

**Appendix G
Fountain Creek Watershed Activity Matrix**

12/8/2003

Project Title	Project Type(s)	Sponsoring Agency/Jurisdictional Influence	Description Of Activity	Goal of Activity	Time Line	Funding Source and Budget Cost
Regional Projects						
Fountain Creek Watershed Planning Group						
Fountain Creek Watershed Plan - Phase I	Watershed Management and Education, outreach and communications	Fountain Creek Watershed Planning Group (Rich Muzzy 719-471-7080). Study encompasses entire Fountain Creek Watershed. <u>Report available at PPACG or at www.fountain-crk.org.</u>	Develop a comprehensive regional plan that will provide a coordinated approach to identify, discuss, and prioritize critical concerns regarding protection of the watershed.	Develop a watershed plan that will identify and prioritize watershed issues, develop and review existing technical and policy strategies.	Three year project (2000-2003), Phase I completed December 2001	Colorado State Soil Conservation Board \$96,000 and EPA Grant \$110,000
Fountain Creek Watershed Plan - Phase II	Economic impact and Watershed management	Fountain Creek Watershed Planning Group/Entire Watershed	Summary of regulations and ordinances for cities/towns and counties in the watershed, that affect stormwater management, erosion control and floodplain restrictions. Activity Matrix	Determine possible common policies between jurisdictional entities, unique policy, and how policies could be improved in the future.	Dec-02	310 Grant
Fountain Creek Watershed Plan - Phase III	Economic impact and Watershed management	Fountain Creek Watershed Planning Group/Entire Watershed. For more information, contact Rich Muzzy at 719-471-7080 x109.	Incorporate all information into Fountain Creek Watershed Plan - GIS activities; expand on Technical and Policy Strategies; Conclusions and recommendations; prioritization of problem areas.	Provide guidance on the problems and issues causing flooding and erosion, improve current management practices and policies, and develop implementation strategies. The management plan will consist of four main sections: Introduction; Technical and Policy Tools; Technical and Policy Strategies; and Conclusions and Recommendations. This will be developed from a regional perspective and incorporate the concerns and planning issues of all three counties and eight cities/towns within the watershed.	Sep-03	319 Grant - total \$109,400 (not including in-kind). About \$50,000 for development of the Plan.
Aerial Photography Analysis	Erosion, sedimentation and hydrology	Project impact (Haley Rich) and Colorado Water Conservation Board (Brain Hyde). For more information contact Rich Muzzy (719-471-7080 x109)	Four sections will be analyzed: 1) Jimmy Camp Creek from Fontaine Blvd. to Link rd. 2) Cottonwood Ck. from Union Blvd. to I-25 3) Black Forest Drainage Basin from Detention Pond to Monument ck. 4) Monument ck from confluence of N and S Mon ck to outlet of Monument ck dam	The information generated through this project will provide the basis to identify the historical and present meander patterns of the creek. This will be important because it will help determine specific portions of the stream corridors where major transportation features should be located, places where building would be ill-advised, and areas of historic and current bank erosion. This will also help determine the temporal stability of stream sections.	Jun-03	Project Impact - \$25,000 and CWCB Severance Tax - \$17,000
Fountain Creek Watershed GIS Database	GIS	Colorado Water Conservation Board (CWCB) Fountain Creek Watershed Planning Group. Study encompasses entire Fountain Creek Watershed. <u>Report available at PPACG.</u>	Development of a GIS database - collection and consolidation of GIS Resources in the watershed and analysis of two critical areas in the mainstem of Fountain Creek. Aerial photos from 1955 and 1999 purchased for mainstem of Fountain Creek.	Development of a GIS database - include collection of existing GIS resources and aerial photo analysis of sections of mainstem of Fountain Creek	Developed August 2001	CWCB Severance Tax funding - \$50,000
Army Corps of Engineers						
