

CALIFORNIA COASTAL COMMISSION

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COASTAL DEVELOPMENT PERMIT APPLICATION

Application number3-02-052, UPRR Railroad Bridge Replacement at Parsons Slough

Applicant.....Union Pacific Railroad; Jenny Allgood, Representative; Michael Johnson, Harding ESE, Agent.

Project location.....Parsons Slough (approximately 100 feet S/SE of the confluence of Parsons Slough and Elkhorn Slough), North Monterey County.

Project descriptionRemoval of existing 150-foot long timber railroad bridge and replacement with new 165-foot long concrete slab girder structure.

Local approval.....Emergency permit authorization approved by Monterey County PLN020383.

File documents.....Application materials submitted for 3-02-052.

Staff recommendation ...Approval with conditions

Staff Note: This permit application is a follow up to an emergency permit (CDP 3-02-069-G, issued August 22, 2002). This permit incorporates all conditions required of the emergency permit (Special Conditions 1 through 5), in addition to requiring other agency approvals (Special condition 6) and provisions for revision and amendments (Special condition 7).

Summary: The Applicant proposes to demolish and replace the Union Pacific Railroad Bridge crossing at Parson's Slough, located approximately 10,000 feet east of the Highway One Bridge at Moss Landing, in North Monterey County (see Exhibit A for regional location map and Exhibit B for site vicinity map). The site is located within the Elkhorn Slough National Estuarine Research Reserve and also within the Monterey Bay National Marine Sanctuary (which by definition also includes all of Elkhorn Slough east of the Highway One bridge up to the mean high-water line). Most proposed construction activities for the bridge removal and replacement are within the Coastal Commission's original jurisdiction, with the standard of review being the Chapter 3 policies of the Coastal Act. Reconstruction of the bridge approaches would be permitted under Monterey County's permit jurisdiction, with the standard of review being the policies of Monterey County Local Coastal Program.

The Parson's Slough Bridge has become structurally unstable due to abutment failure primarily resulting from tidal scouring. The current condition of the bridge is a threat to public safety, navigation, property, wildlife resources and water quality in the Elkhorn Slough area, which has great ecological significance. While the condition of the bridge requires immediate repairs construction activities performed in and



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Staff: K. Cuffe Approved by: DSL

around the slough channel could potentially have adverse environmental impacts if not properly contained or carried out. For these reasons, the project requires a coastal development permit.

To address these impacts, all construction work will be performed from the existing rail line, using rail car mounted equipment (pile driver, crane, and concrete mixer), and appropriate best management practices (BMPs) have been required to ensure resource protection during construction activities. Additionally, construction work has been scheduled to avoid conflicts with sensitive wildlife species, which use the surrounding area (i.e., Caspian tern nesting and Harbor seal pupping and rearing). Emplacement of pilings to support the bridge constitutes approximately 100 square feet of wetland fill for which a 4:1 replacement ratio has been applied requiring approximately 400 square feet of wetland restoration.

Since the project, as conditioned ensures adequate protection for protecting environmentally sensitive habitat areas and water quality, adequate mitigation for wetland restoration, and serves to protect public safety, the project as conditioned is consistent with the Coastal Act. Staff therefore recommends approval of the project as conditioned.

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I. Staff Recommendation on CDP Application

The staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development subject to the standard and special conditions below.

Motion. I move that the Commission approve Coastal Development Permit Number 3-02-052 pursuant to the staff recommendation.

Staff Recommendation of Approval. Staff recommends a **YES** vote. Passage of this motion will result in approval of the coastal development permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve a Coastal Development Permit. The Commission hereby approves the coastal development permit on the ground that the development as conditioned, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the coastal development permit complies with the California Environmental Quality Act because either: (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the amended development on the environment.



II. Conditions of Approval

A. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. Special Conditions

1. **Scope of Permit.** This permit allows for the demolition and replacement of the UPRR bridge crossing at Parsons Slough, including installation of new steel-cased, cone-tipped pilings, concrete reinforced abutments, sheet-pile and concrete slab girders as shown in Exhibit E. All construction activities are to be conducted using rail car mounted equipment (e.g., for pile driving, concrete pours, deck removal and bridge emplacement) or small boat (e.g., to allow cutting of steel pile caps and aid in cutting existing pilings at mudline). All timber piles will be cut off at mudline and removed. All debris will be removed from the site using rail car and shall be disposed of at a licensed landfill.
2. **Final Project Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit two full-size sets of final plans for Executive Director review and approval that comply with all relevant conditions of this permit. A site plan covering the entire project area, including bridge approaches, shall be included. Plans shall show all project elements including equipment storage and staging locations, the extents of project activities, location of protective fencing designed to protect environmentally sensitive habitat areas, and areas to be restored following construction.



3. **Staging Areas.** Staging areas will be allowed within the UPRR right-of-way only at 1) the main staging and storage area located by the UPRR side-track area near the Dolan Road Junkyard, and 2) at the northeast end of the Parson Slough bridge as shown in Exhibit E. Only riprap and girder materials will be allowed at the Parson Slough bridge staging area.
4. **Restoration Plan.** WITHIN 60 DAYS OF COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit a restoration plan for approval as an amendment to this permit. The purpose of the restoration plan shall be to 1) enhance any saltmarsh habitat disturbed by construction activities and 2) to create an additional 400 square feet of vegetated salt marsh within the project vicinity as mitigation for wetland fill associated with new pilings used for the bridge replacement. The restoration effort shall include replanting of coastal saltmarsh vegetation (including pickleweed and saltgrass) and include a hydrological analysis that shows that the tidal regime at the restoration site will be sufficient to meet the needs of the species that are planted, along with performance criteria and monitoring methods. The restoration plan must illustrate the elevation of the restoration site in relation to the tidal regime and provide a detailed planting plan.

The restoration plan shall also include an annual monitoring program to be implemented by the permittee that measures the results of wetland restoration at this location for at least five years. An adaptive management component of the plan is required to address any potential remediation measures necessary to meet the performance criteria in the event that the restoration site is not functioning as planned.

The restoration plan shall provide for the eradication of invasive, non-native plants where appropriate and shall clearly identify the type, size, extent and location of all plant materials, any irrigation system and other landscape features proposed for the entire site. The plan should include any temporary drip irrigation system, if needed, to establish the plantings, as well as a schedule for plant installation. All plantings will be maintained in good growing conditions throughout the life of the project. The plans submitted shall include evidence of review and approval by the Monterey County Planning and Building Inspection Department.

5. **Implement Wetland Restoration.** WITHIN 30 DAYS OF APPROVAL OF THE FINAL WETLAND RESTORATION PLAN, the permittee shall clear all construction related debris from all areas used for temporary materials storage and staging, and implement restoration of saltmarsh habitat, in conformance with the approved wetland restoration plan as required in Special Condition 2b. All planting and necessary irrigation devices should be completed within 1 year of commencement of bridge replacement construction activities. Monitoring of restoration success shall be conducted in conformance with the approved wetland restoration plan. The results of annual monitoring including any remedial action necessary to achieve performance criteria shall be submitted in the form of a written and photographic report to the Executive Director for review and approval by March 31. In the event that the project biologist and/or Executive Director determines that the performance criteria for the restoration project have not been satisfied, the permittee shall submit a supplemental restoration plan for the review and approval of the Executive Director within one month of the determination. The supplemental restoration plan shall be prepared by a qualified



wetland biologist, and shall specify additional landscaping, monitoring and management measures that will be implemented to achieve the restoration requirements of this permit within a two year time frame. The supplemental report shall also provide for additional reporting to the Executive Director, until restoration objectives have been achieved to the satisfaction of the Executive Director.

6. **Resource Protection BMPs.** To ensure that project activities minimize adverse environmental impacts to the slough and adjacent wetlands, all best management practices (BMPs) outlined in the application submittal and incorporated herein shall be implemented during the project activities. These include the following:

- a) **AIR QUALITY:** All construction vehicles, including railroad engines, shall comply with local air pollution control district regulations and will be limited to those necessary to complete the project. Although site access is only expected to be by rail, motor-vehicles may be used by crew members and will be parked near the junk yard (off of Dolan Road). To reduce auto emissions resulting from workers arriving at the staging area, and to control dust emissions at the site during construction activities, the following BMPs are to be provided:
 - i) Employees working at the site will be encouraged to carpool to the project site/staging area
 - ii) Water trucks will be used to water the proposed staging area (off of Dolan Road) as well as roads leading into the construction staging site to control fugitive dust during excavation of the sediment mixing and drying site, as needed
 - iii) If any construction vehicles are used to enter the staging area (off of Dolan Road), they will be limited to ten miles per hour in order to reduce the generation of dust onsite.
- b) **BIOLOGICAL RESOURCES:** To assure that there will be no direct impacts to biological resources during construction, the following BMPs will be implemented:
 - i) A qualified biologist will monitor at the project site: (A) implementation of BMPs, (B) project activities during construction, and (C) post-construction restoration.
 - ii) To protect passerine birds, including Caspian Terns, construction activities shall be scheduled to occur outside of the nesting period (March 1 through August 31).
 - iii) To avoid potentially adverse environmental impacts to harbor seals, construction shall be scheduled to take place outside the pupping season window of March 15 to June 15.
 - iv) Restrictive fencing will be placed around the proposed staging areas and monitored by a qualified biologist to ensure that materials and equipment are not placed into pickleweed.
 - v) Silt fencing will be placed at the proposed bents and on both sides of the berm/track where grading will occur. A biological monitor will ensure the proper placement
 - vi) Netting shall be secured under the bridge and/or floating booms shall be placed into the water around the bridge to ensure that materials don't break away during the bridge replacement and enter the channel of the Slough.



- vii) To prevent potential impacts to aquatic resources, FDA approved resins will coat the piling supports. These piling-coated resins have been successful for other bridge replacement projects, which are located in sensitive aquatic habitats.
- viii) Subsequent to the Bridge replacement, silver streamers will be placed on the guardrail to reduce the likelihood of birds being struck by train operations.
- ix) Subsequent to the Bridge replacement, signs will be posted on the Bridge "Keep Out—No Trespassing" to ensure public safety and avoid potential harassment of sensitive wildlife.
- c) **SEISMICITY/GEOLOGY/EROSION:** To address potential seismic shaking and ground failure impacts, the following BMPs shall be implemented:
 - i) Any fill used will be placed on the embankments in sufficiently dense condition that additional compaction by seismic shaking is minimal. The bridge embankments will be inspected following earthquakes of 5.0 or greater for surface fissures, evidence of lateral spreading, and horizontal or vertical displacement of piers, abutments, and other support structures.
 - ii) All construction plans will be reviewed by the project geotechnical engineer to determine if geotechnical recommendations have been incorporated during construction;
 - iii) During construction, periodic inspections will be completed by the geotechnical engineer to monitor the implementation of geotechnical recommendations into project construction.
 - iv) The channel banks at the bridge site will be protected with sufficient riprap cobbles or metal sheet pilings to prevent the localized slumping of the submerged clayey silt soils comprising the banks.
- d) **WATER QUALITY:** To ensure the protection of coastal water quality and marine resources during project construction and operations, water quality BMPs have been incorporated into the project. Proper storm water controls shall be implemented to minimize erosion and avoid the discharge of sediments or pollutants during construction. A copy of the SWPPP prepared for the project shall be kept at the project site during construction operations.

If the project is constructed during the wet season (i.e., after October 1), the applicant shall implement the following erosion control practices and BMPs to reduce the potential for sedimentation or release of pollutants into Parson's Slough or adjacent wetlands. Inspections of the BMPs and any stormwater control practices shall take place before and after storm events to ensure that each BMP or control is functioning properly.

- i) Install and maintain silt fences, sediment traps, or straw bale dikes around all areas with disturbed or exposed soil along the embankments near the abutments.
- ii) Turbidity of surrounding waters will be monitored to ensure that turbidity remains below required levels.
- iii) Divert concentrated runoff around equipment, vehicle, and materials storage areas.



