

South Boulder Creek process advisory group meeting agenda

Thursday, Aug. 20 2-4 p.m. (Continued from Aug. 5 meeting)

PURPOSE STATEMENT

The purpose of this group is to advise staff in advance of the Aug 28th Process Subcommittee meeting on development of a process through which staff can respond to the second part of city council's June 16, 2020 motion, which reads,

*"I move that Council adopt the Variant 1 100-yr flood protection alternative as the basis of design and permitting for the South Boulder Creek Flood Mitigation Project and I further move that **council instruct city staff to, in parallel, analyze whether the upstream model identified by the Open Space Board of Trustees at its meeting on June three would improve flood mitigation effectiveness, reduce costs, decrease environmental impacts or increase the likelihood of receiving applicable permits and permissions as compared to the Variant 1 100-yr model and report these findings to council in the next few months provided that any such analysis of the upstream model by city staff not delay or otherwise impede staff's work in furtherance of the Variant 1 100-yr model.**"*

AGENDA

1. **Introductions** ~ *Heidi Brinkman*
2. **Ground rules and expectations** ~ *Heidi Brinkman*
3. **Purpose Statement Review & Group Member Roles** ~ *Mayor Sam Weaver and Council Member Rachel Friend*
4. **Process Timeline, Schedule and Budget** ~ *Heidi Brinkman*
 - a. What council delegated to the Process Subcommittee ~ *Council representatives*
 - b. Staff understanding of the constraints ~ *City staff*
 - i. Advisory group timeline and analysis timeline
 - ii. Staff capacity and level of effort
 - iii. Budgetary constraints
 - iv. OSBT and Council Report-outs
 - c. Council members feedback on staff's interpretation of 4b ~ *Council representatives*
5. **Scope of Work** ~ *Heidi Brinkman*
 - a. Walk through review of OSBT June 3, 2020 recommendation (*below*) ~ *City staff*
 - b. Proposed deliverables
 - i. Package of existing work on upstream alternatives (1-3 of OSBT recommendation)
 - ii. Results of new work based on:
 - i. Design criteria for new work (4&5 of the OSBT recommendation)
 - ii. Evaluation criteria for new work (council recommendation)
6. **Next Steps** ~ *Heidi Brinkman*
 - a. Second Meeting date TBD
 - b. Process Subcommittee Aug 28, 2020

OSBT JUNE 3 MOTION LANGUAGE

When the proposed Variant 1 US-36 floodwall was moved onto OSMP/State Natural Area critical habitat, the environmental impact of the project was dramatically increased, and Council requested feedback from OSBT on the revised project. On September 11, 2019, the Board provided detailed feedback including a request to take a new look at the Upstream Option as a possible means to avoid or reduce these new impacts. We are still looking for this requested side-by-side analysis/comparison.

On May 22, 2020, OSBT began receiving new information on the Upstream Option. This included a map (#B-1) of the South Boulder Creek 100-year Flood Flows indicating that two-thirds of the peak flow and more than one-half of the flood volume occurs west of South Boulder Creek and is only prevented from flowing into the CU South gravel pit by the existing levee. This raises the questions: Once the levee is removed (where the western flow encounters it), how much of this flow could be stored in the gravel pit via berms and excavation within the OS-O area? And, how would that reduce the Variant 1 storage and excavation requirements at the northern part of CU South (PK-U/O) and thereby reduce or eliminate the need for the US-36 floodwall?

OSBT will not vote on disposal until we have the answers to these questions, in addition to others in our 2018 and 2019 recommendations to Council. To get those answers, OSBT asks Council to direct the Utilities Department to, within the next few weeks:

- Use existing mapping and data and work with two or more volunteer engineer/hydrologist professionals from the community to do model simulations to analyze what happens to the flood flows if the levee is breached and floodwater is stored in the gravel pit [see below**],
- Use results from the models to generate preliminary cost estimates for the modeled concept(s),
- Work with OSMP to assess the environmental impacts, and then present the modeling, cost estimates, and environmental impact results to OSBT and the public, and
- Enable OSBT to hold an open, data-based discussion and public hearing leading to the Board's final recommendation to Council regarding a 100-year Upstream Concept vs. the existing Variant 1 Concept.

Detention of 100-year flows on CU-South's OS-O land has the potential to: (1) reduce environmental impacts and thereby reduce the time and risk inherent in regulatory permitting; (2) limit intrusive construction to CU-South OS-O lands; (3) provide flexibility to detain larger than 100-year flows; and (4) improve cost effectiveness. With these potential benefits and the possibility of reducing the current \$66M to \$93M estimated probable construction costs, OSBT considers it prudent to take a month to answer these questions.

[**] Initial List of Questions/Model Runs Requested by OSBT, based upon the information received May 29, 2020, to be revised through conversations with staff:

The principal objective is to determine what fraction of the 100-year flood could be stored upstream. As a starting point, there is no need to do cost estimating, detailed conceptual design, or to assess collateral impacts to environmental resources until it is demonstrated that a sufficient fraction of the flood might reasonably be stored away from US-36, allowing for significant changes in the Variant 1 scheme which would directly benefit OSMP resources or provide other enhancements to the

project. These analyses will enable OSBT to host with staff and the public, a data-driven discussion of upstream options.

1. Use existing mapping, flow data, and flood models to analyze what happens to the flood flows shown in B-1 if the levee is removed:
 - a. The levee at the south end of the CU-South property is removed along with any levee outside the Dry Creek Ditch in that area.
 - b. The land in the vicinity of the removed levee(s) continues the downward slope toward the north found immediately to the South of the CU South and Dry Creek Ditch levees, encouraging flow into the gravel pits.
2. Develop staff's best concept for storing that flow in the gravel pit/OS-O using both existing and new structures and excavation to reasonably maximize storage. Only constrain storage above the 500-year flood elevation inside the levee.
3. Estimate the stored volume and how that storage reduces peak flows and volumes downstream. Using professional judgment, consider how those reductions could be translated into reduced impacts on OSMP lands.
4. Repeat these steps adding staff's best concept for directing a greater fraction of the westerly flow into the gravel pit using inlet excavation or a berm, or both. Extend the berm only south to the South Boulder Creek trail area.
5. If those assumed concepts have resulted in significant reductions to the Variant 1 adverse impacts on OSMP resources, proceed to characterize the key assumptions and vulnerabilities. Characterize broadly the collateral consequences for OSMP resources incorporating information from the existing staff analysis. Proceed with staff and Board discussions, leading to the public forum.
6. If not, stop, and document analyses for a public forum.