



COLORADO
**Colorado Water
Conservation Board**
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Kevin Houck, P.E. CFM, Section Chief
Chris Sturm, Watershed Program Director
Watershed & Flood Protection Section

DATE: February 23, 2021

AGENDA ITEM: Agenda Item 21. March 10-11, 2021 Board
Meeting - Wildfire Watershed Recovery Update

Background:

Following Colorado's record-breaking 2020 wildfire season, the Colorado Water Conservation Board (CWCB) continues to pursue all avenues for implementing recovery efforts statewide. Numerous wildfires burned throughout the late summer and early fall, including Colorado's three largest wildfires of all time – the Cameron Peak Fire (208,000 acres), the East Troublesome Fire (193,000 acres), and the Pine Gulch Fire (139,000 acres). Other large fires include the Mullen Fire (176,000 acres, but mostly in Wyoming), the Grizzly Creek Fire (32,000 acres), the Williams Fork Fire (15,000 acres), the Middle Fork Fire (20,000 acres), and the Calwood Fire (10,000 acres).

With the exception of the Pine Gulch Fire, all of these major fires were not fully contained until after the snow season had started. This made collection of data more difficult and also prevented implementation of many early projects.

In partnership with the consultant Enginuity Engineering Solutions, CWCB has assembled a Watershed Health Engineering Services Team with the purpose of providing local communities affected by recent wildfires with [technical assistance for recovery efforts](#) - including prioritization and development of projects, and identifying funding sources. A summary of available services are shown on the attached document.

In addition, the CWCB and Colorado Department of Natural Resources are working with the Governor's Office to explore the possibility of developing a state-funded program to address wildfire recovery efforts, including impacts to life, safety, and water resources. This would come as a proposed element to the Governor's stimulus package - focusing on funding to protect public health and safety as well as jump-starting fiscal recovery. If this funding program does move forward, CWCB will announce further details, including a call for applications from affected communities/stakeholders. CWCB encourages communities affected by the 2020 wildfires to consider potential uses for funding. Staff will present recommendations for a special release of this program in Agenda Item 22.

For information on the risks to watersheds and flooding following wildfires, please visit the CWCB's [Flood After Fire](#) webpage and [Disaster Recovery Resources](#) found on the Watershed Protection webpage.

Staff recommendation:

This is an informational item and no board action is requested at this time.





Watershed Health Engineering Services

Colorado Water Conservation Board Technical Assistance Team

BACKGROUND

The Colorado Water Conservation Board (CWCB) has contracted with Enginuity (as of November 2020) and its partners to readily deploy resources to assist with the Colorado Watershed Restoration Program (CWRP) in activities related to technical support for grant applicants and grantees for design review, engineering analysis, and construction oversight. Other services to be provided under the resulting contract include: support for the CWCB for fire and flood analysis, fluvial hazard zone program implementation, project monitoring and adaptive management, and overall program management.

WILDFIRE RECOVERY: SUMMARY OF TECHNICAL ASSISTANCE SERVICES

Review of technical analysis and design

- Review of emergency designs and projects by a team of multi-disciplined professionals including experts in engineering, geomorphology, vegetation, ecology, and biology.

Technical Evaluations, Analysis, Planning, and Project Prioritization

- Data Collection and Baseline Conditions Assessment.
- Gap analysis, Including identifying where additional data and/or evaluations are needed to support decision making.
- Pre and post-burn hydrology and evaluation of changes by scale (Including hydrologic models such as HEC-HMS, GSSHA, StreamStats or others).
- Post-burn hydraulics (basin-wide) to determine increased flood risk (HEC-RAS 1D and 2D or RiverFlow2D). This analysis can include the addition of bulking factors to account for sediment and debris loading.
- Fluvial hazard zone delineation and assessing geomorphic risk. After a wildfire, [FHZ maps](#) can be quickly and cost-effectively created to delineate areas vulnerable to sediment and debris impacts spurred by rainfall over the burn scar. Mapping these post-fire hazards may allow downstream residents to prepare by preemptively moving vehicles, storage units, and other items to safer locations and to develop evacuation plans.
- Sediment and debris flow modeling (FLO-2D, US Forest Service, and USGS methodologies).
- Assistance with identification of values at risk and project/area prioritization.
- Detailed Damage Survey Report (DSR) support with Natural Resources Conservation Service (NRCS).
- Flood warning support including correlation to hydrology, hydraulics, and FHZ mapping
- Watershed recovery plan development, technical analysis, prioritization, concept design, and implementation recommendations.



Program/project management and recovery program support

Recovery program support coordination and administrative support including:

- Recovery program facilitation and coordination;
- Identification and assistance with stakeholder groups and water users;
- Goal setting and objective development (recovery goal setting workshops);
- Recovery funding identification and funder coordination including recovery funding workshops;
- Determine funding mechanisms for priority projects (align projects with appropriate funding);
- Development of handouts, website content, social media content, and fact sheets;
- Standardized templates for reporting, invoicing, or communication;
- Support for communication protocols and outreach materials;
- Assistance with project prioritization;
- Compliance with federal or state reporting;
- Assistance with tasks that are assigned to local sponsors;
- Assistance in setting up a pre-qualified list of contractors;
- Procurement support;
- Assistance in project closeout and reporting.

Adaptive management and monitoring

- Baseline data collection for post-fire monitoring
- Support for development of an adaptive management framework for recovery
- Support and coordination with research partners
- Performance of monitoring activities
- Recommend management strategies

Construction oversight assistance

- Assistance with permitting requirements
- Quality assurance for emergency work including both design and construction

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