- iv) Minimize the amount of construction materials stored onsite.
- v) Designate and limit areas of the site for the delivery and removal of construction materials to the staging and storage areas approved in the final plan.
- vi) Store materials in a manner that limits exposure to precipitation and controls storm water runoff.
- vii) Handle construction materials (e.g., concrete) in a manner that prevents direct discharges into Parsons Slough.
- viii) Provide pallets and/or secondary containment areas for chemicals, drums, or bagged materials.
- ix) Cover waste dumpsters with plastic sheeting at the end of each work day and during storm events.
- x) Train onsite personnel in spill prevention practices, and provide spill containment materials near all storage areas.
- xi) Separate wastes and recycle or dispose of them properly.
- xii) Prior to pouring concrete via a shoot tube from the concrete mixer placed on a rail car into the rebar cages, sealed plywood will be placed around the rebar cages to ensure that concrete does not escape into the Slough.

The following controls or BMPs shall be implemented to minimize the potential for releases or spills of pollutants during the operation of construction equipment:

- xiii) Maintain all construction equipment to prevent oil or fuel leaks.
- xiv) Use drip pans or other secondary containment measures beneath vehicles during storage.
- xv) Regularly inspect all equipment or vehicles for fluid leaks.
- xvi) Place wastes (e.g., grease, oil, or oil filters, antifreeze, cleaning solutions, batteries, and hydraulic or transmission fluid) in proper containers, store the containers in designated areas, and ultimately recycle the materials.
- xvii) Fuel and wash vehicles and equipment offsite.

Spill prevention and control practices shall be implemented throughout construction activities. Workers shall be trained in techniques to reduce the chance for spills, contain and clean up spills, and properly dispose of spill materials for the potential pollutants that are relevant to each contractor or subcontractor activity. Where applicable, materials shall be stored in covered containers to minimize the chance for spills. Cleanup materials will be readily available construction personnel for immediate response should a spill occur onsite.

Equipment used to make and pour concrete shall be washed at an offsite location. Concrete fine material or aggregate shall not be allowed to wash into Parsons Slough or adjacent wetlands. Concrete application equipment shall be parked over drip pans or absorbent material at all times.



- e) **NOISE:** To address potential short-term noise impacts onsite, the following BMPs shall be implemented:
 - i) All equipment shall be equipped with mufflers that are in good condition.
 - ii) No more than five pieces of equipment (such as a crane, loader, etc.) may be operating at the same time at the closest point to any receptor.
 - iii) Construction will not be conducted during harbor seal pupping season, or during the nesting season for Caspian terns.
- f) **TRAFFIC:** To reduce potential impacts during peak p.m. hours, the following BMPs shall be implemented:
 - i) All construction access is expected to be by rail. In the event that construction trucks are used and parked at the staged area near the junk yard (off of Dolan Road), traffic entering and exiting the staging area will be limited to operation between 7 a.m. and 4 p.m. weekdays to avoid exacerbating LOS levels during the peak p.m. hour (4:30 to 5:30 p.m.).

7. Environmental and Condition Monitor. PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall submit for Executive review and approval, the name, address, telephone number, and qualifications of the monitor(s) that shall be present during all site preparation and construction activities to ensure that all environmental protections and conditions of this permit will be effectively carried out, along with a work program to guide the activities of the monitor. The monitor shall be an independent consultant/contractor, funded and provided by the permittee following approval by the Executive Director in consultation with the USACOE, RWQCB, USEPA, CDFG and MBNMS.

The environmental monitor shall ensure that construction activities are being performed in compliance with the resource protection measures outlined in Special condition 6 of this permit. To minimize the potential for adverse effects to sensitive wildlife species (southern sea otters, harbor seals, or pelicans) that may be present in the vicinity of the project site, the environmental monitor shall have the authority to halt any action that might result in injury or mortality to southern sea otters, harbor seals or pelicans. The monitor(s) shall use their presence, herding boards, hand clapping, or water hoses to encourage sea otters and harbor seals to leave any area where they may be at risk from project activities. Methods that are less disruptive, such as the presence of the monitor or hand clapping, shall be used initially. If these methods are not successful, more intrusive methods, such as herding or water hoses, may be used. The use of "seal bombs" is prohibited per Moss Landing Harbor District Ordinance Code § 14.110(6). The environmental monitor shall also maintain a record of all interactions with sea otters encountered during project activities. This information shall include for each interaction: 1) response of sea otters to project activities; 2) response to intentional harassment; 3) approximate number of animals involved; and 4) any unusual behavior or circumstances observed.

The environmental and condition monitor shall submit a report to the Executive Director describing the permittee's conformance with permit requirements, following completion of the bridge



replacement project. The environmental and condition monitor shall be empowered to halt construction, after consultation with the Executive Director, if it is necessary to ensure that the permittee is complying with all conditions of this permit. The Executive Director shall settle any disputes between the monitor and the permittee.

8. Other Agency Approvals. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit to the Executive Director for review written evidence that the necessary approvals for the bridge replacement have been obtained from the following regulatory agencies, or that no such approvals are required:

- a) U.S. Army Corps of Engineers
- b) U.S. Fish and Wildlife Service
- c) Regional Water Quality Control Board
- d) California Department of Fish and Game
- e) Monterey Bay National Marine Sanctuary
- f) Elkhorn Slough National Estuarine Research Reserve
- g) State Lands Commission – provide the following:
 - i) Evidence that no State Lands are involved in the development; or
 - ii) State Lands are involved in the development and all permits, including dredging, required by the State Lands Commission have been obtained, or
 - iii) State Lands are involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.
- h) Monterey Bay Unified Air Pollution Control District

9. Revisions and Amendments. The Permittee shall undertake development in accordance with the approved final plans. No use or construction other than that specified by this permit is allowed unless additional permits or amendments are approved. Any proposed changes to the approved final plans (including any changes in operations or piling locations) shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that the change is immaterial or that no amendment is necessary.

III. Recommended Findings and Declarations

The Commission finds and declares as follows:

A. Project Description

1. Project Location and Background



The proposed project is the demolition and replacement of the Union Pacific railroad bridge crossing at Parson's Slough in north Monterey County, California (see Exhibits A, B, C and D). The site is located approximately 10,000 feet east of the Highway One Bridge at Moss Landing, in North Monterey County. The bridge is located within the Elkhorn Slough National Estuarine Research Reserve (Exhibit D) and the Monterey Bay National Marine Sanctuary (which by definition also includes all of Elkhorn Slough east of the Highway One bridge up to the mean high-water line).

The current structure is a 150-foot long timber trestle bridge built in 1946 (Figure 2). The stringers (or girders) of the bridge are made up of several eight-inch by 17.5-inch timber banded together and set on timber pile caps and timber piles. A timber deck lies on top of the stringers. The ballast (gravel baserock), ties, and rail are placed on this deck. The abutments at either end are made of reinforced concrete.

The Parson's Slough Bridge has become structurally unstable due to abutment failure primarily resulting from tidal scouring. The scouring action has deepened the channel from about six feet to 25 feet. Removal of portions of the surrounding levee system (subsequent to constructing the existing bridge), has allowed tidal action in the slough to increase, resulting in a scouring action that the bridge supports were not designed to withstand. Moreover, tidal waters are beginning to breach the tracks of the bridge during the highest tides--a hazard for rail traffic.

Underwater inspections of the bridge pilings and abutments conducted in March 2002 identified that the extent of tidal scouring is far more serious than previously believed (report attached in Exhibit I). Based on these results, UPRR has concluded that the structure must be replaced immediately in order to avoid its potential collapse. The existing bridge abutments recently failed from tidal erosion; collapse of the bridge was only avoided by the earlier placement of helper bents by UPRR emergency crews to buttress the bridge supports.

The bridge carries both freight and passenger trains. The speed limit on this portion of the line is 40 mph for freight trains and 50 mph for passenger trains. This rail line is a vital transportation link for freight and passengers. As structural conditions continue to deteriorate, UPRR is providing increased inspection and maintenance of the bridge. Speeds have also been reduced to prevent further strain on the bridge.

Although the structure presently remains in place because of the temporary repairs, these actions will not assure the long-term integrity of the structure. Use of the bridge is now restricted by the UPRR to prevent an immediate collapse. As an emergency precaution, both the Elkhorn Slough National Estuarine Research Reserve and the United States Coast Guard has urged the UPRR to repair or replace the structure as soon as possible to prevent the collapse of the bridge from potentially threatening public safety, navigation, property, wildlife resources and water quality (see Exhibits G and H, respectively).

The bridge at Parsons Slough is a critical main line transportation link for rail service between the San Francisco Bay area and the Los Angeles metropolitan area. Many cities, commercial and industrial operations located in the area in between these two regions also depend on the rail service provided by



the main line. The bridge also contains a vital conduit for a regional fiber-optic cable corridor that provides communication services for the entire West Coast, including 911 and national security.

2. Project Description

The proposed project involves the removal of the existing timber railroad bridge, and replacement with a concrete slab, girder structure (see Exhibit E for project plans) to avoid complete failure of the existing structure and protect the surrounding environmentally sensitive habitat of the Parsons Slough and Elkhorn Slough area, across and through which the Union Pacific Railroad line crosses. The proposed bridge design is similar to the existing design in profile and number of pilings, but has been designed using steel pilings (with steel pointed end-caps) and prefabricated reinforced concrete pile-caps and girders to provide a thinner bridge with a slightly more elevated (6 inch higher) rail base.

The new bridge structure will be a "Replacement in Kind," using a 165-foot slab girder bridge comprised of eleven 15-foot long, 14-inch thick slab girder sections, and new prefabricated reinforced concrete abutments set inboard of the existing abutments which no longer provide adequate support of the bridge. The new abutments will be placed in line with the existing abutments and within the existing rail bed and so essentially will not expand or enlarge the channel crossing. The existing timber pilings will be replaced using 24-inch diameter steel piles, which will be reinforced with iron caging and poured concrete to increase the structural support of the bridge and bridge abutments. The 24-inch steel piles will have pointed steel end-caps and will be driven through up to 65 feet of soft, muddy substrate to variable depths that may go as much as 110 feet below the base of rail depending on the depth of the dense, sandy end-bearing stratum underlying the soft sediments. The steel piles will be cut off at the appropriate elevation and prefabricated reinforced concrete caps will be placed on top of the concrete-reinforced steel piles to support the slab girder sections. Based on information provided in the Geotechnical Report prepared for the applicant (Kleinfelder, January 23, 2002), a maximum functioning vertical load of 85 tons per pile is included in design of the new bridge foundations.

The bridge itself will be constructed by placing and joining each concrete slab girder section between each pair of pile supports, placing ballast rock on the slabs and replacing the rail track. The optic-fiber cable will also be reattached to the bridge using a special bracket designed for this purpose. A handrail will be added to both sides of the new bridge, to provide additional worker safety. The existing wooden pilings would be cut off at the mudline by divers and will be removed, along with the wooden trestle, from the site by rail car.

The existing concrete abutments will remain in place at both ends of the bridge for erosion protection. Additionally, sheet piling will be driven between the new abutments and the existing abutments as a precaution against future tidal scouring. As tidal scouring continues, the existing abutments would likely continue to settle but would not detach and enter into the main channel.

The existing UPRR rail line traverses the Elkhorn Slough wetlands atop elevated berms that have been reinforced with riprap and baserock up to the toe of the track shoulders. As proposed, the new rail surface will be raised approximately 6 inches, and the low cord of the bridge structure will be raised



approximately 18 inches to reduce the potential for flooding of the tracks during extreme tides and rainfall events. All work involved in raising the bridge approaches to accommodate this increased rail elevation will be accomplished within the same footprint of the existing railway berms and so will not result in an expansion or enlargement of the existing railbed.

