Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

Project Information

1. **Proposal Title:**

   Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

2. **Proposal applicants:**

   Luther Hintz, Reclamation District 108

3. **Corresponding Contact Person:**

   Luther Hintz
   RD108
   975 Wilson Bend Road P.O. Box 50 Grimes, CA 95950
   530 437-2221
   luhintz@colusanet.com

4. **Project Keywords:**

   At-risk species, fish
   Fish mortality/fish predation
   Fish Passage/Fish Screens

5. **Type of project:**

   Fish Screen

6. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   No

7. **Topic Area**:

   Fish Screens

8. **Type of applicant:**

   Local Agency

9. **Location - GIS coordinates:**

Latitude:	39.001
Longitude:	-121.825
Datum:	WGS 84

Describe project location using information such as water bodies, river miles, road intersections, landmarks, and size in acres.

The project area lies within RD108, 45 miles northwest of Sacramento. The project location for the Wilkins Slough Positive Barrier Fish Screen is at Rivermile 117.8 R (right bank looking downstream).

10. **Location - Ecozone:**

    3.4 Colusa to Verona

11. **Location - County:**

    Colusa

12. **Location - City:**

    Does your project fall within a city jurisdiction?

    No

13. **Location - Tribal Lands:**

    Does your project fall on or adjacent to tribal lands?

    No

14. **Location - Congressional District:**

    CD 03

15. **Location:**

    California State Senate District Number: SD 04

    California Assembly District Number: AD 02

16. **How many years of funding are you requesting?**

    1 year

17. **Requested Funds:**
    a) Are your overhead rates different depending on whether funds are state or federal?

       No

       If no, list single overhead rate and total requested funds:

       Single Overhead Rate: 0

       Total Requested Funds: $415,000

b) Do you have cost share partners already identified?

Yes

If yes, list partners and amount contributed by each:

U.S. Bureau of Reclamation (USBR) $415,000

c) Do you have potential cost share partners?

No

d) Are you specifically seeking non-federal cost share funds through this solicitation?

Yes

If yes, list total non-federal funds requested:

$415,000

If the total non-federal cost share funds requested above does not match the total state funds requested in 17a, please explain the difference:

18. **Is this proposal for next-phase funding of an ongoing project funded by CALFED?**

Yes

If yes, identify project number(s), title(s) and CALFED program (e.g., ERP, Watershed, WUE, Drinking Water):

B81569 Wilkins Slough Positive Barrier Fish Screen CVPIA/AFSP

Have you previously received funding from CALFED for other projects not listed above?

No

19. **Is this proposal for next-phase funding of an ongoing project funded by CVPIA?**

Yes

If yes, identify project number(s), title(s) and CVPIA program (e.g. AFRP, AFSP, b(1) other).

7FG 2015040 Wilkins Slough Positive Barrier Fish Screen CVPIA/AFSP

Have you previously received funding from CVPIA for other projects not listed above?

No

20. **Is this proposal for next-phase funding of an ongoing project funded by an entity other than CALFED or CVPIA?**

No

Please list suggested reviewers for your proposal. (optional)

Banky Curtis CDFG 916/358-2899 BCurtis@dfg.ca.gov

Rick Wantuck NMFS 707/575-6063 Richard.Wantuck@noaa.gov

David Guy NCWA 916/442-8333 dguy@norcalwater.org

21. **Comments:**

17.a. Overhead Rate. Reclamation District No. 108 will administer the Contract at no cost to CALFED. Therefore, there is no overhead rate. 17.b.The USBR already has money in place to implement the sediment removal facilities. We are waiting for the 50 percent State match.

Environmental Compliance Checklist

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

1. **CEQA or NEPA Compliance**
   a) Will this project require compliance with CEQA?

      Yes
   b) Will this project require compliance with NEPA?

      Yes
   c) If neither CEQA or NEPA compliance is required, please explain why compliance is not required for the actions in this proposal.

