

I. EXECUTIVE SUMMARY

Project Title and Applicant Name: Peytonia Slough Restoration Plan - Applicant is Resource Management International, Inc. (RMI) in association with the Suisun Marsh Natural History Association (SMNHA).

Project Description and Ecological Objectives: Restoration, enhancement and long-term management of a heterogeneous wetland ecosystem consisting of tidal perennial aquatic habitat and saline emergent marshland at the north end of Peytonia Slough adjacent to the California Department of Fish and Game (CDFG) Peytonia Slough Ecological Reserve. Primary ecological objectives are:

- Re-establish the historic mix of wetland habitat types in the slough by removing fill deposited from federal ship channel dredging in the 1940s; restore more natural tidal influence and seasonal hydrological conditions.
- Provide expanded aquatic habitat for key fish species including Delta smelt, Splittail and Longfin smelt.
- Provide expanded habitat for a range of marsh species including migratory birds, and salt marsh harvest mouse.
- Significantly reduce the presence of invasive exotic plant species in the marsh.

Approach, Tasks and Schedule: Our fundamental project approach is to promote a self-sustaining marsh ecosystem through restoration of natural topographic, edaphic and tidal conditions within areas that were filled in the mid-1940s. Tasks are:

- **Task 1: Baseline studies** will expand an existing database from a smaller marsh restoration plan previously completed on the site. This will allow us to develop a site-specific empirical model of the relationships between topography, hydroperiod and vegetation colonization patterns and to model site hydrogeomorphology. (Est. Completion Date - February 1998)
- **Task 2: Alternative restoration designs** will be analyzed with respect to engineering feasibility, cost, consistency with environmental regulations, and attainment of biological goals. (Completion Date - April 1998)
- **Task 3: Draft and final master restoration plans** shall be prepared based on the selected alternative. Following federal/state agency review, a final plan will be prepared and environmental documentation/regulatory approval completed as needed. (Completion Date - July 1998)

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- **Task 4: A wetland mitigation bank** will be established on the site. Mitigation bank payments will reimburse CALFED for up to 45% of project funding, and will also fund a long term operating endowment for the SMNHA Wildlife Center. We shall develop and seek approval for a mitigation banking agreement in accordance with Corps/USFWS guidelines. (Completion Date - February 1999)
- **Task 5: Implementation and monitoring** - Construction bids shall be solicited in August, 1998 and work will be completed in the fall, 1998. Monitoring will last a minimum of five years. (completion of construction - November 1998; completion of monitoring - December 2003)

Project Justification: The project is consistent with CALFED Category III funding requirements because it will provide significant habitat restoration benefits to the adjacent CDFG Peytonia Slough Ecological Reserve as well as the downstream Suisun Slough and Grizzly Bay ecosystems, while supporting the services of a certified non-profit local sponsor (SMNHA). Through our proposed mitigation bank cost-sharing approach, the project will provide a high profile model for public/private/non-profit cooperation.

Budget Costs and Third Party Impacts: Our total CALFED funding request is \$783,632. Estimated reimbursement funds to CALFED will be as much as \$342,000. Third party beneficiaries include the City of Suisun, the Peytonia Slough Ecological Reserve, the Suisun Marsh Protection District, and local and regional schools.

Applicant Qualifications: RMI has successfully designed and implemented wetland restoration plans encompassing over 1,412 acres of similar habitats in the San Francisco Bay-Delta ecosystem. We are establishing two similar wetland mitigation banks in the North Bay, both of which are scheduled to start this fall. Our project manager (George Molnar), in addition to his California experience, established wetland mitigation banks that have restored or enhanced over 130,000 acres inside Everglades National Park.

Monitoring and Data Evaluation: Adaptive management monitoring shall be employed for biological and hydrological parameters. This will allow remedial and management actions to incorporate refinements learned from each year's monitoring. Performance criteria will emphasize attribute development trends toward increased ecosystem resilience.

Local Support & Coordination/Compatibility with CALFED Objectives: The project has the full support of the property owner (SMNHA). The project is fully compatible with CALFED goals. It will provide substantial **ecological benefits** to the Peytonia Slough ecosystem; it will benefit **priority species** (Delta smelt, Splittail, migratory birds) and **priority habitats** (tidal perennial aquatic habitat, saline emergent marsh); and will provide **public outreach benefits** through its association with the SMNHA. Through the proposed mitigation bank that we will establish, the non-profit SMNHA will have a substantial operating endowment, for the first time in its 20-year existence, and CALFED will be reimbursed for a significant component of the funding it provided.

Peytonia Slough Marsh Restoration Project

Prepared for

**CALFED BAY-DELTA PROGRAM
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Prepared by

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**Applicant Type: Taxable Corporation
ID#94-2611224**

Participants/Collaborators: Suisun Marsh Natural History Association

**RFP Project Group Types: Construction; Aquatic and Terrestrial Habitat Restoration;
Monitoring, Assessment and Reporting**

III. PROJECT DESCRIPTION

1. Project Features, Approach and Extent of Project

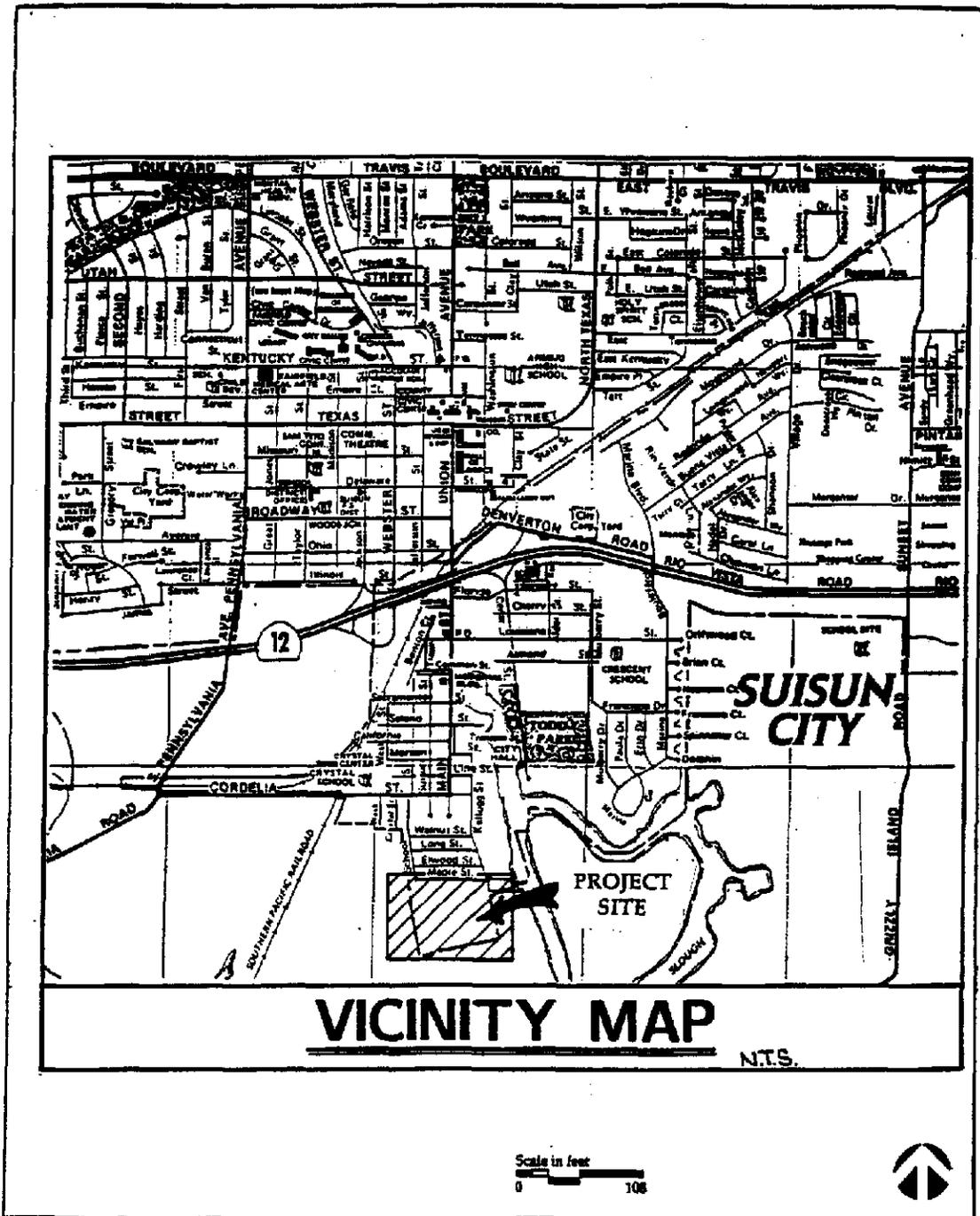
We propose to restore, enhance and provide long-term ecological management of approximately 11.4 acres of existing and former marshlands in Peytonia Slough (Figure 1). A heterogeneous wetland ecosystem will be re-established consisting of tidal perennial aquatic habitat and saline emergent marshland. Our proposed implementation approach involves a public/private/non-profit partnership in which a wetland mitigation bank will be established for the site. The mitigation bank will fund two key project elements: 1) reimbursement to CALFED for implementation costs 2) a long-term endowment to support the operations of the SMNHA Wildlife Center (see Appendix A for information on the SMNHA and its mission).

