

# The Evergreen State College’s Annex to the Natural Hazards Mitigation Plan for the Thurston Region

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# EVERGREEN

November 11, 2009

## EXECUTIVE SUMMARY

**To:** Board of Trustees

**From:** Thomas L. Purce, President

**Subject:** Approval of Evergreen's Natural Hazards Mitigation Plan as part of the Natural Hazards Mitigation Plan for the Thurston Region

- 1) **Administrative Recommendation:** Adopt The Natural Hazards Mitigation Plan for the Thurston Region including Evergreen's Annex to the plan.
- 2) **Explanation:**
  - a) Purpose: To approve a natural hazards mitigation plan in order to be eligible for aid from the Federal Emergency Management Agency (FEMA) following a natural disaster.
  - b) Background: Under the Disaster Mitigation Act of 2000, the college must have, or be part of, an approved hazard mitigation plan in order to be eligible for future FEMA funding. The plan must be revised and updated every five years and resubmitted to FEMA for approval. In 2003, The Evergreen State College joined Thurston County's hazard mitigation plan, since it allowed us to cost-effectively partner with the local community. The plan before the Board today is a revised and updated version of the original plan approved by the Board in July 2003.

In 2008, we again joined the Thurston County planning process. The County plan was completed in September 2009. It has been approved by the Thurston County Emergency Management Council and the State and now awaiting approval by FEMA. The Board's action would approve The Evergreen State College's plan including the mitigation initiatives. This action would not affect the mitigation initiatives of other participating jurisdictions.

Evergreen recently was approved for funding from FEMA to undertake a seismic upgrade of the Clock Tower. The awarding of that funding is contingent on having an approved natural hazard mitigation plan. The College has also submitted a proposal to FEMA to undertake seismic improvements to Dorm A.

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- 3) **Scheduling:** Board approval of the Natural Hazards Mitigation Plan for the Thurston Region will allow the project to proceed on the following schedule:

August 20, 2009	Thurston County Emergency Management Council approval
October 6, 2009	State of Washington approval
October 6, 2009	submitted for FEMA approval
October 26, 2009	Thurston County Board of Commissioners' approval
November 11, 2009	TESC Board of Regents approval of Hazard Mitigation Plan

- 4) **Fiscal Impact:**

None.

- 5) **Program Impact:** An approved Hazard Mitigation plan allows the college to seek FEMA grants to mitigate and repair natural hazard related damage

- 6) **Legal Process:** The Federal Emergency Management Agency will require local jurisdictions to participate in a hazard mitigation plan to be eligible for mitigation funding after November 2004 (44 CFR 201.6). FEMA requires that each governing body formally adopt their hazard mitigation plan.

- 7) **Staff Review:**

\_\_\_\_\_ Vice President for Finance Administration

\_\_\_\_\_ Executive Assistant to the President

# College Profile The Evergreen State College

(360)866-6000  
www.evergreen.edu

Background

**About:** The Evergreen State College is a public, liberal arts and sciences college located northwest of Olympia city limits. The college offers an undergraduate program, a graduate program, and seven public service centers that constitute a unique academic setting.

**Governance:** The Board of Trustees (BOT) is an eight member governing board that provides TESC with its long-term strategic leadership. The BOT directs TESC into the future, initiates policy and delegates authority to the president, who reports to the Board. The BOT meetings are open to the public. The Governor of Washington appoints 7 of the members from the external community and alumni, and the eighth member is a student chosen by the governor from a group of nominees selected by campus peers.

**Olympia Evergreen Campus (sq mi.)<sup>1</sup>** 1.5

Faculty/Staff

<b>Faculty (Fall 2008)<sup>2</sup></b>	
Full-time Faculty	164
Part-time Faculty	79
<b>Staff (Fall 2008)<sup>2</sup></b>	
Full-time Staff	489
Part-time Staff	47

**Evergreen's Mission:**

To sustain a vibrant academic community and offer students an education that will help them excel in their intellectual, creative, professional and community service goals.

The main purpose of a college is to promote student learning through:

Student Enrollment

<b>Olympia Campus Enrollment (Fall 2008)<sup>2</sup></b>	
<b>Undergraduate Students</b>	
Total Students	4,364
Full-time	3,700
Part-time	407
Average Age	24
<b>Graduate Students</b>	
	<b>Quantity</b>
Total Students	332
Full-time	171
Part-time	161
Average Age	35
<b>Race/Ethnicity (All Students, Fall 2008)<sup>2</sup></b>	
African American	3%
Pacific Islander	4.6%
Hispanic/Latino	4.7%
Native American/Alaska Native	3.1%
White	68.8%
Non-Indicated/Other	15.8%

**Interdisciplinary Study**

Students learn to pull together ideas and concepts from many subject areas, which enables them to tackle real-world issues in all their complexity.

**Collaborative Learning**

Students develop knowledge and skills through shared learning, rather than learning in isolation and in competition with others.

**Learning Across Significant Differences**

Students learn to recognize, respect and bridge differences - critical skills in an increasingly diverse world.

**Personal Engagement**

Students develop their capacities to judge, speak and act on the basis of their own reasoned beliefs.

**Linking Theory with Practical Applications**

Students understand abstract theories by applying them to projects and activities and by putting them into practice in real-world situations.

Financial

<b>Operations Budget Summary For the Years End June, 2008<sup>2</sup></b>	
<b>Operating Revenues</b>	
Student tuition and fees	\$35,118,829
Less scholarship allowances	-\$6,753,876
Federal grants and contracts	\$8,555,837
Auxiliary enterprise sales, net	\$8,922,702
State and local grants and contracts	\$6,657,738
Nongovernmental grants and contracts	\$2,546,243
Other operating revenue	\$788,279
Sales and services of educational activities	\$785,896
Interest on loans to students	\$73,762
<b>Total Operating Revenue</b>	<b>\$56,695,410</b>
<b>Operating Expenses</b>	
Salaries and wages	\$41,226,926
Benefits	\$11,785,982
Scholarships and fellowships	\$9,934,134
Goods and services	\$21,989,860
Depreciation	\$5,001,351
<b>Total Operating Expenses</b>	<b>\$89,938,253</b>

**Sources:**

- <sup>1</sup>Thurston Regional Planning Council
- <sup>2</sup>The Evergreen State College

**Sources:**

- <sup>1</sup>Thurston Regional Planning Council
- <sup>2</sup>The Evergreen State College

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## The Evergreen State College Plan Development Process

### Hazard Mitigation Plan Workgroup

The following individuals served as Evergreen's hazards mitigation plan workgroup:

Department/Title	Representative(s)
Director of Facilities	Paul Smith
Associate Director Planning and Construction	Azeem Hoosein
Environmental Health and Safety Officer	Robyn Herring
Emergency Response Planning Coordinator	Bruce Sutherland

### Hazard Mitigation Plan Development

The following activities supported the development of the Evergreen State College's local hazard mitigation planning process:

Date	Location	Activity	Subject
August 11, 2008	Facilities Dept	Meeting	Planning process
October 7, 2008	Facilities Dept	Meeting	Mitigation project status
July 7, 2009	Facilities Dept	Evergreen hazard mitigation workgroup	Prioritizing ongoing and planned projects
October 19, 2009	Board Room	Senior Staff	Plan Review
November 11, 2009	Board Room	Board of Trustees	Plan Adoption

### Mitigation Initiative Prioritization Process

During the 2003 Thurston County Hazard Mitigation Planning process, Evergreen developed a list of 20 hazard mitigation projects, 19 of which were related to earthquake events and one to landslide events. During the next 5 years, 4 of those projects were completed, one project was dropped and the rest remained on the books.

At the beginning of the 2008-09 Hazard Mitigation planning process, Bruce Sutherland, Evergreen's Emergency Response Planning Coordinator met informally with Paul Smith, Evergreen's Facilities Director, to review the status of the 20 projects. Bruce also met informally with Robyn Herring (Evergreen's Environmental Health and Safety Officer) to discuss how the 2003 Hazard Mitigation process was completed and to develop an outline of how to proceed with the current process.

