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28 July 1997

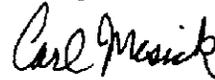
Ms. Kate Hansel  
CALFED Bay-Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, California 95814

Dear Kate:

I am submitting two proposals for 1997 Category III funding to the CALFED Bay-Delta Program. I have titled them "Knights Ferry Gravel Replenishment Project" and "Lovers Leap Vegetation Management Project" and both are located at the Stanislaus River. Ten copies of each are enclosed.

If you have any questions, please do not hesitate to call me.

Sincerely,



Carl Mesick, Ph.D.  
Fishery Biologist

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A Proposal for 1997 Category III Funding

# **KNIGHTS FERRY GRAVEL REPLENISHMENT PROJECT**

Prepared for

CALFED Bay-Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, California 95814

Prepared by

Carl Mesick Consultants  
7981 Crystal Boulevard  
El Dorado, California 95623  
Phone: (916) 620-3631

28 July 1997

## I. Executive Summary

a. **Project Title:** KNIGHTS FERRY GRAVEL REPLENISHMENT PROJECT  
**Applicant Name:** Carl Mesick Consultants

### b. Project Description and Primary Biological/Ecological Objectives

This project has the goal of restoring spawning habitat for fall-run chinook salmon at 18 existing riffles in the Stanislaus River. Hydraulic pumps will be used to place 10,800 tons of gravel to recreate the natural configuration of riffles and to minimize damage to the river bank and riparian vegetation. It is anticipated that this project will provide a 25% increase in both the amount of suitable spawning habitat and the production of juvenile salmon in the Stanislaus River. In addition, this project will investigate several controversial aspects regarding the methods used to restore spawning habitat. The study objectives are to: (1) determine whether the origin and size of added rock affect spawner use and habitat quality; (2) investigate the effect of the natural streambed configuration on the suitability of sites for restoration; (3) compare this project's method of adding gravel directly to riffles versus the method of using high flows to transport added gravel onto spawning riffles. The third objective includes an evaluation of the Department of Fish and Game's spawning habitat restoration project to be constructed in the Stanislaus River in summer 1997.

### c. Approach/Tasks/Schedule

This project has two tasks that would begin in fall 1997. One task would begin the permitting process and the production of the environmental documentation, while the other would document the pre-project levels of spawner use, intragravel habitat quality, and site stability. In summer 1998, a total of 10,800 tons of gravel will be placed at the 18 project riffles. Then in fall 1998 and fall 1999, post-project evaluations of spawner use, intragravel habitat quality, and site stability will be conducted. The project will be completed by summer 2000.

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

The Knights Ferry Gravel Replenishment Project meets the 1997 Category III funding criteria by restoring instream spawning habitat for fall-run chinook salmon in the Stanislaus River. The fact that 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 indicates that the Stanislaus' population and habitat are in very poor ecological health.

### e. Budget Costs and Third Party Impacts

The costs for each task in this proposal are listed below:

Task 1	Permitting	\$ 12,800
Task 2	First Year Studies in 1997	\$ 60,000
Task 3	Construction of 18 Riffles	\$395,100
Task 4	Second Year Studies in 1998	\$ 63,000
Task 5	Third Year Studies in 1998	\$ 56,000
	Contingency	<u>\$ 39,510</u>
	GRAND TOTAL	\$626,410

The Stockton East Water District will contribute \$30,000 each year toward monitoring costs for a total contribution of \$90,000. This leaves a total of \$536,410 of project costs that require CALFED funding.

There are no third party impacts expected from this proposal.

#### **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, aquatic biology, geomorphology, hydrology, water quality analysis, and botany. We have conducted three spawning habitat evaluations of the Stanislaus River that quantified the stressors using the same methods proposed here. The effects of stream channel releases, Delta exports, water temperature, and ocean harvest on the fall-run chinook salmon populations in the Stanislaus and Tuolumne rivers have also been extensively investigated. CMC helped produce restoration plans for three watersheds in the Eldorado National Forest, the tributaries to Mono Lake, Mono County, California.

Esquivel Grading & Paving, Inc., the subcontractor that will obtain, sort, and place the gravel for this project, is an established certified minority owned small business that has experience in restoring salmonid spawning habitat in California. They have placed gravel in rivers to restore spawning habitat with hydraulic pumps, front-end loaders, and helicopters. Their project manager was awarded the 1997 DFG Goodwin Canyon Project to place gravel for spawning in the Stanislaus River and they have completed two spawning restoration projects at the Carmel Valley Reservoir.

#### **g. Monitoring and Data Evaluation**

Streambed stability, spawner use, and intragravel water quality will be monitored at the 18 project riffles and 7 control riffles between Two-Mile-Bar (rivermile 57) and the Oakdale Recreation Area (rivermile 40) and at two DFG Goodwin Canyon Project riffles in fall 1997 to assess pre-project conditions and in fall 1998 and 1999 to assess post-project conditions. To evaluate project longevity, streambed elevations will be measured at one longitudinal profile along the thalweg at three cross sections. Spawner use will be monitored each year by counting and marking spawners with a numbered lead sinker at 10-day intervals from October 20 through December 20. To monitor intragravel water quality, minipiezometers will be installed 12 inches below the surface in the bottom of artificial redds (no eggs) at four sites in each riffle. Vertical hydraulic gradient and intragravel dissolved oxygen concentrations will be measured at each of the 12 minipiezometers at 10-day intervals from October 20 to December 31 and on January 31. Differences in temperature between surface and intragravel water will be monitored with thermographs recording at 30-minute intervals between October 20 and January 31. One thermograph will be buried with each minipiezometer and one thermograph will be installed in the flowing surface water at nine project riffles spaced at least one mile apart.

#### **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 the Ferry have endorsed this project. This proposal will be circulated among the Stanislaus River Stakeholders for comment prior to the execution of a CALFED contract.

This project is compatible with CALFED objectives as it will benefit a high priority species at high risk without impacting water management.

**II. Title Page**

**a. Title of Project:** KNIGHTS FERRY GRAVEL REPLENISHMENT 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 and financial contact person:** Dr. Carl Mesick at the above address

**f. Participants/collaborators in implementation:**

Esquivel Grading & Paving, Inc., the subcontractor, will provide all construction services. Their address is 1210 Armstrong Avenue, San Francisco, California 94124; phone (415) 822-5400; fax: (415) 822-7986.

The Stockton East Water District is contributing \$30,000 a year toward monitoring costs for a total contribution of \$90,000. 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**

The four tasks proposed by Carl Mesick Consultants are defined as Services (Group 3). The task proposed by Esquivel Grading & Paving, Inc. is a Construction Project (Group 1).

### III. PROJECT DESCRIPTION

This project has the goal of improving the quantity and quality of spawning habitat for fall chinook salmon in the Stanislaus River and to evaluate different methods of restoring that habitat.

#### a. Project Description and Approach

Eighteen project riffles have been selected for restoration between Two-Mile Bar (rivermile 38) and Oakdale (rivermile 40) where vehicle access is within 100 meters of the river. These are listed in Table 1 and their locations are shown in Figures 1 through 4.

For purposes of the scientific investigation, the project riffles were divided into three groups that differed according to the height of the natural riffle's crest (a.k.a. the hydraulic control). One group of six riffles has high crests formed by the sharply upsloping tails of six to ten foot deep pools (Figure 5). Between 400 and 600 tons of gravel will be added to the undisturbed streambed immediately upstream of these riffles' crests. Another group of six riffles has moderate crests that are about two feet higher in elevation than the upstream run habitat and rise at a 3% or steeper streambed gradient (Figure 6). Between 250 and 375 tons of gravel will be added to the undisturbed streambed immediately upstream of the crests of these riffles. At the moderate-crested riffle sites, the elevation of the added gravel will not exceed the natural elevation of the crest. The last group of six riffles has low crests that rise at a streambed gradient less than 3%. About 1,000 tons of gravel will be added to the undisturbed streambed to increase the elevation of these crests by about 1.5 feet (Figure 7). At all project riffles, gravel will be added to provide the riffle's crest a uniform elevation across the width of the river that runs perpendicular to the streamflow. This should maximize both the downwelling of surface flow into the gravel and the stability of the new streambed.

Three types of gravel will be placed at the 18 project riffles. One type will consist of rounded river rock from the Stanislaus floodplain that has a natural mixture of 1/8 to 5 inch diameter river rock. The second type will consist of Stanislaus river-rock that has a natural mixture of 3/8 to 5 inch diameter river rock between 1/8 and 3/8 inch, which comprises about 20% of a natural mixture in a Stanislaus River spawning riffle by weight, is difficult to obtain because it is typically shipped off-site for processing. The third type will consist of a natural mixture of 1/8 to 5 inch diameter river rock that originates from a foreign source, such as the watershed of the Calaveras River. Few quarries provide river-rock and it may be necessary to import it. A sieve analysis will be conducted on samples from each gravel type. Crushed rock will not be used.

Each type of gravel will be added to six riffle sites, two from each of the high-, moderate- and low-crested riffle groups (Table 1). This design will provide two replicates for each combination of gravel-gradient type. Gravel types were randomly assigned to project riffles, except at the Two-Mile-Bar project riffle (TM1), where a natural mixture of Stanislaus river-rock between 1/8 and 3/8 inches in diameter will be used to maximize the chances of success for this highly used riffle.

Gravel will be added using a hydraulic pump with a six-inch diameter hose. The hydraulic pump will be placed within 40 feet of the water's edge to circulate water from the river to transport gravel through the hose. Gravel will be fed into the hydraulic system by loading a hopper onto an existing road. Approximately 1,000 tons of gravel can be placed in 20 hours using this method. Only exotic vegetation will be removed to provide access. Trucks used to haul gravel will be cleaned to prevent the gravel from becoming contaminated with diesel fuel or tar.

