

Section Eleven

Flood Response Plan

11.00 Overview

Green River Community College serves Community College District #10, which is all of Southeast King County from the Pierce County border north to Kenndale and from the West Hill's Military Road east to the Cascade foothills.

Virtually the entire length of the Green River – from its headwaters in the Cascade Mountains to where it changes into the Duwamish River in South Seattle – is in the College's district.

Since 1961, the Green River Valley has been protected from flooding by the Howard Hanson Dam, which was constructed by the Army Corps of Engineers at Eagle Gorge near Palmer (northeast of Enumclaw). The dam is an earthen structure with a concrete spillway. It has a usable storage capacity of 106,000 acre feet.

Maximum river flow capacity for the dikes and levees in Auburn, Kent and Renton is approximately 13,000 cubic feet per second (c.f.s.). Flood stage of the Green River at Auburn is approximately 61' 7".

In early 2009, the Army Corps of Engineers discovered that water was leaking underground through the earthen abutment at an alarming rate. Subsequent tests revealed that as the water level behind the reservoir increased, the rate of leakage from the abutment increased as well. The Corps began providing a series of temporary fixes to the abutment to help slow the rate of leakage. A permanent fix to the problem may not be available for five years.

To help prevent a catastrophic failure of the abutment, the Corps plans to decrease the typical rainy season storage capacity of the reservoir, thereby, perhaps releasing more water downstream than the levees can hold.

Green River Community College has several operations that are located in the Green River Valley and could be directly impacted by a flood. Several employees and over one thousand students are at valley locations that include Kent Campus; Downtown Auburn Center; ABE/ESOL locations at the Auburn Library, Algona Library and Gildo Rey Elementary School; and various internships, practicum, and other learning opportunities.

In addition to learning operations in the valley, many students and employees and their families live in areas that may be directly impacted by flood waters. Many more live in areas outside the flood zone, but rely on using valley roadways, as well as bus and train transportation to reach GRCC's Main Campus.

While the Main Campus would not be impacted directly by Green River flooding, indirect impacts could include the loss of utilities – electricity, natural gas, sanitation sewer, and transportation, to name a few. Main Campus could also be impacted by large numbers of employees and students, who could not, for various reasons, report to work or school.

11.10 Purpose

Green River Community College has created this Flood Response Plan to guide the College in preparing for and responding to a flood of the Green River Valley. The purpose of this plan is to minimize the impact of a flood on students, faculty and staff by describing the specific actions to be taken by the College based on the following objectives and assumptions.

10.11 Objectives

- To protect the lives, safety and health of all students and employees at valley locations
- To protect College property at valley locations
- To provide for the continuation of learning and other college related functions if valley locations become unusable
- To effectively communicate with all College constituents before, during and after a flood event
- To provide all students and employees with alternate routes to GRCC's Main Campus
- To prepare Main Campus for indirect issues associated with valley flooding

10.12 Assumptions

- There will be ample warning prior to Green River Valley flooding, with the exception of a catastrophic dam or levee failure
- Valley flooding may directly impact Kent Campus, Downtown Auburn Center, and other learning sites such as ABE/ESOL, practicum, and internship locations
- Valley flooding will indirectly impact Main Campus
- GRCC's Main Campus is assumed not to be an emergency evacuation site; however the College could be used as an emergency shelter site through a declaration by the Governor
- Recovery resources will be available from the Federal Government through FEMA
- The College's Emergency Operations Center (EOC) will remain active during the crisis

11.20 Prior Warning

Green River Community College will utilize a dual warning system combining Flood Alert Phases provided by the King County Flood Control Center as well as weather and hydrologic bulletins provided by the National Weather Service Office in Seattle.

11.21 Flood Alert Phases

Four alert phases will be provided by the King County Flood Control Center based on the measured or expected flow of the Green River at the Auburn Gauge Station. Below, is a chart provided by the Flood Control Center.