Army Corps of Engineers Reconnaissance Study	Erosion, sedimentation and hydrology and Watershed Management	Army Corps of Engineers (Kris Schafer - 505-342-3201) and Fountain Creek Watershed Planning Group Study encompasses entire Fountain Creek Watershed. More information - <u>www.fountain-crk.org</u>	Reconnaissance Study, Phase I Investigation, and recommendation for Corps' Watershed Study.	Develop project study plan to include schedule and cost of Watershed Study; Review and update old Fountain Creek Study; Re-affirm Federal interest and Economic justification; and Execute Cost sharing agreement.	Completed Feb 2002	Reconnaissance Study 100% Federally funded -\$100,000 and Watershed Study 50% - Federal 50% - State/Local cost share
Army Corps of Engineers Watershed Study	Erosion, sedimentation and hydrology	All eleven local government in the watershed will be participating; City of Colorado Springs is the lead local sponsor.	For updated project memos, including Scope of Work and Cost share, see www.fountain-crk.org	The main items in the Scope of Work include: aerial photography and GIS mapping; environmental and cultural resource studies; hydrology, hydraulics, erosion and sedimentation analysis; and identification and prioritization of potential "spin-off" watershed improvement projects.	March 2003 - March 2006	Total cost - 3 million - cost split 50%- Federal govt and 50% State/local govts. CWCB and DOLA each contributing \$300,000.

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Post Flood Assessment Report, September 1999	Education, outreach and communications	U.S. Army Corps of Engineers. <u>Report available at PPACG</u>	Assessment on April- May 1999 of flood in Arkansas River and its tributaries (which includes information on Fountain Creek flood damage).	Document the April 29 flood event, past flood history and flood management performance within the Arkansas River Watershed at Pueblo, and Monument Creek This report also addresses deficiencies and makes recommendations for improvements.	Study completed and published September 15, 1999	Corps of Engineers
USGS						
Evaluation of Water Quality, Suspended Sediment, and Stream Morphology with an emphasis on Effects of Stormwater on Fountain and Monument Creek Basins, Colorado Springs and vicinity, Colorado, 1981-2001. (WRIR 02-4104)	Erosion, sedimentation and hydrology and Watershed Management	USGS (contact Pat Edelmann - 544-7155). Report available at http://co.water.usgs.gov/Pubs/index.html#WRI	This report document water quality and suspended sediment with an emphasis on evaluating effects of stormflow on the Fountain Creek Basin in the vicinity of Colorado Springs. Water quality data collected at 11 sites from 1981 to 2001 were used to evaluate the effects of stormflow on water quality. Suspended sediment data collected at 7 sites from 1998 to 2001 were used to evaluate the effects of stormflow on suspended sediment concentrations, discharges and yields. Data were separated into 3 flow regimes: base flow, normal flow and storm flow.	Evaluate Water Quality, Suspended Sediment and Stream Morphology (see description of activity).	Completed October 2002	USGS
Summary of Water Quality Data, October 1987 through September 1997, for Fountain and Monument Creeks, El Paso and Pueblo Counties, Colorado	Erosion, sedimentation and hydrology and Watershed Management	USGS (contact Pat Edelmann - 544-7155). Report available at http://co.water.usgs.gov/Pubs/index.html#WRI	Comparisons of various water quality data, from 1987 to 1997, was made to in-stream regulatory standards. Nonparametric tests to quantitatively detect monotonic trends indicate that many water quality parameters do not have significant monotonic trends ; detected trends were mostly downward.	Water quality data from 11 stations on Fountain and Monument Creeks, for the period October 1987 Through September 1992 and October 1992 through September 1997. Data was evaluated for temporal and spatial trends for these two periods.	Completed 2000	USGS
