



CITY COUNCIL BRIEFING
City Council Chambers
October 28, 2014
5:00 – 5:30 p.m.

To: Members of City Council

From: Jane S. Brautigam, City Manager
Maureen Rait, Executive Director of Public Works, Flood Recovery Manager

Subject: **Briefing on Flood Recovery Status**

September marked the one-year anniversary of the 2013 flood that caused extensive damage to both private property and city infrastructure. This City Council information item provides an update on recovery status in relation to the key objectives for both near-term recovery and long-term resilience. Highlights of the progress made are listed below, by objective, with details provided in the body of the memorandum:

1. Help people get assistance.

- Staff is continuing targeted outreach to neighborhoods and property owners with vacant and uninhabitable units. Approximately 30 housing units remain vacant and uninhabitable.
- Approximately 150 cases are active with the Long-Term Flood Recovery Group.

2. Restore and enhance our infrastructure.

- As of Oct. 22, the city has spent approximately \$17.1 million on flood recovery.
- In terms of costs, with remaining work estimated at \$10.5 million, recovery efforts are 62 percent complete.
- The city estimates that the total cost of flood recovery will be approximately \$27.6 million. These costs are related to the specific September 2013 flood damages and are not reflective of subsequent issues with additional sediment and debris during spring runoff and summer storms. Those subsequent costs are estimated to be at least \$1 million.

3. Assist business recovery.

- The city is continuing to assist businesses with remaining flood recovery needs and sponsored the Business Recovery Summit on Oct. 17.

4. Pursue and focus resources to support recovery efforts.

- The city has received \$1 million in FEMA reimbursements to date.

- The city has been awarded \$3 million in non-FEMA grants to support recovery and resilience projects in housing, open space and mountain parks, utilities and community services.
- The city is pursuing additional CDBG-DR funds in Rounds 2 and 3 (\$257 million available).

5. Learn together and plan for the future.

- The city commemorated the one-year anniversary of the flood with 10 community events.
- The keystone events on Sept. 10 were well-attended. Both events were recorded, and videos are available online.
 - [Science of Disaster Planning: Research and Response](#)
 - [Boulder Flood Tribute: Community Stories in Action.](#)

City staff, consultants and community partners continue to work diligently to make progress in achieving the council-adopted objectives. Each objective is explained in the following pages, along with a high-level summary of progress. More detailed information can be found at the city's comprehensive resource for all flood-related information: www.BoulderFloodInfo.net.

City Council received a previous [Flood Recovery Status](#) briefing on July 22, 2014. City department directors and staff supporting flood recovery efforts will also be available to address questions at the Flood Recovery briefing immediately before the regular City Council meeting on Oct. 28. Future council updates on flood recovery efforts will occur through Information Packet items on an as-needed basis.

FLOOD SAFETY

BOULDER, CO

OBJECTIVE #1: HELP PEOPLE GET ASSISTANCE



Facilitate access to individual assistance for affected homeowners, renters and businesses to support their recovery from flood impacts and strengthen long-term resilience.

UNINHABITABLE, VACANT UNITS & REBUILDING

The city continues to help residents in need of assistance as they recover from the flood. The city's latest estimate is that approximately 30 housing units continue to remain vacant and/or uninhabitable as a result of the flood. Permits to reconstruct an additional 12 units have been issued, and are estimated to be completed in April 2015.

Direct outreach and workshops with neighborhoods and property owners that remain vacant continues, as needed.

The Planning & Development Services Center customers with flood-related questions and those seeking permits for repairs due to flood damage or mitigation measures has decreased, but continues. Since Sept. 11, 2013, the city has processed more than 750 flood-related building permits. Since the last council briefing in July, nine flood recovery permits have been processed.

