



WATER RESOURCES ASSOCIATION OF YOLO COUNTY

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COMMITTEE REPORT

Date: March 4, 2009
To: WRA Board and Alternates
From: WRA Technical Committee (TC)
Subject: **Technical Committee Report**
2009-10 Project Funding Recommendations
Prop. 84 RAP Westside Subregion IRWMP MOU

Recommendations

Adopt recommendations for FY2009-10 WRA project funding as proposed by the Technical Committee.

Background

The WRA TC meets monthly to implement Board priorities with a focus on making progress on actions contained in the 2007 IRWMP and developing strategies to pursue and secure outside funding opportunities.

WRA FY2009-10 Project Funds Budget Recommendations:

Table 1 below lists the projects the TC has reviewed and recommended for WRA funding as part of the FY2009-10 WRA budget. Project funding requests were received by the April 2, 2009 deadline, and TC recommendations finalized at the April 16th TC meeting. Many of the projects are related to actions contained in the Yolo County IRWMP. The WRA funding is leveraged almost 2/1 to facilitate implementation of a wide range of actions that are a priority to WRA members. This year for the first time project fund requests did not exceed available funding.

TABLE 1
Recommended FY2009-10 WRA Project Funds Allocation

Project	WRA Funding	Local Match	Total Project Costs
RD 2035 Sacramento River Intake/ Fish Screen Project	\$ 35,000	\$ 125,000 (CVPIA)	\$ 160,000
Correll Rodgers Wetlands Enhance.	\$ 35,000	\$ 35,000	\$ 70,000
DWWSP Project Pre-Design	\$ 30,000	\$ 60,000	\$ 90,000
Putah Creek: Native Plant Nursery Project Expansion	\$ 10,000	\$ 10,000	\$ 20,000
Update IRWMP document *	\$ 7,000	\$ 25,000	\$ 32,000
GW Monitoring Program Internship	\$ 9,000	\$ 6,000	\$ 15,000
Yolo Bypass Integr. Action - YBF	\$ 22,520	\$ In-Kind	\$ 30,000
Yolo County Subsidence Monitoring Update	\$ 6,150	\$ 2,050	\$ 8,200
TOTAL	\$ 154,670	\$ 263,050	\$ 425,200

* Estimated costs for planning grant application w/Westside MOU funding matches.

57

Recent TC Activities:

- Completed WRA FY2009-10 project funds budget recommendation process;
- Continued Prop. 84 IRWMP related collaboration process with partners in that funding region to determine options for allocating limited planning and implementation grant funds;
- Part of the effort to develop the Prop. 84 Westside MOU in preparation for the RAP process (Region Acceptance Process to determine funding eligibility);
- Submitted Prop. 84 Westside RAP application to the State (April 29, 2009);
- Monitoring status of various project funding sources (e.g. AB 303, Prop. 50, Prop. 84) frozen as part of the state budget crisis, some evidence of thawing, outcomes still pending;
- Drought link information available on the WRA website (www.yolowra.org);
- Planning for 2008 DWR Subsidence Project results calibration scope of work in May 2009;
- Additional 2009 groundwater monitoring planned to monitor drought conditions/impacts;
- TC to begin work this summer on status of 2007 IRWMP integrated actions as part of eventual update process;
- TC to receive mid-year updates from lead partners on 2007 IRWMP integrated actions beginning in June 2009.

Attachments: FY2009-10 WRA project funds requests (received by the April 2, 2009 deadline)
Prop. 84 RAP Westside Subregion IRWMP MOU

**WRA Project Funds Request
Fiscal Year 2009-2010
Due by/before April 2, 2009**

Available Fiscal Year 2009-2010 Budget: \$103,000.00

Project Title: Joint Use Intake and Fish Screen Project

Project Budget (WRA/Local = Total):

\$ 35,000 / \$ 125,000 (CVPIA (Restoration Funds)) = \$ 160,000

Project Description:

A replacement intake with positive barrier fish screens will provide a surface water supply in place of deteriorating groundwater supplies for urban uses in Davis, Woodland, and UC Davis, in conjunction with meeting the agricultural and waterfowl management needs of RD 2035. This joint use facility will provide protection of endangered species and allow diversions to continue for the foreseeable future. The single-purpose intake design has been completed but is being modified to allow for joint use.

