

DWR WAREHOUSE

97 JUL 28 PM 3: 19

 **MOFFATT & NICHOL**  
ENGINEERS

FI-228

July 28, 1997

Ms. Kate Hansel  
CALFED Bay Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, CA 95814

Subject: CALFED 1997 Category III Ecosystem Restoration Project  
M&N File No. 97183

Dear Ms. Hansel:

Transmitted herewith are 10 copies of our proposal for a Wetlands Habitat Restoration Project at Mildred Island on behalf of co-applicants Moffatt & Nichol and the Trust for Public Land, with the cooperation of the owners of Mildred Island.

Thank you for the opportunity to submit this proposal.

Sincerely,

MOFFATT & NICHOL ENGINEERS



Richard Rhoads, P.E.

RR:lg  
Enclosure

c: N. Mathews, TPL  
A. Fong, MILLC Development  
R. Della Maggiore, The Duncan Company

J:\97183\MILDRED\LTRA\*RR.DOC

3000 Citrus Circle, Suite 230, Walnut Creek, California 94598 (510) 944-5411 Fax (510) 944-4732

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MILDRED ISLAND WETLANDS RESTORATION

EXECUTIVE SUMMARY

FI-228  
DWR WAREHOUSE  
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a. Project Title and Applicant Name

Project Title: Mildred Island Wetlands Restoration  
Applicant: The Trust for Public Lands & Moffatt & Nichol Engineers (co-applicants)

b. Project Description and Primary Biological/Ecological Objectives

This application requests funding for the initial phase of a comprehensive effort to a) develop a restoration plan for Mildred Island, b) implement that restoration effort, and c) ensure the continued protection of the property through the acquisition and conveyance of a conservation easement to a public agency or non-profit for stewardship. To this end, the owners of Mildred Island, TPL and Moffatt have entered into a memorandum of understanding to proceed with this application.

*This project considers the restoration of tidal wetlands on Mildred Island which is approximately 1,250 acres in size. The vast majority of the Island is currently flooded with the exception of some perimeter levee remnants. The majority of habitat that presently exists on Mildred Island is considered to be sub-tidal due to the relatively deep water depths contained on the Island. By constructing shallow water and emergent wetland habitats within the boundaries of the Island it is believed that a greater balance of habitat and species population can be achieved. Construction of more shallow water and emergent habitat on the Island will vastly improve the ecological balance. This improvement will not only benefit the immediate ecosystem, but will enhance the overall health of the entire Delta system.*

c. Approach/Tasks/Schedule

*Moffatt will oversee a study of Mildred Island's aquatic and biotic features, and based upon the information gathered, develop a restoration plan for the property. Based upon Moffatt's proposed restoration effort, TPL will negotiate an acquisition of either a conservation easement or fee simple title to the Island. TPL will also work with interested agencies and/or non-profits to transfer long term stewardship of the Island into public or non-profit control.*

*The general approach envisioned for this project calls for assemblance of a team of organizations which can complement each other in their respective areas of expertise in order to engage in a multi-phase program encompassing Planning, Design, Construction and Monitoring phases. This proposal will fund the study and viability of the restoration of tidal and emergent wetlands through the construction of various low level islands within the boundaries of Mildred Island. We envision initially an approximately 6-8 month Planning phase. Subsequent phases would proceed as authorization and funding from CALFED is obtained.*

## MILDRED ISLAND WETLANDS RESTORATION

### d. Justification for Project and Funding by CALFED

This project will advance CALFED's goals related to the restoration of various habitats within the Bay-Delta ecosystem, and for the benefit of specific species which have been impacted by human intrusion into the Delta. This project will promote a majority of the identified priority habitats and consequently benefit a similar majority of the priority species identified in the RFP.

### e. Budget Costs and Third Party Impacts

The proposal submitted herein identifies budgetary costs for use in your consideration of this application. Specific tasks have been identified for this phase of the overall project. Costs for subsequent phases will be determined upon completion of Phase I.

Analysis of third party impacts indicates a project which should provide beneficial impacts such as improved flood protection to adjacent islands, decreased levee maintenance for adjacent islands and improved recreational opportunities. Negative impacts are perceived to be minor since the overall proposed action provides relatively minor departure from the Islands current state.

### f. Applicant Qualifications

The Trust for Public Land has performed numerous similar projects involving the conversion of private lands into public property for habitat and ecosystem protection.

Moffatt & Nichol Engineers has provided engineering related services for numerous large wetlands restoration projects of similar nature. Furthermore, TPL/Moffatt recommends the services of Jones & Stokes Associates, to provide associated wildlife biological and environmental services.

### g. Monitoring and Data Evaluation

Upon completion of the construction phase of the project, TPL/Moffatt will provide a comprehensive monitoring and data evaluation program be instituted so that success of the project can be quantified and the information correlated into a technical report to serve as a basis for future wetlands projects.

### h. Local Support/Coordination with other Programs/Compatibility with CALFED Objectives

The restoration of tidal and emergent habitat in the Delta is consistent with State and Federal agency goals for this ecosystem. The landowner supports this restoration effort as evidenced by our Memorandum of Understanding. Compatibility with the stated CALFED objectives is evidenced by the basic premise of the project wherein tidal and emergent habitats will be restored benefiting many priority species.

# MILDRED ISLAND WETLANDS RESTORATION

## TITLE PAGE

- a. Mildred Island Wetlands Restoration
- b. The Trust for Public Land, Western Region  
Contact: Nelson Mathews  
116 New Montgomery, Suite 300  
San Francisco, CA 94105  
Phone: (415) 495-5660  
Fax: (415) 495-0541  
E-Mail: nelson.mathews@tpl.org  
  
Moffatt & Nichol Engineers  
Contact: Richard M. Rhoads, P.E.  
3000 Citrus Circle, Suite 230  
Walnut Creek, CA 94598  
Phone: (510) 944-5411  
Fax: (510) 944-4732  
E-Mail: mnengrs@ccnet.com
- c. The Trust for Public Land is a non-profit private conservation corporation with tax exempt status.  
  
