

Meeting Minutes

Project Name	Date of Meeting	Location
Lower Lena Gulch	November 13, 2006	UDFCD, Denver

Purpose of Meeting	Time
Progress	1:30 pm

Participants	e-mail or telephone
Ben Urbonas, UDFCD	burbonas@udfcd.org
Ken McKenzie, UDFCD	kam@udfcd.org
Jonathan Reynolds, CWR	jreynolds@ci.wheatridge.co.us
Margaret Paget, CWR	mpaget@ci.wheatridge.co.us
Mike Glade, CMWD	mglade@cmwc.net
George Cotton, GKCC	george.cotton@gkcotton.com
Ralf Sieberer, GKCC	ralf.sieberer@gkcotton.com

1. STATUS REPORT

- a. Review of Previous Meeting Minutes
 - i. No comments received.
- b. Tracked Issues
 - i. Review of tracked issues
 1. The upper basin model, while calibrated to the 1995 study has a volume of runoff that exceeds the volume of storage for flood routing in Maple Grove Reservoir by nearly a foot. According to the operational rule for the crest gates this would trigger the lowering of the gates.
 2. The conversion problem UDSWM to SWMM V5 was resolved by adjustment of the UDSWM input file.
- c. Schedule –
 - i. Milestone: Except for final calibration of the upper basin model, the hydrology report is ready to go.
 - ii. The base hydraulic model for the lower basin has be configured and is ready for new hydrology.
 - iii. Project activities for the next six weeks were reviewed. These activities include:
 1. Hydraulic calculations of the lower Lena Gulch floodplain

2. NEW BUSINESS

- a. Current task progress
 - i. Handouts of the reservoir routing graphs for Maple Grove. The discussion focused on additional ways of calibrating the upper basin CUHP model.

Discussion:

Ben Urbonas. UDFCD's current research on CUHP is indicating that the hydrograph volume is probably over predicted. In particular there is more storage in impervious areas (roads and parking lots) and less connectivity of impervious areas for certain land use types. In the case of Lena Gulch (upper) it is reasonable to increase initial retention to the upper end of the range and to adjust the DCIA parameter. The upper basin is also large enough to adjust precipitation (a depth-area reduction). There is a lot of storage adjacent to the perimeter road around Maple Grove Reservoir that should be accounted for in basin 79.

- ii. The results of team meeting (November 8th) on were reviewed.
 1. Trails – the Wheat Ridge trails master plan calls for a trail along Lena Gulch from the recreation center to the park below Maple Grove reservoir. Shapins (Bob Marsh) recommended: placing the trail on local streets (probably Vivian St) between 29th Ave and Union St that would connect to existing trails in the Lewis Meadows open space. Between Swadley and Simms streets, the corridor narrows and trail alignment would need to use local streets (probably 35th Ave). This places the trail on the north side of Lena Gulch. Between Simms and Parfet streets the trail would be on private land. From Parfet to the recreation center a trail would be located in the floodway except at the Miller culvert along 38th Ave, which is a long narrow culvert. The trail could then resume along the floodway until it connected to the trails at the recreation center.

Discussion:

Margaret Paget. The conservations easements negotiated with the City explicitly exclude trail.

Ben Urbonas. Trails at the 2-year flood elevation are sufficient in this case. A 5-year elevation is probably to much encroachment into the capacity of the floodway and would increase the flood elevation.

Note: The following day (Tuesday), Margaret e-mailed to say that the City decided to drop the Lena Gulch trail from the master plan.

2. Floodway improvements. The channel has significant erosion problems between Union and Quails streets. Stabilizing the channel requires the use of drop structures. Different approaches depend on the frequency of drop structures used to accomplish a lower stream grade along Lena Gulch. The grade currently averages 1 to 1.5 percent in reaches that do not have grade control. The remaining drops could be of a riffle-pool type with drops of about 1.5 feet or step-pool type with drops of about 3 to 4 feet (typical of what has been constructed on other reaches of Lena Gulch). Fewer large drops would be needed to control channel grade compared to riffle drops.

Discussion:

Ben Urbonas. UDFCD has explored various designs for riffle drops typically using a 20:1 grade on the riffle. [Riffle grade controls often cost more because they have a larger footprint and require more select materials such as riprap or boulders. In addition, there may need to be more of](#)

them. You can make these drops quite tall, but because of the low slope you need much riprap or other stabilizing materials.

3. Riparian ecology improvements. The ecology of the channel can be improved by raising the invert and lowering the overbank. This provides a connection between ground water elevations set by the stream to the floodplain. This approach would be compatible with improvements needed to repair erosion of the channel. In areas where there is more room such as the Lewis Meadows open space a larger area could be graded lower, which would transform the open space from an upland type ecology to wetland type ecology. Storm drains from Union and Simms could be redirected to wetland, providing a water quality benefit.

Discussion:

Ben Urbonas. Alternatives must provide a basic flood control benefit or water quality (erosion control) benefit. An alternative that required significant grading would need to have an associated flood reduction or water quality benefit.

Water rights can be a consideration if new wetlands or retention pools are being created.

b. New tasks

- i. George Cotton reviewed the upcoming project activities (see schedule discussion above).
- ii. The HEC-RAS model has been assembled for the geometry (channel geometry and bridges). We plan to begin the study at the 29th St pedestrian bridge. CMWD has just completed a LOMR from the dam to approximately this location, so this will avoid overlapping their recent work.

Discussion:

Ben Urbonas. Starting water surface elevation should be taken from the current FIS profiles. The District typically bases coincident stage on COE table (i.e. 10-year in Clear Creek to 100-year in Lena Gulch).

c. New issues

- i. No additional issues.

3. NEXT MEETING

- a. Project meetings – November 30, 2006 at 9:00 a.m., UDFCD Offices