On July 7<sup>th</sup>, Bruce Sutherland met with Paul Smith, Robyn Herring (Evergreen's Environmental Health and Safety Officer) and Azeem Hoosein (Evergreen's Construction project manager) to formally review the 2003 list of projects, update the status of those projects, and add any new initiatives. That meeting resulted in a re-prioritization of projects, an update on their status,

and the addition of one new initiative. The re-prioritization process was based primarily on removing completed projects from the list and moving the remaining projects up. A reassessment of Evergreen's emergency preparedness resulted in one project, the seismic retrofit of Dorm A moving from TESC EH 13 in the 2003 plan to EH 2 because of the concern for student safety and a new project (the outdoor PA system) was placed at the number EH 3 priority for the same reason. Another project, the seismic retrofit of the connecting bridges was moved up in ranking to number EH 12 based on increased recognition of their vulnerability. One project TESC LH 1 was removed from the list because the College decided to sell the property rather than renovate the President's residence.

Evergreen will continue to proceed on all these projects as resources allow. We are committed to providing a safe and healthy environment for all members of the Evergreen community.

# The Evergreen State College Risk Assessment

## Introduction

The risk assessment provides information about the hazards that threaten The Evergreen State College. 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 <b>shall</b> include a] description of the type ... of all natural hazards that can affect the jurisdiction ...
§201.6(c)(2)(i):	[The risk assessment <b>shall</b> include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan <b>shall</b> include information on previous occurrences of hazard events and on the probability of future hazard events.
§201.6(c)(2)(ii):	[The risk assessment <b>shall</b> include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description <b>shall</b> 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 <b>must</b> also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.
§201.6(c)(2)(ii)(A):	The plan <b>should</b> 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 <b>should</b> describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate ...
§201.6(c)(2)(ii)(C):	[The plan <b>should</b> 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 <b>must</b> 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 worse case scenario, there could be a disaster of major to catastrophic proportions.

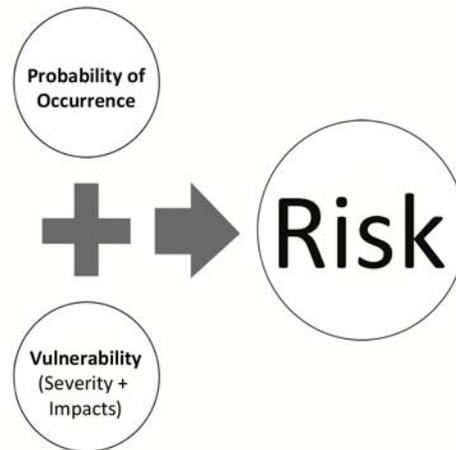


Figure 1: Risk is a subjective estimate of the combination of a hazard's probability of occurrence and a community's vulnerability.

- **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 The Evergreen State College.

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

## Local Risk Assessment

A comprehensive risk assessment of the major natural hazards that threaten The Evergreen State College 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 jurisdiction's 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 The Evergreen State College are scaled to local boundaries and are included in this section.

## Earthquake

### Severity

For this assessment, the accepted measurement of earthquake intensity is the Richter Magnitude Scale, a mathematical scale which measures the intensity of ground motion. The severity of an earthquake is dependent upon the source of the quake. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Three kinds of earthquakes are recognized in the Pacific Northwest: crustal earthquakes, subduction zone earthquakes, and deep earthquakes. The most recent earthquake was of the deep type. It was centered near the Nisqually River Delta and measured 6.8 on the Richter Scale.

### Impacts

According to the Thurston County Risk Assessment, of the 939 acres in The Evergreen State College, only 10 acres (10%) are in the earthquake hazard zone and no structures are located on any of that property. Still, a major earthquake is the greatest hazard faced by The Evergreen State College. The impacts from this hazard could be far reaching and severe with possible interruptions to classes, communications, transportation and utilities, likely medical emergencies, possible infrastructure failures and probable campus closure. With up to 1000 students living on campus, many of which are in high rise dormitories, their safety in an earthquake is a great concern. Fortunately, most buildings on campus are structurally sound and have been seismically upgraded in recent years. The exception is the clock tower which is in line for seismic improvements.

To help mitigate the impacts of an earthquake event, Evergreen has developed emergency plans, trained some of its staff in hazard evaluation, improved its emergency notification systems and has simulated earthquake events to test its emergency operations center. Evergreen also has 24/7 police service and student housing staff trained for emergencies. In addition, McLane Fire and Life Safety with their extensive emergency resources can respond to campus in six minutes.

### Probability of Occurrence

Past events suggest that a destructive event occurs about every 26 years. Therefore, the overall probability of occurrence of a damaging earthquake is high.

### Historical Occurrences and Impacts Specific to this Jurisdiction

On February 28, 2001, a magnitude 6.8 earthquake produced strong ground shaking across Washington State. The epicenter was located near Anderson Island, approximately 11 miles north of Olympia near the Nisqually River Delta. The focus was located nearly 33 miles underground. The depth of the earthquake minimized the intensity of the shaking and limited the impact to the built environment.

The Evergreen State College sustained some minor damages including a broken water line and broken window in the Library, books toppled from shelves and hairline cracks in the Library and Laboratory Buildings. The campus was closed for two class days and a weekend. .

## Summary Assessment

History suggests a high probability of occurrence of another damaging earthquake sometime in the next 25 years. It is conceivable that an earthquake with similar or greater magnitude to the Nisqually quake could emanate from a shallow crustal fault which would result in much greater damages. Damage from the 1949, 1965, and 2001 earthquakes indicate that an earthquake of a greater magnitude would have a catastrophic impact on The Evergreen State College.

### Summary Risk Assessment for Earthquake in The Evergreen State College

Probability of Occurrence	Vulnerability	Risk
High	High	High

## Storm

### Severity

Severe weather events are the most frequent source of natural disasters for Thurston County and its communities. Storms cause injury and sometimes death, but also cause significant property damage and disrupt daily life. The high reoccurrence rate of Pacific Northwest storms, the record of historical damage, and the repetitive response and recovery costs associated with these destructive events make the region highly vulnerable to storm events

High winds, heavy rain, heavy snow, freezing rain, tornados, hail, and lightning all impact the region and The Evergreen State College. Each element poses a threat and merits inclusion in this hazard profile. The severity of each is summarized below.

1. High Winds/Windstorms: Fifty-nine winter windstorm events have buffeted the Pacific Northwest from October 1950 to December 2007. Nine of these events produced peak gusts over 58 mph at the Olympia Airport weather station.
2. Heavy Rain: Prolonged heavy rains typically occur from November through February. The entire region is directly or indirectly affected by heavy rainfall and is moderately vulnerable to flooding
3. Freezing Rain: The entire region is susceptible to the effects of an ice storm. In December 26, 1996 an ice storm resulted in ice accumulations of one-quarter to three-quarter inch thick
4. Heavy Snow: The average annual snowfall for Thurston County is 18 inches. In the period from 1948-2007 six events with accumulations for more than a foot have occurred.
5. Tornados: Damaging tornados are rare in the area. No tornados have adversely affected densely populated areas of Thurston County and historic damage was isolated to small areas
6. Hail: Most hail storms in Thurston County produce small non-destructive hail.
7. Lightning: Lightning storms in Thurston County are short lived and events generally only affect a small area, however, the entire County is potentially vulnerable to lightning strikes..

### Impacts

High winds, heavy rain, heavy snow, freezing rain, tornados, hail, and lightning all impact the region. Each element poses a threat to The Evergreen State College with varying impacts as described below:

1. High Winds: With more than half of the College campus in forest cover, downed trees resulting in road blockages, power outages, and possible damage to structures are likely. The impacts range from the disruption of campus activities to possible injuries and campus closures and could result in significant cleanup costs and losses of revenue and time.
2. Heavy Rain: Only 1% of the College lands are subject to flooding and no buildings are located on that property. Heavy rains could result in some temporary road closures but multiple access routes exist so impacts would likely be low.

3. Freezing Rain: Because of the high forest cover, freezing rain like high winds could result in road blockages, power outages, and possible damage to structures. The impacts range from the disruption of campus activities to injuries to campus closures and could result in significant cleanup costs and losses of revenue and time
4. Heavy Snow: Like high winds and freezing rain, heavy snow resulting in downed trees and limbs, road blockages, and power outages could cause significant impacts to the college including disruption of activities and campus closures.
5. Tornado: A tornado could have devastating impacts in a localized area of the campus.
6. Hail: Large hail could have significant impacts in a localized area of the campus.
7. Lightning: Because of the heavy forest cover, lightning could set off forest fires with devastating impacts to the College grounds and result in possible injuries, a disruption of campus activities and possible campus closure.