2. **If the project will require CEQA and/or NEPA compliance, identify the lead agency(ies).** *If not applicable, put "None".*

   CEQA Lead Agency: Reclamation District No. 108
   NEPA Lead Agency (or co-lead:) U.S. Bureau of Reclamation
   NEPA Co-Lead Agency (if applicable):

3. **Please check which type of CEQA/NEPA documentation is anticipated.**

   CEQA
   -Categorical Exemption
   XNegative Declaration or Mitigated Negative Declaration
   -EIR
   -none

   NEPA
   -Categorical Exclusion
   XEnvironmental Assessment/FONSI
   -EIS
   -none

   If you anticipate relying on either the Categorical Exemption or Categorical Exclusion for this project, please specifically identify the exemption and/or exclusion that you believe covers this project.

4. **CEQA/NEPA Process**
   a) Is the CEQA/NEPA process complete?

      Yes

   b) If the CEQA/NEPA document has been completed, please list document name(s):

      Environmental Assessment/Initial Study and FONSI for the proposed RD108 Wilkins Slouh Positive Barrier Fish Screen
      Negative Declaration for the Proposed RD108 Wilkins Slough Positive Barrier Fish Screen

5. **Environmental Permitting and Approvals** (*If a permit is not required, leave both Required? and Obtained? check boxes blank.*)

LOCAL PERMITS AND APPROVALS

Conditional use permit	
Variance	
Subdivision Map Act	Required
Grading Permit	Required
General Plan Amendment	
Specific Plan Approval	
Rezone	
Williamson Act Contract Cancellation	
Other	

STATE PERMITS AND APPROVALS

Scientific Collecting Permit	
CESA Compliance: 2081	Required
CESA Compliance: NCCP	
1601/03	Required
CWA 401 certification	Required
Coastal Development Permit	
Reclamation Board Approval	Required
Notification of DPC or BCDC	
Other	Required

FEDERAL PERMITS AND APPROVALS

ESA Compliance Section 7 Consultation	Required
ESA Compliance Section 10 Permit	
Rivers and Harbors Act	
CWA 404	Required
Other	

PERMISSION TO ACCESS PROPERTY

Permission to access city, county or other local agency land.
Agency Name:

Permission to access state land.
Agency Name:

Required

Permission to access federal land.
Agency Name:

Permission to access private land.
Landowner Name:

6. **Comments.**

CESA and ESA Section 7 consultations are complete but would need to be amended to include the project modifications. 1601 Streambed agreement needs to be amended to extend the period covered by the agreement. CWA 401 Certification granted, but needs to be amended to include project modifications. CWA 404 permit needs to be amended to include project modifications.

Land Use Checklist

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

1. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   No

2. **Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?**

   No

3. **Do the actions in the proposal involve physical changes in the land use?**

   No

   If you answered no to #3, explain what type of actions are involved in the proposal (i.e., research only, planning only).

   This project is an improvement to an existing fish screen facility that will better enable the facility to meet CDFG and NMFS fish screen criteria.

4. **Comments.**

Conflict of Interest Checklist

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

Please list below the full names and organizations of all individuals in the following categories:

- Applicants listed in the proposal who wrote the proposal, will be performing the tasks listed in the proposal or who will benefit financially if the proposal is funded.
- Subcontractors listed in the proposal who will perform some tasks listed in the proposal and will benefit financially if the proposal is funded.
- Individuals not listed in the proposal who helped with proposal development, for example by reviewing drafts, or by providing critical suggestions or ideas contained within the proposal.

The information provided on this form will be used to select appropriate and unbiased reviewers for your proposal.

Applicant(s):

Luther Hintz, Reclamation District 108

Subcontractor(s):

Are specific subcontractors identified in this proposal? Yes

If yes, please list the name(s) and organization(s):

Richard Jenness	Laugenour & Meikle, Civil Engineers, Inc.
Charles Hanson	Hanson Environmental, Inc.
Peter Rude	CH2M HILL

None	None
None	None
None	None
None	None

Helped with proposal development:

Are there persons who helped with proposal development?

No

Comments:

Budget Summary

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

Please provide a detailed budget for each year of requested funds, indicating on the form whether the indirect costs are based on the Federal overhead rate, State overhead rate, or are independent of fund source.

