SAN MATEO COUNTY
Transportation Authority

April 16, 2004

Mark Delaplaine, Supervisor
Consistency Determinations
California Coastal Commission
45 Fremont Street
San Francisco, California 94105

Dear Mr. Delaplaine:

As we recently discussed by phone, we are requesting a consistency certification on the proposed State Route 92 Curve Correction and Shoulder Widening Project. To assist you in your review we have enclosed:

1. A copy of the Draft Initial Study/Environmental Assessment dated August 2001.
2. A copy of the Focused Biological Assessment dated October 2003 (Note the copies of letter and email correspondence with the NOAA Fisheries, U.S. Fish and Wildlife Service, and the California Department of Fish and Game in Appendix A of the Biological Assessment).

Thank you for your assistance and collaboration, especially on our own federal consistency determination, and on explaining your process. We look forward to working with you as you complete this review. If you need additional information, please don't hesitate to contact me at (650) 508-6368.

Sincerely

Erik Ólafsson
Senior Planner
Strategic and Long Range Planning
San Mateo County Transportation Authority

Enclosures

cc:
Shahla Yazdy – Project Manager - San Mateo County Transportation Authority
Stefan Galvez – Caltrans District 4
Margaret Gabil – Caltrans District 4

Coastal Consistency Certification
State Route 92 Shoulder Widening and Curve Correction Project
Between Half Moon Bay City Limits and Pilarcitos Creek Bridge
San Mateo County, California

1. AUTHORITY

This Coastal Consistency Certification is submitted in compliance with 15 CFR Section 930.57 *et seq* of the National Oceanic and Atmospheric Administration (NOAA) Federal Consistency Regulations (15 CFR 930).

2. CERTIFICATION

The State Route 92 Curve Correction and Shoulder Widening Project is located in the valley east of Half Moon Bay, CA (see map on page 5). Parks has evaluated activities described in its DGMP for consistency with the California Coastal Management Program (CCMP). As required by 15 CFR § 930.57(b), we have concluded that the proposed project complies with the enforceable policies of California's approved management program and will be conducted in a manner consistent with such program. The Draft Environmental Assessment/Initial Study and Focused Biological Assessment provide the basis for the finding and are incorporated by reference. We request that the California Coastal Commission (CCC) concur with our certification of consistency.

3. PROJECT PURPOSE AND DESCRIPTION

The California Department of Transportation (Caltrans), in cooperation with the San Mateo County Transportation Authority (SMCTA) and the Federal Highway Administration (FHWA), proposes to widen shoulders, travelled way and correct curves on State Route 92 in San Mateo County, California, from the city limits of the City of Half Moon Bay (on the west) to the approximate location of the Pilarcitos Creek Bridge (on the east). The purpose of the proposed project is to improve safety and traffic operations, as described below.

Purpose of the Proposed Project. State Route 92 in San Mateo County is a two-lane conventional highway that serves as the primary east-west coastal access route between the greater Bay Area and coastal communities. It serves a wide range of users, including commuters as well as commercial and recreational travelers. Shoulder and lane widths and numerous curves on the roadway do not meet current standards. The purpose of the proposed project is to improve safety and operations, reduce accidents and other vehicle incidents, alleviate congestion, and provide improved emergency vehicle access.

While the project would increase the radii of some of the more severe curves and widen stretches of the roadway, it would not add through traffic capacity as defined by the 1994 Highway Capacity Manual (Parsons, 2000). The 1994 Highway Capacity Manual (HCM) defines capacity as representing the maximum hourly rate at which vehicles can reasonably be expected to traverse a point or uniform section of a roadway during a given time period

under prevailing roadway, traffic, and control conditions. Additionally, the California Transportation Commission (CTC) has adopted a standing policy relative to what constitutes a capacity increasing versus non-capacity increasing highway operational improvement. The relevant portion of the policy notes that curve and vertical alignment corrections and shoulder widening are not capacity increasing.[1]

Need for the Proposed Project. The San Mateo County U.S. 101 Corridor Study Traffic Model was used to develop projections for Route 92 in the project area. Forecasts for eastbound and westbound AM and PM peak hour volumes, as well as Average Daily Traffic (ADT), for the years 2002 and 2022, are shown in Table 1.1-1. During peak traffic, the roadway is projected to operate at levels of service D and F, respectively, for future years 2002 and 2022. Although the proposed project would not increase through traffic capacity, it would enhance operations of this congested roadway.

