



**THE FOUNTAIN CREEK WATERSHED PLAN
TECHNICAL ADVISORY COMMITTEE**

Meeting Memory

October 21, 2005

PPACG Conference Room

INTRODUCTIONS & WELCOME VISITORS

Meeting Participants

Carol Baker
Gary Belew
Jayne Blewitt
David Buttery
Barbara Dallemand
Jennifer Dickhans
Kim Headley
Brian Huth
Brian Hyde
Greg Langer
Jim Mesite
Bob Miner
Jonathan Moore
Gary Rapp
Frogard Ryan
Ken Sampley
Marc Snyder
Scott Stevens
Graham Thompson
John Valentine
Juniper Mott-White
Daryl Wood
Chris Woodka

Representing

Colorado Springs Utilities
Fort Carson
PPACG
City of Woodland Park
El Paso County - DOT
URS
Pueblo County
City of Colorado Springs
CWCB
NRCS
El Paso County OEM/Sheriff's office
Town of Palmer Lake
Colorado Open Lands
Recycling Coalition of Colorado Springs
The Nature Conservancy
City of Colorado Springs
City of Manitou Springs
City of Fountain
URS
NRCS
Colorado Open Lands
City of Pueblo
Pueblo Chieftain

REVIEW OF SEPTEMBER 9, 2005 MEETING MEMORY

The Meeting Memory was accepted as written.

ARMY CORPS OF ENGINEERS UPDATE

Ken Sampley provided an update on the Army Corps of Engineers Watershed Study. Susan Gant of the ACOE office in Albuquerque was on the phone to answer any questions.

Ken discussed the following items:

- Ken announced that Bill Alspach of URS has been transferred to New Orleans for a 90 day period and is working with FEMA on the rebuilding of its infrastructure. Graham Thompson will be the lead on this project until Bill returns.
- The Corps. has transferred an additional \$50,000 of unused monies from another project into the Fountain Creek project. The total for 2005 is \$746,000 which leaves the total federal share out of balance by \$150,000.
- Ken Sampley will send Gary Rutherford a check in the amount of \$392,000 for the local share funding for year 2006. CWCB still needs to be billed.
- Federal funding requests for FY 2006 and 2007 are \$375,000. Currently there is \$250,000 in the Senate markup of the FY 2006 Energy and Water Appropriations Bill. A total of \$750,000 is needed in federal funding between FY 2006 and 2007 to complete the study.
- Graham Thompson of URS added that the Wetlands Report was submitted to the Corps. on the 1st of October. The Fisheries Report is being conducted by a subcontractor and should be completed by the end of October and submitted to the Corps. by early November. All final reports with the exception of the Fishery Report are completed. A brainstorming workshop will be held with the Corps. to come up with projects that will be addressed in Task Order #2. Task order #5/Hydrology will have the final report completed by February.
- As a reminder, all of the final Fountain Creek studies conducted by URS are posted on the Fountain Creek Website.

<http://www.fountain-crk.org/ACE%20Watershed%20Study/ace.htm>.

HYDROLOGY SUMMARY REVIEW

Graham Thompson of URS gave a presentation on the hydrology results and the technical issues of the preliminary/final hydrology report. This presentation covered Task Order #5 and the Hydrology/Hydraulics Subtasks which include:

- Task 1 - Site Investigations & Data Collection
- Task 2 - Hydrologic Investigations & Modeling
- Task 3 - Hydraulic Investigations & Modeling
- Task 4 - Geomorphology & Sediment Analysis
- Task 5 - Coordination & Review Meetings
- Task 6 - Prepare Reports & Presentation
- Task 7 - Task Management

The budget for this portion of the study is \$1.3 million.