Independent of Fund Source

Year 1												
Task No.	**Task Description**	**Direct Labor Hours**	**Salary *(per year)***	**Benefits *(per year)***	**Travel**	**Supplies & Expendables**	**Services or Consultants**	**Equipment**	**Other Direct Costs**	**Total Direct Costs**	**Indirect Costs**	**Total Cost**
1	Bid Services						5,000			5000.0		5000.00
2	Construction						345,000			345000.0		345000.00
3	Services During Construction						45,000			45000.0		45000.00
4	Hydraulic Testing						20,000			20000.0		20000.00
		0	0.00	0.00	0.00	0.00	415000.00	0.00	0.00	415000.00	0.00	415000.00

Year 2												
Task No.	**Task Description**	**Direct Labor Hours**	**Salary *(per year)***	**Benefits *(per year)***	**Travel**	**Supplies & Expendables**	**Services or Consultants**	**Equipment**	**Other Direct Costs**	**Total Direct Costs**	**Indirect Costs**	**Total Cost**
		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Year 3												
Task No.	**Task Description**	**Direct Labor Hours**	**Salary *(per year)***	**Benefits *(per year)***	**Travel**	**Supplies & Expendables**	**Services or Consultants**	**Equipment**	**Other Direct Costs**	**Total Direct Costs**	**Indirect Costs**	**Total Cost**
		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grand Total=415000.00

Comments.

Budget Justification

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

Direct Labor Hours. Provide estimated hours proposed for each individual.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Salary. Provide estimated rate of compensation proposed for each individual.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Benefits. Provide the overall benefit rate applicable to each category of employee proposed in the project.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Travel. Provide purpose and estimate costs for all non-local travel.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Supplies & Expendables. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Services or Consultants. Identify the specific tasks for which these services would be used. Estimate amount of time required and the hourly or daily rate.

Tasks 1, 3, and 4 will be done by Consultants. Task 2 will be conducted by a Construction Contractor. The consultant fees have been estimated as a percent of construction and experience from other capital improvement projects. The 2001 hourly rates for the three senior consultants on the project are as follows: Rich Jenness $105/hr Charles Hanson $120/hr Peter Rude $137/hour

Equipment. Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than $5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Project Management. Describe the specific costs associated with insuring accomplishment of a specific project, such as inspection of work in progress, validation of costs, report preparation, giving presentatons, reponse to project specific questions and necessary costs directly associated with specific project oversight.

Project Management will be done by RD108 General Manager Lu Hintz and his staff at no cost to the CALFED Grant.

Other Direct Costs. Provide any other direct costs not already covered.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no direct costs.

Indirect Costs. Explain what is encompassed in the overhead rate (indirect costs). Overhead should include costs associated with general office requirements such as rent, phones, furniture, general office staff, etc., generally distributed by a predetermined percentage (or surcharge) of specific costs.

Reclamation District No. 108 will administer the contract at no cost to CALFED. Therefore, there are no indirect costs.

Executive Summary

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

Reclamation District No. 108 (RD 108) provides water to approximately 48,000 acres of irrigated agriculture on the west side of the Sacramento River, approximately 45 miles northwest of Sacramento, California and has seven pumping plants along the river that supply water to a network of irrigation canals. In 1999, RD 108 substantially completed construction of the Wilkins Slough Positive Barrier Fish Screen facility (830 cubic feet per second) capacity). During the summer of 1999 and again during the summer of 2000, the fish screen was tested/monitored for compliance with California Department of Fish and Game and National Marine Fisheries Service approach velocity performance criteria. Results of these monitoring activities indicated that sediment was accumulating behind the screens. At peak diversion flows, average approach velocities on individual screen panels were in excess of the 0.33 feet per second performance criterion. The consensus was that a sediment removal system needed to be installed within the bays of the fish screen to meet the performance criteria. During the fall of 2000, a sediment removal pilot study was successfully conducted utilizing funds available through the Anadromous Fish Screen Program. The results of the pilot study were documented in a report (CH2M HILL, 2001a) and reviewed with the Anadramous Fish Screen Program Technical Team (AFSPTT). During 2001, plans and specifications were produced for construction of the sediment removal system (CH2M HILL, 2001b) and reviewed by the AFSPTT. The general approach and schedule to implement the recommended project is provided below and assumes that obtaining the required level of funding is not a constraint: -- Completed contract documents (plans and specifications) for the Wilkins Slough Positive Barrier Fish Screen Sediment Removal Facility August 2001 -- Obtain state matching funds for construction June 2001 to November 2001 -- Construction December 2001 to June 2002 -- Testing July 2002 to August 2002 RD 108 estimates needing a total of $830,000 to implement the project. RD 108 currently has sufficient USBR funding to implement the project, but lacks the 50 percent State matching funds required by USBR. This 50 percent State match of $415,000 is the subject of this grant application with the objective to build the sediment removal system.