Existing Conditions. The slough ecosystem in the vicinity of the SMNHA Wildlife Center has a long history of disturbance (Figure 2). Prior to 1943, much of the slough was filled for upland development. Former aquatic habitat and saline marshlands were dredged for creation of a ship channel and dredged spoils were deposited over project area marshland (SCFOSF 1989). Since that time, construction debris and additional dredged materials have been deposited in various locations in the marsh and slough. Most of the remaining marshlands are highly stressed due to highly-altered flow regimes caused by attenuation and blockage of tidal flows from fill and spoil deposits. Indicators of stress include extensive zones of invasive exotic plants (fennel, perennial pepperweed, yellow star thistle and giant reed), and the presence of zones of low-statured, sparse halophytes. The site has been given a high priority for marsh restoration by Solano County (SCFOSF 1989).

In 1995, an approximate 2.52 acre portion of the original marsh was restored and enhanced as off-site mitigation for wetland impacts elsewhere by the Suisun City Redevelopment Agency (EIP Associates 1992). The mitigation also provided partial tidal flushing to an additional 2.4 acres of existing marshland. Subsequent monitoring documented that the mitigation effort has successfully re-established perennial tidal and saline marsh habitats (RMI 1997). Our proposal to CALFED represents a continuation of this pilot restoration effort on a much larger scale.

Project Objectives. Our proposal has the following objectives:

- Re-establish the historic mix of wetland habitat types in the sloughs. Restore more natural tidal influence and seasonal hydrological conditions.
- Provide expanded rearing habitat for priority fish species including Delta smelt, Splittail and Longfin smelt. Provide spawning habitat for splittails.
- Provide expanded habitat for a range of marsh fauna including migratory birds and salt marsh harvest mouse.
- Significantly reduce the presence of invasive exotic plant species in the marsh.
- Establish marsh and cultural resources interpretive facilities (boardwalk, signage, bird viewing areas) for use and management by the SMNHA Wildlife Center.



- Set-up and operate the project as a wetland mitigation bank which will provide funding to reimburse CALFED, cover long-term maintenance costs, and will fund a permanent endowment for operating costs of the SMNHA Wildlife Center.

Proposed Restoration Approach: Our fundamental project approach is to promote a self-sustaining marsh ecosystem through restoration of natural edaphic, topographic and tidal conditions within areas that have been filled or otherwise disturbed. We will rely on natural abiotic and biological successional processes to promote gradual marsh regeneration, rather than attempting to create an "instant marsh" through intensive planting and seeding. Primary restoration methods will entail fill removal, regrading, native substrate restoration (where needed), and excavation of second and third order tidal channels.

Based on our previous experience with marsh restoration at the site and elsewhere in the San Francisco Bay region (RMI 1995, 1996, 1997), successful restoration design will be dependent on understanding elevation/hydrology relationships to vegetation colonization and succession. To that end, we will undertake hydrogeological and biological baseline studies within restored and non-restored portions of the site to reliably predict marsh regeneration patterns under various design alternatives. Alternatives and predicted outcomes will be reviewed with SMNHA and the key state and federal agencies (CDFG, USFWS, Corps, EPA) and a final design alternative will be selected.

Our fisheries biologist (Scott Wilcox of EA, Inc.) will play an important role in wetland and design. Key rearing and spawning habitat dimensions will be integrated into the overall design to minimize the potential for stranding and promote clear water courses for migration back to open waters.

2. Location and Geographic Boundaries

The proposed project is located in Solano County, immediately south of Suisun City at the northern end of Suisun Bay. The surrounding watershed drains to the Suisun Slough/Grizzly Bay system. Geographic boundaries, encompass lands owned by the SMNHA (17.17 acres) adjacent to the Peytonia Slough Ecological Reserve, managed by CDFG.

3. Expected Benefits

Ecological and biological benefits with regard to primary stressors are summarized below and in Appendix B.

Stressor 1: Alteration of Flows - Levees, spoil disposal and drainage ditches have combined to significantly alter the site's hydrology. With the exception of the newly-restored and enhanced wetlands, the project site receives little tidal inflow. Existing wetlands are largely dependent on localized surface runoff and infrequent tidal inundation during extremely high tides (>5.5 feet NGVD). Lack of tidal prism and hydraulic head have prevented the formation of narrow first and second order tidal channels that would serve to flush the site and provide important water bird feeding habitat and juvenile habitat for fish.

The lack of tidal flushing also inhibits the export of litter and nutrients which would benefit detrital and planktonic-based food chains in the adjacent slough ecosystem. In particular nutrient export would benefit annual phytoplankton blooms associated with the entrapment zone in nearby Suisun Bay (Arthur and Ball 1979; Peterson et al. 1975). Under the proposed project, fill will be removed and the area re-graded to elevations suitable for re-establishment of target tidal regimes. Tidal flow will be restored to the entire site through a dendritic network of created and evolving channels.

Stressor 2: Marshplain Isolation - Fill and levees have served to physically isolate the site's remaining wetlands from the adjacent Peytonia Slough. The combination of physical isolation and altered hydrology has greatly reduced habitat quality for marsh-associated fauna. Feeding opportunities for shorebirds (e.g., mudflats) and waterfowl (e.g., productive channel banks, partially vegetated shorelines) are very limited.

Stressor 3: Migration Barriers - Shallow, seasonally-inundated areas suitable as spawning and rearing habitat for fish is inaccessible due to the physical barriers of fill and perimeter levees. Removal of these barriers should promote access for spawning and juvenile rearing by Sacramento splittail. Rearing habitat will also be provided for Delta and Longfin smelt.

Stressor 4: Invasive Exotic Plants - Much of the site's former wetlands are now dominated by dense stands of fennel, yellow star thistle, Bermuda grass, perennial pepperweed, and giant reed. Several individuals of mature tamarisk also occur. Removal of fill and restoration of tidal regimes should eliminate suitable growing areas for most of these infestations. Additionally, long-term management will include an exotic vegetation monitoring and control plan.

Stressor 5: Land Use/Urbanization - Most of the northern reaches of Peytonia and Suisun Slough have been converted to urban uses. The project site forms the southern boundary of the limits of intensive urbanization by Suisun City. As such, it represents a high profile unit of the the bay-delta system where the benefits of ecological enhancement will be readily viewed by the public. The presence of the SMNHA Wildlife Center will allow for well-managed public viewing of the restored marsh and will be an educational asset to local and regional school systems. Our restoration plan will include interpretive facilities (boardwalk, signage, bird viewing structures) to be operated and maintained by the SMNHA.

4. Background and Technical Justification

The site has already been demonstrated to be suitable for wetland restoration. The proposed project represents a continuation of a recently completed restoration plan in which 2.52 acres of perennial marsh and saline wetland habitat have been restored. Our fundamental restoration technique (i.e., fill removal and grading to specified tidal range elevations) is well-founded in experience from numerous other restoration projects. The more challenging aspect of our restoration proposal will be to promote the development of a heterogeneous mix of marsh types with long-term resilience. To accomplish this we will conduct additional site analysis in combination with baseline and monitoring data from the completed restoration work as follows:

- A site-specific model of the relationship of marsh elevations to vegetation types will be prepared. The model will be based on existing topographic surveys and vegetation mapping within random locations throughout the site.
- A hydraulic analysis of the site will predict tidal damping and flow velocities throughout existing and proposed tidal channels under various design alternatives. Water surface elevation height duration curves will be determined to identify potential extent of tidal inundation. The potential for channel formation and migration will be determined based on hydrogeomorphic relationships for water velocities and substrate characteristics.

The project site currently supports three stressed habitat types as follows: 1) fully isolated seasonal marshes having no tidal connection, characterized by sparse halophytic wetland and ruderal species (salt grass, pickleweed, sow thistle, bermuda grass, rabbitsfoot grass); 2) partially isolated perennial marshes subject to extremely muted tidal inflow, and characterized by bulrush, cattails and other emergents; and 3) ruderal uplands consisting of invasive exotic and annual grassland vegetation (e.g., fennel, yellow star thistle, wild oats, riggut brome). Re-introduction of tidal flow in combination with fill removal and the availability of hydrophytic plant seed sources on-site will promote the re-establishment of the following habitats:

- **Tidal Perennial Aquatic Habitat (*Bulrush Series*, as per Sawyer & Keeler-Wolf 1995)** - Approximately 5-8 acres of this habitat will be restored, depending on the final selected restoration design. Based on results from the restoration work already completed on-site, a rapid (2-4 years) colonization by the following species should occur: California bulrush, alkali bulrush, Olney's bulrush and broadleaf cattail. This habitat type will probably be associated with restoration elevations 0.5 foot or more below mean high water (MHW).
- **Saline Emergent Marshland (*Saltgrass/Pickleweed Series*, as per Sawyer & Keeler-Wolf 1995)** - Approximately 3-6 acres will be established. Based on completed restoration results, this habitat type should occur from slightly below MHW to at least 1.5 feet above MHW. Dominant species will likely be saltgrass, pickleweed, fat hen, and brass buttons.
- **Mudflats** - This habitat type is expected to occur intermixed with tidal perennial aquatic habitat on slightly higher elevations where frequent exposure at low tides is likely.
- **Tidal Channels** - One or more primary tidal channel will be excavated which should allow the natural formation of shallow first and second order tidal channels throughout the marsh. Natural erosion processes will create steep under-cut banks providing feeding and cover habitat for shorebirds and waterfowl and rearing habitat for juvenile fish.

