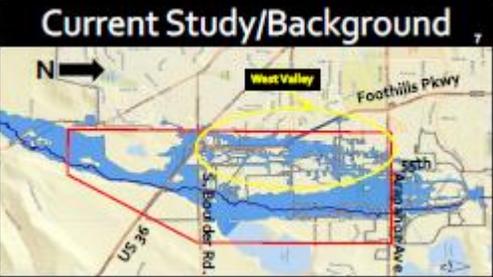
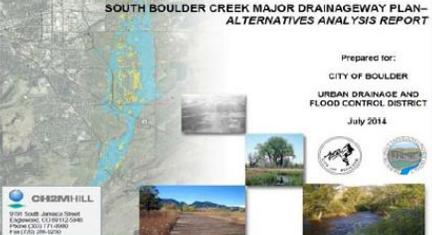


<p>South Boulder Creek Flood Mitigation Plan Summary</p> <p>Open House September 26, 2016</p>  <p>1</p>	
<p>South Boulder Creek Agenda</p> <ul style="list-style-type: none"> □ Background / History □ Planning Process □ Summary of Study Recommendations □ US36 Regional Detention □ Next Steps 	
<p>Current Floodplain</p> 	<ul style="list-style-type: none"> • To help orient you, north will be to the right on most of the figures in this presentation • This figure shows the current 100-year floodplain limits in blue resulting from flooding along South Boulder Creek • There are currently 515 structures and over 1,838 dwelling units in the South Boulder Creek Floodplain within city limits.
<p>Current Floodplain</p> 	<ul style="list-style-type: none"> • This extensive flooding occurs because the creek overtops upstream of US36 and flows north and west to a low spot located near Table Mesa Drive. • When flows get large enough, like they did in 2013, this pond gets deep enough to spill and overtop US36. This then flows and floods through the west valley area as shown by the yellow arrows
<p>September 2013 Flood</p>  <p>Qualla Dr</p>	<ul style="list-style-type: none"> • Overall Damages from the 2013 flood in the South Boulder Creek drainageway were reported to be some of the highest in the city. • The left two photos are from Qualla Drive where the water depth was estimated to be about 4 feet during the flood. • Frasier Meadows experienced significant damage, but fortunately no lives were lost. The water that flooded their parking garage totaled 120 cars.

	<ul style="list-style-type: none"> • The SBC flood mitigation planning study began in early 2010 in partnership with the UDFCD • The study area extended from just north Highway 93 to just north of 55th and Arapahoe and is shown by the red box. • The main purpose of the study was to develop alternatives to mitigate the flood risk in the West Valley along with overtopping of US 36. • The West Valley is shown within the yellow oval, bounded by US36, Arapahoe, 55th Street and Foothills Parkway.
	<ul style="list-style-type: none"> • In 2014, a Draft Recommended Plan was prepared and presented to the OSBT, WRAB and to city council at a study session. • The recommended plan included 3 phases: (next slide)
	<ul style="list-style-type: none"> • Phase I includes the Regional detention at US 36 • Phase II that includes improvements in the West Valley area • And Phase III that includes detention at Flatirons Golf Course • While both Boards and Council in 2014 supported moving forward with Phases II and III of the mitigation plan they recommended investigating other alternatives for regional detention that would reduce or eliminate impacts on OSMP lands through greater use of CU's land.



- Under the plan for regional detention presented in 2014, the berm was proposed to be located partially on CU-Campus South and extend into Open Space and Mountain Parks Property.
- The 2014 berm is shown in brown on this figure.
- The proposed berm would have caused considerable impacts to threatened and endangered species on Open Space and Mountain Parks Properties as well as other valuable environmental resources.

Seven Options				
	Single Berm	Dual Berm	Excavation	Fill
Option A	✓			✓
Option B			✓	✓
Option C	✓		✓	✓
Option D	✓		✓	✓
Option E		✓		
Option F		✓	✓	
Option G		✓	✓	✓

- Following the 2014 study session, six additional options were developed for US 36 regional detention.
- There were 4 single-berm options with variations in cut and fill and 3 dual berm options. The dual-berm options were developed to determine the feasibility of moving the detention further to the south on the CU Parcel
- All options would function the same in terms of flood mitigation



- In evaluating all of the options, the option that stands out is Option D.
- Under this alternative, the berm would be located entirely within CDOT Phase I ROW and on CU's campus, and would therefore have no permanent impacts to OSMP lands.
- This option also carries a price tag of approximately \$22 million, which is less than all of the dual berm options and also on the lower end of the scale when comparing the costs.
- The proposed berm is shown in brown, fill in dark yellow and blue the anticipated limits of 100-year ponded water



- This rendering shows the US36 Option D regional stormwater detention alternative looking southeast from above the RTD park and ride facility.
- The existing CU levee, that is FEMA certified, can be seen in the upper middle of the rendering.
- The WRAB and OSBT recommended Council approve this revised plan in summer of 2015
- City Council accepted the revised plan in August of 2015
- It should be noted that we conducted 15 public meetings including board and council meetings for this study.

Next Steps 15

- Parallel Efforts:
 - o Engineering
 - o Planning
- Funding in 2018
- Design and Construction

- We are currently working on two parallel work paths.
- Planning, who you will hear from shortly, is working to coordinate a possible agreement with CU for use of their land.
- We have selected an engineering team to prepare preliminary design of the US36 regional detention facility
- We are currently negotiating a scope of work but we will not be able to do much work until we get an agreement with CU and CDOT for use of their land as it will likely affect the design.
- If this process continues through design we will need to get concurrence from the State Engineers Office and secure all necessary permits.
- We have a place holder for bond funding in 2018 but the timing is contingent on land holder agreements and the design process.
- We believe the detention facility would take approximately two years to construct.