Proposal

Reclamation District 108

Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Project

Luther Hintz, Reclamation District 108

Reclamation District 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Facilities

A. Project Description: Project Goals and Scope of Work

1. Problem

Reclamation District No. 108 (RD 108) provides water to approximately 48,000 acres of irrigated agriculture on the west side of the Sacramento River, approximately 45 miles northwest of Sacramento, California (see Figure 1). RD 108 has seven pumping plants along the river that supply water to a network of irrigation canals. In 1999, RD 108 substantially completed construction of the Wilkins Slough Positive Barrier Fish Screen facility (830-cubic-feet-per-second [cfs] capacity).

During the summer of 1999 and again during the summer of 2000 the fish screen was tested/monitored for compliance with California Department of Fish and Game (CDFG) and National Marine Fisheries Source (NMFS) approach velocity performance criteria. Results of these monitoring activities indicated that sediment was accumulating behind the screens. At peak diversion flows, average approach velocities on individual screen panels were in excess of the 0.33 foot per second (fps) performance criterion. The methodology and results were reviewed by the Anadromous Fish Screen Program Technical Team (AFSPTT).

This unanticipated rapid accumulation of sediment within the Wilkins Slough Fish Screen bays and forebay has caused a serious problem in operation and maintenance of the fish screen facilities. The deposition rate of suspended sediment and the depth of sediment within the fish screen bays have affected the uniformity of the approach velocity. Current conditions indicate that without a means to continually control deposition, sediment buildup may cause the average approach velocity associated with individual screen panels to exceed the design maximum of 0.33 fps at near maximum pumping rates of 830 cfs.

The consensus of RD 108 and the AFSPTT was that a sediment removal system needed to be installed within the bays of the fish screen to meet the performance criteria.

During the fall of 2000, a sediment removal pilot study was successfully conducted utilizing funds available through the Anadromous Fish Screen Program. The results of the pilot study were documented in a report (CH2M HILL, 2001a) and reviewed with the AFSPTT. During 2001, plans and specifications were produced for construction of the sediment removal system (CH2M HILL, 2001b) and reviewed by the AFSPTT.

RD 108 currently has sufficient U.S. Bureau of Reclamation (USBR) funding to implement the project, but the District lacks the 50 percent State matching funds required by USBR. This 50 percent State match of $415,000 is the subject of this Grant with the objective to build a sediment removal system.

2. Justification

This is a Fish Screen Construction proposal. Response to Item 2 is not required according to the Proposal Solicitation Package.

3. Approach

The following tasks are required to implement the sediment removal system as identified in the Reclamation District No. 108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Facilities plans and specifications (CH2M HILL, 2001b):

Task 1—Bidding Services

- Advertise for bids
- Evaluate lowest qualified bidder(s)
- Award Contract

Task 2—Construction

- Build the proposed facility
- Provide services during construction

Task 3—Testing

- Conduct velocity monitoring
- Prepare report

4. Feasibility

The described approach is both feasible and appropriate for this project and can be completed in the time allotted provided required funding is available in a timely fashion. In the fall of 2000, the District conducted a pilot study for RD 108 Wilkins Slough Positive Barrier Fish Screen to determine the most effective way to remove sediment from the fish screen bays and forebay area. The study tested the feasibility of water-jetting the sediment from the floor of the fish screen bays and, ideally, moving the sediment back into the river and, or alternatively, toward the forebay. If the sediment were returned to the river, from a District operation standpoint, the problem would be solved. If all or a portion of the sediment within the bays were forced into the forebay, then dredging would be required to remove accumulated sediment that was not drawn into the pumps.