Moffatt & Nichol Engineers is a private, for profit environmental engineering company
- d. The Trust for Public Land - 23-7222333  
  
Moffatt & Nichol Engineers - 95-1951343
- e. Contact Person - Richard M. Rhoads of Moffatt & Nichol Engineers
- f. See Item B.
- g. RFP Project Group Types  
  
Phase 1.00 Group 3 Services  
Phase 2.00 Group 2 Real Estate Transactions  
Phase 3.00 Group 3 Services  
Phase 4.00 Group 1 Public Works/Construction  
Phase 5.00 Group 3 Services

## MILDRED ISLAND WETLANDS RESTORATION

### PROJECT DESCRIPTION

#### a. Project Description and Approach

In order to carry out the objectives of the CALFED Bay-Delta Program's mission we propose to develop a general plan concerning Mildred Island. The resource management goals of this plan protect and enhance the natural environment for the benefit of wildlife and fish.

In order to ensure these objectives are met, we have formulated a team wherein a professional and technically sound concept can be developed and pursued.

As noted previously, this application requests funding for the initial phase of a comprehensive effort to a) develop a restoration plan for Mildred Island, b) implement that restoration effort, and c) ensure the continued protection of the property through the acquisition and conveyance of a conservation easement to a public agency or non-profit for stewardship. To this end, the owners of Mildred Island, TPL and Moffatt have entered into a memorandum of Understanding to proceed with this application.

The proposed project envisions the conversion of existing deeply flooded subtidal wetlands into emergent wetlands habitat (tidal) and Shaded Riverine Aquatic (SRA) habitat through the creation and establishment of midchannel islands and shoal habitat.

Previous wetlands creation projects performed by the Corps of Engineers at Donlon Island and Venice Cut Island have proven the feasibility of creating islands and shallow intertidal zone habitat using dredged material. While these previous projects have been constructed as a secondary benefit because of a need to dispose of dredged material. Mildred Island can demonstrate that construction of habitat, even in the absence of surplus dredged material, is feasible.

The conversion at Mildred Island will be achieved through the construction of low islands. Utilizing dredged material from either on-site material sources or off-site dredging projects from within the adjacent Delta will be considered on an opportunity basis. Islands will be constructed either as stand-alone features within the Island or attached to existing remnant levees, or both.

While this project provides significant environmental benefits, it also possesses secondary benefits wherein these improvements will enhance the Island's value for passive recreational use as well as offering enhanced wave sheltering to adjacent island levees which currently endure significant damage from wave fetch during high wind events.

## MILDRED ISLAND WETLANDS RESTORATION

### b. Location

Mildred Island is located in the southern Delta near Stockton, California. Mildred Island is an approximately 1,250 acre island which is currently flooded over nearly its entire surface with the exception of some perimeter levee remnants.

Mildred Island is located in western San Joaquin County, reference Exhibits Ia and Ib. Drainage from the San Joaquin River watershed envelopes the Island on all sides. Mildred Island is bounded on the north by Mandeville Island, the east by McDonald Island, the south by Lower Jones Tract and the west by Bacon Island and is presently only accessible by boat.

The Island is currently privately held by six individual landowner's. These landowner's entered into a memorandum of understanding with TPL/Moffatt to pursue this project. Ultimate disposition of the Island, whether conservation easement or in fee, will need to be reviewed based upon the findings presented in the Feasibility/Planning Study. Based on these findings, final resolution pertaining to the ultimate disposition of the land can be determined and a course of action initiated.

### c. Expected Benefits

Mildred Island is currently flooded over nearly the entire area and the rather deep water depths (> 10 feet) limit the habitat profile to mainly subtidal wetlands. If complete, this project will greatly enhance the currently limited wetlands habitats making the Island more consistent with the Delta's original habitat.

A prior study performed by the Corps of Engineers identified the nearly non-existence of shallow-water intertidal habitat in the Delta. The report states that the habitat created by low level islands is much more productive for fish than the deep flooded habitat that it replaced. The shallow water habitat provides more food for fish and waterfowl while providing valuable cover, foraging and breeding habitat for the majority of the fish community.

Through the creation of these shallow water and emergent wetlands habitats, a much broader spectrum of wetlands can be realized. This diversity will range from emergent wetlands through shaded riverine aquatic habitat while still maintaining a significant amount of subtidal wetlands in meandering channels.

Creation of the low level islands will primarily benefit the fall, winter, spring and late-fall runs of chinook salmon along with splittail. Species such as striped bass and migratory birds will benefit by the consequential improvements in the food chain. Also, smaller species receive protection from larger predatory species in the shallow water habitat created.

## MILDRED ISLAND WETLANDS RESTORATION

Water quality improvements should be realized through the natural filtering process which occurs as water passes through the various shallow water plant life such as reed mace and bullrush which remove contaminants. Additionally, shallow water areas will increase the ambient temperature of the surrounding water providing for increases in available food sources and species.

Exhibit II identifies the individual species and habitats which will benefit from this project.

This project will provide for a much more balanced and diverse ecosystem than that which currently exists so as to allow a broader range of species to flourish. The overall diversity of the resident species shall improve as the vegetation continually matures.

### d. Background and Biological/Technical Justification

The technical justification for this project stems from an analysis of the current state of the Delta. The Delta's original habitat contained shallow water emergent wetlands. As development progressed mostly for the purposes of agricultural production, these wetlands were eliminated through the construction of levees for land reclamation. Today, it is estimated that over ninety percent of all wetlands have been lost due mainly to human intrusion.

