

PROPOSAL EVALUATION

Proposition 84 Integrated Regional Water Management (IRWM) Grant Program Implementation Grant, Round 1, FY 2010-2011

Applicant	Kaweah Delta Water Conservation District	Amount Requested	\$ 7,286,423
Proposal Title	2011 Groundwater Recharge, Waste Water Reuse, Habitat Restoration and Water Quality Protection Project Proposal	Total Proposal Cost	\$ 19,899,250

PROPOSAL SUMMARY

Five projects are included in the proposal: (1) Groundwater Quality Protection and Investigation, (2) Oakes Basin Habitat Enhancement Project, (3) Paregien Basin Project, (4) Plum Basin Project, and (5) Water Reuse Pipeline Project.

PROPOSAL SCORE

Criteria	Score/ Points Possible	Criteria	Score/ Points Possible
Work Plan	15/15	Economic Analysis – Water Supply Costs and Benefits	9/15
Budget	5/5	Water Quality and Other Expected Benefits	6/15
Schedule	3/5	Economic Analysis – Flood Damage Reduction	3/15
Monitoring, Assessment, and Performance Measures	4/5	Program Preferences	10/10
Total Score (max. possible = 85)			55

EVALUATION SUMMARY

The following is a review summary of the proposal.

Work Plan

The criterion is fully addressed and supported by thorough and well-presented documentation and logical rationale. The goals of the proposal and how they relate to IRWM Plan’s goals are well discussed. A brief historical overview of the projects and their status is provided. The proposed projects collectively provide enhanced water supply availability, water quality improvements, flood control, sensitive habitat enhancement/enlargement, and improved water quality and flood control for Disadvantaged Communities (DACs). The various required elements of the Work Plan are provided in good detail.

Budget

The criterion is fully addressed and supported by thorough and well-presented documentation and logical rationale. Summary and project budgets supporting documentation are reasonable and include sufficient detail. All Budget categories are described and supported. There is a good correlation between the planned

work tasks and budgets. The budget attachment contained explanation of how the project costs are determined. Labor rates are included for all projects along with details about the breakdown of the budget items.

Schedule

The schedule is not entirely consistent and reasonable and does not demonstrate a readiness to begin construction or implementation prior to December 1, 2011. The applicant identifies that the competitive bid process is scheduled to start in June 2011, and then contract signed between the contractor and Tulare Irrigation District (TID) by the beginning of August 2011. However, construction of Phases Two and Three is scheduled to begin immediately after grant award is made final, in June 2011. It is not clear if the dates specified above are accurate since the applicant did not make clear whether they will start the construction without a contractor on site. For Project 3, the time allotted for obtaining Army Corps of Engineers 404 and Department of Fish and Game 1602 permits does not seem reasonable and may impact construction start date. Additionally, for projects that need an Army Corps of Engineers 404 permit, State Water Resources Control Board 401 Water Quality Certification is required which may delay the proposed schedule.

Monitoring, Assessment, and Performance Measures

The criterion is fully addressed, but not supported by thorough and well-presented documentation and logical rationale. Projects are consistent with the Tulare Lake Basin Plan. The majority of projects are related to groundwater conservation and recharge. Proposal claims that recharge activities would improve water quality. However, it's unclear what water quality baselines have been established and what water quality monitoring during recharge is occurring to assess changes to groundwater quality. The output indicators, in some cases, are specific and in many cases quantitative. However, for Project 5, the applicant indicated uncertainty when it comes to receiving more water in wet instead of years.

Economic Analysis – Water Supply Costs and Benefits

Above average levels of water supply benefits relative to costs can be realized through this proposal; however, the quality of the analysis is moderate and supporting documentation is partially substantiated. A number of problems are cited below, including disallowed benefits, unclear explanations, and lack of clear documentation. Reviewer is unable to calculate a revised level of quantified benefits. Benefits could be more than half the total proposal cost, but the information provided does not support a higher level of benefits.

