

**PART 5—
ANNEXES FOR OTHER
SPECIAL-PURPOSE DISTRICTS**

CHAPTER 28. GARBERVILLE SANITARY DISTRICT UPDATE ANNEX

28.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Tina Stillwell
919 Redwood Drive
Garberville, CA 95542
Telephone: 707-923-9566
e-mail Address: tstillwell@garbervillesd.org

Alternate Point of Contact

Dan Arreguin
919 Redwood Drive
Garberville, CA 95542
Telephone: 707-923-9566
e-mail Address: darreguin@garbervillesd.org

28.2 JURISDICTION PROFILE

Garberville Sanitary District was formed on April 12, 1932 by vote of the Humboldt County Board of Supervisors for the purpose of providing sanitary wastewater collection, treatment and disposal for the residents in the Garberville area. In November 2004, the District purchased the Garberville Water Company and now provides water and wastewater services to the customers in its service area.

Garberville Sanitary District is governed by a five-member 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 management creates and implements procedures according to the adopted policies.

The District is located in Southern Humboldt County on the South Fork Eel River approximately 65 miles south of Eureka, California. The District serves 419 water connections and 347 sewer connections. The District is primarily funded through water and sewer service charges, connection fees, property tax revenue, and grants.

The following is a summary of key information about the jurisdiction:

- **Population Served**—2032 as of 2010 U.S. Census
- **Land Area Served**—Approximately 581 acres
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$72,484,058
- **Land Area Owned**—36.3 acres
- **Critical Infrastructure and Equipment Owned:**
 - Eel River Infiltration Galley \$255,500
 - Water Treatment Filter-1974 (1160 Hillcrest Drive) \$95,300
 - Main Tank 200,000 gallons-1940 (1160 Hillcrest Drive) \$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 Drive) \$30,000
- Booster Station (Alderpoint Rd) \$15,000
- Booster Station (Wallan Rd) \$15,000
- Booster Station on Oak St \$15,000
- Lift Station at Meadows at Linda Ln \$10,000
- Lift Station at Sunnybank \$40,000
- Chlorination Facility \$125,000
- Telemetry & Systems Monitoring \$290,000
- Water Transmission Lines \$3,168,000
- **Total Value of Critical Infrastructure and Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$4,583,800
- **Critical Facilities Owned:**
 - Pump House / Storage Pine St \$60,000
 - Wastewater Treatment Building \$321,000
 - Water Treatment Facility \$331,600
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$712,000
- **Current and Anticipated Service Trends**—Growth in the next 20 years within the District is anticipated to be low. The District contains mostly low and medium density residential and commercial uses in the downtown area, with limited available land for urban-type development. The existing infrastructure that serves this area was installed in the early 30s and is deteriorated. The District has identified capital improvement projects needed to replace the deteriorated infrastructure.

28.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

TABLE 28-1. NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Landslides	NA	12/26/2010	\$7923.00
Landslides	DR# 201001	01/09/2010	\$8267.00
Severe winter storms,	DR-1628	02/03/2006	\$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, flood	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

Table 28-1 lists all past occurrences of natural hazards within the jurisdiction.

28.4 HAZARD RISK RANKING

TABLE 28-2. HAZARD RISK RANKING		
Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	54
2	Severe Weather	42
3	Flood	36
4	Wildfire	36
5	Landslide	21
6	Drought	0
7	Tsunami	0
8	Dam Failure	0
9		

Table 28-2 presents the ranking of the hazards of concern.

28.5 APPLICABLE REGULATIONS AND PLANS

No existing codes, ordinances, policies or plans were identified that are applicable to this hazard mitigation plan.

28.6 COMMUNITY MITIGATION PROGRAM CLASSIFICATIONS

TABLE 28-3. COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready (if applicable)	No	N/A	N/A

Classifications under various community mitigation programs are presented in Table 28-3.

28.7 HAZARD MITIGATION ACTION PLAN

TABLE 28-4. HAZARD MITIGATION ACTION PLAN MATRIX							
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
GSD1—Replace Old Redwood Water Tank							
Existing	EQ/LS/SW	1,2,3,4,5	GSD	\$600,000	CIP Funds	Short term	No
GSD2—Replace Waterline Connected to Trees Though Steep Canyon							
Existing	EQ/LS/SW	1,2,3,4,5	GSD	\$2 million	Grants, multiple agencies, Loan, CIP	Short term	No
GSD3—Map Water and Wastewater System							
Existing and New	EQ/LS/SW/F	1,2,3,4	GSD	\$23,000	Operating Budget	Long term, Ongoing	Yes
GSD4—Educate Public in Awareness, Preparation, Mitigation							
Existing	EQ/LS/SW/F	3,5,6	GSD	\$15,000	Operating Budget	Long term	Yes
GSD5—Consider store water/captured water Techniques							
New	EQ/LS/SW/F	1,2,	GSD	\$75,000	Operating Budget	Long term	Yes
GSD6-Support countywide initiatives identified in volume 1 of this plan							
New and Existing	All Hazards	All Objectives	GSD	Low	GSD	Ongoing	No

Table 28-4 lists the initiatives that make up the jurisdiction’s hazard mitigation plan.

28.8 PRIORITY OF RECOMMENDED INITIATIVES

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
GSD1	5	High	Low	Yes	Yes	Yes	High
GSD2	5	High	High	Yes	Yes	No	Med
GSD3	4	High	Low	Yes	Yes	Yes	High
GSD4	3	Med	Low	Yes	No	Yes	Med
GSD5	2	High	Low	Yes	No	No	Low
GSD6	12	Medium	Low	Yes	No	Yes	high

a. See Chapter 1 for definitions of high, medium and low priorities.

Table 28-5 identifies the priority for each initiative.

28.9 ANALYSIS OF RECOMMENDED INITIATIVES

Hazard Type	Initiative Addressing Hazard, by Mitigation Type ^a					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	GSD3,GSD6	GSD1, GSD2	GSD4, GSD6		GSD3, GSD5, GSD6	
Severe Weather	GSD3,GSD6	GSD1, GSD2	GSD4, GSD6		GSD3, GSD5, GSD6	
Flood	GSD3, GSD4, GSD6		GSD4, GSD6		GSD4, GSD5, GSD6	
Wildfire	GSD5, GSD6	GSD1, GSD2	GSD4, GSD6		GSD4, GSD5, GSD6	
Landslide	GSD6	GSD1, GSD2	GSD3, GSD4, GSD6		GSD3, GSD4, GSD6	
Dam Failure	--	--	--	--	--	--
Drought	--	--	--	--	--	--
Tsunami	--	--	--	--	--	--

a. See Chapter 1 for description of mitigation types.