The pilot study was reviewed with the AFSPTT on August 29, 2000, in Sacramento at the U.S. Fish and Wildlife Service (USFWS) office prior to proceeding with the pilot study. Results of this pilot study were also reviewed by the AFSPTT and RD 108 on January 8, 2001.

Results of the sediment deposition pilot project at the District's Wilkins Slough Fish Screen indicated the following:

- Alignment of the fish screen structure encourages limited scour in front of the structure, and the screens act as a barrier to the river bedload.

- Fine suspended sediments are carried through the screens, and an abrupt change in velocity causes the suspended material to be deposited within the screen bays and

forebay. The velocity on the river is 2 to 4 fps, and the velocity within the screen bays is 0.33 fps or less.

- Sediment accumulates in the fish screen bays at a rate of approximately 1 inch per day.
- The sediment begins to settle out within 1 to 2 feet of the screen face.
- A relatively sediment-free zone should be maintained a distance of approximately 20 to 30 feet behind the screen face to prevent the approach velocity from exceeding the 0.33 fps criterion set by the resource agencies.

The results of the pilot study indicated that the proposed sediment removal facilities are feasible and will solve the sediment problem at the Wilkin's Slough Positive Barrier Fish Screen.

The sediment removal facilities will provide a method for hydraulically removing the sediment accumulation from the floor of the existing fish screen structure. The facilities will include an H-pile supported pump platform; a 150-horsepower vertical turbine pump; approximately 1,050 feet of 12-inch-diameter welded steel pipe with grooved-end fittings; 14 electrically actuated valves; pump and valve electrical and control systems; and under-water polyvinyl chloride (PVC) pipe manifold and nozzles for jetting sediment from the floor of the fish screen structure.

5. Performance Measures

A monitoring program has been established in coordination with CDFG and NMFS to evaluate the effectiveness of the sediment removal facility and to evaluate the performance of the Wilkins Slough Positive Barrier Fish Screen. To meet the following CDFG and NMFS criteria for fish screens, the facility will be tested once the water jetting system is fully functional. Performance measures will include:

- Average approach velocity (water velocity perpendicular to the screen), less than or equal to 0.33 fps at the maximum diversion rate
- Minimum sweeping velocity (water velocity parallel to the screen) of two times the approach velocity
- Fish screen bays swept clean of sediment

The screen will be tested using water velocity probes at the maximum diversion rate to check for compliance.

6. Data Handling and Storage

For this project, we will use a broad range of information management tools and systems. The following are general examples of the types of tools available to manage and provide access to project data:

- E-mail with file attachments (Microsoft Exchange server with Microsoft Outlook client)
- Microsoft Office suite of desktop applications (Word, Excel, Access, PowerPoint)

- Additional desktop applications (e.g., Visio, Acrobat Reader, Internet Explorer, Microsoft Project, CADD, and GIS)
- Intranet-deployed reference material and project-specific web site, if appropriate and desired

Currently, RD 108 Wilkins Slough Positive Barrier Fish Screen has an automated SCADA (Supervisory Control and Data Acquisition) system that may be tied to the sediment removal facility water-jetting system to retrieve data automatically and in an efficient way.

7. Expected Products/Outcomes

The expected products are as follows:

1. An installed sediment removal system at the Wilkins Slough Positive Barrier Fish Screen
2. As-built drawings of the sediment removal system
3. A sediment-free zone behind the fish screens to allow the fish screen to operate at peak diversion rates in accordance with CDFG and NMFS criteria

8. Work Schedule

The general schedule to implement the recommended project is provided below, with the assumption that obtaining the required level of funding is not a constraint:

- Completed contract documents (plans and specifications) for the Wilkins Slough Positive Barrier Fish Screen Sediment Removal Facility – August 2001
- Obtain state matching funds for construction – June 2001 to November 2001
- Construction – December 2001 to June 2002
- Testing – July 2002 to August 2002

B. Applicability to CALFED and ERP Science Program Goals and Implementation Plan and CVPIA Priorities

1. ERP, Science Program, and CVPIA Priorities

This project is linked indirectly to CALFED's Ecosystem Restoration Program (ERP) restoration priorities for the Sacramento Region. As listed on page 61 of the *ERP Draft Stage 1 Implementation Plan* and on page 29 of the *2002 ERP Proposal Solicitation*, consolidating and screening RD 108's diversions from the Sacramento River would help achieve Strategic Goal 1, protecting at-risk species. Controlling sediment buildup at RD 108 Wilkins Slough Positive Barrier Fish Screen will allow the screen to operate at the design criteria at peak diversion rates.

