

The Town of Bucoda’s Annex to the Natural Hazards Mitigation Plan for the Thurston Region

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**TOWN OF BUCODA
COUNCIL MINUTES
Regular Meeting
December 22nd, 2009**

REGULAR MEETING

CALL TO ORDER

Mayor Alan Carr called the meeting to order at 7:00 p.m. and led the flag salute.

ROLL CALL

Council member present: **Jeff Gross, Paul Davis, Alan Vanell, Gary Givens, Steve Purcell**

AGENDA APPROVAL

At this time **Mayor Carr** added the surplus of the old Fire Truck and the Surplus of the old Ricoh Copier to New Business.

Councilor Davis moved to approve the December 22, 2009 agenda as amended. **Councilor Gross** seconded. Motion carried 5- 0.

MINUTES APPROVAL

Councilor Gross made a motion to accept the minutes of December 8th, 2009 as presented to us. **Councilor Davis** seconded. Motion passed 5-0.

MAYOR JONES: **Mayor Jones** (of Tenino) attended the meeting to speak to the Council about the Police Contract for 2010. He stated that “We have identified some deficiencies. I’m certain that you’re all aware of them, it’s not just Bucoda, and our deficiencies have been across the board”. He then stated that “where we found ourselves though, is in a position of, in my opinion, having to regain some trust and confidence. Clerk Treasurer Garrison, Chief Gallagher and I have sort of laid out a plan for the future”. **Mayor Jones** went on to say that, “our goal is to improve the services and do away with things such as lack of follow up, promises made and not kept, and that kind of thing. I feel badly about this, as the ultimate manager it is my fault, although we have enough fault to go around”. **Mayor Jones** then said, “I would like to address some of the things we would like to do. They are not in the contract, and to my knowledge have never been in the contract unless it goes back a long ways. We have talked with **Mayor Carr** about code enforcement. We’ve talked with **Mayor Carr** about patrol. The program as it stands contract wise is a call for service. A call for service by definition is: we get a call, we go to that call, we make a report and we send that report to the appropriate place. I think we have done more than that in past times”. He then stated, “Our position is at this point, we would like the City of Bucoda to simply give us another opportunity. I would like to not change the contract at all. So, that leaves us only one way to go to make an improvement and that’s better service”. **Mayor Jones** then summarized about additional services that are provided, such as court services. He then requested again, “What I would ask the City to do, as I said, is simply give us a free year to establish ourselves, get the program up and running, and then next Holiday Season we can sit down again and talk about the police contract”. **Mayor Jones** then made everyone aware of their plans to hire a new officer who would be specializing in code enforcement. He admitted that if Bucoda does not sign with Tenino, then those plans would suffer. He closed by saying, “I’m asking for some indulgence, I am promising that things will get better”. He then offered to answer any questions. **Councilor Vanell** asked how the two Towns could work together for better communication. Officer Gallagher stated that he is working with others (such as Rainier) to improve communication by being more available himself via phone and email. He suggested using email with any non 911 issues that warrant a quick response. Having quarterly meetings with the police department was a suggestion as well. Andrea Fowler stated a concern about the officer’s time being used wisely. Her suggestion was that rather than focusing so much on speeding tickets, a drug task force would be beneficial to all involved. Officer Gallagher let her know that the police department is working on that. They are continually working on funding for that as well as building up a task force here for that issue. Part of their vision for the future in addition to code enforcement is having a school resource officer. This in effect would help Tenino Police build a drug task force by being able to retrieve information from the children. This would be beneficial to

both Tenino and Bucoda. When Mayor Jones was asked about the price of the contract, he made everyone aware that the contract is virtually the same as last year. The cost to Bucoda is the same, just a few words and dates were changed. Mayor Jones then restated, "What I'm asking is just a year's worth of grace for us to get our act together and put a program together that will help us all". Andrea Fowler then asked, "So we'll see that kind of grace next year when you propose your budget right?" The Mayor then brought up that at next December's renegotiation he would like to see an extended contract as "one year contracts are not efficient". He reminded the Council about his position and request. **Councilor Alan Vanell** then stated that "I would like to see the goals written down somewhere when we are going to have the quarterly meeting and to see where we are sitting, see how you've accomplished those goals". All parties involved agreed that quarterly meetings were a good idea and should be implemented. **Mayor Alan Carr** thanked **Mayor Jones** for attending the meeting. The Council now fully understands Tenino's position and request.

PUBLIC COMMENTS

Sherry Shepherd: Sherry stated that "since it's the last meeting of the year, I would like to thank Jeff Gross for his time served on the Council. We appreciate all you've done. Maybe you'll think about running again".

Jim Fowler: Jim let everyone know that the Fire Department has a "Fire Association", which he is a trustee of. The Association is there simply because as the Fire Chief he allows it to be. Year after year, it is of the Chief's opinion that the Association is getting taken advantage of by adults in the community. The Association puts on a Christmas program for the children of Bucoda so that each child in need can have a good Christmas. A pattern has been noticed of adults also applying for gifts, which is not what the Association intended to use the program for. This current year an adult even complained about what they received from the association. Fire Chief Jim Fowler would like to put an age limit on the applications next year so that the children can still be provided for as intended, and adults can no longer take advantage of the Christmas program. While this is a concern, Chief Fowler reiterated that the Association will still continue to help adults in need of food, warmth, and basic necessities; this change would simply stop adult from applying for gifts. **Councilor Purcell** suggested that along with changing the application, they could give the program a name that reflects that it is for the children. A well established example of this is "Toys for Tots". **Councilor Purcell** suggested that maybe the Association could come up with a more effective "children" related name. Chief Fowler agreed with that idea.

STAFF/COMMITTEE REPORTS

Administration – **Mayor Alan Carr** let everyone know that he was able to secure the copy machine (*which had been previously approved by Council to buy for \$2,000*) as a donation. It was given to the Town of Bucoda as a donation from Albany International Corp. The machine was picked up by Public Works and delivered to the office today. **Mayor Alan Carr** also let everyone know that the Christmas Tree Lighting on December 12th was a big success. We had carolers and would like to continue having carolers come each year. A photo disc was made and copies are available upon request for \$5.00 each. **Mayor Alan Carr** also thanked the Fire Department and Santa for the help with the tree lighting success.

Police- Officer Gallagher attended meeting. He made everyone aware of a drug bust that took place just past Tono Road, where 3lbs of marijuana was retrieved. He has been working with "Fish and Wildlife" lately and they have been very helpful. Officer Gallagher made sure to thank the Town and Public Works for putting the "Town Limit" sign up at Tono Road, as it is a big help to the Tenino Police. Officer Gallagher let everyone know that he is available any time anyone needs anything.

Clerk/Treasurer- Report in packets.

Fire Department– No written report. Things are going good in the Fire Department. The Fire Department got a new patch; each Council member was given one.

Public Works & Water Distribution Manager- Report submitted in packets. Brian has been working on finalizing the small water systems plan with Craig from Jerome Morrissette and Associates. There continues to be a major vandalism problem in the park. On a regular basis Brian, Public Works Director finds new vandalism of the Town property in the park. Photos were submitted along with the packet. Brian has suggested boarding up the kitchen area in the park. This would not stop vandalism in the form of graffiti, but would possibly help save the

property from damage. At this point the idea of getting a DVR to go with the already purchased cameras was brought up. While a DVR system would be expensive, it may be worth getting to stop the vandalism and / or the damage of property throughout the Town.

Planning Commission- Meeting minutes for November and December were submitted in packets. Hazard Mitigation Plan also submitted to Council in the packets for approval. FEMA has already approved the Hazard Mitigation Plan as it stands and so has the Planning Commission. The Planning Commission is seeking for Council to adopt the plan so that it can be finalized. The Council did adopt the Hazard Mitigation plan that was presented to them on December 22, 2009.

Public Safety Committee- No report.

Odd Fellows Community Advisory Board- LouAnn spoke about recent donations received, including; the \$121,000 received from the O'Neil family, a \$418.00 in kind services from Dana Maher and \$1,350.00 from Grulich Architect and Planning Services in kind services. She also asked for anyone who may remember the details of the building to let her know as it may help the construction crew. The Odd Fellows Community Advisory Board now needs a new liaison as Jeff Gross is leaving office. The next meeting will be January 5th, 2010. **Councilor Vanell** attended a recent meeting for LouAnn. At this meeting he was able to obtain information about an available grant which would need to be applied for by January 2010.

