

Preliminary Draft Estimates for Arroyo Seco Project Management Plan (PMP)

<u>Unit/Tasks</u>	<u>Cost (in 1000s)</u>
Economic Analysis (Includes evaluation of urban flooding, inundation analysis, projections of future municipal and industrial water uses, estimate of future water supplies, calculations of projected water supply costs and recreation evaluation.)	194
Environmental Studies/Report (Includes public scoping meetings/workshops, data collection, site analysis, documentation of existing and future without project conditions, impact and benefit analyses, conceptual alternative plans analysis, and comparative HEP [habitat evaluation procedure] analysis. Assumes Environmental Evaluation, not EIS/EIR.)	369
Fish and Wildlife Service (Includes CAR and PAR.)	100
Cultural Resources (Includes data collection and identification of cultural/historic resources.)	60
Hydrology (Includes review of existing hydrologic information, review of current rainfall-frequency data, collection of stream gauge data, determine low and seasonal flows, determine watershed losses and unit hydrograph parameters, develop balanced hydrographs, perform hydrologic design of proposed alternatives, convert all information into ArcInfo/ArcView-compatible format.)	200
Groundwater Studies (Includes hydrogeologic data collection, groundwater flow modeling, groundwater quality analysis [utilizing either MODFLOW or FEMWATER programs], convert into ArcInfo/ArcView-compatible format.)	317
Water Quality (Includes surface and groundwater quality, existing and planned pipelines, well locations, average daily flows of reclaimed water and wastewater effluent, water rights, groundwater recovery, overdraft protection, pollutants [point and non-point sources], current BMPs, determination of TMDLs.)	151
Hydraulics (Includes review of existing data, determination of channel and overbank configuration and geometry, detailed hydraulic analysis for without-project condition utilizing HEC-RAS and GeoRAS, prepare overflow maps and flood profiles, convert all information to ArcInfo/ArcView format.)	166
Sedimentation (Includes review of existing sediment information, prepare geomorphic analysis, evaluate watershed soil loss and sediment yields, document historic sediment deposition in	151

Devil's Gate Dam, evaluate sediment yield or production rates for selected recurrence intervals, prepare a sediment budget analysis and average annual aggradation or degradation by subreach, evaluate effects of sediment trapping by existing dams/debris basins, address sedimentation impacts of potential projects identified in plan formulation.)

Geotechnical Studies	135
(Includes developing local geology, seismicity as it relates to groundwater to establish without project condition and hazardous and toxic waste [HTRW] review of existing data.)	
Cost Estimates	41
(Includes detailed estimates for two final alternatives, MCACES estimates for alternatives, and quantities evaluation.)	
Engineering Design	245
(Includes preparation of design plates for all alternatives, determine quantity estimates.)	
Real Estate Analysis/Report	110
(Includes determination of land requirements and estates, coordination of rights of entry, map preparation, gross real estate appraisal, development of real estate plan.)	
Surveys and Mapping	200
(Includes collection of existing mapping and aerial photography, new map generation and incorporation of existing GIS data.)	
Public Involvement	80
(Includes public meetings, workshops, hearings and briefings.)	
Plan Formulation	230
(Includes coordination between study team members and other interest groups, evaluation and effectiveness assessment of COE planning process, coordination of all other tasks and activities.)	
Report Documentation	90
Technical Review	100
Project Management and Budget	75
Quality Management Assurance	20
Project Implementation Phase PMP	30
PED Cost-Sharing Agreement	20
HQUSACE Report Approval	50
Sub-total	3134
Contingencies (@20%)	627
TOTAL	3761