INDIVIDUAL ASSISTANCE & CASE MANAGEMENT

Approximately 150 Boulder households have open cases with the Long-Term Flood Recovery Group of Boulder County (LTFRG). Sixty-one cases have been closed. The direct assistance provided by case managers includes assisting with FEMA individual assistance and insurance appeals; mental health programs; volunteer and nonprofit labor coordination; construction coordination; funding assistance through the United Way Flood Relief Fund; CDBG-DR housing rehabilitation; as well as connections to other agencies for technical assistance. Additional information on the status of the cases will be presented at the Oct. 28 briefing.

FLOOD-RELATED ANNEXATIONS

Council received an update on flood-related annexations in an Oct. 8, 2014 Information Packet item. Eight properties are proceeding for annexation in January 2015. The Colorado Department of Public Health and Environment (CDPHE) grant to fund extension of water and sewer infrastructure in a flood-affected neighborhood is proceeding. The city and county distributed a neighborhood survey to gauge residents' interest in annexation on Sept. 23, 2014. Staff will present a verbal update on the survey results at the Oct. 28 briefing.

Following the selection of the neighborhood, the city will proceed with scheduling a neighborhood meeting and assisting the neighborhood with submitting an annexation petition in the next few months. The annexation will be scheduled for City Council consideration in the first quarter of 2015. The contractor for the utility infrastructure installation must be bid and under contract by June 2015, per the terms of the grant from CDPHE.

CDBG-DR GRANT FUNDING

CDBG-DR funding coordination is continuing countywide for the second round of funding (\$199 million for Colorado). By working with state and regional partners, the countywide collaborative was successful in getting the state to include a more predictable, expedited and customized process for allocating this second round of funding for infrastructure- and housing-related projects through a sub-allocation to the countywide collaborative. If approved, Boulder County communities will be awarded \$63 million for infrastructure and housing projects. The City of Longmont has agreed to serve as the fiscal agent for this funding, and the arrangement will be modeled on the current HOME consortium that is managed by the City of Boulder.

The city, along with the other countywide collaborative partners, is compiling all remaining unmet needs (through a consultant) to develop an equitable understanding of the need in each community for infrastructure and housing. Based on that study, a percentage allocation will be established for each community and projects selected. HUD requirements such as 50 percent benefit to low/moderate-income households must still be met, and the collaborative is currently reviewing projects to understand how to ensure compliance.

The header photos were taken at a Twomile Canyon Creek open house.

**FLOOD
SAFETY**
BOULDER, CO

OBJECTIVE #2: RESTORE & ENHANCE OUR INFRASTRUCTURE



Invest in projects to restore services and to rebuild and enhance infrastructure, as appropriate, in the interests of public health and safety, community quality of life, and long-term resilience.

FLOOD RECOVERY PROJECT STATUS

As a result of the significant flood damage to city infrastructure, the city is working to complete approximately 300 projects across the community that includes repairs, restoration, replacement and mitigation work. To fund these projects, the city is pursuing a variety of available resources in the recovery and reimbursement process, including insurance, FEMA assistance, and other agencies (e.g., Federal Highway Administration, Urban Drainage and Flood Control District, Colorado Water Conservation Board, etc.), as further described in Objective #4.

Below is a summary of the total projects by department/division. Projects are considered partially complete if work has been started, temporary repairs have been made, or mitigation work has yet to be completed. As of Oct. 22, 2014, the city has completed 73 percent of the flood-related projects and spent \$17.1 million on flood recovery (see more financial details on page 11).

| | Total Flood-related Projects | Percent Complete |
|----------------------------|-------------------------------------|-------------------------|
| Citywide Total | 329 | 73% |
| Department/Division | | |
| OSMP | 153 | 57% |
| Parks & Recreation | 46 | 91% |
| PW - Utilities | 64 | 95% |
| PW - Transportation | 32 | 75% |
| PW - FAM/Fleet | 34 | 74% |

Department-specific details are provided below.