Flood Phase Information			
Phase	Green River gauge at Auburn (measured or expected flow) *	Description	Condition
1	5,000 c.f.s.	Internal Alert	
2	7,000 c.f.s.	Minor Flooding	Lowland flooding in valley upstream of Auburn.
3	9,000 c.f.s.	Moderate Flooding	Flooding of varied depths occurs in valley upstream of Auburn and lower Mill Creek basin. SE Green Valley Rd and West Valley Rd may overtop.
4	12,000 c.f.s.	Extreme Flooding	Levees may exhibit seepage and/or weaken from saturation.

* Phase is determined by current Auburn gauge reading or the expected flow based on Howard Hanson dam operations information from the U.S. Army Corps of Engineers.

11.22 National Weather Service Bulletins

The National Weather Service issues a wide-range of forecasts, bulletins and hydrology reports. Of primary focus to the College's EOC are those products that focus on the Green River (primary concern) and King County (secondary concern). The four stages of weather warning are listed below:

- Area Forecast – provided 4 to 7 days prior to an event including prediction models for precipitation and hydrology
- Hydrologic Outlook – provided 3-4 days prior to an event and demonstrates an increased risk to flooding due to expected precipitation
- Flood Watch – provided 1-3 days prior to an event with precipitation and hydrology modeling predicting a significant risk of flooding
- Flood Warning – demonstrates a huge potential that flooding will occur within the next 24 hours, or less

11.30 GRCC EOC Flood Alert Matrix

The EOC Flood Alert Matrix combines both the Flood Alert Phases and the National Weather Service (NWS) Bulletins to provide College emergency planners with a chart for decision-making, including EOC alert level and action steps. Because of the fluid nature of weather, decisions need to be made taking both systems into consideration.

EOC FLOOD ALERT MATRIX				
Flood Alert Phase	Green River at Auburn	EOC Alert Level	EOC Action Steps	NWS Bulletin
1	5,000 c.f.s.	Monitor	Situation meeting; campus communication; monitor sources	<u>Area Forecast</u> 4-7 day hydrology report
2	7,000 c.f.s.	Standby	Ready status, review plan	<u>Hydrologic Outlook</u> 3-4 day expected precipitation
3	9,000 c.f.s.	Staffed	Monitor for possible evacuation of valley locations; establish links to outside sources	<u>Flood Watch</u> 1-3 day prediction of significant flood risk
4	12,000 c.f.s.	Active	Full alert status and implementation of evacuation plans for valley locations	<u>Flood Warning</u> flooding will occur within 24 hours

11.40 Notification

There are two primary notifications the College uses to communicate with employees, students and the media during emergencies and inclement weather events: Suspended Operations and Classes Cancelled.

11.41 Suspended Operations

A Suspended Operations notification is used to ensure the safety of public health, property and campus personnel when an emergency condition exists. The campus is closed to all students and employees, except those who are required to work during the event. Employees have various options for leave based on their employment group.

11.42 Classes Cancelled

A Classes Cancelled notification means that classes during a defined period of time are cancelled. Employees are required to report to work or to use the appropriate leave based on their employment group if unable to work.

11.50 Evacuation Plan Kent Campus and Downtown Auburn Center

The EOC will be responsible for announcing and coordinating the evacuation of the Kent Campus and/or Downtown Auburn Center, unless prior instruction is provided by city officials, emergency planners or police and fire. Both facilities may, or may not, be evacuated simultaneously. Evacuation notification from the EOC may be delivered by a variety of means including in-person, phone, email, or other means. If available, students and staff will be given a timeline of when the Green River is expected to crest flood stage. Employees are expected to ensure that all students have safely left the building and have transportation to unaffected areas. Once students are safely evacuated, employees may be asked to follow building systems shutdown plans that could include securing equipment, files, fire and security systems, elevator and IT/telecom protocol, shutting down the main power, and securing outside doors (see building checklist).

11.51 Protection of Property

Plans will be developed and shared with Kent Campus and Downtown Auburn Center staff on protocols to follow to protect College property. Individual building checklists will be used by the EOC and building staff to ensure property is secured prior to, during, and after an evacuation.

