CITY OF BOULDER, COLORADO
BOARDS AND COMMISSIONS MEETING MINUTES

Name of Board / Commission: Water Resources Advisory Board

Date of Meeting: 18 July 2014

Contact Information of Person Preparing Minutes: Kaaren Davis 303.441.3203

Board Members Present: Vicki Scharnhorst, Dan Johnson, Mark Squillace, Lesley Smith, Ed Clancy
Board Members Absent: None

Staff Present: Jeff Arthur, Director of Public Works for Utilities
Bob Harberg, Principal Engineer - Utilities
Katie Knapp, Engineering Project Manager
Kurt Bauer, Engineering Project Manager - Utilities
Bret Linenfelser, Water Quality and Environmental Services Manager
Don D'Amico, Ecological Systems Supervisor - OSMP
Kaaren Davis, Board Secretary

Cooperating Agencies Present:
Ken McKenzie, Master Planning Manager for the Urban Drainage and Flood Control District
Alan Turner, CH2M Hill, Primary Consultant for Project

Meeting Type: Regular

Agenda Item 1 – Call to Order **[7:00 p.m.]**

Agenda Item 2 – Approval of the 21 July 2014 Meeting Minutes: **[7:01 pm]**

21 July minutes: Motion to approve minutes from July 21st as presented. Moved by: **Johnson**
Seconded by: **Smith**
Vote: 4:1 (Clancy Opposed)

Agenda Item 3 – Public Participation and Comment **[7:02 p.m.]**

Public Comment:

- **Steve Pomerance**: Former Council member who was directly involved in the original flood work process during in the 80's. Spent much time with staff. Suggests we go back to this culture so that board is fully aware of what is going on. Mapping process is getting frustrating. It is unclear how the analysis is going to occur, especially with regard to cost benefit analysis around the specific neighborhoods. WRAB is the first line of defense, and it would be appreciated if the board would be active in the process.

Board follow up:

- None

Agenda Item 4 – **[7:05 p.m.]**

Public Hearing and Consideration of a Recommendation to City Council Regarding the South Boulder Creek Major Drainageway Plan and Mitigation

Presenters:
Jeff Arthur, Director of Public Works for Utilities
Bob Harberg, Principal Engineer - Utilities
Annie Noble, Flood and Greenways Engineering Coordinator
Don D'Amico, Ecological Systems Supervisor, Open Space and Mountain Parks
Kurt Bauer, Engineering Project Manager

Cooperating Agencies Present:
Ken McKenzie, Master Planning Manager for the Urban Drainage and Flood Control District
Alan Turner, CH2M Hill, Primary Consultant for Project

Executive Summary from the Packet Materials:

The purpose of this memorandum is to provide a summary of the South Boulder Creek major drainageway flood mitigation planning study including the study recommendation. This mitigation plan was initiated in 2010 after the floodplain mapping was updated in 2007. The focus of the study is on developing and evaluating alternatives designed to mitigate flood hazards affecting structures and areas along South Boulder Creek and the West Valley within the current incorporated city limits.

A Risk Assessment completed in 2009 estimates that a 100-year storm event would result in approximately $215 million in damages in the South Boulder Creek drainage basin. The September 2013 flood resulted in overtopping of US36 and corresponding flooding through the West Valley with reported damages of $38 million. The 2013 flood is estimated to have resulted in flows above a 50-year event but below the 100-year flow used in the Risk Assessment to estimate damages.

Since the major drainageway mitigation study was initiated, multiple flood mitigation alternatives have been evaluated to address flooding associated with South Boulder Creek. The alternatives were screened from fifteen concepts down to four via the planning process. Consultants for the study recommend an alternative that would eliminate the overtopping of US36 during a 100-year event and provide flood protection for 362 structures (893 dwelling units) at a cost of $46 million. The $46 million alternative would include a 560 acre-foot regional flood detention facility, three smaller stormwater detention features at various locations ranging from 9 to 58 acre feet and piping a segment of Dry Creek No. 2 Ditch. The alternative could be constructed in phases ranging from $12 to $23 million. Construction of the project would require numerous federal, state and local permits, agreements with the University of Colorado and Boulder Valley School District, and disposal of Open Space and Mountain Park land. The regional detention facility portion of the alternative would be regulated by the State as a high hazard dam. Construction of the regional detention facility at US36 would result in significant impacts to federal and city regulated wetlands, habitat for federally threatened plant and animal species agricultural resources, the South Boulder Creek State Natural Area (SBCSNA) and other environmental and aesthetic resources.

