A Proposal for 1997 Category III Funding

LOVERS LEAP VEGETATION MANAGEMENT PROJECT

Prepared for

CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
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Prepared by

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28 July 1997

I. Executive Summary

a. **Project Title:** Lovers Leap Vegetation Management Project
Applicant Name: Carl Mesick Consultants

b. Project Description and Primary Biological/Ecological Objectives

The goal of this project is to lessen competitive pressure by introduced exotic plant species on native species on thirteen acres of degraded riparian woodland along a highly used section of chinook salmon spawning habitat in the Stanislaus River. The biological objectives for this site, which is a few miles downstream from Knights Ferry, include decreasing the abundance of weedy pest plants, increasing the marsh component along the riverbank and lower floodplain, increasing the overstory canopy and mitigating the lack of natural cottonwood regeneration. Himalayan blackberry, tree-of-heaven, fig, yellow star thistle, sweet white and yellow clover, cocklebur, beggar's tick, beggar's lice and annual grasses will be repeatedly cut out over the course of three years using gas-powered hedge shears, weedeaters and chain saws. Poison oak, although not an exotic, will be cut out and spot-sprayed with herbicide. Anise will be dug out in order to remove the taproot. In places where sandbar willow shrubs are found surrounding and suppressing native riparian tree seedlings and saplings, they will be cut out. Removing the immediate sandbar willow in their vicinity will release these young trees and accelerate the development of a more complex two-tiered canopy than presently exists. The revegetation component of this project involves planting two species: Fremont cottonwood and blue elderberry.

c. Approach/Tasks/Schedule

This project will begin in November 1997 with Task 1 which will document the pre-project vegetation community at the project site. The exotic vegetation will be removed by repeatedly cutting and/or digging the plants out in December 1997, early April 1998, late May 1998, and November 1998 (Task 2). Between winter and summer 1998, the site will be fenced to control grazing and to auger holes for planting (Task 3). The first post-project monitoring will be conducted in June 1998 (Task 4). In April 1999, a fifth cut of exotic vegetation will be made and a grazing schedule will be developed (Task 5). In June 1999, the second post-project monitoring will be made (Task 6). In April 2000, the sixth and final cut of exotic vegetation will be done (Task 7). In June 2000, the third post-project monitoring will be completed (Task 8).

d. Justification for Project and Funding by CALFED

The Lovers Leap Vegetation Management Project meets the 1997 Category III funding criteria by restoring shaded riverine habitat that will benefit the fall-run chinook salmon population in the Stanislaus River. The Lovers Leap Project site has been extensively degraded by grazing and recent riparian forest clearing and earth moving in preparation for gravel mining. Competition from introduced plants on the project site is a major stressor to the ecological health of this shaded riverine habitat. Restoration of native riparian species will also help alleviate the sedimentation problem resulting from the earth moving. The chinook salmon population in the Stanislaus River has declined to levels well below the average number observed in the Stanislaus between 1967 and 1991 and below the current populations in the other San Joaquin tributaries. This indicates that the Stanislaus' population and habitat are in very poor ecological health.

e. Budget Costs and Third Party Impacts

Task 1	Pre-Project Monitoring	$ 2,800
Task 2	First Year Cut & Plant	$32,500
Task 3	Fence Construction	$20,470
Task 4	First Year Monitoring	$ 3,400
Task 5	Second Year Cutting	$ 6,200
Task 6	Second Year Monitoring	$ 3,400
Task 7	Third Year Cutting	$ 6,200
Task 8	Third Year Monitoring	$ 3,400
	GRAND TOTAL	$78,370

f. Applicant Qualifications

Carl Mesick Consultants (CMC) is a certified small business that has been conducting fishery investigations and restoration planning in California since 1992. CMC's personnel are highly experienced professionals in fisheries, botany, revegetation, aquatic biology, and watershed analysis. We have conducted vegetation management projects at The Nature Conservancy's Cosumnes River Preserve, Traverse Creek and Bridle Veil Picnic Area on the Eldorado National Forest, Crawford Ditch, Ringold and Hangtown creeks in Placerville, and Camerado-Blue Oak School Nature Area in Cameron Park, California. The above projects all utilized the techniques proposed for this project.

g. Monitoring and Data Evaluation

The proposed monitoring approach utilizes both photo points and circular plots. Fifteen photo points will be established at regular 350-foot intervals parallel to the stream using redwood stakes as markers. Photos of the vegetation will be taken from the four compass points. Three permanent circular plots will be non-randomly selected in each of the five representative subtypes of vegetation that have been characterized according to distance from the river. These subtypes include 1) upslope lupine and annual grasses; 2) levee base; 3) mature riparian trees; 4) sandbar willow thickets; and 5) marsh bank.

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

The Stockton East Water District and the U.S. Army Corps of Engineers management at Knights Ferry have endorsed this project. This proposal will be circulated among the Stanislaus River Basin Stakeholders for comment prior to the execution of a CALFED contract.