The budget requested from WRA will be used to continue work on the environmental documentation and permitting, along with project development support. These funds will allow completion of the Action-Specific Implementation Plan (ASIP). This documentation will allow Reclamation to draft a record of decision. The ASIP analyzes the potential environmental effects on aquatic and terrestrial species and streamlines the regulatory process for CALFED actions. After assessing the effects of potential CLAFED Actions on the environment, the CLAFED agencies developed initial conservation measures that when implemented would meet the overall CALFED Program objectives. These are contained within the Multi-Species Conservation Strategy (MSCS). To maintain the updated project description, project development support is needed to assist in permitting, and final design of the joint use intake facility with positive barrier fish screens.

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Title: Joint Use Intake and Fish Screen Project (Page 2)

Project Benefits:

Foundational Action(s)

- Fisheries enhancement with a state-of-the-art fish screen.
- Protection of endangered species in the Sacramento River and its tributaries.
- Improved water quality of receiving streams.
- Ensure water supply reliability for municipal, agricultural and wetlands management.
- Maintain groundwater levels.

Integrated Action(s)

- Joint use intake allows for increased preservation of river bank habitat.
- Reduction of water discharge requirements.
- Reduction of groundwater use.
- Savings of capital investment and O&M due to joint use intake facilities.

Agencies/Entities Involved:

Lead Agency: RD 2035

Other Agencies/Entities: Davis, Woodland, UC Davis

Project Schedule: Beginning Date: May 1, 2009 Ending Date: 12/31/09

Consultants Involved: MWH, West-Yost, ESA

Submitted by: Regina Cherovsky, RD 2035

Submitted on: March 27, 2009

WRA Project Funds Budget Request
Fiscal Year 2009-2010
Due by/before April 2, 2009

Available Fiscal Year 2009-2010 Budget: \$103,000.00

Project Title: Correll-Rodgers Wetlands Enhancement Project (AR21)

Project Budget (WRA/Local = Total): \$ 35,000/ \$ 35,000 = \$ 70,000

Project Description: The goals of this project are to improve hydrologic connections to Cache Creek and water quality, enhance terrestrial and aquatic habitats, protect private property values/rights, preserve public safety, and create a common vision for the site with public input. The funds currently sought are needed to complete phase 2 of the project. The current application for WRA funds will be for work connecting Cache Creek, the Rodgers, and Correll ponds. Funding will pay for earthwork, disposal of weir material, movement and purchase of boulders, plants, planting days with SLEWS, weed control, and OHV exclusionary measures.

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Benefits:

Foundational Action(s): Not specific to any one Foundational Action

Integrated Action(s): The Correll-Rodgers Wetland's Project (AR21) is a Component Action of the Cache Creek Flood Management Integrated Project and is listed as an Aquatic and Riparian Ecosystem Enhancement Action

Agencies/Entities Involved:

Lead Agency: County of Yolo, Parks and Resources Department

Other Agencies/Entities: Project is being developed in cooperation with the Yolo County Flood Control and Water Conservation District, the Yolo County Resource Conservation District, the Cache Creek Conservancy.

Project Schedule: Beginning Date: 09/01/2009 Ending Date: 10/31/2009

Consultants Involved: Center for Land-based Learning, and Teichert Aggregates, Hedgerow Farms

Submitted by: Kevin Schwartz, County of Yolo, Parks and Resources Department

Submitted on: 03/19/2008

**WRA Project Funds Budget Request
Fiscal Year 2009-2010
Due by/before April 2, 2009**

Available Fiscal Year 2009-2010 Budget: \$103,000.00

Project Title: DWWSP Regional Pipeline Pre-Design

Project Budget (WRA/Local = Total): \$ 30,000/ \$ 60,000= \$ 90,000

Project Description: see attached

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Benefits:

Benefit to Integrated Action IA1 Davis-Woodland Water Supply Project:
This project will provide essential property boundary and right-of-way information for the regional pipeline – a critical component of IA1. This project will also include preliminary horizontal pipeline alignments for the regional pipeline. In addition, the project includes a wetlands delineation survey which will provide important information for the final regional pipeline alignment and final design.