For the purposes of monitoring, seven riffles have been selected to serve as controls, two from the high- and low-crested riffle groups, and three from the moderate-crested riffle group (Table 1).

Two of the moderate-crested control riffles, Riffles R27 and R78, accumulated a substantial amount of new gravel after the spring 1997 high flows. Since most riffles appeared to have lost gravel during the spring 1997 flows, these riffles are relatively unique and represent the benefits of natural fluvial geomorphic processes. The third moderate-crested control riffle, Riffle R10, better represents the majority of moderate-crested riffles and was intensively studied in fall 1995 and 1996. None of the control riffles will be modified except to bury the intragravel sampling devices.

Two riffles (DFG1 and DFG2 shown in Figure 1) to be constructed in summer 1997 for Phase I of the Department of Fish and Game's Goodwin Canyon Project will be monitored in terms of spawner use and intragravel water quality. There are no immediate plans to construct riffles with spawning-sized gravel for either the Phase II Goodwin Canyon Project or the Willms Site Project.

#### **b. Location and/or Geographic Boundaries of the Project**

The 18 project riffles and seven control riffles are located between Goodwin Dam and Oakdale. The project area is located within Stanislaus County, except for the Two-Mile-Bar and Goodwin Canyon sites which are located on the border between Calaveras and Tuolumne counties.

#### **c. Expected Benefits**

This project has been designed to provide both an immediate biological enhancement as well as resolving several issues regarding the restoration of spawning habitat in the Stanislaus River and in other Central Valley rivers.

**Biological Enhancement:** Adding silt-free gravel should alleviate all the stressors in the Stanislaus River that include: (1) a loss of gravel recruitment due to the upstream dams and gravel mining; (2) high concentrations of fine sediments; (3) high inflow of oxygen-poor groundwater; and (4) cemented gravels that increase redd superimposition (CMC et al. 1996; CMC 1997). Adding gravel to the high- and moderate-crested riffle sites should double the amount of highly suitable habitat from an average of 30-foot lengths of stream per riffle to 60-foot long segments per riffle. The low-crested riffles selected for this project currently have no suitable habitat, whereas the restored sites should provide about 100 feet of highly suitable habitat. If the salmon spawn in all gravel types and streambed configurations used in this project, then the 18 project riffles would be expected to provide highly suitable habitat that is equivalent to 30 existing riffles. This represents a 25% increase in suitable spawning habitat. The improvement in spawning habitat is expected to result in healthier and larger alevins that should have improved chances for survival, and result in a 25% increase in juvenile production whenever escapement exceeds about 2,000 fish.

Secondary benefits of this project include an improvement in gravel recruitment and an increase in the production of benthic invertebrates. Although gravel will gradually erode from the project riffles, it will be redeposited on downstream riffles. In addition, adding a silt-free mixture of gravel and cobbles to the Stanislaus' riverbed should eventually increase the abundance of aquatic invertebrates typically fed upon by salmonids (Ephemeroptera, Plecoptera, and Trichoptera), particularly after organic detritus begins to accumulate (Waters 1995).

**Improvement of Restoration Techniques:** A second benefit of this project would be to improve the methods used to restore spawning habitat. The spawning habitat project implemented in 1994 in the Stanislaus River under the Four Pumps Agreement was relatively expensive (\$176,200 for three riffles) and poorly used by spawning chinook salmon (CMC et al. 1996). Of primary concern is that for three years, the salmon spawned immediately adjacent to but not within the newly added gravel. Possible explanations for why the fish avoided the new gravel include (1) the added rock came from the Merced River; (2) most of the rock was crushed which would make it difficult for the salmon to excavate redds; and (3) very little of the added rock was less than 1/2 inch. This

project will help determine whether the source and size of added gravel affect spawner use.

This project will also evaluate whether the natural streambed configuration, particularly the height of the riffle's crest, affects spawner use and project longevity. Most of the riffles in the majority of the Stanislaus' spawning reach are low gradient which may make it difficult to improve the quality of spawning habitat. This project will evaluate the feasibility of improving these low gradient riffles. Comparisons will also be made between this project's design of recreating a riffle's crest versus the past Four-Pumps Project designs that created flat riffles (<0.5% gradient).

Another benefit will be the comparison of this project's method of adding gravel directly to riffles with hydraulic pumps versus the method of using high flows to transport added gravel onto spawning riffles. This comparison will be accomplished by collecting data on spawner use and habitat quality at DFG's Goodwin Canyon Project in the Stanislaus River.

#### **d. Background and Biological/Technical Justification**

Several studies indicate that spawning habitat in the Stanislaus River has limited the production of juvenile fall-run chinook salmon. Studies funded by the Stockton East Water District (CMC et al. 1996) indicate that most (77%) chinook salmon in the Stanislaus River restrict their spawning to the areas upstream of the riffle's crest where the streambed rises sharply ( $\geq 2\%$  gradient). Most of the 120 riffles in the spawning reach between Goodwin Dam and Riverbank have low crests, which minimizes the downwelling of surface flow, and they are heavily laden with sand and silt. A study by the Department of Water Resources (1994) indicated that the percentage of fines in substrate samples taken just upstream of the riffle's crest was unsuitable for the incubation of chinook salmon eggs at 45% (ten) of their study riffles located between Goodwin Dam and Riverbank. Studies conducted by Carl Mesick Consultants (CMC et al. 1996) confirmed the DWR results and indicated that the concentration of fines was usually highest in the areas downstream of the riffle's crests.

Carl Mesick Consultants (CMC et al. 1996; CMC 1997) also reported that intragravel conditions are degraded by the inflow of oxygen-poor groundwater, an effect that temporarily worsens after heavy rainstorms. After several heavy rain storms in January 1996, the number of sites with lethal D.O. concentrations (<50% of saturation) increased from 15% to 42% while another 20% of the sites had suboptimal D.O. concentrations (50% to 80% saturation). Most of the sites with unsuitably low dissolved oxygen concentrations occurred downstream of the riffle's crests.

The lack of silt-free gravel in the Stanislaus' spawning reach is primarily caused by inadequate gravel recruitment and a high concentration of suspended sediments in storm runoff. Gravel recruitment to the spawning reach is greatly reduced by the upstream reservoirs. The problem is aggravated by the instream gravel mining that occurred in the 1970s adjacent to the Ohe quarry (rivermile 52.7) and by captured mine pits such as the Willms Site (rivermile 52). The instream pits stop gravel transport and the riffles immediately downstream of the pits typically have no gravel for spawning. The problem of suspended sediments begins in the upstream areas at Owl Creek (rivermile 57.5) and gradually worsens in a downstream direction.

The cumulative effect of these stressors has limited fall-run chinook salmon production in the Stanislaus River between 1960 and 1991 based on the stock-recruitment relationships (CMC 1996). This analysis indicates that recruitment (production of surviving offspring) to the Stanislaus chinook salmon population increased rapidly as stock (the number of three-year-old spawners) increased up to about 2,000 fish. However, recruitment did not increase further in years when the number of spawners exceeded 2,000 fish. This suggests that through 1991, there was suitable spawning habitat for only 2,000 adult fish. Since 1991, escapement in the Stanislaus River has been very low relative to the other San Joaquin tributaries suggesting that the spawning habitat has degraded even further. In fall 1996, escapement for the Stanislaus River was estimated at 168 fish, which includes

the brood that outmigrated as smolts during the spring 1995 high flows.

**Technical Justification:** Hydraulic pumping was selected as the best approach for gravel placement compared to using high flows to transport gravel, helicopters, and front-end loaders. The approach of stockpiling gravel in the active channel and relying on high flows to distribute the gravel was rejected because it is ineffective and expensive in terms of the value of the water. The spring 1997 high flows, which ranged between 5,000 and 8,000 cfs for several months, deposited substantial amounts of gravel at four of 29 riffles surveyed in the Stanislaus River in July 1997. At two of these riffles, the gravel was transported downstream 50 feet and deposited in mid-channel bars that will be exposed during spawning flows. These mid-channel bars caused a shift in flow that eroded the riffle's crests which degraded their suitability for spawning. Furthermore, increasing base flows from 300 cfs to 5,000 cfs for two weeks would require an additional 140,000 acre-feet of water; and longer releases might be necessary to duplicate the effects of the spring 1997 flows.

Helicopters were rejected because their costs are about double the costs of hydraulic pumping. Furthermore, helicopters have a high liability risk.

Adding gravel with front-end loaders was rejected because of the damage that would be caused to the river bank and riparian vegetation. Furthermore, using front-end loaders would cost about the same as a hydraulic pump, but have a higher liability risk.

**Nature and Basis for Durability of the Benefits:** The longevity of this project is expected to range between five and ten years depending on the frequency of high flow events and the rate of fine sediment input. Gravel added to the area upstream of the riffle's crest at the high- and moderate-crested riffles should be quite stable since riffles tend to erode from their downstream end. The low-crested riffles should retain sufficient gravel for spawning for at least five years based on the longevity of the Four-Pumps Project riffles constructed in the Stanislaus River in summer 1994. The upper Four-Pumps riffle at the Horseshoe Road Recreation Area (rivermile 50.9) has retained about half of its added gravel for three years even after the 1997 spring high flows. High flows are rare in the Stanislaus River due to the large capacity of New Melones Reservoir. The longevity estimate also assumes that by omitting substrate less than 1/8 inch diameter from the added gravel, few suspended sediments will accumulate as occurs at the Two-Mile-Bar riffles.

