
**PROGRESS MEETING FOR
COAL CREEK AND ROCK CREEK (CCRC) MDP & FHAD
MEETING MINUTES**

Date: July 31, 2013
Location: UDFCD
Distributions: Agenda, Reach Maps, Problems Identified Table

Attendees:

| NAME | ORGANIZATION |
|------------------|---------------------|
| Claire DeLeo | Boulder County |
| Rebecca Baker | City of Broomfield |
| Peter Johnson | City of Lafayette |
| Jeff Moline | City of Lafayette |
| Cameron Fowlkes | City of Louisville |
| Amy Cornelius | RESPEC |
| David Delagarza | RESPEC |
| Teresa Patterson | RESPEC |
| Alex Ariniello | Town of Superior |
| David Heinrich | Town of Superior |
| Shea Thomas | UDFCD |
| David Mallory | UDFCD |
| Dave Skuodas | UDFCD |

I. Purpose

The purpose of this meeting was to present the complete first draft of the 100-year floodplains for Coal Creek and Rock Creek to the project sponsors and to discuss issues and problem areas to be addressed in the Alternatives Analysis. Because the engineers wanted to discuss the problem areas in great detail, each jurisdiction met at separate times. Therefore the meeting minutes are organized by jurisdictional submeeting. The format generally followed the Problems Identified Table which was provided by RESPEC.

II. Superior - Discussion

- Along Upper Coal Creek Reach 29, the previous regulatory model shows a flow split which is not reflected in the RESPEC model. RESPEC will verify that this flow split is not occurring in their model.
- The bridge on Coal Creek at 2nd Avenue does not have enough capacity. There are 13+ houses and mobile home in the 100-year floodplain here. Improvements are currently planned at this bridge with the design phase commencing in August of this year (2013). It is assumed that bridge improvements alone will not be sufficient for getting the homes out of the 100-year floodplain.

Options for addressing the homes in the floodplain were discussed. 1) A second phase of the bridge project could include channel improvements aiming to get homes out of the 100-year

floodplain. These improvements would span from the upstream face of the bridge to the area where the channel turns north. However the area available for channelization is limited, thus it might not be the ideal option. 2) Homes could be purchased. 3) Homes could be relocated to a location outside of the 100-year floodplain.

- CDOT is planning a culvert replacement project for the crossing at Coal Creek and US 36th Avenue. The design-build proposal process is complete. RESPEC will use the proposed culvert design for the Alternatives Analysis and Conceptual Design. The existing bridge geometry was used in both the Baseline Hydrology and the FHAD. The bridge construction will be accompanied by a LOMR by CDOT's consultant which will serve to update the regulatory floodplain in the FHAD.
- There is also a culvert being replaced at Rock Creek and US 36th Avenue which is currently under construction.
- The crossing at McCaslin is sufficient.
- Per Alex, there are no stability issues in the portion of Coal Creek located in Superior.

III. Louisville - Discussion

- The crossing at Empire Drive and Upper Coal Creek is overtopping in the 100-year event.
- County Road is overtopping in the 50-year event; in doing so it cuts off access to Bella Vista Drive. However this is a low priority road so it will not be addressed in the Alternatives Analysis.
- There are 4 structures in the floodplain (a barn and shed on the south side, a house on Pinehurst Court, south of the centerline, and a house in Morewood Lane north of the centerline); a detailed survey of these structures will be performed to verify this.
- Dillon Road is under capacity for conveying the 100-year event.
- No known stability issues.
- Floodplain is very close to houses on Pinehurst Court.
- There is a significant difference between the existing regulatory floodplain and the RESPEC floodplain, however it is probably because the 1996 CLOMR has not been incorporated into the regulatory floodplain.

IV. Lafayette – Discussion

- At Highway 42 there is a field to the NE is totally flooded in a new, separate study. This area is not within the scope of this project.
- Drainageway 7 is flooding but it is not within the scope of this project to address.
- Centaur circle has houses that are within the 100-year floodplain.
- Highway 287 is being overtopped in the 100-year event.
- There is a flow split at Highway 287. The floodway will be contained to the main channel, eliminating the split and overtopping of Highway 287.
- There are 3 houses in the 100-year floodplain at 112th Avenue and South Public Drive.
- There is a new barn which is not pictured in the aerial at Highway 287 and north of South Public Drive – it is in the floodplain.
- There are apartment buildings that are close to the floodplain but are not in it. A LOMR was done in this location.
- The lateral weir used to model the confluence in HEC-RAS was discussed in depth. The methodology was agreed upon as the most effective way to model this area. More simple methods will be revisited by RESPEC, but as many strategies were already tested and failed, a different outcome is not likely.
- Horizon Avenue bridge is overtopping. It is unclear whether the post-project construction topography is actually reflected. RESPEC will revisit this area.