Agencies/Entities Involved:

Lead Agency: City of Davis and City of Woodland

Other Agencies/Entities: UC Davis, RD 2035

Project Schedule: Beginning Date: 7/1/2009 Ending Date: 12/31/2009

Consultants Involved: West Yost Associates, ESA, Airmaps

Submitted by: Jacques DeBra, City of Davis

Submitted on: 4/2/2009

**SCOPE OF WORK
DWWSP PIPELINE PRE-DESIGN****Property Boundary, Right-of-Way and Preliminary Horizontal Alignment Mapping**

WYA will complete surveying and mapping services necessary to define the location of existing property boundaries and rights-of-way with respect to preliminary pipeline horizontal alignments. In conjunction with prior work, rectified aerial photographic strips have been prepared along much of the preliminary pipeline alignment. This prior work will be supplemented as required to obtain rectified strip photography between the Regional Water Treatment Facility (RWTF) and the Road 25A/Road 102 intersection. Photographs will be compiled at a scale of 1"=100' and a width of about 500' centered along the anticipated alignment.

Preliminary horizontal pipeline alignments, boundaries of the parcels, and rights-of-way will be plotted on the rectified aerial photo strips. This information will be based on record information such as Preliminary Title Reports, deeds, and recorded maps. A resolved boundary survey, legal descriptions, and record of survey along the alignment are not included in this scope of work, but can be completed later during preliminary design. This mapping effort will be coordinated with the wetlands delineation effort described below. Identified jurisdictional wetlands will be plotted on the photo strips.

Wetlands Delineation Survey

To the extent possible, pipeline alignments should be located in a manner that will avoid potential impacts on Corps of Engineers (COE) jurisdictional wetlands. A wetlands delineation survey should be conducted to identify wetlands in the vicinity of anticipated pipeline alignment.

WYA will retain ESA to conduct the wetlands delineation survey. ESA will delineate wetlands within a 500-foot wide corridor centered on the anticipated pipeline alignments. ESA will use the latest guidelines from the Corps of Engineers to identify waters subject to Section 404 of the Clean Water Act. The survey will cover areas along the anticipated alignment between the Rd 2035 Intake to the RWTF and south from the RWTF along the anticipated alignment to the intersection of Pole Line Road and Covell Boulevard in the City of Davis.

After the delineation is complete, ESA will prepare a report that documents the methods used and results of the survey. The report will be consistent with the methods and reporting standards acceptable to the COE.

PROPOSED BUDGET for DAVISWOODLAND
 PROJECT: DWNSP 2009 PIPELINE PRE-DESIGN SERVICES
 3/20/2009

Estimated Staff Hours and Budget		PVP		EM		PEPS		SESS		ESI		GP&T		ADM/ILL		Labor		Drilling		Modelling		Sub. 25		Sub. 25 w/ markup 10%		Costs		Sub. 3			
West Yost Associates		\$218		\$205		\$183		\$169		\$115		\$284		\$85		Hours		Hours		Hours		Fee		Fee		Other		Title			
PROJECT: DWNSP 2009 Pipeline Pre-Design Services																															
Task 1.0 Aerial Photography, ROW & Preliminary Horizontal Alignment Mapping																															
1.01	Aerial Mapping							1					0			9		2,441							1,100						
1.02	ROW & Property Research and Mapping					4		104								108		18,328		60		1,500			22,000					20,000	
1.03	Preliminary Horizontal Alignment					24										64		9,872		40		1,000									
1.04	Project Management					4										4		2,780													
	Subtotal, Task 1 (hours)					32		105					0			187		33,421		100		2,500									
	Subtotal, Task 1 (\$)					824		6,916					2,272			340		33,421				2,500								20,000	
Task 2.0 Wetlands Delineation Surveys																															
2.01	Wetlands Delineation					8										8		1,504		0		0			12,320						
2.02	Prepare Wetlands Delineation Report					4										0		0		0		0			15,070						
2.03	Project Management					4										4		2,028													
	Subtotal, Task 2 (hours)					16		0					0			12		2,028		0		0									
	Subtotal, Task 2 (\$)					824		1,504					0			340		3,532								27,390					
	TOTAL (hours)					48		105					0			217		36,953		100		2,500				50,490					
	TOTAL (\$)					1,728		8,420					2,272			680		36,953				2,500									20,000