**Current Status of the Project:** This is a new project that is based on three years of scientific evaluations funded by the Stockton East Water District (SEWD). Reports describing SEWD's work have been distributed to many of the biologists working in the San Joaquin basin. Although the methods used for this project are the same as SEWD's studies, this project will evaluate the restoration activities rather than the stressors.

#### **e. Proposed Scope of Work**

**Task 1 Environmental Documentation and Permitting:** This task will produce the appropriate CEQA and NEPA documents and obtain the necessary permits from the Reclamation Board, State Lands Commission, local counties, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and the DFG streambed alteration permit. This task will begin as soon as the contract is executed and it will be completed by May 1998. CALFED will be provided written notification when applications have been submitted, permits have been received, and if concerns arise that might delay project implementation. Financial reports will be provided monthly that describes the work completed, costs incurred, and anticipated work.

**Task 2 Fall 1997 Habitat Evaluations:** This task involves pre- and post-project monitoring of streambed elevations and a post-project evaluation of intragravel water quality and spawner use at the 25 project and control riffles as described in Section f. Habitat quality and spawner use will also

be evaluated at two DFG Goodwin Canyon Project riffles scheduled for construction in August 1997. This task will begin as soon as the contract is executed and it will be completed by 1 June 1998. Twenty copies of a technical report written in standard scientific format will be produced by 15 May 1998 for review by CALFED and fishery biologists working in the San Joaquin basin. A financial report will be provided monthly that describes the work completed, costs incurred, and anticipated work.

**Task 3 Project Construction:** This task involves the placement of 10,800 tons of gravel at 18 project riffles in the Stanislaus River between Two-Mile-Bar and Oakdale as described in Section a. This task will begin after flows are reduced to less than 300 cfs in spring 1998, presumably 1 June, and completed before 10 October 1998, which is prior to the release of pulse flows.

**Task 4 Fall 1998 Habitat Evaluations:** This task involves pre- and post-project monitoring of streambed elevations and a post-project evaluation of intragravel water quality and spawner use at the 25 project and control riffles as described in Section f. Habitat quality and spawner use will also be evaluated at two DFG Goodwin Canyon Project riffles scheduled for construction in August 1997. This task will begin in October 1998 and it will be completed by 1 June 1999. Twenty copies of a technical report written in standard scientific format will be produced by 15 May 1999 for review by CALFED and fishery biologists working in the San Joaquin basin. A financial report will be provided monthly that describes the work completed, costs incurred, and anticipated work.

**Task 5 Fall 1999 Habitat Evaluations:** This task involves post-project evaluations of streambed elevations, intragravel water quality and spawner use at the 25 project and control riffles as described in Section f. Habitat quality and spawner use will also be evaluated at two DFG Goodwin Canyon Project riffles scheduled for construction in August 1997. This task will begin in October 1999 and it will be completed by June 2000. Twenty copies of a technical report written in standard scientific format will be produced by 15 May 2000 for review by CALFED and fishery biologists working in the San Joaquin basin. A financial report will be provided monthly that describes the work completed, costs incurred, and anticipated work.

#### **f. Project Evaluation/Monitoring**

Streambed stability, spawner use, and intragravel water quality will be monitored at the 18 project riffles and 7 control riffles between Two-Mile-Bar (rivermile 57) and the Oakdale Recreation Area (rivermile 40) in fall 1997 to assess pre-project conditions and in fall 1998 and 1999 to assess post-project conditions. Spawner use and intragravel water quality will be monitored at DFG's two Goodwin Canyon Project riffles from 1997 to 1999. The Department of Fish and Game will assess streambed stability at the Goodwin Canyon Project riffles.

To evaluate the longevity of the 18 project sites compared to the 7 control riffles, streambed elevations will be measured at one longitudinal profile along the thalweg and at three cross sections. One cross section will be established about 20 feet upstream of the riffle's crest, another at the riffle's crest, and the third at about 20 feet downstream of the riffle's crest (Figure 8). Permanent monuments will be established above the active floodplain at each site and at all endpoints and tie points. One set of measurements of streambed and water surface elevations will be made each fall after the mid-October pulse flows. An additional set of measurements will be made at the project riffles in summer 1998 prior to gravel placement.

Spawner use will be monitored each year by counting and marking redds with a numbered lead sinker at 10-day intervals from October 20 through December 20. The location of redds will be mapped relative to the new gravel and riffle's crest using coordinates based on the streambed elevation transects. Redds must be marked and counted at 10-day intervals because the flow gradually smooths over the redd's distinguishing features making them difficult to detect.

To monitor intragravel water quality at each project and control riffle, minipiezometers will be installed 12 inches below the substrate's surface in the bottom of artificial redds (no eggs) at two sites approximately 20 feet upstream of the riffle's crest and at two sites approximately 20 feet downstream of the riffle's crest (Figure 8). Indices of downwelling of surface water will include measurements of vertical hydraulic gradient (Dahm and Valett 1996) and differences in temperature between surface and intragravel water (CMC 1997). Differences in temperature between surface and intragravel samples also provide a measure of groundwater inflow (CMC 1997). Vertical hydraulic gradient and intragravel dissolved oxygen concentrations will be measured at each of the 108 minipiezometers at 10-day intervals from October 20 to December 31 and on January 31. Differences in temperature between surface and intragravel water will be monitored with thermographs recording at 30-minute intervals between October 20 and January 31. One thermograph will be buried with each minipiezometer and one thermograph will be installed in flowing surface water at nine project riffles spaced at least one mile apart.

Frequent measurements of intragravel dissolved oxygen concentration, vertical hydraulic gradient, and water temperatures were selected for this project because of the need to detect the intermittent effect of storm runoff and groundwater inflow on intragravel D.O. concentrations in the Stanislaus River (CMC et al. 1996). Using thermographs to measure the difference in temperature between intragravel and surface samples provides a daily measure of changes in gravel permeability and groundwater inflow that cannot be provided by other means. Thermographs used during the fall 1996 surveys were even sensitive enough to detect the impacts of fine sediment intrusion that was caused by salmon spawning about 30 to 50 feet upstream of several minipiezometer sites (CMC 1997). Vertical hydraulic gradient was also selected for this project because it indicates whether downwelling of surface flow is occurring. In fall 1996, downwelling was rare in the Stanislaus riffles (CMC 1997). In contrast, typical measures of spawning habitat quality, including gravel permeability or substrate size composition, may not detect the problems in the Stanislaus River because inserting stand pipes or core samplers would disturb the vertical stratification of the substrate thereby disrupting intragravel flow and the concentration of oxygen-poor groundwater. Furthermore, these samplers cannot be left in the streambed to collect multiple samples over an extended period due to the intensive amount of recreational use on the Stanislaus River.

Project reports will be distributed to all biologists working in the lower San Joaquin basin for review. Project results will be presented at meetings of the Stanislaus River Basin Stakeholders and the San Joaquin River Group.

#### **g. Implementability**

Project construction can proceed in summer 1998 as soon as the necessary permits and environmental documentation have been approved. It is anticipated that this project will be given a categorical exemption from CEQA and NEPA. Furthermore, a HEC-2 analysis for a flood assessment should not be necessary since HEC-2 cannot detect the effects of this project. Permission has been granted to access all project sites, except Riffles R76 and R77. No problem with access is anticipated since the City of Oakdale has granted permission to use their sewer treatment plant roads to access Riffles R76 and R77 for other fishery projects.

Monitoring of intragravel water quality cannot occur at streamflow releases from Goodwin Dam that exceed about 500 cfs. These flows would occur only for flood control purposes. In addition, project approval (not contract execution) would have to be given by early-October 1997 so that the minipiezometers could be installed by 25 October without disturbing spawning salmon.

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.

#### IV. COSTS AND SCHEDULE TO IMPLEMENT PROPOSED PROJECT

##### a. Budget Costs

The Knights Ferry Gravel Replenishment Project meets the 1997 Category III funding criteria by restoring instream spawning habitat for fall-run chinook salmon in the Stanislaus River. The fact that 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 indicates that the Stanislaus' population and habitat are in very poor ecological health.

The total estimated costs for completing this Knights Ferry Gravel Replenishment Project, including all scientific investigations and a contingency fee of 10% of construction costs, are \$626,410. The Stockton East Water District will contribute \$30,000 each year toward monitoring costs for a total contribution of \$90,000. This leaves a total of \$536,410 of project costs that requires CALFED funding. These costs encompass each of the five 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 Permitting	CALFED	120	\$3,900	\$3,900	--	\$5,000	\$12,800
Task 2 1 <sup>st</sup> Year Monitoring	CALFED	621	\$13,391	\$7,816	--	\$8,793	\$30,000
	SEWD	621	\$13,391	\$7,816	--	\$8,793	<\$30,000>
Task 3 Construction	CALFED	400	\$11,700	\$7,200	\$371,200	\$5,000	\$395,100
Task 4 2 <sup>nd</sup> Year Monitoring	CALFED	701	\$14,632	\$8,538	--	\$9,830	\$33,000
	SEWD	616	\$13,302	\$7,762	--	\$8,936	<\$30,000>
Task 5 3 <sup>rd</sup> Year Monitoring	CALFED	532	\$11,467	\$6,691	--	\$7,842	\$26,000
	SEWD	613	\$13,229	\$7,721	--	\$9,050	<\$30,000>
10% Contingency	CALFED	--	--	--	--	--	\$39,510
Grand Total	CALFED	2,374	\$55,090	\$34,145	\$371,200	\$36,465	\$536,410
	SEWD	1,850	\$39,922	\$23,299	--	\$26,779	\$90,000

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 2. Reimbursable expenses and subcontractor costs will not be marked-up.