Centennial Celebration Committee- No Report. Next meeting will be January 9th. **Councilor Purcell** pointed out that he, himself is on the Centennial Celebration Committee, Andrea Fowler is (*she will be sworn in on Dec. 29th*), and **Councilor Davis** is the liaison for the committee. In the future if all three Council members attend meetings, it would be considered a quorum. With this in mind one of them will need to drop off the committee. **Councilor Davis** volunteered not to attend the meetings anymore.

OLD BUSINESS

- a. Building Official: **Mayor Alan Carr** presented to Council a contract that he would like to sign in order to hire a building official for the Town. After all Council members reviewed the contract; **Councilor Alan Vanell** motioned to allow the Mayor to sign this contract for the building inspector / plan reviewer. **Councilor Gross** seconded. The motion passed 5-0.

NEW BUSINESS

- a. Hazard Mitigation Plan: **Councilor Purcell** motioned to adopt the Hazardous Mitigation as presented. **Councilor Givens** seconded. Motion passed 5-0.
- b. Police Contract for 2010: **Councilor Davis** motioned to approve the Tenino Police contract for 2010 as proposed. **Councilor Gross** seconded. Motion passed 5-0.
- c. Tree Remains: (*in regards to the park tree, which fell of natural / storm causes*) **Councilor Vanell** motioned: as far as the park tree goes, the one in the picture you're showing, I have no objections for him (*the Bucoda resident*) to sign the volunteer documents and to do the work, and cut, and haul away. **Councilor Gross** seconded. Motion passed 5-0. (*In Regards to tree in shop yard*) **Councilor Davis** motioned to surplus the trees at the yard to the Fire Department for \$1.00 **Councilor Gross** seconded. Motion passed 4-0-1 abstain.
- d. Surplus of old Fire Truck and Ricoh Copier: **Councilor Purcell** motioned that both of the Ricoh copiers (*one in Town Hall, one in the Odd Fellows building*) be surplused for scrap. I will take any hazardous materials out first. **Councilor Gross** seconded. Motion passed 5-0. **Councilor Purcell** motioned that the fire truck be surplused with District 8 being offered the first right of refusal, should they not wish to take it back, then surplus it to Richie Brothers. **Councilor Vanell** seconded. Motion passed 4-0-1 abstains.
- e. TRPC letter: **Councilor Gross** motioned to allow the Mayor to sign the standard form for Thurston County Regional Planning Council (TRPC). **Councilor Purcell** seconded. The motion passed 5-0.

ORDINANCES

- a. 2010 Budget Ordinance 538: **Councilor Purcell** motioned that we accept ordinance number 538. **Councilor Givens** seconded. Motion was carried 3-2.
- b. 2009 Budget Amendment Ordinance 539: **Councilor Davis** motioned to accept the 2009 budget amendment ordinance 539 as written. **Councilor Vanell** seconded. Motion passed 5-0.

- c. Garbage Rates Amendment Ordinance 540: **Councilor Gross** motioned that we accept garbage rates amendment ordinance 540 as presented to us. **Councilor Davis** seconded. Motion passed 5-0.

RESOLUTIONS

- a. AWC Insurance 2009-08: **Councilor Gross** motioned that we accept the AWC Insurance for 2009-8 Resolution. **Councilor Davis** seconded. Motion carried 4-1.

UNFINISHED BUSINESS

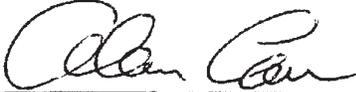
- a. Fire Chief / Fire Marshall – Still checking on status
- b. River Water Rights – Still have them, Public Works is continually working on this.
- c. Fireworks Ordinance (532)/Resolution - Will go out in the January bill cycle for a public poll.
- d. Campground Ordinance (532) - Tabled until January 2010.
- e. Campground Resolution (2009-08) – Tabled until January 2010.
- f. Town Siren Poll- Public poll in progress.
- g. CD & Investment pool: O’Bee Credit Union is interested in coming in to do a presentation in January 2010.

APPROVAL OF CLAIMS AND PAYROLL

Councilor Davis motioned for the approval of claims and payroll checks 9956, 9957, 9963-9969, 9972-9976 in the amount of \$12,315.82, voided checks 9960-9962, 9970, 9971, and payroll checks 9953-9955 in the amount of \$1,650.00 for a total of \$13,965.82. **Councilor Purcell** seconded. Motion passed 5-0.

ADJOURNMENT

Meeting was adjourned at 9:15pm.



Alan Carr, Mayor

Attest:



Shelly Smith, Clerk/Treasurer

Community Profile Town of Bucoda

Town info: (360) 278-3525

Demographics	Population, 1990	536	Settled in 1856 by Aaron Webster, Bucoda was first known as Seatco from the Coastal Salish word "Tsi-at-co," meaning "devil" or "ghost place." From 1878 to 1887, Seatco was the site of Washington Territory's first penitentiary.		
	Population, 2000	628			
	Population, 2008	660			
	Av. Ann. Pop. Growth, 1990-2000	1.6%			
	Av. Ann. Pop. Growth, 2000-2008	0.6%			
	Households, 2000	219	In 1890, the name was officially changed to Bucoda, from the first two letters of the last names of J.M. Buckley, a railroad executive; Sam Coulter, a local businessman; and J.B. David, a Portland investor.		
	Average Household Size, 2000	2.87			
	Age Structure, 2000:		From Aaron Webster's first sawmill in 1857 through the early 1950s, the community's economy was dependent upon forest products and nearby coal mines. Incorporated on July 7, 1910, Bucoda is now a quiet residential community.		
	19 and under	208		33%	
	20 - 64	367		58%	
65 and over	53	8%			
Median Age	34	--			
Race and Ethnic Categories, 2000:					
White	578	92.0%			
Black/African American	0	0.0%			
American Indian & Alaska Native	5	0.8%			
Asian	14	2.2%			
Native Hawaiian & Other Pacific Islander	2	0.0%			
Other Race	10	1.6%			
Two or More Races	21	3.3%			
Hispanic*	13	2.1%			
Housing	Housing Units, 2000:				
	Single-Family	196			
	Multifamily	0			
Manufactured Homes	33				
Census Median House Value, 2000	\$70,000				
Employment and Income	Median Household Income:		Taxable Retail Sales, 2007 \$1,290,531		
	1989 (Census 1990 in 1999 \$'s)	\$25,756			
	1999 (Census 2000)	\$34,286			
	Households by Income Category, 1999:		Total Jobs, 2003: 40		
	Less than \$14,999	29	15%	Manufacturing	<10
	\$15,000 to \$24,999	44	22%	Retail	<10
	\$25,000 to \$49,999	65	33%	Finance/Services	20
	\$50,000 to \$74,999	39	20%	Federal, State, & Local Gov't	<10
	\$75,000 or more	19	10%	Tribal Gov't & Enterprises	0
				Other	<10
Development Activity	Total New Permitted Residential Units, 2007:		Subdivision Activity, 2007:	# Appl.	# Lots
	Single-Family	2	Short Plat	0	0
	Multifamily	0	Long Plat	N/A	N/A
	Manufactured Homes	0			
	Total	2			

Explanation: *Person of Hispanic Origin can be of any race.
Source: TRPC, Profile 2008 (www.trpc.org).

