

Roaring Creek from the pedestrian bridge

FCZD shows growth, looks to future

October will mark the seventh anniversary of the establishment of the Chelan County Flood Control Zone District, or FCZD. As the district has checked off the steps to build itself a foundation, from the establishment of the district to the adoption of a Comprehensive Flood Hazard Management Plan, we now find ourselves invested in several flood control projects that will better the safety of our community.

This newsletter details some of those projects, including the No. 1 Canyon Debris Basins in Wenatchee, the Slide Ridge Retrofit project at Lake Chelan, a new stream gage recently installed on the Mad River near Entiat and a culvert replacement project on Antoine Creek in Chelan. While it's been a busy year, next year is shaping up to be even busier.

It's important to point out that these kinds of projects would not be possible without the financial backing of the tax payers and the FCZD. As the district capacity grows, monies generated are able to leverage federal grants, including \$2.5 million that we have received in only the past two years.

Looking back on the past year, Chelan County experienced a number of short duration events that produced high intensity rainfall. These events sent water, mud, rock and woody debris over and on top of numerous roadways, leading to plugged culverts; filled and eroded ditches; public and private property damage and other similar problems. The Board of County Commissioners issued two emergency declarations for Chelan County in 2019.

These types of flood-related events aren't going away. But the district is prepared to not only respond to such events but to also further serve as a leader in exploring what mitigation measures can be taken to minimize the impacts of these natural events in our county.

For a full report on this past year, read the 2019 FCZD Progress Report online at www.co.chelan.wa.us/floodcontrol-zone-district.

-- Eric Pierson, FCZD District Administrator



MISSION STATEMENT: Through partnerships and careful planning, identify sustainable, cost-effective actions that will mitigate the impacts from flood hazards, to protect the health, safety, quality of life, environment and economy of the communities within Chelan County. Chelan County Flood Control Zone District 509.667.6415 fczd@co.chelan.wa.us



Next year, watch for construction to start on 2 major flood control projects

Debris basins, Slide Ridge are top FCZD priorities

Next year will be an exciting year for the FCZD, with two capital projects -- the No. 1 Canyon Flood Debris Facility and the Slide Ridge Retrofit project -- expected to begin construction in the summer 2021.



In 2019, two landslides oc-Lakeshore Road at Lake Chelan, depositing mud, rock and debris on the roadway and closing traffic. The first occured in July (shown above) and the second only two months later in September.

Both projects are nearly fully designed and this winter should go out for bid, with the goal of finding a contractor to build the projects.

And, perhaps the best news of all, both projects have gained support from the Federal Emergency Management Agency. Construction on both projects will be paid for primarily with money received by the Pre-Disaster Mitigation program, a federal grant program of FEMA. The FCZD, which paid for the design of both projects, also will be contributing to construction.

The No. 1 Canyon Flood Debris cured at Slide Ridge on South Facility is a series of four flood debris basins that will be built on 21 acres of county-owned land in Wenatchee's Number 1 Canyon, nearly at the end of the county-maintained portion of the roadway. The flood debris facility will be the second one built in No. 1

Canyon, with the first completed in 2015.

The debris basins, or detention ponds, will provide a collection and release point for reoccuring, debris-laden floodwaters that often strike the canyon following rain events or during

heavy snowmelt. The project was preliminarily awarded a nearly \$1 million FEMA grant.

On South Lakeshore Road, the FCZD proposes removing the existing roadway and culvert at the tumultuous Slide Ridge and constructing a bridge over the earthen channel to allow mud and debris flows to freely pass under -- not over -- the roadway. A bridge-like structure would reduce the risk of damage to life and property and ensure a year-round, continuous corridor for the community that surrounds Lake Chelan.

For decades, rainstorms have resulted in catestrophic debris flows from Slide Ridge. Since 2003, Slide Ridge has had 10 debris flows at a cost of about \$1 million to the county. Most recently, in 2019, two landslides occurred within two months of one another. Following removal of the material at the site in 2019, a contractor also re-shaped and graded the two channels at the site in preparation for the upcoming construction.

The project was preliminarily awarded a \$1.3 million FEMA grant.

Ski Hill Basin Analysis underway

Last year, the FCZD hired the engineering firm Tetra Tech to complete an analysis of the Ski Hill Basin in Leavenworth, which has been the site of continued seasonal flooding that typically results during rapid snow melt. The events impact both public and private property.

The analysis, which is nearly complete, will result in a study that identifies current conditions, system deficiencies that lead to flood risks, potential mitigation measures, estimated costs, and prioritization of projects to minimize these risks. This will be an important tool in guiding future capital projects there.

To determine if you are in the floodplain, go to the FEMA Flood Map Service Center (https://msc.fema.gov/portal/home) Sign up for Chelan County emergency alerts at public.alertsense.com

Post-Wildfire Efforts

Antoine Creek area to benefit from FEMA grant

The aftermath of an early morning thunderstorm that rolled through the lower Lake Chelan area in 2015 and sparked the 90,000-acre Chelan Complex Fire is still being felt five years later.

Specifically, in the Antoine Creek Basin north of Lake Chelan the burn scar was significant enough that since the wildfire, the discharge and velocity of surface water flows increased substantially. A creek that typically slows to a trickle during the summer, Antoine now flows year-round.

Spring runoff events in the Antoine Creek Basin have been so severe since the Chelan Complex Fire that on more than one occasion the water has left the creek bed and covered the roadway, causing severe road damages and even



landlocking some property owners until waters receded. Three culverts that run adjacent to Antoine Creek Road today can no longer convey these increased water flows.