Staff is recommending that the "West Valley Improvements" and "Arapahoe Detention" components of the "recommended alternative" proceed to the Community Environmental Assessment Process (CEAP) separate from the "Regional Detention at U.S. 36" component. While these measures are not as comprehensive as the full recommended alternative, it is anticipated that they could be designed, permitted, funded, and implemented in the relatively near future. Staff recommends seeking additional direction from City Council regarding the "Regional Detention at U.S. 36" component. If City Council determines that flood mitigation benefits outweigh associated environmental impacts after considering input from the WRAB, the Open Space Board of Trustees, city staff, and the public, the "Regional Detention at U.S. 36," the project could proceed on a separate time table.

Public Comment:

- **Rick Mahan:** 3rd generation in his house. Understands that there are environmental impacts involved with mapping process, but there are ways to mitigate the impact to wildlife to allow the options discussed. Frustrated that South Boulder area seems to have many great plans that are never followed through with. Lost irreplaceable family history during the flood.
- **Kathie Joyner:** Glad to see staff's recommendations for US 36 with downstream mitigation for removing many structures from the high hazard zones. Concerned about the option of removing the detention facility from the whole package as a separate phase. Delay could negatively impact about half of the structures in the flood hazard zone. Potential for significant environmental impacts is valid, but the degree of impact and ability to mitigate can't be known unless the Environmental Impact Survey (EIS) is conducted. South Boulder Creek sustained the most damage. Any delays in the analysis of impacts and multi-agency evaluations will further delay the removal of over 200 structures from the flood hazard zone. Encourage that impact analysis and multi-agency consultation move forward as fast as possible.
- **David McGuire:** Had about $70,000 in flood damages to his house and about 9' of water over two days. Aware that there are sensitive species in the area, but it is important to analyze the actual impacts of the flood to those species versus the impacts of the US 36 detention facility. Species impact mitigations are possible.
- **Liliane Stacishin:** Home was flooded. Have not heard how the future development of the area around the proposed projects will affect the plan as put forth. New structures are being built all the

time.

- **Shannon Chinatti:** President of Pawnee Meadows HOA. Their neighborhood was ground zero. No sirens, no reverse 911, no notifications of highway closures. Contests the statement that the flooding last year was not flash flooding. Her neighborhood experienced very rapid flooding. Frazier Meadows facility severely damaged. A berm would be a welcomed sight to the affected neighbors. Flooding will happen again. Mitigation measures discussed should be put in place as soon as possible. Thanks for working on our behalf and dealing with FEMA, which is difficult. City is responsive to storm drain cleaning and this is appreciated.
- **Laura Tyler:** Shared a photo of her front yard after the flood event. Water rose very quickly during the event. Shared an account of the flood on her property. Read an article from the Daily Camera about CU Boulder that boasted how well the South Campus fared in comparison to other areas affected by the flood. The berm around that property is probably responsible for that protection but also the possible cause for some of the water being diverted into their neighborhood. Questions about cost/benefit analysis.
- **Jeff McWhirter:** President of SE Boulder Neighborhood Association. Neighborhoods are built on the old floodplains. Building continues in the area, which is not smart. That said, this is what we are stuck with and something must be done. If this event was not quite a 100 year event, what would a 200 year event look like? Don't know whether this plan is the best plan or not, but we need to be able to look at perhaps some other alternatives.
- **Ben Binder:** Presented handout to board. Board and city are being shortchanged because optimal alternative was never investigated. Detention pond on south end of the CU property. No environmental impacts. Lower cost, but high effectiveness. The CU berm is illegal and built counter to city and county policies. Counter to FEMA requirements. The old gravel pit can be used to cut peak flows. CU says they have other intentions for the property, but that could be combined with athletic fields. CU is being callous if they will not cooperate with the city on creating this detention facility. Suggests that city reject current alternatives and work with CU instead.
- **Kathleen Motylenski:** First level of home flooded during the flood event. She carried her dog half a mile away to a neighbor who was dry. Neighbors doing all they can but are frightened of what an actual 100 year or greater flood event would look like.
- **Jeff Rifkin:** Benefit/cost ratio just looks at cost associated with flood events, but there are costs associated from flood impacts between events. Concerned about pipeline option and Manhattan Middle School detention facility. Also concerned about storing water at Manhattan Middle's fields and plans to put in three different ponds, but nothing is known about how high the water table is. What are the impacts and the alternative plans if the proposed area cannot be used as detention facilities?