OPEN SPACE AND MOUNTAIN PARKS (OSMP)

In the third quarter of 2014, flood recovery on OSMP was characterized by a growing appreciation and understanding of how large-scale landscape changes can offer new opportunities and perspectives. For example, when large sections of trails were washed away by the flood, the community faced an unusual opportunity. Rerouting trails was not a choice, but a necessity. During the past quarter, the former Green Mountain Lodge Road and the Upper Gregory Canyon trails were rerouted and even renamed. As a result, visitors enjoy easier navigation in the area below

Realization Point and the new trail location has fewer environmental impacts. Washed-out sections of the iconic and historic Royal Arch Trail are being rerouted or rebuilt in an effort to have the trail open to the public by the end of 2014. A summary of OSMP flood-related projects is shown in the table below.

| PROJECT STATUS | NUMBER OF PROJECTS |
|----------------------------|---------------------------|
| Completed | 87 |
| Partially Completed | 24 |
| Planning/Design | 42 |
| TOTAL | 153 |

All but two trailheads have been repaired. At Boulder County’s request, the city allowed the use of the Buckingham Park area for the county’s flood recovery efforts. Gregory Canyon sustained some of the worst impacts seen on OSMP from the flood. OSMP anticipates completing restoration of both trailheads by the end of 2015.

Because of extensive impacts in remote areas, access limitations for winter work, and contractor unavailability, OSMP has estimated that repairs to the trail system will be underway through 2017. Staff is working with the State of Colorado and FEMA to provide documentation in support of a request for an extension to the March 2015 funding deadline.

Staff has assessed the damage to fences, and continues to direct contractors where needed to ensure that livestock are safely contained and agricultural tenants’ operations are minimally disturbed. The lack of enough fencing contractors has slowed progress on this project, and it is anticipated that fences will be restored by the end of 2015.

The flood obliterated the Green Ditch’s diversion structure and left a section of Boulder Creek with limited ecological value. A public-private partnership involves attorneys specializing in water rights, ecologists, engineers, and farmers—who have collectively been awarded close to half a million dollars in grant funding. When complete, this project will replace the ditch’s diversion structure, eliminate a significant and long-standing barrier to fish passage, and create a new channel - improving the quality of habitat in and along Boulder Creek.

The city is working with the State of Colorado and FEMA to clarify the public assistance process for the South Boulder Creek bridge at South Boulder Road.

PARKS AND RECREATION

Approximately 34 percent, or 35 of the 98 Parks and Recreation facilities, were significantly damaged by the flood. Recovery work includes repair, restoration and/or replacement of facilities, structures, playgrounds, multi-use fields and courts, and paths.

| PROJECT STATUS | NUMBER OF PROJECTS |
|----------------------------|---------------------------|
| Completed | 42 |
| Partially Completed | 2 |
| Planning/Design | 2 |
| TOTAL | 46 |

Parks and Recreation staff continues to implement flood recovery and restoration projects across the community, with approximately 91 percent of the projects complete. The department had 46 distinct projects due to flood damage and has currently completed 42 projects, with two partially completed. The two partially complete projects include:

- *Flatirons Golf Course* – removal of sediment from the pond at hole #6; and
- *Eben G. Fine Park*¹ – installation of storm sewer pipe to convey flows into Boulder Creek.

The two remaining projects that are currently in planning and design, with FEMA coordination, include:

- *Knollwood Tennis Courts* – complete replacement of the damaged courts, in addition to replacement of the walls and landscape restoration; and
- *Evert Pierson Memorial Kids' Fishing Ponds* – full restoration of the ponds and associated park amenities.

The department anticipates that all projects will be complete within the next seven to 10 months.

UTILITIES

Although the water utility infrastructure performed admirably and sustained minimal damages, the wastewater, stormwater, and major drainageway systems were overwhelmed by floodwaters and runoff, groundwater infiltration, and inflow to the city's open channel and pipe conveyance systems. Initial flood response work included the protection of critical wastewater pipelines, vulnerable water delivery pipelines, and access roads to critical water infrastructure.

Continuing recovery work includes:

- Reconstruction of improved drainageway features, and
- Stabilization and repair of the undermined and damaged wastewater interceptor pipe near 61st Street.