5. Proposed Statement of Work

Task 1: Baseline Studies - We will expand existing baseline data from the previous plan to develop a site-specific model of the relationships between topography, hydroperiod and vegetation colonization patterns. We will also conduct a hydrogeomorphic analysis of the site to predict inundation patterns, frequency, sedimentation and erosion processes. This will entail analysis of the existing topographic survey, the placement and monitoring of tidal staff gauges or automatic tide recorders, and soils analysis. Mapping of vegetation associations will be conducted using a sufficient number of randomly-located plots to conduct multivariate analysis such as cluster analysis or ordination approaches. Deliverables will be: (1) baseline conditions report providing

data summaries and the analyses described above; (2) CAD-based vegetation and topographic maps in hard copy and electronic formats; and (3) electronic database in *Microsoft Access* that will become the basis of future monitoring work

Task 2: Define Alternative Restoration Designs - We will examine alternative designs with respect to engineering feasibility, cost, consistency with environmental regulations, and attainment of biological goals. Deliverable will be a report comparing conceptual alternative restoration designs.

Task 3: Draft and Final Master Restoration Plans - A draft master restoration plan shall be prepared, based on the selected alternative. Following federal/state agency review, a final plan will be prepared and appropriate regulatory approvals obtained, as needed. Deliverables will be: (1) draft restoration plan providing details on mitigation design, CAD-based, preliminary drawings, performance criteria, implementation plan, maintenance and monitoring plans, reporting schedule, and potential contingency measures; (2) final restoration plan incorporating revisions based on agency review.

Task 4: Establish Wetland Mitigation Bank - Implementation (as well as a long term operating endowment for the SMNHA Wildlife Center) will be funded by off-site mitigation contributions from Corps Section 404 permit applicants in a defined service area in the same watershed. Deliverables will be: (1) a draft mitigation banking agreement, in accordance with Corps/USFWS/EPA and CDFG guidelines, specifying service area, available credits, compensation ratios, sale and accounting methods, allocation ratios of funds and other required information; (2) Final banking agreement incorporating revisions based on agency review.

Task 5: Implementation and Monitoring - We shall prepare detailed engineering plans and specifications for project implementation. Through our construction management staff, we will contract and manage all construction using an earthmoving firm with experience in wetland construction. Monitoring (see below) will be conducted for a five year period following construction. Deliverables will be (1) as-built plans and report following completion of restoration area construction; (2) annual monitoring reports and mitigation bank accounting reports

6. Monitoring and Data Evaluation

Vegetation Monitoring: We will employ monitoring methods that detect ecosystem development trends characteristic of maintenance and resilience. Such trends may include biomass productivity, soil organic matter accumulation, above ground hydrophytic phytomass. Minimum threshold values for discrete performance criteria will also be monitored. These will provide discrete measurements of habitat or community characteristics and constitute "milestones" of achievement through the restoration process. Values that likely will be monitored include percent wetland plant cover, species composition and hydrological regime. Reference vegetation monitoring sites will be located in adjacent Peytonia Slough tidal marsh areas.

Wildlife and Fisheries Monitoring: Wildlife monitoring will focus on bird utilization and nesting in the restoration area. The ecological development of the mitigation site will be monitored using a relative numbers index of species-use (species richness), species numbers (species diversity) and species similarity indices plotted over time and compared to the reference site. Reference site habitats will be chosen to approximate the structure and functions of the completed development of the mitigation site. Avian counts will assess both species presence and numbers. Relative values of species richness, species diversity, species frequency and species similarity coefficients (Ludwig and Reynolds 1988) will be generated. As the wetland habitat values develop on the site, some or all of these indices should begin to increase and converge toward the values generated on the reference site over the course of the five year monitoring horizon. All data will be analyzed on a seasonal basis to reduce the influence of annual variation due to seasonal migration. A plot of these values from the mitigation site at year five should show a positive slope, and as such, the ecological development of the site can be inferred to be converging toward an acceptable final habitat configuration.

A fisheries monitoring plan will be implemented to develop an index of population size and age class structure in the marsh. Mark recapture or catch-per-unit-effort (CPUE) techniques will be applied in concert with electrofishing of tidal channels. All monitoring work will be conducted in accordance with USFWS protocols and the necessary endangered species permits will first be obtained.

7. Implementability

The project site is owned by the SMNHA which is a co-sponsor of this proposal. A portion of the site's wetlands have been successfully restored under Corps of Engineers Permit 19097E60. A Corps of Engineers wetland jurisdictional determination was approved for the entire site as part of that process. This determination will be updated as needed. Given the previous regulatory approval and success of wetland restoration on the site, the proposed project has a strong chance of being successful. The adjacent property owner (CDFG Peytonia Slough Preserve) is satisfied with the results of the completed restoration on the site and will be regularly consulted as part of the plan development process. The concept of establishing a wetland mitigation bank for the site is consistent with Corps San Francisco District policy. Other key regulatory agencies (USFWS, EPA, CDFG) are encouraging the establishment of mitigation banks (Federal Register 1995).

IV. COSTS AND SCHEDULE

Budget. A detailed project budget is provided in Tables I-11. The total project budget, including construction and five years of monitoring and maintenance is \$783,632. If the proposed mitigation bank is approved and operating successfully, a total of \$342,000 in reimbursement funds to CALFED should be realized.

Schedule. Figure 4 provides the project schedule.

Third Party Impacts. As discussed above, the Peytonia Slough Restoration Project will provide clear long-term benefits to the Suisun Marsh Natural History Association and its Wildlife Rehabilitation Center. A number of third parties will also benefit as described below:

- The **City of Suisun**, which has already used the site for off-site wetland mitigation purposes, recognizes that Peytonia Slough and the greater Suisun Marsh ecosystem is an invaluable natural asset (City of Suisun 1992). The restoration of the degraded portions of Peytonia Slough adjacent to the city's historic downtown/waterfront area will nicely complement the city's on-going redevelopment efforts.
- The **Peytonia Slough Ecological Reserve** lies immediately adjacent to the project site. The restoration of an 11.4 acre wetland with benefits for CALFED priority species will clearly enhance the overall ecological value of the reserve. Moreover, it may be possible in later years to extend the restoration effort to include an approximate 15 acre highly-disturbed fill area located within the Peytonia Slough Reserve adjacent to the project site.
- The **Suisun Marsh Protection District** will benefit from the continued restoration of Peytonia Slough which forms the northern limits of the District. The project area represents "dead-end" slough habitat which has been identified by CALFED as a high priority for improving spawning and rearing of sustainable fish populations (CALFED 1996).
- **Local and regional schools** already benefit from the environmental education opportunities presented by the SMNHA Wildlife Rehabilitation Center. The proposed project will enhance these benefits by improving available funding for the Center and by greatly enhancing marsh and wildlife interpretive infrastructure at the site. Our project plan will include improved trails, a boardwalk and interpretive signage.
- Opportunities for **birdwatching and nature study** in the marsh will also be enhanced by the project.
- A **Pacific Gas and Electric** transmission line corridor (currently non-active) passes through the restoration site. PG&E will be fully consulted as part of the project design process to ensure compliance with their access and maintenance requirements.