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Town of Bucoda Plan Development Process

Hazard Mitigation Plan Development Staff

The following individuals served as the Town of Bucoda's hazards mitigation plan development team:

Title	Representative
Mayor (former)	Kathy Martin
Deputy Town Clerk	Sherry Shepard
Town of Bucoda Planning Commission	Carol Fleskes, Chair John Gonia Darcie Utterback Javier Lopez
Town of Bucoda Fire Department	Jim Fowler, Fire Chief Andrea Fowler, Fire Fighter

Hazard Mitigation Plan Development

The following activities supported the development of the Town of Bucoda's hazard mitigation planning process:

Date	Location	Activity	Subject
June 22, 2009	Bucoda Town Hall	Planning Commission Meeting	Reviewed update process for Bucoda's Annex to the hazard mitigation plan
June 30, 2009	Bucoda Town Hall	Planning Commission Special Work Session	Paul Brewster, TRPC met with Planning Commission Members and the Fire Department to discuss revisions to the town's risk assessment and mitigation initiatives
July 20, 2009	Bucoda Town Hall	Planning Commission Meeting	Review and Approve Risk Assessment and Mitigation Initiatives
TBA	Bucoda Town Hall	City Council Review	Review Natural Hazards Mitigation Plan and Annex Update
TBA	Bucoda Town Hall	City Council Adoption	Adopt Natural Hazards Mitigation Plan and Annex Update

Mitigation Initiative Prioritization Process

The Town of Bucoda reviewed the mitigation initiatives that it had adopted in 2005. All of the mitigation initiatives were carried over as they still require work. The town's Planning Commission held a special work session on June 30, 2009 to review the existing initiatives. The five existing initiatives underwent a slight resorting in their ranking due to a change in the prioritization of one initiative. Mitigation initiative B-MH 2, "Prepare an addendum to the Town's Comprehensive Emergency Management Plan," was previously ranked 4 of 5. Planning Commission members chose to rank this initiative as the town's highest priority project (1 of 5) because it would produce life-saving results in the event of a major catastrophe. Therefore all of the other initiatives' rank sorted immediately to the subsequent level.

Town of Bucoda Risk Assessment

Introduction

The risk assessment provides information about the hazards that threaten the Town of Bucoda. This information provides the factual basis to identify and support a strategy that can effectively mitigate the effects of the hazards that threaten this jurisdiction's safety and challenge its ability to perform essential functions.

The content and structure of this plan's risk assessment was developed using the Federal Emergency Management Agency's (FEMA) 2008 "Local Multi-Hazard Mitigation Planning Guidance." Table 1 shows the Disaster Mitigation Act (DMA) Risk Assessment Planning Requirements that must be met in order for this plan to receive a "satisfactory" score. Each of these planning requirements is met through the information contained in both the regional risk assessment and in this local annex.

Table 1: Disaster Mitigation Act Risk Assessment Planning Requirements

DMA Section	Requirement
§201.6(c)(2)(i):	[The risk assessment shall include a] description of the type ... of all natural hazards that can affect the jurisdiction ...
§201.6(c)(2)(i):	[The risk assessment shall include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.
§201.6(c)(2)(ii):	[The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.
§201.6(c)(2)(ii):	[The risk assessment in all] plans approved after October 1, 2008 must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.
§201.6(c)(2)(ii)(A):	The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas ...
§201.6(c)(2)(ii)(B):	[The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate ...
§201.6(c)(2)(ii)(C):	[The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.
§201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

In general the Federal DMA planning requirements with the words "**shall**" and "**must**" indicate that the item is mandatory and must be included in the plan, otherwise it will not be approved by FEMA. Regulations with the word "**should**" indicate that the item is strongly recommended to be included in the plan, but its absence will not cause FEMA to disapprove the plan.

Hazard Analysis Definitions

The adjective descriptors (High, Moderate, and Low) for each hazard's probability of occurrence, vulnerability, and risk rating are consistent with the terms used in the regional assessment.

The following terms are used in this plan to analyze and summarize the risk of the hazards that threaten this jurisdiction:

Risk Rating:

An adjective description (High, Moderate, or Low) of the overall threat posed by a hazard is assessed for the next 25 years. Risk is the subjective estimate of the combination of any given hazard's probability of occurrence and vulnerability. High: There is strong potential for a disaster of major proportions during the next 25 years; or History suggests the occurrence of multiple disasters of moderate proportions during the next 25 years. Moderate: There is medium potential for a disaster of less than major proportions during the next 25 years. Low: There is little potential for a disaster during the next 25 years.

Probability of Occurrence:

An adjective description (High, Medium, or Low) of the probability of a hazard impacting the jurisdiction within the next 25 years.

- High: There is great likelihood that a hazardous event will occur within the next 25 years.
- Moderate: There is medium likelihood that a hazardous event will occur within the next 25 years.
- Low: There is little likelihood that a hazardous event will occur within the next 25 years.

Vulnerability:

Vulnerability can be expressed as combination of the severity of a natural hazard's effect and its consequential impacts to the community. An adjective description (High, Medium, or Low) of the potential impact a hazard could have on the community. It considers the population, property, commerce, infrastructure and services at risk relative to the entire jurisdiction.

- High: The total population, property, commerce, infrastructure and services of the community are uniformly exposed to the effects of a hazard of potentially great magnitude. In a worst case scenario, there could be a disaster of major to catastrophic proportions.
- Moderate: The total population, property, commerce, infrastructure, and services of the community are exposed to the effects of a hazard of moderate influence; or The total population, property, commerce, infrastructure, and services of the community are exposed to the effects of a hazard of moderate influence, but not all to the same degree; or An important segment of population, property, commerce, infrastructure and services of the community are exposed to the effects of a hazard. In a worst case scenario there could be a disaster of moderate to major, though not catastrophic, proportions.

- **Low:** A limited area or segment of population, property, commerce, infrastructure, or service is exposed to the effects of a hazard. In a worst case scenario, there could be a disaster of minor to moderate proportions.

Summary Risk Assessment

Based on the regional risk assessment and the local risk assessment in the subsequent section, the following hazards pose the greatest threat to Town of Bucoda:

Hazard	Probability of Occurrence	Vulnerability	Risk
Earthquake	High	High	High
Storm	High	High	High
Flood	High	High	High
Landslide	Low	Moderate	Low
Wildland Fire	High	Moderate	Moderate
Volcanic Event	Low	Moderate	Low

Local Risk Assessment

A comprehensive risk assessment of the major natural hazards that threaten the Town of Bucoda was developed for this plan through the regional risk assessment process described in Chapter 4.0. The regional risk assessment and its hazard profiles serve as the foundation for this jurisdiction's risk assessment. A list of all of the potential natural hazards that could impact this jurisdiction is located in Chapter 4. Chapter 4 includes six natural hazard profiles for earthquake, storm, flood, landslide, wildland fire, and volcanic events. Each profile defines the hazard and describes its effects, severity, impacts, probability of occurrence, and historical occurrences. The regional profiles describe this jurisdiction's local vulnerabilities in terms of the portion of the jurisdictions land base or service area, population, employment, dwelling units, jurisdiction-owned assets, and critical facilities that are within each hazard zone.

This section of the plan provides additional details or explains differences where this jurisdiction's risks for each hazard vary from the risks facing the entire planning area. Maps of the hazards that affect Town of Bucoda are scaled to local boundaries and are included in this section.

Earthquake

Severity

A hazard profile for earthquakes was prepared in the Regional Risk Assessment located in Chapter 4.1. The definition and severity of earthquakes for the town of Bucoda is the same as described in the hazard profile. The most damaging effects of earthquakes are ground shaking and ground failures. The Town of Bucoda is located on soils that are moderate to highly susceptible to these effects. The Washington State Department of Natural Resources' (DNR) Site Class Map for Thurston County shows that the town is situated on site class D and E soils, which have a great potential to amplify ground shaking near the surface of the ground.¹ DNR's Liquefaction Susceptibility Map for Thurston County indicates that most of the Town of Bucoda is situated on soils that have a moderate to high susceptibility for liquefaction.¹ The extent of this susceptibility is shown on the Town of Bucoda Liquefaction Hazards Map.

Impacts

Earthquakes impact the Town of Bucoda in the same manner as described in the Regional Risk Assessment. The movement of liquefied soils pull apart the foundations and walls of buildings, can rupture pipelines, move bridge abutments, and skew road and railway alignments. Ground shaking can weaken and destroy buildings, utilities, and other infrastructure, and disrupt power transmission and communications systems. Ground shaking can also damage or destroy building contents such as office equipment, and machinery. People can be injured or killed from structural failures, falling objects, or panic induced heart attacks.

Thurston Regional Planning Council's vulnerability analysis indicates that approximately 63 percent of the town limits are within an earthquake hazard zone (low to high liquefaction susceptibility). Six hundred and five people (93% of the town's population), 235 residential units (92%), 35 employees (100%), 100 percent of the commercial buildings, and 91 percent of the government owned buildings are located within this liquefaction susceptibility zone. The Town's center of government and the fire station are located in this area. A major earthquake could severely hamper the Town of Bucoda's core government services and continuity of operations.