Evergreen has developed plans to deal with storm emergencies and mitigate the impacts and has a fully operational emergency operations center with back up communications for managing major emergencies.

### **Probability of Occurrence**

High winds, heavy rain, heavy snow, freezing rain, tornados, hail, and lightning all could affect the Evergreen State College but the probability of occurrence limits the level of concern primarily to high winds, heavy snow, and high rainfall events as described below:

High Winds: Based on past records the probability of a high wind event in the next 25 years is high.

1. Heavy Rain: The annual probability is high
2. Freezing Rain: Past records suggest the probability is low
3. Heavy Snow: The probability of heavy snow event in the next 25 years is high
4. Tornado: The annual probability is low
5. Hail: The annual probability is low
6. Lightning: The annual probability is moderate

### **Historical Occurrences and Impacts Specific to this Jurisdiction**

A heavy snow event this past winter and high wind storms in the past few years have resulted downed trees, dangerous road conditions, and power outages that have closed the campus for varying amounts of time from one day to a week. The costs of cleanup, snow removal, and the disruption of campus activities and campus closures have been significant.

## Summary Assessment

The high reoccurrence rate of Pacific Northwest storms, the record of historical damage and the repetitive response and recovery costs associated with these events makes the College highly vulnerable to storm events and thus makes the overall risk high.

### Summary Risk Assessment for Storm in The Evergreen State College

Probability of Occurrence	Vulnerability	Risk
High	High	High

## Flood

### Severity

Of all natural hazards that affect Region, floods are the most prevalent. Between 1962 and 2009, Thurston County has received 18 Federal Disaster Declarations related in some part to flooding. On average, the region experiences a major river flood event about every two and one-third year. Four types of flooding occur in Thurston County: riverine flooding, groundwater flooding, tidal flooding, and urban flooding. Depending on the magnitude of the flooding, the severity of the impacts can range from minor to catastrophic.

Of the four types of flooding, only groundwater flooding in a small localized area of the Evergreen property (less than 1% of the area) represents a possible risk

### Impacts

No part of the College campus is likely to be affected by flooding. A small part of the south east corner of the College property is at risk for ground water flooding but the impacts would be local with a possibility of a temporary road closure.

### Probability of Occurrence

The probability of localized groundwater flooding is moderate. .

### Historical Occurrences and Impacts Specific to this Jurisdiction

There are no records of significant impacts to the College from flooding. .

### Summary Assessment

With less than 1% of the College area at risk for ground water flooding and no structures within that area, the level of risk for flooding is low. .

#### Summary Risk Assessment for Flood in The Evergreen State College

Probability of Occurrence	Vulnerability	Risk
Moderate	Low	Low

## Landslide

### Severity

Landslides are the movement of rock, soil, or other debris, down a slope. In general, the term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Gravity acting on an overly steep slope is the primary cause of a landslide. However, they are influenced by both natural factors (geology, topography, and hydrology) and human activity (mining and construction of buildings, railroads, and highways). Landslides can be initiated by heavy rain or snow, fires, earthquakes, volcanoes, and various human activities that modify the environment. Landslides can have severe localized impacts.

Only 1% of the Evergreen property is identified by TRPC as being in the landslide hazard zone and there are no structures or campus facilities located on that land. .

### Impacts

The impacts from landslides to the College are limited to its undeveloped property along Eld Inlet. There are hiking trails and beach access points in this area and these could be affected and/or destroyed. Any people in the area could also be harmed by a sudden landslide event. There would be costs associated with injuries, cleanup and restoration.

### Probability of Occurrence

The probability of occurrence is moderate based on geologic information gathered by TRPC. .

### Historical Occurrences and Impacts Specific to this Jurisdiction

Historically, there are no known impacts from landslides to the College campus. .

### Summary Assessment

A small portion of the Evergreen property (1%) is vulnerable to land slides but there is no history of landslides and no portion of the campus is in the risk zone. Therefore the risk rating is low.

#### Summary Risk Assessment for Landslide in The Evergreen State College

Probability of Occurrence	Vulnerability	Risk
Moderate	Low	Low

## Wildland Fire

### Severity

A wildland fire, also known as a wildfire, can damage or destroy open space and natural resource lands. Although wildland fires can be ignited by natural means such as lightning, they are more frequently the result of ignition due to poor judgment or a lack of understanding of fire hazard potential, such as residential debris burns left unattended. Large uncontrollable fires can destroy timberlands, recreational areas, habitat, watersheds, and cherished scenic views.

The severity of a wildland fire depends upon the extremity of the factors such as slope, vegetation type, soil conditions, access, the extent of the fire, the size of the population, the value of structures that are at risk, and the ability of firefighters to effectively mobilize and suppress the fire.

### Impacts

Although 100 percent of the Evergreen State College's assets are located within the designated fire hazard area, the risk of a wildland fire affecting these assets is very low. The following conditions around campus reduce the likelihood for an incidence of damaging wildland fire:

7. Most of the structures on campus are surrounded with sufficient defensible spaces that would make it difficult for fires to make contact with the structures.
8. Most of the structures exteriors are concrete surfaces.
9. Fire District 9 can respond to a campus incident in less than six minutes
10. The campus has an accessible road network that can provide sufficient access for firefighting apparatuses.
11. Twenty-four-seven law enforcement personnel and campus residents can readily observe and report fire hazards in the campus vicinity.
12. Evergreen has developed plans to deal with emergencies and mitigate the impacts and has a fully operational emergency operations center with back up communications for managing major emergencies.

Despite the fact that Evergreen's assets are at relatively low risk for wildfire damage, a wildfire in the Evergreen forest could have severe environmental impacts and cause significant harm to one of the factors that makes Evergreen a special place.

### Probability of Occurrence

The documented record of wildland fires in the region suggests that most fires will be small but that at least one fire exceeding 100 acres could occur over the next 25 years. A warmer and drier future climate may create more suitable conditions for more frequent or larger wildfires. There is a "high" probability of occurrence in the Evergreen area for wildland fires. .

## Historical Occurrences and Impacts Specific to this Jurisdiction

There is no history of occurrences.

## Summary Assessment

With 100 percent of The Evergreen State College's assets in the fire hazard zone, the likelihood of a wildfire is high but past history and the mitigating factors listed above indicate that the level of risk is low. .

### Summary Risk Assessment for Wildland Fire in The Evergreen State College.

Probability of Occurrence	Vulnerability	Risk
High	Low	Low

## Volcanic Hazards

### Severity

Two of the most active and hazardous volcanoes in the United States, Mount Rainier, and Mount St. Helens, are located only 22 and 39 miles, respectively, from the southeast corner of Thurston County near Alder Lake. The proximity of these mountains to Thurston County communities increases the region's risk for disasters initiated from a volcanic event. With Mount Rainier only 22 miles from the border of south east Thurston County, the right winds could conceivably result in the entire area blanketed with ash. The severity of the hazard would depend on the thickness of the ash deposition.

### Impacts

Ash fall of a quarter inch or more will reduce motorists' visibility and disrupt nearly every mode of transportation. Wet ash could create hazardous driving conditions and result in traffic injuries or fatalities. Inhalation of ash particles could cause respiratory irritation and pose more serious problems for people with asthma or other respiratory diseases, but this could be mitigated by simply avoiding exposure. Ash can contaminate surface water sources, clog drainage and sewer systems, and inhibit or destroy mechanical systems such as outdoor heating, ventilation, and air conditioning systems. Ash fall of just a few inches in depth could exceed the load capacity of some building rooftops and lead to structural failure. Failure could occur with lower depths if ash absorbed subsequent precipitation. Wet ash has been known to cause power lines to short out.

Possible disruption of classes along with the costs of clean up and recovery would likely be the greatest impact to The Evergreen State College. Evergreen has developed plans to deal with emergencies and mitigate the impacts and has a fully operational emergency operations center with backup communications for managing major emergencies.

### Probability of Occurrence

If Mount Rainier or Mount St. Helens were to erupt, a resultant ash plume would require an easterly wind to deposit ash in Thurston County. The USGS calculated that the annual probability for a significant ash deposit of one centimeter or greater in Thurston County is 0.02 percent for the south eastern third of the county and 0.01 percent for the northwestern two-thirds of the county. This hazard has low probability of occurrence.