**WRA Project Funds Budget Request
Fiscal Year 2009-2010
Due by/before April 2, 2009**

Available Fiscal Year 2009-2010 Budget: \$103,000.00

Project Title: Native Plant Nursery Project Expansion

Project Budget (WRA/Local = Total): \$ 10,000/ \$ 10,000 = \$ 20,000

Project Description: This project would provide seed money (literally) and supplies to increase production of native plants at the L.A. Moran Reforestation Center (LAMRC) in Davis in support of the Putah Creek Integrated Project. A year ago, Solano County Water Agency on behalf of the Lower Putah Creek Coordinating Committee (LPCCC) entered into an agreement with the California Department of Forestry and Fire Protection to reopen the native plant nursery at LAMRC that had been closed since 2003 due to state budget cuts. LAMRC formerly produced up to four hundred thousand native tree seedlings per year, mostly to replant forests following timber harvest. Since reopening, the LPCCC and community volunteers have produced twenty-five hundred oak seedlings, and hundreds of seedlings of other native trees and shrubs and thousands of plugs of native grasses and forbs but production has been limited by lack of seed and supplies. This project would enable the nursery operation to achieve a scale that is self-sufficient through revenues from plant sales to grant projects that are awarded but not yet contracted and expected to begin in 2010.

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Benefits:

Foundational Action(s) N/A

Integrated Action(s) The project would benefit the Putah Creek Integrated Project by supplying native plants for habitat restoration and enhancement projects, floodplain restoration, weed control and bank stabilization projects. Every restoration project will benefit from expanded nursery operations. Plant materials will no longer be limiting restoration projects. Local ecotypes of native plants will be preserved by collecting seed and cuttings from local watersheds.

Project Title: Native Plant Nursery Project Expansion (page 2)

Agencies/Entities Involved:

Lead Agency: Solano County Water Agency

Other Agencies/Entities: Lower Putah Creek Coordinating Committee, Putah Creek Council

Project Schedule: Beginning Date: July 1, 2009 Ending Date: June 30, 2010

Consultants Involved: N/A

Submitted by: Rich Marovich
Lower Putah Creek Coordinating Committee

Submitted on: March 31, 2009

**WRA Project Funds Request
Fiscal Year 2009-2010
Due by/before April 2, 2009**

Available Fiscal Year 2009-2010 Budget: \$103,000.00

Project Title: Yolo County Groundwater Monitoring Program Internship

Project Budget (WRA/Local = Total): \$ 9,000/ \$ 6,000 = \$ 15,000

Project Description: Due to the drought, surface water deliveries in Yolo County will be severely restricted this summer. Increased monitoring of groundwater levels is prudent, as groundwater pumping will dramatically increase this year and most monitoring wells are only checked twice per year. The intern will also work on the groundwater database.

The internship would be full time for three months in the summer. A science or engineering college student will be selected.

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Benefits:

Foundational Action(s):

FA1: Yolo County Groundwater Monitoring Program

FA7: Water Resources Information Database (WRID) Enhancement Program

Refined patterns of groundwater level drawdown, reduced turnaround time for Quality Control and data management, and better understanding of groundwater status during drought will result from this project.