Accordingly, what remains of these wetlands are numerous narrow and deep channels and sloughs. Such features, while beneficial for agricultural, navigational and recreational purposes, provide for a drastic reduction in the original habitat balance in the Delta.

Creation of proposed low level islands will provide a significant contribution towards the re-establishment of original Delta conditions. This project will provide a substantial basis for the re-establishment of both habitat and aquatic species which have been either eliminated or drastically reduced due to progressive intrusion into the Delta by mankind.

In order to provide a long-standing habitat which is capable of withstanding the erosive forces of natural current flow and wind, we intend to perform suitable hydrologic and climatic studies so as to identify the best feature designs, locations and sizes to withstand the elements. Through this analysis, we will be able to produce a viable and long-standing habitat which is self-propagating.

Similar habitats, constructed on adjacent delta islands, have sustained tremendous success. Research carried out on the previously constructed dredged-material islands at Venice Cut and Donlon Islands indicates the creation of shallow tidal and intertidal habitat clearly benefits the fisheries of the Delta.

## MILDRED ISLAND WETLANDS RESTORATION

Furthermore, in the early 1990's, Moffatt & Nichol performed a similar evaluation of Franks Tract for the State Parks and Recreation Department. The findings of this study clearly support the feasibility of performing such restoration activities at Mildred Island.

The vast majority of water depths at Mildred Island are presently too deep and turbid to permit adequate penetration of sunlight to reach the bottom. This consequently severely limits the food available in the food chain for zooplankton, benthic invertebrates, small fish and waterfowl.

Currently, this Island remains a flooded tract of land with zero agricultural benefits and marginal environmental benefits due to its relatively deep depth. Accordingly, our proposed action should be considered a new project since no similar action is currently being performed.

### e. Proposed Scope of Work

Our proposed project envisions several distinct and identifiable phases of work. Each phase has been identified and associated sub-phases have been detailed in Exhibit III. We have only provided detailed costs for Phase I, Feasibility/Planning, since it is difficult to consider the costs for the remaining phases until completion of Phase I. Therefore, the remaining Phases 2 through 5 are shown only for informational purposes. The specific phases anticipated for this project are:

1. Feasibility/Planning
2. Land Acquisition
3. Design
4. Construction
5. Monitoring/Evaluation

During the Feasibility/Planning phase of the project significant amounts of data shall be gathered. Items such as hydrographic and topographic surveys shall be performed, wind and wave patterns studied, sediment transport analyzed, aquatic species and habitat inventories shall be performed and subsurface geologic conditions will be identified.

Once this information has been gathered, a comprehensive review of the data shall be made and conceptual plans for habitat development shall be generated. Upon completion of these plans, review and feasibility of the proposed concepts shall be performed by a peer review panel consisting of team members possessing diverse backgrounds including marine biologists, environmental engineers, geotechnical engineers, civil engineers and construction engineers. This review will consider the proposed actions potential viability to achieve the stated goals.

## MILDRED ISLAND WETLANDS RESTORATION

Upon completion of the Feasibility/Planning phase, a go or no-go decision would be made prior to undertaking any subsequent phases based on the results determined in the Feasibility/Planning phase. Assuming a go decision is reached, additional funding for the Land Acquisition and Design phases will be pursued from CALFED.

Currently, we envision CALFED entering into a conservation easement with the owner's of Mildred Island. At some point thereafter, title to the land could be transferred to a public agency such as Parks and Recreation, Fish and Game or DWR. Final determination on this matter will be made based upon the results obtained in Phase I.

We believe this project is unique wherein it takes what currently constitutes an "idle" asset, with minimal commercial value and converts it into an active and beneficial environmental asset. This enables the owner's to realize value for their property, provides the public an opportunity to restore original habitat to the Delta and provides beneficial improvements for many of the priority habitats and species identified in the CALFED Bay-Delta program.

The Design phase shall consist of the preparation of detailed design drawings and contract documents for the actual construction of the project improvements.

Upon completion of Phases 2 and 3, funding shall be requested for the Construction phase and ultimately the Monitoring/Evaluation phase.

### f. Monitoring and Data Evaluation

Upon completion of the construction phase a comprehensive monitoring program will be established. This phase will endeavor to determine the levels of success which have been achieved in not only habitat development but also aquatic species. This monitoring phase will be administered over a minimum three year period so as to fully identify the relative success of the project and the benefits achieved.

All information related to this project, from initial design through final monitoring, will be summarized into a technical report for use as a case study and guide in the restoration of Delta wetlands.

### g. Implementability

Wherein this project entails improvements constructed entirely within the boundaries of the subject property, we believe potential for conflict arising from permits, easements, encumbrances and environmental compliance will be minimal.

Since the construction of low level islands will entail the discharge of fill materials into the waters of the State, suitable permits will need to be obtained from the Army Corps of Engineers and the State of California. Materials utilized for fill will

## MILDRED ISLAND WETLANDS RESTORATION

need to be tested for contaminants objectionable to the permitting authorities.

Since the Island has been submerged for many years, it is reasonable to believe the action being proposed is a minor departure from the current state of the Island. The Island is privately held by six landowners all of whom are aware and supportive of this project. Accordingly, we do not perceive any difficulties from a land use point of view.

## MILDRED ISLAND WETLANDS RESTORATION

### COSTS AND SCHEDULE TO IMPLEMENT PROPOSED PROJECT

#### a. Budget Costs

Exhibit III has been prepared which identifies the specific phases and sub-phases of the proposed project. This proposal pursues funding for Phase I only. We have identified the subsequent phases of work for informational purposes.