Project 5 present value (PV) of total costs is \$14.7 million (M). Cost table appears to be constructed and calculated properly. Costs are shown in 2009 \$ value and capital cost matches that shown in Table 7. Project would provide 29,000 AF annually for crop irrigation. Water supply benefits are calculated as the avoided pumping costs plus the revenue to the District from selling the reuse water to growers. The second category is not a benefit but simply a transfer of money within the region, from growers to district. The avoided pumping cost is calculated as the pumping energy cost of \$30 per AF times the annual pipeline delivery. No savings is shown for pumping lift benefit to all pumpers of leaving more water in groundwater storage. Another benefit claimed is the sale of surplus water by the district to the City, so the city would avoid the cost of buying surplus water from some other source. Reviewer is unclear as to why this is viewed as part of this project – the sale of surplus water to the city could occur regardless of the reuse pipeline. Finally, the proposal claims an avoided \$100,000 cost of NPDES permit, but with no reference explaining or backing up that claim. If the NPDES value is an avoided fine, that is not considered a benefit to the state.

Applicant claims benefits of about \$23 M. Reviewer believes this is overstated for reasons stated above, but is unable to calculate an adjusted value.

For Project 4 costs from Table 7 match Table 11, with discounting. No opportunity cost of land is included. Total PV of cost is \$3.387 M. Several benefit categories are included: the value of the recharged water to the City of Tulare (\$20/AF); the value of the captured operational spills (\$15/AF); and the avoided cost of lowering pump bowls (\$8,500 per well). The explanation of benefits is short and not very clear. Apparently, the City will pay them \$20 per AF to recharge 3,720 AF of water, and Tulare ID will use this money to buy 5,580 AF of water for its growers, offsetting their pumping and avoiding a cost of \$30/AF. It is unclear to reviewer why the values per AF are so low. There appears to be double counting of benefits, but the unit values are so low, that it may not be important. Unclear what benefits the diverted water would have provided within the Kaweah River basin if not diverted into the recharge facility. Total PV of benefits is \$3.9 M.

For Project 3 no opportunity cost of land is included. Total cost excluding land is \$1.62 M PV. Costs are shown in 2009 \$ value and study cost matches that shown in Attachment 4. Water supply benefits are estimated as the avoided Central Valley Project (CVP) purchase cost of \$30 per AF times the annual yield of 2,370 AF.

Water Quality and Other Expected Benefits

Only average levels of water quality and other benefits relative to costs can be realized through this proposal; however, the quality of the analysis is moderate and supporting documentation is partially substantiated. Water quality benefits are described well for two projects, but the quantification is not presented as required. So scoring is based on qualitative assessment. The descriptions of benefits for the other 3 (Projects 3, 4, & 5) provide only one or two sentence statements.

For Project 2 the applicant provides a description of the mitigation benefits, including a value per acre for the walnut trees lost. The quantitative value for 5 acres of walnuts is claimed in the overall benefits table, but reviewer notes that the value is based on reference to a document that estimates the commercial value of pecan trees, not the habitat value of walnut trees. This is not an appropriate benefit value to claim for this purpose. Reviewer could not find evidence that loss of the walnut trees requires mitigation, and no mitigation cost was included in the Reuse Pipeline budget.

For Project 1 potential water quality benefits are described, and a quantitative scenario is developed to illustrate potential avoided costs of contamination. Reviewer feels the example provides a reasonably good description of benefits but the actual values are far too speculative to be used in the quantitative summary of benefits.

Economic Analysis – Flood Damage Reduction

Only low levels of flood damage reduction benefits (FDR) relative to costs can be realized through this proposal, as demonstrated by the analysis and supporting documentation. One project is quantified, but the \$ values are not well documented, and the calculation of expected annual damages (EAD) and PV is not consistent with the suggested methodology.

FDR benefits are described for Projects 3 and 1. Detailed analysis is presented for flows, flood depths, acres inundated with versus without project. Results are then combined with assumed damages per home to generate estimates of avoided damage per flood event. As far as the reviewer can tell from the description,

the dollar values are not drawn from an existing study or standard analytical tool like the Flood Rapid Analysis Model (FRAM) or the databases suggested in the DWR public workshops. Reviewer used FRAM with the exact damages and probabilities shown in proposal Table 18. EAD was different than the value presented in the proposal; therefore reviewer is unable to verify the estimates using the information presented.

Program Preferences

The Proposal includes five projects that collectively will implement the following Program Preferences: Regional projects or programs, Effectively integrate water management programs and projects within hydrologic region, Address critical water supply or water quality needs of disadvantaged communities within the region; Drought preparedness, Use and reuse water more efficiently, Climate change response actions, Expand environmental stewardship, Practice integrated flood management, Protect surface water and groundwater quality, and Ensure equitable distribution of benefits. The proposal adequately documents the magnitude and breadth of the Program Preferences to be met and demonstrates high degree of certainty.