As designed, the project will not expand or enlarge the existing structure, nor lead to a change in intensity of use to the existing rail line. However, because the project requires construction activities in and adjacent to the environmentally sensitive habitat area of the slough and surrounding wetlands, the project does involve a potential risk of substantial adverse environmental impact, and so requires that a permit be obtained pursuant to Coastal Act Section 30610 and Regulations Section 13252(a)(3).

Project Implementation and Schedule

Project implementation involves a four-stage process: (A) installing Best Management Practices, (B) removal of the existing bridge, (C) bridge replacement, and (D) restoration, as detailed in Exhibit F.

Equipment, construction materials, embankment materials and UPRR crewmembers would access the Bridge site (for ingress and egress) by rail to lessen the impact of construction activities on the surrounding environment, including aquatic resources. Heavy equipment would include rail cars, concrete mixer, pile driver, and a crane that would be used to remove the existing bridge and debris as well as install the replacement bridge. Materials would include: rebar cages, concrete, steel pilings, steel sheet piles, concrete abutments, caps and girders, track and deck. A crane mounted to a rail car would remove the existing deck and other debris into another rail car for disposal. A pile driver would also be mounted to a rail car for purposes of driving pile to hold the replacement deck. All debris associated with the Bridge Replacement would be removed by rail car and disposed of at a licensed landfill.

Staging areas would occur in two locations: (A) an area off of Dolan Road, near the junk yard, within the UPRR right-of-way; and (B) a small area just south of the Bridge site near the berm of the track (within the UPRR right-of-way). While both equipment and construction/embankment materials would be stored at the staging area off of Dolan Road, only rip rap and pilings would be temporarily stored at the proposed area south of the Bridge. Both staging areas are comprised of ruderal vegetation and ballast near the adjacent berms. Neither staging area would encroach upon wetlands or sensitive resource areas or require the removal of native vegetation. Upon completion of the project, the staging areas would be restored to its pre-project condition (please see the Best Management Practices below).

UPRR intends on starting construction immediately upon receiving regulatory approval. UPRR anticipates that the overall project would take a total of two months to complete.

B. Standard of Review

The Parson Slough Bridge demolition and replacement will take place within the Commission's original permit jurisdiction, which includes lands below the mean high tide line and Public Trust lands (e.g., existing and former tidelands). Regulatory jurisdiction for lands above mean high tide were granted to



Monterey County in 1988 following certification of the Monterey County Local Coastal Program. Most proposed activities as currently described would be within the Commission's original jurisdiction; however reconstruction of the bridge approaches may be located in Monterey County's permit jurisdiction (Exhibit E).

The standard of review for new development in the Commission's original jurisdiction area are the Chapter 3 policies of the Coastal Act. The standard of review for new development located within Monterey County's coastal permit jurisdiction is the certified Local Coastal Program (LCP), and with respect to public access and recreation, the applicable Chapter 3 policies of the Coastal Act. Monterey County's certified LCP includes the North County Land Use Plan (LUP) with specific requirements for protection of environmentally sensitive habitat. Because portions of the project, such as the bridge abutments may span the jurisdictional boundary, and because in numerous respects coastal resource issues demand that the project be understood in their entirety, regardless of jurisdictional boundaries, the following findings, where necessary, may discuss portions of the project located beyond the original jurisdiction area.

C. Coastal Development Permit Determination

1. Marine Resources

a. Applicable Marine Resource Protection Policies

Coastal Act Sections 30230 and 30231 require that:

Section 30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

With regards to wetland fill, Coastal Act Section 30233 provides in part that:

Section 30233.



(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

...(5) incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines...

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

b. Marine Resources Analysis

1. Biological Resources

The Elkhorn Slough watershed is an incredibly rich biological area, with 4,000 acres of coastal estuary, over 270 species of resident and migratory birds, and freshwater ponds and riparian wetland areas that support three rare amphibians, the California red-legged frog, Santa Cruz long-toed salamander and the California tiger salamander. Elkhorn Slough is one of the few relatively undisturbed coastal wetlands remaining in California. The main channel of the slough winds inland nearly seven miles and encompasses over 2,500 acres of marsh and tidal flats. Over 400 species of invertebrates, 80 species of fish, and 200 species of birds have been identified in Elkhorn Slough (Elkhorn Slough Foundation, 2001). The channels and tidal creeks of the slough are nurseries for many fish, including seven commercially important species. Harbor seals and sea otters also make their way through the Moss Landing Harbor to established haulouts in Elkhorn Slough. Additionally, the slough is on the Pacific Flyway, and provides an important feeding and resting ground for many kinds of migrating waterfowl and shorebirds. At least six listed rare, threatened or endangered species utilize the slough and environs, including peregrine falcons, Santa Cruz long-toed salamander, clapper rails, brown pelicans, least terns and sea otters (NOAA, CDF&G).

Sensitive wildlife species that make use of habitats immediately adjacent to the project area include harbor seals, sea otters and Caspian terns. Although the site is located in the habitat range of the California Red-legged frog, with two occurrences within one mile of the proposed project area, no suitable breeding habitat was detected in the vicinity of the project site due to a general lack of freshwater habitat necessary for breeding and dispersal sites (Harding ESE, August 2002). According to the biological report prepared for the project (Harding ESE, June 2002) harbor seals may occasionally use the project site for foraging and raising of juvenile harbor seals. Based on local observations (Jim



Harvey, MLML 2002), harbor seals are known to use the wetland area adjacent to Parsons Slough, just northwest of the bridge crossing, for pupping and rearing during the period of March 15 through June 15. To avoid potentially adverse environmental impacts to harbor seals, construction shall take place outside of the March 15 to June 15 pupping and rearing season.

Sea otters (*Enhydra lutris*) also use Elkhorn Slough for resting and foraging. Sea otters have become abundant in the slough system over the years, with as many as 20-30 individuals observed during spring and late summer, and a few individuals present throughout the year. To avoid potentially adverse environmental impacts to sea otters (and other wildlife and plant species) that may be in the area during the construction activities, the project shall have a biological monitor on site to halt any project activity that might result in injury or mortality. The monitor will be allowed to intentionally direct any sea otters and harbor seals away from the construction area by means of using their physical presence, hand clapping, herding boards or water hoses if necessary. Use of seal bombs, however shall not be allowed.

Numerous waterfowl and shorebird species have been observed in the Parson's Slough channel and adjacent wetlands, including but not limited to mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), rail sp. (*Rallus* sp), willet (*Catoptrophorus semipalmatus*), marbled godwit (*Limosa fedoa*), California gull (*Larus californicus*), white pelican (*Pelicanus erythorhynchos*), great egret (*Ardea alba*), and black phoebe (*Sayornis nigricans*). The most abundant shorebirds in the slough area are the western sandpiper (*Calidris mauri*) least sandpiper (*Caldiris minutilla*), dunlin (*Calidris alpina*), and black bellied plover (*Pluvialis squararola*). Shorebird migrations from summer breeding habitat to winterfeeding grounds are responsible for the general seasonal fluctuations of waterfowl and shorebirds. Some waterfowl and larger species of shorebirds breed in the slough during the summer, and most shorebirds winter in Elkhorn Slough. A nesting colony of Caspian terns (*Sterna caspia*) is situated approximately 500 feet north and east of the mouth of Parsons Slough. In order to avoid impacts to this nesting colony, construction shall take place outside the March 1 through August 31 nesting period. To ensure that the project will not have adverse impacts to these or any of the listed species that make use of the area, the permit is conditioned to require the approval from the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Monterey Bay National Marine Sanctuary.

Since the project has been conditioned to require scheduling and a biological monitor so as to avoid adverse environmental impacts from construction activities to wildlife species, as well as require approval from federal and state agencies charged with protecting wildlife resources, the project as conditioned will protect marine resources in compliance with Coastal Act Sections 30230 through 30233.

2. Wetland Fill

Section 30233 of the Coastal Act allows for diking, dredging or filling for incidental public services where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. It also specifies that diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.



The immediate area surrounding the site (which includes the bridge crossing and bridge approaches) primarily consists of open channel, sparsely vegetated coastal saltmarsh and associated non-vegetated mudflats (see Exhibits J and K). The dominant coastal saltmarsh plant species in the immediate vicinity of the bridge crossing is pickleweed (*Salicornia virginica*). Other saltmarsh plants occurring in the area include saltgrass (*Distichlis spicata*), alkali heath (*Frankenia grandifolia*) and Jaumea (*Jaumea carnosa*). As previously described, all work involved in raising the bridge approaches to accommodate the increased rail elevation will be accomplished within the same footprint of the existing railway berms and so will not impact adjacent wetlands.

The main staging and storage area will be located in the UPRR right-of-way near the junkyard off Dolan Road. This area includes a side-spur rail line that will be used to store the rail cars used for the bridge demolition and construction activities, as well as storage of other equipment and construction materials. A second, smaller staging area will be located just northeast of the bridge crossing, at the base of the rail-bed in an area devoid of wetland vegetation within the UPRR right-of-way. Only riprap, pilings and girders would be temporarily stored at this staging area. Because of the potential impacts construction activities may have, the permit has been conditioned to protect all adjacent wetland areas within the project area, including both staging areas, with protective fencing prior to construction and to restore any saltmarsh habitat disturbed by construction activities using appropriate saltmarsh plant species following construction of the bridge.

Additionally, the project requires the placement of 33 new piles into the bottom of Parsons Slough and the adjacent embankment in order to support the new bridge and new bridge abutments. Placement of new pilings into bottom substrate in the Parsons Slough channel constitutes "fill" based on the Coastal Act definition (Section 30208.2), which defines "fill" to mean "earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area." Under the Coastal Act Section 30233(a)(5), fill is allowed to provide for "incidental public service purpose." The placement of 33 new piles, each with a diameter of 24-inches, will constitute approximately 104 square feet of new fill. The placement of this fill is necessary to provide adequate support for the bridge structure because the existing wooden pilings were not driven deep enough to adequately support the new bridge given the amount of tidal scour that has occurred, and so cannot be used in the bridge replacement.

While the rail line and railroad crossing at Parson's Slough is owned by a private company, the railroad serves an important public function by providing passenger and freight service between the San Francisco Bay area and the Los Angeles metropolitan area. Many cities, commercial and industrial operations located in the area in between these two regions also depend on the rail service provided by the main line. The bridge also contains a vital conduit for a regional fiber-optic cable corridor that provides communication services for the entire West Coast, including 911 and national security. Replacement of the bridge is necessary to maintain the existing service in a way that protects the safety of passengers, railroad infrastructure and environmental resources of the area, without expansion or enlargement of the roadbed or bridge. Thus, the project does not involve an increase in the capacity of



the railline. Therefore the small amount of wetland fill required for the replacement of the Parson's Slough Bridge is "incidental" to maintaining this public service.

Furthermore, use of steel pilings will minimize potential adverse water quality impacts as described in Finding 2 below. Additionally, as extraction of the existing pilings could create additional water quality impacts due to resuspension of fine-grained sediments, the existing wooden piles will be cut off at mudline rather than be removed. Therefore the placement of the new pilings and resultant fill is the least environmentally damaging alternative for replacement of the bridge.

While the pilings constitute fill of tidal channel environment, tidal saltmarsh is the most critical habitat being lost in the Elkhorn Slough watershed due to increase tidal scouring, which over time has resulted in the erosion of tidal marsh and deepening and lengthening of tidal channels. Therefore, as mitigation for the wetland fill necessary for this project and to maintain the functional capacity of the wetlands, consistent with Coastal Act Section 30233(c), this permit has been conditioned to require restoration of an additional 400 square feet of saltmarsh habitat (standard 4:1 replacement ratio) in the vicinity of the Parson's Slough Bridge and to enhance any saltmarsh habitat disturbed by the construction activities. The restoration plan shall include a hydrological analysis that shows that the tidal regime at the restoration site will be sufficient to meet the needs of the species that are planted, performance criteria and monitoring methods. An adaptive management component of the plan is also required to address any potential remediation measures necessary to meet the performance criteria in the event that the restoration site is not functioning as planned. The restoration effort will include replanting of coastal saltmarsh vegetation (including pickleweed and saltgrass). The restoration plan must illustrate the elevation of the restoration site in relation to the tidal regime and provide a detailed planting plan.