WRAB Discussion Included:

- Cost/benefit study – reasons for discrepancy between the 2010 predicted cost of a flood event and the actual costs we are seeing after the 2013 flood event. Evaluation is being done using FEMA's HAZUS tool.
- Environmental values seem to get lost in the cost/benefit evaluation discussions. Would like to see it clearly included.
- Costs and Benefits of just going the first two steps and never pursuing the US 36 Detention structure option? Are the cost/benefits of the first two steps adequate to pursue without the detention structure? Phases do have positive benefit to cost ratios by themselves.
- Chances of building US 36 detention facility seem not very high, given likely impacts on threatened and endangered species in the area.
- Changes in calculating cost/benefit ratios since the 2010 evaluations of the original 15 alternatives?
- Community and Environmental Assessment Process Report (CEAP) - Will that be public input? CEAP is very much an extensive public process.
- Wetlands serve important functions (species habitat, flood mitigation). Would we need permission from Fish & Wildlife for endangered species, as well as Open Space? That would be a very drawn-out process. If we go ahead with the US36 detention facility, we could get bogged down for a long time.
- 2010 Bear Creek Canyon pipeline was eliminated. Back then there was no discussion of the wildlife and habitat impacts. Are there second thoughts now about adding it back into the mix now that there is a better understanding of the eco-impacts? Staff response: have not yet looked at utility conflicts related to maintaining large, closed conduits that do not serve any ecological

benefits, which does create concern. Large banks of inlets required. The amount of debris that could clog the inlets is huge. Confined space issues. Urban Drainage Flood Control District does not support large pipelines. Installation and maintenance costs are large.

- Any set of alternatives recommended will likely go to an EIS and we will have to bring forward 4-5 alternatives anyway. How many options do we leave open? Consider adding the pipeline back in to open up one more alternative.
- Some of the options have a marginal cost/benefit ratio at this time. What happens if during the design phase we discover that something has a cost/benefit ratio of less than one, and is therefore a less readily fundable option? (Lower rating could affect grant possibilities.)
- If could use more CU land for detention, could the berm be less high, less impactful and less costly? Have not surveyed for endangered species on CU property.
- How big an impact would inundation cause as opposed to the berm impacts for the threatened species? Flooding would have less impact as this type of flooding is more normal to this type of area.
- Alternatives considered to minimize the footprint and impact of the proposed berm.
- Elevation fill to elevate property for the berm. Could that not come from putting a pond in the proposed area?
- Goats a possibility for weed control on the berm? Yes, reasonable success with some species of weeds. Size of the berm would require a lot of goats.
- Can eminent domain be used against CU? We do not have the authority to condemn a state or federal property.
- CU should be persuaded to give up control over some of its land if it opens up better options. There are political ways to deal with CU to compel cooperation, such as the Board of Regents. All options should be studied regardless of apparent feasibility.
- If WRAB does not send staff forward with a recommendation on the current path, how long would it be before something new came back to the board?

Motion to recommend that City Council accept the "West Valley Improvements and Arapahoe Detention Phases" of the South Boulder Creek Major Drainageway Plan and the "Regional Detention at U.S. 36 with Downstream Improvements" as the recommended alternative to mitigate flood risks associated with South Boulder Creek.

The WRAB recommends proceeding with the "Regional Detention at US 36" component of the alternative only after looking at alternatives which may have lesser potential for environmental impacts, and which may provide faster and less costly opportunities for equivalent mitigation in that area, such as use of CU property detention, private property detention, and eminent domain options.

Motion by: Johnson; Seconded: Clancy
Vote: 5-0, Motion Passes

Agenda Item 5 – [9:20 p.m.]

Information Item - Skunk Creek, Bluebell Creek and King's Gulch Floodplain Mapping Update

Presenters:
Jeff Arthur, Director of Public Works for Utilities
Bob Harberg, Principal Engineer - Utilities
Katie Knapp, Engineering Project Manager

Executive Summary from the Packet Materials:
The purpose of this memorandum is to provide a general summary of the history and results of the Skunk Creek Floodplain Mapping Update.