Esquivel Grading & Paving (EGP) will be the subcontractor that places the 10,800 tons of gravel at the 18 project riffles in summer 1998 for a firm fixed price of \$371,200. If EGP's costs are

expected to exceed \$371,200, CMC will provide written justification for additional expenditures up to the contingency fee of \$39,510. When 50% or more of the gravel has been placed in the Stanislaus as specified in Task 3, an invoice will be submitted that includes a payment of \$167,040, which is 45% of EGP's fixed cost. When all of the gravel has been placed as specified, an invoice will be submitted that will include a final payment of \$204,160 for EGP's services.

EGP was selected without obtaining 3 competitive bids for four reasons. First, EGP's project manager has spent considerable, unreimbursed effort locating the sources and types of the river-rock needed for this project, none of which are advertised. None of the other gravel contractors have offered Stanislaus river-rock for the DFG spawning habitat projects. Second, EGP is the only contractor that has the specialized equipment to sort the sizes of gravel needed for this project and the hydraulic pumping system required to place the gravel. Third, EGP's project manager will implement Phase I of the DFG Goodwin Canyon Gravel Replenishment Project in the Stanislaus River. Finally, EGP's bid of \$34.37 per ton to obtain, sort, and place the gravel is highly competitive.

**b. Schedule Milestones**

It is anticipated that a contract approving this work will be executed by November 1997. Work under Task 2 would begin in October 1997 under the SEWD contract, whereas work billed to the CALFED contract would begin in late-November 1997 after the contract has been executed. 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 5 under CALFED's contract would be as follows:

Task	Start Date	Completion Date	Total CALFED Cost
Task 1 Permitting	November 1997	May 1998	\$12,800
Task 2 1 <sup>st</sup> Year Monitoring	November 1997	June 1998	\$30,000
Task 3 Construction	June 1998	October 1998	\$395,100
Task 4 2 <sup>nd</sup> Year Monitoring	October 1998	June 1999	\$33,000
Task 5 3 <sup>rd</sup> Year Monitoring	October 1999	June 2000	\$26,000

**c. Third Party Impacts**

There are no third party impacts expected from this project.

## V. Applicant Qualifications

Carl Mesick Consultants will be the lead contractor to CALFED for the Knights Ferry Gravel Replenishment Project, and will subcontract with Esquivel Grading & Paving, Inc. for all construction services. This project will be managed by Dr. Carl Mesick and he will have principal involvement in the planning, construction supervision, field studies, data analysis, and report production phases of this project.

### Carl Mesick Consultants

Carl Mesick Consultants is a certified small business that has been conducting fishery investigations and restoration planning 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, aquatic biology, geomorphology, hydrology, watershed analysis, and botany. We have conducted fishery investigations for the Stockton East Water District, The Stanislaus River Council, California Trout, Friends of the River, Tuolumne River Preservation Trust, and the U.S. Department of Agriculture Forest Service, Eldorado National Forest.

Carl Mesick Consultants is highly qualified to plan and evaluate projects to restore the spawning habitat in the Stanislaus River. CMC has conducted three years of spawning habitat evaluations at the Stanislaus River for the Stockton East Water District. The effects of streamflow releases, Delta exports, water temperature, and ocean harvest on the fall-run chinook salmon populations in the Stanislaus and Tuolumne rivers have also been extensively investigated by CMC. As part of a team lead by Dames and Moore, CMC produced restoration plans for three watersheds in the Eldorado National Forest. CMC also contributed to the plan developed by Trihey and Associates to restore the trout populations in Rush and Lee Vining creeks, which are tributaries to Mono Lake, Mono County, California.

Dr. Carl Mesick is the proposed manager, senior biologist, and field supervisor 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, Arizona, Oregon, Montana, and New Zealand. His expertise includes studies of salmonid spawning habitat, instream flow, stream habitat restoration, fish population monitoring, entrainment at diversion intakes, fish feeding preferences, and fish habitat preferences. Dr. Mesick has studied the spawning habitat for fall-run chinook salmon in the Stanislaus River since 1994. He completed the Applied Fluvial Geomorphology workshop taught by Mr. David Rosgen in 1990 and a restoration workshop taught by Dr. William Weaver in 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.

Mr. Brett Emery will assist with the geomorphic evaluations for this project. Mr. Emery received his B.A. in Environmental Studies/Earth Sciences from the University of California at Santa Cruz in 1988. He has more than seven years of experience in mapping and analyzing the hydrology and geomorphology of watersheds; evaluating channel and sediment transport dynamics; and surveying and analyzing the effects of land use on the stability of fluvial systems and the quality of riparian, aquatic, and wetland habitats. Mr. Emery assisted in biweekly surveys of spawning chinook salmon in the Stanislaus River downstream of Goodwin Dam in 1994 and 1995. He evaluated potential flooding impacts to Neary Lagoon Park in Santa Cruz County, California and is experienced with

using the HEC-2 model to estimate flood elevations. Mr. Emery is highly skilled with the use of total stations for surveying streambed configurations. He completed David Rosgen's workshop on applied fluvial geomorphology in 1994.

Ms. Rosemary Carey will assist with the investigations of habitat quality and spawner use for this project. Ms. Carey received her M.S. in Wildland Resource Science from the University of California at Berkeley in 1986. She studied the spawning habitat of fall-run chinook salmon and investigated the riparian vegetation in Stanislaus River in 1995 and 1996. Ms. Carey has also collected data for instream flow studies at the Clavey River, Tuolumne County, California. She has extensive experience identifying and quantifying plant communities in California and in other states; and analyzing soil chemistry and plant nutrition. She has also assisted in revegetation projects in Mono County, Kern County, and El Dorado County.

#### **Esquivel Grading & Paving, Inc.**

Esquivel Grading & Paving, Inc., a certified small business enterprise and minority business enterprise, has been a general contractor since their incorporation in 1984. They have expertise in grading, paving, underground work, and environmental work. They are located in San Francisco, California and Mr. Ralph G. Esquivel is their president. Their contractor's license number is 463185, which is an A, C-12, and HAZ license. Some of their past clients include The City & County of San Francisco, Shinnick Construction Company, the San Francisco International Airport, the San Francisco Unified School District, and the California State Department of Transportation.

Mr. Sean Smith is the proposed project manager for Esquivel Grading & Paving, Inc. Mr. Smith has had a California classification A General Engineering Contractors license (# 653926) for five years and he has 20 years of experience with construction projects. He completed two spawning habitat restoration projects at the Carmel Valley River in 1993 and 1996 in which gravel was hydraulically pumped into 44 sites. He has also been awarded the Department of Fish and Game's Phase I of the Goodwin Canyon Gravel Replenishment Project on the Stanislaus River that should begin in August 1997. He has experience placing gravel with helicopters and front-end loaders as well.

**VI. Compliance with standard terms and conditions**

Carl Mesick Consultants and Esquivel Grading & Paving, Inc. will comply with all standard terms and conditions. Carl Mesick Consultants has attached the completed forms consistent with a services project. The completed forms consistent with a construction project have been attached for Esquivel Grading & Paving, Inc. Esquivel Grading & Paving, Inc. will submit a certificate of insurance (Item 9) and a payment bond (Item 10) before or at the signing of the final contract.

Table 1. Project and control riffles identified by riffle number shown in Figure 4, rivermile, type of gravel added, and landowner that has authorized access.

A) High-Crested Riffles (Tails of Deep Pools) Receiving an Average of 475 Tons Each			
Riffle #	Rivermile	Gravel Type	Access
TM1	56.9	Stanislaus River-Rock, 1/8 to 5 inch diameter	ACOE
R1	54.6	Stanislaus River-Rock, 3/8 to 5 inch diameter	ACOE
R9	53.6	Foreign River-Rock, 1/8 to 5 inch diameter	ACOE
R12	53.3	Control Riffle, No Gravel Added	ACOE
R28B	50.2	Stanislaus River-Rock, 1/8 to 5 inch diameter	ACOE
R29	49.8	Stanislaus River-Rock, 3/8 to 5 inch diameter	PL
R76	40.3	Foreign River-Rock, 1/8 to 5 inch diameter	City of Oakdale
R77	40.2	Control Riffle, No Gravel Added	City of Oakdale
B) Moderate-Crested Riffles Receiving an Average of 325 Tons Each			
Riffle #	Rivermile	Gravel Type	Access
R10	53.5	Control Riffle, No Gravel Added	ACOE & PL
R14	52.7	Stanislaus River-Rock, 3/8 to 5 inch diameter	ACOE
R15	52.5	Stanislaus River-Rock, 1/8 to 5 inch diameter	ACOE
R16	52.4	Foreign River-Rock, 1/8 to 5 inch diameter	ACOE
R19	52.1	Stanislaus River-Rock, 3/8 to 5 inch diameter	ACOE
R20	51.9	Stanislaus River-Rock, 1/8 to 5 inch diameter	ACOE
R27	51.0	Control Riffle, No Gravel Added	ACOE
R43	46.9	Foreign River-Rock, 1/8 to 5 inch diameter	ACOE
R78	40.2	Control Riffle, No Gravel Added	ACOE
C) Low-Crested Riffles Receiving an Average of 1,000 Tons Each			
Riffle #	Rivermile	Gravel Type	Access
R12A	53.9	Foreign River-Rock, 1/8 to 5 inch diameter	ACOE
R12B	53.8	Stanislaus River-Rock, 1/8 to 5 inch diameter	ACOE
R13	53.7	Stanislaus River-Rock, 3/8 to 5 inch diameter	ACOE
R18	53.3	Control Riffle, No Gravel Added	ACOE
R58	44.6	Stanislaus River-Rock, 3/8 to 5 inch diameter	ACOE
R59	44.5	Stanislaus River-Rock, 1/8 to 5 inch diameter	ACOE
R60	44.0	Control Riffle, No Gravel Added	ACOE
R61	43.9	Foreign River-Rock, 1/8 to 5 inch diameter	ACOE