In order to maintain similar hydrologic function of the slough system, the bridge replacement has been designed using the same number of pilings and at generally the same distance apart as the existing structure. As described above, the elevation of the low cord (lowest point) of the bridge has been raised approximately 18 inches in order to reduce the potential for flow constriction during extreme high tide events. These design elements also allow greater safety of the rail line while maintaining the functional capacity of the slough channel and the wetland area it serves.

c. Marine Resources Conclusion

Because the immediate restoration of the bridge is vital to offset potential safety hazards, prevent potentially disastrous damage to the surrounding sensitive environment and maintain public services, replacement of the bridge is essential. Because any new alignment of the railroad and bridge in this area would be unfeasible and have an enormous adverse impact to wetlands in this area, the replacement-in-kind of this bridge with a similar structure in this location is the least environmentally damaging alternative available. Since the project as conditioned includes feasible mitigation measures to minimize adverse environmental effects that might result from this project, the Commission finds that the proposed bridge demolition and replacement project (as described in Special Condition 1) is consistent with Coastal Act Sections 30230 through 30233 described above.



2. Water Quality

a. Applicable Water Quality Policies

Coastal Act Section 30232 requires that protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials, and requires that effective containment, cleanup and procedures for accidental spills that do occur. Section 30230 also requires the protection of marine resources, while Section 302331 serves to protect, maintain and restore the quality of coastal waters, streams, wetlands, estuaries and lakes.

b. Water Quality Analysis

Many of the fine grained sediments in the Elkhorn Slough watershed are contaminated with DDT, toxaphene, dieldrin, endrin, aldrin, and endosulfan, which are major persistent pesticides that have historically been used for agricultural operations throughout the Salinas Valley. With the exception of endosulfan these chemicals have now been banned for use in California. Studies undertaken to examine water quality (AMBAG 1992) suggests that though previously banned, these persistent organochlorine pesticides are still present in agricultural fields and adhere to fine grained sediments leaving the fields, thereby finding their way as suspended sediments in surface water bodies. These contaminated sediments enter the Elkhorn Slough watershed via runoff, percolation, and wind transport.

In order to minimize resuspension of bottom sediments into tidal waters of the slough, existing piles will be cut off at the mudline, rather than be removed. Additionally, the design of the pilings used in this project (steel pilings with steel cone tips) will aid in minimizing resuspension of bottom sediments (it is expected that the steel piles will easily slide in to the first 30 feet of soft sediment using the steel tipped end-points and their weight alone; pers comm. Richard Rivera, UPRR Constr. Mgr. August 2002)

The bridge approaches and bridge abutments would be permitted under the jurisdiction of the Monterey County, which will require approval of a building and grading permit. To ensure that earthwork for the project does not negatively impact areas within original Coastal Commission jurisdiction (i.e., the slough and adjacent coastal saltmarsh) temporary protective netting and silt fencing shall be located at the edge of the saltmarsh vegetation and around the existing abutments to prevent any loose sediment from being deposited in the slough or wetlands.

Construction activities for bridge demolition and replacement will occur using rail mounted equipment in order to prevent the unintentional introduction of invasive exotic species via barge water, and to minimize the impact of bottom sediments. A rail-car mounted pile driver would also be used to drive piles through pre-cut holes in the existing bridge deck. A rail-car mounted concrete mixer would be used to pour concrete into the steel-rebar reinforced cages in the steel piling casings. To prevent any of the concrete material from entering waters of the slough, a temporary sealed plywood frame would be set around the rebar reinforcing cages to serve as a lip to collect any material that spilled. A rail-mounted crane would then be used to remove the existing decking and other material into another rail car for disposal, as well as to place the new slab-girder sections onto the new pilings. Floating surface booms



will be placed around the bridge to ensure that floating debris will be collected during demolition and construction and thus not enter the slough.

Additionally, the storm water pollution prevention plan developed for the project has adequate water quality best management practices to minimize erosion and pollution during construction. These BMPs have been incorporated into this permit as applicable, and shall be implemented as mitigation measures to ensure water quality protection. BMPs include, but are not limited to maintaining vehicles and construction materials in a staging area located offsite and beyond the extent of wetlands, fuelling and washing of vehicles and equipment offsite, and keeping construction materials and waste covered and in proper containers. Since the project has the potential for adverse impacts to water quality, this permit has also been conditioned to require approval from the Regional Water Quality Control Board for construction activities in and around Parson's Slough.

C. Water Quality Conclusion

The project poses potential adverse impacts to coastal water quality, including the potential for sediment and construction materials to enter Parson's Slough. To avoid such impacts and protect water quality consistent with Coastal Act Sections 30230 through 30233, the project has been conditioned to require mitigation measures to avoid adverse effects to water quality that might result from this project. Therefore, the Commission finds that, as conditioned, the proposed bridge demolition and replacement project (as described in Special Condition 1) is consistent with Coastal Act Sections 30230 through 30233 described above.

3. Public Access

a. Applicable Public Access Policies

Coastal Act Sections 30210 and 30212 require the following:

Section 30210: In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30212: (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,

(2) Adequate access exists nearby, or,



(3) Agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

(b) For purposes of this section, "new development" does not include:

...(5) Any repair or maintenance activity for which the commission has determined, pursuant to Section 30610, that a coastal development permit will be required unless the commission determines that the activity will have an adverse impact on lateral public access along the beach.

b. Public Access Analysis

No public access currently exists in the project area, and to protect public safety UPRR does not allow public access on the rail line except at specifically marked pedestrian crossings (e.g., near Kirby Park). The nearest public recreational trails, located on the Elkhorn Slough National Estuarine Research Reserve, provide public access to the slough and slough outlooks via a trail system that explores various slough and associated upland habitats (e.g., coastal saltmarsh, oak woodlands, coastal prairie, and freshwater riparian habitats).

Future trails planning may make use of the rail alignment throughout the Elkhorn Slough watershed at some point, but the current level of railroad use through the watershed precludes the safe use of the rail lines for trail access. The rail line is a vital transportation link between the San Francisco Bay Area and Los Angeles metropolitan areas for freight and passenger trains, which travel at speeds of up to 40 to 50 mph. Pedestrian access on such a high-use rail corridor does not seem to be consistent with public safety unless pedestrian trails are somehow separated from the rail line and cantilevered paths could be added on to bridge crossings at some future time. The proposed bridge design does include installation of handrails for improved worker safety, but the handrails are not designed for use by the general public.

c. Public Access Conclusion

The UPRR Parsons Slough Bridge needs to be replaced immediately to reduce the potential for failure due to tidal scouring. The current condition of the bridge is a threat to public safety, navigation, property, wildlife resources and water quality in the Elkhorn Slough area. Various trail proponents have discussed developing a trail system around the Elkhorn Slough watershed; and currently monies have been made available to begin developing such a plan. While it may be possible that such a trail system might in some way parallel or make use of the existing UPRR rail line at some future point, the urgency of repairing the Parson Slough bridge at this time makes it unreasonable to delay construction of the bridge for developing such a plan, which would likely take a significant amount of time and environmental study. Therefore, requiring new public access for this project would not be consistent with protecting public safety or with protecting the surrounding fragile slough ecosystem. Therefore, while the project restricts public access for public safety reasons, it is as proposed consistent with the public access requirements of the Coastal Act.



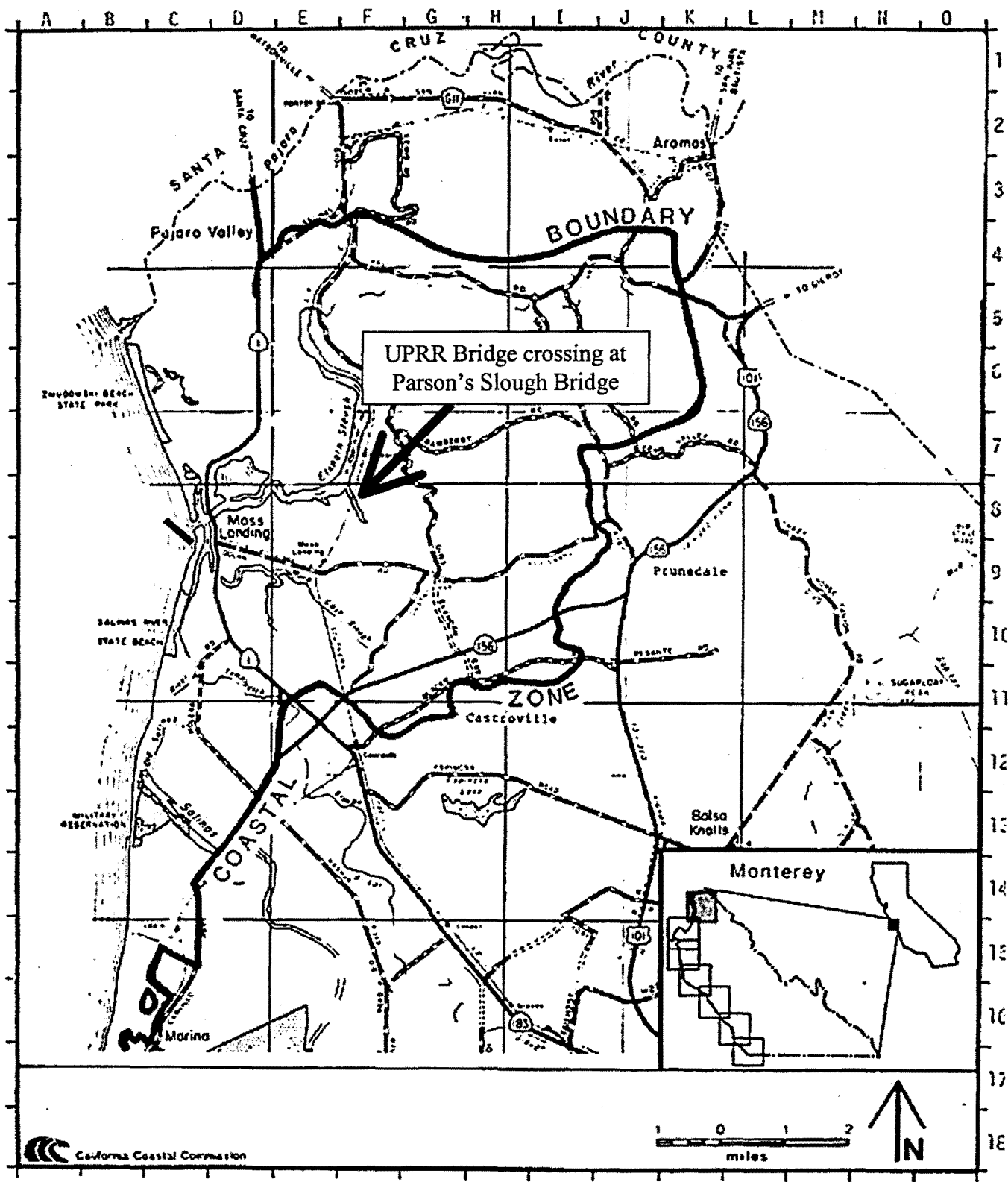
5. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Monterey County Planning and Building Inspection Department is expected to grant approval of an Emergency Permit for work performed in the County's jurisdiction for the demolition and replacement of the UPRR Parsons Slough Bridge. Emergency permits do not require CEQA review, however the emergency permit will also require a follow-up permit in order to address any requirements of the Monterey County Local Coastal Program that were not addressed under the emergency permit. The environmental review of the project conducted by Coastal Commission staff involved the evaluation of potential impacts to relevant coastal resource issues, including environmentally sensitive wetlands habitat, marine resource protection, water quality and public access.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. This staff report, which is incorporated in its entirety in this finding, has discussed the relevant coastal resource issues with the proposal, and has recommended appropriate mitigations to address adverse impacts to said resources. Accordingly, the project is being approved subject to conditions that implement the mitigating actions required of the Applicant by the Commission (see Special Conditions). As such, the Commission finds that only as modified and conditioned by this permit will the proposed project not have any significant adverse effects on the environment within the meaning of CEQA.