Currently, we anticipate CALFED providing the entire \$318,000 requested in Phase I. However, preliminary discussions with Department of Water Resources (DWR) indicates, they may have interest in cost sharing the project at some level. Further discussions and a show of interest by CALFED to pursue this project would enhance the possibility of more clearly determining the level of participation from DWR.

Reference Exhibit III

#### b. Schedule Milestones

Exhibit IV portrays the anticipated schedule for the project. We envision billing on a monthly cycle based upon percentages complete for each individual sub-phase of work.

Reference Exhibit IV

#### c. Third Party Impacts

In considering this project for submittal, third party impacts resulting from this study and subsequent construction were reviewed. Our review was able to identify numerous beneficial third party impacts such as:

1. Increased recreational opportunities.
2. Decreased levee maintenance costs for adjacent islands due to wind generated wave damage.
3. Reduced danger of levee failure for adjacent islands from wind generated wave damage.

Potential for negative impacts from this proposed action are not expected. Since the scope of the project changes the current configuration of the Island slightly, the general use of the Island remains relatively unchanged. With this in mind, negative impacts can be considered minor.

## MILDRED ISLAND WETLANDS RESTORATION

### APPLICANT QUALIFICATIONS

#### a. The Trust for Public Lands

The Trust for Public Land (TPL) is a private, nonprofit land conservation organization that works nationwide to conserve land for people. Founded in 1972, the Trust for Public Land specializes in conservation real estate, applying its expertise in negotiation, public finance, and law to protect land for public use. TPL has helped protect more than 1,400 special places nationwide, totaling over 1 million acres and valued at over \$1.4 billion, for people to enjoy as parks, playgrounds, community gardens, recreation areas, historic landmarks and wilderness lands. In addition, TPL's acquisitions have facilitated the restoration of key resources, including, among others, our acquisition of the nearly 17,000 Grass Valley Creek Watershed, which enabled restoration of this sensitive watershed to the Trinity River.

#### b. Moffatt & Nichol Engineers

Development or restoration of wetlands requires expertise in various engineering disciplines. A feasible design draws from the experience of civil and structural engineers, combined with wetland biologists and coordinated with the agencies to form a workable solution.

Key elements involved in a wetlands project include dredging and disposal plan, bridge modifications, tidal inlet design, vegetation plan, utility relocation, hydraulics, and culvert design. Moffatt & Nichol Engineers boasts experience in each of the areas and includes the development and application of hydrodynamic and water quality modeling. Models have been developed and calibrated in wetlands specifically for the design of wetlands. The calibration has been by field testing at Bolsa Chica and Anaheim. Modeling using accurate dynamic algorithms and prototype data are invaluable aids in the design process.

Wetlands occur around bays and in estuaries. Many of these wetlands are exposed to daily tidal action. The rise and ebb of water in tidal marshes produces a zonation of vegetation type determined by both physical and biotic factors. These wetland areas are characterized by an assemblage of plants and animals, an ecological community, adapted to the particular conditions of this transition area between salt water and land.

Design of wetlands is an art which blends biological expertise with engineering methods to develop a plan. Few wetlands have been constructed which have met expectations. This is primarily due to a lack of understanding of the relation of the water level to the habitat desired. While many variables must be satisfied for a productive wetland, communication of the engineering is an important element. Our approach is to coordinate efforts with agencies and wetland biologists to

## MILDRED ISLAND WETLANDS RESTORATION

provide a proper water exchange in terms of tidal ranges and water quality parameters. Grading, sedimentation, plant growth, irrigation and fertilization are also important parameters to incorporate into the design. Moffatt & Nichol Engineers offers a key element in the design team to see that the hydraulics meet project criteria to satisfy the overall objectives of the design.

Moffatt & Nichol Engineers provides a wide range of services, with one of the largest coastal engineering staffs in the United States, complemented by an experienced civil and structural engineering staff, the firm is capable of handling large and diverse engineering projects. We have a rapport with resource agencies and have worked with the leading biologists in the area to study and design wetlands. Wetland designs is a service which Moffatt & Nichol Engineers provide with the same dedication that has earned us respect as a leader in waterfront design projects over the past 45 years. Representative project experience includes:

**Franks Tract State Recreation Area.** Moffatt & Nichol Engineers developed preliminary engineering documents for a manmade island demonstration project that will restore wildlife habitat, provide wave protection benefits, and increase the recreational land base at the popular 3,300 acre island.

**Batiquitos Lagoon Enhancement Project.** Moffatt & Nichol Engineers refined concepts and developed details, criteria and final construction documents and cost estimates for a multi-discipline project to return Batiquitos Lagoon to a productive estuary. The project plan included the creation of a tidal inlet, the construction of two jetties, protection of construction of five bridges and a dredging program in the lagoon to restore the tidal prism, which will promote a stable ocean entrance, provide the desired water quality, and create specific subtidal and intertidal areas. In addition, dredging spoils of sandy material were used as beach replenishment and as fill material to construct nesting sites for least terns and snowy plovers.

**Bolsa Chica Wetland Restoration.** Moffatt & Nichol Engineers designed a wetland restoration plan for over 900 acres of coastal wetlands. Tidal water flow through the wetlands was determined using specialized hydraulic engineering and numerical models. Various tide control structures were designed to provide the desired flow conditions and to restore the wetlands. Moffatt & Nichol Engineers also investigated ocean entrance alternatives for non-navigable tidal inlets and evaluated historical shoreline and tidal boundaries.

**Anaheim Bay Mitigation** Moffatt & Nichol Engineers designed the creation and restoration of 117 acres of wetlands in Anaheim Bay within the Seal Beach Naval Weapons Station for the Port of Long Beach. The project was required to replace critical habitat lost in San Pedro Bay because of port development. The mitigation plan created various types of wetlands and submerged lands, as specified by resource agencies. The details of this project included contour and grading plans for the mitigation sites, the analysis of tidal flushing and water quality

## MILDRED ISLAND WETLANDS RESTORATION

characteristics, the design of culverts as roadways and railroad tracks to accommodate tidal flow to the sites, and relocation of utilities.