There are only two primary routes in and out of town. The Burlington Northern Santa Fe mainline railroad crosses 6th Street at the northwest end of city limits. This is the only street that provides access to State Route 507 and it is the most direct route to the Town of Bucoda within Thurston County. Tono Road provides access to the town across the Skookumchuck River to the south. Should a major earthquake disrupt either of these routes, the Town could potentially be cut-off from the rest of the region and experience significant delays in surface transportation-based evacuation or assistance efforts.

Probability of Occurrence

Five magnitude 6 or greater earthquakes have occurred in the Puget Sound basin since 1900. The Thurston region was shaken by three deep earthquakes; 1949, 1965, and 2001 (about every 26 years). It is estimated that a magnitude 7.1 earthquake (1949 type event) will occur every 110 years.

Regardless the source of earthquake, past events suggest that a major destructive event reoccurs about every 26 years. Therefore, the overall probability of occurrence of a damaging earthquake is high.

Historical Occurrences and Impacts Specific to this Jurisdiction

February 28, 2001, Federal Disaster 1361: Nisqually Earthquake

The Nisqually Earthquake did very little damage to the Town of Bucoda. There were no injuries reported and there were no emergency service requests made to the town's fire department. A few homes experienced damage or destruction of their masonry chimneys. The porch roof on the south side of the gym was damaged and forced the closure of the entire gym.

Summary Assessment

History provides the evidence that there is a high probability of occurrence of another damaging earthquake sometime in the next 25 years. It is important to note that the 2001 Nisqually earthquake was not the largest event possible in the Puget Sound region. It is conceivable that a similar magnitude earthquake could emanate from a shallow crustal fault which would result in much greater damage, producing catastrophic impacts upon the Town of Bucoda. A high percentage of population, employment, and public and privately owned assets are located in an area that is susceptible to the damaging effects of earthquakes. This combined with the Town's potential to be cut-off from surface transportation routes, in addition to a high Probability of occurrence warrants a high risk rating.

Summary Risk Assessment for Earthquake in the Town of Bucoda

Probability of Occurrence	Vulnerability	Risk
High	High	High

Storm

Severity

The Town of Bucoda is susceptible to the effects of all storm elements as described in the storm hazard profile in the Regional Risk Assessment in Chapter 4.2. The level of severity is the same. Heavy rain contributes to rising levels of the Skookumchuck River resulting in flooding of downtown Bucoda. See the flood hazard section below for more information.

Impacts

Winter Storms consisting of heavy rain, high speed winds, or heavy snow pose the greatest weather challenges to the community. The entire Town of Bucoda is subject to the same types of storm impacts as described in the Regional Risk Assessment.

Probability of Occurrence

Same as the Regional Risk Assessment: high winds, high; heavy rain, high; freezing rain, low; heavy snow, high; tornado, low; hail, low; lighting, moderate.

Historical Occurrences and Impacts Specific to this Jurisdiction

December 12-27, 2008, Federal Disaster 1825: Severe Winter Storm

Heavy snow caused transportation disruptions throughout the town.

December 14-15, 2006 Federal Disaster 1682: Severe Winter Storm,

Landslides, and Mudslides

High Speed winds severed power lines serving the Town of Bucoda. Town residences, businesses, and town hall were without power for nine days.

April 6, 1994 F0 Tornado

An F0 tornado touched down near the main street of Bucoda. Several buildings sustained damage. Damage included aluminum sheds blown over or moved, rain gutters torn off buildings, and a twisted street sign. A piece of one aluminum shed was seen 80 feet above the ground caught in a tree. The total damage from this event was estimated at \$50,000.²

Summary Assessment

Severe winter storms have a high probability of occurrence for the Thurston Region as well as the Town of Bucoda. The impacts from previous storms suggest that the Town remains highly vulnerable to the effects of rain, snow, ice, and wind. Therefore a high risk rating is assigned.

Summary Risk Assessment for Storm in the Town of Bucoda

Probability of Occurrence	Vulnerability	Risk
High	High	High

Flood

Severity

The hazard of flood from the Skookumchuck River is the most prevalent natural hazard that threatens the Town of Bucoda. The severity of flooding in the Town of Bucoda is consistent with the Regional Risk Assessment as described in Chapter 4.3.

The flood of record for the Skookumchuck River for the Town of Bucoda occurred on February 8, 1996 when heavy rains caused the river to crest over 17.87 feet. Major flooding occurs when the river rises to 17.5 feet or 6,500 cubic feet per second at USGS Gage 12026400. The river has reached this gage height 10 times since 1968. Major flooding results in deep and swift flood waters inundating residential and business areas and numerous roads. Flooding occurs all along the river including headwaters, tributaries and other streams within and near the Skookumchuck River Basin.

In addition to natural riverine flood hazards, the Town of Bucoda would be in grave danger if a catastrophic failure of the Skookumchuck Dam occurred. The town is approximately 10 miles downstream west of the Skookumchuck Dam. The dam is a rolled earthfill embankment with a crest length of 1,320 feet and a height above streambed of 160 feet. The dam provides a gross storage capacity of 35,000 acre-feet. The dam is operated by TransAlta and its primary function is to provide a controlled release of cooling water for the Centralia Steam Electric Plant in Lewis County. If a catastrophic failure occurred, the entire Town of Bucoda would be inundated with flood water. The flood wave would reach the Town limits within 1 hour and 26 minutes to 1 hour and 56 minutes depending on the reservoir and river levels. The time to peak flood level varies from 2 hours and 8 minutes to 2 hours and 50 minutes.³

Impacts

When the Skookumchuck River experiences major flooding, many residents in the Town of Bucoda are forced to evacuate their homes. The Town of Bucoda has the highest per capita population in a flood hazard zone over any other community in Thurston County (Chapter 4.3, Table 4.3.8). Thurston Regional Planning Council's vulnerability analysis indicates that approximately 45 percent of the town limits are within Zone A Special Flood Hazard Area or the 100 year flood plain. Another five percent of the area is vulnerable to high groundwater and 500 year floods (Zone B). Approximately 435 people (67% of the town's population), 170 residential units (67%), 25 employees (71%), 94 percent of the commercial buildings, and 100 percent of the government owned buildings are at risk for flooding (located within 100 year, 500 year, and high groundwater flood areas). The Town of Bucoda Flood Hazards map shows the extent of these flood zones.

The Town of Bucoda can be virtually isolated by major flooding as SR 507 can become impassable both to the north and south ends of town. In addition, Tono Road can be blocked due to flood waters.

There are 170 dwelling units within the flood hazard zone as delineated in the Regional Risk Assessment; however there are only 74 National Flood Insurance Program policies. There have been a total of 42 claims for flood damage awarded; totaling nearly \$250,000 since 1978.

Probability of Occurrence

Major flooding has occurred recently in 1990, 1996, and 2009. According to the river gage data analysis performed for the Regional Risk Assessment, the Skookumchuck River reaches major flood stage at the Bucoda gage on average about every four years, a 24 percent annual recurrence rate. The probability of major flood reoccurring in the Town of Bucoda is high.

Historical Occurrences and Impacts Specific to this Jurisdiction

January 6-16, 2009, Federal Disaster 1817: Severe Winter Storms, Landslides, Mudslides, and Flooding

Volunteer firefighters went door to door in Bucoda warning residents of imminent flooding before floodwaters swallowed a nine-block stretch of the town of Bucoda (the town's worst flood event since 1996). Residents were forced to evacuate and a Thurston County dive team was deployed to assist residents. At least two households required rescue assistance. One home was red-tagged and 12 homes were yellow-tagged. The Intersection of 3rd Avenue and North Nenant Street incurred damages exceeding \$12,000. Extensive road damage along five blocks of Market Street also occurred. At least one municipal well was forced to shut down due to possible contamination. The town-owned RV park restroom was also contaminated by floodwaters and required extensive cleanup.