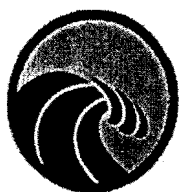
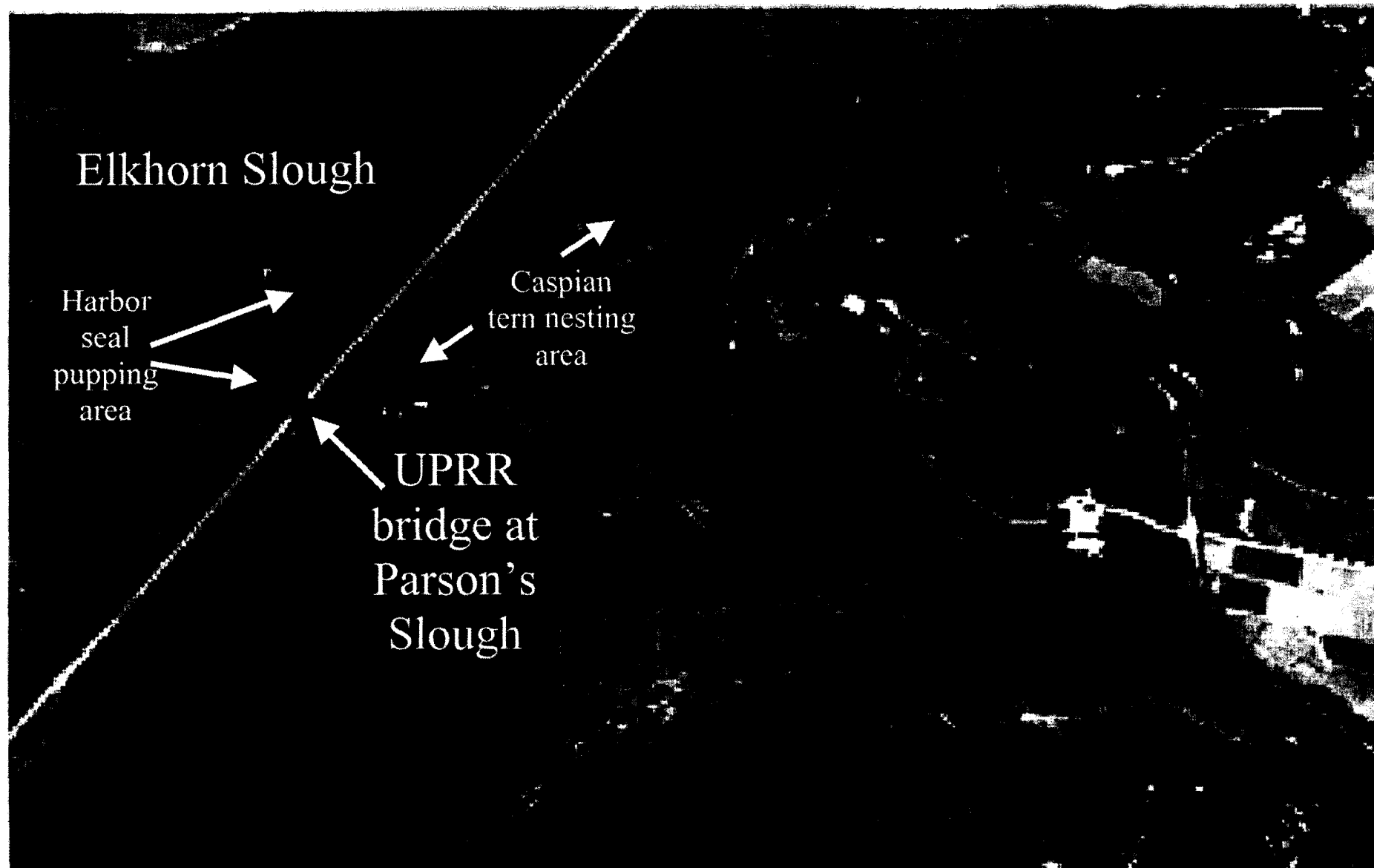


CALIFORNIA COASTAL COMMISSION

Regional Location Map

EXHIBIT
A

UPRR Bridge Replacement at
Parson's Slough
3-02-052

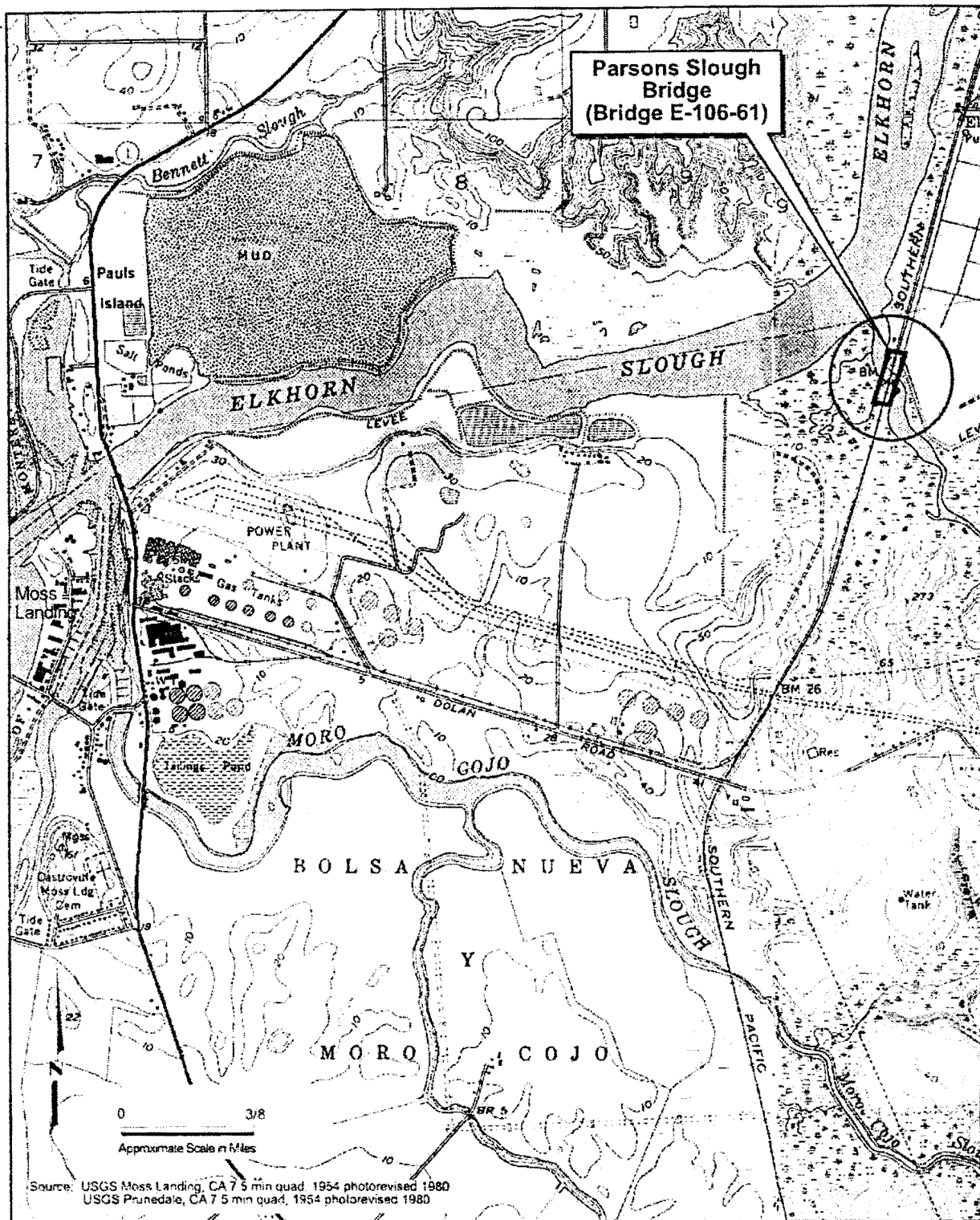


CALIFORNIA COASTAL COMMISSION

June 2001 Aerial Photo of Parson's Slough Area

ExHIBIT
C

UPRR Bridge Replacement
at Parson's Slough
3-02-052



Harding ESE
A MACTEC COMPANY

DRAWN
DJPc

JOB NUMBER
52100 003

Site Location Map
Parsons Slough Bridge Replacement Project
Union Pacific Railroad
Monterey County, California