Table 28-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

28.10 STATUS OF PREVIOUS PLAN INITIATIVES

TABLE 28-7. PREVIOUS ACTION PLAN IMPLEMENTATION STATUS				
Action #	Action Status			Comments
	Completed	Carry Over to Plan Update	Removed; No Longer Feasible	
GSD1	✓			Data Transferred to District GIS.- Ongoing—Changed to Long Term - Changed to GSD3
GSD2		✓		Change to Long Term—Ongoing—Change to GSD5
GSD3		✓		Change to Long Term—Ongoing—Change to GSD4
GSD4	✓			Is Part Of Water Treatment Plant Project—Will be Completed Within the Next Year
GSD5	✓			Completed in 2013

Table 28-7 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

CHAPTER 29. HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT UPDATE ANNEX

29.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Jack Crider
PO Box 1030
Eureka, CA 95502
Telephone: (707)443-0801
e-mail: jcrider@humboldtбай.org

Alternate Point of Contact

Tim Petrusha
PO Box 1030
Eureka, CA
Telephone: (707)443-0801
e-mail: tpetrusha@humboldtбай.org

29.2 JURISDICTION 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 14 full-time employees that oversee the operation and maintenance of Woodley Island Marina, Fields Landing Boat Yard, Redwood Marine Terminal, Retired Pulp Mill Site, Park Street Marsh, King Salmon Beach and the Shelter Cove Boat Launching Facility.

The following is a summary of key information about the jurisdiction:

- **Population Served**—134,623 as of 2010
- **Land Area Served**—All of Humboldt County
- **Value of Area Served**—\$5,828,497,443
- **Land Area Owned**—172 Acres
- **Critical Infrastructure and Equipment Owned:**
 - (4) Vessels, (1 Fire/Rescue Boat)
 - Sewer pump station
 - 48-kw generator—fire water storage tank and pumps
 - 1 ton and 2-ton hoists—~700' submerged pressure sewer line
 - Wacker light tower—gas line, electrical line and phone
 - 150 ton—fish cleaning station and outfall pipe
 - Towed array sonar
 - Security zone buoys

- Travelift
- emergency communications
- oil spill response equipment
- (6) service/security vehicles
- **Total Value of Critical Infrastructure and Equipment—\$5,225,030**
- **Critical Facilities Owned:**
 - Redwood Marine Terminal (Berth 1—1,1100 foot wooden wharf, Berth 2—1,000 foot wooden pier; pump dock; five 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)
 - Samoa Pulp Mill Property. Retired pulp mill property undergoing clean up that consists of: three warehouses, multiple office spaces, multiple machine rooms, vehicle service shop, power substation with 60,000 step-down transformer, Emergency/fire response vehicle, water tank, multiple firefighting pumps and firefighting equipment, recovery boiler with generator, 2 heavy lift cranes, water and chemical storage tanks.
- **Total Value of Critical Facilities—\$103,360,000**
- **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 grow statewide. 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 and commercial projects and project planning are underway that will grow the recreational and commercial use of Humboldt Bay and Shelter Cove. These projects include the transformation, cleanup and development of the former LP pulp mill into the National Marine Research and Innovation Park, initiation of water trails program, Aquaculture expansion projects, possible build of an RV park 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.

29.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

TABLE 29-1. NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Tsunami	N/A	3/33/2011	No Physical damage, Woodley Island evacuated tenants and employees of the District. Tsunami observed no damage.
Severe weather	N/A	12/31/2005	Building 14, Redwood Marine Terminal Major roof and building damage \$155,000. Damage to dock facility Fields Landing Boat Yard. Damage to Breakwater Woodley Island Marina \$75,000.
Severe weather	DR-1203	2/6/1998	7.75 million countywide
Earthquake	DR-942	04/25,26/1992	Magnitude 7.1, 6.6 and 6.7 within 24 hour period. Private property damage occurred, but the total value is not known. It is believed to have been quite widespread. See http://www.ngdc.noaa.gov/nndc/struts/results?eq_0=5&t=101634&s=0&d=1

Table 29-1 lists all past occurrences of natural hazards within the jurisdiction.

29.4 HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Weather	45
2	Earthquake	45
3	Flood	24
4	Tsunami	24
5	Landslide	24
6	Wildfire	12
7	Dam Failure	9
8	Drought	0
9	Fish Loss	0

Table 29-2 presents the ranking of the hazards of concern.

29.5 APPLICABLE REGULATIONS AND PLANS

No existing codes, ordinances, policies or plans were identified that are applicable to this hazard mitigation plan.

29.6 COMMUNITY MITIGATION PROGRAM CLASSIFICATIONS

	Participating?	Classification	Date Classified
Public Protection	No	--	--
Storm Ready	No	--	--
Firewise	No	--	--
Tsunami Ready (if applicable)	No	--	--

Classifications under various community mitigation programs are presented in Table 29-3.

29.7 HAZARD MITIGATION ACTION PLAN

TABLE 29-4. HAZARD MITIGATION ACTION PLAN MATRIX							
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative HB-1—Removal of Hazardous Liquids and Materials from Retired Pulp Mill Property							
New and Existing	Severe Storm, Tsunami, Earthquake	01,02,03, 09	HBHD	\$3 million	HBHD loan from Coast Seafoods, PDM, HMGP	Short Term	No
Initiative HB-2—Float Replacement Woodley Island Marina							
Existing	Severe Storm, Tsunami	01,02	HBHD	\$2 million	HBHD, PDM, HMGP	Long Term	No
Initiative HB-3—Local Dredge Purchase for Sediment/Shoaling Management							
New	Severe Storm, Tsunami	01,03,04	HBHD, City of Eureka	\$1.5 million	HBHD, City of Eureka, Private Dock Owner/Operators, PDM, HMGP	Long Term	No
Initiative HB-4—Installation of Floating Breakwater on East End of Woodley Island Marina							
New	Severe Storm, Flooding	01,02	HBHD	\$1 million	HBHD, CA Dept. of Boating and Waterways, PDM, HMGP	Long Term	Yes
Initiative HB-5—Rebuild/Retrofit Redwood Marine Terminal Berth 2 Convert to Public Dock Facility							
New and Existing	Severe Storm, Earthquake	01,02,03	HBHD	\$25 million	HBHD, EDA Funding, Tiger Grant, PDM, HMGP	Long Term	No
Initiative HB-6—Rebuild/Retrofit Redwood Marine Terminal Berth 1							
Existing	Severe Storm, Earthquake, Tsunami	01,02,03	HBHD	\$50 million	HBHD, EDA funding, Tiger Grant, PDM, HMGP	Long Term	Yes
Initiative HB-7—Dike Rebuild in Preparation for Sea Level Rise							
New and Existing	Flooding, Severe Storm, Tsunami	01,02,03	HBHD	\$25 million	HBHD, PDM, HMGP	Long Term	No
Initiative HB-8—Shoreline Protection/Replenishment Fields Landing Boat Yard							
Existing	Flooding, Severe Storm, Tsunami	01,02,03	HBHD	\$1 million	HBHD, PDM, HMGP	Long Term	no
Initiative HB-9—Support countywide initiatives identified in Volume 1 of this plan.							
New and Existing	All Hazards	All Objectives	HBWD	Low	HBWD	Ongoing	No

Table 29-4 lists the initiatives that make up the jurisdiction’s hazard mitigation plan.

29.8 PRIORITY OF RECOMMENDED INITIATIVES

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
1	2	High	Medium	Yes	Yes	Yes	High
2	2	Medium	High	No	Yes	No	Low
3	2	High	Medium	Yes	Yes	No	High
4	2	Medium	High	No	Yes	No	Low
5	2	Medium	High	Yes	Yes	No	Medium
6	3	Medium	High	Yes	Yes	No	Low
7	3	Medium	High	Yes	Yes	No	Medium
8	3	Medium	High	Yes	Yes	No	Medium
9	12	Medium	Low	Yes	No	Yes	High

a. See Chapter 1 for definitions of high, medium and low priorities.