Agencies/Entities Involved:

Lead Agency: Yolo County Flood Control and Water Conservation District

Other Agencies/Entities: Potentially all WRA Agencies

Project Schedule: Beginning Date: 6/1/2009 Ending Date: 10/1/2009

Consultants Involved: none

Submitted by: Max Stevenson, Yolo County Flood Control and Water Conservation District

Submitted on: 3/27/2009

**WRA Project Funds Request
Fiscal Year 2009-2010
Due by/before April 2, 2009**

Available Fiscal Year 2009-2010 Budget: \$103,000.00

Project Title: Yolo Bypass Integrated Project

Project Budget (WRA/Local = Total): \$ 22,520 (with facilitation) or \$15,000 (no facilitator) / YBF in-kind services = \$22,520 or \$15,000

Project Description: Implementation of Yolo Bypass Integrated Project. Schedule, coordinate, conduct up to 4 Yolo Bypass Working Group and Yolo Bypass IRWMP Subcommittee meetings as needed to review potential projects based on stakeholder support, planning and permitting status and potential funding sources; attend WRA Technical Advisory Committee meetings as needed and annual WRA board meeting to represent the YB Working Group and YB IRWMP subcommittee. Coordinate YBIP with projects in other watersheds. Coordinate stakeholder involvement Bay Delta Conservation Plan actions in Yolo Bypass through joint meetings of the YB IRWMP Subcommittee and the Lower Yolo Bypass Planning Forum or its BDCP Conservation Measures Subcommittee.

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Benefits:

Foundational Action(s) Potential/current projects for FY 09-10 under YBIP: Develop Best Management Practices for the Yolo Bypass regarding production and transport of elemental and methyl mercury; Yolo Bypass Conceptual Aquatic Restoration Opportunities (Putah Creek Re-alignment); Yolo Bypass Wildlife Area Ecosystem Restoration Project; Yolo Bypass Wildlife Area public access, outreach, interpretation programs; Yolo Bypass stakeholder involvement with regional flood management planning.

Integrated Action(s): Yolo Bypass Integrated Project

Agencies/Entities Involved:

Lead Agency: Yolo Basin Foundation

Other Agencies/Entities: DWR, CDFG, Yolo County, Dixon RCD, Glide In Ranch, Mound Farms, Conaway Ranch, RD 2035, Tadlock Farms, RD 2068 and 2098; California Waterfowl Association, Channel Ranch, H-Pond

Project Schedule: Beginning Date: 07/01/09 Ending Date: 06/30/10

Consultants Involved: Center for Collaborative Policy

Submitted by: Robin Kulakow, Executive Director, Yolo Basin Foundation

Submitted on: 03/26/09

**WRA Project Funds Request
Fiscal Year 2009-2010
Due by/before April 2, 2009**

Available Fiscal Year 2009-2010 Budget: \$103,000

Project Title: Yolo County Subsidence Monitoring Update

Project Budget (WRA/Local = Total): \$ 6,150.00/ \$ 2,050.00 (DWR) = \$ 8,200.00

Project Description: See attached proposal. Frame Surveying & Mapping proposes to revisit the data from the 1999, 2002 and 2005 Yolo County GPS subsidence monitoring campaigns in light of the information acquired up to and including the 2008 Sacramento Valley GPS survey.

Project Status (check appropriately):

- Action contained in 2007 Yolo County IRWMP
- Concept/development stage
- Planning/feasibility
- Permitting
- Design
- Construction
- Operation

Project Benefits:

Foundational Action(s) FA3 – Yolo County Subsidence Monitoring Program

Integrated Action(s): Benefits multiple agencies for integrated regional water management planning by gathering and analyzing data on the effects of subsidence on groundwater use planning and coordination with IGSM effort.