APPROVED

DATE
11/01

REVISED DATE

PLATE

2

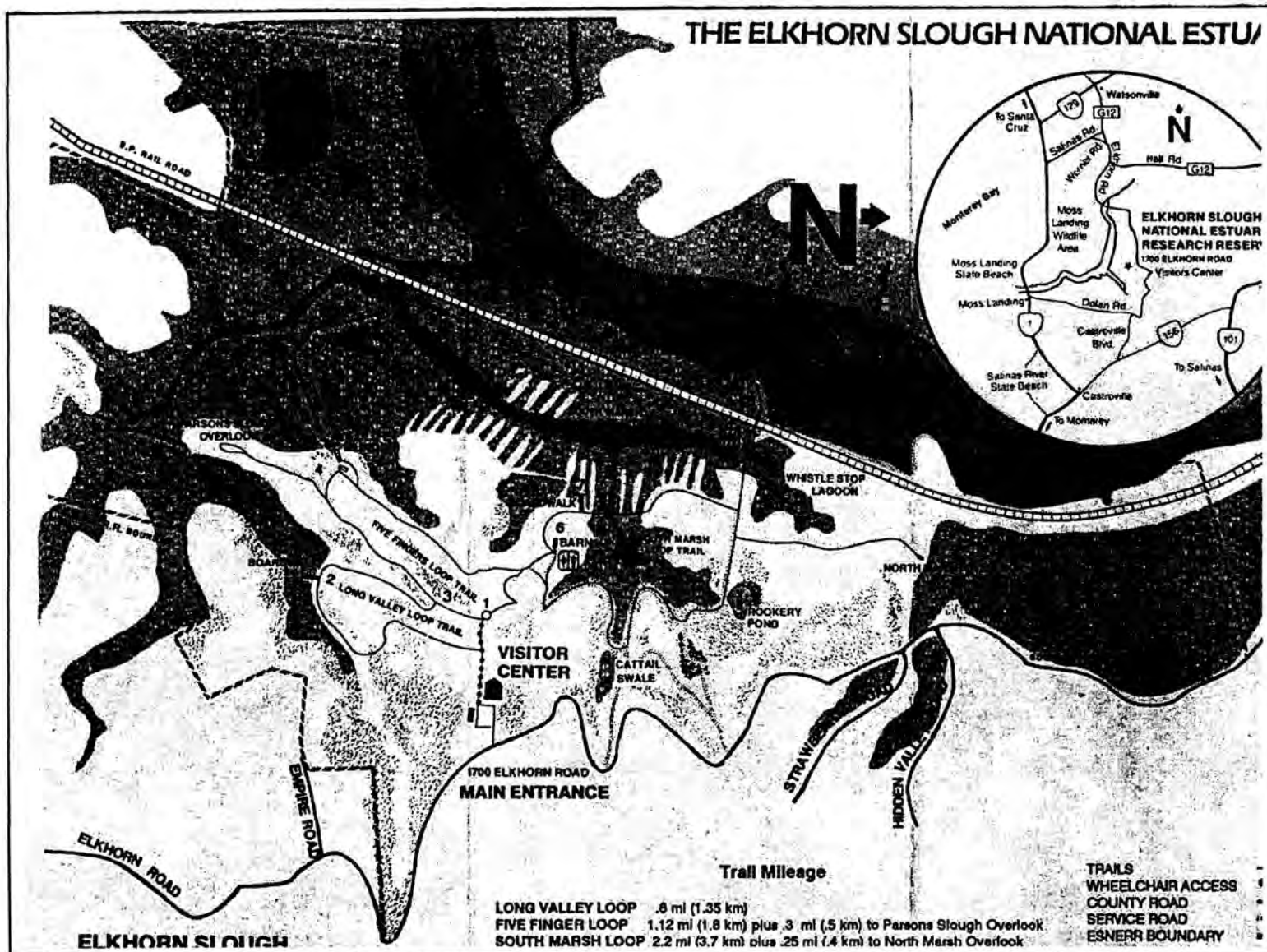


CALIFORNIA COASTAL COMMISSION

Project Vicinity Map of Parson's Slough Area

EXHIBIT
B

UPRR Bridge Replacement at
Parson's Slough
3-02-052

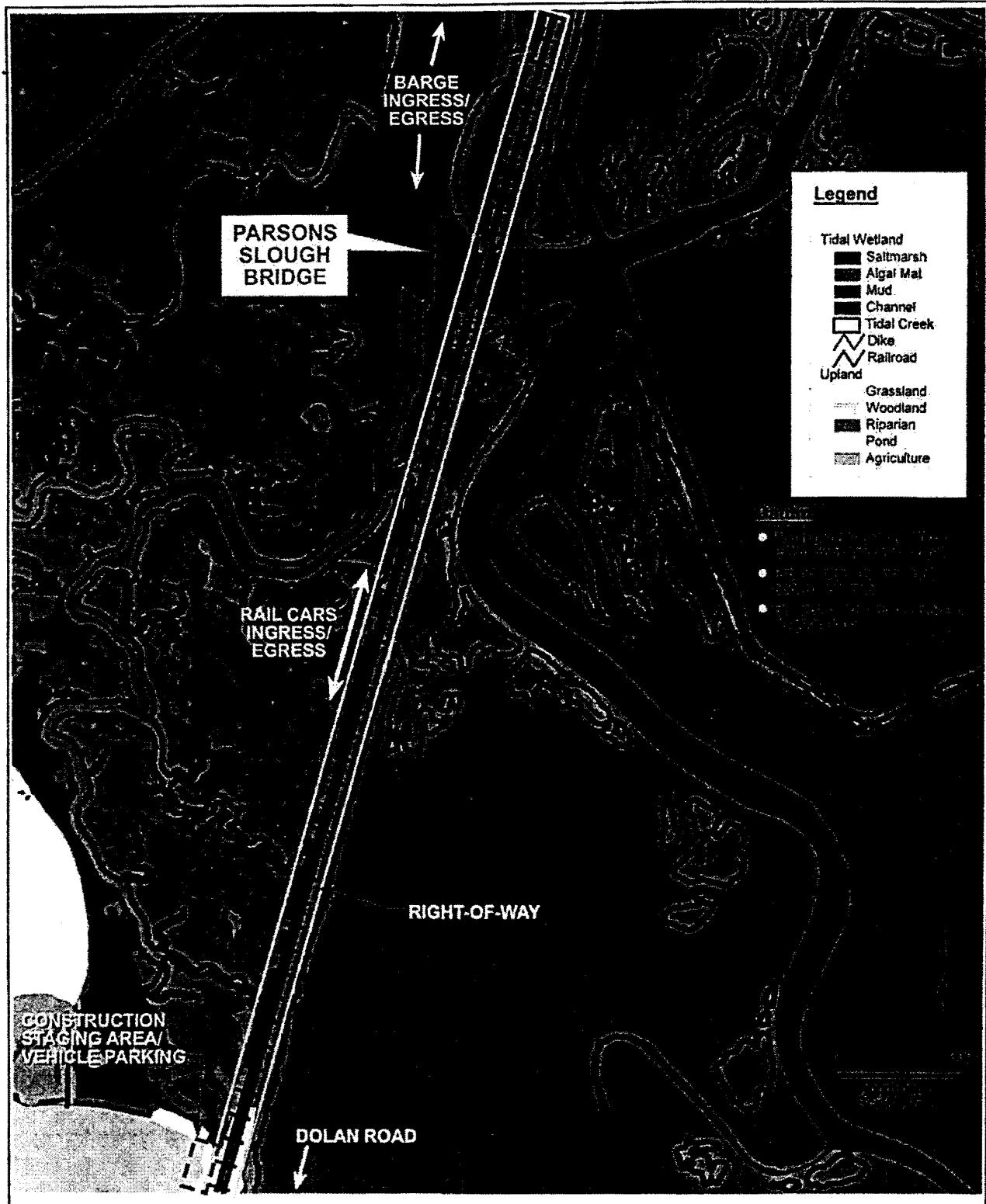


CALIFORNIA COASTAL COMMISSION

Elkhorn Slough National Estuarine Research Reserve Trail Map

EXHIBIT
D

UPRR Bridge Replacement
at Parson's Slough
3-02-052



Harding ESE
A MACTEC COMPANY

Project Site Plan
Parsons Slough Bridge Replacement Project
Union Pacific Railroad
Monterey County, California

PLATE

4

DRAWN
CN

JOB NUMBER
52100 003

APPROVED

DATE
05/02

REVISED

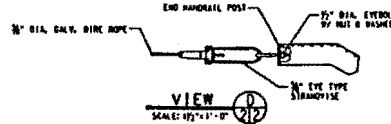


CALIFORNIA COASTAL COMMISSION

Project Site Plan for UPRR Bridge Replacement at Parson's Slough

EXHIBIT E
Pg 1 of **4**

UPRR Bridge Replacement
at Parson's Slough
3-02-052

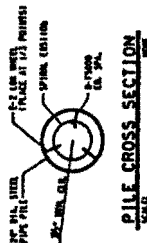
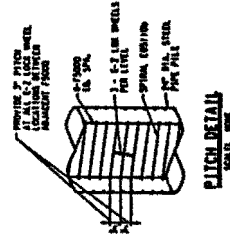
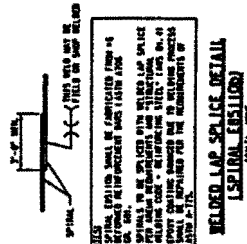
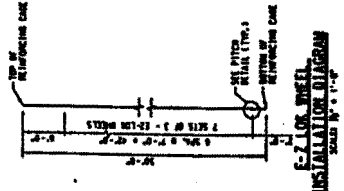
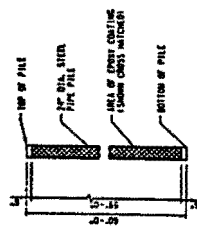


1. DRIVE 2" DIA. STEEL PIPE PILES.
2. PLACE REINFORCING BARS (50000 AND 60000) IN STEEL PIPE PILES.
3. PLACE GOOD PSI CONCRETE IN STEEL PIPE PILES.
4. PLACE PRECAST CONCRETE BENT CAPS AND PRECAST CONCRETE ADJUTMENTS.
5. WELD PILE TO BASE OF PRECAST CONCRETE BENT CAPS AND PRECAST CONCRETE ADJUTMENTS.
6. ALL EXPOSED UNPAINTED OR DAMAGED COATED AREAS OF THE PIPE PILE OR ADJUTMENT CAP OR BENT PLATES SHALL HAVE BEYOND REPAIRABLE CORROSION-RESISTANT, FOOD GRADE WHITE ZINC ALLOY OR SILVERMATS AFTER FILING.

**NOT FOR
CONSTRUCTION**

3-02-052

BENDING DIAGRAM
(Strengths are not to scale)



CAST-IN-PLACE CONCRETE NOTES:

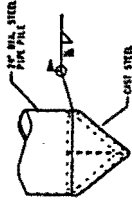
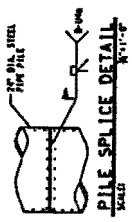
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PIPE PILE EPOXY SHOP COATING DIAGRAM
SCALE

NOTES:
 EPoxy SHALL BE SUEWIDOW WILLIAMS 617-501101
 CATALYST EPoxy (PART A - B) 617-501101 AND PART
 B - 617-501101 10 - 12 HRS TO 100% DRY FILM
 THICKNESS 1000000.



PILE POINT DETAIL

2-4

NOTE: FIELD APPLY SYSTEM REQUIRES CERAMIC-FILLED
SPOTS, FORD CRANK SHAFT, 10 AT SPARKS
NOT SAE APPLIED AFTER FIELD REPAIRING. APPLY
TWO COATS (30-40 MILS) TOTAL. ONE FILM THICKNESS.

CONSTRUCTION

[illegible]

Exhibit E
Pg 4 of 4

3-02-052
UPRR Bridge Replacement at Parson's Slough

**California Coastal
Commission**

Project Details and Schedule

Project implementation would involve a four-stage process: (A) installing Best Management Practices, (B) removal of the existing bridge, (C) bridge replacement, and (D) restoration.

Equipment, construction materials, embankment materials and UPRR crew members would access the Bridge site (in-gress and e-gress) by rail to lessen impact on the surrounding environment, including aquatic resources. Heavy equipment would include rail cars, concrete mixer, pile-driver, and a crane that would be used to remove the existing bridge and debris as well as install the replacement bridge. Materials would include: rebar cages, concrete, steel pilings, steel sheet piles, concrete abutments, caps and girders, track and deck. A crane mounted to a rail car would remove the existing deck and other debris into another rail car for disposal. A pile driver would also be mounted to a rail car for purposes of driving pile to hold the replacement deck.

All debris associated with the Bridge Replacement would be removed by rail car and disposed of at an authorized location.

Staging areas would occur in two locations: (A) an area off of Dolan Road, near the junk yard, within the UPRR right-of-way; and (B) a small area just south of the Bridge site near the berm of the track (within the UPRR right-of-way). While both equipment and construction/embankment materials would be stored at the staging area off of Dolan Road, only rip rap and pilings would be temporarily stored at the proposed area south of the Bridge. Both staging areas are comprised of ruderal vegetation and ballast near the adjacent berms. Neither staging area would encroach upon Pickleweed (*Salicornia virginica*) or other native vegetation. Upon completion of the project, the staging areas would be restored to its pre-project condition (please see the Best Management Practices below).

UPRR intends on starting construction immediately upon receiving regulatory approval. Upon receiving verbal approval from Trustee and Responsible agencies, UPRR would begin mobilization of equipment immediately: this would occur one week prior to project implementation.