ACOE = Army Corps of Engineer's Property; PL = Private Landowner

TABLE 2. CARL MESICK CONSULTANT'S RATES FOR LABOR AND EQUIPMENT USAGE

Labor Rates

Senior Biologist - \$65.00 per hour  
Field Supervisor - \$45.00 per hour  
Geologist - \$35.00 per hour  
Fisheries Biologist II - \$25.00 per hour  
Fisheries Biologist I - \$20.00 per hour  
Field Technician I - \$15.00 per hour

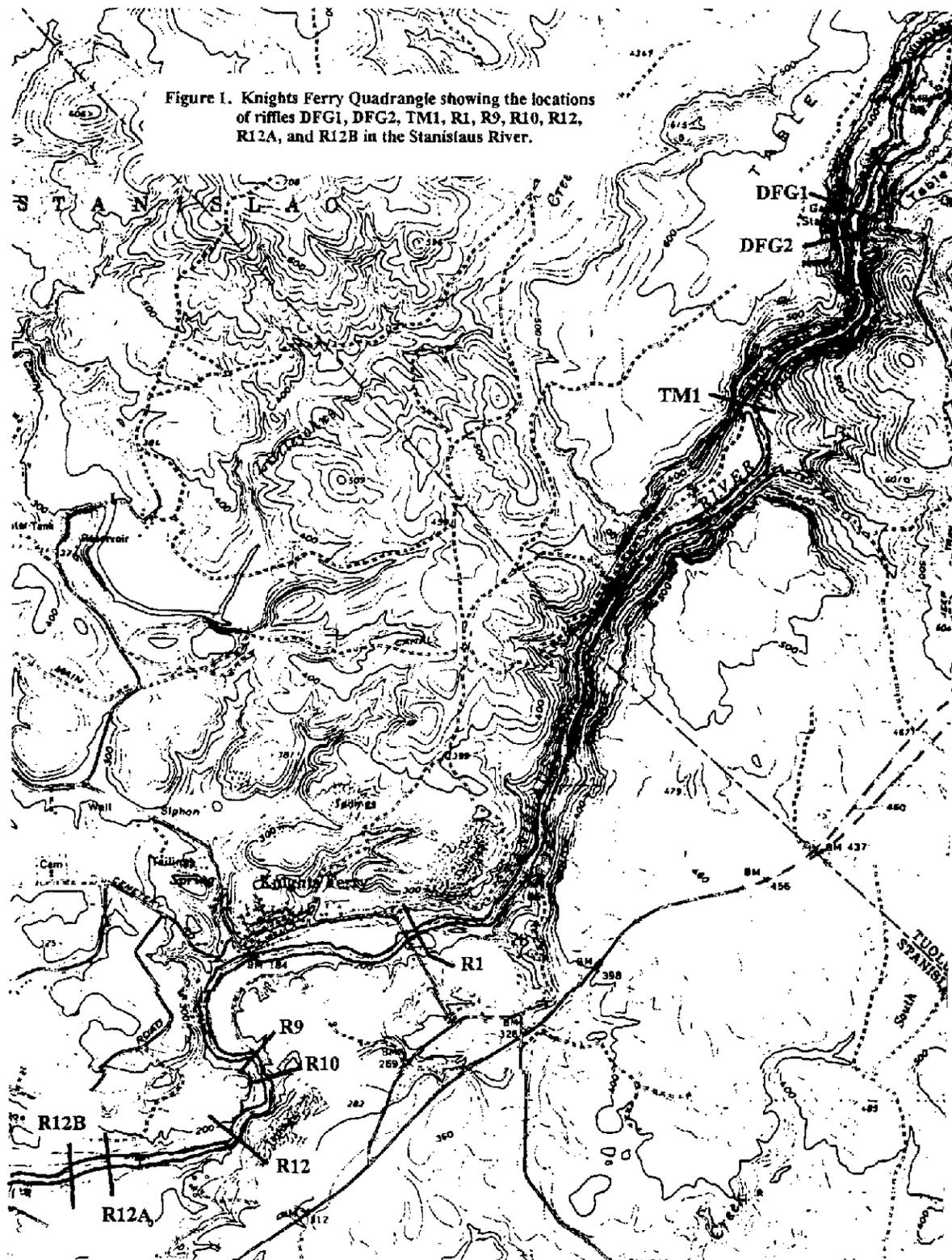
Equipment Usage Rates

Vehicles - \$0.30 per mile  
Thermograph with case - \$65 per deployment  
Total Station - \$100 per day  
Laser & Automatic Levels - \$20 per day  
Sieving Equipment - \$20 per day  
Canoe - \$50 per week

#### LITERATURE CITED

- Carl Mesick Consultants. 1996. The effects of minimum instream flow requirements, release temperatures, Delta exports, and stock on fall-run chinook salmon production in the Stanislaus and Tuolumne rivers. Draft report prepared for Thomas R. Payne & Associates, Neumiller and Beardslee, and Stockton East Water District.
- Carl Mesick Consultants, Aquatic Systems Research, and Thomas R. Payne & Associates. 1996. Spawning habitat limitations for fall-run chinook salmon in the Stanislaus River between Goodwin Dam and Riverbank. Draft report prepared for the Stockton East Water District and Neumiller and Beardslee.
- Carl Mesick Consultants. 1997. A fall 1996 study of spawning habitat limitations for fall-run chinook salmon in the Stanislaus River between Goodwin Dam and Riverbank. Draft report prepared for the Stockton East Water District and Neumiller and Beardslee.
- Dahm, C.M. and H.M. Valett. 1996. Chapter 6, Hyporheic Zones. Pages 107 through 119 in F.R. Haur and G.A.Lamberti, editors. *Methods in Stream Ecology*. Academic Press.
- Department of Water Resources. 1994. San Joaquin River tributaries spawning gravel assessment: Stanislaus, Tuolumne, Merced rivers. Draft memorandum prepared by the Department of Water Resources, Northern District for the California Department of Fish and Game. Contract number DWR 165037
- Waters, T.F. 1995. Sediment in streams: sources, biological effects, and control. American Fisheries Society Monograph 7. Bethesda, Maryland.

Figure 1. Knights Ferry Quadrangle showing the locations of riffles DFG1, DFG2, TM1, R1, R9, R10, R12, R12A, and R12B in the Stanislaus River.





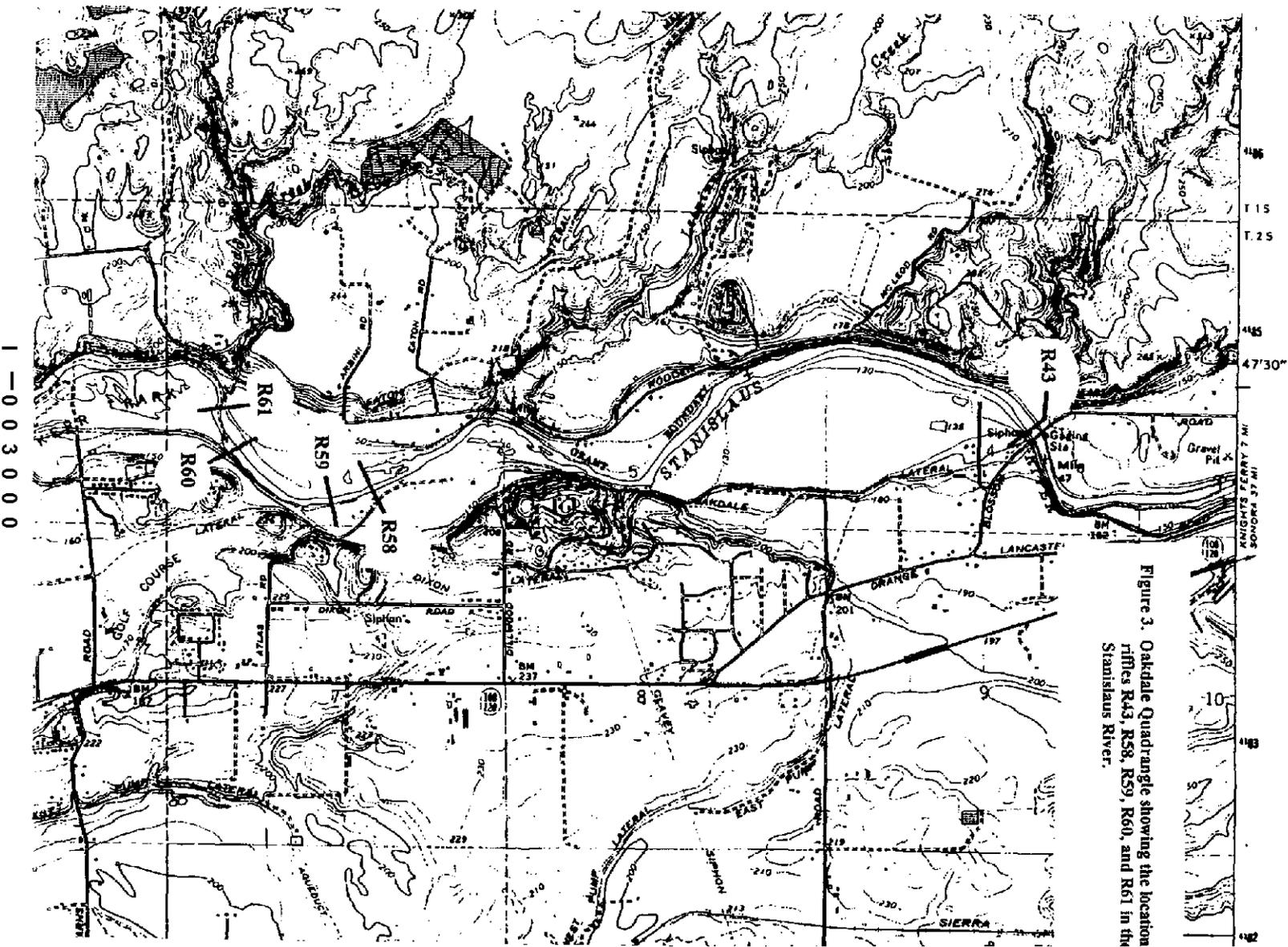


Figure 3. Oakdale Quadrangle showing the location rifles R43, R58, R59, R60, and R61 in the Stanislaus River.