TABLE 1: PROJECT BUDGET (1996) - PRYTONIA SLOUGH RESTORATION PROJECT - RMI LABOR

	<i>Direct Salary and Benefits</i>								
	Melmar	B. Foreman	Valerius	Winter	Klugma	J. Foreman	CAD	Clerical	
RMI Direct Labor	\$48.64	\$59.64	\$44.52	\$38.64	\$25.62	\$63.00	\$33.18	\$20.56	
	<i>Hours</i>								
Task 1: Baseline Studies									
1A: Hydrological Analysis	0	4	0	0	0	0	0	0	
1B: Topographic Survey	0	8	0	0	8	0	0	0	
1C: Vegetation Analysis	16	4	16	0	16	0	0	0	
1D: Baseline Report Preparation	24	16	12	0	0	0	24	8	
Task 2: Alternative Designs									
2A: Engineering Feasibility	4	4	0	0	0	0	0	0	
2B: Hydrological Feasibility	4	4	0	0	0	0	0	0	
2C: Biological Benefits Analysis	8	8	0	0	0	0	0	0	
2D: Report Preparation	16	8	0	0	0	0	24	8	
Task 3: Restoration Plan									
3A: Design Analysis	16	8	0	0	0	0	0	0	
3B: Design Drawings	8	0	0	0	0	0	24	0	
3C: Plan Preparation	24	16	0	8	0	8	0	8	
3D: Agency Coordination	16	16	0	0	0	0	0	8	
3E: CEQA/NEPA/EA	40	8	0	0	0	0	16	8	
Task 4: Wetland Mitigation Bank									
4A: Memorandum of Agreement	16	16	0	0	0	0	0	0	
4B: Management Plan	16	8	0	0	0	0	0	0	
4C: Agency Coordination	12	4	0	0	0	0	0	0	
4D: Reporting	12	4	0	0	0	0	0	8	
Task 5: Implementation/Monitoring									
5A: Construction Plans and Specs	4	4	0	0	0	8	0	0	
5B: Construction Oversight & Monitoring	4	4	16	0	16	48	0	0	
5C: Biological Enhancements	4	4	0	0	8	0	0	0	
5D: Maintenance	4	4	0	0	8	0	0	0	
5E: Monitoring Data Collection	8	0	8	0	8	0	0	0	
5F: Account Management	12	0	0	0	0	0	0	8	
5G: Reporting	24	8	16	0	0	0	16	8	
Total Hours	292	160	68	8	64	64	104	64	
Subtotal Direct Labor	\$14,203	\$9,542	\$3,027	\$309	\$1,640	\$4,032	\$3,451	\$1,317	
Indirect (Overhead, G&A, Fee)	\$19,669	\$13,178	\$4,181	\$427	\$2,264	\$5,568	\$4,765	\$1,819	
Subtotal Direct and Indirect Labor	\$33,872	\$22,720	\$7,208	\$736	\$3,904	\$9,600	\$8,216	\$3,136	
	TOTAL LABOR							\$89,392.00	

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TABLE 2: PROJECT BUDGET (1999) - PEYTONIA SLOUGH RESTORATION PROJECT - RMI LABOR

	Mohlar	S. Foreman	Valerius	Winter	Kingma	J. Foreman	CAD	Clerical
<i>Direct Salary and Benefits</i>	\$51.07	\$62.62	\$46.75	\$40.57	\$26.90	\$66.15	\$34.84	\$21.61
RMI Direct Labor	<i>Hours</i>							
Task 5: Implementation/Monitoring								
5A: Remedial Actions	16	8	0	0	8	12	0	0
5B: Exotic Management	12	0	0	0	8	0	0	0
5C: Other Preserve Management	8	4	0	0	16	0	0	0
5D: Monitoring Data Collection	12	8	8	24	12	0	0	0
5E: Reporting	24	8	8	16	0	0	16	8
Total Hours	72	28	16	40	44	12	16	8
<i>Subtotal Direct Labor</i>	\$3,677	\$1,753	\$748	\$1,623	\$1,184	\$794	\$557	\$173
<i>Indirect (Overhead, G&A, Fee)</i>	\$5,092	\$2,421	\$1,033	\$2,241	\$1,635	\$995	\$770	\$239
<i>Subtotal Direct Labor and G&A</i>	\$8,770	\$4,175	\$1,781	\$3,864	\$2,818	\$1,789	\$1,327	\$412
TOTAL LABOR							\$24,935.40	

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TABLE 3: PROJECT BUDGET (000) - PEYTONIA SLOUGH RESTORATION PROJECT - RMIL LABOR									
RMIL Direct Labor	Direct Salaries and Benefits								
	McIntosh	B. Perreault	Valletta	Winters	Kingma	J. Perreault	CAD	Electric	
	\$53,601	\$49,081	\$65,751	\$42,601	\$28,251	\$69,461	\$36,591	\$27,691	
	Hours								
Task 5: Implementation/Monitoring									
5A: Remedial Actions	8	0	0	0	0	8	0	0	
5B: Exotic Management	4	0	0	0	0	0	0	0	
5C: Other Preserve Management	8	0	0	0	8	0	0	0	
5D: Monitoring Data Collection	4	0	8	16	16	0	0	0	
5E: Reporting	16	0	0	12	0	0	8	8	
Total Hours	40	0	16	28	24	8	8	8	
Subtotal Direct Labor	\$2,145	\$0	\$785	\$1,193	\$678	\$556	\$293	\$182	
Indirect Labor (Overhead, G&A, Fee)	\$2,964	\$0	\$1,082	\$1,643	\$934	\$695	\$403	\$250	
Subtotal Direct and Indirect Labor	\$5,109	\$0	\$1,867	\$2,836	\$1,612	\$1,251	\$696	\$432	
TOTAL LABOR									\$13,802.82

TABLE 4: PROJECT BUDGET (2001) - PEYTONIA SLUGH RESTORATION PROJECT - RMI LABOR

	Melnar	S. Foreman	Valerius	Winter	Kingma	J. Foreman	CAD	Critical
RMI Direct Labor	\$56.31	\$69.04	\$51.54	\$44.73	\$29.66	\$72.93	\$38.41	\$23.82
Task 5: Implementation/Monitoring	<i>Hours</i>							
5A: Remedial Actions	0	0	0	0	0	0	0	0
5B: Exotic Management	4	0	0	0	8	0	0	0
5C: Other Preserve Management	4	0	0	0	8	0	0	0
5D: Monitoring Data Collection	4	0	8	16	16	0	0	0
5E: Reporting	16	0	8	8	0	0	8	8
Total Hours	28	0	16	24	32	0	8	8
Subtotal Direct Labor	\$1,577	\$0	\$825	\$1,074	\$949	\$0	\$307	\$191
Indirect Labor (Overhead, G&A, Fee)	\$2,169	\$0	\$1,131	\$1,473	\$1,302	\$0	\$422	\$261
Subtotal Direct and Indirect Labor	\$3,746	\$0	\$1,956	\$2,546	\$2,251	\$0	\$729	\$452
TOTAL LABOR							\$11,679.62	

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TABLE 5: PROJECT BUDGET 2002 - PETYONIA SLOUGH RESTORATION PROJECT - RMI LABOR

RMI Direct Labor	Direct Salary and Benefits						O&M	Clerical	
	Milnes	S. Ferguson	Valerius	Winters	Kangas	J. Foreman			
	\$59,12	\$72,49	\$54,11	\$46,97	\$31,14	\$76,56	\$40,33	\$25,02	
Task 5: Implementation/Monitoring									
5A: Remedial Actions	0	0	0	0	0	0	0	0	
5B: Exotic Management	4	0	0	0	8	0	0	0	
5C: Other Preserve Management	4	0	0	0	8	0	0	0	
5D: Monitoring Data Collection	4	0	8	16	16	0	0	0	
5E: Reporting	16	4	8	12	0	0	8	8	
Total Hours	28	4	16	28	32	0	8	8	
Subtotal Direct Labor	\$1,655	\$290	\$866	\$1,315	\$997	\$0	\$323	\$200	
Indirect Labor (Overhead, G&A, Fee)	\$2,263	\$395	\$1,180	\$1,793	\$1,359	\$0	\$440	\$273	
Subtotal Direct and Indirect Labor	\$3,919	\$685	\$2,046	\$3,108	\$2,355	\$0	\$763	\$473	
	TOTAL LABOR							\$13,348.82	

TABLE 4. PROJECT BUDGET (2009) - PEYTONIA SLOUGH RESTORATION PROJECT - RM LABOR

RM Labor	Direct Labor and Benefits							Hours	Winter	Spring	Summer	Fall	Other
	Mohr	S. Foreman	Valerius	Winters	Kingma	Perman	Clerkin						
Task 5: Implementations/Monitoring													
5A: Remedial Actions	0	0	0	0	0	0	0	0	0	0	0	0	0
5B: Exotic Management	0	0	0	0	0	0	0	4	0	0	0	0	0
5C: Other Preserve Management	0	0	0	0	0	0	4	0	0	0	0	0	0
5D: Monitoring Data Collection	0	0	8	8	16	16	16	0	0	0	0	0	0
5E: Reporting	20	4	8	8	8	8	8	8	0	0	0	0	12
Total Hours	20	4	16	16	24	32	32	0	0	0	0	0	12
Subtotal Direct Labor	\$1,242	\$304	\$909	\$909	\$1,184	\$1,046	\$1,046	\$0	\$0	\$0	\$0	\$0	\$315
Indirect Labor (Overhead, G&A, Fee)	\$1,684	\$412	\$1,230	\$1,230	\$1,601	\$1,415	\$1,415	\$0	\$0	\$0	\$0	\$0	\$426
Subtotal Direct and Indirect Labor	\$2,926	\$716	\$2,139	\$2,139	\$2,784	\$2,462	\$2,462	\$0	\$0	\$0	\$0	\$0	\$741
TOTAL LABOR												\$11,787.97	

