CITY OF BOULDER
CITY COUNCIL AGENDA ITEM

MEETING DATE: November 18, 2014

AGENDA TITLE
Consideration of a motion to accept the September 30, 2014 Study Session Summary on Flood Management.

PRESENTER/S
Jane S. Brautigam, City Manager
Maureen Rait, Executive Director of Public Works
Jeff Arthur, Director of Public Works for Utilities
Bob Harberg, Principal Engineer - Utilities
Annie Noble, Flood and Greenways Engineer Coordinator
Kurt Bauer, Engineering Project Manager
Katie Knapp, Engineering Project Manager
Kristin Dean, Utilities Planner

EXECUTIVE SUMMARY
This agenda item provides a summary of the Sept. 30, 2014 City Council Study Session on flood management. The purpose of the study session was to provide council with background information about the city's flood management program and upcoming agenda items, including the South Boulder Creek Mitigation Study. The study session also included information about an assessment of the September 2013 flood magnitude, impacts to private property, and Federal Emergency Management Agency (FEMA) insurance/disaster relief payments.

The following questions guided council's discussion:

1. Does City Council have any questions or feedback about the overall flood management program or the draft reports analyzing the Sept. 2013 flood event?

2. Does City Council have questions about upcoming flood mapping and mitigation items? Would Council support consolidating items or using the consent agenda to help reduce redundancy?

3. What questions and feedback does City Council have about the South Boulder Creek recommended flood mitigation alternative, including project phasing, impacts and next steps?

STAFF RECOMMENDATION
Staff recommends acceptance of the summary of the Sept. 30, 2014 study session on flood management.

Suggested Motion Language:
Staff requests council consideration of this matter and action in the form of the following motion:

Motion to accept the summary of the September 30, 2014 flood management study session included in this agenda item as **Attachment A.**

ATTACHMENT
Attachment A – Summary of the Sept. 30, 2014 flood management study session.

NEXT STEPS
Based on input at the study session, staff will:

1. Determine the engineering feasibility and technical specifics of using more of the University of Colorado (CU) South Campus land for the proposed South Boulder Creek flood mitigation regional detention facility at US36. If technically feasible, discussions will then be held with CU to explore these options.
2. Initiate discussions with CU about using more of their land for South Boulder Creek mitigation.
3. Continue working with the project consultant team to revise the number of units impacted by the South Boulder Creek Mitigation Plan alternatives as presented at the Study Session. This information, including cost per structure and dwelling unit by project phases, will be presented at the South Boulder Creek flood mitigation public hearing. This meeting has not yet been scheduled and is contingent on the timing of the refinement of the US36 regional detention alternative portion of the recommended mitigation alternative along with discussions with CU.
4. Move mapping updates forward for council review and consideration as they are completed.

BACKGROUND
The background information for this topic can be found in the study session memo.

ATTACHMENT A

Study Session Summary – Nov. 18, 2014
Floodplain Management

PRESENT:
City Council: Mayor Matt Appelbaum, Mayor Pro-Tem George Karakehian, Lisa Morzel, Suzanne Jones, Macon Cowles, Sam Weaver, and Mary Young

City Staff: Jane S. Brautigam, City Manager; Jeff Arthur, Director of Public Works for Utilities; Bob Harberg, Principal Engineer – Utilities; Annie Noble, Flood and Greenways Engineering Coordinator; Kurt Bauer, Engineering Project Manager; Katie Knapp, Engineering Project Manager; Kristin Dean, Utilities Planner

PURPOSE:
The objective of the study session was to provide City Council with background information about the city's flood management program and upcoming agenda items including the South Boulder Creek Mitigation Study. The study session also included information about an assessment of the September 2013 flood magnitude, impacts to private property, and Federal Emergency Management Agency (FEMA) insurance/disaster relief payments.

PRESENTATION OVERVIEW:
J. Arthur started the study session by providing a brief description of the topics to be discussed and introducing staff and guest speakers.

K. Knapp presented an overview of the city's flood management program and explained the flood mapping and mitigation processes, the four defined city flood zones, the city's flood preparedness resources, education and outreach efforts, the property acquisition program, and flood recovery efforts.