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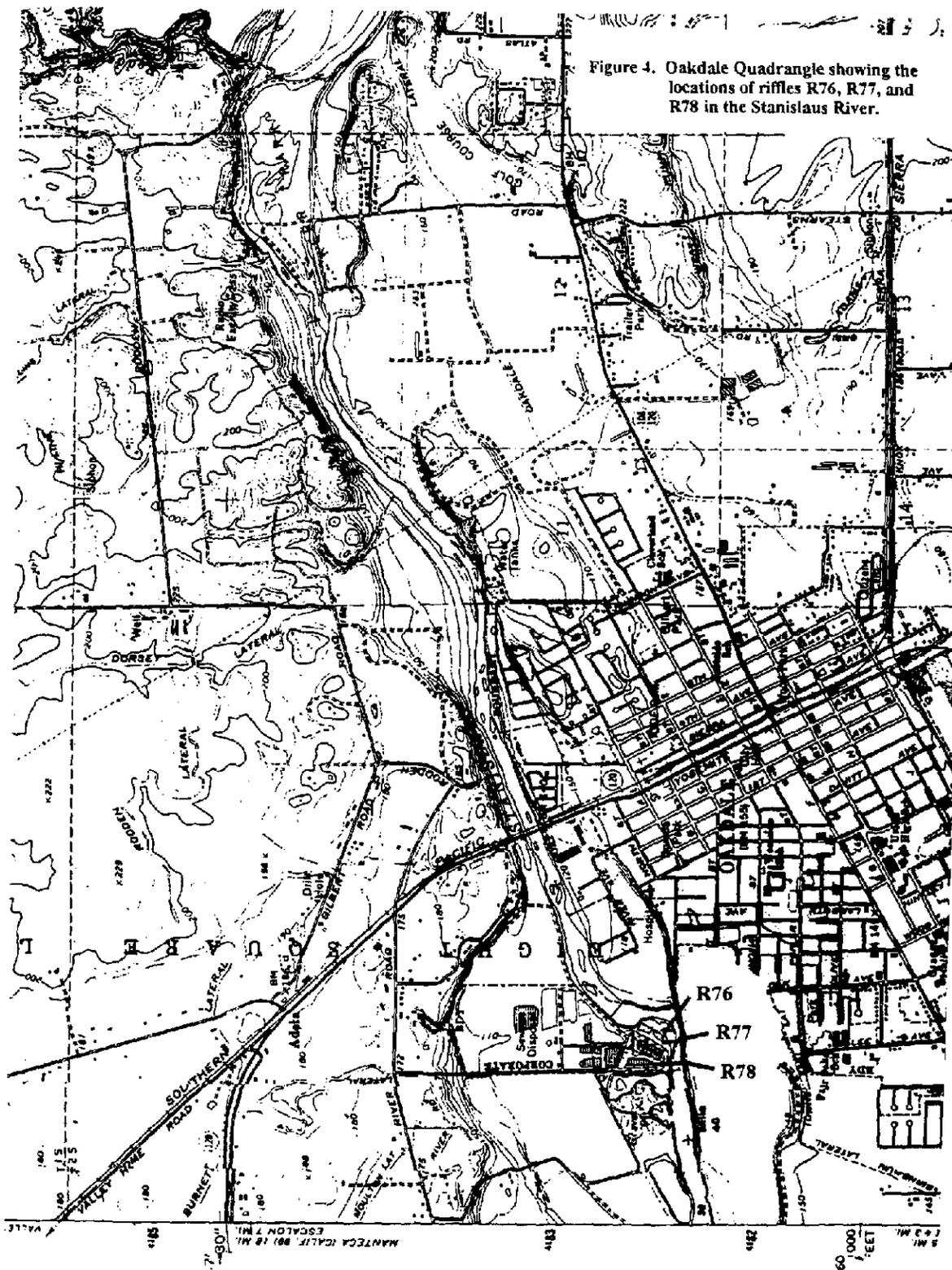
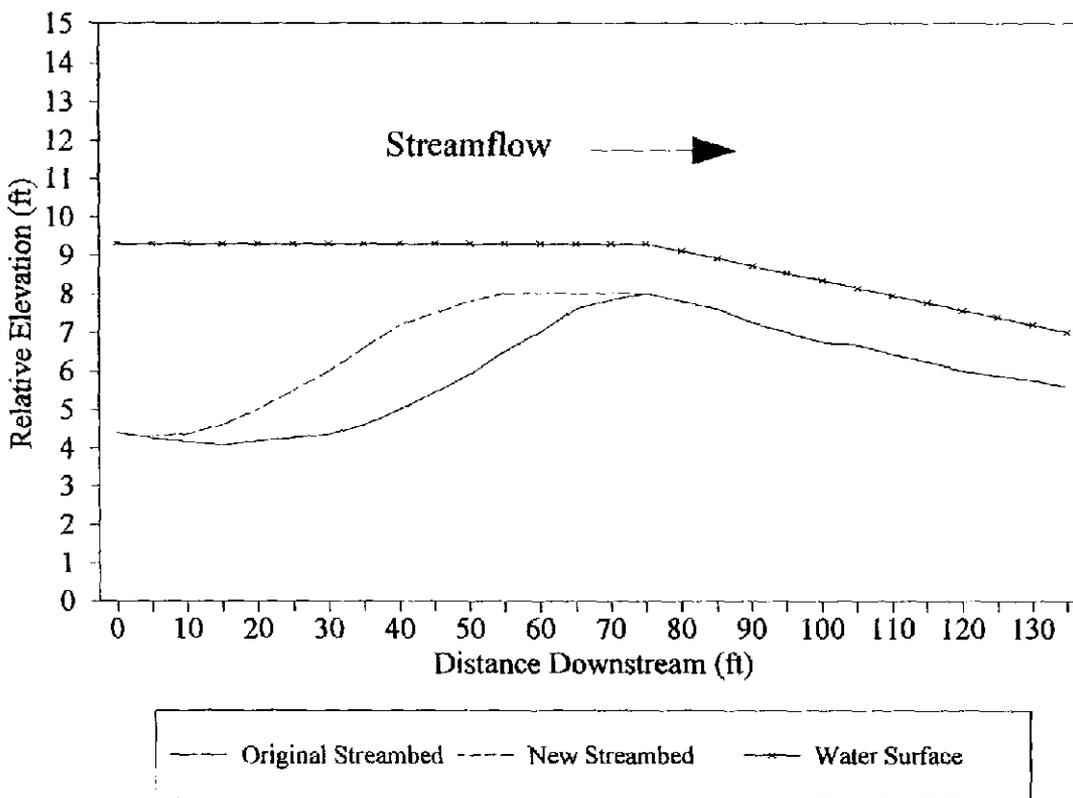


Figure 4. Oakdale Quadrangle showing the locations of riffles R76, R77, and R78 in the Stanislaus River.

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I-003001

### High-Crested Riffle



the new streambed elevation with the original water surface

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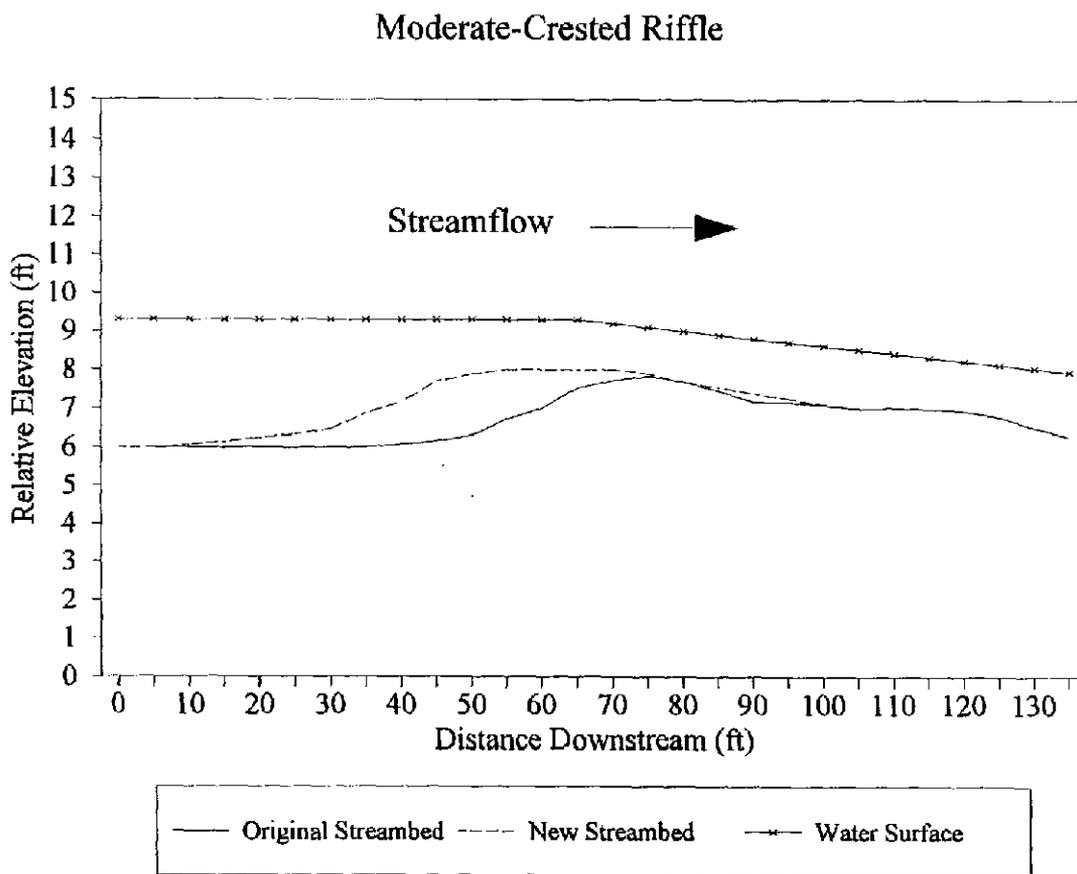