TABLE 7: PROJECT BUDGET (1998) - PEYTONIA BLOUGH RESTORATION PROJECT - RMI EXPENSES

	Subcontractors					Other Direct Expenses					
	L. Flehlein Hydrology Subcontractor	A. Leaky Engineering Subcontractor	S. Wilson Fisheries Subcontractor	Management Subcontractor	Construction Subcontractor	mileage \$0.30/mile	printing copying	graphics supplies	field equipment	phone fax	mail fees
Task 1: Baseline Studies											
1A: Hydrological Analysis	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1B: Topographic Survey	\$0	\$0	\$0	\$0	\$0	\$24	\$0	\$0	\$0	\$0	\$0
1C: Vegetation Succession Model	\$0	\$0	\$0	\$0	\$0	\$24	\$0	\$0	\$0	\$0	\$0
1D: Baseline Report Preparation	\$1,000	\$0	\$1,520	\$0	\$0	\$0	\$15	\$50	\$0	\$0	\$20
Task 2: Alternative Designs											
2A: Engineering Feasibility	\$0	\$2,400	\$0	\$0	\$0	\$44	\$0	\$0	\$0	\$0	\$0
2B: Hydrological Feasibility	\$1,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2C: Biological Benefits Analysis	\$0	\$0	\$1,520	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2D: Report Preparation	\$1,250	\$600	\$1,520	\$0	\$0	\$0	\$15	\$50	\$0	\$0	\$20
Task 3: Restoration Plan											
3A: Design Analysis	\$640	\$600	\$0	\$0	\$0	\$24	\$0	\$0	\$0	\$0	\$0
3B: Design Drawings	\$0	\$1,200	\$0	\$0	\$0	\$0	\$0	\$20	\$0	\$0	\$0
3C: Plan Preparation	\$1,500	\$0	\$2,520	\$0	\$0	\$0	\$0	\$100	\$0	\$0	\$0
3D: Agency Coordination	\$0	\$0	\$440	\$0	\$0	\$100	\$20	\$0	\$0	\$50	\$40
3E: CEQA/NEPA/EA	\$0	\$0	\$0	\$0	\$0	\$48	\$120	\$50	\$0	\$25	\$40
Task 4: Implementation/Monitoring											
4A: Construction Plans and Specs	\$0	\$2,400	\$0	\$0	\$0	\$0	\$20	\$20	\$0	\$0	\$0
4B: Earthwork & Grading	\$0	\$0	\$0	\$0	\$467,216	\$0	\$0	\$0	\$0	\$0	\$0
4C: Construction Oversight	\$0	\$0	\$0	\$0	\$0	\$260	\$0	\$0	\$100	\$50	\$0
4D: Biological Enhancements	\$0	\$0	\$1,520	\$4,500	\$0	\$48	\$0	\$0	\$125	\$0	\$0
4E: Maintenance	\$0	\$0	\$0	\$1,200	\$0	\$48	\$0	\$0	\$125	\$0	\$0
4F: Monitoring Data Collection	\$0	\$0	\$0	\$0	\$0	\$48	\$0	\$0	\$125	\$0	\$0
4G: Reporting	\$0	\$0	\$0	\$0	\$0	\$0	\$20	\$20	\$0	\$25	\$20
Subtotal Expense	\$8,140	\$7,200	\$9,440	\$5,700	\$467,216	\$668	\$210	\$310	\$475	\$150	\$140
Administrative Costs	\$1,221	\$1,080	\$1,416	\$855	\$70,082	\$100	\$32	\$47	\$71	\$23	\$21
Subtotal Expenses	\$9,361	\$8,280	\$10,856	\$6,555	\$537,298	\$768	\$242	\$357	\$546	\$173	\$161
TOTAL EXPENSES											\$574,896.36

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TABLE B PROJECT BUDGET (1999-2003) - PEYTONIA SLOUGH RESTORATION PROJECT - RMI EXPENSES

	Subcontractors					Other Direct Expenses					
	L. Fishbain Hydrology Subcontractor	A. Leahy Engineering Subcontractor	B. Wilcox Fisheries Subcontractor	Maintenance Subcontractor	Construction Subcontractor	mileage \$0.30/mile	printing	graphics supplies	field equipment	phone	misc. fees
5A: Remedial Work	\$0	\$720	\$0	\$2,500	\$5,000	\$120	\$0	\$0	\$0	\$0	\$0
5B: Exotic Maintenance	\$0	\$0	\$0	\$7,500	\$0	\$120	\$0	\$0	\$250	\$0	\$0
5C: General Site Maintenance	\$0	\$0	\$0	\$5,400	\$0	\$120	\$0	\$0	\$250	\$0	\$0
5D: Monitoring Data Collection	\$640	\$0	\$2,080	\$0	\$0	\$480	\$0	\$0	\$125	\$0	\$0
5E: Reporting	\$0	\$0	\$3,800	\$0	\$0	\$0	\$100	\$100	\$0	\$75	\$80
Subtotals Expense	\$640	\$720	\$6,080	\$15,400	\$5,000	\$840	\$100	\$100	\$625	\$75	\$80
Administrative Costs	\$96	\$108	\$0	\$2,310	\$750	\$126	\$15	\$15	\$94	\$11	\$12
Subtotal Expenses	\$736	\$828	\$6,992	\$17,710	\$5,750	\$966	\$115	\$115	\$719	\$86	\$92
TOTAL EXPENSES											

TABLE 9: PROJECT BUDGET - PEYTONIA SLOUGH RESTORATION PROJECT - ADDITIONAL COST ITEM

Item	Description	Cost
SMNHA Wildlife Center Endowment	Seed money from CALFED for long-term endowment to cover Wildlife Center public education and marsh wildlife rehabilitation services. (Wetland mitigation bank will provide endowment funds between 1999-2003.)	\$10,000

TABLE 10: PROPOSED MITIGATION BANK INCOME AND REIMBURSEMENT SCHEDULE

Anticipated Per Acre Mitigation Fee:	\$65,000 per acre of mitigation credit for a total of \$741,000 for entire site
Mitigation Fee Distribution:	
<i>SMHNA Endowment</i>	\$25,000 per acre for total of \$285,000
<i>CALFED Reimbursement</i>	\$30,000 per acre for total of \$342,000
<i>Long-Term Maintenance Fund</i>	
<i>Mitigation Bank Administration /Operation</i>	\$6,000 per acre for total of \$68,400
Anticipated Income Schedule by Year:	
1998-1999	\$130,000
2000	\$130,000
2001	\$227,500
2002	\$195,000
2003	\$58,500

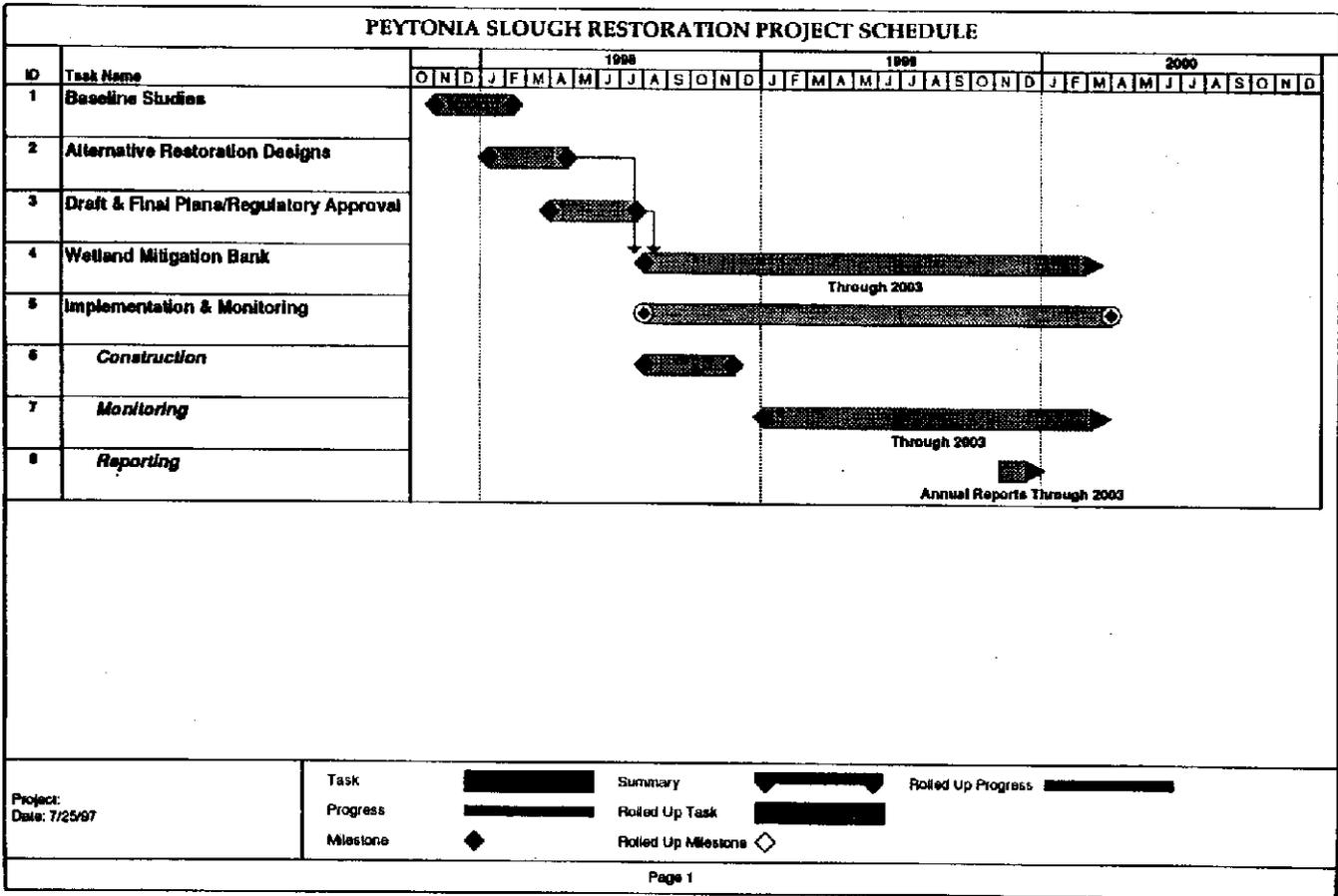
**TABLE 11: PROJECT BUDGET SUMMARY - PETONIA SLOUGH RESTORATION PROJECT
TOTAL CALFED FUNDING REQUEST**