Trends in Precipitation and Streamflow and Changes in Stream Morphology in the Fountain Creek Watershed, Colorado 1939-99 (WRIR 00-4130)	Erosion, sedimentation and hydrology	USGS, Turkey Creek and Central Soil Conservation District, Pueblo County. Report available at http://co.water.usgs.gov/Pubs/index.html#WRI	Provide data and statistical information to those responsible for watershed management.	Evaluate trends in streamflow of Fountain and Monument Creeks; Evaluate trends in precipitation in or near the Fountain Creek drainage basin; and Evaluate changes in channel erosion and shape for the Fountain Creek Drainage Basin.	Completed - December 2000	USGS, Turkey Creek SCD
Fountain Creek Water Quality Monitoring Network	Water Quality	US Geological Survey (Pat Edelmann 544-7155) and Colorado Springs Utilities(Carol Baker - 668-8699 and Vicki Card) and City of Colorado Springs -- Public Works (Lisa Ross - 385-5064). For monitoring network locations: http://co.waterdata.usgs.gov/nwis/current/?type=flow&group_key=huc_cd	Collection of physical, chemical, and biological data at selected sites throughout the Fountain Creek watershed. The "Municipal Stormwater Discharge Permit Monitoring Network" is a sub-activity of this larger spatial coverage program.	Obtain data for (1) developing discharge permits and associated regulatory requirements; (2) facilitating informed participation in the development/evaluation of emerging regulations, and (3) understanding water quality issues/trends.	On-going	USGS, Colorado Springs Utilities ratepayers, and City of Colorado Springs taxpayers
Other						
Regional Stormwater Services Project	Erosion, sedimentation and hydrology and Watershed Management	City of Colorado Springs - Public Works (Bruce Thorson - 385-5054) -El Paso County - Dept. of Trans. (Andre Brackin - 520-6440).	Investigate several organizational structures and funding options to address stormwater and flood control, including the City of Colorado Springs. City and County elected officials decided not to continue work on establishing a separate organizational structure or funding mechanism, however, they approved an IGA that outlines a process and procedures for jointly cost-sharing in stormwater and drainage projects.	Provide an organizational structure and funding mechanism for stormwater management and flood control activities by the City of Colorado Springs and El Paso County.	IGA approved in October 2000	City of Colorado Springs taxpayers and El Paso County
City and County of Pueblo Stormwater Project	Erosion, sedimentation and hydrology and water delivery	City of Pueblo- Pueblo County. Looking at possible inclusion in SW District or formation of a stormwater utility.	Are interested in RSSP (above). Possible participation. Evaluating options including formation of a Stormwater Utility.	Provide a dedicated regional organization and funding mechanism for stormwater management and flood control.	2000-2001	District/IGA taxing authority. Prop.tax, sales tax, enterprise, or combination.

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April - May 1999 Flood Documentation Report	Education, outreach and communications	Colorado Water Conservation Board (CWCB)/Includes El Paso and Pueblo Counties	Documentation of April-May 1999 flooding in 12 Colorado Counties where Presidential Disasters were declared.	Justify use of FEMA mitigation funds	December 1999 project completion	State and FEMA; total \$40,000
Water Quality Management (208) Plan	Education, outreach and communications	PPACG/El Paso, Teller and Park Counties. <u>Executive summary available at http://www.ppacg.org and entire report available at PPACG.</u>	Identify and address wastewater treatment facilities; construction priorities; surface water and groundwater issues; and address issues and strategies associated with nonpoint source pollution.	Address Regional Water Quality issues. Provide guidance to regulatory agencies and recommends strategies to address regional water quality needs.	Completed October 1999. Update in Progress to be completed by October 2003.	604(b) Grant from Colorado Water Quality Control Division
