



Colorado Emergency Watershed Protection (EWP) Program

Sponsored by the Colorado Water Conservation Board (CWCB)
Administered by the Natural Resources Conservation Service (NRCS)

Formal Project Design Review

Every project constructed with Colorado EWP program funding must be approved through the formal design review process outlined in this document.

Purpose of Design Review Process

The review process is intended to help realize the goals of the funding programs by ensuring that projects:

- implement recovery and restoration measures to address hazards to life and property;
- reduce erosion and threats from future flooding;
- protect critical infrastructure; and
- enhance ecosystems and communities in watersheds impaired by the 2013 Colorado flood event.

Application by Funding Sources

For projects supported strictly by EWP Technical Assistance (TA) and Financial Assistance (FA) funds and local match, the CWCB EWP TA Team will complete the design review.

When CDBG-DR money is used for design or local match, the review process will be a collaboration between CWCB and the Colorado Department of Local Affairs (DOLA) using the steps outlined here.

Concept Design Check-In

The first review is a Basis of Design, 15%, or concept design review (Step 2 in process), which should be requested when the design team believes they are at point where the general goals and objectives, design decisions, data analysis, and restoration framework can be discussed with informed knowledge. This check-in seeks to ensure compliance with the Damage Survey Report scope of work and address potential project constraints. The review will consider the Pyramid of Stream Function¹ as it relates to the conceptual design. As outlined under guidance from Colorado Parks and Wildlife and CWCB, projects that address the foundational elements of this pyramid (i.e., at a minimum the hydrology, hydraulics, and geomorphology) are more likely to support healthy stream biology and water quality. It is not intended that this review create any new deliverables, documents, or plan sets that were not already scoped or contracted. Communication between the project sponsor and consultant with the TA team to coordinate and determine the extent of this review should occur on a project-by-project basis.

Final Design Review

The second formal review (Step 3 in the review process) is intended to review the draft final design if being funded by the EWP TA program or draft 30% design for the culmination of a CDBG-DR Resilience Planning grant (please refer to the DOLA 30% design guidance for details). This is a required step before the release of FA funds for construction. This review considers the application of the Basis of Design to the proposed plan set and examines the overall effectiveness of the design as it relates to the project and program goals.

Concept Design Considerations

At a minimum, the following items should be addressed at the concept design level prior to submittal for review:

- Project goals and objectives
- Basis for design including hydrology and geomorphology
- Stream geometry (location), project limits, and concept grading
- Concept typical sections and/or details
- Ecology: Basic planting list (refer to CWCB planting matrix for additional information)
- Biology: Identify specific biological needs and approach to addressing needs in design

Requirements for Design Review Submittal

- 30% design plans
- Design report covering hydrology, hydraulics, geomorphology, and design calculations
- Construction quality assurance plan prepared by the engineer
- Operations and Maintenance plan prepared by the engineer
- Engineer's cost estimate

Contacts

CWCB

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EWP TA Team

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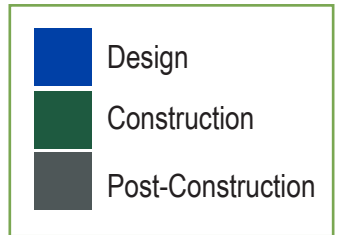
¹ Harman, W et al., 2012. A Function-Based Framework for Stream Assessment and Restoration Projects. US Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds, Washington, DC EPA 843-K-12-006.

EWP PROJECT REVIEW PROCESS



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STEP 1 **Start your project off right!**

- Schedule a meeting or site walk with your design team and an EWP TA team representative.
- Work with stakeholders and landowners to establish project goals and objectives.

STEP 2 **Mid-Point Check-In**

- Schedule an informal design review meeting or preliminary (15%) design review with the EWP TA Team.
- Incorporate comments on the purpose, features, and components of the project to save time and money down the road.

STEP 3 **Final Review (2-3 Weeks)**
Before the FA agreement can be signed, the design must be approved by the NRCS and CWCB.

NRCS Functional Review	CWCB Design Review
NRCS Engineer will review the submittal for completeness and compliance with conservation practices.	Design review team will review the basis of design report and plansets for compliance with program goals and objectives, project objectives and constraints, and adherence to standards of professional practice. Will include review by: • geomorphologist • aquatic biologist • engineer • vegetation ecologist • DOLA TA Team Representative*

*DOLA review team only provides review of projects where design or local match is provided by CDBG-DR funding. Projects that are locally funded for both design and local match will only be reviewed by NRCS and EWP TA Team.

Design Approved by NRCS & CWCB?

NO

YES

Re-Submit

STEP 4 **(As Necessary) Address Comments and Concerns**
The State and NRCS will provide comments back in a standard document. Each comment must be addressed or responded to, before approval for construction is given.

CWCB executes FA agreement with NRCS and CWCB executes contract with Project Sponsor

STEP 5 **Construction Inspections**

- NRCS and CWCB representative will periodically visit project in construction to inspect and observe installation of features.
- Sponsors will be required to submit weekly construction schedules.

STEP 6 **Final Construction Inspection, As-Built Submittal**
At the end of construction, schedule a site walk with NRCS, CWCB and/or the EWP TA Team. This will also be attended by:

- geomorphologist • aquatic biologist (as appropriate)
- engineer • vegetation ecologist

STEP 7 **Final Construction Inspection, As-Built Submittal**
Submission of monitoring and maintenance data and info as appropriate.