### Historical Occurrences and Impacts Specific to this Jurisdiction

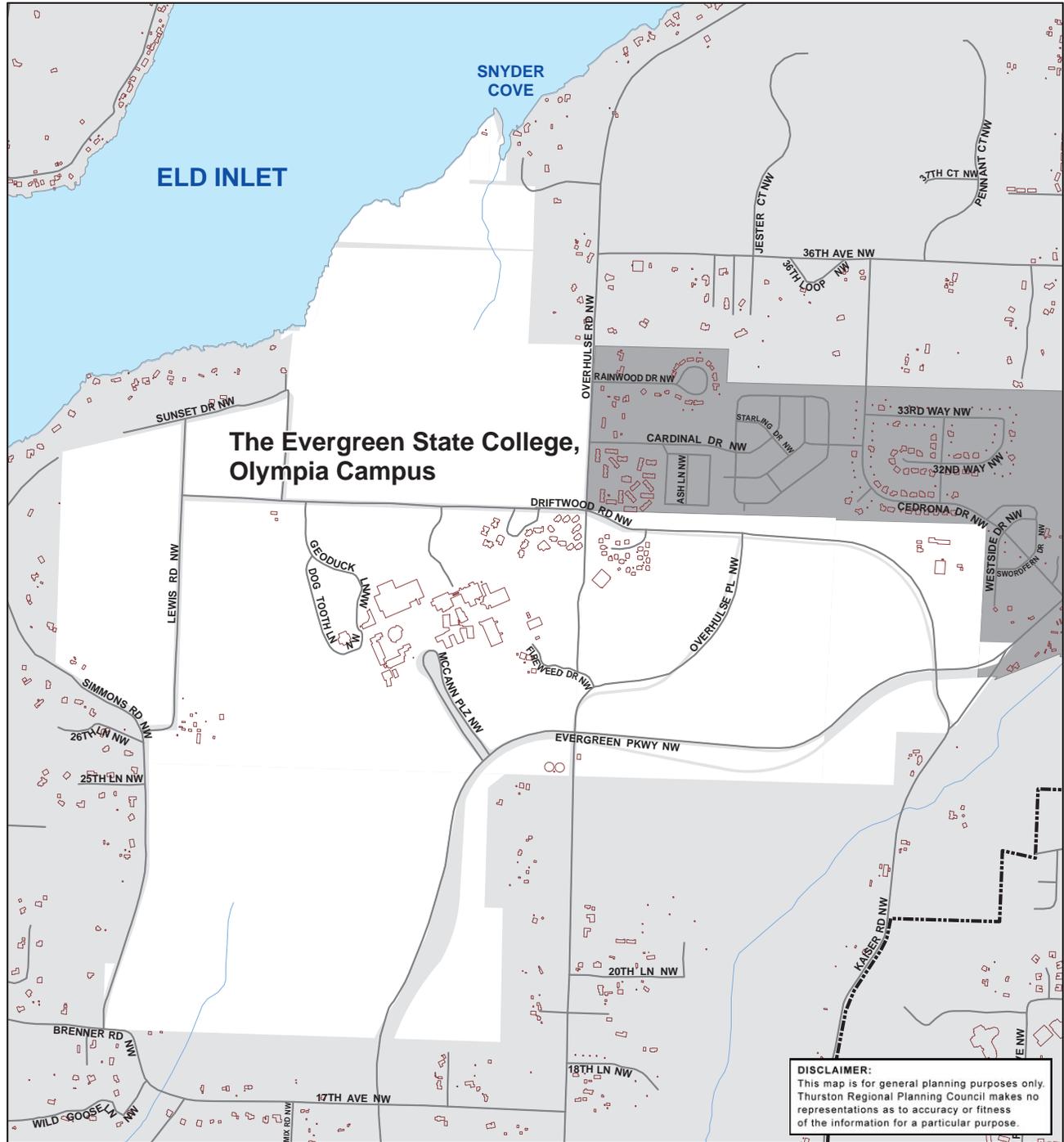
There are no historical occurrences recorded at The Evergreen State College.

### Summary Assessment

Under certain conditions, ash from a volcanic event could fall on the Evergreen campus. The effects would not likely pose life threatening conditions, but the costs from possible disruption of classes and from clean up and recovery could be significant. Therefore, Evergreen is moderately vulnerable to volcanic activity.

**Summary Risk Assessment for Volcanic Events in The Evergreen State College.**

<b>Probability of Occurrence</b>	<b>Vulnerability</b>	<b>Risk</b>
Low	Moderate	Low



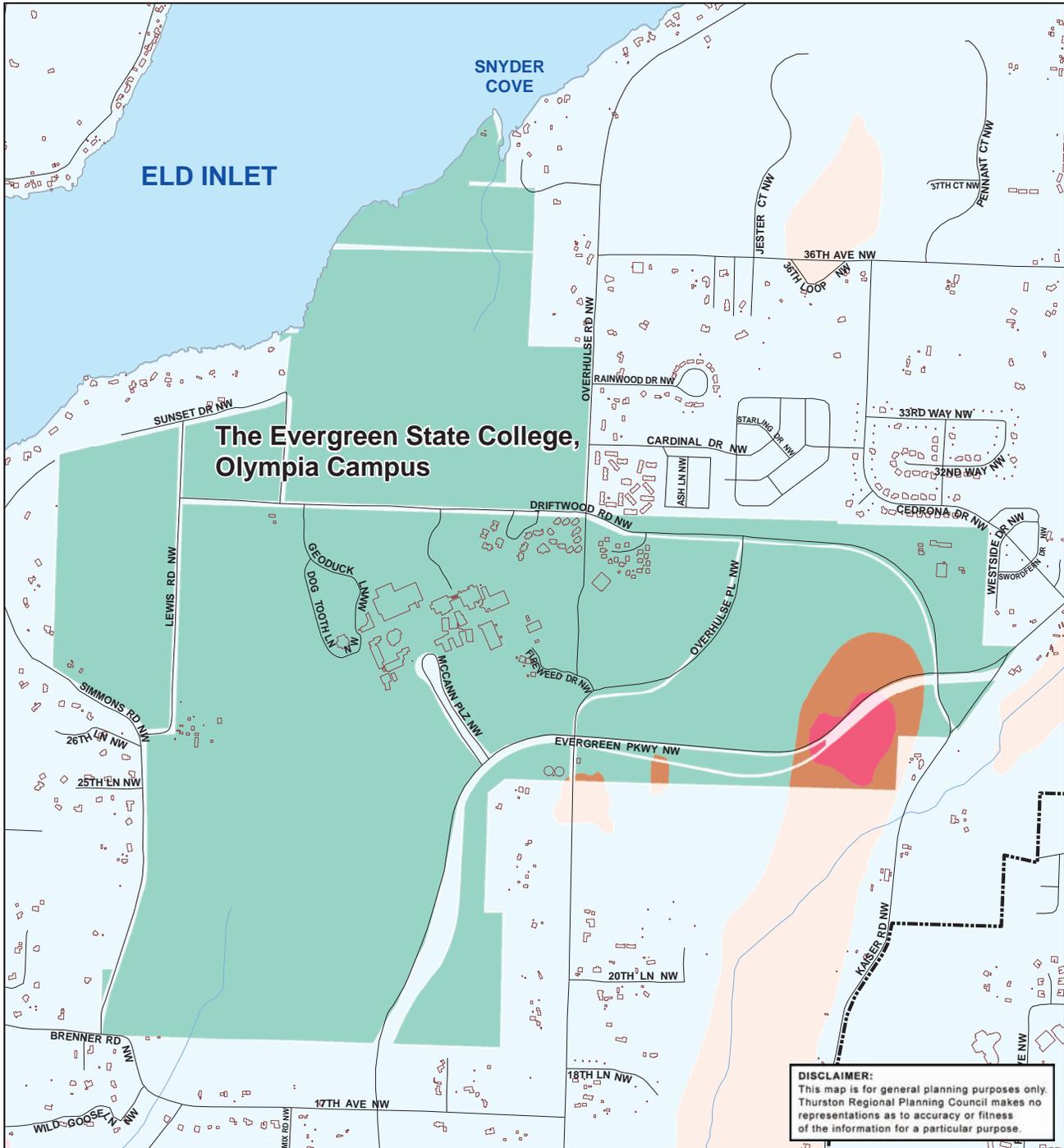
## The Evergreen State College

Thurston County, WA

- Main Olympia Campus Boundary
- Building Footprints (limited)

