

---

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

Date: June 18, 2012  
Location: Superior Town Hall  
Distributions: Agenda, Preliminary Sub-catchments, Existing Land Use

Attendees:

<b>NAME</b>	<b>ORGANIZATION</b>
Claire DeLeo	Boulder County
Justin Gindlesperger	Boulder County
Rebecca Baker	City of Broomfield
Peter Johnson	City of Lafayette
Jeff Moline	City of Lafayette
David Delagarza	RESPEC
Rick Moser	RESPEC
Tony Tran	RESPEC
Teresa Patterson	RESPEC
Wendi Palmer	Town of Erie
Alex Ariniello	Town of Superior
Lisa Ritchie	Town of Superior
Shea Thomas	UDFCD

## **I. Purpose**

The purpose of this meeting was to:

- Discuss obtained data and request additional data.
- Provide the project sponsors with a hydrology update.
- Discuss the hydrology and obtain project sponsor feedback regarding the hydrology.

## **II. Information Gathering**

RESPEC has received future land use information from some of the project sponsors, but still need this information from the majority of the sponsors to develop the hydrology. This data should be submitted to RESPEC as soon as possible. Preferably in a digital file format by 6/22/12.

Other useful information that the projects sponsors ought to provide are:

- Detailed storm sewer information.

- Supplemental topography mapping to assist in determining tributaries and general drainage flow paths.
- Diagrams or sketches describing known flow patterns for re-routed tributaries within sponsor's jurisdiction.

Peter with the City of Lafayette mentioned that some future areas are zoned "rural preservation" meaning that if the land is not purchased, then it could potentially be developed. He also recommended using the 1980 Master Plan for Lafayette/Boulder CO as a basis for future land use as well as assistance in defining sub-catchments. Teresa explained that to be conservative, the rural preservation areas will most likely be considered to be developed when defining future land use.

### III. Schedule

Shea commented that there were no new updates regarding the existing topography.

Future Public Meetings:

- Northern Public Meeting: Town of Erie, Thursday, October 4<sup>th</sup>.
- Southern Public Meeting: Town of Superior, Wednesday, Oct. 10<sup>th</sup>.
- Public meetings will be held at 6:30-8:00 pm.

### IV. Hydrology

RESPEC has been working on sub-catchment delineations, defining land use/imperviousness, gathering rainfall data, and starting to compile the CUHP and SWMM models. The size of a typical sub-catchment used for the hydrology is to be on average 330 acres with the maximum of 400 acres. The actual sub-catchments being defined are averaging a size of 270 acres.

Preliminary sub-catchments figure Comments:

- Green lines are preliminary and are auto-generated from GIS Arc hydro.
- The red lines are refined subwatershed delineations determined by engineer.
- Alex asked why no green lines were present in the upper part of the Coal Creek watershed. Teresa explained that the subwatersheds from the Kiowa study are not included on this map but that the hydrology from the Kiowa study is being included in RESPEC's study and that the final hydrology map will reflect the Kiowa sub-catchments.
- Yellow dots and lines represented locations of design points and the SWMM stick figure routing schematic.
- Project sponsors will have the chance to review the refined sub-catchments through their jurisdictions from developed maps that will be sent out as those areas are completed. Project sponsors will also have an opportunity to review the sub-watersheds in the draft hydrology report as well.

Existing Land Use Figure Comments:

- Teresa explained RESPEC's approach in defining existing land use coverage. An existing raster dataset of existing impervious produced by the USGS in 2006 was used as a basis. RESPEC then compared the 2006 information with a 2011 aerial and included

supplemental areas that showed increased development/imperviousness into the 2006 dataset.

- The tiny black squares represent sampled areas where RESPEC manually defined impervious values based on aerial imagery and compared the calculated impervious % to that of the 2006 USGS raster dataset. It was found that the impervious % from the USGS dataset was approximately 4% lower on average than the impervious % calculated by RESPEC for the test areas sampled. As a result, the impervious values in the USGS raster dataset were increased by 4%.
- Land fills were defined as 15% impervious.
- Reservoirs were defined as 100% impervious, due to no infiltration losses.
  - Jeff suggested revising the color for the lakes and reservoirs in order to reduce the public's confusion regarding them to appear as proposed development.

