

## Definitions

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**Existing Conditions:** Pre-project; on-the-ground conditions utilizing best available data such as LiDAR or survey data

**Proposed Conditions:** Post-project; existing conditions plus the proposed design elements

**Regulatory Conditions:** conditions that existed when the regulatory model was developed for a current effective FIRM, approved LOMR, or Boulder County regulatory floodplain

**Pre-Flood Conditions:** 2011 LiDAR data plus other pre-flood data such as washed-out bridges/culverts when available

**Boulder County Floodplain:** Floodplain and/or flood zones regulated by Boulder County that are not shown on FIRM

**CLOMR:** Conditional Letter of Map Revision reviewed by Boulder County and then submitted to FEMA for approval

**LOMR:** Letter of Map Revision reviewed by Boulder County and then submitted to FEMA for approval

**Boulder County Floodway Review:** Submitted to Boulder County for review when rises are  $\leq 0.50$  feet in Boulder County regulated floodways

**No-Rise:**  $\leq 0.00$  feet

## Permit/Hydraulic Modeling Submittal Requirements

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- Applicants must follow the submittal requirements contained in Boulder County Land Use Code Article 4, Section 4-404.2(B)(1)(b).
- In addition to the submittal requirements outlined in the code section above, please include all items listed in the **Boulder County Hydraulic Modeling Report Submittal Guide** located at:  
[www.bouldercounty.org/doc/transportation/HydraulicModelingReportSubmittalGuide.pdf](http://www.bouldercounty.org/doc/transportation/HydraulicModelingReportSubmittalGuide.pdf)
- All hydraulic modeling submittals shall include clear and concise comparisons of water surface elevations in tabular form. There should be a minimum of 3 water surface elevation comparisons included in the table:
  1. Regulatory Conditions water surface elevations
  2. Existing Conditions water surface elevations\*
  3. Proposed Conditions water surface elevations

\*If Pre-Flood Conditions water surface elevations are required, they shall be included in addition to Existing Conditions water surface elevations.

## Hydraulic Modeling Guidelines

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### **Modeling for Stream Restoration Permit Applications**

**Step 1:** Prepare an analysis of Proposed Conditions compared to Existing Conditions. No further modeling is required to obtain an Individual Floodplain Development Permit if no-rise is achieved in Step 1.

**Step 2:** If no-rise cannot be achieved comparing Proposed Conditions to Existing Conditions, the applicant should Contact Boulder County to determine if an analysis of Proposed Conditions compared to Pre-Flood Conditions is acceptable for demonstrating no-rise. No further modeling is required to obtain an Individual Floodplain Development Permit if no-rise is achieved in Step 2.

**Step 3:** If no-rise cannot be achieved in Step 1 or Step 2, then a CLOMR or Boulder County Floodway Review is required.

### ***Boulder County Floodway Review***

A Boulder County Floodway Review is required for any project that proposes to create water surface elevation increases between 0.00 and 0.50 foot in a Boulder County Floodway, where no FEMA Floodway has been identified. For projects that require a Boulder County Floodway Review, please see the submittal requirements and procedures located at <http://www.bouldercounty.org/roads/permits/pages/floodcontrol.aspx#review>.

### ***Conditional Letter of Map Revision***

A CLOMR is required in Boulder County prior to permitting for any project that proposes to create water surface elevation increases greater than 0.00 foot in a FEMA-identified Floodway, and for Watercourse Alteration projects that include realignment of a stream channel by more than one bankfull width. For projects that require a CLOMR, please follow FEMA's MT-2 Instructions and submit to Boulder County for review. In addition, please include a narrative that explains the following:

- Why the project is necessary, given the flood impacts it creates
- What specific project design elements are creating the increases
- Whether an evaluation of alternative designs has been performed, and the results of that evaluation

### ***For projects that propose to create increases on insurable structures***

Water surface elevation increases on insurable structures are not allowed in Boulder County. If, during your analysis under Step 1 above, water surface elevation increases on insurable structures occur, you must do the following prior to permitting:

- Demonstrate that the increases on insurable structures are eliminated\* in Step 2 ; or
- Mitigate the increases through project design changes and repeat Step 1

\*Additional property owner notification requirements may be necessary

## **Project Closeout**

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### ***Letter of Map Revision***

A LOMR is required\* upon project completion if:

- The project results in water surface elevation changes of greater than 0.30 feet compared to Regulatory Conditions water surface elevations
- The project results in water surface elevation changes of greater than 0.30 feet compared to Existing Conditions water surface elevations in areas where a new study is underway
- The project is permitted at less-than 100% design, unless the applicant can demonstrate at project closeout that the resulting water surface elevations are within 0.30 foot of the regulatory water surface elevations
- Watercourse alteration projects that move the stream channel more than one bankfull width
- Projects that revise the regulatory Floodway boundary in FEMA-identified Floodways

\*In all cases, if a new mapping study is underway in the project area (i.e. CHAMP studies), the applicant is encouraged to work with the County and the project sponsor (i.e. CWCB for CHAMP studies) to determine if it is possible to incorporate the finished project as-built information and/or hydraulic modeling into the study in lieu of submitting a LOMR to FEMA. Both the County and the mapping study sponsor may have specific timeline, submittal, and review requirements.

## Resources

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Boulder County Land Use Code Article 4-400 Floodplain Overlay District

<http://www.bouldercounty.org/property/build/pages/lucode.aspx>

Boulder County Floodplain Development

<http://www.bouldercounty.org/roads/permits/pages/floodcontrol.aspx>

<http://www.bouldercounty.org/property/flood/pages/default.aspx>

Boulder County Storm Drainage Criteria Manual

<http://www.bouldercounty.org/property/flood/pages/stormdrainagemanual.aspx>

Boulder County Multimodal Transportation Standards

<http://www.bouldercounty.org/roads/plans/pages/mmtransstds.aspx>

Boulder County Stream Restoration Guidance

<http://www.bouldercounty.org/roads/permits/pages/streamrestoration.aspx>