Table 29-5 identifies the priority for each initiative.

29.9 ANALYSIS OF RECOMMENDED INITIATIVES

TABLE 29-6. ANALYSIS OF MITIGATION INITIATIVES						
Hazard Type	Initiative Addressing Hazard, by Mitigation Type ^a					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Flooding	HB-1, HB-4, HB-5, HB-6, HB-7, HB-8, HB-9	HB-1, HB-2, HB-6, HB-7, HB-8	HB-1, HB-7, HB-9	HB-7, HB-8	HB-9	HB-2, HB-7, HB-8
Tsunami	HB-1, HB-2, HB-4, HB-5, HB-6, HB-7, HB-8, HB-9	HB-1, HB-2, HB-6, HB-7, HB-8	HB-1, HB-7, HB-9	HB-7, HB-8	HB-9	HB-2, HB-7, HB-8
Severe Storm	HB-1, HB-5, HB-6, HB-7, HB-8, HB-9	HB-1, HB-2, HB-6, HB-7, HB-8	HB-1, HB-7, HB-9	HB-7, HB-8	HB-9	HB-2, HB-7, HB-8
Earthquake	HB-1, HB-5, HB-6, HB-9	HB-1, HB-2, HB-6, HB-7, HB-8	HB-1, HB-9		HB-9	HB-2, HB-7, HB-8
Landslide	—	—	—	—	—	—
Wildfire	HB-1, HB-5, HB-6, HB-9	HB-1, HB-6, HB-7	HB-1, HB-9		HB-9	
Dam Failure	—	—	—	—	—	—

a. See Chapter 1 for description of mitigation types.

Table 29-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

29.10 STATUS OF PREVIOUS PLAN INITIATIVES

TABLE 29-7. PREVIOUS ACTION PLAN IMPLEMENTATION STATUS				
Action #	Action Status			Comments
	Completed	Carry Over to Plan Update	Removed; No Longer Feasible	
1	x			Worked with NOAHH and the Harbor Safety Committee to establish Best Practices for Earthquakes and Tsunamis. Tsunami siren installed on Woodley Island.
2	x			Building 14 at the Redwood Terminal Berth 1 removed after storm damage Jan 2013.
3	x			Breakwater at Woodley Island Marina rebuilt 2007
4	x			Pilings on the work dock were sleeved and reinforced, new decking was put on the work dock, 2009.
5	x			2011 breakwater rebuild completed Shelter Cove 2010
6		x		
7		x		
8		x		
9	x			Fields Landing berth Decking removed after storm damage

Table 29-7 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

CHAPTER 30. HUMBOLDT BAY MUNICIPAL WATER DISTRICT UPDATE ANNEX

30.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

John Friedenbach, Business Manager
828 7th Street
Eureka, CA 95501-1114
Telephone: 707-443-5018
e-mail Address: office@hbmwd.com

Alternate Point of Contact

General Manager
PO Box 95
Eureka, CA 95502-0095
e-mail: gm@hbmwd.com

30.2 JURISDICTION 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 25 employees—6 at the Eureka office, 19 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 does not serve any industrial customers. However, we are working diligently to market this resource.

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.

The following is a summary of key information about the jurisdiction:

- **Population Served**—Approximately 80,000 (via 7 wholesale municipal customers and 200 retail customers). As of 2010.
- **Land Area Served**—225,000 acres, or 350 square miles
- **Value of Area Served**—The estimated value of the area served by the jurisdiction \$7,111,057,968 (Tax Year 2012).
- **Land Area Owned**—approximately 2,600 acres

- **Critical Infrastructure and Equipment Owned:**
 - R.W. Matthews Dam/Ruth Reservoir [\$100,000,000]
 - Gosselin Hydro-Electric Power House [\$25,000,000]
 - John Winzler Diversion, pumping, and control facilities [\$7,500,000]
 - Treatment and storage facilities [\$20,400,000]
 - Pipeline systems (35 miles of pipe) [\$75,000,000]
- **Total Value of Critical Infrastructure and Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$227,900,000 (scheduled value for insured items only); Hundreds of millions of dollars to replace critical infrastructure.
- **Critical Facilities Owned:**
 - Eureka Office Building (Alternate EOC) [\$630,000]
 - Essex Control Building (Alternate EOC) [\$375,000]
 - Ruth Headquarters Building [\$210,000]
 - Turbidity Reduction Facility [\$10,400,000]
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$12,000,000 (scheduled value for insured items only)
- **Current and Anticipated Service Trends**—Meter service growth

30.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flood	DR-183	12/24/1964	Significant-amount unknown
Drought	EM-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 winter storms, and landslides	M#1628	02/03/2006	\$84,000

Table 30-1 lists all past occurrences of natural hazards within the jurisdiction.

30.4 HAZARD RISK RANKING

TABLE 30-2. HAZARD RISK RANKING		
Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	48
2	Flood	30
3	Dam Failure	24
4	Severe Weather	22
5	Tsunami	21
6	Landslide	12
7	Wildfire	6
8	Drought	6
9	Volcano (Ash Fall)	0

Table 30-2 presents the ranking of the hazards of concern.

30.5 APPLICABLE REGULATIONS AND PLANS

The following existing codes, ordinances, policies or plans are applicable to this hazard mitigation plan:

- 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

30.6 COMMUNITY MITIGATION PROGRAM CLASSIFICATIONS

	Participating?	Classification	Date Classified
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready (if applicable)	No	N/A	N/A

Classifications under various community mitigation programs are presented in Table 30-3.

30.7 HAZARD MITIGATION ACTION PLAN

Table 30-4 lists the initiatives that make up the jurisdiction’s hazard mitigation plan.

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative HBMWD-1A —Install 3 emergency interties to improve supply reliability to Cities of: Arcata, Eureka, McKinleyville CSD.							
New	Earthquake	2,3,9	HBMWD	\$3.6 M	California Department of Public Health Prop 50 Drinking Water Grant	Short-term	Yes
Initiative HBMWD-1B —Replace water transmission pipeline over the Mad River which serves City of Blue Lake and Fieldbrook-Glendale CSD to improve supply reliability							
Existing	Earthquake, Flood	2,3,9	HBMWD	\$3.6 M	FEMA HMGP Grant & DWR Prop 84 NCIRWMP Grant	Short - term	Yes
Initiative HBMWD-2 —Acquire Emergency Response Equipment—K Rails and Traffic Plates							
New	All Hazards	4,5	HBMWD	\$20,000	District Funds	Completed	Yes
Initiative HBMWD-3 —Acquire Support Equipment for Emergency Operation Centers at Essex, Korblex and Eureka							
New	All Hazards	4,5	HBMWD	\$25,000	District Funds	Completed	Yes