### c. Jones & Stokes Associates

**Comprehensive Environmental and Habitat Restoration Experience.** The Jones & Stokes Associates Team is experienced in environmental restoration, including planning, design, and construction. Team members have worked together on numerous projects. Our greatest ability is to integrate restoration opportunities with flood control designs to achieve both flood control protection and environmental restoration. The Jones & Stokes Associates Team provides multidisciplinary services to meet the objectives of natural resource management, habitat restoration and mitigation, and environmental compliance and permitting. Our Team has acquired extensive experience in restoring riparian systems and wetland communities by designing, implementing, maintaining, and monitoring restoration projects throughout California and in the Great Basin. We have developed a habitat restoration philosophy that is a systems-based approach, integrating the vegetation and wildlife resources of the restored habitat into the surrounding landscape and connecting watersheds. Our process for designing habitat restoration plans includes identifying goals and objectives, conducting site analysis, identifying opportunities and constraints, developing alternative plans, and implementing the preferred alternative. We have been involved with creating and restoring over 1,100 acres of wetlands and riparian communities in the last 6 years.

The Jones & Stokes Associates Team has been involved integrally in hydrologic, hydraulic, sedimentologic and geomorphic analyses to support aquatic and terrestrial wildlife restoration and mitigation efforts. Project work ranges from preparation of master plans for stream rehabilitation to specific designs, including riffle drops, meander restoration, current deflectors, thalweg pools, and structural diversion dam modifications to permit fish passage. Representative project experience includes:

**Supplement No. 8 to DM No. 2, Lower American River, California.** Key components of bank protection designs for this project are maintaining ecological values along the river corridor, including consideration of shaded riverine aquatic (SRA habitat); incorporation of fish cover and habitat into the designs; and reestablishment of riparian, woody vegetation on a low-water berm surface.

**Mono Basin Fishery and Stream Channel Restoration, Mono Basin, California.** Project Team engineers and geomorphologists were responsible for hydrologic, hydraulic, sediment transport, and geomorphic analyses of the South Parker, Parker, Walker, Mill, and Wilson stream channels that are tributary to Mono Lake. The purpose of this investigation was to define conditions necessary for reestablishment of stream configurations capable of supporting native fish species.

## MILDRED ISLAND WETLANDS RESTORATION

### COMPLIANCE WITH STANDARD TERMS AND CONDITIONS

Proposal forms required of TPL/Moffatt for Services/Private Contracts are included herein.

With regard to the general terms and conditions deviation is requested for item 9 on page 35 of the RFP. *Indemnification will be provided for general liability risks and for professional errors and omissions in a form consistent with our ability to insure those risks under our insurance coverages.*

**(Please see attached forms)**

## MILDRED ISLAND WETLANDS RESTORATION

Item

## NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME  
The Trust for Public Land

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

## CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California

Bill Rogers

OFFICIAL'S NAME

7/25/97

DATE EXECUTED

EXECUTED IN THE COUNTY OF

San Francisco

PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE

Regional Director, V.P.

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

same

## NONDISCRIMINATION COMPLIANCE STATEMENT

MOFFATT & NICHOL ENGINEERS

COMPANY NAME

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

## CERTIFICATION

*I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California*

RICHARD B. DORNHELM

OFFICIAL'S NAME

7-24-97

DATE EXECUTED

Richard B. Dornhelm

PROSPECTIVE CONTRACTOR'S SIGNATURE

EXECUTED IN THE COUNTY OF

CONTRA COSTAVICE PRESIDENT

PROSPECTIVE CONTRACTOR'S TITLE

MOFFATT & NICHOL ENGINEERS

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Agreement No. \_\_\_\_\_

Exhibit \_\_\_\_\_

**STANDARD CLAUSES --  
SMALL BUSINESS PREFERENCE AND CONTRACTOR IDENTIFICATION NUMBER****NOTICE TO ALL BIDDERS:**

Section 14835, et. seq. of the California Government Code requires that a five percent preference be given to bidders who qualify as a small business. The rules and regulations of this law, including the definition of a small business for the delivery of service, are contained in Title 2, California Code of Regulations, Section 1896, et. seq. A copy of the regulations is available upon request. Questions regarding the preference approval process should be directed to the Office of Small and Minority Business at (916) 322-6060. To claim the small business preference, you must submit a copy of your certification approval letter with your bid.

