

PROJ:	Cochise County/Palominas Recharge & Flood Control Project		
DETAIL:	Year 1	Phase 1 Scope of Work	
DATE:	December 8, 2011		
Prepared by:	JE Fuller/Hydrology & Geomorphology		
Task	Title	Description	Total Approximate Fee
1	Data Collection (JEF & GSA)	This task includes collection and review of data available for the project including, but not limited to: <ul style="list-style-type: none"> <li>- May conference summary</li> <li>- 1987 SCS floodplain study for Mansker site</li> <li>- Cochise County Flood Control/Urban Runoff Recharges Plan, Stantec, April 2006</li> <li>- Upper San Pedro Partnership documents</li> <li>- Palominas box culvert &amp; channel plans</li> <li>- Kinjockity Subdivision Plans and Reports</li> </ul>	\$7,000
2	Preliminary Hydrologic Analysis (JEF)	JEF will perform hydrologic analysis to determine existing and future conditions runoff volumes for the tributary drainage to the Mansker site. This will include watershed delineation and application of rainfall runoff modeling for the 2-, 5-, 10- and 100-year events.	\$9,200
3	Alternative Site Recharge Screening (GSA)	Screening level evaluation of potential alternate sites using available information (no on-site investigations) resulting in internal short list of the top three sites.	\$15,670
4a	Mansker Site Initial Recharge Feasibility (GSA)	Shallow sub-surface Site characterization/evaluation for recharge feasibility. This would include estimates of available stormwater capture and recharge developed from various engineering alternatives for capturing recharge. If Mansker site shows poor shallow subsurface characteristics, other alternate sites may be evaluated.	\$24,750
4b	Mansker Site - Detailed Recharge Feasibility (GSA)	Deeper sub-surface site characterization/evaluation for recharge feasibility and developing options to maximize recharge effectiveness. This may include technical options (i.e. drywells) to overcome permeability limitations. If Mansker site is unfavorable, Task 4b will be deferred and a near-surface investigation for a second site conducted (under Task 4A)	\$41,560
5	GIS Tool Criteria Development and Model Selection (JEF & GSA)	Coordination with county and stakeholders to identify key desired functionality and parameterization of the proposed GIS Tool. This task will also include evaluation of models including AGWA, HEC-WMS, XPSMM and others to determine which model is most suited to the purpose of the tool.	\$12,000
6	Pipeline Feasibility Assessment (JEF & GSA)	Perform an evaluation of the feasibility of constructing a pipeline to deliver stormwater runoff from upstream sites to points closer to the San Pedro River for recharge. The result of this evaluation will be a cost/housing unit estimate of infrastructure costs for various development types.	\$16,000
7	Kings Ranch Site Recharge Feasibility Assessment (JEF & GSA)	The results of the Pipeline Feasibility Assessment (Task 6 above) will be applied to the specific conditions on the Kings Ranch site to evaluate whether it is economically feasible to deliver runoff from that site downstream to the Mansker recharge site.	\$11,000
8	Project Scoping (CC, JEF & GSA)	Development of project scope details including phasing, critical path items and decision points. This process will identify milestones leading to completion of the Output Performance Measures (OPM) listed in the grant award memorandum. This task will also include identification of key stakeholder groups and key contacts for each group.	\$21,200
9	Project Management (JEF & GSA)	Project coordination/meetings/outreach.	\$9,240
TOTAL APPROXIMATE FEE			\$167,620
NOTES:	All schedule and fee estimates are approximate. The total fee is a not-to-exceed amount and individual task fees may vary within that amount.		
	The above constitutes the initial phase of the Palominas Recharge & Flood Control Project for Year 1. Additional phases and associated scopes of work will be developed as a result of this work effort.		
KEY:	CC = Cochise County		
	JEF = JE Fuller/Hydrology & Geomorphology, Inc.		
	GSA = GeoSystems Analysis Inc.		