But a solution is in the works. This spring, the FCZD received word that it was awarded \$180,000 from a federal post-fire grant program that supports wildfire recovery. The money will be used this year to upsize those three culverts, helping to minimize future post-fire flooding.

The overall project will cost about \$240,000. FCZD funds will be used along with the federal grant.

"We now know that the impacts of wildfires can last for years," said Eric Pierson, FCZD administrator. "This FEMA grant program is an opportunity to mitigate some of these post-fire impacts that we would not have budgeted for, nor have had the funds."

The Hazard Mitigation Grant is a program of the Federal Emergency Management Agency. It is available for only those areas that receive a Fire Management Assistance Grant declaration, as Chelan County did after the Chelan Complex Fires. Projects that benefit wildfire-impacted areas are a top priority of the program.

The Antoine Creek Basin is located in the northeastern corner of Chelan County. Antoine Creek Road runs 3.25 miles up the canyon, where it then goes into Okanogan County. The shrub-steppe habitat includes forested sections and steep canyon walls. The lower end of the basin is a flood plain where years ago farmers planted their orchards.

Along with protecting private property and the county roadway, the project would help secure an emergency route out of the canyon. If the road is washed out, homeowners in the upper end of the basin have up to a three-hour delay on U.S. Forest Service roads to get to nearby Chelan. These Forest Service roads are not passable for parts of the year, including winter and early spring.

The culvert replacement project will upsize the culverts to 8-foot-by3-foot box culverts, which will allow for increased water flows and debris to pass during larger runoff events – minimizing post-fire flooding frequency. Construction is expected to start summer 2020 and be completed by fall 2020.

Stream gage added to Mad River

Using FCZD money, a stream gage has been installed on the Mad River near Entiat that will alert property owners and emergency services to sudden rises in water levels on the river.

The Mad River Watershed was deeply impacted in 2018 when the Cougar Creek Fire burned nearly 43,000 acres in the watershed. The resulting burn scar leaves the river susceptible to sudden rises in water levels following multi-day rain events. And this has the potential to create flooding or mud flow events that would impact the downstream community of Ardenvoir.

"The stream gage is an important tool that we hope property owners will monitor when it rains in the Entiat Valley," said Jason Detamore, environmental manager for Chelan County Public Works. "It may be the first line of warning should water levels rise on the Mad River."

The Cougar Creek Fire initiated a Burned Area Emergency Response (BAER) Assessment of the Mad River Watershed. A BAER assessment is a U.S. Forest Service study of the ability of burned soils to hold water after a wildfire. Burned soil assessments found that within the watershed, 30 percent of soils burned at a combined high severity and moderate severity.

"What experts have told us is that the Pineapple Express-type storm, or a 3-day rainfall event, could result in a flooding event in the watershed," Detamore said.

The stream gage, which is connected to the National Weather Service's (NWS) emergency alert network, is located near the Pine Flats Campground near Ardenvoir. The way it works is the gage alerts NWS when water levels begin to rise. If the river rises high enough, an emergency alert would be issued.

Anyone connected to the internet can monitor the stream gage. It is available at: https://water.weather.gov/ahps2/hydrograph.php?wfo=otx&gage=mfpw1

The gage is a coordinated effort among the FCZD, NWS, Cascadia Conservation District, Washington State Department of Ecology, U.S. Forest Service and the National Resources Conservation Service.

COMMUNITY RESOURCES

Chelan County road alerts at co.chelan.wa.us

Chelan County Flood Control Zone District

co.chelan.wa.us/ flood-control-zonedistrict

Join Chelan County Road Alerts Listserv by emailing

public.works@ co.chelan.wa.us

Chelan County emergency alerts public.alertsense.com

Chelan-Douglas Health District cdhd.wa.gov

Disaster Preparedness Ready.gov

FEMA fema.gov

National Weather Service weather.gov

Flood Safety weather.gov/safety/ flood

American Red Cross redcross.org





Are You Prepared?

When emergencies strike, get an alert to your phone

When there's an emergency in Chelan County, or a serious weather event is headed our way, wouldn't you like a heads up?

By signing up for Alert Sense, a free emergency alert system, Chelan County's emergency services are able to send you alerts via text message, email, pager, or voice mail, based on your preferences. About 5,300 people in the county are signed up for the service, according to the Chelan County Department of Emergency Management.

The system is intended to be used for not only emergency alerts but also non-emergency incidents that may have significant impacts to residents. Emergency alerts could be related to specific hazards that require some kind of action be taken, such as evacuation, shelter in place, boil water orders, etc.

Non-emergency alerts could include significant transportation problems with prolonged impacts or significant ongoing police or fire activity. This list is not meant to be all inclusive, and it demonstrates that this system won't be used for routine information.

In addition to receiving information on your wireless device, you may also receive notification on your land telephone line (if you have one) depending on the type of incident or event.

For Chelan County, it's also important for emergency agencies to collect this contact information because many households no longer utilize traditional land-based telephone lines.

When signing up, you will need to provide your address and preferred methods of contact. Adding your address will allow tailoring so you do not receive alerts that don't pertain to your geographical area. While alerts are provided free of charge, standard text messaging rates and other charges may apply.

If you wish to subscribe to SMS text messages only, text your zip code to 38276. There is also a mobile app available via Goggle Play or the Apple app store.