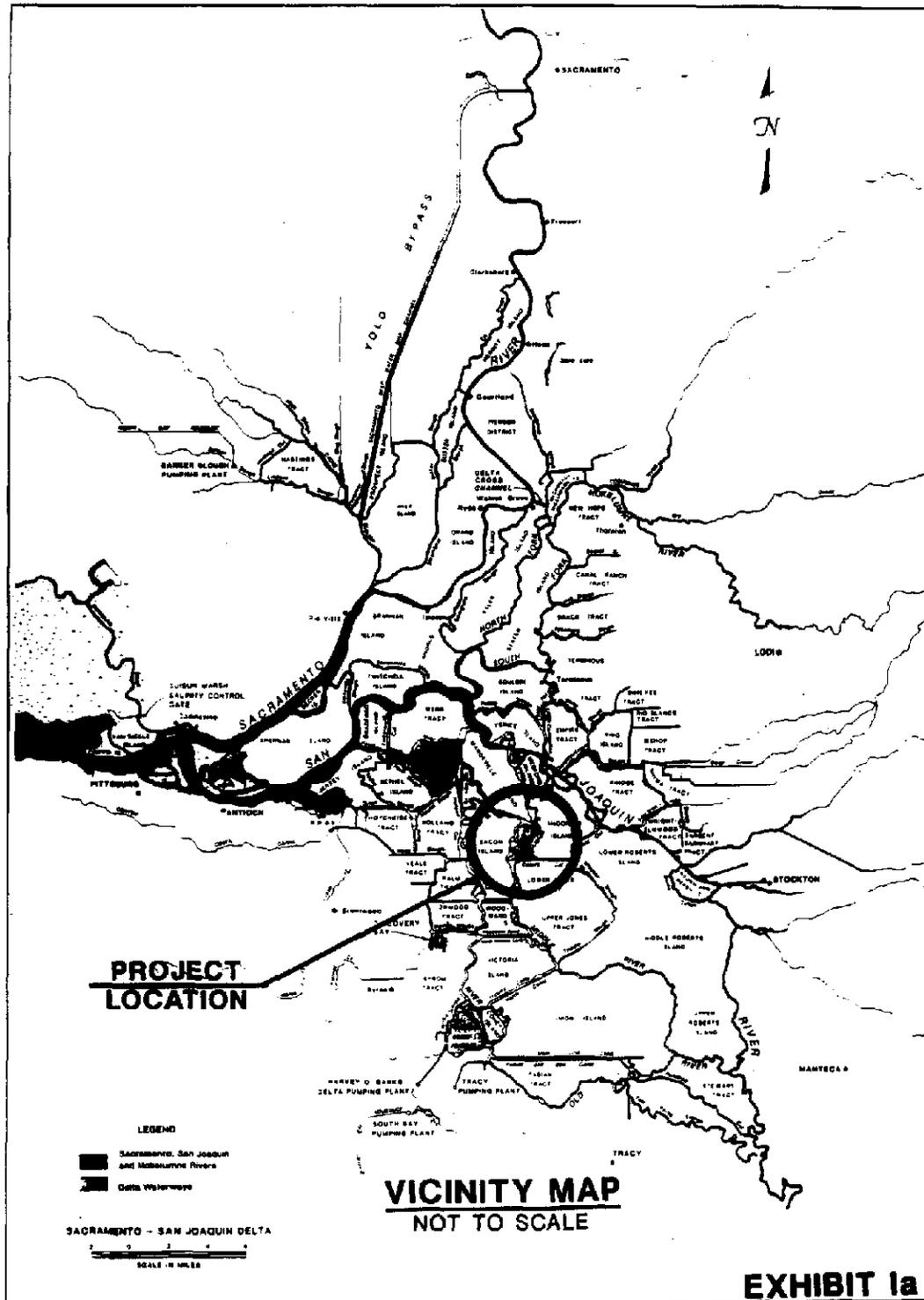
Are you claiming preference as a small business?