#### Rainfall:

- Currently 1-hour rainfall depths for Boulder County will be used to define CUHP rain gages for sub-catchments within the Town of Erie, Town of Superior, City of Lafayette, City of Louisville and Boulder County. As the criteria for these jurisdictions default to Boulder County or the rainfall data is very similar/matches that of Boulder County's.
- For the City of Broomfield, the defined 1-hour rainfall depths are slightly lower than that of Boulder CO. RESPEC proposed to use the same rain gages based on Boulder County rainfall data if Broomfield would allow such. Rebecca will look into Broomfield's rainfall data and let Teresa know how to proceed.
- Teresa and Shea explained the concept of area correction and mentioned that it will be applied to the 2006 Coal Creek Hydrology (Kiowa Study).

#### 2006 Hydrology Model conversion:

- RESPEC is currently working with the 2006 Coal Creek hydrology models. They are being converted to the latest versions of CUHP/SWMM and calibrated to match published flows.

#### Detention:

- Teresa and Shea explained that as part of the baseline hydrology, detention is recognized to help reduce peak flows if the detention facility meets the following two requirements:
  1. Publically maintained
  2. Tributary area greater than 100 AC
- Alex mentioned that Superior, has potentially one pond "88<sup>th</sup> street detention" built in 2005 that is publically maintained and will e-mail detailed information to Teresa to review.
- Claire noted that she knew of the following detention ponds that are located within developed neighborhoods:

- Anthem
  - Brainard Drive
  - Wildgrass
- Shea and Teresa explained that typically neighborhood ponds are maintained by the Homeowner's association and are typically not included in the baseline hydrology, but during alternatives these ponds could potentially be considered.
  - Claire expressed concern that these ponds are reducing the flow and should be considered in the development of the baseline hydrology. Shea and Teresa requested that Claire provide a list of ponds that are in question and they will be reviewed to determine if they are eligible to be included in the baseline hydrology.

## V. Schedule and Action Items

The next progress meeting will be held on **July 23rd at 1:00 PM in Broomfield** (City and County Office, 1 Des Combes Drive, Broomfield, Vangspur Conference Room in the basement)

Future Progress Meetings:

- August 27<sup>th</sup>: City of Lafayette, Location TBD
- Sept 24<sup>th</sup>: Boulder County, Goodview House on Rock Creek Farm (just north of Broomfield)
- Oct 22<sup>nd</sup>: Town of Erie, Location TBD

Other Meetings:

- June 21: CDOT Meeting with Broomfield and RESPEC at 3 PM regarding Rock Creek at Hwy 36. CDOT is currently designing the cross culvert and wants to discuss hydrology for the project.

### Action items:

Project Sponsors

- Share supplemental data with RESPEC:
  - Future zoning information (i.e. Comprehensive Plan) preferably GIS or CAD files if possible.
  - Information on existing storm sewer infrastructure .
  - Supplemental topography mapping to assist in determining alignment of tributaries and general drainage flow paths.
  - List of known detention to be modeled (Tributary area >100 AC and publically owned and maintained).
- City of Broomfield to get back regarding rainfall data.
- Town of Erie anticipates sending digital files regarding future land use to RESPEC 6/20/12.
- Boulder County will provide a list of detention ponds in concern to be reviewed to determine if the ponds in question are eligible to be included in the baseline hydrology.

## RESPEC

- Continue to work on developing the hydrology.
- Send out maps of refined sub-catchments for project sponsors to review as they are completed.
- We will look at older studies and compile a list of known detention and send out for feedback.

---

*These minutes are true and accurate to the best of my knowledge based on notes and recollection. Should any attending party have additions or corrections to these minutes, please forward them to Teresa Patterson of RESPEC Consulting within one week of the date of receipt. The absence of a response will be considered concurrence to the previous information and these minutes will be considered matter of fact.*