- 120th Avenue bridge is supposed to be replaced. This can be paired with channel improvements to improve the culvert hydraulics and capacity. Water is actually not getting to the culvert but the road is overtopping at a low point north of the culvert at a depth of around only 6". The proposed culvert should be designed to convey the 100-year event in case the flood flows can eventually be routed there.
- The wastewater plant to the north of Baseline Road is being flooded – this is a **major** issue. RESPEC will address in Alternatives Analysis. Peter suggested channel improvements. One option is to lower and widen the flood channel to the south east. A second option is to build a levee. Survey or as-builts of the facility are needed.

The group identified the need to research regulations to find out: 1) Does the facility need to be outside of the 100-year or 500-year event? 2) Since clarifiers are water tight, can the floodplain be delineated around them? 3) Can a treatment plant be protected by a levee?

RESPEC needs to add blocked obstructions to the HEC-RAS model.

V. Boulder County – Discussion

- Adjacent to the most downstream area of Boulder County (BC) there is a private property which BC wants to purchase. Channel improvements to narrow the floodplain are probably not feasible in this area.
- South of the gravel pit/road is open space and improvements are permitted in this area.
- On Reach 1 there is an oil and gas battery tank that is now in the RESPEC 100-year floodplain. It has containment berms. What are the land use implications? BC to investigate?
- There are houses in the 100-year floodplain just south of Baseline Road (Highway 7).
- Also south of Baseline, the regulatory floodplain is much wider than the RESPEC 100-year floodplain. It is also contained to the creek far to the south unlike the regulatory floodplain. RESPEC will check this area/ these issues to ensure accuracy.
- Bridge modeling note: most of the Coal Creek pedestrian bridges are hinged breakaway bridges. David and Shea requested that they be modeled conservatively, not as breaking away bridges.
- There is a new pedestrian bridge on Rock Creek upstream of the industrial area north of Horizon Avenue. Shea agreed that it is ok to leave it out since it is new and small in size (thus not expected to have a significant impact on the floodplain). Dave requested a single vertical line on the profile with text saying “existing pedestrian bridge – no information available”.
- Dillon Road is overtopping.
- There are structures (raptor houses) in the floodplain west of Highway 287 near Rock Creek Farm.
- Buffalo Gulch just south of Stearns Lake was discussed.
- There is a flow split west of Highway 287 and shallow flooding to the north. This is a major problem – RESPEC to address in Alternatives Analysis.
- There is a house east of 104th Avenue in the 100-year floodplain that contains birds of prey, but does not have solid walls. Is this a structure or not? It was decided that it is a structure and needs to be addressed. Options include relocating the building, channel improvements, or a do-nothing approach.
- West of McCaslin Road, there is a UDFCD project in which the historic channel will be reconnected.

VI. Broomfield – Discussion

- Midway Boulevard overtops to the north. RESPEC needs to revisit this to see if 1) the railroad ever meets the road grade and 2) if we are using the right elevations (the road versus the railroad high points. On a side note, Broomfield wants a trail connection at this location.

- There is a lift station on Rock Creek at Brainard Drive; it is at a low point.
- There is an area to the west between 96th and Midway at outbuildings that could be mapped as an island. RESPEC will 1) seek guidance from Bill DeGroot, 2) check the topography in the area, and 3) compare to the regulatory floodplain.
- Rebecca discussed drop structures that are being undercut. Rebecca has provided information to RESPEC on the drop structures between US 36 and 96th Street since the time of the meeting; this will be addressed in the Alternatives Analysis.
- Northwest Parkway/ Dillon Road need to be revisited by RESPEC. Is there flooding on the railroad or is runoff contained to the east? Currently it is designated as Zone X which is non-regulatory.

VII. Schedule

- FHAD report and floodplain results to project sponsors for review – Approximately 2 months.
- Another Alternatives progress meeting – End of August
- Draft Alternatives Report – End of September

VIII. Action Items

Action items:

Project Sponsors

- Research regulations pertaining to the wastewater plant. 1) Does the facility need to be outside of the 100-year or 500-year event? 2) Since clarifiers are water tight, can the floodplain be delineated around them? 3) Can a treatment plant be protected by a levee?
- Obtain survey of wastewater plant if necessary.
- Find out what needs to be done about the battery tank in the floodplain.
- Other additional survey at structures near floodplain boundary as needed.

RESPEC

- Address overtopping structures per discussion.
- Address structures located in floodplain.
- Verify that the flow split along Upper Coal Creek Reach 29 is not occurring in the updated model.
- Address overtopping structure at 2nd Avenue and homes in floodplain; consider channelization, real estate acquisition, and home relocation.
- Use proposed bridge design for structure at 36th and Coal Creek for Alternatives Analysis.
- Attempt to eliminate flow split at Highway 287 in the Floodway model. Also address in the Alternatives Analysis.
- Revisit use of lateral weir.
- Evaluate additional improvements at 120th Avenue bridge on Coal Creek.
- Address wastewater plant in floodplain. Add blocked obstructions in HEC-RAS model.
- Revisit floodplain south of Baseline as the regulatory floodplain is much wider in this area.
- Address undercut drop structures in Broomfield.
- Consult Bill DeGroot regarding the area in Broomfield that might be mapped as an island.
- Revisit Northwest Parkway crossing and ensure that topography is being accurately reflected.