The Hydrology Scope includes:

- 22 individual subwatersheds
- 930 sq mi Fountain Creek watershed

1578 sq mi in total watershed area modeled
Up to 20 ponds & reservoirs were included
Existing (2005) and Future (circa 2025) land use
2-, 5-, 10-, 25-, 50-, 100-, & 500-year 24-hour storm events

Data has been collected and it includes:

- Aerial photographs
- USGS 10m DEM
- NRCS soils data
- Landuse data (9 sets)
- USGS stream hydrography
- Future WWTP discharges
- Rainfall depths
- Irrigation ditch info
- Colorado Division of Water Resources for jurisdictional dam info
- CSU FIMS topography
- Pond outlet & stage/discharge info
- Pueblo Dam operations
- FEMA FIS's
- Site Visits
- Channel characteristics
- Basin boundary verification
- Photographs + GPS locations
- DBPS's & other reports

The methodology used for this report includes:

- HEC-HMS software with HEC-GeoHMS for input parameters
- Reach lengths \approx 2 mi; Subbasin $>$ 100 acres
- NRCS Runoff Curve Numbers (CN) used to define precipitation/infiltration/runoff relationship
- CN based on land use and NRCS soil groups
- Time of Concentration: TR 55 methodology
- NRCS Unit Hydrograph method
- NOAA Atlas 2, Vol III rainfall depth and areal reduction factors
- NRCS Type IIA rainfall temporal distribution
- Uniform & elliptical spatial distributions
- NRCS Runoff Curve Number Method
- NRCS Synthetic Unit Hydrograph Method
- Muskingum-Cunge and Modified Puls channel routing
- Constant Monthly Baseflow
- Simple calibration based on availability of gage data and other studies

The Baseflow included:

Existing Conditions: Based on USGS Gage analysis of monthly streamflow, 1994 to 2004, September to March.

Future Conditions: Point sources added for CSU WWTP discharges and irrigation return flows.

Rainfall included:

Fountain Creek composite watershed: 700 sq mi, Elliptical, Orographic Storm centered near downtown Colorado Springs.

Other watersheds: NRCS Type IIA, 24-hour, uniform distribution with areal reductions for watersheds greater than 10 sq mi.

Calibration included:

- Comparison to frequency analysis results of select USGS gages for available periods of record.
- Adjustment of initial abstractions (losses) for applicable subwatersheds.
- Modified Puls method used for Fountain Creek lower reaches.

Summary of Results:

- Existing vs. Future Comparison
- Peak Discharge
- Volume of hydrograph
- 100-Year (10%, 20%, & 50% breaks)
- 2-Year (10%, 50%, 200% breaks)

Future problem areas include:

- Jimmy Camp
- East Fork Sand Creek
- Monument Creek & east tributaries
 - Monument Branch
 - Cottonwood Creek
 - Elkhorn Tributary
- Fountain Creek mainstem

Next steps for this Task order are:

- Prepare Final Hydrology report
- Complete Hydraulics modeling and report
- Complete Geomorphology analysis and report

Brian Hyde of CWCB proposed that local governments write designation request letters to the CWCB to consider the designation and approval of 100-year flood hydrology for the Fountain Creek watershed. Sample request letters were distributed to the members present and it was encouraged that members submit these letters to the Colorado Water Conservation Board. This letter supports the hydrologic investigation performed by the USACE.

FOUNTAIN CREEK CONSERVATION PROJECT

Jonathan Moore of the Colorado Open Lands gave an overview of the land preservation that is occurring along Fountain Creek. A grant for the total of \$60,000 has been submitted to perform a resource analysis along the Fountain Creek watershed. This will involve talking to stakeholders and private landowners along Fountain Creek about protecting their property now and for the future. The COL would like to be involved in dialogue regarding Fountain Creek and would like to participate in future FCWTAC meetings. The Fountain Creek conservation Project has been changed to the

Peak to Prairie Project because the project includes more than just the creek itself.

OTHER TOPICS AND ANNOUNCEMENTS

NONE

DATE OF NEXT MEETING

The next regular meeting is scheduled for November 18, 2005 at PPACG.

ADJOURNMENT - The meeting adjourned at 11:31 a.m.