February 1996, Federal Disaster 1100: Flooding

Record flooding occurred on the Skookumchuck River near Bucoda when the river crested at 17.87 feet, four feet over flood stage. Major flooding also occurred on the Deschutes and Chehalis rivers. The 1996 flood resulted in the evacuation of dozens of residents in downtown Bucoda. Twenty-one properties were damaged. On South Main Street water was 2.2 feet above the cement sidewalks. On South Market, the high water mark was approximately 3.6 feet above ground surface. At the Town owned Volunteer Park water, mud and debris was 1.4 feet above the concrete foundation. The water mark on Nenant Street was 3.9 feet above the ground surface.

January 1990, Federal Disaster 852: Severe Storm and Flooding

The Skookumchuck River crested at 16.6 feet and caused major flooding in downtown Bucoda. Floodwaters reached approximately four feet deep on Bucoda streets and prompted nearly 600 residents to evacuate; one elderly man died from natural causes during the evacuation.

Summary Assessment

History suggests that there is a high probability of occurrence of another damaging flood occurring within ten years. A high percentage of population, employment, and public and privately owned assets are located in an area that is susceptible to flooding. In addition, the limited number of flood insurance policies indicates that a significant number of property owners lack sufficient protection. A high risk rating is assigned.

Summary Risk Assessment for Flood in the Town of Bucoda

Probability of Occurrence	Vulnerability	Risk
High	High	High

Landslide

Severity

A hazard profile for landslides was prepared in the Regional Risk Assessment located in Chapter 4.4. The definition of landslides for the town of Bucoda is the same as described in the hazard profile. Landslides do not pose a direct threat to the Town of Bucoda. The Town of Bucoda Steep Slopes Map shows area within and around city limits with slopes exceeding 40 percent. Most of the steep slopes within town limits topped with clay rich soils. Landslides have not historically resulted in direct impacts to public safety and property.

Impacts

Although landslides may not directly threaten the Town of Bucoda, being located within the Skookumchuck River Valley poses indirect impacts. Community residents may experience transportation delays on County roads due to mudslides or landslides elsewhere in the vicinity. Tono Road, south of the Skookumchuck River, is slowly subsiding due to drainage problems and could potentially result in closure if major movement occurred.

More work is required to determine the slope stability on certain steep slopes within the town limits and adjacent to the town in unincorporated Thurston County.

Probability of Occurrence

The probability of a landslide occurring within Bucoda town limits is low.

Historical Occurrences and Impacts Specific to this Jurisdiction

There are no significant historical landslide events that affected residents and businesses in the Town of Bucoda.

Summary Assessment

History suggests a low probability of occurrence. The potential for road closures could fully or partially isolate the town; therefore a moderate vulnerability rating is assigned. Overall the risk for landslides is low for the Town of Bucoda.

Summary Risk Assessment for Landslide in the Town of Bucoda

Probability of Occurrence	Vulnerability	Risk
Low	Moderate	Low

Wildland Fire

Severity

A hazard profile was prepared for wildland fire hazards and is located in Chapter 4.5. The definition and severity descriptions for wildland fire in the Town of Bucoda are the same as described in the Regional Risk Assessment.

Although Bucoda is not in the vicinity of DNR's High Risk Wildland Fire Areas (see Map 4.5.4), Bucoda's vegetative landcover on the south end and north end of town limits offers sufficient fuels for a substantial wildfire under certain conditions. There is little land use development in these areas. Nevertheless, should the BNSF mainline block 6th Avenue, the fire department would not be able to effectively respond to a fire on the north side of town. Most of the towns built environment do not offer sufficient fuels for large scale wildland fires and the Town's road network provides suitable access for fire suppression.

Of the seven fire records documented in the DNR's Wildland Fire Starts Database, all were less than one acre in size. Three of these fires were started by railcar brakes.⁴

Impacts

The impacts from wildland fires to the Town of Bucoda are the same as described in the Regional Risk Assessment, however the incidence of damaging wildland fires has been very low.

Probability of Occurrence

There is a high probability of occurrence of a wildland fire less than one acre starting, but a low probability for a fire over one acre.

Historical Occurrences and Impacts Specific to this Jurisdiction

There are no significant historical records or reports of damage from wildland fires for the Town of Bucoda.

Summary Assessment

The response times of the fire department and the accessibility of the roadwork decreases the likelihood of a damaging fire within the developed portion of the town, so a moderate vulnerability rating is assigned. Due to the preponderance of vegetative fuels on the north and south end of town, a moderate risk rating is assigned.

Summary Risk Assessment for Wildland Fire in the Town of Bucoda

Probability of Occurrence	Vulnerability	Risk
High	Moderate	Moderate

Volcanic Hazards

Severity

The hazard description and severity are the same as described in the volcanic hazard profile in the Regional Risk Assessment in Chapter 4.6. The Town of Bucoda would not be affected by a volcanic lahar, but would be affected by ash fall.

Impacts

Same as described in the volcanic hazard profile in the Regional Risk Assessment in Chapter 4.6.

Probability of Occurrence

Same as described in the volcanic hazard profile in the Regional Risk Assessment in Chapter 4.6.

Historical Occurrences and Impacts Specific to this Jurisdiction

Town residents recall that the May 25th, 1980 eruption of Mt. St. Helens deposited nearly 1 and a half to two inches of ash on the Town of Bucoda. The ash created difficult driving conditions and was a nuisance to clean up.

Summary Assessment

Same as described in the volcanic hazard profile in the Regional Risk Assessment in Chapter 4.6.

Summary Risk Assessment for Volcanic Events in the Town of Bucoda

Probability of Occurrence	Vulnerability	Risk
Low	Moderate	Low

Endnotes for the Town of Bucoda Risk Assessment

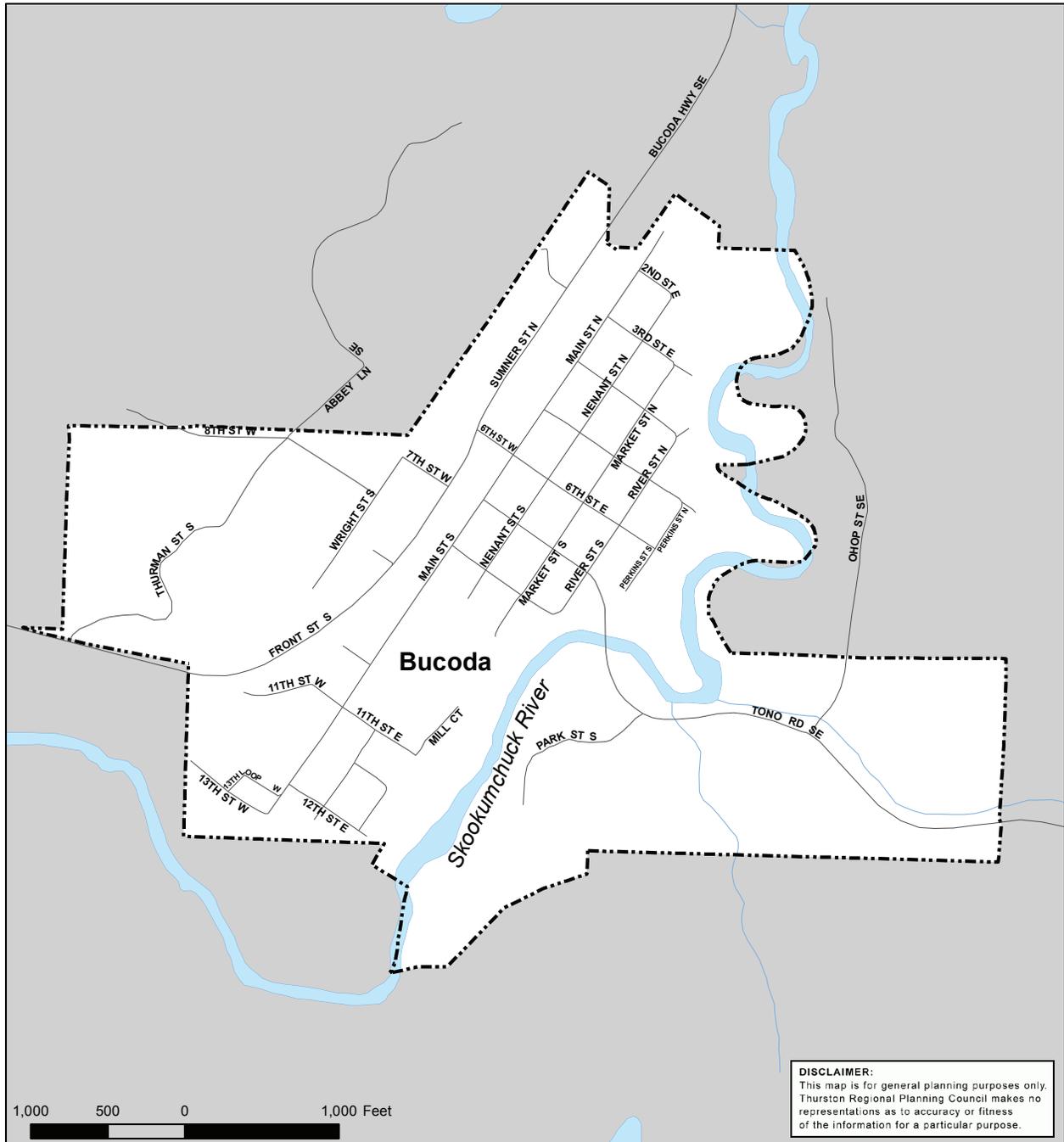
¹“Washington State Department of Natural Resources Open File Report 2004-20: Liquefaction Susceptibility and Site Class Maps of Washington State, by County, by Stephen P. Palmer, Sammantha L. Magsino, Eric L. Bilderback, James L. Poelstra, Derek S. Folger, and Rebecca A. Niggemann. 2004. Data is available via the DNR website (<http://www.dnr.wa.gov/>)”