**TABLE 30-4.
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative HBMWD-4—Conduct public awareness education regarding hazards affecting water supplies							
Existing	All Hazards	6,7	Humboldt County		County & participating cities & districts	Ongoing	Yes
Initiative HBMWD-5—Conduct design and feasibility studies for construction of critical infrastructure / facilities							
Existing	Earthquake, Flood, Landslide, Severe Weather, Tsunami	2,3,9	HBMWD	\$250,000	District Funds	Ongoing	Yes
Initiative HBMWD-6—Replace Techite domestic water transmission pipeline on Samoa Peninsula to improve supply reliability							
Existing	Earthquake	2,3,9	HBMWD	\$4 M	FEMA HMGP grant & District Funds	Short term	Yes
Initiative HBMWD-7—Replace critical isolation valves on domestic transmission system (one from Collectors 1,3 and 4 and one from Collector 2)							
Existing	Earthquake, Flood	2,3,9	HBMWD	\$60,000	District Funds	Short term	No
Initiative HBMWD-8—Install cut-out disconnects on District’s 12-kv electric distribution system to isolate outages & improve water supply reliability.							
New	Earthquake, Severe Weather	2,3,9	HBMWD	\$3,000	District Funds	Short term	No
Initiative HBMWD-9—Install emergency supply connection to Collector system at Essex (to access raw Collector water in an emergency which damages transmission system)							
Existing	Earthquake, Flood	4,5	HBMWD	\$11,000	District Funds	Short term	No
Initiative HBMWD-10—Replace Laterals and Pumps/Motors in Ranney Collector 3							
Existing	Earthquake	2,3,9	HBMWD	\$1.5 M	District Funds	Short term	No
Initiative HBMWD-11—Replace Laterals and Pumps/Motors in Ranney Collectors 1,2 or 4							
Existing	Earthquake	2,3,9	HBMWD	\$6 M	District Funds	Long term	No
Initiative HBMWD-12—Replace Transformers on Collectors 1,2 and 4							
Existing	Earthquake	2,3,9	HBMWD	\$475,000	District Funds	Long term	No
Initiative HBMWD-13—Replace Transformers on Collectors 3							
Existing	Earthquake	2,3,9	HBMWD	\$160,000	District Funds	Long term	No

TABLE 30-4. HAZARD MITIGATION ACTION PLAN MATRIX							
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative HBMWD-14 —Remove existing Surge Tower and replace with alternate surge protection on industrial water system on Samoa Peninsula (to protect domestic water supply)							
Existing	Earthquake, Tsunami, Severe Weather	2,3,9	HBMWD	\$600,000	FEMA HMGP or District Funds	Long term	No
Initiative HBMWD-15 —Replace or retrofit Mad River Slough Single Pipeline Crossing							
Existing	Earthquake, Tsunami	2,3,9	HBMWD	\$2 M	FEMA HMGP or District Funds	Long term	No
Initiative HBMWD-16 —Replace Logboom at R.W. Mathews Dam (Ruth Reservoir) to improve dam safety							
Existing	Dam Failure	2,3,9	HBMWD	\$115,000	District Funds	Short term	No
Initiative HBMWD-17 —Develop Dam Contingency Failure Plan & Implement recommended action re: notification & evacuation systems							
New	Dam Failure	3,5,6,9	HBMWD/ Trinity County / Humboldt County	\$100,000	FEMA HMGP and local agency funds	Long term	No
Initiative HBMWD-18 —Retrofit or replace spillway wall at R.W. Mathews Dam							
Existing	Dam Failure, Earthquake	2,3,9	HBMWD	\$ 2 M	FEMA HMGP or District Funds	Long term	No
Initiative HBMWD-19 —Continue to support countywide initiatives identified in this plan							
New & Existing	All Hazards	All Objectives	County	Low	District Funds	Short term Ongoing	No
Initiative HBMWD-20 —Replace sand dunes covering water transmission line on Samoa Peninsula							
New	Severe Weather, Tsunami	2	HBMWD	\$500,000	FEMA HMGP or District Funds	Long term	No

30.8 PRIORITY OF RECOMMENDED INITIATIVES

TABLE 30-5. MITIGATION STRATEGY PRIORITY SCHEDULE							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
1A	3	High	High	Yes	Yes	No	High
1B	3	High	High	Yes	Yes	No	High
2	2	Low	Medium	No	No	Yes	Medium
3	2	Low	Medium	No	No	Yes	Medium
4	2	Medium	Medium	Yes	No	No	Low
5	3	Medium	Medium	Yes	Yes	Yes	High
6	3	High	High	Yes	Yes	Yes	High
7	3	High	Low	Yes	Yes	Yes	High
8	3	High	Low	Yes	Yes	Yes	High
9	2	High	Low	Yes	Yes	Yes	High
10	3	Medium	High	Yes	No	Yes	Low
11	3	Medium	High	Yes	No	No	Low
12	3	High	High	Yes	Yes	No	High
13	3	High	Low	Yes	Yes	Yes	High
14	3	High	High	Yes	Yes	No	Low
15	3	Low	High	No	Yes	No	High
16	3	High	Low	Yes	Yes	Yes	High
17	4	High	Medium	Yes	Yes	No	Low
18	3	High	High	No	Yes	No	High
19	12	Medium	Medium	Yes	No	No	Medium
20	1	Medium	Medium	Yes	Yes	No	Medium

a. See Chapter 1 for definitions of high, medium and low priorities.

Table 30-5 identifies the priority for each initiative.

30.9 ANALYSIS OF RECOMMENDED INITIATIVES

TABLE 30-6. ANALYSIS OF MITIGATION INITIATIVES						
Hazard Type	Initiative Addressing Hazard, by Mitigation Type ^a					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	HBMWD-5, HBMWD-19	HBMWD-1A, HBMWD-1B, HBMWD-6, HBMWD-7, HBMWD-8, HBMWD-12, HBMWD-13, HBMWD-18, HBMWD-19	HBMWD-4, HBMWD-19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD-7, HBMWD-8, HBMWD-9, HBMWD10, HBMWD11, HBMWD12, HBMWD13, HBMWD14, HBMWD15, HBMWD18, HBMWD19
Flood	HBMWD-5, HBMWD-19	HBMWD-1B, HBMWD-7, HBMWD-19	HBMWD-4, HBMWD-19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD-8, HBMWD-9, HBMWD19
Severe Weather	HBMWD-5, HBMWD-19	HBMWD-8, HBMWD-19	HBMWD-4, HBMWD-19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD-8, HBMWD14, HBMWD19
Tsunami	HBMWD-5, HBMWD-19	HBMWD-19	HBMWD-4, 19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD14, HBMWD15, HBMWD19
Drought	HBMWD-19	HBMWD-19	HBMWD-4, HBMWD-19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD19
Dam Failure	HBMWD-16, HBMWD-17, HBMWD-19	HBMWD-18, HBMWD-19	HBMWD-4, HBMWD-19	HBMWD-16, HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-17, HBMWD-19	HBMWD16, HBMWD18, HBMWD19
Landslide	HBMWD-5, HBMWD-19	HBMWD-19	HBMWD-4, HBMWD-19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD19
Wildfire	HBMWD-19	HBMWD-19, HBMWD-20	HBMWD-4, HBMWD-19	HBMWD-19	HBMWD-2, HBMWD-3, HBMWD-19	HBMWD19

a. See Chapter 1 for description of mitigation types.