Table 1
Route 92 Traffic Forecasts (Half Moon Bay to Pilarcitos Creek)

	Eastbound				Westbound			
	AM Peak		PM Peak		AM Peak	PM Peak		
Year	**Traffic**	**LOS**	**Traffic**	**ADT**	**Traffic**	**Traffic**	**LOS**	**ADT**
2002	1,710	D	636	6,360	451	1,500	D	15,000
2022	2,196	F	780	7,800	727	2,062	F	20,620

Notes:
LOS = Level of Service (rated from A – free flowing, to F – congested)
ADT = Average Daily Traffic
Source: Parsons Transportation Group, 2000

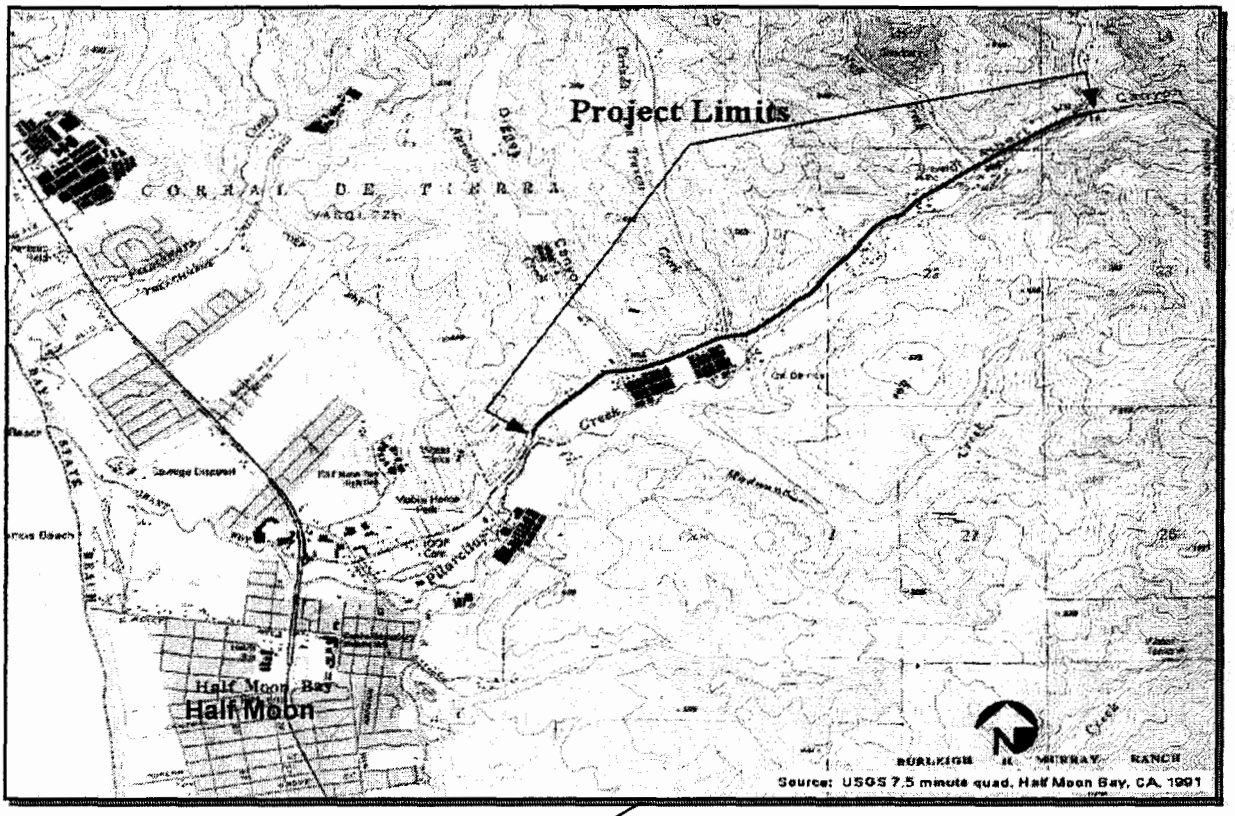
Caltrans provided accident histories for Route 92 between kilometer post (KP) 0.0 and KP 5.3 (milepost 0.00 to 3.30), which includes the project limits. During the three-year period between July 1, 1996, and June 30, 1999, there were a total of 130 accidents, of which 58 were injury and 3 were fatality accidents. The fatality rate of 0.04 fatal accidents per million vehicle miles is greater than the average rate of 0.028 for a similar highway type and the accident rate of 1.74 exceeded the average rate of 1.51. The majority of accidents were of the "rear end" or "hit object" type. More accidents occurred on Saturdays or Sundays than on any single weekday. The primary factor in the majority of accidents was excessive speed. By providing wider shoulders and increased clear zones, the proposed project