This sediment removal system is necessary to help achieve recovery of at-risk native fish species as a step toward establishing large, self-sustaining populations of these species. This project will directly help contribute to the resolution of the conflict between protecting

endangered species and providing reliable supplies of water for agriculture. This project will help achieve the recovery of the following at-risk fish species: all runs of chinook salmon, steelhead trout and Sacramento splittail (Ecosystem Restoration Projects and Programs, 2002 Proposal Solicitation Package, Page 27, Goal SR-2). In addition to the above-mentioned, at-risk species, this project will also contribute to the goal of doubling the other anadromous fish species named in the Central Valley Improvement Act (CVPIA), specifically, white and green sturgeon, American shad, and striped bass.

Construction of the sediment removal system is consistent with the identified stressors and priorities for project funding by CALFED. The prevention of entrainment of at-risk fish species will result in a significant improvement in the aquatic habitat of the Sacramento River and Bay-Delta system. In addition, the project will ensure a reliable supply of water to agriculture, which also provides significant migratory water fowl wetland habitat.

2. Relationship to Other Ecosystem Restoration Projects

This project has been discussed and coordinated with CDFG, NMFS, and the AFSPTT under the Central Valley Project Improvement Act Anadromous Fish Screen Program (CVPIA/AFSP). The project's pilot tests and design were performed in consultation and coordination with the technical team and regulatory agencies designated in the CVPIA/AFSP.

3. Requests for Next-phase Funding

This is a request for next-phase funding.

4. Previous Recipients of CALFED Program or CVPIA Funding

RD 108 received CALFED funding for the Wilkins Slough Positive Barrier Fish Screen Project (CALFED Program No. B81569). Construction was completed in 1999 and Wilkins Slough Positive Barrier Fish Screen is currently operational.

5. Systemwide Ecosystem Benefits

This project will enhance the protected fish passage area on the largest diversion of RD 108 (Wilkins Slough Pumping Plant) on the Sacramento River. This project will help achieve CALFED and CVPIA objectives by helping to improve the aquatic environment of several fish species, while concurrently providing needed water supply for the applicant. This project provides synergistic Sacramento River system benefits by allowing more fish to reach the upstream restoration projects now implemented or planned for the future. The project will not conflict with CALFED non-ecosystem objectives, such as water quality for in-stream and Delta flows, but may benefit water supply reliability for the applicant as it will reduce the entrainment of fish at the diversion facility. No impacts to third parties are anticipated.

6. Additional Information for Proposals Containing Land Acquisition

The sediment removal system will use the existing fish screen structure and pumping plant platform area. Therefore, no land will be required.

C. Qualifications

RD 108 has an extensive history of successfully implementing large, complex capital improvements with the cooperation and funding support of state and federal agencies, including the Wilkins Slough Positive Barrier Fish Screen. RD 108 is currently working with the CDFG, the NMFS, the USFWS, and the USBR to develop solutions to prevent the entrainment of fish at three of RD 108's pumping plants on the Sacramento River.

RD 108's General Manager, Luther Hintz, will be the project manager. He will be assisted by Rich Jenness of Laugenour & Meikle, long-time reclamation district consulting engineer; Chuck Hanson/Hanson Environmental, who will be the senior fishery biologist, and Peter Rude/CH2M HILL who will manage the services during construction. Following are brief biographical sketches of the principal participants.

Luther Hintz, P.E., RD 108 General Manager

Mr. Hintz joined Reclamation District 108 as the General Manager on January 1, 1994. Prior to accepting the General Manager position with RD 108, he worked as a consulting engineer, specializing in water resource development with the firm of Bookman-Edmonston Engineering, Inc. During his 32-year tenure with Bookman-Edmonston, Mr. Hintz was the manager and principal engineer in conceptual planning, design, construction management, and startup of large-scale irrigation distribution system projects in California, Arizona, and Utah.