Table 30-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

30.10 STATUS OF PREVIOUS PLAN INITIATIVES

TABLE 30-7. PREVIOUS ACTION PLAN IMPLEMENTATION STATUS				
Action #	Action Status			Comments
	Completed	Carry Over to Plan Update	Removed; No Longer Feasible	
1		✓		Segregated into Items 1A & 1B in Plan Update.
1A		✓		Partially completed. Construction beginning in 2013.
1B		✓		Underway.
2	✓			Completed.
3	✓			Completed.
4		✓		Partially completed. Ongoing public awareness.
5		✓		Partially completed. Various studies completed.
6		✓		Permitting process underway.

Table 30-7 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

30.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

More detailed information concerning the impacts of Seismic, Tsunami, and Climate Change and how they will affect not only HBMWD assets and operations, but all agencies included in this plan.

CHAPTER 31. RECLAMATION DISTRICT #768 UPDATE ANNEX

31.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Domingo Santos, Board President
2580 Vaissade Road
Arcata, CA 95521
Telephone: 707-822-1366
e-mail Address: N/A

Alternate Point of Contact

Karen Diemer, City of Arcata
[736 F Street]
[Arcata, CA 95521]
Telephone: 707.825.2200
e-mail Address: kdiemer@cityofarcata.org

31.2 JURISDICTION PROFILE

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 1,499 acres of agricultural lands and protected them 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 the “Maintenance Fund of Reclamation District #768.” Funds are paid out upon warrants of the Trustees of the District.

The following is a summary of key information about the jurisdiction:

- **Population Served**—less than 20 residents as of 2013, protects agriculture lands
- **Land Area Served**—1,500 acres
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is approximately \$2 Billion in assessed value within the service area.
- **Land Area Owned**—Levee, 4.9 mile long x 30 feet footing.
- **Critical Infrastructure and Equipment Owned:**
 - Floodgates
 - Levee
 - Fences and Gates
- **Total Value of Critical Infrastructure and Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$30,000,000.
- **Critical Facilities Owned:**
 - Facilities are privately owned.
- **Total Value of Critical Facilities**—Property owner’s personal improvement values
- **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.

31.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

TABLE 31-1. NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Weather (Landslide)	N/A	3/30/2011	N/A
Tsunami	N/A	3/11/2011	N/A
Tsunami	N/A	2/27/2010	N/A
Earthquake	N/A	1/9/2010	N/A
Tsunami	N/A	9/29/2009	N/A
Drought	N/A	7/21/2009	N/A
Wildfire	N/A	6/20/2008	N/A
Other Hazard (Structural Instability)	N/A	12/6/2007	N/A
Earthquake	N/A	2/26/2007	N/A
Tsunami	N/A	1/12/2007	N/A
Flooding, severe winter storms, and landslides	DR-1628	02/03/2006	\$6,000,000 in district damages \$20,28,206 countywide
Severe Weather (Funnel Cloud, Orick)—Levee Breach	N/A	12/07/2003	N/A
Flood	DR-183	12/24/1964	Losses in the millions, countywide

Table 31-1 lists all past occurrences of natural hazards within the jurisdiction.

31.4 HAZARD RISK RANKING

TABLE 31-2. HAZARD RISK RANKING		
Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	54
2	Flood	48
3	Severe Weather	42
4	Tsunami	24
5	Dam Failure	12
6	Landslide	0
7	Drought	0
8	Wildfire	0
9	Other Hazards of Concern	0

Table 31-2 presents the ranking of the hazards of concern.

31.5 APPLICABLE REGULATIONS AND PLANS

The following existing codes, ordinances, policies or plans are applicable to this hazard mitigation plan:

- Levee Reconstruction Specifications—Oscar Larson Engineers, Plan

31.6 COMMUNITY MITIGATION PROGRAM CLASSIFICATIONS

TABLE 31-3. COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Public Protection	N/A	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready (if applicable)	No	N/A	N/A

Classifications under various community mitigation programs are presented in Table 31-3.

31.7 HAZARD MITIGATION ACTION PLAN

TABLE 31-4. HAZARD MITIGATION ACTION PLAN MATRIX							
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative RD-1 — Continue ongoing levee maintenance and flood gate upkeep. Active maintenance helps to ensure levee integrity and levees’ ability to withstand impacts from hazard events such as flood, tsunami, earthquake and severe weather.							
Existing	Earthquake, Flood, Severe Weather, Tsunami	1, 2, 8, 9	District	Medium	District Funds	Short-term, Ongoing	Yes
Initiative RD-2 —Levee Raising/Tsunami Ready Certification							
Existing	Flood, Severe Weather, Tsunami	1, 2, 9	District	High	District Funds	Long-term	Yes
Initiative RD-3 —Levee Improvements for Storm Ready Certification							
Existing	Flood, Severe Weather Severe Weather, Tsunami	1, 2, 9	District	High	District Funds	Long-term	Yes
Initiative RD-4 —Participate in the Hazard Mitigation Plan ongoing partnership to share resources and updates							
Existing	Earthquake, Flood, Severe Weather, Tsunami	7, 8, 12	District	Low	District Funds	Ongoing	No
Initiative RD-5 —Support countywide initiatives identified in Volume 1 of this plan.							
New and existing	All Hazards	All Objectives	District	Low	District	Ongoing	No
Initiative RD-6 — Coordinate with agency partners to identify and fund needed levee upgrades to mitigate potential damage from flood, earthquake, or tsunami. This can be accomplished via the Corps of Engineers’ System Wide Improvement Framework (SWIF) initiative under the PL 8499 program.							
New and existing	Flood, Earthquake, Tsunami	1, 2, 3, 9,	District and Agency Partners	Low	District, SWIF funding	Short term/ Ongoing	No

Table 31-4 lists the initiatives that make up the jurisdiction’s hazard mitigation plan. Note: Levees are the primary infrastructure for which the Reclamation District is responsible. Actions that mitigate the impacts of earthquakes on earthen levees are limited. It is widely accepted in the field of emergency management that earthen levees will fail when significant seismic activity occurs nearby. It is also widely accepted that a poorly maintained levee will perform worse in a seismic event than a well maintained levee. Therefore, the following action plan focuses on maintenance of the levees as well developing preparedness response protocols for levee failures.

31.8 PRIORITY OF RECOMMENDED INITIATIVES

TABLE 31-5. MITIGATION STRATEGY PRIORITY SCHEDULE							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
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
RD-4	3	High	Low	Yes	No	Yes	High
RD-5	12	Medium	Low	Yes	No	Yes	High
RD-6	4	Medium	Low	Yes	No	Yes	High

a. See Chapter 1 for definitions of high, medium and low priorities.

Table 31-5 identifies the priority for each initiative.