[1] The HCM states that deficient geometric conditions and design elements can reduce the capacity and/or measures of effectiveness of a roadway. Roadway geometric, safety and operational improvements can help to remove the constraints of achieving ideal maximum conditions (in principle, a condition for which further improvements will not achieve any increase in capacity); however, these improvements do not constitute adding "additional" roadway capacity.

would provide vehicles in a potential accident situation with room to maneuver to avoid accidents. The improved geometry would also allow traffic to maintain a more consistent speed.

The Route 92 Shoulder Widening and Curve Correction Project would widen the existing pavement to provide two standard 3.6-meter (12-foot) lanes and 2.4-meter (8-foot) shoulders from the Half Moon Bay city limits (KP 0.7) to and including the Pilarcitos Creek Bridge (KP 5.3). The Project Location and Vicinity are shown in Figure 1A. Currently this portion of Route 92 ranges in width from approximately 7.3 to 8.5 meters (24 to 28 feet). Widening would generally be accomplished by adding approximately 4.8 meters (15.5 feet) of new pavement to the north side of the roadway. Cut and fill would occur at various points along the alignment to achieve standard pavement width, and retaining walls are required in some areas.

The project would also increase the radii of horizontal curves to a minimum of 100 meters (328 feet). Existing curve radii range from approximately 27.4 to 488 meters (90 to 1,600 feet). Vertical curves would be adjusted to provide vertical sight distances consistent with the existing or corrected horizontal alignment. At two locations other than curve correction locations, deficiencies exist in the vertical alignment, where the available vertical stopping sight distance is less than required for the speed afforded by the existing horizontal alignment. The project would correct these deficiencies by lengthening the crest vertical curve at one location, and by replacing three crest vertical curves at the other location with a single vertical curve.



ROUTE 92 SHOULDER WIDENING AND CURVE CORRECTION PROJECT
Figure 1
Project Location and Vicinity

Drainage improvements would include lengthening or replacing four large culverts and realignment of the existing stream channels, as appropriate, at crossings of tributaries to Pilarcitos Creek (Apanolio or First Creek, Corinda Los Trancos Creek, Short Creek, and Nuff Creek). The culverts would be extended at Apanolio, Nuff and Short creeks, and would be replaced at Corinda Los Trancos Creek. The existing stream channel at Apanolio and Nuff creeks would be realigned. Rock or slope protection would be installed to maximize energy dissipation and minimize erosion or scour.

The Pilarcitos Creek Bridge would be replaced with a wider and longer clear-spanning bridge, resulting in the removal of six piers that support the existing bridge. The stream channel at the bridge location would be widened, regraded, and improved with rock vortex weirs to stabilize the channel and provide habitat for aquatic species. On the east bank of the channel, a floodplain bench would be constructed above the creek bed to handle the intermediate flows. The farm road (access to existing property) located adjacent to the creek would be realigned between the floodplain bench and the east bridge abutment.