This project is compatible with CALFED objectives as it will directly help restore a high priority habitat as well as provide secondary benefits to a high priority species that is at risk without impacting water management.

I. TITLE PAGE

a. Title of Project: LOVERS LEAP VEGETATION MANAGEMENT PROJECT

b. Name of applicant/principal investigator:

Carl Mesick Consultants
7981 Crystal Boulevard
El Dorado, California 95623
Phone: (916) 620-3631
Fax: (916) 620-3634
E-mail: cmcfish@innercite.com

c. Type of organization and tax status:

Taxable sole proprietorship providing consulting services.

d. Tax identification number: 68-0383167

e. Technical contact person: Ms. Rosemary Carey
Financial contact person: Dr. Carl Mesick

f. Participants/collaborators in implementation:

The Stockton East Water District is contributing $2,000 a year toward monitoring costs for a total contribution of $8,000. Their address is 6767 E. Main Street, P.O. Box 5157, Stockton, California 95205-0157; phone: (209) 948-0333; fax: (209) 948-0423.

g. RFP Project Group Types

All tasks proposed by Carl Mesick Consultants are defined as Services (Group 3). Task 3, fence construction, will be a Construction Project (Group 1). Carl Mesick Consultants will obtain at least three competitive bids before selecting the subcontractor for Task 3.

III. PROJECT DESCRIPTION

a. Project Description and Approach

This project will restore the native riparian vegetation along approximately 13 acres on the Stanislaus River in an area heavily invaded by aggressive exotic plant species. We propose cutting back introduced exotics in order to lessen competitive pressure on existing native riparian trees, shrubs, herbs, grasses, sedges and rushes.

A low-intensity, long-term vegetation management project will be implemented that repeatedly cuts Himalayan blackberry, tree-of-heaven, star thistle, sweet white and yellow clover and annual grasses to gradually weaken and lessen the abundance of these exotic species while stimulating the growth of native species that are present on this site but are currently suppressed. This technique has been successfully used at The Nature Conservancy's Cosumnes River Preserve, Traverse Creek on the Eldorado National Forest, and Ringold and Hangtown Creeks in Placerville.

Himalayan blackberry *(Rubus procerus)* is a naturalized exotic species which is now one of the two dominant shrubs in this riparian zone. Although it is aggressive and persistent, it can be controlled with four cuttings in a one-year period. Blackberries will be cut using gas-powered hedge shears. The first cut will be in the winter of 1997-98 and the subsequent cut will be scheduled in early spring 1998 after its growth flush. All cuttings will be piled and burned by April 30, 1998. The third cut will be in late May 1998, followed by the fourth cut and burning of piled material in November 1998. These four cuttings will result in a drastically reduced total cover of Himalayan blackberry, as well as a diminished ability to start new plants from regrowth, rhizomes, or germinating seeds. Fifth and sixth cuttings and burnings will be scheduled in mid-spring of 1999 and 2000, respectively.

Tree-of-heaven (*Ailanthus altissima*) occurs on the upper floodplain as well as at the base and crest of the levee running along most of the outer boundary of this site. It will be cut with chain saws and brushcutters in the winter of 1997-98, and subsequently burned. Fig (*Ficus carica*), poison oak (*Toxicodendron diversiloba*) and in certain situations sandbar willow (formerly *Salix hindsiana*, now in synonymy with *S. exigua*), will be treated in the same way. At present, sandbar willow is one of the two dominant shrubs on the floodplain; cutting some of it out will release native tree saplings. Anise (*Foeniculum vulgare*) will be dug out in order to remove the taproot.

Weedeaters will be used for cutting the annual grasses present: ripgut (*Bromus rigidus*), barnyard grass (*Echinochloa crusgalli*), rabbitsfoot grass (*Lagurus ovatus*), foxtail barley (*Hordeum leporimum*) and bristly foxtail (*Setaria* sp.). The first cut will be in April 1998 before seed set. Likewise, weedy herbs such as yellow star-thistle (*Centaurea solstitialis*), cocklebur (*Xanthium strumarium* var. *canadense*) and beggar's tick (*Bidens* sp.) and beggar's lice (*Torilis* sp.) will be cut with a weedeater. Seedlings of desirable native grasses, herbs, shrubs, and trees will not be cut out.

The U.S. Army Corps of Engineers has specifically requested that a fence be built on their property line to prevent uncontrolled livestock grazing. The fence will be built according to California Department of Transportation specifications for ranch fences, using green 7-foot t-posts. There will be five gates at regular intervals in the fence to allow access. During the second

and third years of this study, we will propose a grazing strategy where utilization is light and cattle are in the riparian zone for only a short period of time as appropriate to the phenology of the vegetation. Such a fine-tuned grazing plan can be an effective long-term low-cost management strategy for controlling Himalayan blackberry and sweet white and yellow clover.