0.25 0.125 0 0.25 Miles

Printing Date: April 24, 2009  
 File: P:\ThurstonCounty\Hazard\_Mgt\HazardMit08\Maps\_Images\Chapter\_Maps\VicinityMaps\College\_TESC



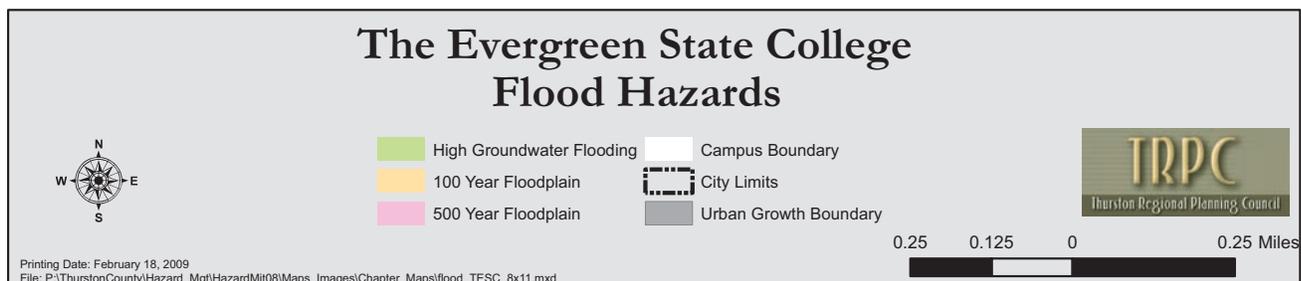
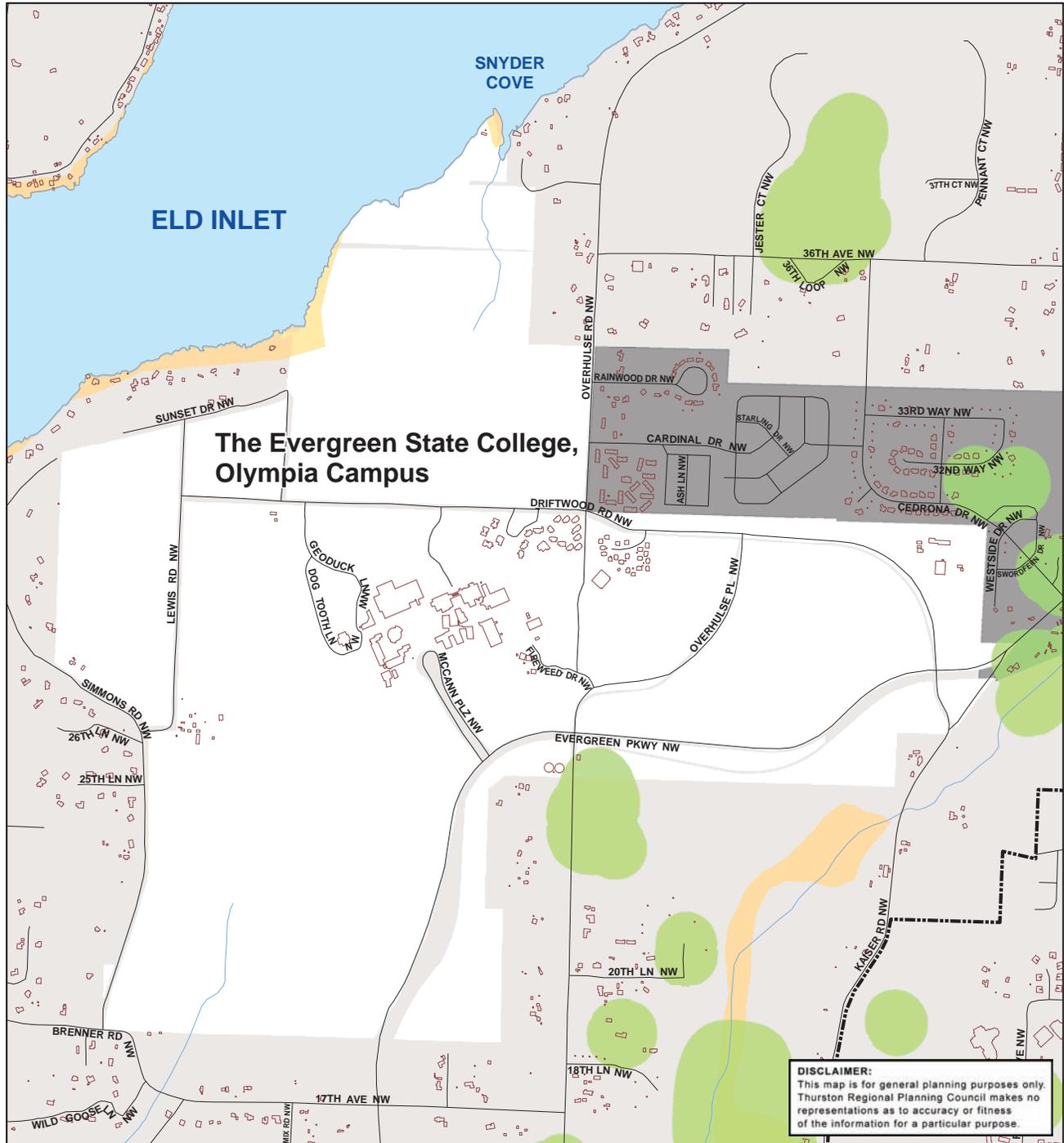
**DISCLAIMER:**  
 This map is for general planning purposes only. Thurston Regional Planning Council makes no representations as to accuracy or fitness of the information for a particular purpose.

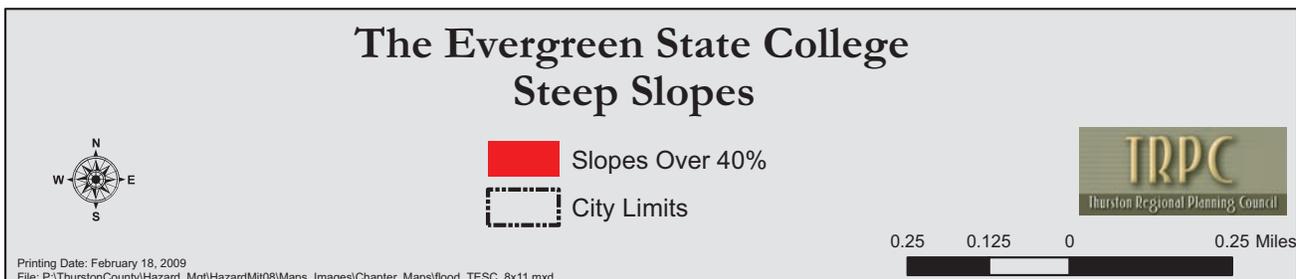
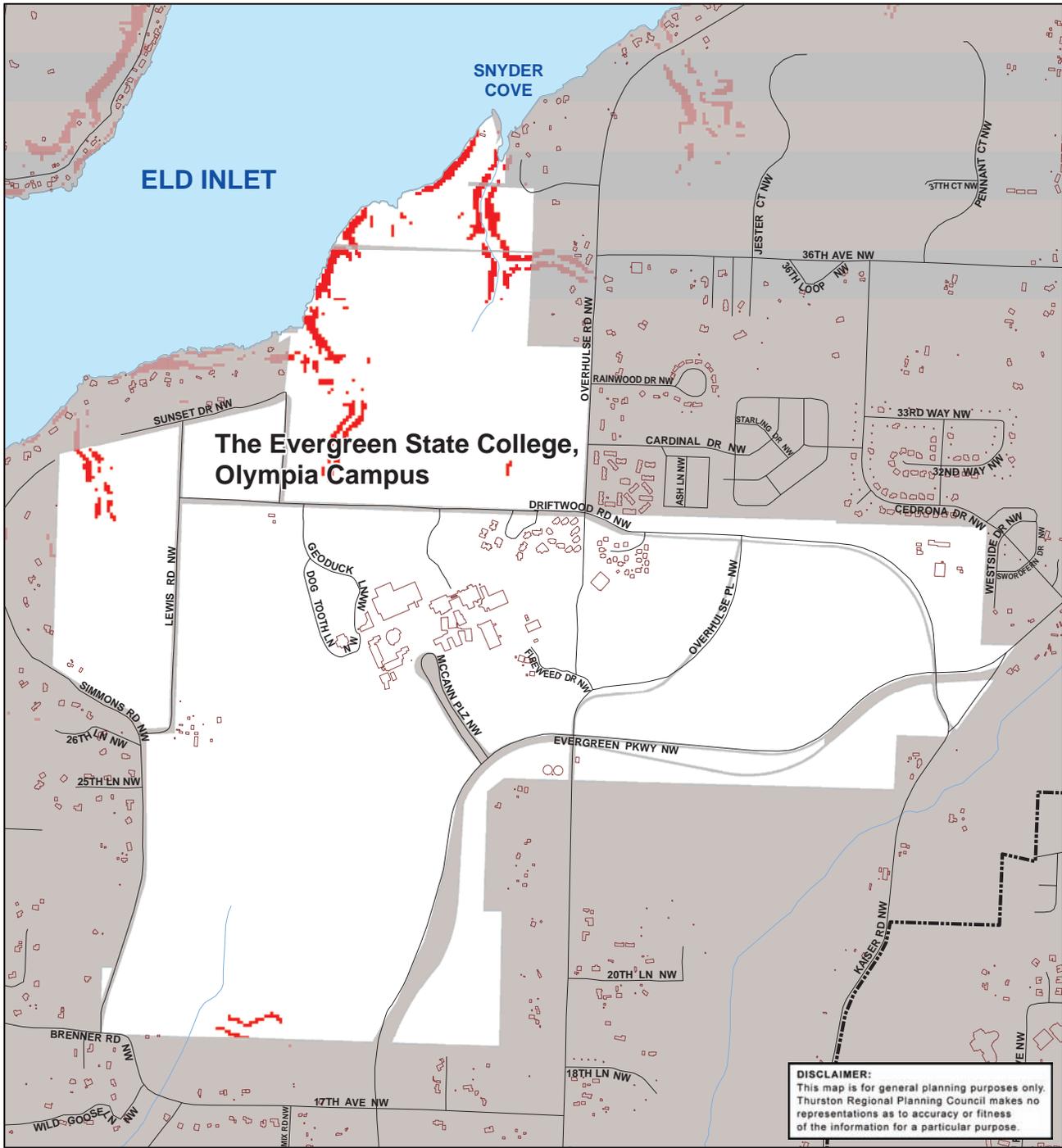
## The Evergreen State College Liquefaction Hazards