Figure 6. Longitudinal profile of a theoretical moderate-crested riffle in the Stanislaus River showing the original streambed elevation, the new streambed elevation after the gravel has been added and the water surface elevation.

1-003003

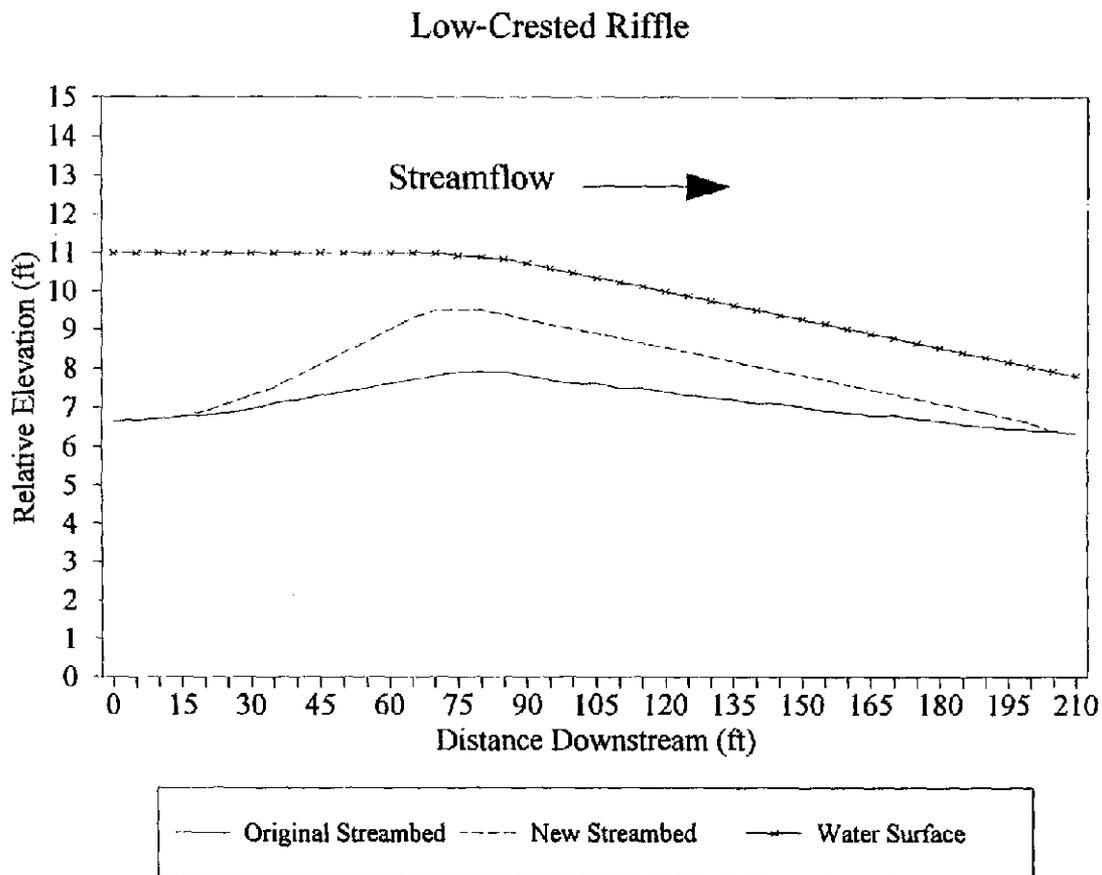


Figure 7. Longitudinal profile of a theoretical low-crested riffle in the Stanislaus River showing the original streambed elevation, the new streambed elevation after the gravel has been added and the water surface elevation.

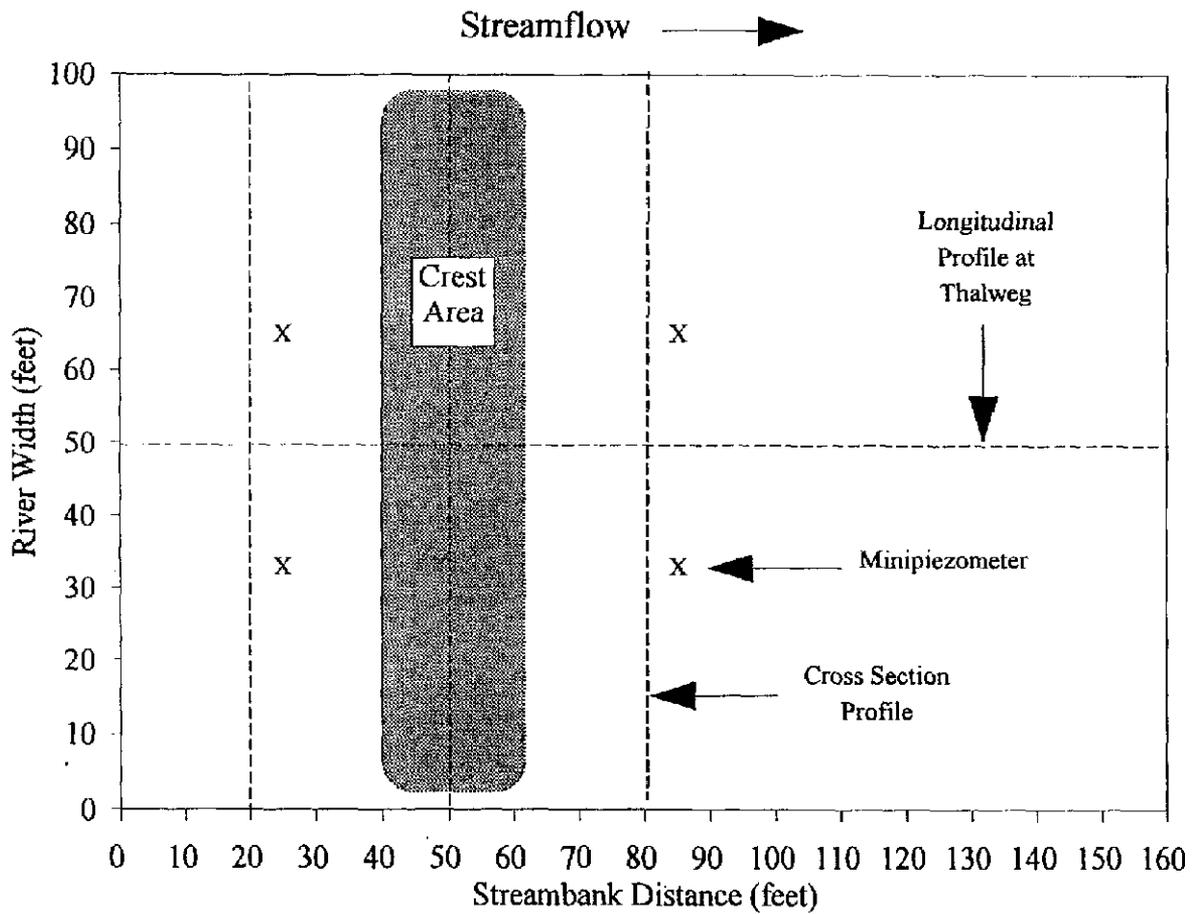


Figure 8. Plan view of a theoretical project riffle in the Stanislaus River showing the crest area (a.k.a. hydraulic control), four minipiezometer sites (X), and the three cross section profiles and the longitudinal profile where streambed elevations will be measured.

Required Documents Submitted for Consulting Services  
from  
Carl Mesick Consultants

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

## 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

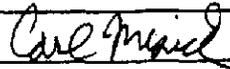
DATE EXECUTED

27 July 1997

EXECUTED IN THE COUNTY OF

El Dorado

PROSPECTIVE CONTRACTOR'S SIGNATURE



PROSPECTIVE CONTRACTOR'S TITLE

Owner

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Carl Mesick Consultants

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\*       No

\*Attach a copy of your certification approval letter.



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](mailto: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](http://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

Required Documents Submitted for Construction Services

from

Esquivel Grading & Paving, Inc.

Item 7. Bidders Bond  
Item 8. Non-Discrimination Compliance  
Item 11. NonCollusion  
Item 12. Small Business Preference  
Proof of Contractor's License

## BIDDER'S BOND

We Esquivel Grading & Paving, Inc.Fidelity and Deposit Company of Maryland

as PRINCIPAL, s

as SURETY, are held and firmly bound unto the State of California in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above named submitted by said Principal to the State of California, acting by and through the Resources, for the work described below, for the payment of which sum in lawful money of the United States, well and truly made, to the Secretary of the Resources Agency to which said bid was submitted, we bind ourselves, our heirs, executors, administrators, successors, jointly and severally, firmly by these presents.