City of Colorado Springs and Colorado Springs Utilities Infrastructure Authority	Water Supply, Wastewater and Stormwater Capital Improvements and Watershed Management	City of Colorado Springs and Colorado Springs Utilities (Todd Dahlberg - 668-4419)	Establish City Infrastructure Authority under Home Rule Powers. This would be used to finance estimated 20-40 year capital needs (Water infrastructure - 500 million, wastewater infrastructure -440 million, and stormwater 410 million).	Mission: To achieve an understanding and mutually acceptable resolution to the issues and concerns relative to meeting the significant Water, Wastewater and Stormwater infrastructure demands of our growing community. Develop/review ends and executive limitation policies concerning regionalization and partnership.	End of second quarter 2000 (report on compilation of suggested changes or additions to Ends or Exec Limit. Policies)	Revenue generating authority
Preble's Jumping Mouse Regional Habitat Conservation Plan	Watershed management	City of Colorado Springs (Lisa Ross - 385-5064), El Paso County (Mike Bonar - 520-6987), Colorado Springs Utilities (Kirsta Scherff-Norris)	Determining and "rating" areas of potential habitat for the PMJMs, determining types and degree of potential impacts, and recommending BMPs to limit impacts and preserve habitat	Obtaining a "Section 10" Permit under the Endangered Species Act that would allow local control, administration, monitoring and management of land use requirements to preserve the PMJM	1998 - 2004	Colorado Dept. of Natural Resources, City of Colorado Springs, Colorado Springs Utilities, El Paso County. All General Fund
Fountain Creek Flood Hydrology	Watershed Management	Army Corps of Engineers - Alb. District Office (Bruce Beach and Mike Velasquez) and Colorado Water Conservation Board (Tom Browning and Brain Hyde). Would extend from the northern end of El paso County to Pueblo County and west of Teller County.	Use paleohydrology information and other technical information to revise preliminary flood frequency analysis work performed by Mike V.	Conduct a detailed hydrologic analysis of Monument and Fountain Creeks - use results of Bob Garrett's (USGS) field work on paleohydrology in combination with flood frequency analysis work by the Alb Corps of Eng. In the future, this hydrology could be used to perform a new hydraulic analysis to remap the floodplains for Fountain and Monument Creeks depending on the availability of funding from FEMA.	To be completed by 1/1/2003	Corps of Engineers - \$70,000 + \$15,000 from CWCB
Storage Study Phase II - Preferred Storage Options	Watershed Delivery	Southeast Colorado Water Conservation District (Steve Arveschoug -- 719-544-2040). <u>For more information and a copy of the report: http://www.secwcd.org/Current.htm</u>	Storage Study Committee of the Storage Needs Assessment Enterprise is developing a plan to develop storage for future agriculture and municipal needs.	Group must find a way to provide for 173,100 acre-feet of additional storage in the Arkansas River Basin. Six possible options: Fry-Ark project Reoperation; Turquoise Reservoir, Pueblo Reservoir, or Lake Meredith Enlargement; Gravel Lake Storage, and non-structural alternatives.	Winter 2000	Over 30 local water user groups, federal and state resource agencies and recreation groups.
Union Park reservoir and pipeline	Water Delivery	Arapahoe County/El Paso County. Many counties or cities that could add later.	Divert water from Taylor and Gunnison rivers and hold on a high altitude (10,000 ft) reservoir 900,000 acre-ft. Cost is about 1.5 billion.	Increase supply for County residents, reduce groundwater depletion.	Under litigation	
Local Projects						
Jimmy Camp Drainage Study	Hydrology, Erosion and Sedimentation	City of Fountain	Study of drainage in the 100 year flood basin of Jimmy Camp	Support drainage fees and improvements	Mar-03	Impact fees
Jimmy Camp Environmental Study	Environmental Analysis	Colorado Open Lands	Study of plants, animals, etc. in the Jimmy Camp Basin	Support protection of area	Mar-03	EPA
Design and Repair of Monument Lake Dam	Economic Impact	Seeking a sponsoring agency/El Paso County and Town of Monument - Betty Konarski (481-2769).	Seeking funding to fix deficiencies identified in Monument Lake Dam to ensure present and future public safety.	Fix deficiencies of the Monument Lake Dam: Deteriorated outlet works; absence of outlet energy dissipating structure; spillway capacity inadequate; and unacceptable tree growth on dam embankment.	Seeking funding	Approximately 1,862,000