Although the project's primary approach is to remove weedy pest species, thereby releasing the growth of desirable species which for the most part are already present on-site, there are two species which we would like to increase which can best be done by planting. Lack of natural Fremont cottonwood (*Populus fremontii*) reproduction is a problem here. Mature even-aged cottonwood trees are present on the floodplain but there are no viable seedlings or saplings. There are seedlings available from adjacent property which is slated to be gravel mined. One hundred of these seedlings will be harvested during their winter 1997-98 dormancy and planted in augured-out holes eight inches in diameter and three feet deep. Blue elderberry (*Sambucus caerulea*) occurs on the terrace. About twenty seedlings, as needed, will be planted judiciously in some of the areas where tree-of-heaven is removed from the base and the crest of the levee and other gravelly upslope spots. Planted seedlings will be individually protected from herbivores with a product such as Tree Pro Tree Protectors.

b. Location and/or Geographic Boundaries of Project

The project area is on U.S. Army Corps of Engineers' property on the north bank of the Stanislaus River between rivermile 51.9 and 52.9 in easternmost Stanislaus County in the East San Joaquin Basin (Figure 1). It is immediately upstream of the California Department of Fish and Game's Willms Site Project.

c. Expected Benefits

The primary stressor that is the focus of this project is competition from introduced plants. Relict marsh plants exist on the site. Their range has been reduced by competition from blackberry for moisture and light. Cutting out the blackberry will increase the rate of vegetative growth and seed production of the weakened marsh vegetation. An ancillary stressor that this project also addresses is the lack of regeneration potential by the climax riparian woodland species, the Fremont cottonwood. By planting seedlings which are the result of sexual reproduction rather than cuttings, we are increasing the genetic diversity of this greatly reduced stand.

The final stressor in the immediate project area is loss of the existing riparian zone. Until spring 1997, there was a well-developed stand of mature cottonwoods on the adjacent inland property. These large trees were cut down in preparation for gravel quarrying. The terrace is now completely devoid of trees; the cooling effects of that woodland have been removed. The width of the remaining riparian woodland on the project site is quite narrow, often less than 100 feet. By releasing existing saplings and young trees there from willow competition, growth rates of those trees will increase and their canopies will help ameliorate air and water temperatures, especially where there is direct shading of the river channel. The secondary benefits of this action are as follows: (1) it will ensure a supply of large woody debris needed for channel maintenance processes and cover for juvenile fish, (2) provide organic input for fish food production, (3) maintain soil stability to minimize sedimentation of spawning beds, (4) provide shade that helps maintain cooler water temperatures and thus more dissolved oxygen, (5) act as a nutrient filter which controls the release of nitrogen and phosphorus and other agricultural fertilizers into the aquatic environment, and (6) provide a seed and stocking source for the Willms Site Project. Channel maintenance processes and sedimentation are particularly important concerns, since the

quality of salmon spawning habitat is quite poor in the Stanislaus River. In addition, an enhanced riparian plant community of many different life-forms (trees, shrubs, herbs, grasses and sedges) provides more wildlife benefits than does a simple shrub dominated blackberry and sandbar willow thicket which could certainly be extrapolated if present trends continue. The cottonwood zone of the riparian forest has the most complex architecture of any California vegetation, and the richest collection of animal species. More species of birds nest in this forest, for example, than in any other plant community.

d. Background and Biological/Technical Justification

Although there is a superficial appearance of a lush and healthy riparian corridor along this stretch of the Stanislaus River, it is in fact degraded and in relatively poor condition, as evidenced by the lack of cottonwood regeneration, a low tree density per acre, and the presence of many weedy exotic plants. Himalayan blackberry is now widespread on the mid and upper floodplain and has outcompeted the native sedge, rush, herb, shrub and tree species that formerly occupied these mesic sites. Should this trend continue, the existing vegetation diversity will be further diminished as the blackberry expands into the small but healthy relict marsh component which still exists at various places along the riverbank. There are currently a high species diversity and good reproduction of marsh plants and the obligate riparian shrub button bush (*Cephalanthus occidentalis* var. *californicus).* Removing blackberries will allow these species to recolonize some of the areas that they have been displaced from. It is also possible that additional species richness will result in the shrub component: box elder (*Acer negundo* ssp. *californicum*), coyotebrush (*Baccharis pilularis*), and sand wild rose (*Rosa californica*) are a few examples of typical riparian woodland species which don't presently occur on-site but could potentially colonize this area. The exotic tree-of-heaven, introduced annual grasses, and yellow star-thistle dominate on the more xeric upland edge of the floodplain and the base and crest of the levee and are inhibiting germination of native plant seeds in the soil. Although sandbar willow (the other dominant shrub on the floodplain), is a native, it forms extensive thickets. Selectively cutting some of it out around white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), California black walnut (*Juglans californica* var. *hindsii)*, Fremont cottonwood, yellow tree willow (*Salix lasiandra)* and red willow (*Salix laevigata)* saplings and young trees will release them and accelerate the development of a more complex two-tiered canopy than presently exists.