Pilarcito Creek Bridge Crossing

A fish passage would be constructed in Pilarcitos Creek at the proposed Route 92 bridge to replace the existing drop structure and mitigate impacts from the project by facilitating upstream fish passage past the existing drop structure and opening access to potential spawning areas in the upper reaches of the watershed. Construction within the stream channel would be limited to the period between June 15 and October 15. The following describes the mitigation and the background information collected to create a successful structure.

Steelhead burst velocity, height of the fish passage drop, and hydrology of Pilarcitos Creek were considered in designing the fish passage mitigation structure. To allow the fish to migrate upstream, the velocities in the creek would need to be below the low end of the burst speed range (0.7 to 1.8 meters per second). The NOAA Fisheries criteria for drop heights are 0.15 meters for juveniles and 0.3 meters for adults. The flow values at Pilarcitos Creek were identified in the *Preliminary Drainage Report* (Parsons, April 2001), showing the two-year and five-year flows at 14.2 cubic meters per second and 24.6 cubic meters per second.

Since the existing structure has a 1.5-meter drop from the top of the concrete structure to the bottom of the pool, fish are prevented from migrating beyond the structure. The velocities in the channel and the drop heights are controlled by the high flows, while the depths are controlled by low flows; therefore the flow would need to be great enough to provide adequate depth for the fish, but not too great that the velocity and drop height increase beyond the capabilities of the fish.

Taking the above factors and existing features into consideration, the new passageway would include a series of five rock vortex weirs to stabilize the channel and provide habitat through the maintenance of stable width to depth ratios in the channel, channel capacity, allowing fish passage in all flows. The first weir would be upstream of the proposed bridge,

the second and third weirs would be beneath the bridge, and the fourth and fifth weirs would be downstream from the bridge. This would allow for a 0.15 meter (0.5 foot) change in elevation drop to accommodate the burst velocity of juvenile steelhead. The lower velocities in the pools between the drops would provide a resting place (scour pool) for the steelhead as they navigate upstream. The weirs would be composed of two tiers of footer rocks that would curve from either side of the creek channels, creating a curved weir wall. Gaps would be placed between the vortex rocks at the tops of the weir for water movement and passage.

The width of the low-flow channel at the project site is 4.5 meters (15 feet). An 8- to 15-meter (26- to 50-foot) wide floodplain bench would be located on the east bank of the channel 1.0 to 1.5 meters (3.3 to 4.9 feet) above the creek bed for intermediate flows. An access road would be located between the bench and the bridge abutment and the west side of the bank would be regraded with a 1.5:1 horizontal to vertical side slope, allowing for a 100-year flood with freeboard at the bridge. Widening the channel would provide better flood flow conveyance and low-flow velocities.

By replacing the impassible structure, habitat areas within Pilarcitos Creek and other tributaries of the creek would be made available to Central California Coastal steelhead, essentially creating new habitat areas or restoring habitat areas for renewed use.

Nuff Creek Culvert

Placement of the culvert extension in Nuff Creek would include the removal of an existing concrete sack wall. The culvert would be an extended arch-culvert with a width of 3.6 meters (12 feet) and a streambed of native streambed and rock material. Downstream of the culvert, streambed material is relatively fine grained that has a theoretical equilibrium slope substantially less than the natural slope of the undisturbed channel. Upstream the streambed material is larger and has an equilibrium slope equal or greater than the existing bed slope indicating that the streambed would be stable upstream of the culvert. To maintain this stability, the concrete sack wall would be replaced with a series of rock weirs with jumps no higher than 300 millimeters (12 inches). The five proposed steps require an approximate 220-millimeter (nine inches) step between the weirs to make up the elevation difference. Because of the fine grained material downstream of the culvert, a rock weir would also be added to form a pool of water 150 millimeters (six inches) deep at the culvert outlet.