Mr. Hintz has extensive experience in planning, construction, and operation of major water facilities involving close coordination and cooperation with federal, state, and local resource agencies. He is a graduate of the University of California, Davis, and is a registered professional engineer in California and several other western states.

Richard Jenness, P.E., District Engineer

Mr. Jenness is a Registered Civil Engineer in the State of California, Consulting Engineer for RD 108, and President of Laugenour & Meikle, Civil Engineers. Mr. Jenness has more than 30 years experience in the planning, design, and construction of water resource projects. He has been involved with planning and has designed fish guidance facilities on the Sacramento River and has been responsible for preparation of fish screen appraisal studies and assists in project management of fish screen projects.

Charles Hanson, Ph.D., Senior Fishery Biologist

Dr. Hanson has more than 25 years of experience in freshwater and marine biological studies and is the Senior Biologist, Principal for Hanson Environmental, Inc. Dr. Hanson has been the senior fishery biologist and environmental permit coordinator for RD 108 830-cfs Wilkins Slough Postive Barrier Fish Screen, RD 108's Fish Screen Reconnaissance Investigation, and Sutter Mutual Water Companies (SMWC) 960-cfs Tisdale Positive Barrier Fish Screen and Pump Station Feasibility Study.

Dr. Hanson has contributed to the study design, analysis, and interpretation of fisheries, stream habitat, and stream flow (hydraulic) data collected in the evaluation of in-stream flow requirements and potential fishery impacts on salmonid spawning, production, survival, and

migration success associated with water project development and operation. Dr. Hanson has conducted site-specific evaluations of the effectiveness of various water diversion screening systems, passage facilities, and operational modifications in reducing organism losses while maintaining operational reliability of the system. Dr. Hanson has been extensively involved in incidental take monitoring and investigations of endangered species, development of recovery plans, consultations, and preparation of aquatic Habitat Conservation Plans. Dr. Hanson also has participated in the development of adaptive management programs including real-time monitoring and management of power plant cooling water and other diversion operations, and the San Joaquin River Vernalis Adaptive Management Plan (VAMP).

Peter Rude, P.E., Construction Manager

Mr. Rude has more than 14 years of experience as an agricultural/civil engineer. He is responsible for managing multidiscipline teams for a variety of fish screen, irrigation, agricultural water supply, water reclamation, and watershed management projects.

Mr. Rude has been the Project Manager for RD 108 Fish Screen Reconnaissance Investigation. He was the design manager for a 10-month, fast-track effort from preliminary design through award of construction contract for RD 108's 830-cfs Wilkins Slough Positive Barrier Fish Screen project. He also managed the construction effort and subsequent hydraulic monitoring and sediment removal facility design. For Tulare Irrigation District, Mr. Rude was the project manager for design, environmental documentation and permitting support, contract documents, bid services, and construction management for lining 9.7 miles of the Main Intake Canal.

D. Cost

1. Budget

Funding estimates for completion of this project require a total budget of $830,000.

RD 108 estimates a total need of $830,000 for FY 2002 (October 1, 2001 through September 30, 2002) as follows:

• Bid Services	$ 10,000
• Construction	$690,000
• Services During Construction	$ 90,000
• Hydraulic Testing	$ 40,000
Total	**$830,000** ($415,000 CALFED, $415,000 USBR)

2. Cost-sharing

The USBR has committed to funding its share of the project and funds are currently available.

E. Local Involvement

Development of the project is proceeding with the regular participation and input from the AFSPTT, USFWS, CDFG, and NMFS. Public meetings and hearings have been held and the project appears to have public support.

F. Compliance with Standard Terms and Conditions

RD 108 will comply with the standard terms and conditions specified in the proposal solicitation package.

G. Literature Cited

CALFED. 2001a. Ecosystem Restoration Program *Draft Stage 1 Implementation Plan.* August.

CALFED. 2001b. Ecosystem Restoration Program *2002 Proposal Solicitation Package.* August.

CH2M HILL. 2001a. RD108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Pilot Study. February.

CH2M HILL. 2001b. RD108 Wilkins Slough Positive Barrier Fish Screen Sediment Removal Facility. Plans and Specifications. August.