¹ The remaining work at Eben G. Fine Park is being completed through the FEMA public assistance program. The Natural Resources Conservation Service (NRCS) is not being considered as a funding option because the amount and type of work would not be competitive in meeting the criteria of the grants and programs.

| PROJECT STATUS | NUMBER OF UTILITY PROJECTS | | | |
|----------------------------|----------------------------|------------|-----------------------------|-----------|
| | WATER | WASTEWATER | STORMWATER/FLOOD MANAGEMENT | TOTAL |
| Completed | 20 | 15 | 26 | 61 |
| Partially Completed | 0 | 1 | 1 | 2 |
| Planning/Design | 0 | 1 | 0 | 1 |
| TOTAL | 20 | 17 | 27 | 64 |

Utilities staff continues to implement flood recovery and restoration projects for the water, wastewater and stormwater/flood management utilities. Approximately 95 percent of the recovery work is complete. Work on all critical water and wastewater infrastructure is complete. Sediment and debris removal from major drainageways is complete. Repair of drainageway features, such as drop structures and retaining walls, is more than 90 percent complete and should be completed by the end of the year.

TRANSPORTATION

Due to the flood, approximately 1 percent (three miles) of roadways were damaged citywide. There are approximately 300 miles of roads that exist within the City of Boulder. It is estimated that approximately 20 percent (60 miles) of the roads were covered in debris. The city also has 60 miles of multi-use paths within the city limits. Approximately 15 percent, or nine miles, of the paths were damaged.

| PROJECT STATUS | NUMBER OF PROJECTS ² |
|----------------------------|---------------------------------|
| Completed | 24 |
| Partially Completed | 7 |
| Planning/Design | 1 |
| TOTAL | 32 |

All transportation facilities are available for full use by the public. The remaining transportation projects include:

- *Table Mesa Drive/Lehigh Street* – stabilizing the Bear Canyon Creek channel, reconstructing drop structures and repairing pavement;
- *47th Street at Fourmile Canyon Creek* – primary work is complete and only fencing replacement, revegetation, and minor channel inlet riprap adjustments remains; and
- *Various Street Locations* – complete minor patching and chip seal on flood-damaged streets.
- *Boulder Creek at 4141 Arapahoe Ave.* – removal of a piece of displaced concrete.

² Projects include FEMA and Federal Highway Administration (FHWA). FEMA oversees the disaster relief federal funding for the street system that carries lower traffic volumes, or residential streets, and FHWA, through Colorado Department of Transportation (CDOT), oversees the federal funding for streets that have higher traffic volumes.

- *Boulder Creek east of 55th Street* – repairs to the rip rap protecting the abutments of the pedestrian bridge.

Transportation staff anticipates that all projects will be complete within the next seven to 10 months.

FACILITIES AND ASSET MANAGEMENT (FAM): BUILDINGS AND STRUCTURES

Of the 365 city-owned buildings and structures, approximately 34 (nine percent) were damaged due to the flood.

| PROJECT STATUS | NUMBER OF PROJECTS |
|----------------------------|---------------------------|
| Completed | 25 |
| Partially Completed | 7 |
| Planning/Design | 2 |
| TOTAL | 34 |

About 94 percent of the building and structural repairs have been completed. With the majority of the mitigation work, such as installing sump pumps, rerouting roof drains, and adding flood walls and doors, approved by FEMA, the next step will be completing that work at the following facilities:

- Fire Stations #4;
- West Senior Center;
- Reynolds Library;
- Main Boulder Public Library;
- Iris Center; and
- North Boulder Recreation Center.

Mitigation work at Fire Station #1 is still being reviewed by FEMA.

Additional flood recovery projects under planning/design include:

- *South Boulder Recreation Center* – the gymnasium floor design and replacement; and
- *Flatirons Event Center* – based on council’s direction, staff have identified funding to demolish the facility in the summer of 2015 and are currently in the planning phase to ensure an efficient transition of the facility. Spice of Life is remodeling space in Flatiron Industrial Park (near their current offices) for its new commercial kitchen and catering space.