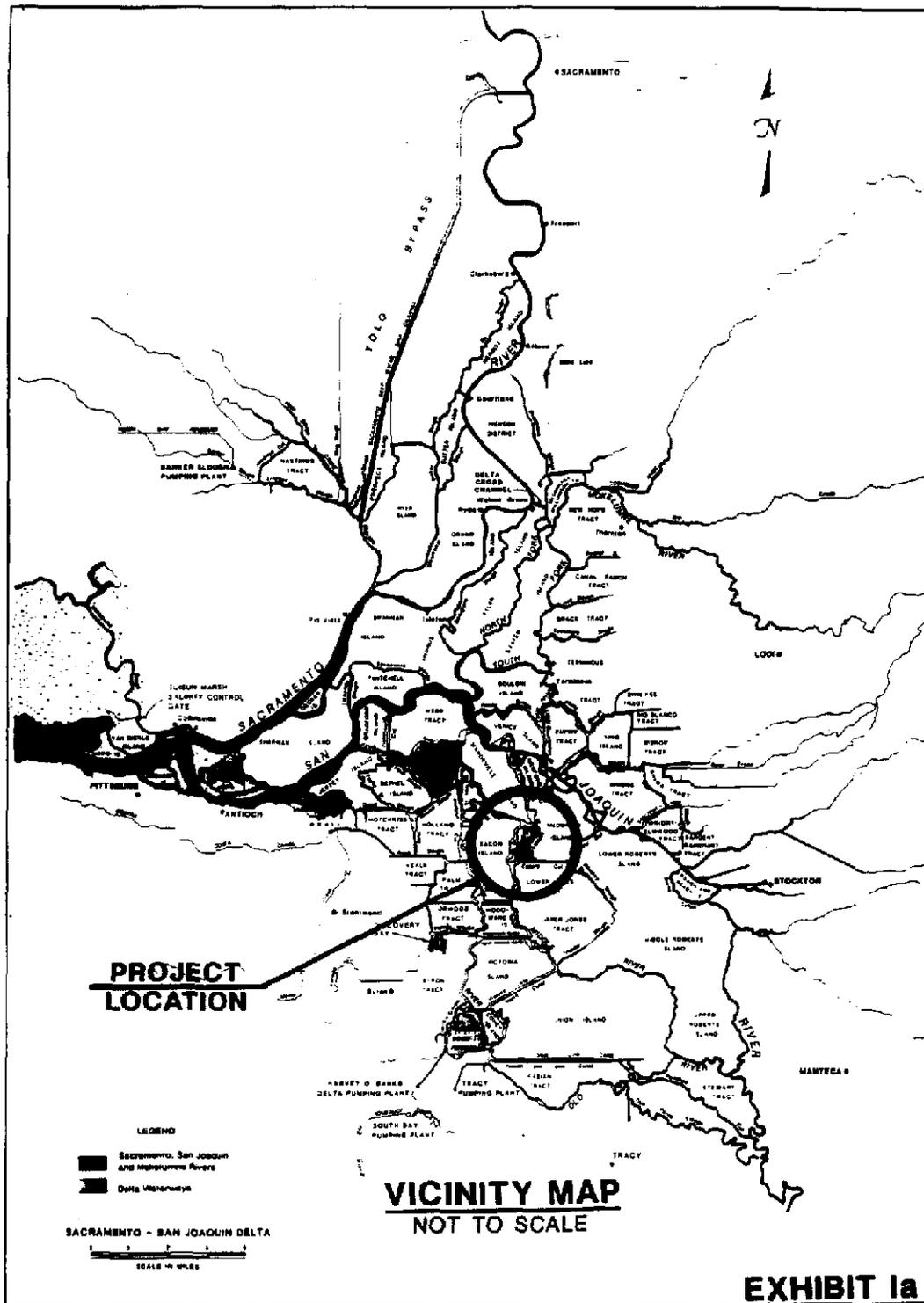
\_\_\_\_\_ Yes\*

No

\*Attach a copy of your certification approval letter.

# EXHIBITS



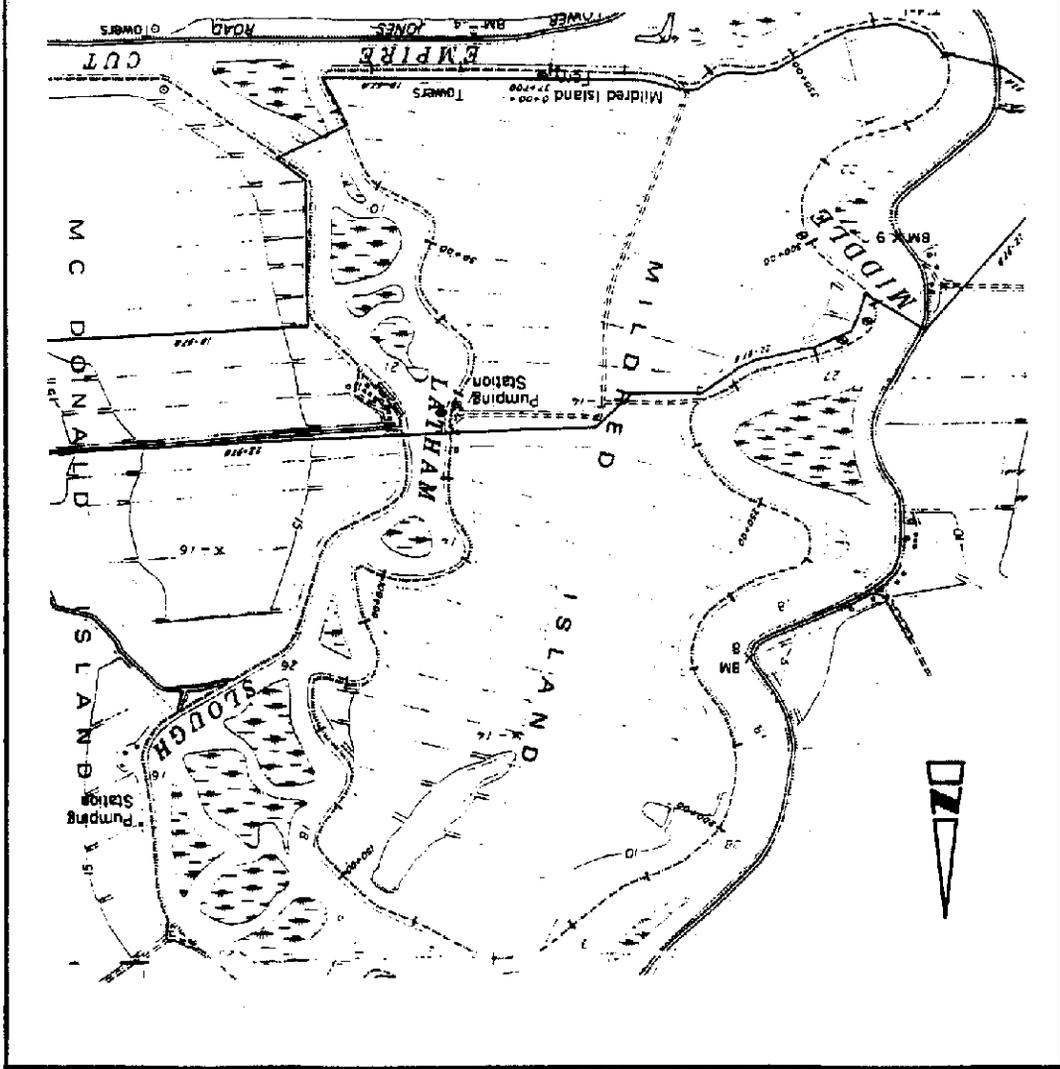


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EXHIBIT 1B

**SITE PLAN**  
NOT TO SCALE



# FRANKS TRACT WETLANDS HABITAT RESTORATION

## BENEFITS FOR PRIORITY HABITATS AND SPECIES

### PRIORITY HABITATS

✓	TIDAL PERENNIAL AQUATIC HABITAT (FRESHWATER)
	SEASONAL WETLAND AND AQUATIC HABITAT
	INSTREAM AQUATIC HABITAT
✓	SHADED RIVERINE AQUATIC HABITAT
	SALINE EMERGENT WETLANDS HABITAT (TIDAL)
✓	MIDCHANNEL ISLANDS AND SHOAL HABITAT
	NORTH DELTA AGRICULTURAL WETLANDS AND PERENNIAL GRASSLANDS