An alternative approach to eliminating noxious weeds would be to apply herbicides. This approach has several distinct disadvantages however. Spraying is less selective than manual weedeating in that desirable seedlings under the blackberries would typically be killed along with the target pest plants. Such a lack of sensitivity to the existing vegetation diversity on this site would be a waste of resources, time and money. While it is feasible to get rid of blackberry, tree-of-heaven, fig, anise, star thistle, sweet white and yellow clover, bermuda grass and annual grasses using herbicides, those species that we want to preserve and increase would be considerably more difficult to establish from nursery plants (container stock has a higher mortality rate than volunteer seedlings) resulting in a significantly slower recovery rate for the marsh component of this ecosystem. Thus this project proposes to rely upon the natural processes which make riparian zones resilient after some forms of perturbation as a means of restoration. Moreover, it is probable that the amount of herbicide required to effect comparable results to those of the proposed project would result in adverse impacts to aquatic organisms as well as aesthetically disrupt this area for recreational users for prolonged and repeated intervals. By leaving desirable plants and a small amount of cut stems that are too small to pile, this project also has the additional benefit of leaving cover on the soil and thus minimizing the risk of streambank and upland erosion, already a concern on the site. Ground cover is the starting point of sound long-term watershed management.

Enhanced ecosystem function is the most direct and immediate benefit of the proposed project. The immediate objective is to stimulate the vigor of native plants already on site and thus create conditions that are more resistant to weed re-invasion. During the second and third years of this project, we intend to establish and fine-tune a grazing schedule that will contain blackberry, sweet white and yellow clover and tree-of-heaven. Adherence to this light grazing program as well as increasing shade from the enhanced riparian tree canopy will make this site less hospitable to Himalaya blackberry and thus provide a durable long-term benefit. While this project does not address a chief current cause of site degradation, which is groundwater decline due to channel incision, it does provide cottonwood plantings to mitigate the inhibited seedling establishment produced by the lowered water table. Furthermore, this project avoids the risk of streambank failure and aesthetic impacts that would be associated with floodplain reconstruction using heavy equipment.

This is a new project.

e. Proposed Scope of Work

Task 1 Pre-project monitoring: In November 1997, establish photo points and circular plots.

Task 2 First year exotic vegetation removal and native plantings:

A. first cut of exotic shrubs and sandbar willow beginning December 1997
B. dig out anise, and pile and burn all cuttings in winter 1997/1998
C. plant cottonwood and elderberry seedlings in winter 1997/1998
D. second cut of exotics in early April 1998
    1. second blackberry and tree-of-heaven cut
    2. weedeat annual grasses, yellow star-thistle, cocklebur, beggar's tick and beggar's lice
    3. possible spot herbicide application to poison oak as warranted
    4. pile and burn
E. third cut of exotics in late May 1998
    1. third blackberry and tree-of-heaven cut
    2. weedeat annual grasses
    3. possible spot herbicide application to poison oak as warranted
    4. pile
F. fourth cut of exotics in November 1998
    1. fourth blackberry cut
    2. weedeat annual grasses
    3. possible spot herbicide application to poison oak
    4. pile and burn

Task 3 Subcontracted fence construction: approximately 5,700 feet of fencing and five gates.

Task 4 First year post-project monitoring in June 1998

A. revisit photo points
B. collect quantitative data from circular plots
C. report completed by 30 September 1998

Task 5 Second year exotic vegetation removal

A. vegetation removal in April 1999
    1. fifth blackberry cut
    2. weedeat annual grasses
    3. possible spot herbicide application to poison oak as warranted
    4. pile and burn
B. summer: develop a grazing schedule

Task 6 Second year post-project monitoring in June 1999

A. revisit photo points
B. collect quantitative data from circular plots
C. report completed by 30 September 1999

Task 7 Third year exotic vegetation removal

A. vegetation removal in April 2000
    1. sixth blackberry cut
    2. weedeat annual grasses
    3. possible spot herbicide application to poison oak as warranted
    4. pile and burn
B. summer: fine tune grazing schedule

Task 8 Third year post-project monitoring in June 2000

A. take photos from photo points
B. collect quantitative data from circular plots
C. report completed by 30 September 2000

Technical reports will be written in standard scientific format. Financial reports will be provided monthly that describes the work completed, costs incurred, and anticipated work.

f. Monitoring and Data Evaluation

The proposed monitoring approach is twofold. Fifteen photo points will be established at regular 350-foot intervals parallel to the stream using redwood stakes as markers. Photos of the vegetation will be taken from the four compass points according to the above schedule. Permanent circular plots will be non-randomly selected and established in representative areas of five subtypes of vegetation that are characterized by distance from the channel. Random plot selection is inappropriate for this site because of the high vegetative diversity. There will be three circular plots per vegetation subtype as described below.