31.9 ANALYSIS OF RECOMMENDED INITIATIVES

TABLE 31-6. ANALYSIS OF MITIGATION INITIATIVES						
Hazard Type	Initiative Addressing Hazard, by Mitigation Type ^a					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	1, 4, 5, 6	1, 4, 6	4	1, 4	1, 5	1, 6
Flood	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 6	4	1, 2, 3, 4	1, 5	1, 6
Tsunami	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 6	4	1, 2, 3, 4	1, 5	1, 6
Severe Storm	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5	4	1, 2, 3, 4	1, 5	1, 6
Landslide	--	---	--	--	--	--
Drought	--	--	--	--	--	--
Wildfire	--	--	--	--	--	--
Dam Failure	--	---	--	--	--	--

a. See Chapter 1 for description of mitigation types.

Table 31-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

31.10 STATUS OF PREVIOUS PLAN INITIATIVES

TABLE 31-7. PREVIOUS ACTION PLAN IMPLEMENTATION STATUS				
Action #	Action Status			Comments
	Completed	Carry Over to Plan Update	Removed; No Longer Feasible	
RD-1	✓			Action is ongoing. Levees and flood gates are continuously monitored and undergo maintenance when necessary. The Levee system is currently in good shape. No major work is needed.
RD-2		✓		We have a very small District but will continue to partner to see if we can obtain Tsunami Ready Certification.
RD-3		✓		We have a very small District but will continue to partner to see if we can obtain Flood Ready Certification.

Table 31-7 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

CHAPTER 32. SHELTER COVE RESORT IMPROVEMENT DISTRICT NO. 1 UPDATE ANNEX

32.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Philip W. Young, General Manager
9126 Shelter Cove Road
Whitethorn, CA 95589
Phone: 707-986-7447
e-mail: gm@sheltercove-ca.gov

Alternate Point of Contact

Susan Sack, Administrative Secretary
9126 Shelter Cove Road
Whitethorn, CA 95589
Phone: 707-986-7447
e-mail: sue@sheltercove-ca.gov

32.2 JURISDICTION 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, wastewater 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 wastewater rates, assessments, and property taxes. The current population of Shelter Cove is approximately 1030 with an increase of approximately 500 in the summer months in the motels and campground.

The following is a summary of key information about the jurisdiction:

- **Population Served**—The Shelter Cove community has a population of approximately 693 full-time residents (2010 Census) and an approximate additional 300 part-time and/or transient residents. Major holidays can bring as many as 500-700 tourists to Shelter Cove. The general population consists of a large number of retirees.
- **Land Area Served**—The RID owns approximately 1,200 acres of land which is either greenbelt or is used to provide services or recreation. 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.
- **Value of Area Served**—Valuation based upon real property taxes is approximately \$245 million. Additional land value (greenbelts, airport, etc.) is an additional approximately \$22 million.
- **Land Area Owned**—The RID owns approximately 1,200 acres of land which is either greenbelt or is used to provide services or recreation. 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.
- **Critical Infrastructure and Equipment Owned:**
 - 1 NPDES Wastewater treatment plant, laboratory, chemical treatment / filtration building, power distribution / stand-power building, and associated treatment ponds/tanks

- 9 Sewer lift stations
- Approximately 22 miles of sewer mains
- 1 Water treatment plant, reservoir, dam, and water intake facilities
- 13 Water Wells
- 11 Water storage tanks
- 13 Booster pump stations
- Approximately 40 miles of water mains
- 1 Electric Power Distribution plant with 3 each 600-kW diesel stand-by generators, generator building, power equipment storage building, and 3 480-V transformers w/switching gear
- Approximately 30 miles of electrical power lines and poles
- 3 Firefighting Trucks and associated equipment
- 1 Foam fast attack 4x4 P/U
- 1 Ambulance
- 1 Rescue boat
- **Total Value of Critical Infrastructure and Equipment**—\$18,918,000, with an estimated replacement value of \$42 million.
- **Critical Facilities Owned:**
 - 1 Fire station/District office
 - Power Distribution Facility
 - Wastewater Treatment Facilities and office
 - Water Treatment Facilities
 - 3400-foot Airport
- **Total Value of Critical Facilities**—\$1,350,000 with an estimated replacement value of \$2 million.
- **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 area of the Cove, and this area is connected to the sewer system as lots outside of this area rely on septic systems. Although there is anticipation for this trend to continue, the recent economic downturn has reduced the number of new connections to less than 10 per year. 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.

32.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

TABLE 32-1. NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Wildfire	N/A	7/4/2013	Approximately 5 acres of RID greenbelt burned with smoke and heat damage to two homes immediately adjacent to the greenbelt, with total damages at approximately \$100,000
Severe Weather	N/A	12/31/2005	\$16,111 to RID facilities, private property damage occurred but value of damage unknown.
Severe Weather	N/A	2/25/2004	\$31,500 to RID facilities, private property damage occurred but value of damage unknown.
Wildfire	N/A	9/3–10/3, 2003	(Neighboring community) King Range / Honeydew area, burning 13,668 acres.
Severe Weather	DR-1203	2/6/1998	\$79,840 to RID facilities, \$7.75 million countywide
Earthquake	DR-943	04/25,26/1992	Magnitude 7.1, 6.6 and 6.7 within 24 hour period. Private property damage occurred, but the total value is not known. It is believed to have been quite widespread. See http://www.ngdc.noaa.gov/nndc/struts/results?eq_0=5&t=101634&s=0&d=1
Wildfire	N/A	9/7/73–9/13/73	Although this fire (Findley) raged through the Shelter Cove Community, few homes suffered damage as firefighting efforts focused upon saving the homes, and since there were relatively fewer homes in the Cove at that time (~30), all homes were saved. 13,595 acres in the area were burned making it one of the largest fires in Humboldt County history.

Table 32-1 lists all past occurrences of natural hazards within the jurisdiction.

32.4 HAZARD RISK RANKING

TABLE 32-2. HAZARD RISK RANKING		
Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	54
2	Wildfire	45
3	Severe Storm	32
4	Landslide	20
5	Tsunami	12
6	Drought	8
7	Dam Failure	0
8	Flood	0
9	Volcano	0

Table 32-2 presents the ranking of the hazards of concern.

32.5 APPLICABLE REGULATIONS AND PLANS

There are no existing applicable hazard mitigation laws, codes, ordinances or policies in effect by this district that could support or enhance the mitigation initiatives identified in this annex. However, Humboldt County planning employs the following: consideration of appropriate land use designations in order to limit the populace exposed to hazardous areas; 2) assessment and conditioning of development applications according to the hazards on a site; 3) policies tailored to specific hazardous conditions; and, 4) an action program to improve overall safety conditions within the County. Furthermore, the State of California Uniform Building Code (UBC) has very strict building codes that intend to keep residents and property safe during hazard events like earthquakes, wildfires, and floods, and the Humboldt County Planning Department enforces these standards during the building application process.

32.6 COMMUNITY MITIGATION PROGRAM CLASSIFICATIONS

TABLE 32-3. COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Public Protection	No	--	--
Storm Ready	No	--	--
Firewise	No	--	--
Tsunami Ready (if applicable)	No	--	--

Classifications under various community mitigation programs are presented in Table 32-3.