Floodplain mapping provides the basis for flood management by identifying the areas subject to the greatest risk of flooding. This information is essential for determining areas where life safety is threatened and property damage is likely and is the basis for floodplain regulations and the National Flood Insurance Program (NFIP). The city's floodplain maps need to be periodically updated to reflect changes in the floodplain resulting from land development, flood mitigation improvements, new topographic mapping information and new mapping study technologies.

The Skunk Creek Floodplain Mapping Update includes the King's Gulch, Skunk and Bluebell Canyon Creek floodplains between the city limits to east of Foothills Parkway where Skunk Creek confluences into Bear Canyon Creek as shown in red below.

Engineering consultants provided hydraulic modeling to update the existing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) and City of Boulder floodplains, water surface elevations, conveyance and high hazard zones.

The proposed mapping of the Skunk Creek Floodplain would result in a net:

- Increase of 49 structures identified in the 100-year floodplain;
- Decrease of 25 structures identified in the conveyance zone and;
- Decrease of 14 structures identified in the high hazard zone.

The WRAB review of the floodplain mapping update does not require board members to verify the analysis and calculations, but accepts the overall mapping study process and that results are reasonable and acceptable.

Following input from the August WRAB meeting, any information requested about the mapping study will be presented at the September WRAB meeting. A request for a motion will also be made at the September WRAB meeting.

WRAB Discussion Included:

- Reasons for the increased number of structures in the 100-year flood plain in spite of mitigations done in the area in recent years.
- What the 2013 event was rated at (between 50-100-year event). With LiDAR (Light Detection and Ranging), can individual properties be evaluated and perhaps be removed from the HHZ? There is no FEMA process by which property owners can get their properties removed from the HHZ.
- Did the flood models and LiDAR compare well to the mapping of the actual boundaries of the event?
- How much contact staff has had with those who have been added to the 100-year floodplain and what guidance have they been given? Many appear to be eligible for removal from the floodplain through the LOMA (Letter of Map Amendment) process.

No Board action was requested at this time.

Agenda Item 6 – Matters **[9:43 p.m.]**

From the Board:

Board member Johnson brought up the below matter(s):

- Impressed with city maintenance crews during the last rain storm. They were out looking at trash

racks.

- Email from Council about recommendation with regard to proposed rate increases and City Council thought we might be light on sanitary sewer increase.
- People who were affected seemed pleased with rate increase, and wondering if looking at setting up a local district to put money into for upgrades might be a possibility.

Board Member Smith brought up the below matter(s):

- Had a conversation with Steve Pomerance. Should we push more to correct some of these major flooding problems? How do we decide which things get tackled now as opposed to later?

Board Member Clancy brought up the below matter(s):

- Raised concerns about the capacity of the WWTF and compliance with related design standards.

From Staff: **[9:47p.m.]**

- **CIP Outreach to Businesses:** Had a meeting with the Boulder Chamber to get their thoughts on how to proceed and on key people to target. Have been doing one-on-ones with some of the big users to discuss rate impacts. Generally, people have understood the need for increases.
- **CIP Agenda Item at Council:** Last week. Most of the discussion was around the Utilities CIP and specifically the Wastewater section. Discussion went well. A majority of Council looked interested in an option to expedite the wastewater collection system improvements. Council asked about WRAB input. Study Session on September 9th. Board cannot take action before that due to meeting schedule, but if individual board members have input about parameters, comparisons to other communities, priorities for investments, etc., please let staff know on an individual basis.

Agenda Item 7 – Future Schedule **[10:15 p.m.]**

- Skunk Creek Floodplain Mapping
- Twomile Canyon Creek Floodplain Mapping

Adjournment **[10:18 p.m.]**

There being no further business to come before the Board at this time, by motion regularly adopted, the meeting was adjourned at 10:18 p.m.

Motion to adjourn by: Smith; Seconded by: Squillace

Motion Passes 5:0

Date, Time, and Location of Next Meeting:

The next WRAB meeting will be Monday, 15 September 2014 at 7:00 p.m., in the Council Chambers, 1777 Broadway, 80302.

APPROVED BY:	ATTESTED BY:
_____	_____
Board Chair	Board Secretary
_____	_____
Date	Date

An audio recording of the full meeting for which these minutes are a summary, is available on the Water Resources Advisory Board web page.