In no case shall the liability of the surety here under exceed the sum of \$ Ten percent (10%) of the amount bid

## THE CONDITION OF THIS OBLIGATION IS SUCH.

That whereas the Principal has submitted the above-mentioned bid into the State of California, as aforesaid, for certain construction specifically described as follows, ~~for which bids are to be opened at~~

California  
~~(month name of month when bids will be opened)~~ ~~(name date of bid opening)~~  
 for Knights Ferry Gravel Replenishment Project

(Copy here the exact description of work, including location, as it appears on the proposal)

NOW, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the specifications and the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in accordance with the and files two bonds with the Department, one to guarantee faithful performance and the other to guarantee payment for labor materials, as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this 28th

day of July, 19 97.

Esquivel Grading & Paving, Inc.

(Seal)

Farshid Ezazi

(Seal)

Farshid Ezazi

(Seal)

Principal

Fidelity and Deposit Company of Maryland

(Seal)

R. A. Bass, attorney-in-fact

(Seal)

R. A. Bass, attorney-in-fact

(Seal)

Address 100 First St. #1700, San Fran. CA. 94105

(Seal)

NOTE: Signatures of those executing for the surety must be properly acknowledged.

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California

County of San Francisco

On July 25, 1997 before me, Carol E. Volk, Notary Public  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Farshid Ezazi  
Name(s) of Signer(s)

- personally known to me
- proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Carol E. Volk  
Signature of Notary Public

**OPTIONAL**

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

**Description of Attached Document**

Title or Type of Document: Bidder's Bond

Document Date: July 25, 1997 Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: Farshid Ezazi

- Individual
- Corporate Officer  
Title(s): Secretary/Treasurer
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_

RIGHT THUMBPRINT OF SIGNER  
Top of thumb here

Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

- Individual
- Corporate Officer  
Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_

RIGHT THUMBPRINT OF SIGNER  
Top of thumb here

Signer Is Representing: \_\_\_\_\_

**Power of Attorney**  
**FIDELITY AND DEPOSIT COMPANY OF MARYLAND**

HOME OFFICE, BALTIMORE, MD

KNOW ALL MEN BY THESE PRESENTS: That the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, a corporation of the State of Maryland, by C. M. PECOT, JR., Vice-President, and C. W. ROBBINS, Assistant Secretary, in pursuance of authority granted by Article VI, Section 2, of the By-Laws of said Company, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, does hereby nominate, constitute and appoint R.A. Bass of San Francisco,

California.....

its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, and as its act and deed: any and all bonds and undertakings.....

And the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Baltimore, Md., in their own proper persons. This power of attorney revokes that issued on behalf of R.A. Bass, dated November 21, 1995.

The said Assistant Secretary does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article VI, Section 2, of the By-Laws of said Company, and is now in force.

IN WITNESS WHEREOF, the said Vice-President and Assistant Secretary have hereunto subscribed their names and affixed the Corporate Seal of the said FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 1st day of May A.D. 1996

ATTEST:



FIDELITY AND DEPOSIT COMPANY OF MARYLAND

*C. W. Robbins*  
Assistant Secretary

By

*C. M. Pecot, Jr.*  
Vice-President

STATE OF MARYLAND  
COUNTY OF BALTIMORE

SS:

On this 1st day of May A.D. 1996 before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, came C. M. PECOT, JR., Vice-President and C. W. ROBBINS, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and they each acknowledged the execution of the same, and being by me duly sworn, severally and each for himself depose and saith, that they are the said officers of the Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and that the said Corporate Seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



CAROL J. FADER

*Carol J. Fader*  
Notary Public

My Commission Expires August 1, 1996

**CERTIFICATE**

I, the undersigned, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the original Power of Attorney of which the foregoing is a full, true and correct copy, is in full force and effect on the date of this certificate; and I do further certify that the Vice-President who executed the said Power of Attorney was one of the additional Vice-Presidents specially authorized by the Board of Directors to appoint any Attorney-in-Fact as provided in Article VI, Section 2, of the By-Laws of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND.

This Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 16th day of July, 1969.

RESOLVED: "That the facsimile or mechanically reproduced signature of any Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed."

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the said Company, this 28th day of July 1997

*J. Gregory Hamilton*  
Assistant Secretary

L1428c 016-0024

**EXTRACT FROM BY-LAWS OF FIDELITY AND DEPOSIT COMPANY OF MARYLAND**

"Article VI, Section 2. The Chairman of the Board, or the President, or any Executive Vice-President, or any of the Senior Vice-Presidents or Vice-Presidents specially authorized so to do by the Board of Directors or by the Executive Committee, shall have power, by and with the concurrence of the Secretary or any one of the Assistant Secretaries, to appoint Resident Vice-Presidents, Assistant Vice-Presidents and Attorneys-in-Fact as the business of the Company may require, or to authorize any person or persons to execute on behalf of the Company any bonds, undertakings, recognizances, stipulations, policies, contracts, agreements, deeds, and releases and assignments of judgements, decrees, mortgages and instruments in the nature of mortgages, . . . and to affix the seal of the Company thereto."

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California

County of San Francisco

On July 25, 1997 before me, Carol E. Volk, Notary Public  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Farshid Ezazi  
Name(s) of Signer(s)

- personally known to me
- I proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Carol E. Volk  
Signature of Notary Public

**OPTIONAL**

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

**Description of Attached Document**

Title or Type of Document: Bidder's Bond

Document Date: July 25, 1997 Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: Farshid Ezazi

- Individual
- Corporate Officer  
Title(s): Secretary/Treasurer
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_



Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

- Individual
- Corporate Officer  
Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_



Signer Is Representing: \_\_\_\_\_

## NONDISCRIMINATION COMPLIANCE STATEMENT

Esquivel Grading & Paving Inc.  
COMPANY NAME

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

## CERTIFICATION

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

Farshid E3031  
OFFICIAL'S NAME

7/25/98  
DATE EXECUTED

Farshid Egazi  
PROSPECTIVE CONTRACTOR'S SIGNATURE

San Francisco  
EXECUTED IN THE COUNTY OF

Sec. Tre.  
PROSPECTIVE CONTRACTOR'S TITLE

ESQUIVEL Grading & Paving Inc.  
PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Item 11

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

Exhibit \_\_\_\_\_

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

STATE OF CALIFORNIA )

COUNTY OF S. F. )ss

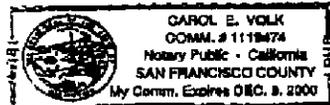
Farshid Ezzaji being first duly sworn, deposes and  
(name)

says that he or she is Sec. Treasure of  
(position title)

ESQUIVEL Grading & PAVING 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: 7/25/97 By Farshid Ezzaji  
(person signing for bidder)



(Notarial Seal)

Subscribed and sworn to before me on

July 25, 1997

Carol E. Volk  
 Carol E. Volk (Notary Public)

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?

Yes\*       No

\*Attach a copy of your certification approval letter.

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DEPARTMENT OF TRANSPORTATION  
 Business Enterprise Program

1120 N Street - MS 79  
 Sacramento, CA 95814  
 (916) 654-4576

CALTRANS

Certification Number: CT-001296  
 Certifying Agency: CALTRANS  
 Expiration Date: 10-01-1997  
 Contact Person: RALPH G. ESQUIVEL

HISPANIC  
 MALE  
 CORPORATION  
 (415) 822-5400

--- \* CERTIFIED PROGRAMS ---  
 DBE SMBE

Attention: RALPH G. ESQUIVEL  
 ESQUIVEL GRADING & PAVING, INC.  
 1210 ARMSTRONG AVENUE  
 SAN FRANCISCO, CA 94124

  
 CERTIFICATION MANAGER, BUSINESS ENTERPRISE PROGRAM

-----Fast in Public View-----

CERTIFICATION MUST BE RENEWED ANNUALLY

It is your responsibility to:

- Apply for Recertification on a Timely Basis.
- Review this notification for accuracy and notify Caltrans in writing of any necessary changes.

-----Preferred WORK LOCATIONS-----

01 ALAMEDA	02 ALPINE	03 AMADOR	05 CALAVERAS
07 CONTRA COSTA	21 MARIN	22 MARIPOSA	24 MERCED
28 NAPA	30 SAN FRANCISCO	39 SAN JOAQUIN	41 SAN MATEO
43 SANTA CLARA	44 SANTA CRUZ	48 SOLANO	49 SONOMA
50 STANISLAUS	55 TUOLUMNE		

-----Preferred WORK CATEGORIES and BUSINESS Types-----

C1601 CLEARING & GRUBBING SE	C1901 ROADWAY EXCAVATION SE
C3910 PAVING ASPHALT (ASPHALT C SE	I7350 MISC EQUIPMENT RENTAL & L SE

- \* Only certified DBE's may be utilized to meet Federally funded contract goals.
- Only certified SMBE or SDBE's may be utilized to meet State funded contract goals.
- Only certified CFMBE or CFWBE's may be utilized to meet Century Freeway contract goals.

07/28/97 08:12 415 822 7988

ESQUIVEL G & P

004/004

State of California  
CONTRACTORS STATE LICENSE BOARD  
LICENSE

License No: **463185**      by **CORP**

Licensee: **ESQUIVEL GRADING & PAVING  
INC**

Classification: **C12 A HAZ**

Expiration: **09/30/98**



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I-003021