32.7 HAZARD MITIGATION ACTION PLAN

TABLE 32-4. HAZARD MITIGATION ACTION PLAN MATRIX							
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative RID-1 —Annual power line tree trimming							
New and Existing	SW&WF	1,2,3,9	RID	\$50,000 (Low)	Operating Budget	Short term Ongoing	Yes
Initiative RID-2 —Building extra water storage capacity to fight fires (500,000 to 1 million gallons), (benefits exceed costs)							
New and Existing	WF	1,2,3,5,8,9	RID/BLM/CalFire	5 million (High)	Grants, multiple agencies	Short term	Yes
Initiative RID-3 —Seismic retrofits of 3 metal water storage tanks and replacement of 2 wooden tanks with metal.							
Existing	EQ&WF	1,2,3,4,5	RID	\$250,000 (Medium)	Cap Ex, Grants	Short term	Yes
Initiative RID-4 —Alternative Energy Systems for Sewer Treatment Plant and Water Treatment Facilities							
Existing	EQ/WF/SW	1,2,3,4,5,9	RID	\$300,000 (High)	Grants, Loans	Short Term	No
Initiative RID-5 —Improve Road Maintenance to increase fire break potential / ES ingress & egress							
New and Existing	WF/SW/EQ	1,2,3,4,5,8,9,10,11,12	County Public Works	\$250,000 (Medium)	County Budget	Short Term	No
Initiative RID-6 —Continue to support countywide initiatives identified in Volume 1, Chapter 18 of this plan.							
New and Existing	All Hazards	All Objectives	County	Low	Operating Budget	Short Term Ongoing	No

Table 32-4 lists the initiatives that make up the jurisdiction’s hazard mitigation plan.

32.8 PRIORITY OF RECOMMENDED INITIATIVES

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
RID-1	4	Medium	Low	Yes	No	Yes	High
RID-2	5	High	High	Yes	Yes	No	Medium
RID-3	5	High	Med	Yes	Yes	No	High
RID-4	6	High	High	Yes	Yes	No	High
RID-5	10	High	Med	Yes	No	Yes	Medium
RID-6	12	High	Low	Yes	No	Yes	High

a. See Chapter 1 for definitions of high, medium and low priorities.

Table 32-5 identifies the priority for each initiative.

32.9 ANALYSIS OF RECOMMENDED INITIATIVES

Hazard Type	Initiative Addressing Hazard, by Mitigation Type ^a					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Dam Failure	RID-6		RID-6	RID-4	RID-6	
Drought	RID-6		RID-6	RID-4	RID-6	
Earthquake	RID-6	RID-3, RID-4, RID-5	RID-6	RID-4	RID-6	
Flood	RID-6		RID-6	RID-4	RID-6	
Landslide	RID-6		RID-6	RID-4	RID-6	
Severe Weather	RID-1, RID-6	RID-4, RID-5	RID-6	RID-4	RID-6	
Tsunami	RID-6		RID-6	RID-4	RID-6	
Wildfire	RID-1, RID-2, RID-6	RID-2, RID-3, RID-4, RID-5	RID-6	RID-4	RID-6	

a. See Chapter 1 for description of mitigation types.

Table 32-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

32.10 STATUS OF PREVIOUS PLAN INITIATIVES

TABLE 32-7. PREVIOUS ACTION PLAN IMPLEMENTATION STATUS				
Action #	Action Status			Comments
	Completed	Carry Over to Plan Update	Removed; No Longer Feasible	
2007 RID-1	✓			Completed in 2008. Vegetation cutting in greenbelt yielded new firebreak between King Range and Shelter Cove
2007 RID-2		✓		Ongoing effort; carried over as RID-1. Annual practice to protect power line coming into Shelter Cove
2007 RID-3		✓		Not started; carried over as RID-2. Modified project description - Will need to partner with adjacent agencies (BLM, Cal Fire)
2007 RID-4		✓		Ongoing effort; carried over as RID-3. Modified project description - Reduced number to the 5 tanks needing most urgent attention.
2007- RID-5	✓			Completed in 2008. Tsunami alert system completed.

Table 32-7 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

32.11 ADDITIONAL COMMENTS

One of the greatest wildfire threats posed to this jurisdiction would be one spreading to the community from the King Range Conservation Area. Because Humboldt County Public Works does very little to clear vegetation overgrowth (roadside and canopy) from the roads in Shelter Cove, a fire will have NO problem crossing into the community from BLM lands. Roads can serve as natural fire breaks; however, in this instance they provide a conduit for a wildfire to spread.

When there is a wildfire in adjacent public lands, agencies which battle these fires come back to Shelter Cove to fill their tanker trucks, hooking up to the closest fire hydrant, typically, to the border area. This hydrant water comes from the treated drinking water supply, and Shelter Cove has a very limited supply of water available to it due to its geographic isolation. A non-potable water storage tank situated in the border area between Shelter Cove and the King Range would enhance wildfire fighting methods by putting the water source closer to BLM lands and preserving the community’s drinking water supply.

Historically, the Shelter Cove community has received very little support from Humboldt County departments, and the Shelter Cove RID staff and Board of Directors are striving to improve the relationship between us. Hazard mitigation efforts are among the first priorities where we hope to improve this relationship.

CHAPTER 33.

SOUTHERN HUMBOLDT COMMUNITY HEALTHCARE DISTRICT ANNEX

33.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Name: Harry Jasper
Title: Administrator/CEO
Mailing Address:
733 Cedar St. Garberville, CA 95542
Telephone #: (707) 923-3921 ext. 260
E-mail: Address hjasper@shchd.org

Alternate Point of Contact

Name: Kent Scown
Title: Director of Operations/IT
Mailing Address:
733 Cedar St. Garberville, CA 95542
Telephone #: (707) 923-3921 x 237
E-mail Address: kscown@shchd.org

33.2 JURISDICTION PROFILE

The Southern Humboldt Community Healthcare District (SHCHD) operates Jerold Phelps Community Hospital (JPCH), a 17 bed critical access hospital, and the Southern Humboldt Community Clinic, a rural health clinic. The hospital started in 1949 as a doctor's home with attached clinic. In 1952 a hospital addition was completed, housing patient rooms, surgery facilities, and emergency room. 1962 brought the addition of what is currently referred to as JPCH, with an expansion of emergency care areas completed in 1982. In the 1980s, voters approved a parcel tax initiative which, at current levels, provides supplemental income to cover operating losses for the district finances in excess of one million dollars yearly.

A five member publically elected Board of Directors (BOD) provides governance oversight for district strategic direction, delegating day-to-day operations of the hospital and clinic to its employee, the CEO. The BOD will assume the responsibility for the adoption of this plan and its annexation to the Humboldt Operational Area Hazard Mitigation Plan.

Current services include acute and long term Skilled Nursing care, a rural health clinic, laboratory and blood banking services, radiology and mammography, physical therapy, and normal hospital ancillary services.

In 2013 there were >2600 emergency rooms visits, and more than 16,000 total outpatient encounters. SHCHD employs approximately 50 full time equivalents, as well as multiple contracted service workers and professionals. The nearest hospitals are 70 miles to the south, in Willits, and 51 miles to the north, in Fortuna.

The following is a summary of key information about the jurisdiction:

- **Population Served**—The population served in the SHCHD is over 9400 people as of the 2010 U.S. Census. The district also serves large numbers of visitors and tourists travelling the HWY 101 corridor and a transient population, primarily during summer months.
- **Land Area Served**—SHCHD covers the same geographic area as the Southern Humboldt Unified School District, or a land area of approximately 774 square miles. Makeup is that of

steep terrain, deep river valleys, large Redwood State Parks, coastal mountain ranges and a small ocean fishing and resort community.