### PRIORITY SPECIES

✓	SAN JOAQUIN AND EAST-SIDE DELTA TRIBUTARIES FALL-RUN CHINOOK SALMON
✓	WINTER-RUN CHINOOK SALMON
✓	SPRING-RUN CHINOOK SALMON
✓	LATE-FALL RUN CHINOOK SALMON
✓	DELTA SMELT
✓	LONGFIN SMELT
✓	SPLITTAIL
✓	STEELHEAD TROUT
	GREEN STURGEON
✓	SECONDARY PRIORITIES INCLUDE STRIPED BASS AND MIGRATORY BIRDS

**EXHIBIT II**

**MILDRED ISLAND WETLANDS RESTORATION - BUDGET COSTS**

Prepared for: CALFED

Prepared by: Moffatt & Nichol Engineers

Submitted: July 28, 1997

28 Jul 97

Phase No.	Item	Direct Labor Hours	Direct Salary and Benefits	Overhead Labor (General, Admin and fee)	Service Contracts	Material and Acquisition Contracts	Miscellaneous and other Direct Costs	Total Cost
			\$ 120	15%			10%	
1.00	Feasibility/Planning Study							
1.01	Topographic Survey	40.00	\$ 4,800	\$ 720	\$ 38,000	\$ 480	\$	\$ 42,000
1.02	Hydrographic Survey	32.00	\$ 3,840	\$ 576	\$ 28,000	\$ 384	\$	\$ 32,800
1.03	Wind & Wave Pattern Analysis	120.00	\$ 14,400	\$ 2,160		\$ 1,440	\$	\$ 18,000
1.04	Sediment Transport & Hydraulic Analysis	200.00	\$ 24,000	\$ 3,600		\$ 2,400	\$	\$ 30,000
1.05	Aquatic Species and Habitat Inventories	24.00	\$ 2,880	\$ 432	\$ 12,000	\$ 288	\$	\$ 15,600
1.06	Subsurface Geologic Investigation	40.00	\$ 4,800	\$ 720	\$ 60,000	\$ 480	\$	\$ 66,000
1.07	Preliminary Permit Planning	24.00	\$ 2,880	\$ 432	\$ 6,000	\$ 288	\$	\$ 9,600
1.08	Conceptual Alternatives Design	200.00	\$ 24,000	\$ 3,600	\$ 24,000	\$ 2,400	\$	\$ 54,000
1.08	Conveyance/Appraisal/Title/Legal Review	16.00	\$ 1,920	\$ 288	\$ 10,000	\$ 192	\$	\$ 12,400
1.10	Report Preparation	200.00	\$ 24,000	\$ 3,600		\$ 2,400	\$	\$ 30,000
1.11	Report Presentation	40.00	\$ 4,800	\$ 720	\$ 1,600	\$ 480	\$	\$ 7,600
	<b>Total Feasibility/Planning Study</b>	<b>836.00</b>	<b>\$ 112,320</b>	<b>\$ 16,848</b>	<b>\$ 177,600</b>	<b>\$ -</b>	<b>\$ 11,232</b>	<b>\$ 318,000</b>
2.00	Land Acquisition							
2.01	Acquire Mildred Island Interest	tbd	tbd	tbd	tbd	tbd	tbd	tbd
3.00	Design							
3.01	Environmental Review Process/Permits	tbd	tbd	tbd	tbd	tbd	tbd	tbd
3.02	Final Design	tbd	tbd	tbd	tbd	tbd	tbd	tbd
	<b>Total Design</b>	<b>-</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
4.00	Construction							
4.01	Construction Costs	tbd	tbd	tbd	tbd	tbd	tbd	tbd
4.02	Project Supervision and Monitoring	tbd	tbd	tbd	tbd	tbd	tbd	tbd
	<b>Total Construction</b>	<b>-</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
5.0	Monitoring/Evaluation							
5.01	Monitoring/Evaluation Program and Report	tbd	tbd	tbd	tbd	tbd	tbd	tbd

**EXHIBIT III**

1-005006

1-005006

1-005007

ID	Task Name	Duration	1988														
			Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May				
1	RFP SUBMITTAL	1d															
2	CALFED REVIEW OF RFP	8w															
3	CALFED FUNDING PROCESS- PHASE 1.00	8w															
4	NOTICE TO PROCEED	1d															
6	<b>1) PHASE 1.00 FEASIBILITY / PLANNING STUDY</b>	<b>132d</b>															
6	TOPOGRAPHIC SURVEY	6w															
7	HYDROGRAPHIC SURVEY	4w															
8	WIND & WAVE PATTERN ANALYSIS	3w															
9	SEDIMENT TRANSPORT & HYDRAULIC ANALYSIS	5w															
10	AQUATIC SPECIES AND HABITAT INVEN.	4w															
11	SUBSURFACE GEOLOGIC INVESTIGATION	8w															
12	PRELIMINARY PERMIT PLANNING	2w															
13	CONVEYANCE/APPRaisal/TITLE/LEGAL/REVIEW	4w															
14	CONCEPTUAL ALTERNATIVES DESIGN	3w															
15	REPORT PREPARATION	1w															
16	REPORT PRESENTATION	2d															
17	CALFED REVIEW/FUNDING-PHASE 2.00 & 3.00	0d															
18	<b>2) PHASE 2.00 LAND ACQUISITION</b>	<b>0d</b>															
19	<b>3) PHASE 3.00 DESIGN</b>	<b>0d</b>															
20	CALFED REVIEW/FUNDING- PHASE 4.00	0d															
21	<b>4) PHASE 4.00 CONSTRUCTION</b>	<b>0d</b>															
22	CALFED REVIEW/FUNDING- PHASE 5.00	0d															
23	<b>5) PHASE 5.00 MONITORING/EVALUATION</b>	<b>0d</b>															

Project: SCHEDULE  
Date: Mon 7/28/97



**EXHIBIT IV**

1-005007