	1998	1999	2000	2001	2002	2003
RMI LABOR	\$89,392	\$24,935	\$13,803	\$11,680	\$13,349	\$11,768
RMI EXPENSES (INCLUDING CONSTRUCTION	\$574,596	\$34,109	\$0	\$0	\$0	\$0
SMNHA ENDOWMENT SEED MONEY	\$10,000	\$0	\$0	\$0	\$0	\$0
ANNUAL TOTALS	\$673,988	\$59,044	\$13,803	\$11,680	\$13,349	\$11,768
TOTAL PROJECT						\$783,632

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V. QUALIFICATIONS

Staff Organization and Participating Parties.

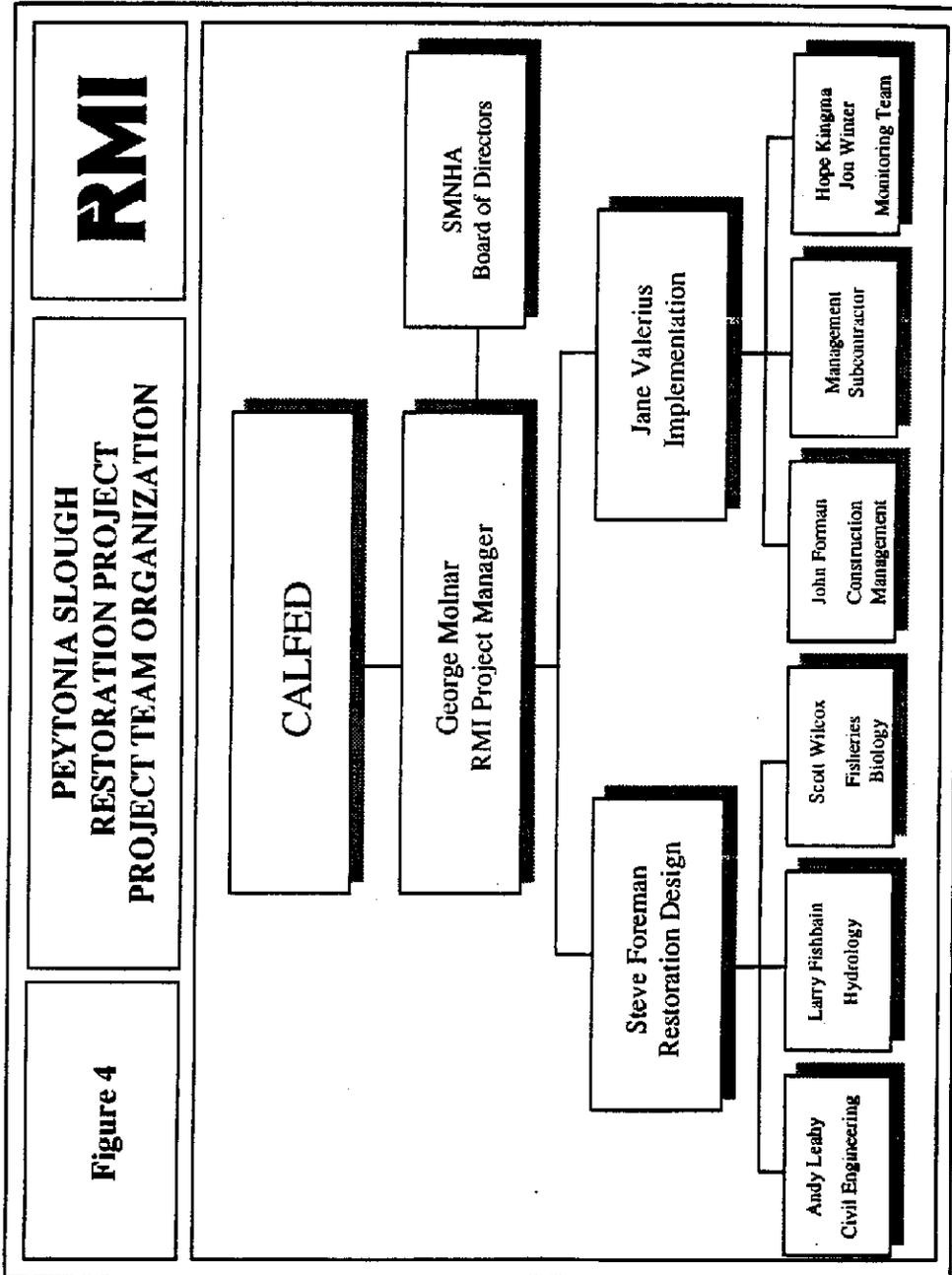
Resource Management International (RMI) and our sponsor, the Suisun Marsh Natural History Association (SMNHA) are jointly proposing to implement the restoration of a portion of the Peytonia Slough wetland system. RMI will act as the prime contractor and will coordinate all activities with the SMNHA Board of Directors. George Molnar of RMI will manage the restoration project and will oversee the activities of the biological, engineering, and planning staff. Construction management activities, however, will be directed by John Forman, RMI's registered engineer (California #E 15252) under RMI's California Class A General Engineering Contractors' License #578517. In addition to RMI's technical and management staff, other participants in the restoration planning, construction, and monitoring include EA Engineering, Science, and Technology (fisheries), Andy Leahy, P.E. (civil engineering) and Larry Fishbain (hydrology). The organization of staff and the relationship and responsibilities of all participants is shown on the next page.

Key Project Team Members. The qualifications of the key management and technical personnel identified in the organization chart are as follows:

George Molnar, RMI's assigned **Project Manager** is a wetlands ecologist who has designed and implemented regional wetland restoration and management projects in California, Florida and Arizona. He has also established regional mitigation banks that are currently restoring over 130,000 acres of wetland habitat. In association with Everglades National Park, he pioneered an innovative wetland restoration approach that is being used to restore over 5,000 acres of abandoned agricultural lands inside the Park and is currently managing RMI's biological monitoring team for this effort, under contract to the National Park Service. He currently manages the biological monitoring team for the Roberts Landing salt marsh restoration project and designed an innovative monitoring approach that detects development trends in key ecosystem attributes.

RMI's Senior Wildlife Biologist, **Steve Foreman**, has led the development of major wetland restoration and management plans in the Bay Area for projects including **Baumberg Tract** (850 acres), **Roberts Landing** (132 acres), **Deep Water Slough Island/Pacific Shores Center** (140 acres), **Palm Tract Waterfowl Mitigation and Management Plan** (1200 acres), and **Potrero Hills Lane Mitigation Plan** (26 acres). Mr. Foreman serves as a technical team member of the San Francisco Bay Ecosystems Goals Project Mammals, Amphibian, Reptile, and Invertebrate (MARI) group.

Scott Wilcox of EA Engineering, Science and Technology, Inc. is a senior fisheries biologist with 17 years experience in aquatic resource impact assessment, habitat quantification and evaluation and fisheries analysis in riverine and estuarine systems. He has conducted numerous aquatic investigations in the Central Valley and Delta involving habitat restoration, fish population censusing and section 7 consultations for Sacramento splittail and Delta smelt.



RMI

**PEYTONIA SLOUGH
RESTORATION PROJECT
PROJECT TEAM ORGANIZATION**

Figure 4

References for Similar Projects. The following examples demonstrate our experience with wetland restoration similar to that of Peytonia Slough.

Baumberg Tract Restoration (Carl Wilcox, California Department of Fish and Game, 7329 Silverado Trail, Napa, California 94558, 707/944-5500). RMI is currently preparing a plan to restore the 850-acre Baumberg Tract to salt marsh and seasonal wetlands in Hayward, California. Extensive hydrological modeling is being conducted to predict tidal regimes under various design alternatives.

Roberts Landing Wetland Mitigation and Enhancement Plan (John Hughes, Citation Homes Central, Post Office Box 58171, Santa Clara, CA 95050-8171, 408/985-6000). RMI designed and is recently implemented a wetland mitigation plan that is restoring salt marsh in 136 acres of a diked historic bayland in San Francisco Bay. The project involved extensive fill removal, hydrological modeling and tidal channel construction, as well as habitat enhancement for shorebirds and salt marsh harvest mouse.