- **Value of Area Served**—The estimated value of the area served by the jurisdiction is approximately 1.03 Billion dollars.
- **Land Area Owned**—The Southern Humboldt Community Healthcare District owns two parcels, or approximately 1.12 acres in downtown Garberville.
- **Critical Infrastructure and Equipment Owned:**
 - Medical equipment located within the hospital and clinic facilities include: surgical, laboratory and radiology equipment. Infrastructure includes hospital utilities, information technology and communications systems, emergency generator and communication systems and other necessary patient care infrastructure.
- **Total Value of Critical Infrastructure and Equipment**—\$4 million
- **Critical Facilities Owned:**
 - The Healthcare District occupies a single campus, which includes the Jerold Phelps Community Hospital and Skilled Nursing facility and the Southern Humboldt Community Clinic. Total square footage is 18,343.
- **Total Value of Critical Facilities**—District facilities were valued at an estimated \$2 million dollars, in a 2010 appraisal. In the event of a total loss, replacement value could reach in excess of \$35 million, based upon current requirements and in consultation with our current architect.
- **Current and Anticipated Service Trends**—Utilization of district services remains constant. Current proposed additions to district services include a visiting nurse program, ultrasound and CT scanning capabilities and modernization of radiology and mammography services. The district partners with other healthcare provider agencies in the region and plans to expand these collaborative efforts. Provision of uncompensated care promises to continue to be burdensome with a related negative impact on the financial health of the district.

33.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding, severe storms & landslides	DR 1628	2/3/06	District Damage Not Available \$20.2 million countywide
Severe Winter Storms	DR NA	12/17/2005	District Damage Not Available Trees and Power Lines Down throughout county. HWY 101 Closed
Flooding, severe storms	N/A	12/13/2002	District Damage Not Available
Flooding, severe storms	DR-1203	2/9/98	District Damage Not Available \$7.75 million countywide
Flooding, severe storms	DR-1155	1/4/97	District Damage Not Available \$35 million countywide
Flooding, Severe Storms	DR-1046	3/12/1995	District Damage Not Available \$1.3 million countywide
Flooding, severe storms & landslides	DR-1044	1/9/95	District Damage Not Available
Earthquake	DR-943	4/4/1992	District Damage Not Available \$48.3 million countywide
Severe storms	N/A	1989	District Damage Not Available
Flood	DR-758	20/2/86	District Damage Not Available \$5 million countywide
Severe storms	N/A	1982	District Damage Not Available

Table 33-1 lists all past occurrences of natural hazards within the jurisdiction.

33.4 HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	54
2	Flooding	48
3	Severe Weather	48
4	Landslide	39
5	Wildfire	22
6	Tsunami	8
7	Volcano	8
8	Drought	6

Table 33-2 presents the ranking of the hazards of concern.

33.5 APPLICABLE REGULATIONS AND PLANS

The following existing codes, ordinances, policies or plans are applicable to this hazard mitigation plan:

- The SHCHD is regulated by the Office of Statewide Healthcare Planning and Development (OSHPOD). Local and county ordinances apply to non-OSHPOD regulated buildings.

33.6 COMMUNITY MITIGATION PROGRAM CLASSIFICATIONS

	Participating?	Classification	Date Classified
Public Protection	No	N/A	
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready (if applicable)	No	N/A	N/A

Classifications under various community mitigation programs are presented in Table 33-3.

33.7 HAZARD MITIGATION ACTION PLAN

TABLE 33-4. HAZARD MITIGATION ACTION PLAN MATRIX							
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
Initiative SHCHD-1—California SB1953 requires construction of new facility to meet seismic standards							
New	Earthquake, Severe weather	1,2,3,4,5	SHCHD BOD	High (\$35 million+)	Bonds, Grants, Tax revenue, Community Donation	Long term	N/A
Initiative SHCHD-2—Non-structural retrofit for seismic compliance (NPC2)							
Existing	Earthquake	1,2,3,4,5	SHCHD BOD	Low	Operations	Ongoing	N/A
Initiative SHCHD-3—Structural seismic retrofit of hospital facilities to SPC2 via HAZUS reclassification							
Existing	Earthquake, Severe weather	1,2,3,4,5,	SHCHD BOD	High (\$900,000)	Loan, operations	Ongoing	N/A
Initiative SHCHD-4—Generator Replacement							
Existing	Earthquake, severe weather	1,2,3,4,5,	SHCHD BOD	High (\$500,000)	Loan, operations, grants, community donation	Short term	N/A
Initiative SHCHD-5—Support countywide initiatives identified in volume 1 of this plan.							
New and Existing	All Hazards	All Objectives	SHCHD	Low	SHCHD	Ongoing	N/A

Table 33-4 lists the initiatives that make up the jurisdiction’s hazard mitigation plan. Note: This hazard mitigation action plan does not contain flood or wildfire mitigation initiatives because the district’s infrastructure is not located in an area where there is high risk to these hazards. The hospital is well away from the flood zone and is not directly adjacent to very high wildfire hazard severity zone. Furthermore, the hospital is built to a standard that will mitigate risk to ignition from nearby wildfires.

33.8 PRIORITY OF RECOMMENDED INITIATIVES

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
1	5	High	High	Yes	Yes	No	Medium
2	5	High	Low	Yes	Yes	Yes	High
3	5	High	High	Yes	Yes	Yes	High
4	5	High	High	Yes	Yes	No	Medium
5	12	Medium	Low	Yes	No	Yes	High

a. See Chapter 1 for definitions of high, medium and low priorities.

Table 33-5 identifies the priority for each initiative.

33.9 ANALYSIS OF RECOMMENDED INITIATIVES

Hazard Type	Initiative Addressing Hazard, by Mitigation Type ^a					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	SHCHD-1,2,3,4,5	SHCHD-1,2,3,4	5		SHCHD- 1,2,3,4, 5	SHCHD-1,2,3,4
Severe Weather	SHCHD-1,3,4,5	SHCHD- 1,3,4	5		SHCHD- 1,2,3,4,5	SHCHD-1,2,3
Wildfire	5		5		5	
Drought	5		5		5	
Landslide	5	SHCHD- 1,4	5		SHCHD- 1,4, 5	SHCHD-1,2,3
Flood	5		5		5	
Tsunami	5		5		5	

a. See Chapter 1 for description of mitigation types.

Table 33-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

33.10 ADDITIONAL COMMENTS

The Southern Humboldt Community Healthcare District is in a position, based upon legislative action (SB 1953), which will require closure/discontinuation of all hospital and emergency related services by 2030 without construction of a seismically upgraded and compliant facility. Funding for this replacement is not yet secured, and it is not yet clear that the community can or will support such a construction project.

Projects completed and referenced in this document have moved the district hospital facility from Seismic Performance Category 1 (SPC1) to SPC2, allowing for continued provision of service to the Southern Humboldt community and public travelling to and through the region. In order to remain a viable public safety service provider, these remaining initiatives will require significant additional funding support.