1) Upslope lupine and annual grasses: three 4-meter diameter plots measuring frequency, density and percent cover for lupine and three nested 1-meter diameter plots measuring frequency, density and percent cover for grasses;
2) Levee base: three 4-meter diameter plots for all woody species and three nested 1-meter diameter plots for non-woody species measuring frequency, density and percent cover;
3) Mature riparian trees with blackberry understory: three 10-meter diameter plots for all trees measuring frequency, density and diameter at breast height (DBH); three nested 4-meter diameter plots for shrubs and three nested 1-meter diameter plots for non-woody species measuring frequency, density and percent cover;
4) Sandbar willow thickets: three 4-meter diameter plots for woody species and three nested 1-meter diameter plots for non-woody species measuring frequency, density and percent cover; and
5) Marsh bank: three 4-meter diameter plots for woody species and three nested 1-meter diameter plots for non-woody species measuring frequency, density and percent cover.

Alternative vegetation sampling techniques include the various plotless methods. The use of these distance measures have been rejected because of the dense nature of the vegetation in many areas of the project site; for example, the point-centered quarter method is not suitable if vegetation cover exceeds 35%.

Project reports will be distributed to the Stanislaus River Basin Stakeholders and the San Joaquin River Group for peer review.

g. Implementability

The Stockton East Water District and the U.S. Army Corps of Engineers management at Knights Ferry have endorsed this project. This proposal will be circulated among the Stanislaus River Basin Stakeholders for comment prior to the execution of a CALFED contract.

Project construction can begin in early winter 1997 as soon as the necessary environmental documentation has been approved. Since this vegetation management project does not require the removal of mature scenic trees, it is anticipated that this project will be given a categorical exemption from CEQA and NEPA. The cost of this proposal is based on the strong expectation of a Class 4(d) exemption.

A burn permit will be required from the San Joaquin Valley Unified Air Pollution Control District. The U.S. Army Corps of Engineers has burned brush piles on their property along the Stanislaus river within the past year so obtaining such a permit should be a routine matter. All burning will be completed between November 1st and April 30th in order to maximize sensitivity to climatic and air quality conditions.

Fence construction along the U.S. Army Corps of Engineers property line will constitute a land use change. Past practice has been uncontrolled grazing along the public property in the riparian corridor. The U.S. Army Corps of Engineers management at Knights Ferry requested a fence. During the second and third years of this study, a grazing plan will be drawn up for the treated area. This will require cooperation between the U.S. Army Corps of Engineers and adjacent ranchers and landowners. The project proponents will be available to explain the new grazing timetable to the concerned parties in whatever local forum is deemed appropriate by the Army Corps management at Knights Ferry. Since the grazing schedule cannot be predicted in advance, the extent of future local support for this change and participation in making it work cannot be predicted either.

Public outreach efforts about this project could include a press release for the U.S. Army Corps of Engineers Office at Knights Ferry. They would have the option of distributing this to the local media.

IV. Costs and Schedule to Implement Proposed Project

a. Budget Costs

The total estimated costs for completing the Lovers Leap Vegetation Management Project, including all scientific investigations, are $78,370. The Stockton East Water District will contribute $2,000 each year toward monitoring costs for a total contribution of $8,000. This leaves a total of $70,370 of project costs that requires CALFED funding. These costs encompass each of the eight tasks described in the Scope of Work (Section III e). The cost for completing each of the proposed tasks is as follows:

Task	Source of Funding	Direct Labor Hours	Direct Salary and Benefits	Overhead Costs and Fees	Service Contract	Materials & Direct Costs	Total Cost
Task 1 Pre-Project Monitoring	CALFED	30	$554	$74	--	$172	$800
	SEWD	71	$1,386	$186	--	$428	<$2,000>
Task 2 First Year Cut & Plant	CALFED	1,078	$20,484	$3,225	$650	$8,141	$32,500
Task 3 Fence Construction	CALFED	16	$320	0	$20,000	$150	$20,470
Task 4 First Year Monitoring	CALFED	50	$970	$130	--	$300	$1,400
	SEWD	71	$1,386	$186	--	$428	<$2,000>
Task 5 Second Year Cutting	CALFED	216	$4,107	$693	--	$1,400	$6,200
Task 6 Second Year Monitoring	CALFED	50	$970	$130	--	$300	$1,400
	SEWD	71	$1,386	$186	--	$428	<$2,000>
Task 7 Third Year Cutting	CALFED	216	$4,107	$693	--	$1,400	$6,200
Task 8 Third Year Monitoring	CALFED	50	$970	$130	--	$300	$1,400
	SEWD	71	$1,386	$186	--	$428	<$2,000>
Grand Total	CALFED	1,706	$32,482	$5,075	$20,650	$12,163	$70,370
	SEWD	284	$5,544	$744	--	$1,712	<$8,000>

Carl Mesick Consultants (CMC) proposes contract payment terms to be not-to-exceed time-and-materials. CMC's standard invoices will be submitted on a monthly basis, terms net thirty days. CMC's labor rates and equipment usage rates are presented in Table 1. Reimbursable expenses and subcontractor costs will not be marked-up.