Staff anticipates that all flood mitigation projects will be complete by March 2015.

The header photos were taken along Boulder Creek and at the primary interceptor pipe that delivers the majority of wastewater flows to the 75th Street Wastewater Treatment Facility.



The city continues to assist businesses with flood recovery needs. Impacts to Boulder businesses ranged from moderate damage (businesses that were repaired in a few weeks) to severe (e.g., complete demolition of a building with 20 tenants at 100 Arapahoe Avenue). Business assistance inquiries have included unique requests to specific Boulder businesses (e.g., disposal of confidential but severely damaged documents) and questions about funding sources and business resources.

BUSINESS SUMMIT

The City of Boulder sponsored the Business Preparedness Summit on Oct. 17 in Lyons, hosted by the Colorado Small Business Development Center (SBDC) Network, Downtown Colorado, Inc. and the Town of Lyons. The event had four interactive, expert panels throughout the day, one-on-one consulting, and a resource fair that included a City of Boulder table that Economic Vitality and the Office of Emergency Management staffed.

The header photo was taken at a business recovery meeting and the graphic was extracted from the Recover Colorado Business Grant and Loan program application.



Work in partnership with volunteers, governmental and other agencies to maximize financial resources and efficiencies for recovery.

The September 2013 flooding was declared a national disaster, which created the opportunity for possible reimbursement through the FEMA, Federal Highway Administration (FHWA) and State of Colorado. The city is striving to maximize reimbursement from all applicable agencies, as well as through grant funding opportunities.

FINANCIAL RESOURCES

Due largely to the city's reserve policies and ability to flex repair dollars, the city has been able to fund the emergency response and initial recovery investments. Through the budget process, longer-term plans will need to include replenishing the portion of reserves used that are not addressed by reimbursement. In the 2013 budget, the city used \$6.8 million of reserve funds, approved through a budget supplemental on Dec, 3, 2013. In the 2014 budget, \$1.6 million of reserve funds were approved through the budget supplemental on June 3, 2014. Discussions related to reserve funds for 2015 will occur as part of the Capital Improvement Program (CIP) and budget process.

Tables 1 and 2 (shown below) illustrate, by department/division, the anticipated city share in the flood recovery costs, as well as the estimated amount of reimbursement back to the city. The total cost estimate of \$27.6 million (an increase of \$300,000 from the \$27.3 million estimate in July 2014 due to staff and consultant time for administration of the FEMA grant) represents staff's current estimates of flood damage and recovery activities after further investigation of damages and assessment of repair and recovery alternatives. These costs are related to the specific September 2013 flood damages and are not reflective of subsequent issues with additional sediment and debris during spring runoff and summer storms.

FEMA concluded its "field operations" phase of Public Assistance (PA) work with the city on July 31. In total, 58 project worksheets were written and approved (obligated), for a total of \$16.3 million in "eligible" expenses.³ Of this amount, the city expects FEMA/FHWA/state reimbursements to equal approximately \$14.5 million.

As the city moves into the project management and reimbursement phase of the FEMA PA program, staff is spending increasingly more time on ensuring that project costs remain eligible for reimbursement. This includes activities such as: resolving procurement issues caused by incorrect guidance from FEMA and the state during initial damage response; processing scope change

³ Includes one FHWA project totaling \$596,000.

requests; and reconciling FEMA insurance adjustments. It is important to note that after FEMA projects are completed, FEMA may still “de-obligate” expenses based upon the results of a post-close audit and require a refund. FEMA representatives have indicated that, in a typical disaster, up to 5 percent of an applicant’s expenses may be de-obligated through this process.

To date, the city has received more than \$1 million in FEMA reimbursements, and has more than \$5 million of reimbursement requests under review by the state. Staff is planning to distribute the \$1 million in reimbursements to the departments that incurred costs as part of the Adjustment to Base that will be brought to council in November.