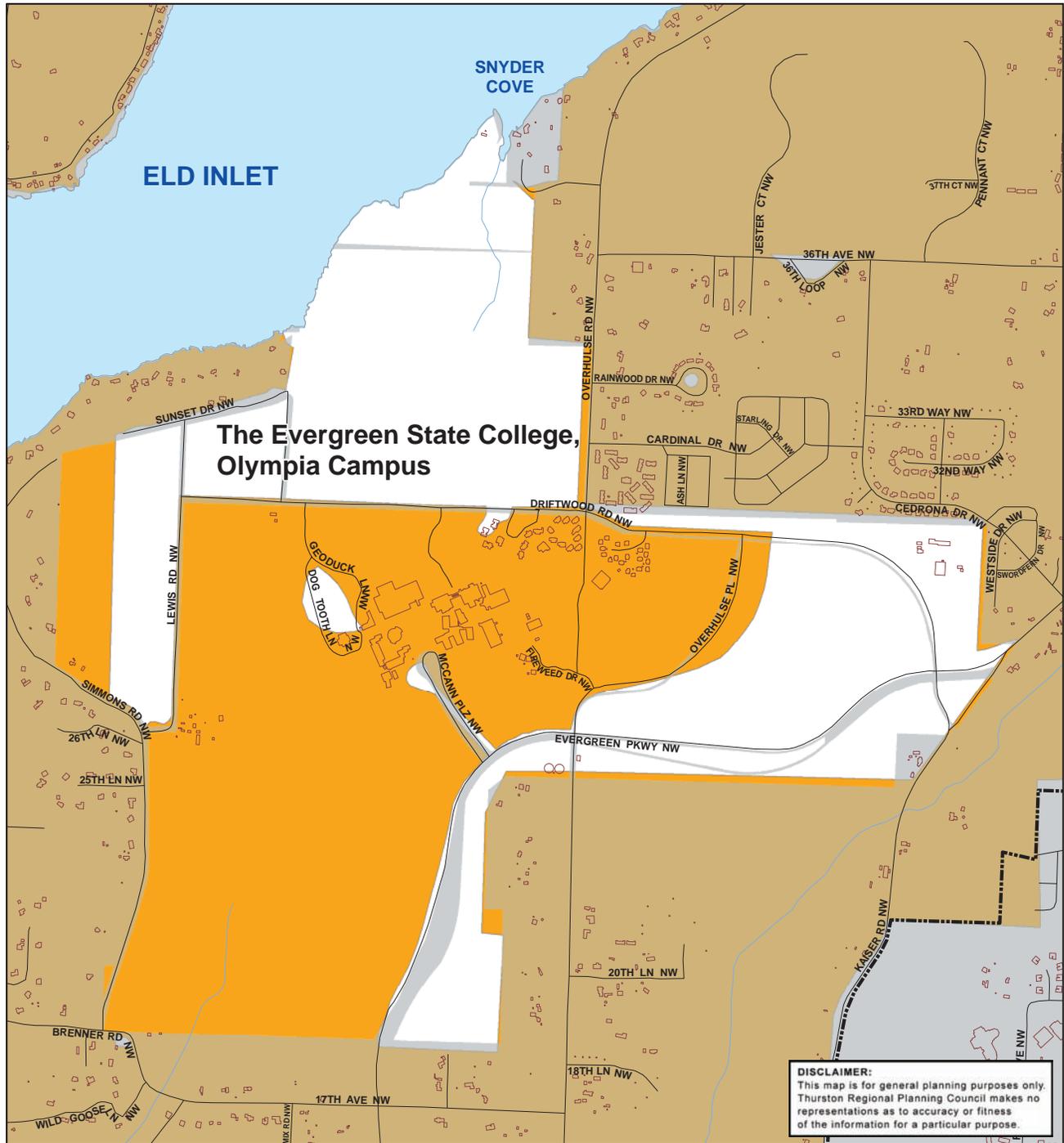
Campus Boundary	high	low	bedrock
City Limits	moderate to high	very low to low	peat
	low to moderate	very low	water

0.25   0.125   0   0.25 Miles

Printing Date: February 18, 2009  
 File: P:\ThurstonCounty\Hazard\_Mgt\HazardMit08\Maps\_Images\Chapter\_Maps\lood\_TESC\_8x11.mxd







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## The Evergreen State College Mitigation Initiatives

### Current Adopted Mitigation Initiatives

Current Mitigation Initiatives consist of actions that have not yet begun or require additional work. They consist of new initiatives identified by the Evergreen State College during the plan update process. They also consist of existing initiatives that were carried over in their original form from the first edition of this plan or other plans, or modified from their original form to reflect present needs.

Priority	I.D. Number	Category	Action	Status
1 of 16	TESC-EH 3	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit in Clock tower on The Evergreen State College campus	Existing
2 of 16	TESC-EH 13	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of Dorm A on The Evergreen State College campus	Existing
3 of 16	TESC-EH 20	Hazard Preparedness	Install an outdoor PA system on the lower campus	New
4 of 16	TESC-EH 6	Hazard Preparedness	Update Emergency Preparedness Plan for The Evergreen State College	Existing
5 of 16	TESC-EH 7	Critical Facilities Replacement/Retrofit	Undertake a seismic upgrade of the Lab Annex on The Evergreen State College campus	Existing
6 of 16	TESC-EH 8	Critical Facilities Replacement/Retrofit	Undertake a seismic upgrade of the College Activities Building on The Evergreen State College campus	Existing
7 of 16	TESC-EH 9	Critical Facilities Replacement/Retrofit	Undertake a seismic study of the Communications Building on The Evergreen State College campus	Existing
8 of 16	TESC-EH 10	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of Lab II on The Evergreen State College campus	Existing
9 of 16	TESC-EH 11	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of Lab I on The Evergreen State College campus	Existing
10 of 16	TESC-EH 12	Critical Facilities Replacement/Retrofit	Undertake a seismic study and upgrade of the Seminar Building on The Evergreen State College campus	Existing
11 of 16	TESC-EH 14	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the College Recreation Center on The Evergreen State College campus	Existing
12 of 16	TESC-EH 18	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Campus Building Connecting Bridges on The Evergreen State College campus	Existing
13 of 16	TESC-EH 15	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Central Utility Plant on The Evergreen State College campus	Existing
14 of 16	TESC-EH 16	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Shops Complex on The Evergreen State College campus	Existing
15 of 16	TESC-EH 17	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Geoduck House on The Evergreen State College campus	Existing
16 of 16	TESC-EH 19	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Organic Farmhouse on The Evergreen State College campus	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.