An initial bid of $16,800 was received from Mike's Fencing in Jamestown, California for the construction of the fence and installation of five gates according to the specifications of this project. The fencing subcontractor will also auger 120 holes for planting the cottonwoods and elderberry for an additional $650. The subcontractor will not be selected until two other bids have been received.

b. Schedule Milestones

It is anticipated that a contract approving this work will be executed by November 1997. Work under Task 1 would begin in late November 1997. Invoices for work completed will be submitted on a monthly basis. When each task has been completed, full payment will be made, including funds withheld under a Payment Retention Clause, within 30 days after the final invoice has been submitted for that task.

The start/completion dates of Tasks 1 through 8 under CALFED's contract would be as follows:

Task	Start Date	Completion Date	Total CALFED Cost
Task 1 Pre-Project Monitoring	1 November 1997	30 November 1997	$800
Task 2 First Year Cut & Plant	1 December 1997	30 November 1998	$32,500
Task 3 Fence Construction	January 1998	August 1998	$20,470
Task 4 First Year Monitoring	1 June 1998	30 September 1998	$1,400
Task 5 Second Year Cutting	April 1999	July 1999	$6,200
Task 6 Second Year Monitoring	1 June 1999	30 September 1999	$1,400
Task 7 Third Year Cutting	April 2000	July 2000	$6,200
Task 8 Third Year Monitoring	1 June 2000	30 September 2000	$1,400

c. Third Party Impacts

There are no third party impacts expected from this project, except for the local landowners that may no longer be able to graze their cattle on the U.S. Army Corps of Engineers' property. There is no lease permitting the current grazing usage.

V. Applicant Qualifications

Carl Mesick Consultants will be the lead contractor to CALFED for the Lovers Leap Vegetation Management Project, and will manage the subcontractor selected to install the fencing. This project will be managed by Dr. Carl Mesick and he will maintain overall responsibility for the project. Ms. Rosemary Carey will supervise the field work, data analysis, and report production phases of this project.

Carl Mesick Consultants is a certified small business that has been conducting fishery investigations and stream restoration projects in California since 1992. Our office is located in El Dorado County and is approximately 100 miles from the Project site. CMC's personnel are highly experienced professionals in fisheries, botany, revegetation, aquatic biology, and watershed analysis. We have conducted vegetation management projects at The Nature Conservancy's Cosumnes River Preserve, Traverse Creek and Bridle Veil Picnic Area on the Eldorado National Forest, Crawford Ditch, Ringold and Hangtown creeks in Placerville, and Camerado-Blue Oak School Nature Area in Cameron Park, California. The above projects all utilized the techniques proposed for this project.

Dr. Carl Mesick is the proposed manager for this project. Dr. Mesick received his Ph.D. in fisheries science from the University of Arizona in 1984. He has sixteen years of experience evaluating the effects of water diversions, hydroelectric operations, stream restoration projects, timber harvest, and mine operations on salmon, trout, non-game species of fish and invertebrates in California, Oregon, Montana, and New Zealand. Dr. Mesick has studied the spawning habitat for fall-run chinook salmon in the Stanislaus River since 1994. Dr. Mesick lectured on monitoring of stream restoration projects for a workshop sponsored by the American Fisheries Society in 1995. He has managed large, multi year projects for the City of Los Angeles Department of Water and Power, Southern California Edison, and the Electric Power Research Institute. Dr. Mesick is also an experienced expert witness, having provided testimony before the State Water Resources Control Board and the Superior Court of California.

Ms. Rosemary Carey is the proposed senior botanist and field supervisor for this project. Ms. Carey received her M.S. in Wildland Resource Science from the University of California at Berkeley in 1986. Ms. Carey is experienced with revegetation projects that utilized native species for slope stabilization and reclamation of semi-arid areas disturbed by oil and gas drilling in Kern County. She has assisted in riparian revegetation projects at Lee Vining Creek in Mono County and at Traverse Creek in El Dorado County. Ms. Carey has extensive experience identifying and quantifying plant communities in California and in other states; and analyzing soil chemistry and plant nutrition. She has conducted many field surveys for sensitive plant species. Ms. Carey has supervised field crews for both vegetation management projects and scientific evaluations. She has studied the spawning habitat of fall-run chinook salmon and investigated the riparian vegetation at the Stanislaus River in 1995 and 1996.

