

# Resilient Design Performance Standards

## Background

The September 2013 floods caused significant damage to communities throughout Boulder County. In response to this disaster event, these communities formed the [Boulder County Collaborative](#) in order to collaboratively develop a path for recovery from the floods, as well as to serve as a body to acquire and implement Community Development Block Grant - Disaster Recovery (CDBG-DR) funds from the U.S. Department of Housing and Urban Development.

Over the winter of 2015-2016, the Boulder County Collaborative and additional stakeholders worked with consultants from CollinsWoerman to develop resilience performance goals, accompanied by a new resilience performance standard, for community facilities and infrastructure throughout Boulder County. Improving infrastructure resiliency will help Boulder County communities to be better situated to minimize damage to infrastructure and critical facilities and recover faster from shocks and stresses.

## Challenge

The Boulder County Collaborative received CDBG-DR funds from HUD for work that addresses the long-term disaster recovery needs from the 2013 floods. As part of their responsibilities in administering this funding, the Collaborative needed to develop resilience performance standards to any infrastructure projects the funds would be used for. Because of this requirement, the Boulder County Collaborative set forth on developing the [Resilient Design Performance Standard](#).

## Solution

Through a series of workshops in December 2015 and January 2016, participants developed time-to-recovery goals for critical infrastructure systems and facilities throughout the county. Time-to-recovery goals allow a community to prioritize infrastructure and facility assets based on how quickly they need to return to a functional state after a disaster. The time-to-recovery goals for all hazards were developed based off the National Institute of Standard and Technology's [Community Resilience Planning Guide for Buildings and Infrastructure Systems](#). The performance standards are what communities use to achieve the time-to-recovery goals, and are adjustable to each project's level of hazard and impact, accompanied by policy and budget requirements.

**Resiliency Sector:** Infrastructure

**Organization:** Boulder County Collaborative

### Project Partners:

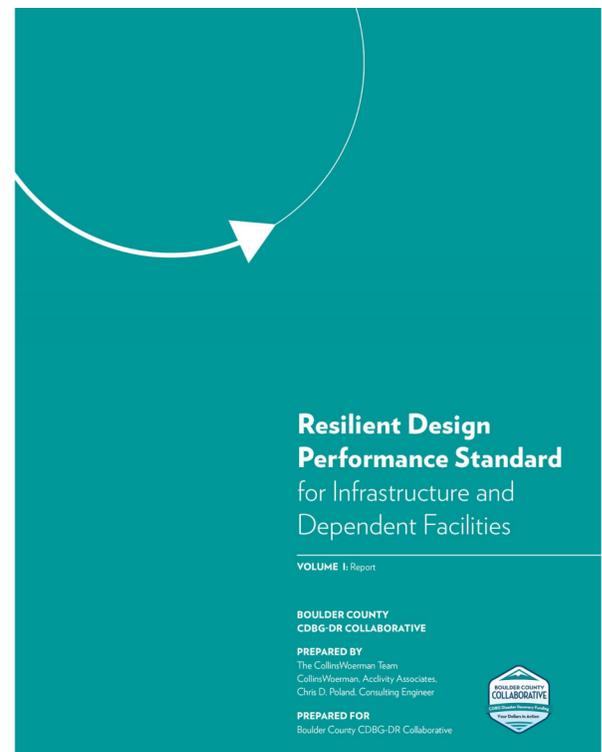
[BoCo Strong](#)

[Department of Housing and Urban Development](#)

[Colorado Department of Local Affairs](#)

[Colorado Resiliency and Recovery Office](#)

[Colorado Division of Homeland Security and Emergency Management](#)





## Outcomes and Benefits

The Resilient Design Performance Standard allows Boulder County communities to define long-term time-to-recovery goals that are adaptable to specific hazards and each community's needs. By incorporating resiliency into the design, infrastructure throughout the county will be better poised to withstand future shocks and stresses, allowing communities to recover faster after a disaster event. Though the Standard was originally developed for CDBG-DR projects, the Boulder County Collaborative envisions it being adaptable and scalable to other types of projects.

After completion of the performance standard, the City of Boulder was the first to apply it to the [Wonderland Creek Greenways Improvement Project](#). Rather than creating additional work for project team members, the performance standard expanded the process to include a resiliency focus. As various projects apply the criteria to their existing performance standards, iteration will ensure the standards are used appropriately and effectively. **The City of Longmont will be the first community to apply the resiliency performance standards to regular capital improvement projects**, with plans to incorporate the criteria into an existing sustainability checklist for locally-funded projects.

For more information contact project manager Molly O'Donnell:  
[Molly.O'Donnell@longmontcolorado.gov](mailto:Molly.O'Donnell@longmontcolorado.gov)

## Funding

The development of the Resilient Design Performance Standards was funded through a CDBG-DR grant from the Colorado Department of Local Affairs and HUD.

## Lessons Learned

Developing resilient design performance standards from scratch was a learning lesson for all involved. The project team provided these pieces of advice for others interested in developing their own standards:

- *Work with the Engineers and Design Professionals:* Rather than having the team design completely new and novel processes, application of the standards should simply add a resiliency lens; expand a way of thinking.
- *Allow Flexibility in Criteria:* Although the criteria list for the resiliency indicators is lengthy, the wide scope of indicators allow flexibility for teams in choosing which best fit their project needs.
- *Explain Technical Jargon in Simple Terms:* In order for stakeholders to buy into application of the standards, they need to understand it. Breaking down technical terms into simple and clear language will increase community engagement.