²National Climatic Data Center. 2008. Storm Event Database.

<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

³TransAlta Centralia Generation LLC. 2007. Emergency Action Plan: Skookumchuck Hydroelectric Project FERC Project No. 4441 NATDAM No. WA00153. Revision H, December 2007.

⁴Washington State Department of Natural Resources. 2008. Wildland Fire Starts GIS Database. WA Department of Natural Resources, Resource Protection Division.



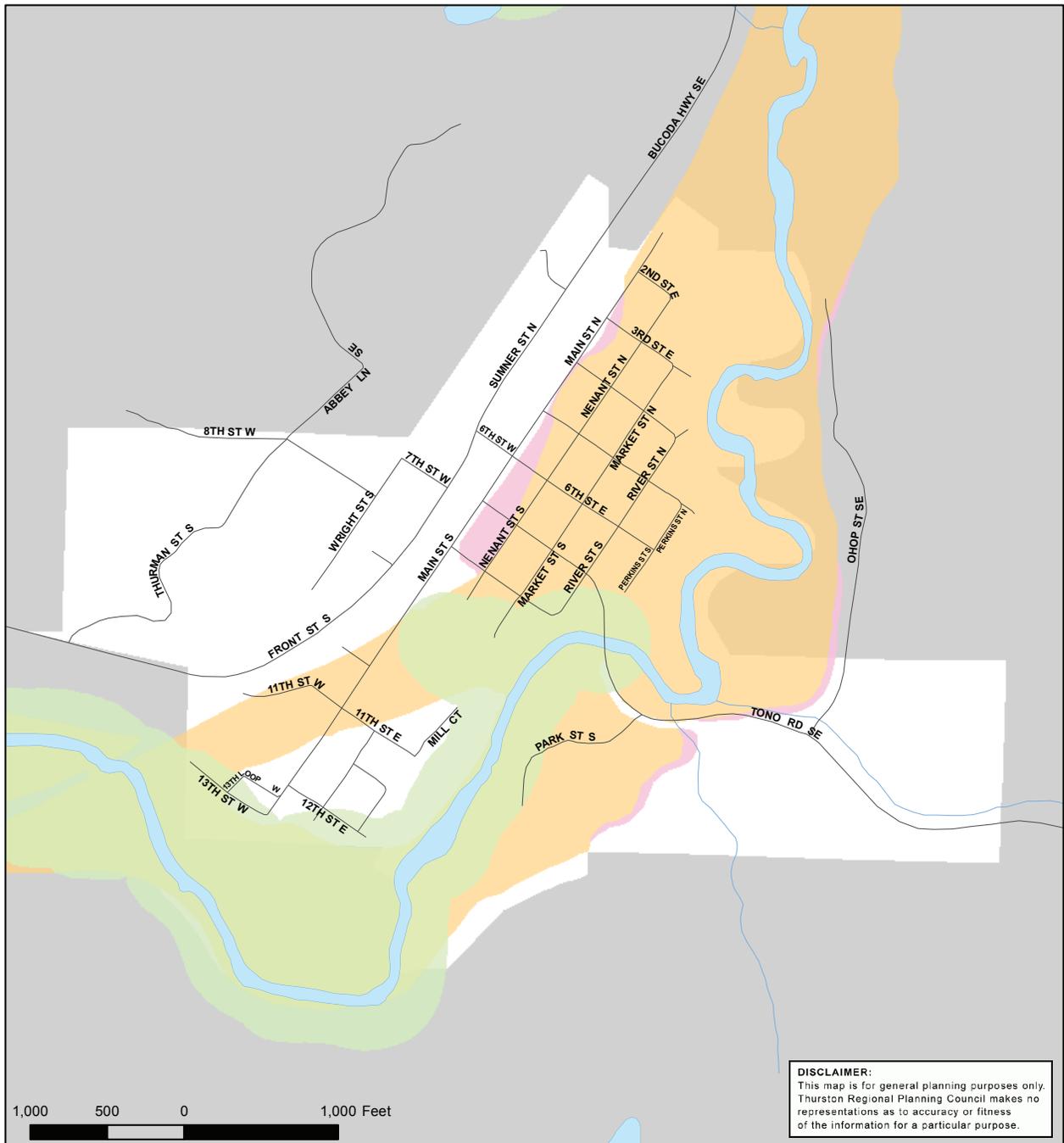
Town of Bucoda

--- City Limits □ Bucoda



Printing Date: April 24, 2009
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Town of Bucoda Flood Hazards