Mr. Steven Dowty will assist with the field work for this project. Mr. Dowty received his B.S. in Botany from Humboldt State University in 1973. He designed and implemented a successful four-year vegetation management demonstration project at The Nature Conservancy's Cosumnes River Preserve, which showed that weedeating annual grasses, beggar's tick, and cocklebur resulted in the recovery of the native species without planting. Mr. Dowty also designed and implemented a vegetation management project at the Traverse Creek Botanical Special Interest Area on the Eldorado National Forest to restore the effects of dredging and the resulting channel incision and soil loss. For this project, he repeatedly cut and dug out Himalayan blackberry, scotchbroom, and coffeeberry to successfully restore streambank marsh vegetation for the Eldorado National Forest. At Ringold Creek in Placerville, he has successfully restored marsh

and riparian tree species, including cottonwoods and willows, along a seasonal creek by repeatedly cutting the exotic species. Other vegetation management projects that Mr. Dowty has worked on include the Camerado-Blue Oak School Nature Area in Cameron Park, California, Bridal Veil Interpretative Trail in the Eldorado National Forest, Shingle Springs Roadside Vegetation Project and Crawford Ditch Vegetation Demonstration Project for the El Dorado Resource Conservation District, and Hangtown Creek Demonstration Project for the Community Pride Committee for the City of Placerville. He has worked on a vegetation sampling and monitoring study at the Nature Conservancy's Jepson Prairie.

VI. Compliance with standard terms and conditions

Carl Mesick Consultants will comply with all standard terms and conditions. Carl Mesick Consultants has attached the completed forms consistent with a services project.

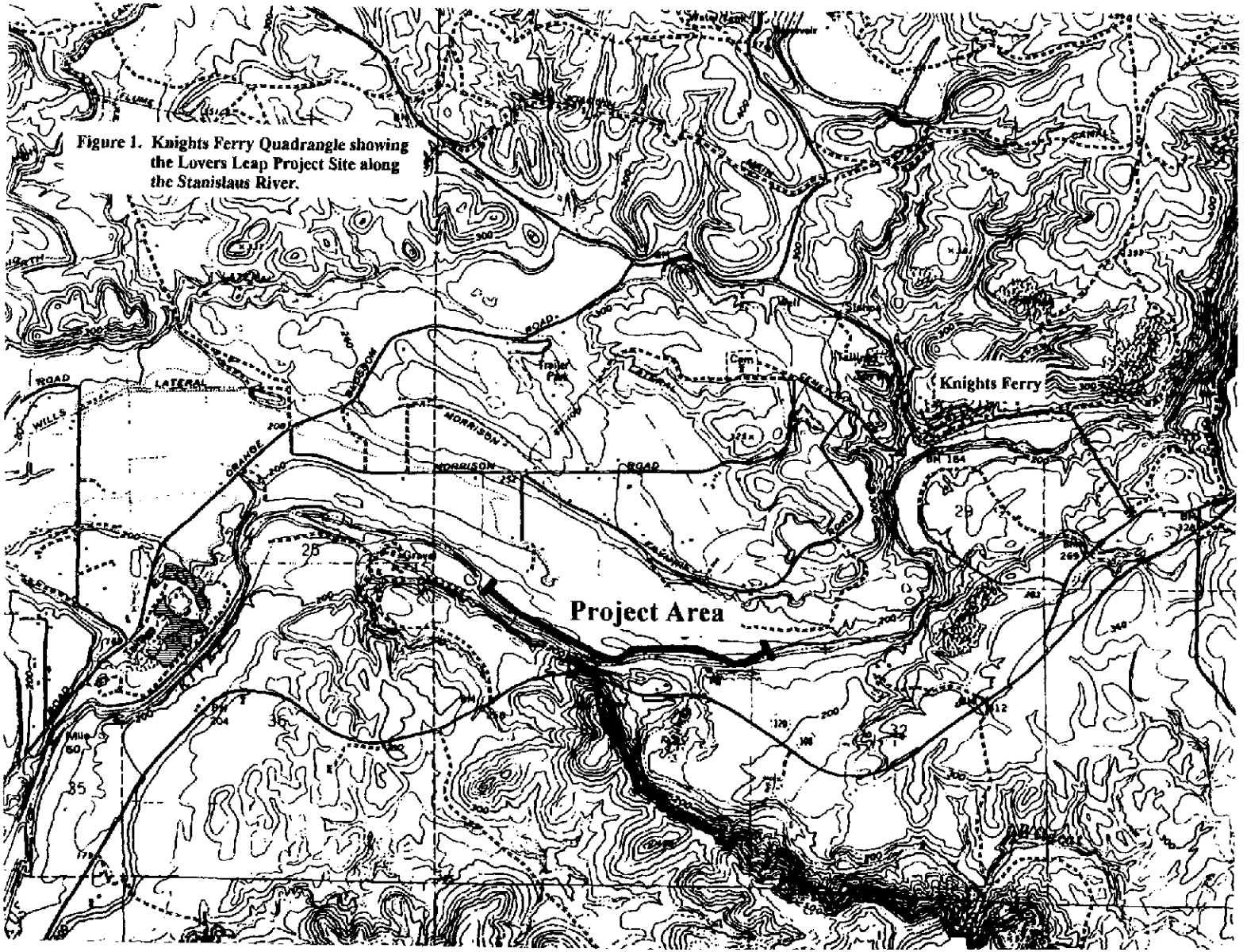

Figure 1. Knights Ferry Quadrangle showing the Lovers Leap Project Site along the Stanislaus River.