## Completed or Removed Mitigation Initiatives

Initiatives that were completed in the last five years are included in this plan to provide evidence of progress made. These initiatives are no longer relevant and no longer part of the Evergreen State College's adopted mitigation strategy. These initiatives are not ranked as they are no longer relevant.

I.D. Number	Category	Action	Status
TESC-EH 1	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Child Care Center on The Evergreen State College campus	Completed
TESC-EH 2	Critical Facilities Replacement/Retrofit	Undertake a seismic retrofit of the Daniel J. Evans Library Building on The Evergreen State College campus	Completed
TESC-EH 4	Critical Facilities Replacement/Retrofit	Replace the chlorine gas at the CRC pool, Campus Recreation Center on The Evergreen State College campus	Completed
TESC-EH 5	Critical Facilities Replacement/Retrofit	Install seismic gas valves on master gas meter for The Evergreen State College campus	Completed
TESC-LH 1	Critical Facilities Replacement/Retrofit	Continue to assess the geological stability of the bluff at the President's Residence for The Evergreen State College	Removed

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 16****Status: Existing****Hazard Addressed: Earthquake Hazard**  
**Category: Critical Facilities Replacement/Retrofit****TESC-EH 3: Undertake a seismic retrofit in Clock tower on The Evergreen State College campus.****Rationale:** The Clock tower was constructed in early 1970's under older building codes. Seismic retrofits would increase the building's ability to withstand a major seismic event.**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College**Estimated Cost:** \$925,000**Time Period:** 2009-2011**Funding Source:** Applied for FEMA hazard mitigation grant and Capital Funds**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 3**Reference Page:** V113**Initiative and Implementation Status:** This initiative was ranked 3 of 20 in the 2003 natural Hazards Mitigation Plan for the Thurston Region. It is now our top priority. Currently we are awaiting approval of a FEMA funding request. Expected to be completed by 2011.

**Priority: 2 of 16****Status:Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC -EH 13: Undertake a seismic retrofit of Dorm A on The Evergreen State College campus**

**Rationale:** Dorm A was constructed in 1971 under older building codes. It is a 10 floor high rise consisting of student housing and housing maintenance offices. Seismic retrofits would increase the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$1,100,000**Time Period:** 2009 - 2019**Funding Source:** Housing Bonds and possible grants**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019  
Capital Budget**Adopted Plan Number:** TESC-EH 13**Reference Page:** V-133

**Initiative and Implementation Status:** This project was ranked 13 or 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Study completed in 2005, grant submitted in 2009.

**Priority: 3 of 16****Status: New****Hazard Addressed: Earthquake Hazard****Category: Hazard Preparedness****TESC-EH 20: Install an outdoor PA system on the lower campus**

**Rationale:** We currently do not have an effective way to communicate emergency information by voice to the student housing area and the Children's Center. The PA system will provide a very loud voice warning that can be heard throughout the lower campus.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$150,000**Time Period:** Fall 2009**Funding Source:** State Capital Fund and Institutional Reserves**Source and Date:** 2009-2019 Capital Budget**Adopted Plan Number:** N/A.**Reference Page:** N/A**Initiative and Implementation Status:** To be completed by fall term 2009.

**Priority: 4 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard**  
**Category: Hazard Preparedness****TESC-EH 6: Update Emergency Preparedness Plan for The Evergreen State College**

**Rationale:** Evergreen faces a threat from a variety of natural and man made disasters. A substantial seismic event for example could isolate the College for days. The College should be prepared to respond to a significant seismic event as well as other events.

**Relates to Plan Goal(s) and Objectives:** Objective 4A

**Implementer:** The Evergreen State College

**Estimated Cost:** \$100,000

**Time Period:** 2004 to 2009

**Funding Source:** Finance and Administration Budget

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region

**Adopted Plan Number:** TESC-EH 6:

**Reference Page:**

**Initiative and Implementation Status:** This project was ranked 6 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Original Comprehensive Emergency Management Plan completed in 2003. The College is currently updating entire plan, including earthquake preparedness. The plan should be completed and approved in 2010.

**Priority: 5 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 7: Undertake a seismic upgrade of the Lab Annex on The Evergreen State College campus.****Rationale:** The Lab Annex was constructed in 1973 and added onto in 1988 and 1992. The building houses large art studios. Inspection of seismic connections would help increase the building's ability to withstand a major seismic event.**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College**Estimated Cost:** \$160,000**Time Period:** 2009 to 2011.**Funding Source:** State Capital Funds**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region), 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 7**Reference Page:** V-121**Initiative and Implementation Status:** This project was ranked 7 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Building scheduled for renovation 2009 -2011.

**Priority: 6 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 8: Undertake a seismic upgrade of the College Activities Building on The Evergreen State College campus.**

**Rationale:** The College Activities Building was constructed in 1972 and added on to in 1990. The building houses the Colleges Food Services, Bookstore and academic spaces. Seismic studies would help determine the extent of seismic upgrades required.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$14,000 - part of renovation of College Activities Building**Time Period:** Renovation underway, completed in 9-2010**Funding Source:** State Capital Funds and Certificate of Participation**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region**Adopted Plan Number:** TESC-EH 8**Reference Page:** V-123

**Initiative and Implementation Status:** This project was ranked 8 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Existing project, renovation underway, scheduled for completion in Sept. 2010..

**Priority: 7 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 9: Undertake a seismic study of the Communications Building on The Evergreen State College campus****Rationale:** The Communications Building was constructed in 1977. Seismic study would help determine retrofits necessary to help the building perform better in an earthquake.**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$15,000, part of proposed renovation of the Communications Building**Time Period:** Design phase 2009 - 2011**Funding Source:** State Capital Funds**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 9**Reference Page:** V-125**Initiative and Implementation Status:** This project was ranked 9 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Existing project, design to start in 2009 with construction to start 2011 and complete in 2013.

**Priority: 8 of 16**

**Status: Existing**

**Hazard Addressed: Earthquake Hazard**

**Category: Critical Facilities Replacement/Retrofit:**

**TESC-EH 10: Undertake a seismic retrofit of Lab II on The Evergreen State College campus.**

**Rationale:** The Lab II was constructed in 1975 under older building codes. The building houses chemistry, physics, computer and biology labs. Seismic retrofits would increase the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C**

**Implementer:** The Evergreen State College.

**Estimated Cost:** \$400,000

**Time Period:** 2013 - 2019

**Funding Source:** Partial Funds - Proposed State Capital Funds

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget

**Adopted Plan Number:** TESC-EH 10

**Reference Page:** V-127

**Initiative and Implementation Status:** This initiative was ranked 10 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Part of On-going renovations plan currently scheduled in three increments, 2013-2015, 2015-2017, and 2017-2019.

**Priority: 9 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC -EH 11: Undertake a seismic retrofit of Lab I on The Evergreen State College campus.**

**Rationale:** The Lab I was constructed in 1972 under older building codes. The building houses a wide array of chemistry, physics and biology labs. Seismic retrofits would increase the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$250,000**Time Period:** 20011 - 2019**Funding Source:** Partial Funds - Proposed State Capital Funds**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 11**Reference Page:** V-125

**Initiative and Implementation Status:** This project was ranked 11 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Part of On-going renovations plan currently scheduled in increments for 2011-2013, 2015-2017, and 2017-2019.