Pacific Shores Center Wetland Enhancement and Mitigation Plan (Peter Brandon, Pacific Shores Center, c/o Koll Investment Management, Three Embarcadero Center, Suite 980, San Francisco, CA 94111, 415/772-5999). RMI designed a mitigation plan, currently undergoing final regulatory approval, that restores and enhances a mosaic of habitat types (salt marsh, salt pan, tidal channel and transitional uplands) on the nearby 140-acre Deepwater Slough Island adjacent to the National Wildlife Refuge.

Burdell Ranch Wetland Conservation Bank (Mount Burdell Enterprises, James McKenney, 880 Las Gallinas Avenue, San Rafael, CA 94903, 415 479-1053). RMI designed a wetland conservation bank, and associated management plan and banking agreement, on 132 acres of private land in northern Marin County that is currently under review by state and federal regulatory agencies. The conservation bank is designed to restore and enhance perennial and seasonal wetland functions and values to an area of diked historic baylands which have been used for livestock grazing and dry-land agriculture for the last 100 years. The conservation bank agreement provides the landowners an economically viable use of their lands while enhancing the diversity, extent, and quality of wildlife and wetland habitats on these lands, as well as adjacent state lands.

Sonoma County Airport Consolidated Vernal Pool Mitigation Area (Sonoma County Public Works Department and Various participating private developers. David Andrews, Aviation Department, 2200 Airport Boulevard, Santa Rosa, CA 95403, 707 527-2421). RMI is currently establishing an offsite vernal pool mitigation area on a 15-acre site at the Sonoma County Airport that will function as a modified wetland mitigation bank. Under the program, bank users who need to perform offsite Section 404 vernal pool mitigation will pay a fee to Sonoma County for the right to do mitigation on the airport site. RMI will implement a master vernal pool

mitigation plan (currently undergoing regulatory approval) and each bank user will be financially responsible for a designated unit of the master plan.

Palm Tract Wetland Restoration Project (Michael McDonald, Transmission Agency of Northern California; 180 Cirby Way, Roseville, CA 95678; 916/781-4200). RMI designed and implemented an innovative mitigation plan that allows a viable agricultural operation to co-exist with restored wetlands in the Delta. Since the project was completed in 1994, it has become a wintering habitat for more than 100,000 waterfowl along the Pacific Flyway each year. The plan included the purchase of a 1,200-acre farm that had been subject to decades of intensive cultivation. The farm was converted to a agricultural/wetland landscape mosaic that provided waterfowl nesting, brood production and early fall food resources, based on a unique use of winter wheat. The project also provides recreational access to the site to take advantage of fishing, hunting and nature study opportunities. RMI also designed, and is currently implementing a nine-year multi-disciplinary biological monitoring plan for the project.

C. Disclosure of Conflict of Interest

Bidder certifies to the State and to CalFed that pursuant to California Public Contract Code Section 10410 (1996) and California Government Code Section 1090 (1996) no officer or employee in the state civil service or other appointed state official will engage in any employment, activity, or enterprise in connection with this Contract. No such officer or employee will receive compensation or has or will have a financial interest in the Contract. Moreover, no members of the Legislature of the state of California, nor any state, county, district, judicial district, and city officers or employees have any financial interest in any Contract.

VI. STANDARD TERMS AND CONDITIONS COMPLIANCE

RMI is in general agreement with the terms and conditions and will be able to comply with such terms with the following exceptions.

- Term of Contract: RMI reserves the right to adjust billing rates for project years exceeding one year duration.
- RMI requests a waiver of consequential damages as an additional condition.
- RMI requests that any retention be paid upon submittal of final product deliverables.
- RMI requests standard *force majeure* relief.

The following submittal requirement forms are attached to this proposal:

- Non-discrimination Compliance Statement;
- Statement of Non-Collusion; and
- Small Business Preference Statement

RMI has a California Class A General Engineering Contractor's License #578517. RMI will provide an appropriate bidders bond for wetlands construction at the time such is required to implement the construction activities.

APPENDIX A
SUISUN MARSH NATURAL HISTORY ASSOCIATION INFORMATION

Suisun Marsh
Natural History
Association

20 years!

The beginnings of the SMNHA and the Wildlife Center were in 1975-76, when founders Jan White, Jerry and Sandy Emanuelson began to care for wildlife as an adjunct to the Fairfield Humane Society. Sandy had been a State

Humane Officer since 1963, and she and Jerry had run the Contra Costa Humane Society. Wildlife seemed like a natural outgrowth of this work, especially since there was no existing way of caring for wild birds and animals from Solano County.

Sandy and Jerry's kitchen became the first wildlife center, with Jan handling the arduous tasks of transport and logistics.

In 1976 Sandy completed her veterinary studies, and on June 27, 1977 the organization was incorporated as Solano County Wildlife Rescue Service - the first of three names to come. Original Board of Directors members

were President Jan White, Janice Magee, Rusty England, M. Clyde Low, Sandy Quintana, Dee Harlow, and Sandy Emanuelson, DVM.

The first Wildlife Center facility was a

crumbling wooden house at 524 Delaware St. in Fairfield, given by Solano County in return for a humane problem animal trapping program.

Its amenities were non-existent to say the least, and started us on a constant effort of building, repairing and improving caging and

facilities that continues today. In 1978 our name became more explanatory and more independent as Wildlife Rehabilitation Service, Inc.

For a short period we were forced to operate without a memorandum of understanding from the Calif. Dept. of Fish

... continued on page 2



The Suisun Wildlife Center Complex & Marsh Restoration

20th ANNIVERSARY

(from page 1)

& Game, which seriously restricted what we were able to care for. A full permit was restored on Feb. 8, 1982, a year in which our name changed once more, to the Suisun Marsh Natural History Association.

1982 also brought one of the most difficult blows for the Association, when Dr. Sandra Emanueison, DVM, founder, Board member, and staff veterinarian, died at 44 of cancer. It was a loss from which we have never truly recovered. We were, however, fortunate in her successor, Dr. Steve Sanders was Sandy's partner, and took over the vital function of our veterinarian, in which capacity he not only provides us with expert medical care and advice but makes it possible for us to obtain many of our needed supplies.

A grant proposal by Executive Director Jan White enabled us in 1983 to begin construction on the first set of public access trails in the Suisun Marsh. These trails greatly assisted us in the environmental education program begun in 1978, and numbering over 6,000 participants annually by 1983. As the Suisun Marsh is the primary area of interpretation for our program, the trails completion in 1984 filled a pressing need.

Fundraisers were a major concern in

1984 as always, and we added the series of Rabies Clinics done in summer for Solano County to our Crafts Faire held in September and our Wildlife Walkathon. 1984 was almost over when on November 8 the USS Puerto Rican exploded off the coast loaded with oil and additives. Over 600 birds were oiled and many of our volunteers went to Fort Cronkite to assist in the cleaning effort. About 20 loons and a few grebes, scoters, and fulmars came to our center, where waterbeds and a pool had to be provided for them.

1985 was a watershed year for the Association. Board President and Executive Director Jan White began veterinary college at UC Davis, and Education Director Monique Liguori took over as Executive Director. Land acquisition and construction funding efforts were underway to build a new Wildlife Center, which was badly needed as City construction projects forced three moves in this year, including twice in one month.

Fortunately, in 1986 the State Coastal Conservancy granted funding for the land acquisition, and with the addition of construction funding through Fish & Game from the Environmental License Plate Fund, we were ready to begin. Programs were continued and animals were transferred to alternate facilities for the short time while we were without one. A contractor was selected and construction began at 1171 Kellogg St., Suisun. Many items were solicited and volunteers and Board members did much of the work to reduce costs.

...continued on page 3

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Quarterly Membership Newsletter of SMNHA
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Volunteers are the Heart
of our success. If you are interested in
• helping our wildlife or
• teaching others about nature
give us a call.
Join the cause !!

20th ANNIVERSARY

(from page 2)

Animal care began in the new facility in 1987, which we named on completion: the Sandra Emanuelson DVM Memorial Wildlife Center.

Its 2000 square feet with exam room, predator and prey wards, isolation wards, kitchen, utility rooms, water bird room, radiology, pathology and intern's residence, have been a dream come true. In 1988 Board members and volunteers constructed a large outside aviary for ducks, birds of prey and other species.

Education programs were continuing to grow as facilities did. In 1986 grant funding was applied for by Education Director Monique Liguori and Fairfield-Suisun Mentor Teacher

Diana Nolan to provide Suisun Marsh education to all third graders in the FFSS School District. New programs on Hummingbirds, Jepson Prairie vernal pools, and Rockville Hills Park were added. In 1988 the Suisun Marsh program was made part of the Fairfield-Suisun School District curriculum for the third grades. Diana Nolan also helped in 1989 to create "Pennies For Wildlife", a program where students can contribute to Wildlife Center costs. Today, we have surpassed 100,000 participants in our environmental education programs.