Woodland Park Drainage Project	Erosion, sedimentation and hydrology	City of Woodland Park (David Buttery, 687-5213). Affects downstream entities.	Bank stabilization using rip-rap bottom stacked boulder wall, and a concrete box culvert.	Stream stabilization to mitigate stream bank erosion, bank instability, and channel sedimentation along the portion of Fountain Creek that is inside the City of Woodland Park.	In-progress, completion: Oct/Nov. 1999	Stormwater capital fees and monthly drainage fees

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Streamside Protection Overlay Zone Project	Economic impact and Water Quality	City of Colorado Springs -- Planning Group (Gary Park 385-5091). Project within City of CS limits. For more information: http://www.springsgov.com/Page.asp?NavID=1167	This ordinance will establish jurisdictional limits, application processes, physical standards, suitable land uses and qualitative review criteria for development of the streams within the City. Developing an Ordinance for a Streamside Overlay Zone along all streams with FEMA-designated Floodplains and developing an accompanying Design Criteria Manual	Create a buffer zone around the creek to better control future development within 200 feet of the top of bank or the 500 year floodplain. This ordinance is still in its draft stage; a public review is being completed	Final Ordinance: December 2002	- City of Colorado Springs General Fund (City Property Tax)
Colorado Springs Utilities Jimmy Camp Creek Wastewater Treatment Plant	Wastewater Treatment Plant	Colorado Springs Utilities				
Colorado Springs Utilities Northern Wastewater Treatment Facility	Wastewater Treatment Plant	Colorado Springs Utilities	The NWRP is a new, phased-construction advanced wastewater treatment facility. The facility will treat 20 mgd initially and 30 mgd at final buildout. The NWRP will be located near Pikeview Reservoir at Garden of the Gods Road and Mark Dabling Boulevard and will serve existing and future customers in northern Colorado Springs. Colorado Springs has grown dramatically in the past 50 years, along with the size of CSU's service area.	The NWRP is part of the Wastewater Infrastructure Strategic Plan (WISP), which is an integrated plan to identify wastewater management requirements through the year 2040.	Completed and on-line 2004	
Fountain Creek Watershed Signs	Education, outreach and communications	City of Colorado Springs (Lisa Ross - 385-5064) and City of Woodland Park (David Buttery - 687-5213)	70 signs were installed at 35 locations (one in each direction) in the City of Colorado Springs. Each sign specifies the creek crossing and Fountain Creek Watershed.	Public education	Completed 2002	City of Colorado Springs
BMP Manual	Watershed Management	City of Colorado Springs				
El Paso County Land Development Code and Engineering Criteria Revisions.	Economic impact and Watershed Management	El Paso County	EPC to advertise request for proposals by end of 99.	Provide specific criteria revisions for development in the County. Includes provisions for drainage and flood control.	1999-2000.	El Paso County
Confluence Park (northeast of Cimarron Street's intersection with I-25)	Erosion, sedimentation and hydrology	City of Colorado Springs	City Park at the confluence of Fountain Creek and Monument Creek. In the preliminary planning stages.	Stream stabilization, park development, urban renewal.	Phase 1 expected to begin construction in summer of 2001.	Initially 11.5 million approved during 1999 SCIP process.
Kettle Creek Hydrology Study	Erosion, sedimentation and hydrology	USAFA contracted out w/ URS Corporation (for copy of report contact Graham Thompson - 533-7872)	Extensive topography, photography, soils, and existing and future land use data was collected to construct a GIS-based hydrologic, hydraulic and erosion models of the Kettle Creek Watershed. The project also included field investigations to assess PMJM habitat, wetlands habitat, stream morphology and to identify sediment sources.	Recommendations included: 1) installation, inspection and maintenance of construction BMPs throughout the watershed; 2) establishment of a channel buffer zone to moderate sediment delivery and diminish return flows; 3) use of off channel detention ponds to preclude increased peak flows and sediment delivery.	Completed October 2002	USAFA