REMAINING COST TO THE CITY (GAP)

While FEMA and the state typically reimburse 87.5 percent of eligible projects (75 percent and 12.5 percent, respectively), in many cases, the city’s gap between incurred costs and estimated reimbursements varies significantly. The most common reasons for this gap are listed below.

- Through policy, FEMA has deemed many flood recovery activities ineligible (e.g., ecological restoration activities in OSMP, debris removal in certain areas of the streams).
- FEMA policies generally do not reimburse for regular staff time for flood response and recovery activities (only overtime is eligible). While project management and direct administrative costs are reimbursable, actual “boots on the ground” time is typically limited to overtime labor.
- Costs related to general administrative activities (not associated with a particular project) are ineligible for reimbursement (e.g., general flood coordination meetings, reporting, budgeting, council updates, etc.).

Table 1: Costs Related to Flood Damage and Response

| Department/Division | Total Flood Damage and Response | Amount Spent | Remaining Estimated Cost |
|----------------------------|--|---------------------|---------------------------------|
| Transportation | \$2,500,000 | \$2,277,849 | \$222,151 |
| Utilities | \$9,000,000 | \$7,893,031 | \$1,106,970 |
| FAM/Fleet | \$1,900,000 | \$866,561 | \$1,033,439 |
| OSMP | \$8,800,000 | \$1,256,157 | \$7,543,843 |
| Parks & Rec | \$1,600,000 | \$1,050,475 | \$549,525 |
| CP&S | \$1,822,727 | \$1,822,727 | - |
| Police | \$743,206 | \$743,206 | - |
| Fire | \$112,009 | \$112,009 | - |
| Other | \$1,074,198 | \$1,074,198 | - |
| Total | \$27,552,140 | \$17,096,213 | \$10,455,927 |

Table 2: Sources of Funds for Flood Recovery and Response

| Department/ Division | Actual FEMA/State/ FHWA Reimbursement | Estimated Reimbursement from FEMA/State/ FHWA ¹ | Insurance Proceeds ² | Total Reimbursement | Remaining Cost to City (Gap) ³ | Total Sources of Funds |
|-------------------------|--|--|------------------------------------|------------------------|---|------------------------------|
| Transportation | \$299,331 | \$1,622,000 | | \$1,921,331 | \$578,669 | \$2,500,000 |
| Utilities | \$144,801 | \$6,788,000 | | \$6,932,801 | \$2,067,199 | \$9,000,000 |
| FAM/Fleet | \$166,769 | \$134,000 | \$1,422,388 | \$1,723,157 | \$176,843 | \$1,900,000 |
| OSMP ⁴ | \$65,425 | \$2,747,000 | \$25,097 | \$2,837,522 | \$5,962,478 | \$8,800,000 |
| Parks & Rec | \$109,317 | \$705,000 | \$186,812 | \$1,001,128 | \$598,872 | \$1,600,000 |
| CP&S | \$14,484 | \$1,362,000 | | \$1,376,484 | \$446,243 | \$1,822,727 |
| Police | \$220,061 | \$28,000 | \$4,963 | \$253,024 | \$490,182 | \$743,206 |
| Fire | - | \$94,000 | | \$94,000 | \$18,009 | \$112,009 |
| Other | \$2,415 | \$48,000 | | \$50,415 | \$1,023,783 | \$1,074,198 |
| Total | \$1,022,601 | \$13,528,000 | \$1,639,260 | \$16,189,861 | \$11,362,279 | \$27,552,140 |

¹ Actual reimbursement amounts may vary due to actual costs incurred and/or FEMA de-obligation of costs at project closeout. Includes 1.34 percent management cost reimbursement.

² Insurance proceeds do not reflect \$1 million uncheduled property payment. The city is still determining the best use of these funds. FEMA may require that some or all of this payment be used to offset "duplication of benefits." This would result in a reduction of the FEMA reimbursement.

³ Please refer to the following sections (Insurance, Remaining Cost to City, and Grants) for an overview of the reasons contributing to the gap, and the additional funding sources that city staff is pursuing to help close the gap.