Agencies/Entities Involved:

Lead Agency: DWR, Frame Surveying & Mapping

Other Agencies/Entities:

Project Schedule: Beginning Date: July 1, 2009 Ending Date: June 30, 2010

Consultants Involved: Frame Surveying & Mapping

Submitted by: Jacques DeBra, City of Davis/WRA

Submitted on: 3/31/09



Project Proposal
Yolo County Subsidence Monitoring Update
February 16, 2009

Executive Summary

Frame Surveying & Mapping (FSM) proposes to revisit the data from the 1999, 2002 and 2005 Yolo County GPS subsidence monitoring campaigns in light of the information acquired up to and including the 2008 Sacramento Valley GPS survey. Data from each campaign will be combined into a single time-tagged adjustment in order to view the data from a deformation analysis perspective.

Although the earlier Yolo surveys were analyzed with the best information available at the time, changes in height constraints between surveys resulted in unquantified uncertainties in reported subsidence values. This proposal will produce more accurate subsidence values, along with realistic estimates of the associated error ranges. A more accurate picture of subsidence distribution and magnitude within the county will be the end result.

The project is proposed as a task under the existing contract between DWR and FSM, and carries an estimated cost of \$8,200.00.

Background

In 1999 a consortium of public agencies, including DWR, the U.S. Army Corps of Engineers and a variety of local agencies, installed and positioned a height modernization network in Yolo County, California. The network was designed to serve the positioning needs of multiple user groups, and to provide the initial measurement epoch in a long-term analysis of ground subsidence in the county.

The network marks were referenced to the North American Datum of 1983 (NAD83) and the North American Vertical Datum of 1988 (NAVD88) in accordance with the standards of the National Geodetic Survey (NGS). In 1999 relatively little information was available upon which to base a realization of NAVD88 in Yolo County, and the distribution of subsidence within the county was not well understood. Geodetic analysts at both NGS and the California Spatial Reference Center (CSRC) made a good-faith effort to identify the most likely reliable vertical reference marks against which to adjust the project data. The project station positions were published by NGS upon completion of the project.

In 2003 the Yolo network was observed again, and analysis of the data revealed movement at some of the project control marks that had not been anticipated at the time of the 1999 survey. The selection of probable stable stations was revised in an effort to improve the reliability of the results, and NGS published the revised project station positions. A similar process was followed for the 2005 reobservation of the network.

The effect of revising the set of vertical constraints for each survey was to improve the reliability of the NAVD88 values at the project station marks. However, this complicated the comparison of year-to-year height values necessary to evaluate ground subsidence, since the constraints were not the same for each observation epoch. Although the differences produced by the varying constraint sets are relatively small, the rate of annual subsidence believed to be occurring within the county is of similar magnitude. Thus the epoch-to-epoch changes in height constraints may have contaminated the calculated subsidence values to a significant degree.

Proposed Solution

In order to achieve a more accurate assessment of ground subsidence at the Yolo network stations, a deformation analysis is proposed using the data from the 1999, 2002, 2005 Yolo campaigns, in addition to data from the 2008 Sacramento Valley project, which includes the Yolo network. A minimum of 3 (and preferably 5) network stations, common to all of the Yolo campaigns and believed not to be subsiding, will be chosen as control stations. Their positional values as calculated from the 2008 Sacramento Valley survey will ultimately be held fixed.

For each of the Yolo campaigns, the GPS vectors from the control stations to the remaining Yolo stations (the monitored stations) will be assembled. A free adjustment will be performed to check for data integrity and to generate weighting values for each campaign. All of the vectors from all of the campaigns will then be included in a single adjustment, computing time-tagged positions for each monitored station, one position for each campaign. Thus for every station common to all 4 of the surveys (1999, 2002, 2005 and 2008) there will be 4 positions, with propagated error values for each. The result will be stations that show movement over time, stations that show no movement over time, and possibly stations for which conclusive movement over time cannot be shown. Realistic error estimates will be available for all movement indicated.

Cost Estimates

Estimated cost items for performing this work are as follows:

Principal Land Surveyor: data assembly, reporting, administration	\$ 3,000.00
Geodetic Analyst: data adjustment and analysis	5,000.00
Materials & expenses	200.00
Estimated total:	\$ 8,200.00