The overall project would take a total of two months to complete (UPRR is anticipating work to commence on September 1st through October 31st 2002). The construction schedule would be conducted in two primary stages: (A) installing pilings and bents for the replacement bridge, and (B) removal and installation of the replacement bridge. From start of construction to removing the existing bridge, the UPRR crew will work eight days on and seven days off. UPRR is anticipating that no more than twenty crew members would be at the site at one time. During removal and installation of the bridge, train operations will be halted and the UPRR crew will work around the clock until the bridge is back in service (approximately five days). The anticipated schedule for the project is as follows:

1. Mobilization of equipment and materials. This task would take eight days and would be conducted prior to starting the project. If this task were to start on September 1, 2002, it would be completed on September 9, 2002.
2. Implementing Best Management Practices (for details see below). This task would take two days, running concurrently with task #1, and would be conducted prior to starting the project. If this task were to start on September 1, 2002, it would be completed on September 3, 2002.
3. Open ballast pockets for pile driving at each new bent location. This project would take five days. If the project were to start on September 9, 2002, this task would be completed on September 13, 2002.
4. Drive pile 24" cans, approximately 90' total piling depth. Expose fiber optic cable at both ends of the bridge and allow for the cable to hang loosely away from bridge in water. This task would take ten days and would run concurrently with task #3. If the project were to start on September 9, 2002, this task would be completed on September 18, 2002.
5. Install rebar cages in pilling for concrete reinforcement. This task would take four days and would run subsequent to tasks #3 and 4. If the project were to start on September 9, 2002, this task would be completed on September 22, 2002.
6. Pour concrete in pilling from concrete mixer on rail car from shoot tube. As a Best Management Practice, this task would also involve installing temporary sealed plywood around the rebar cages to ensure that any concrete would not escape the piling, thus entering the Slough. This task would take five days and would run subsequent to task #5. If the project were to start on September 9, 2002, this task would be completed on September 27, 2002.
7. Install new bulkheads. This task would take two days and would run subsequent to task #6. If the project were to start on September 9, 2002, this task would be completed on September 29, 2002.
8. Remove existing bridge deck. This task would take five days and would run subsequent to task #7. If the project were to start on September 9, 2002, this task would be completed on October 4, 2002.
9. Make cut-offs. This task would take five days and would run concurrently with task #8. If the project were to start on September 9, 2002, this task would be completed on October 4, 2002.
10. Set intermediate caps. This task would take five days and would run concurrently with tasks #8 and 9. If the project were to start on September 9, 2002, this task would be completed on October 4, 2002.
11. Set new girders. This task would take five days and would run concurrently with tasks #8-10. If the project were to start on September 9, 2002, this task would be completed on October 4, 2002.
12. Install track panels, place rock on berm, and surface clean area. This task would take five days and would run concurrently with tasks #8-11. If the project were to start on September 9, 2002, this task would be completed on October 4, 2002.
13. Cleanup and restoration. Areas at the bridge and staging areas would be restored to pre-project conditions. The existing bridge pilings would be cut during low tide at mud line to ensure safety and water quality concerns. This task would take five days and would run subsequent to the bridge replacement project. If the project were to start on September 9, 2002, this task would be completed on October 8, 2002.

*The above schedule is only intended to provide the Trustee and Responsible Agencies with a clear understanding of the level of effort concerning the construction process; it is not intended as a fixed schedule. Due to the UPRR crew members working eight days on and seven days off, the anticipated project schedule would be conducted between September 1st through October 31st, 2002—within the recommended construction window to avoid impacts to sensitive wildlife.



ELKHORN SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE
1700 Elkhorn Road • Watsonville, CA 95076 • (831) 728-2822

Michael T. Johnson, J.D.
Staff Environmental Scientist
Harding ESE
90 Digital Drive
Novato, California 94949

February 5, 2001

Dear Mr. Johnson,

Thank you for speaking at the Elkhorn Slough National Estuarine Research Reserve (ESNERR) Reserve Advisory Committee (RAC) meeting on January 16th. The information that you and your associates presented regarding the Union Pacific (UP) Parson's Slough bridge reconstruction was very helpful to us. As you know, this project is adjacent to the boundary of the ESNERR and we are extremely interested in how it is planned and conducted.

We are very pleased that Union Pacific is reconstructing the Parson's Slough bridge and that all of the bridges in Elkhorn Slough are slated for replacement in the near future. The extensive spill drill that was conducted in September of 1999 used the scenario of a train derailment at the Parson's Slough bridge because it was determined to be the weakest point in the track through Elkhorn Slough. Given the frequency that toxic substances are carried on this rail line and the enormity of damage that a spill would do to the fragile estuarine environment, it is imperative that all efforts are made to avoid an accident. We were pleased to hear from UP Bridge Maintenance Supervisor, Dave Applegate, that the tracks through Elkhorn Slough are inspected biweekly, and the bridges biannually. We would like to emphasize the importance of continued careful inspections of rails and bridges following extreme high tides and all detectable earthquakes (even those less than 5.5 on the Richter scale).

Reconstructing this bridge is an important step in protecting the health of Elkhorn Slough and we are, in general, supportive of this project. However, we feel strongly that special considerations should be made regarding exactly how and when the project is carried out in order to minimize negative impacts on the environment.

Throughout the RAC meeting, ESNERR staff and members of the RAC provided comments regarding the project. Per your request to provide comments in writing, they are summarized below.

Schedule construction for months that minimize disturbance to birds, marine mammals, and other wildlife. It is especially important to avoid the March-May Harbor Seal pupping season and the May-July Caspian Tern nesting season. Both seals and terns



The Elkhorn Slough National Estuarine Research Reserve is managed by the California Department of Fish and Game in cooperation with the National Oceanic and Atmospheric Administration



3-02-052 UPRR Bridge Replacement @ Parson's Slough

Exhibit G. p 1 of 3

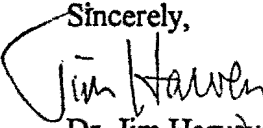
occur in high densities in the immediate vicinity of Parson's Slough Bridge. The location of both these areas is visible on the map supplied to Harding ESE by ESNERR. While wildlife disturbance is inevitable during any time of the year, we feel that August through October would be the best time for construction to minimize this disturbance.


- **Conduct multiple (seasonal) biological surveys.** Biological surveys should be thorough and occur at multiple times, rather than consisting of one-time sampling since there is a high variability over time.
- **Assess impacts on marine mammals and, if necessary, obtain a permit pursuant to the Marine Mammal Protection Act.** Some marine mammal disturbance is inevitable due to the year-round presence of Harbor Seals and Sea Otters in the vicinity directly adjacent to the project site.
- **Utilize existing biological data and habitat maps available from the ESNERR and the Elkhorn Slough Foundation, while being aware of the limitations of different resources.** For example, the map supplied by ESNERR indicates only the approximate distribution of vulnerable species in the central region of the Reserve. No surveys were undertaken in the vicinity of the Parson's Slough bridge or adjacent areas of the railroad berm, so absence of species there may not indicate true absence. Nevertheless, information obtained from local sources may be more detailed and/or reliable than those obtained from State or Federal databases and should not be overlooked.
- **Share all biological surveys and assessments with the Reserve, in GIS format where appropriate, in order to enhance our data archives.**
- **Perform a comprehensive assessment of tidal scour not limited to bridge area.** A comprehensive assessment of hydrological effects of the bridge requires analysis of influence well upstream (e.g., South Marsh area) and downstream (e.g., main channel) of the bridge. For example, a greater cross-sectional area of opening with fewer pilings might decrease tidal scour at the bridge abutments, but increase tidal scour elsewhere. These effects must be determined to fairly establish degree of environmental impact.
- **Inspect and clean vessels, equipment, barges, etc. that may be contaminated with invasive organisms in order to avoid introduction of exotics into Elkhorn Slough.** Aquatic invasive species are a significant concern for tidal wetlands, and should be considered as potential environmental impacts if barges or aquatic equipment are used. Invasive species can be transported on barge hulls, equipment exteriors, or in bilge and ballast water.
- **Prevent deterioration of water quality from sedimentation during construction.** All activities should minimize the input of sediment into the slough. Of special concern is the stability of UP access roads adjacent to the tracks that will be used as staging areas.

- **Allow fiber optic cables to be permanently attached to the bridge, versus requiring the cable company to build a separate structure.** We are strongly in favor of limiting the number of structures in Elkhorn Slough in order to minimize environmental impacts and preserve scenic integrity.
- **Allow signage on bridge to prohibit boating east of bridge.** No unauthorized boating is allowed on the ESNERR. (Boating is only allowed for occasional research or resource management purposes.) Since the new bridge will be slightly higher than the existing bridge, there is concern that kayakers will unwittingly pass under the bridge and enter this "no boating" area. We would like to work with UP to design and install permanent, attractive signs on the bridge.
- **Coordinate with the Reserve Manager regarding use of Reserve access roads.** It is our understanding that Union Pacific will require access through the Reserve via Hummingbird Island. This access will not exceed three crew trucks (1-ton pickups) per day. We are happy to accommodate this access, but will need to work with UP staff regarding days, times, and routes due to the fact that the general public and school groups will be walking on these same roads. UP has stated that they will repair any damage done to these roads as a result of their use.
- **Provide opportunity for Rick Parmer, Department of Fish and Game Supervisor, to review engineering plans and drawings prior to construction.** Send to: Department of Fish and Game, Central Coast Region, P.O. Box 47, Yountville, CA 94599.
- **Consult with the Reserve Manager regarding any possible mitigation resulting from this project.**

Thank you for the opportunity to provide comments regarding this important project. We look forward to another presentation to the RAC once the designs and the assessments are complete. Please feel free to contact the ESNERR Reserve Manager, Becky Christensen at (831)728-2822 if you have any questions.

Sincerely,


Dr. Jim Harvey
RAC Co-chair


Benita Low
RAC Co-chair


Becky Christensen
ESNERR Reserve Manager

cc: Lynne Mounday, Monterey County Planning Department
Jennifer Lockwood, Union Pacific Railroad
Kelly Cuffe, California Coastal Commission
Jeff Cann, California Department of Fish and Game
RAC Members



16465

18 Mar 02

Mr. Eric Sirotek
Union Pacific Railroad
1400 Middle Harbor Road
Oakland, CA 94607

Dear Mr. Sirotek,

The Central Coast Area Committee is concerned with the condition of the Union Pacific Railroad tracks that cross the Elkhorn Slough National Estuarine Reserve in Watsonville, CA. Over the last several months, some Committee members have noticed the tracks bounce dramatically in this area when trains pass, to such an extent that daylight is visible beneath the tracks. In some places, tracks are often flooded at high tide. We are concerned that these tracks are vulnerable to a train derailment. The estuarine habitats of Elkhorn Slough support a rich diversity of biological communities and represent some of the last remaining extensive salt marshes in the state. A derailment resulting in a spill of oil or hazardous materials in this area would be devastating to these sensitive wetland communities.

The Committee is particularly concerned about the bridge that crosses the entrance to Parson's Slough. Erosion has weakened the bridge's footings. Tidal volumes and current velocities are at their highest at this time of year. These strong tidal currents would prevent spill containment in the event of an incident. Although we understand that this stretch will be reinforced as part of a planned Parson's Slough bridge replacement scheduled to occur in the next year, we urge you to begin work there as soon as reasonably possible. Until the bridge is replaced, we ask you to be especially cautious in operations at and near Elkhorn Slough. We recommend that you lower the speed limit for trains crossing the Slough. Not only would this action help to prevent a train derailment, but it would also save the lives of hundreds of roosting birds, including a number of endangered Brown Pelicans, that are killed each year by trains operating at typical operating speeds.

Although we realize that you do have a regular schedule for inspectors to check the integrity and safety of the tracks, and to date there has not been a derailment at Elkhorn Slough, we would also like you to consider more frequent safety inspections and temporary repairs to the bridge. Derailments do occur, and long-term injuries to wildlife habitats are often the result. For example, the Sacramento River is still not completely recovered ten years since the Cantara Loop derailment.

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PAGE 03

We appreciate your involvement in past efforts aimed at decreasing environmental risks. We value the commitment of Union Pacific Railroad to oil and hazardous material spill prevention. The planned project to replace the various Elkhorn Slough bridges will reduce the risk of a spill in this region. However, we are concerned that an incident could occur before your project is completed. Given your record of environmental responsibility, we are optimistic that you will take our concerns seriously and take the necessary measures to address them as soon as possible.

We are very much interested in your written response to our concerns. We invite you to make a presentation about your operations and maintenance plans, including a timeline for interim and permanent repairs, at the next Area Committee meeting, scheduled for 10:00 A.M. on May 22, 2002 at the Elkhorn Slough Estuarine Research Reserve in Watsonville, CA. Video taken of the condition of the tracks over Elkhorn Slough will be viewed at this meeting.