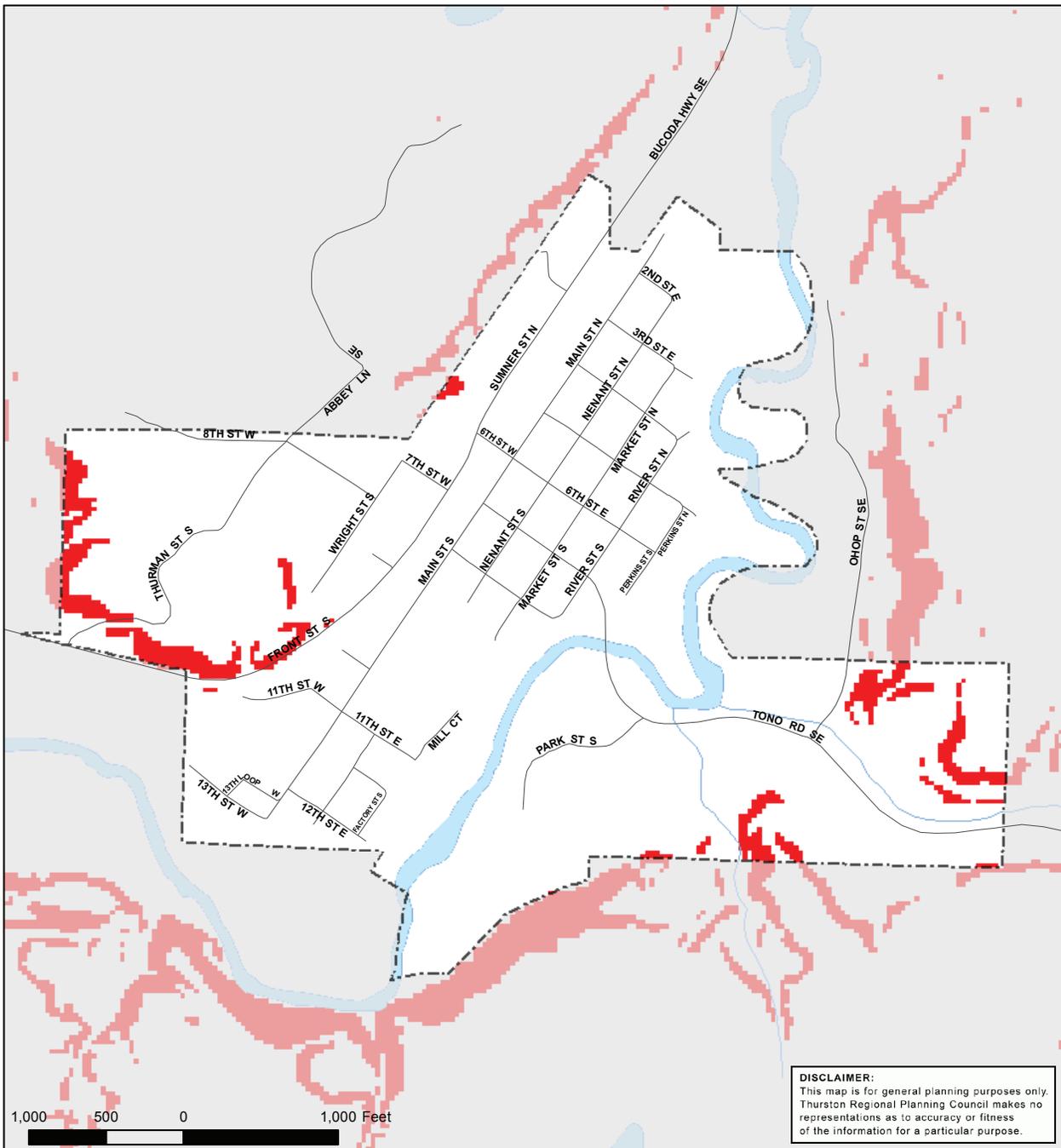
High Groundwater Flooding

100 Year Floodplain

500 Year Floodplain

City Limits

Printing Date: February 5, 2009
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Town of Bucoda Steep Slopes



- Bucoda City Limits
- Slopes Over 40%



Printing Date: March 6, 2009
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Town of Bucoda Mitigation Initiatives

Current Adopted Mitigation Initiatives

Current Mitigation Initiatives consist of actions that have not yet begun or require additional work. The Town of Bucoda did not identify any new mitigation initiatives during the plan update process. The initiatives consist of existing initiatives that were carried over from the Town's first hazards mitigation plan that was adopted in 2005.

No mitigation initiatives were removed during the plan update process.

Priority	I.D. Number	Category	Action	Status
1 of 5	B-MH 2	Hazard Preparedness	Prepare an addendum to the Town's Comprehensive Emergency Management Plan	Existing
2 of 5	B-MH 1	Critical Facilities Replacement/Retrofit	Purchase and install a 30kW propane generator at the Bucoda Fire Department	Modified
3 of 5	B-MH 4	Hazard Damage Reduction	Perform analysis of the Town's three critical facilities to identify the most efficient method of maintaining seat of government, emergency operations, and sheltering needs during a flood or earthquake	Existing
4 of 5	B-FH 1	Hazard Damage Reduction	Stormwater management engineering and design for city streets	Existing
5 of 5	B-MH 3	Hazard Damage Reduction	Establish an alternate well site for the Town.	Existing

Hazard Category Codes are as follows: EH=Earthquake Hazard; FH=Flood Hazard; LH=Landslide Hazard; MH=Multi Hazard; SH=Storm Hazard; WH=Wildland Fire Hazard; and VH=Volcanic Hazard.

Priority: 1 of 5**Status: Existing****Hazard Addressed: Multi Hazard****Category: Hazard Preparedness****B-MH 2: Prepare an addendum to the Town's Comprehensive Emergency Management Plan.**

Rationale: The Town as adopted the Thurston County Comprehensive Emergency Management Plan. There are additional vulnerabilities, as described in the Town's Risk Assessment, which are unique to the jurisdiction. This mitigation initiative would provide for drafting an addendum to the plan, public process, and review and adoption by the Council. The plan addendum would, in part, address the needs for evacuation routes and plans due to a train derailment, failure of the Skookumchuck River Dam, and severe flooding.

Relates to Plan Goal(s) and Objectives: 3A, 3D, 3G, 4A, 4E, 5B**Implementer:** Bucoda Town Council**Estimated Cost:** \$20,000**Time Period:** 2010-2015**Funding Source:** Hazard Mitigation Grant Program or Pre-Disaster Mitigation Assistance Grant**Source and Date:** 2005 Adopted Natural Hazards Mitigation Plan for the Thurston Region, Bucoda Addenda**Adopted Plan Number:** B-MH 2**Reference Page:** Addendum 1-10

Initiative and Implementation Status: This initiative was previously ranked 4 of 5. The Town ranked this as its highest priority project because it would produce life-saving results in the event of a major catastrophe. This addendum was written, but has yet to be reviewed, adopted and implemented by the Town Council. Funding will be sought to purchase and install evacuation route placards and distribute evacuation maps to all of the town's residents and businesses.

Priority: 2 of 5**Status: Modified****Hazard Addressed: Multi Hazard****Category: Critical Facilities Replacement/Retrofit****B-MH 1: Purchase and install a 30kW propane generator at the Bucoda Fire Department.**

Rationale: This will provide power for both the Town Hall and Fire Department during a power outage. This would also enable the Emergency Operations Center (EOC) to remain functional during emergencies and disasters that may cut power. This mitigation initiative would provide for the purchase of a 30kW propane generator with weather enclosure, concrete pad, 200 AMP ATS and the required gas piping and electrical work.

Relates to Plan Goal(s) and Objectives: 3A-D, 4B, 4C, 5B**Implementer:** Public Works and the Fire Department**Estimated Cost:** \$40,000**Time Period:** 2010-2015**Funding Source:** Local and Grant Funding**Source and Date:** 2005 Adopted Natural Hazards Mitigation Plan for the Thurston Region, Bucoda Addenda**Adopted Plan Number:** B-MH 1**Reference Page:** Addendum 1-7

Initiative and Implementation Status: This initiative was previously ranked 1 of 5. This initiative previously identified the need for a 60kW generator. The Fire Department determined that 30kW would provide sufficient backup power to the Fire Department and the Town Hall in the event of a power outage during an emergency. This initiative has not been completed due to lack of funding.

Priority: 3 of 5**Status: Existing****Hazard Addressed: Multi Hazard**
Category: Hazard Damage Reduction**B-MH 4: Perform analysis of the Town's three critical facilities to identify the most efficient method of maintaining seat of government, emergency operations, and sheltering needs during a flood or earthquake.**

Rationale: The Town has three buildings that are critical facilities – City Hall, the Fire Department, and the Odd Fellows Building. All of these are in the flood plain for the Skookumchuck River. This initiative would perform an analysis of these three critical facilities. The analysis would assess each building's current condition and identify areas of vulnerabilities during a natural hazard. The analysis would investigate whether the buildings would be able to serve the Town during and after a major incident. It would identify options for replacement or retrofit.

Relates to Plan Goal(s) and Objectives: 3A, 4A, 4B**Implementer:** Public Works**Estimated Cost:** To be determined**Time Period:** 2010-2015**Funding Source:** Local and Grant Funding**Source and Date:** 2005 Adopted Natural Hazards Mitigation Plan for the Thurston Region, Bucoda Addenda**Adopted Plan Number:** B-EH-FH 1**Reference Page:** Addendum 1-8**Initiative and Implementation Status:** This initiative was previously ranked 2 of 5. No work has been performed on this initiative due to lack of funding.

Priority: 4 of 5**Status: Existing****Hazard Addressed: Flood Hazard****Category: Hazard Damage Reduction****B-FH 1: Stormwater management engineering and design for City streets.**

Rationale: The Town currently has a minimal stormwater management system, which is inadequate. During periods of heavy rain, surface run-off from Town streets causes situational flooding, as a result of inadequate stormwater drainage. This initiative would provide a design for adequate stormwater management for these streets during the engineering study.