11.52 Kent Campus and Downtown Auburn Center Re-Entry

Adequate time will be allowed to bring facilities back online following an evacuation. Re-entry of a facility is to be coordinated by the EOC in conjunction with Campus Safety and Facilities. Building employees will be notified when they can return to their work location.

Students will not be allowed to return to buildings until systems are in place and buildings are adequately staffed.

11.60 Communications

Effective communications prior to, during, and after a flood event will be critical to keep employees, students and other college constituents informed. Every attempt will be made to utilize various methods of communication. The primary sources for announcing school schedule changes are listed below.

11.61 Schoolreport.org

The primary means for broadcasting school schedule changes is through www.schoolreport.org, a service that notifies media of schedule changes as well as making notifications available to the public through its website and a free subscription service.

11.62 GRCC Safety Alerts

This free subscription service allows students and employees to receive emergency alerts by text or email 24/7. Messages are not automatically sent to the media as they are with schoolreport.org.

11.63 GRCC Web Site

The College's web site – www.greenriver.edu – will have special flood pages with updated information and resources for students and employees. Emergency messages will also be posted on the web site.

11.64 Telecom and Email

GRCC's telephone system and employee email system will be used to communicate with employees and students.

11.65 Direct Link

An EOC member or designee will be dispatched to any college site that is being evacuated and will serve as a direct link to the College EOC.

11.70 Continuation of Teaching and Learning

The evacuation of Kent Campus and/or Downtown Auburn Center may necessitate instructors at those locations to providing options for their students to continue learning. Prior to a flood event, instructors are asked to provide the Executive Vice President a continuation of teaching plan and to discuss these plans with their students. Options include moving class to Main Campus or Enumclaw Campus at best day and time available; have class join another section of similar class on Main Campus or Enumclaw Campus; move class to a hybrid delivery

method; or move class to online delivery. The College's eLearning staff are offering two distance learning modes to continue instruction. Training will be provided as needed.

11.71 Elluminate

Elluminate is a meeting software that allows instructors to interact with students in real time. Elluminate is free to all faculty, staff and students.

11.72 ANGEL

All faculty and staff have accounts available and the infrastructure in place to use ANGEL. A series of short training videos have been developed to assist faculty with information on how to use ANGEL. If an extended suspension of operations should be declared, eLearning staff will be available in Elluminate to support new ANGEL users.

11.80 Main Campus Issues

While the College's Main Campus will not be directly impacted by a flood of the Green River, there are a number of issues that could result in a notification to cancel classes or suspend operations. EOC members will be responsible to develop contingency plans for issues that include, but are not limited to, the following.

11.81 Disruption of Utilities

11.82 Loss of Metro Bus Service and Transportation Routes

11.83 Loss of Infrastructure – IT and Telecom

11.84 Displaced Employees and Students

11.85 Special Populations

11.85.1 Campus Corner Apartments

11.85.2 GRCC Childcare

11.85.3 International Students and Home Stay Program

11.90 Recovery

Advanced planning for recovery from a flood will assist the College in returning to normal operations as quickly and efficiently as possible. Recovery will depend on several factors such as duration and severity of flooding. Special considerations and planning should be given to the following issues:

11.91 Facilities

Repair and cleanup

11.92 Business Continuity

11.93 Instruction

Class continuation and grades

Faculty recommendation letters for students

Tenure process for candidates
Adjunct faculty evaluation class visits
Print jobs for classes

11.94 Human Resources

Leaves
Payment of adjuncts
Full and part-time employment issues

11.95 Student Services

Awarding credit
Issuing grades
Tuition collection/refund
Transcript and records
Graduation status
Running Start credits
Financial Aid checks
Academic progress reporting
Class schedule creation

11.96 Student Life and Retention

Activities and athletics
Trauma counseling
Resource referral
Food Service issues
Campus Corner Apartments
GRCC Child Care
Heavier Than Air storage issues
Veteran's issues
International Programs Host Family and parent notification
Volunteer and community resources
Food Service issues
Waste removal