Bob Glancy, Warning Coordination Meteorologist at the National Weather Service, presented information about the weather patterns that caused the September 2013 flood event. Shannon Tillack, with Wright Water Engineers, presented an analysis of the rain amounts that fell during the September 2013 event and the associated runoff return periods for each drainage basin in the city.

Results of a city initiated flood impact survey and a damage analysis were presented by B. Harberg along with information related to flood insurance in Boulder.

A. Noble outlined some key projects scheduled for City Council consideration in the next year including; a.) updating floodplain mapping along Boulder Slough, Bear Canyon Creek, Skunk Creek, Bluebell Canyon Creek, King's Gulch, Upper Goose Creek, and Twomile Canyon Creek; and b.) mitigation plans for South Boulder Creek, Gregory Canyon Creek, Bear Canyon Creek, and Boulder Creek. She also provided a status

update on capital improvement projects along Wonderland Creek and Fourmile Canyon Creek.

K. Bauer led the presentation and discussion about the South Boulder Creek Mitigation Study. The presentation included a summary of the study background, alternatives that have been evaluated, study recommendation, board motions and issues relating to the study recommendation. Ken MacKenzie, with the Urban Drainage Flood Control District, was also present to answer questions about the district's role in flood preparedness, response, and recovery efforts.

COUNCIL RESPONSES TO STUDY SESSION QUESTIONS AND DISCUSSION SUMMARY:

Council had thoughtful and wide ranging discussions that were prompted by the following questions:

1. Does City Council have any questions or feedback about the overall flood management program or the draft reports analyzing the Sep. 2013 flood event?
   - <u>High Hazard Zone Property Acquisition</u>
     Additional discussion was held about the High Hazard Zone Property Acquisition Program and the adequacy of funding as well as the process for being notified about properties. Staff noted that the focus is on purchasing residential properties in the High Hazard Zone that come on the market. While $500,000 is allocated annually for this program, there is not always a willing seller each year. The funds currently available at this time are approximately $1.5 million. Other funding sources are also available for property acquisition in association with other drainageway improvements.
   - <u>Groundwater</u>
     Questions were raised about addressing groundwater when development is proposed. Staff commented that groundwater is not currently regulated, except that residential basements are prohibited to be built if the property is in the 100-year floodplain. Additionally, staff noted that education centered on the importance of having a sump pump and the risks of basement flooding is key to addressing groundwater issues.
   - <u>Wonderland Creek Project Financing</u>
     Council requested that they be kept up-to-date for the potential of using eminent domain for the proposed Wonderland Creek improvements in order to ensure that the project continues to move forward and that funding is not jeopardized if easements have not been secured by the deadline.

2. Does City Council have questions about upcoming flood mapping and mitigation items? Would Council support consolidating items or using the consent agenda to help reduce redundancy?
   - Additional questions were raised about the process for mapping studies and when they go to council. Staff reiterated that mapping studies have to follow very technical guidelines set by FEMA and the Urban Drainage and Flood Control

District, thus there is not a lot of opportunity for the public to weigh in. However, all entities affected by a mapping study, including educational institutions, are notified about mapping updates in progress. Council members agreed that mapping studies could be presented on the consent agenda, unless the study is controversial. Council members also agreed that all mitigation studies should be presented as a public hearing.

3. What questions and feedback does City Council have about the South Boulder Creek recommended flood mitigation alternative, including project phasing, impacts and next steps?
   - Council requested clarification on the number of structures affected by the South Boulder Creek mitigation options and a cost per unit analysis for each option.
   - Council raised questions and requested more information about the cost effectiveness of flood proofing individual structures compared to other large scale mitigation options. Staff noted that flood proofing may protect structures, but mitigation is also necessary to minimize the life-safety risk associated with flash floods. Staff also noted that individual property owners could utilize landscaping and walls to help divert surface water away from their structures.
   - Questions were raised about the feasibility of building a berm in a natural area containing threatened and endangered species. Staff noted that the estimated cost to construct the proposed regional detention facility at US36 includes estimates to mitigate for environmental impacts associated with federal permitting requirements.
   - Council requested that Staff initiate discussions with CU about the possibility of using more of their land for South Boulder Creek mitigation. Council recognized that the goal is to figure out how to reduce flood risk for everyone but at a reasonable cost.