The culvert bottom would be embedded below the streambed. Step pools formed by the rock weirs would be created upstream of the roadway crossing to raise the grade of the channel and allow for fish passage and resting. The rock weirs would be composed of facing riprap or natural boulders and natural stream sediment materials between the rocks forming each rock weir. The rock weirs typically allow a 0.3 meter (12 inches) maximum height change, with resting pools of about 3.6 meters (12 feet) in between each step. This would allow for improved fish passage to the upper reaches of the creek. Native riparian tree stakings would line the channel banks to provide shade and some bank stability. This

creek would also be slightly realigned to accommodate the culvert and maintain adequate flows.

Sediment in this streambed is very fine grained and, except for the upstream area of Nuff Creek, the equilibrium slope for the channel is less than the natural bed slope. Recorded streambed elevations indicate that the streambed has remained relatively stable. The small grain size of the channel material does not support the steep slopes of the existing streambed; therefore, the streambed stability is due to high sediment supply and the ability for the stream to carry the sediment. Natural grade control such as tree roots, rock outcropping, and isolated cobbles assist in stabilizing the channel bed. The existing drops in the streambed may be due to channel degradation since the original installation of the culverts. The rock weirs and any riprap placed in the channel would promote stability of the channel and would adjust should general channel degradation continue to occur.

To develop the culvert crossing, a temporary sand bag coffer dam would be installed upstream of the culvert. A low-flow flexible pipe would connect the dam to downstream riprap, at which point the waters would flow within the channel. The flexible pipe would be moved from side to side as the east and west portions of the culvert are developed. Following completion of the culvert, the sand bag coffer dam, flexible pipe, and any temporary riprap would be removed. Use of the flexible pipe prevents damage to water quality during construction. Construction within the stream channel would be limited to the period between June 15 and October 15 when fish passage is not expected. The construction would temporarily disturb approximately 151 square meters (1,625 square feet) of the channel, including the existing culvert [based on four-meter (13-foot) width by 36-meter (125-foot) length.]

Corinda Los Trancos Creek Culvert

The culvert within Corinda Los Trancos Creek would be completely replaced with a new embedded culvert measuring 3.0 meters (9.8 feet) in width. Since the culvert would be embedded below the streambed, the channel would have a natural bottom of rock riprap or cobble and boulder material, with an approximate size of 300 millimeters (12 inches) in diameter. Native material would be placed between the rocks. The large rock size would be required to maintain placement during a large flow event. The combination of large rock and native material would produce a more natural streambed. At both the upstream and downstream ends of the culvert, rock weirs would provide jump or rest pools, and compensate for any natural changes in the channel slope. The culvert invert would be on a large slope to accommodate for the existing streambed slope. Bed retention sills would be installed in the culvert bottom to assure that a minimum of 300 millimeters (12 inches) of bed material remains in the invert at all times.

Sediment in this streambed is very fine grained and the equilibrium slope for the channel is less than the natural bed slope. Recorded streambed elevations indicate that the streambed has remained relatively stable. The small grain size of the channel material does not support the steep slopes of the existing streambed; therefore, the streambed stability is due to high sediment supply and the ability for the stream to carry the sediment.

Natural grade control such as tree roots, rock outcropping, and isolated cobbles assist in stabilizing the channel bed. The existing drops in the streambed may be due to channel degradation since the original installation of the culverts. The rock weirs and any riprap placed in the channel would stabilize the channel and would adjust should the channel continue to degrade.

As in all culvert replacements for this project, a temporary sand bag coffer dam, low-flow flexible pipe, and downstream riprap would be installed during construction to allow for work within the channel without affecting the quality of the creek waters. Once construction of the culvert is complete, the dam, flexible pipe, and riprap would be removed to allow for natural creek function. Construction within the stream channel would be limited to the period between June 15 and October 15. The total area of disturbance within the channel would be approximately 135 square meters (1,453 square feet), based on three-meter (10-foot) width by 45-meter (145-foot) length.