I-003037

TABLE 1. CARL MESICK CONSULTANT'S RATES FOR LABOR AND EQUIPMENT USAGE

Labor Rates

Project Manager - $65.00 per hour
Senior Botanist - $20.00 per hour
Field Botanist - $25.00 per hour

Equipment Usage Rates

Vehicles - $0.30 per mile
Cutting Tools - $35 per week

Required Documents Submitted for Consulting Services

from

Carl Mesick Consultants

Item 8. Non-Discrimination Compliance
Item 12. Small Business Preference

Item 8

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME
Carl Mesick Consultants

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
Carl Mesick

DATE EXECUTED
27 July 1997

EXECUTED IN THE COUNTY OF
El Dorado

PROSPECTIVE CONTRACTOR'S SIGNATURE
Carl Mesick

PROSPECTIVE CONTRACTOR'S TITLE
Owner

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME
Carl Mesick Consultants

Item 12

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?

X Yes* _____ No

*Attach a copy of your certification approval letter.

DEPARTMENT OF GENERAL SERVICES
Office of Small and Minority Business
1531 I Street, Second Floor
Sacramento, CA 95814-2016

SB APP 19970623

June 23, 1997

REF# 0011442
CARL MESICK CONSULTANTS
7981 CRYSTAL BLVD
EL DORADO CA 95623

Dear Business Person:

The Office of Small and Minority Business (OSMB) congratulates your firm on becoming a certified small business. This formal certification entitles you to a five percent bidding preference on state government contracts according to the Small Business Procurement and Contract Act.

Your small business certification applies ONLY to the following industry groups(s) within the designated business type(s):

Business Type	Roman Numeral	Industry Group Name	Certification Effective
SERVICE	V	Consulting, Management and Public Relations	06/20/1997

Your firm's small business certification **expires 05/31/2000.**

Annual Submission Requirement

To maintain your small business certification status, gross receipts for your firm **and** any affiliate(s) must be submitted **at the end of each fiscal year.** Proof of annual receipts may be submitted in the form of either:

1. An audited financial statement, or
2. A copy of the **ENTIRE SIGNED** Federal tax return(s) (FTRs) as filed with the Internal Revenue Service (IRS).
3. If the FTR for the most recently completed tax year has not yet been filed with the IRS, submit an original notarized Affidavit of Income (AI). (See enclosed AI and instructions). A copy of the signed tax filing extension must accompany the AI if the filing due date has passed.

Note: All AIs must be replaced with the corresponding **ENTIRE SIGNED** FTR(s) by the tax filing due date or by the filing extension's expiration date, whichever occurs first.

Prompt Payment Program

The Prompt Payment Act encourages state agencies to pay invoices on a timely basis to certified service and commodity small businesses and recognized nonprofit organizations. Prompt payment is reinforced by adding interest penalties for late payments. The program includes the use of a rubber stamp to alert state agencies of a firm's certified small business or nonprofit organization's status.

Only certified service and commodity small business firms actively working with the state may participate in the Prompt Payment Program. Construction firms' compensation on late/unpaid progress payments is addressed in *Public Contract Code, Section 10261.5.*

To receive a prompt payment stamp, the following **three items must be submitted** to the OSMB:

1. A written rubber stamp request. Include the applicant firm's name, OSMB Reference number, and

your current mailing address.
2. A copy of a current state contract or purchase order soliciting services from the applicant.
3. A $15.00 check or money order made payable to the Department of General Services.

Reporting Business Changes

Your firm's business information must remain current with the OSMB or your certification status may be subject to suspension and subsequent revocation.

All changes in business name, structure or ownership requires submission of a new "Small Business and/or Disabled Veteran Business Enterprise Certification Application" (STD. 812). Address and/or telephone number changes must be submitted in writing or fax and must be signed by an owner/officer.

Proof of Eligibility

Maintain this original certification letter for future business needs. To demonstrate your firm's small business eligibility, include a copy of this letter in your state contract bid submittals.

Prior to contract award, agencies will assure the vendor is in compliance with Public Contract Code, Section 10410 et seq. addressing conflict of interest for state officers, state employees or former state employees.

Certification Renewal

A renewal application will be mailed to you prior to the expiration of your small business certification. However, should you not receive an application, please call us so that you may timely renew your certification.

If you have any questions, please contact me at (916) 323-5285, e-mail pduncan@dgs.ca.gov, or fax (916) 442-7855. **Please have a copy of this letter and the STD.812 booklet when you call.** The OSMB offers various programs to further participation in state contracting. For more information regarding these programs, you may visit our Internet website at www.dgs.ca.gov/osmb, or call our OSMB Telephone Information System at (916) 322-5060.

Sincerely,

Perry Duncan
Certification Officer
Office of Small and Minority Business

APPLTR Rev. 04/07/1997