**Priority: 10 of 16**

**Status: Existing**

**Hazard Addressed: Earthquake Hazard**  
**Category: Critical Facilities Replacement/Retrofit:**

**TESC-EH 12: Undertake a seismic study and upgrade of the Seminar I Building on The Evergreen State College campus.**

**Rationale:** The Seminar I Building was constructed in 1974 under older building codes. The building houses Police Services, Student Health Services in addition to academic classrooms and offices. Seismic studies would help determine the extent of seismic upgrades required

**Relates to Plan Goal(s) and Objectives: 4C**

**Implementer:** The Evergreen State College.

**Estimated Cost:** \$25,000 - part of building renovation

**Time Period:** Design 2011-2013, Construction 2013-2015

**Funding Source:** Capital Fund

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019  
Capital Budget

**Adopted Plan Number:** TESC-EH 12.

**Reference Page:** V-131

**Initiative and Implementation Status:** This project was ranked 12 of 20 in the 2003 Natural Hazards Mitigation Plan for the Thurston Region. Building scheduled for renovation 2013-2015

**Priority: 11 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC -EH 14: Undertake a seismic retrofit of the College Recreation Center on The Evergreen State College campus.**

**Rationale:** The College Recreation Center was constructed in 1972 and expanded in 1987 with older building codes. The building houses the gymnasium, which is a designated Red Cross Shelter. Seismic retrofits would increase the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$3,000,000**Time Period:** Pre-design 2011-2013, Design 2013 -2015, Construction 2015-2017**Funding Source:** Proposed State Capital Funds**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 14**Reference Page:** V-129**Initiative and Implementation Status:** This project was ranked 14 of 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Scheduled for 2011 to 2017

**Priority: 12 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 18: Undertake a seismic retrofit of the Campus Building Connecting Bridges on The Evergreen State College campus**

**Rationale:** The various campus building connecting bridges were constructed in the early 1970's under older building codes. Seismic retrofits would increase the connecting bridge's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$50,000**Time Period:** 2009 -2019**Funding Source:** State Capital Fund**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 18.**Reference Page:** V-143**Initiative and Implementation Status:** This project was ranked 18 or 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Part of CAB and CRC renovation 2009 to 2019.

**Priority: 13 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 15: Undertake a seismic retrofit of the Central Utility Plant on The Evergreen State College campus .**

**Rationale:** The Central Utility Plant was constructed in 1971 under older building codes. It has 800 ton and one 1000 ton centrifugal chillers. Project would upgrade seismic stability of all equipment and the cooling tower.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$130,000**Time Period:** 2011 -2013**Funding Source:** State Capital Funds**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 15.**Reference Page:****Initiative and Implementation Status:** This project was ranked 15 or 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Scheduled for 2011 to 2013.

**Priority: 14 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 16: Undertake a seismic retrofit of the Shops Complex on The Evergreen State College campus**

**Rationale:** The Shop Complex was constructed in 1971 under older building codes. The building houses a woodshop, paint shop and welding shop. Seismic retrofits would increase the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$50,000**Time Period:** 2009 -2019**Funding Source:** State Capital Fund**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget**Adopted Plan Number:** TESC-EH 16**Reference Page:** V-139**Initiative and Implementation Status:** This project was ranked 16 of 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Scheduled for 2015-2017.

**Priority: 15 of 16****Status: Existing****Hazard Addressed: Earthquake Hazard****Category: Critical Facilities Replacement/Retrofit****TESC-EH 17: Undertake a seismic retrofit of the Geoduck House on The Evergreen State College campus****Rationale:** The Geoduck House was constructed prior to 1970. The building is currently leased to a private K-3 school.**Relates to Plan Goal(s) and Objectives: 4C****Implementer:** The Evergreen State College.**Estimated Cost:** \$4,000**Time Period:** 2010 -2013**Funding Source:** Institutional Reserves**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region**Adopted Plan Number:** TESC-EH 17**Reference Page:** V-141**Initiative and Implementation Status:** This project was ranked 17 or 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Renovation is scheduled for 2011 to 2013.

**Priority: 16 of 16**

**Status: Existing**

**Hazard Addressed: Earthquake Hazard**

**Category: Critical Facilities Replacement/Retrofit**

**TESC-EH 19: Undertake a seismic retrofit of the Organic Farmhouse on The Evergreen State College campus**

**Rationale:** The Organic Farmhouse was constructed in 1972 under older building codes. Seismic retrofits would increase the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives: 4C**

**Implementer:** The Evergreen State College.

**Estimated Cost:** \$30,000

**Time Period:** 2011-2013

**Funding Source:** State Capital Fund

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2009-2019 Capital Budget .

**Adopted Plan Number:** TESC-EH 19

**Reference Page:** V-145

**Initiative and Implementation Status:** This project was ranked 19 of 20 in the Natural Hazards Mitigation Plan for the Thurston Region. Proposed renovation in 2011 to 2013.

**Priority: N/A**

**Status: Completed**

**Hazard Addressed: Earthquake Hazard**

**Category: Critical Facilities Replacement/Retrofit**

**TESC-EH 1: Undertake a seismic retrofit of the Child Care Center on The Evergreen State College campus.**

**Rationale:** The Child Care Center was constructed prior to 1970. The building houses the campus day care. Seismic retrofits have increased the building's ability to withstand a major seismic event.

**Relates to Plan Goal(s) and Objectives:** 4C, 6G

**Implementer:** The Evergreen State College.

**Estimated Cost:** \$9,000

**Time Period:** 2004

**Funding Source:** Bond – Certificate of Participation

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region

**Adopted Plan Number:** TESC-EH 1

**Reference Page:** V-109

**Initiative and Implementation Status:** Completed

**Priority: N/A**

**Status: Completed**

**Hazard Addressed: Earthquake Hazard**

**Category: Critical Facilities Replacement/Retrofit**

**TESC -EH 2: Undertake a seismic retrofit of the Daniel J. Evans Library Building on The Evergreen State College campus**

**Rationale:** The Library Building was constructed in 1971 under older building codes. Seismic retrofits have increased the building's ability to withstand a major seismic event

**Relates to Plan Goal(s) and Objectives: 4C**

**Implementer:** The Evergreen State College

**Estimated Cost:** \$2,090,000

**Time Period:** Phase 1 2003-2006, Phase II 2006-2009

**Funding Source:** State Capitol Funds

**Source and Date:** 2003 Natural Hazard Mitigation Plan for the Thurston Region

**Adopted Plan Number:** TESC-EH 2

**Reference Page:** V-111

**Initiative and Implementation Status:** Completed

**Priority: N/A**

**Status: Completed**

**Hazard Addressed: Earthquake Hazard**

**Category: Critical Facilities Replacement/Retrofit**

**TESC-EH 4: Replace the chlorine gas at the CRC pool, Campus Recreation Center on The Evergreen State College campus**

**Rationale:** A substantial seismic event could rupture the chlorine gas cylinders. Installing a liquid chlorine system at the pool has reduced the chlorine gas hazard.

**Relates to Plan Goal(s) and Objectives: 4C**

**Implementer:** The Evergreen State College

**Estimated Cost:** \$50,000

**Time Period:** 2003-2005

**Funding Source:** State Capital Funds

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2003-13 Capital Budget

**Adopted Plan Number:** TESC-EH 4

**Reference Page:** V-115

**Initiative and Implementation Status:** Completed

**Priority: N/A**

**Status: Completed**

**Hazard Addressed: Earthquake Hazard**

**Category: Critical Facilities Replacement/Retrofit:**

**TESC –EH 5: Install seismic gas valves on master gas meter for The Evergreen State College campus.**

**Rationale:** Seismic sensors shut down the main gas line in the event of a significant seismic event. This prevents secondary damage from gas fires.

**Relates to Plan Goal(s) and Objectives:** Objective 4C

**Implementer:** The Evergreen State College

**Estimated Cost:** \$75,000

**Time Period:** 2003-2005

**Funding Source:** State Capital Funds

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region, 2003-2013 Capital Budget)

**Adopted Plan Number:** TESC-EH 5

**Reference Page:** V-117

**Initiative and Implementation Status:** Completed

**Priority: N/A**

**Status: Removed**

**Hazard Addressed: Landslide Hazard**

**Category: Critical Facilities Replacement/Retrofit**

**TESC-LH 1: Continue to assess the geological stability of the bluff at the President's Residence for The Evergreen State College**

**Rationale:** The President's Residence is located on a steep bluff overlooking Eld Inlet. This slope is identified as a landslide hazard area on Map 7 of Chapter 4 of the plan.

**Relates to Plan Goal(s) and Objectives: 2A**

**Implementer:** The Evergreen State College.

**Estimated Cost:** \$5,000

**Time Period:** N/A

**Funding Source:** N/A

**Source and Date:** 2003 Natural Hazards Mitigation Plan for the Thurston Region .

**Adopted Plan Number:** TESC-LH 1

**Reference Page:** V-147

**Initiative and Implementation Status:** This project was ranked 20 of 20 in the Natural Hazards Mitigation Plan for the Thurston Region. The house is currently for sale.

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