Relates to Plan Goal(s) and Objectives: 7B**Implementer:** Public Works**Estimated Cost:** \$40,000**Time Period:** 2010-2015**Funding Source:** Local and Grant Funding (Thurston County Public Work's and TRPC Rural Community Support Program)**Source and Date:** 2005 Adopted Natural Hazards Mitigation Plan for the Thurston Region, Bucoda Addenda**Adopted Plan Number:** B-FH 1**Reference Page:** Addendum 1-9**Initiative and Implementation Status:** This initiative was previously ranked 3 of 5. No work has been performed on this initiative due to lack of funding.

Priority: 5 of 5**Status: Existing****Hazard Addressed: Flood Hazard**
Category: Hazard Damage Reduction**B-MH 3: Establish an alternate well-site for the Town.**

Rationale: The Town currently has one well site. Due to the location of the well, it is vulnerable to possible contamination during flooding or chemical spill. The Town is currently negotiating with the property owner to acquire property for an alternate well site. This mitigation initiative would provide the steps required to establish an alternate site, such as land acquisition, securing proper permits, drilling the well, and providing appropriate wellhead facilities.

Relates to Plan Goal(s) and Objectives: 3A, 4A, 4B**Implementer:** Public Works**Estimated Cost:** \$20,000 (well drilling only)**Time Period:** 2010-2015**Funding Source:** Local and Grant Funding**Source and Date:** 2005 Adopted Natural Hazards Mitigation Plan for the Thurston Region, Bucoda Addenda**Adopted Plan Number:** B-MH 3**Reference Page:** Addendum 1-11

Initiative and Implementation Status: This initiative's ranking did not change. No work has been performed on this initiative due to lack of funding. More work is required to find a suitable wellfield site within or adjacent to town limits.

The Town of Bucoda Implementation of the National Flood Insurance Program

Introduction

All Local Mitigation Plans approved by FEMA after October 1, 2008 **must** describe each jurisdiction’s participation in the NFIP and **must** identify, analyze and prioritize actions related to continued compliance with the NFIP. Basic compliance NFIP actions could include, but are not limited to:

- Adoption and enforcement of floodplain management requirements, including regulating all and substantially improved construction in Special Flood Hazard Areas (SFHAs);
- Floodplain identification and mapping, including any local requests for map updates, if needed; or
- Description of community assistance and monitoring activities.

Requirement §201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction’s participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

National Flood Insurance Program Participation

Summary of National Flood Insurance Program Premiums, Policies, and Claims

Community	Total Premium	Number of Policies			Total Coverage	Total Claims Since 1978	Total Paid Since 1978	Repetitive Losses	Severe Losses
		V Zone	A Zone	Total					
Bucoda	\$55,051	0	64	74	\$10,033,700	42	\$249,262	0	0
Lacey	\$4,652	0	0	14	\$3,871,000	3	\$8,088	0	0
Olympia	\$90,555	0	31	82	\$25,265,400	16	\$347,006	0	0
Rainier	\$326	0	0	1	\$280,000	0	\$0	0	0
Tenino	\$1,327	0	0	4	\$633,700	7	\$105,233	0	0
Tumwater	\$2,707	0	0	6	\$1,482,000	2	\$12,515	0	0
Yelm	\$17,617	0	11	28	\$7,313,400	2	\$7,603	0	0
Thurston County	\$316,352	3	281	663	\$141,785,400	215	\$3,389,280	10	0
County Total :	\$488,587	3	387	872	\$190,664,600	287	\$4,118,987	10	0

Source: FEMA NFIP Insurance Report, Washington, May 5, 2009.

The Town of Bucoda has participated in the NFIP since 1981. There are 74 policies within the Town of Bucoda. There have been a total of 42 claims for flood damage awarded; totaling nearly \$250,000 since 1978. The Washington State Department of Ecology conducted a Community Assistance Visit for the Town of Bucoda on September 11, 2008.

The Bucoda Town Council has made a concerted effort to meet or exceed minimum floodplain management requirements, provide increased public awareness regarding the local flood hazard, provide protection from flooding, and assistance during flooding.

Currently there are several repetitive loss properties within the boundaries of Bucoda. In 1998, Bucoda received a Community Block Grant from the State of Washington Hazard Mitigation Grant Program. The grant provides funding to elevate eleven residences in the town of Bucoda along the banks of the Skookumchuck River that were damaged by the 1996 flood. It also provided assistance in preventing future flood damage to residences in the affected areas and therefore reduces the number of potential repetitive loss structures.

The Town of Bucoda will continue to participate in both the NFIP.

Flood Plans, Ordinances, and Regulations

Most of Bucoda is located within the 100-year floodplain. Many structures are vulnerable to repetitive losses from flood events that occur on a regular basis in the Town. The past and present town Councils have passed several ordinances and resolutions to protect its residents and to help reduce property damage.

Ordinance No. 463: An Ordinance of the Bucoda Town Council, Adopting BMC Title 18D “Development Regulations – Critical Areas and Natural Resource Lands”; Adopting Critical Areas Atlas Maps.....Setting An Effective Date; And Adopting Findings Of Fact.

Whereas, the G.M.A. primarily codified at Chapter 36.70A. RCW required The Town of Bucoda to designate critical areas (wetlands, areas of critical recharging effect on aquifers used for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas) and to develop and adopt development regulations on or before September 1, 1991, that protect critical areas.

Bucoda’s Critical Areas Ordinance is designed to protect human life and property from natural hazards. Under the Critical Areas Ordinance, there are several conditions that apply to development. All of the conditions below must be met in order for a building permit to be issued:

Floodplain

1. BMC 18D.70.020(A)(1)(a)(1)) and (2)); FEMA’s Flood Insurance Rate Map. A full flood study must be performed by a professional engineer (BMC 18D.70.030(D)). Base elevations must be determined using the methods established in BMC 18D.70.050 (Appendix A). The City

may approve alternate methods. Once the flood study has been reviewed and approved, the applicant must provide a flood boundary verification survey using the new flood base elevation, as outlined in 18D.70.040(C). This must be completed by a professional surveyor.

2. A deep and/or fast flowing water analysis based on BMC 18D.70.050 will also be performed by a professional engineer (BMC 18D.70.030(E)) to determine if the site is in the floodway. Development is prohibited in the floodway (BMC 18D.70.040(B)).
3. Residential units must be elevated two feet above the 100 year floodplain elevation (BMC 18D.70.040(C)(6)(a)). If built on pilings and so long as no fill is placed in the flood hazard area, it is possible that no Zero-Rise Analysis will be needed (BMC 18D.70.030(F)). A FEMA elevation certificate will be required for any new construction (BMC 18D.70.040(A)(2)). The elevation certificate (and Zero-Rise analysis, if applicable), must both be completed by a professional surveyor.

Wetlands

4. The site will need to be reviewed for the presence of wetlands, according to BMC 18D.30.030(C). A wetland specialist will need to visit the site, and depending on his or her findings, submit a single-family wetland certification form (BMC 18D.30.030(C)(1) or a wetland application and wetland report (BMC 18D.30.030(C)(2)). The wetland report will conform to the standards in BMC 18D.30.070 (Appendix B).

Ordinance No. 454 Planning & Zoning

Ordinance No. 395 Comprehensive Plan & Development

Ordinance No. 302 Land Use and Zoning

Town Of Bucoda Water System Comprehensive Plan – Chapter Emergency Response Program – High Water and Flooding

Town of Bucoda, Comprehensive Flood Hazard Management Plan

Member of Thurston County Emergency Management Team

Resolution No. 2005-01 – Concerning Natural Hazards Mitigation Plan for the Thurston Region

2003 Natural Hazards Mitigation Plan for the Thurston Region

Other activities related to flood hazard mitigation and protection:

1. Map Information: The Town of Bucoda furnishes flood zone information upon request.
2. Hazard Disclosure: The Town of Bucoda recognizes the disclosure requirements of the State of Washington disclosure law.
3. Flood Protection Information: The Town of Bucoda has brochures available upon request relating to flood management.
4. Repetitive Loss: The Town of Bucoda has raised eleven houses that were continually on the repetitive loss list.
5. Dam Safety: The Town of Bucoda currently receives Community Rating System credit for the Washington State Department of Ecology Dam Safety Program.
6. Flood Warning System: The Town of Bucoda has a siren that sounds if the Town is to be evacuated. The local volunteer firefighters visit each and every residence and business during flood potential on a regular basis to inform residents of the flood status.