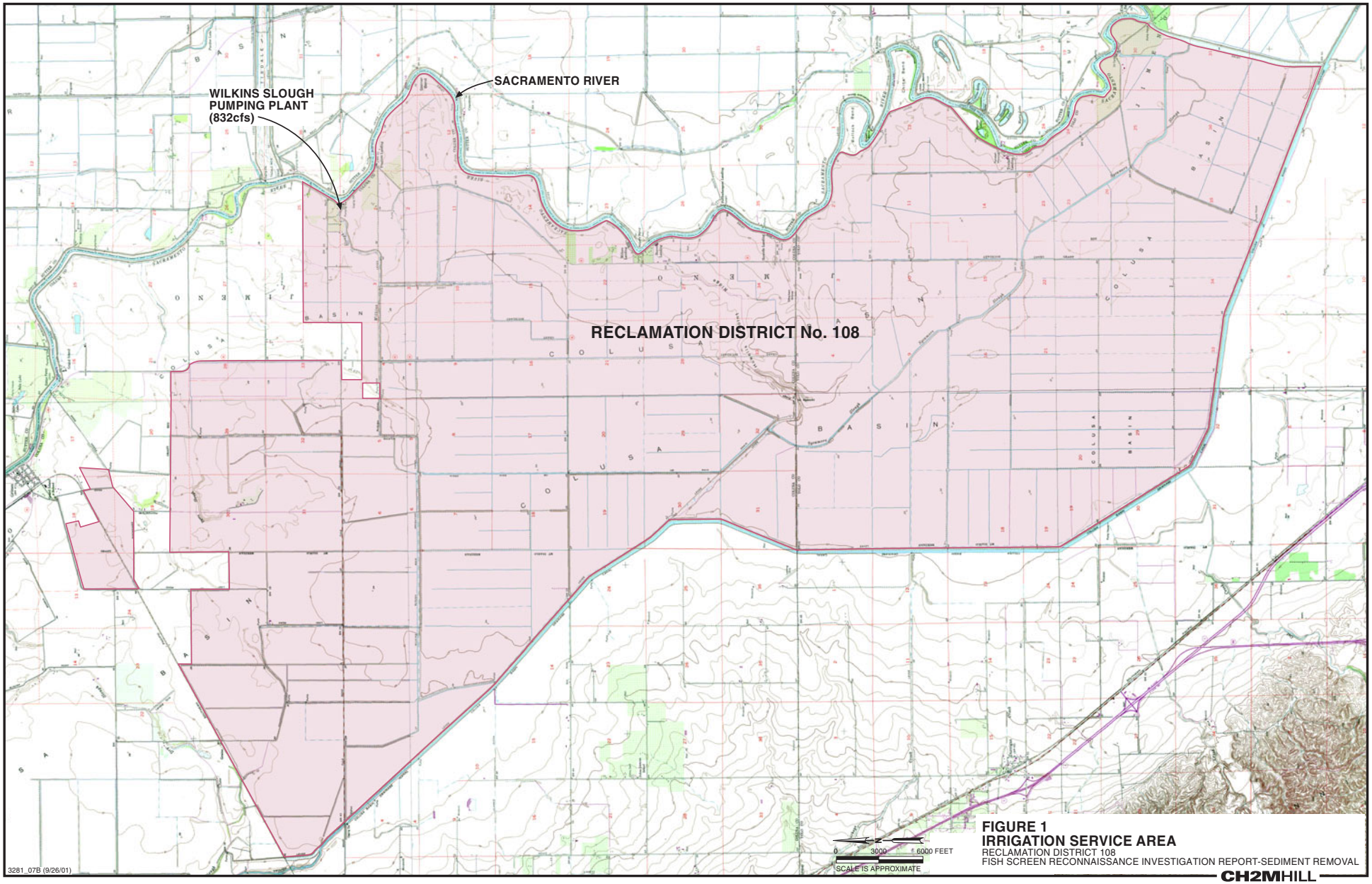

FIGURE 1
IRRIGATION SERVICE AREA
RECLAMATION DISTRICT 108
FISH SCREEN RECONNAISSANCE INVESTIGATION REPORT-SEDIMENT REMOVAL
CH2MHILL