⁴ The majority of OSMP project worksheets have been written on estimates. As recovery work and reimbursements progress, the actual reimbursement from FEMA and the state may increase, as long as the work performed is consistent with the project scope and costs are determined to be reasonable by FEMA.

GRANTS

To help close the aforementioned gap between flood damage and response costs and FEMA reimbursements, the city is pursuing additional funding sources. The following table provides a brief overview of the opportunities currently being pursued.

| Program | Awarded Projects/Eligible Activities |
|--|---|
| Grants Awarded | |
| CDBG-DR – Resiliency Planning | <ul style="list-style-type: none"> • West Fourmile Creek annexation and redevelopment study • Award: \$75,625 |
| CDBG-DR – Housing Rehabilitation | <ul style="list-style-type: none"> • Single-family renovations and repairs • Relocation of single family homes • Award: \$1 million (city's share of city/county funds) |
| Colorado Department of Public Health and Environment | <ul style="list-style-type: none"> • 61st Street wastewater interceptor reroute • Area II annexation infrastructure and design • Award: \$1,595,000 |
| Colorado Water Conservation Board – Stream Restoration Grant | <ul style="list-style-type: none"> • Boulder Creek restoration and relocation • Award: \$200,000 |
| Open Opportunities | |
| CDBG-DR – Infrastructure (Application under review) | <ul style="list-style-type: none"> • FEMA local match |
| FEMA Hazard Mitigation Grant Program | <ul style="list-style-type: none"> • Hazard mitigation projects (property acquisition, structure elevation, dry floodproofing, generators, etc.) |
| Urban Drainage and Flood Control District (UDFCD) | <ul style="list-style-type: none"> • Repair of structures built by UDFCD |
| Workforce Boulder County | <ul style="list-style-type: none"> • Temporary employees to assist with flood recovery projects (repairs, debris removal, etc.) |
| Natural Resources Conservation Service (NRCS) Emergency Watershed Protection Program | <ul style="list-style-type: none"> • Debris removal • Streambank stabilization • Repair of water control structures and infrastructure |

VOLUNTEERS

Since September 2013, the city has been very fortunate to have a significant level of support from volunteers, with approximately 1,650 volunteers working approximately 6,700 hours. Of those hours, 3,853 are eligible for FEMA reimbursement, with a projected value of \$60,000.

Upcoming events for public volunteer assistance can be found online at www.ow.ly/pfF4Y.

The header photos were taken at volunteer projects along the Royal Arch Trail and Mesa Trail.

FLOOD SAFETY BOULDER, CO

OBJECTIVE #5: LEARN TOGETHER & PLAN FOR THE FUTURE



Engage the Boulder community in assessing neighborhood impacts, refining and rethinking community design options, prioritizing actions and opportunities that mitigate hazards before rebuilding and support long-term community resilience and sustainability. In doing so, we build a city both greater and more beautiful than we were before.

BOCO STRONG & FLOOD COMMEMORATION EVENTS

The city held 10 events as part of flood commemoration week. The keystone events on Sept. 10 were well-attended, with approximately 100 attendees at the afternoon [Science of Disaster Planning: Research and Response](#) panel discussions; and approximately 100 attendees at the evening [Boulder Flood Tribute: Community Stories in Action](#). Both events were recorded, and the videos are available online.

The city also prepared a [motion graphic video](#) summarizing the community impacts from the 2013 flood and an infographic summarizing flood preparedness, response, recovery, and resilience facts and statistics. Both the video and the infographic are posted online at www.boulderfloodinfo.net.

FLOOD RAINFALL AND RUNOFF SUMMARY

The [City Council study session on Sept. 30](#) included an analysis of the rainfall and estimated runoff frequency (in years) for each of the 15 major drainageways as well as total damages to private property.

The header photos were taken at the Sept. 10 “The Boulder Flood: One Year Later” afternoon and evening events.