Apanolio Creek Culvert

The Apanolio Creek culvert would be extended to accommodate the additional width of roadway pavement. Construction within the stream channel would be limited to the period between June 15 and October 15. The existing channel flowline would also be realigned downstream of the culvert. The realignment would widen the channel to one meter (3.3 feet) and the culvert would be 1.83 meters (six feet) in width. The culvert bottom would have native material stream channel with cobbles and boulders. Like the Corinda Los Trancos creek culvert, this culvert would have the invert embedded below the natural channel elevation and would have a rock weir installed downstream of the culvert to form a jump or rest pool. A temporary coffer dam, flexible pipe, and temporary riprap would be placed in the channel to allow for construction of the culvert while maintaining water flow velocities and controlling any sediment disturbed during construction.

Sediment in this streambed is very fine grained and the equilibrium slope for the channel is less than the natural bed slope. Recorded streambed elevations indicate that the streambed has remained relatively stable. The small grain size of the channel material does not support the steep slopes of the existing streambed; therefore, the streambed stability is due to high sediment supply and the ability for the stream to carry the sediment. Natural grade control such as tree roots, rock outcropping, and isolated cobbles assist in stabilizing the channel bed. The existing drops in the streambed may be due to channel degradation since the original installation of the culverts. The rock weirs and any riprap placed in the channel would stabilize the channel and would adjust should the channel continue to degrade.

As in all culvert replacements for this project, a temporary sand bag coffer dam, low-flow flexible pipe, and downstream riprap would be installed during construction to allow for work within the channel without affecting the quality of the creek waters. Once construction of the culvert is complete, the dam, flexible pipe, and riprap would be removed to allow for natural creek function. Construction within the stream channel would be limited to the period between June 15 and October 15. The total area of disturbance within the channel,

including the area of existing culvert, would be approximately 150 square meters (1,600 square feet), based on three-meter (10-foot) width by 50-meter (160-foot) length.

Short/Dry Creek Culvert

The existing Short Creek (Dry Creek) culvert would be extended to accommodate the additional roadway width. Construction within the stream channel would be limited to the period between June 15 and October 15. The streambed culvert would also be embedded and native material would be used to prevent erosion of streambed surfaces. This would improve the quality of the water downstream. Due to the small size of this drainage and the lack of any summer flow observed during the site visit on August 10, 2001, NOAA Fisheries does not consider this stream likely to support a population of Central California Coastal steelhead (NOAA Fisheries, September 25, 2001, see attached letters). Therefore, no fish passage alterations are included.

4. CONSISTENCY WITH PROVISIONS OF THE CALIFORNIA COASTAL ACT

ARTICLE 2, PUBLIC ACCESS

Access to the coastal zone within the project area is facilitated by State Route 92 and would be made safer by implementation of the proposed project. The widened shoulders will serve as a Class II Bicycle Lanes, providing for additional access to the coast for bicyclists.

ARTICLE 3, RECREATION

This article does not apply to the proposed State Route 92 Shoulder Widening and Curve Correction Project.

ARTICLE 4, MARINE ENVIRONMENT

The proposed project includes elements that will improve fish passage in Pilarcitos Creek, a creek that flows into the Pacific Ocean (see **3. PROJECT PURPOSE AND DESCRIPTION**). Because the project proposes to maintain, enhance, and where possible, restore marine resources and to control run-off and other impacts to the stream and marine environment, it is consistent with the marine environment provisions of the California Coastal Resources Planning and Management Policies.

ARTICLE 5, LAND RESOURCES

The project proposes remove a number of trees, many non-native, and replace in a ratio negotiated as part of the Local Coastal Plan (LCP) permit with native trees. We have already consulted with Jim Eggemeyer from San Mateo County on a conceptual plan for replanting replacement trees. Riparian areas of the project will be restored with native vegetation. The project proposes to protect habitat values and to prevent impacts which would degrade sensitive habitat areas; it is consistent with the land resources provisions of the California Coastal Resources Planning and Management Policies.

ARTICLE 6, DEVELOPMENT

Views to, from, and within the project area are critical concerns of the project proponents. Because the project considers and protects, to the degree possible, the scenic and visual qualities of the coastal area, it is consistent with the development provisions of the California Coastal Resources Planning and Management Policies.

ARTICLE 7, INDUSTRIAL DEVELOPMENT

This article does not apply to the proposed State Route 92 Shoulder Widening and Curve Correction Project.