1990 saw the departure of Jan White as Board President and Jerry Emanuelson assumed that position. Jan's many accomplishments in wildlife care and oil spill work, as well as her work for the International Wildlife Rehabilitation Council and many other groups, have greatly benefited wildlife rehabilitation as a field.

A new milestone was reached in 1991 with the first full-time Rehabilitation Director. This provided badly needed supervision and continuity for animal care at the Center. In August 1992, Board member and volunteer Dana Rice took over the Rehabilitation

...continued on page 6



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- HOT DOG Machine (vending)
- High clearance Lawnmower
- Gas Welder (for fire control)

Give us your
CANS & BOTTLES
We'll put them to good use!

20th ANNIVERSARY

(from page 3)

Director position. Having full-time Rehab Directors has enabled us to greatly improve both our volunteer training and care levels.

In 1992 an exciting newcomer to the Board of Directors was Mutual of Omaha's Wild Kingdom co-host Peter Gros. Board members have contributed in great measure to the success of the organization over the years. Board member Lisa Burton created one of our most popular fundraisers in 1993 with the Baby Animal Shower, held in May. At this event we are able to show the public how we care for some of the baby animals we receive in large numbers in the spring and summer months.

A big step forward took place in 1993 as we undertook with the City of Suisun to restore tidal marshland on Wildlife Center property. Board President Jerry Emanuelson worked with the City to create this mitigation project, which now provides enhanced habitat for wildlife and will be part of our expanded trails system. A large exercise flight aviary for birds of prey was also completed in 1993.

The Association went on line in 1994 with Internet Web Pages, one of the first wildlife centers to do so thanks to the work of Board member Tim Liguori. Our over 40 web pages provide information on wildlife rehabilitation, natural history subjects and environmental education. An information source and guide for the public, the pages have been accessed by visitors from 27 countries, recognized by several rating organizations and featured on KRON-TV, Channel 4 in San Francisco. The Web Pages also include our quarterly newsletter, the Otter Chatter. Find us at

<http://community.net/marsh>.

Peter Gros gave us a thrill in 1996 when he agreed to perform at "An Evening With Peter Gros" at the Fairfield Center for Creative Arts. Peter brought film clips and

bloopers from his trips for Mutual of Omaha, and presented many live animals, including a cheetah loaned by Marine World. It was a fun and informative evening for those lucky enough to be there, and a kind and generous gift of time from Peter.

Another boost for the organization in 1996 was the formation by Rehab Director Dana Rice and Volunteer Coordinator Melody Crimenden of Ollie's Angels, a committee of volunteers with the goal of increasing outreach to the public and raising awareness of the Wildlife Center, which they have already done in many ways. With Center mascot Ollie the Otter (created by Board member Lisa Burton), the committee brings information and fun to events all over Solano County.

So now in 1997 we find ourselves at 20 years. Much has been done which is not covered here, and much is still being done. New education programs, new cages and housing, fundraisers and special events continue all the time. The past 20 years has been very exciting - and the future looks even more promising. Join us for the next:

20 years!

The Otter
Nature Store



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APPENDIX B
Summary of Project Benefits with Respect to Primary Stressors

Project Benefits	Stressor				
	Stressor 1: Alteration of Flows (Project will restore tidal flushing to entire site.)	Stressor 2: Marshplain Isolation (All isolating conditions on the site will be eliminated)	Stressor 3: Migration Barriers (Migration barriers into the marsh will be removed)	Stressor 4: Invasive Exotic Plant Infestations (Removal of fill and subsequent management plan will control exotic plants)	Stressor 5: Land Use-Urbanization (Project will enhance public access for nature study and marsh viewing)
<i>Restored and enhanced habitat for migratory and resident shorebirds, waterfowl and wading birds.</i>	Removal of fill will promote priority habitats for these species (perennial aquatic, saline emergent marshland).	Access to restored and existing habitats will be improved.		Quality of existing and restored habitat will be enhanced and protected through invasive exotic vegetation management.	Historic wetlands adjacent to downtown Suisun City will be restored.
<i>Restored and enhanced habitat for salt marsh harvest mouse</i>	Growth of pickleweed marsh will be promoted. Very large size of surrounding marsh should make site suitable for this species.				
<i>Spawning and juvenile habitat for Sacramento splittail</i>	Shallow tidal channels and seasonally inundated marshes should provide good habitat for this fish species.		Fish migration into and out of dead end slough/marsh will be enhanced.		

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APPENDIX B
Summary of Project Benefits with Respect to Primary Stressors

	Stressor				
	Stressor 1: Alteration of Flows	Stressor 2: Marshplain Isolation	Stressor 3: Migration Barriers	Stressor 4: Invasive Exotic Plant Infestations	Stressor 5: Land Use- Urbanization
Project Benefits	<i>(Project will restore tidal flushing to entire site.)</i>	<i>(All isolating conditions on the site will be eliminated)</i>	<i>(Migration barriers into the marsh will be removed)</i>	<i>(Removal of fill and subsequent management plan will control exotic plants)</i>	<i>(Project will enhance public access for nature study and marsh viewing)</i>
<i>Juvenile habitat for Delta smelt and Longfin smelt</i>	Shallow tidal channels and seasonally inundated marshes should provide good habitat for these fish species.		Access barriers (fill) for fish will be removed. Access into internal marsh will be enhanced		
<i>Enhanced detrital and nutrient exchange with Peytonia Slough and Grizzly Bay</i>	Improved tidal flushing should allow regular pulses of detrital and nutrient outflow.				

APPENDIX B
Summary of Project Benefits with Respect to Primary Stressors

	Stressor				
	Stressor 1: Alteration of Flows <i>(Project will restore tidal flushing to entire site.)</i>	Stressor 2: Marshplain Isolation <i>(All isolating conditions on the site will be eliminated)</i>	Stressor 3: Migration Barriers <i>(Migration barriers into the marsh will be removed)</i>	Stressor 4: Invasive Exotic Plant Infestations <i>(Removal of fill and subsequent management plan will control exotic plants)</i>	Stressor 5: Land Use-Urbanization <i>(Project will enhance public access for nature study and marsh viewing)</i>
Project Benefits					
<i>Enhanced marsh interpretive benefits to the public</i>					An interpretive infrastructure will be constructed. Proximity to Suisun City and association with the Wildlife center will provide a high profile project for CALPED.
<i>Enhanced long-term marsh management</i>	Improved habitat will benefit the adjacent CDFG Peytonia Slough Ecological Preserve and the greater Suisun Marsh Protection District.			Invasive exotic species will be eliminated from much of the site.	

APPENDIX B
Summary of Project Benefits with Respect to Primary Stressors

Stressor					
	Stressor 1: Alteration of Flows	Stressor 2: Marshplain Isolation	Stressor 3: Migration Barriers	Stressor 4: Invasive Exotic Plant Infestations	Stressor 5: Land Use-Urbanization
Project Benefits	<i>(Project will restore tidal flushing to entire site.)</i>	<i>(All isolating conditions on the site will be eliminated)</i>	<i>(Migration barriers into the marsh will be removed)</i>	<i>(Removal of fill and subsequent management plan will control exotic plants)</i>	<i>(Project will enhance public access for nature study and marsh viewing)</i>
<i>Long-term source of funding for rehabilitation of marsh wildlife</i>					Mitigation bank will provide endowment for SMNHA Wildlife Center, which provides environmental education and wildlife rehabilitation benefits to the public.

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non-tidal current mill zone in Northern San Francisco Bay. *Estuarine and Coastal Science* 3:1-11.

Solano County Farmlands & Open Space Foundation (SCFOSF). 1989. Solano County marsh mitigation program. Prepared for Solano County and the State of California Offshore Energy Assistance Program.

non-tidal current null zone in Northern San Francisco Bay. Estuarine and Coastal Science 3:1-11.

Solano County Farmlands & Open Space Foundation (SCFOSF). 1989. Solano County marsh mitigation program. Prepared for Solano County and the State of California Offshore Energy Assistance Program.

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME

RESOURCE MANAGEMENT INTERNATIONAL, INC.

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.

OFFICIAL'S NAME

BOOKER HOLTON

DATE EXECUTED

JULY 28, 1997

EXECUTED IN THE COUNTY OF

MARIN

PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE

VICE PRESIDENT

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

RESOURCE MANAGEMENT INTERNATIONAL, INC.

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) 322-5060. 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* XXX No

*Attach a copy of your certification approval letter.

**NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY
 BIDDER AND SUBMITTED WITH BID FOR PUBLIC WORKS**

STATE OF CALIFORNIA)
)ss
 COUNTY OF MARIN)

BOOKER HOLTON
 (name) being first duly sworn, deposes and
 says that he or she is VICE PRESIDENT
 (position title) of
RESOURCE MANAGEMENT INTERNATIONAL, INC.
 (the bidder)

the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

DATED: JULY 28, 1997 By Booker Holton
 BOOKER HOLTON (person signing for bidder)



(Notarial Seal)

Subscribed and sworn to before me on

Traci Hanson
 TRACI HANSON (Notary Public)