
- **Land Area Served**— 2.3 mi²
- **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 supply 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	Humboldt 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

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 (HCS D) 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 Myrtle town, 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**— HCS D owns approximately 10.91 acres or 475,480 square feet of land.
- **Land Area Served**— HCS D's Service area consists of approximately 17,571 acres or 27.5 square miles.
- **List of Critical Infrastructure/Equipment**— HCS D 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:

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- 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 through 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).
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Prioritization of initiatives was based on above definitions

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 e-mail: willowcreekcsd@hotmail.com	Lonnie Danel, Chief Operator P.O. Box 8 Willow Creek, CA 95573 Phone: 530-629-2136 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

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

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

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 MCS D 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 MCS D 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

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@aesolar.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 Humboldt 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.

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. Ziemer, 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 20 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

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 e-mail: cwatknis@arcatafire.org	Mr. Desmond Cowan, Assistant Chief 631 9th Street Arcata, CA 95221 Phone: 707-825-2000 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.

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 an 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.

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-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.

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.

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 e-mail: herb@changemediation.com	Ron Copenhafer, Chief Operator PO Box 211 Garberville, CA 95542 Phone: 707-223-4566 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
<p>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.</p>	

- **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.

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.

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@portofhumboldt.org	Patti Tyson, Director of Administrative Services PO Box 1030 Eureka, CA 95502 Phone: 707-443-0801 e-mail: ptyson@portofhumboldt.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/ HBHRC D 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.

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 E-mail address: N/A	Mark Andre, Environmental Services Director City of Arcata 736 F Street Arcata, CA 95521 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-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.

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	John Goossens, Construction Manager 2700 Dolbeer St Eureka, Ca 95501 Phone: (707) 445-8121 e-mail: jgoossen@stjoe.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 1957.

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-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).
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Prioritization of initiatives was based on above definitions.

28.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

28.13 ADDITIONAL COMMENTS

None at this time.