Thank you for your attention to this matter. If you have questions or would like to discuss this matter further, please contact me at (510) 437-5870.

Sincerely,

G.G. McGrath, LT, USCG

G.G. McGRATH
Lieutenant, U. S. Coast Guard
Chief, Marine Environmental Response
Marine Safety Office
San Francisco Bay

INSHORE DIVERS INC

Solving underwater problems through advanced diving technology

1307 West 4th Street / Antioch, CA 94509-1006 / Bus: (925) 439-7227 / Fax: (925) 427-1705

E-Mail: inshordive@aol.com

Cal. License #467382

April 2, 2002

UNION PACIFIC RAILROAD
206 South 19th Street, Suite 400
Omaha, NE 68102

ATTN: KAREN PARSON

RE: Inspection of Elkhorn Slough Railroad Bridge 103.27 Coast

Dear Karen,

On March 28th, 2002 INSHORE DIVERS, INC. performed an inspection of the above referenced bridge. The inspection was concentrated on the scour effect to the bridge abutments and piling bents. Neither the pilings, nor the bracing was inspected as in previous years. The inspection was conducted with a three man dive team using surface supplied dive gear and performed out of a small work boat.

As requested we have updated the drawing and overlaid the 1999 data with the results of this year inspection. I have also included the information of abandoned piling for your reference.

There has been an H-piling helper bent installed since the last report near the existing northern abutment. When the construction of the helper bent was accomplished the crew appears to have installed some rock in the void under the abutment as the area is closed a little from the last inspection. The depth of the scour under the abutment is still approximately 6' in but has changed in width from approximately 33' wide to 10' wide (approximately). There also appears to be more Rip-Rap dumped on the left side (facing San Francisco) just outboard of the pilings. The depth of bottom comes up approximately 3'-4' high. This depth isn't shown on our drawing as it is outboard of the footprint of the bridge.

The south abutment has very little change in the scour to it as well. There is a little difference in the width of the scour as again it appears more Rip-Rap was dumped just outboard of the bridge.

Along the bents of pilings the difference is only slight 0'-3' with the exception of at Bent #4. On the inboard (right) side of the bridge the depth increased significantly. Here the distance from the bottom of the cap changed from 15' to a distance of 25'. At Bent #3 the other biggest change occurred that was depth increase of 4'.

3-02-052

UPRR Bridge Replacement at Parson's Slough
MEMBER

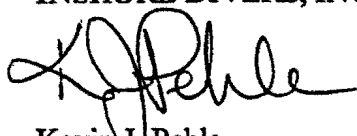
Exhibit **I**
Pg 1 of 3

No other discrepancies were noted in the underwater portion of the bridge. Again this year the northern portion of the bridge is the area of extreme scour. In 10 years at Bent #4 the scour has eroded the bottom approximately 17'.

If you have any questions or if I may be of further assistance please feel free to call me at 925.439.7227.

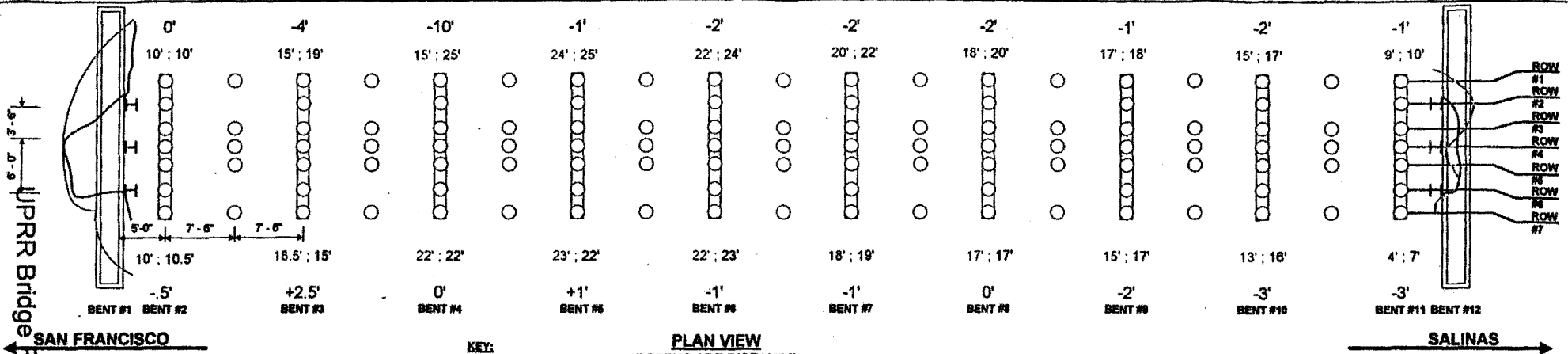
Respectfully,

INSHORE DIVERS, INC.

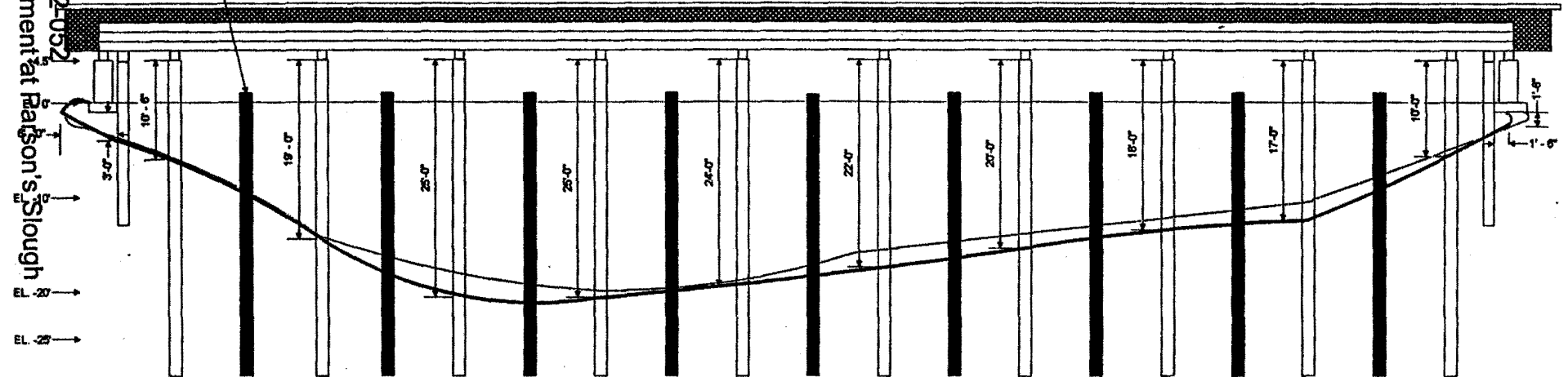


Kevin J. Pehle
Operations Manager

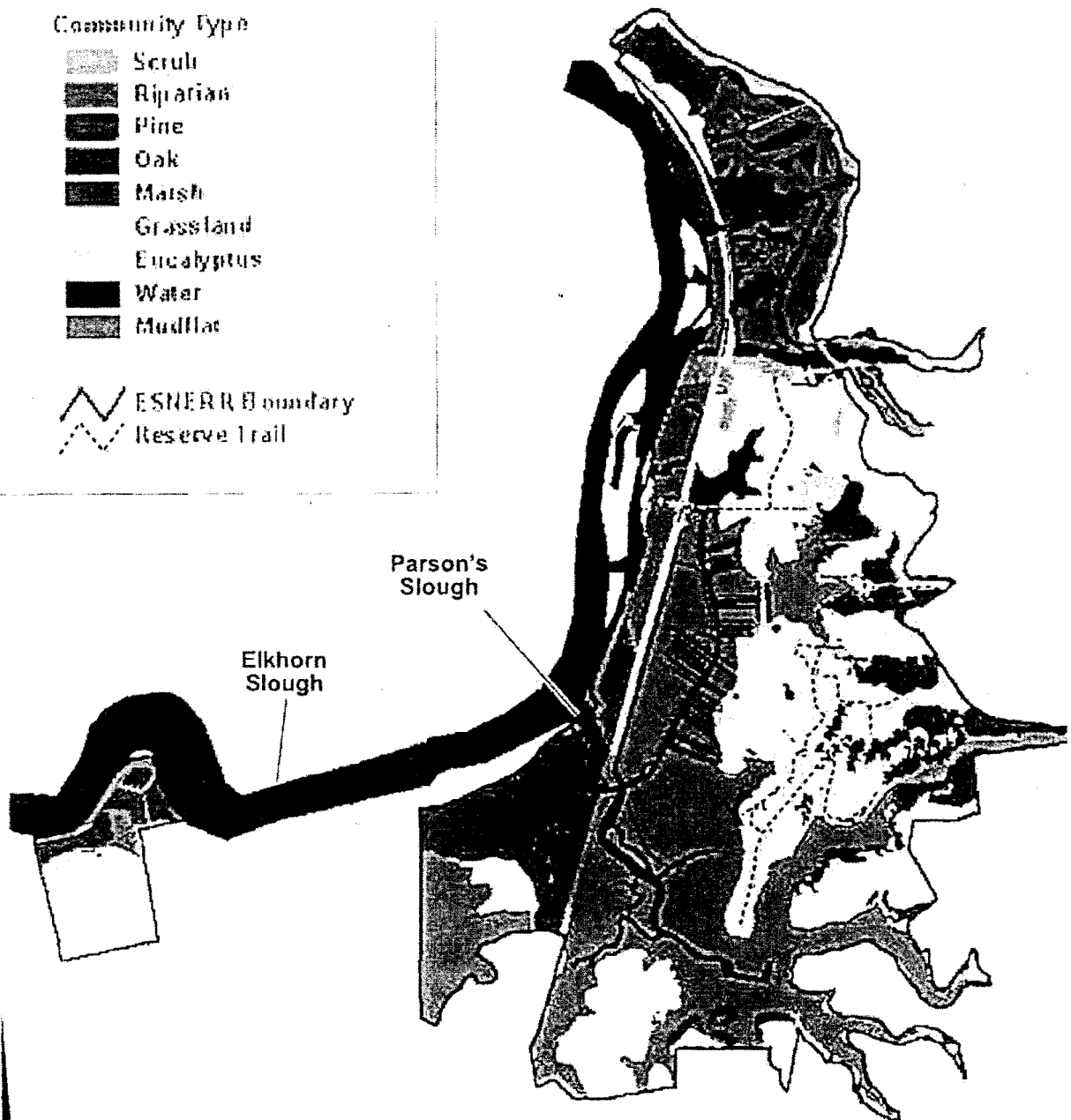
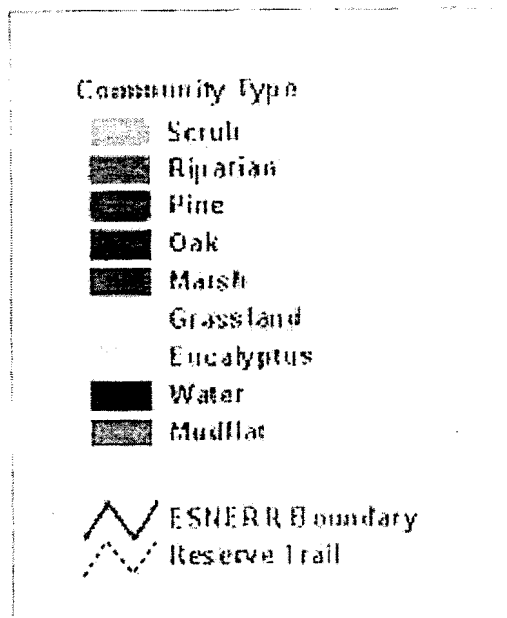
3-02-052



ELEVATION OF
 ABANDONED PILING,
 APPROXIMATELY EL. +1'
 (TYP.)



INSHORE DIVERS INC.		UNION PACIFIC RAILROAD			
		ELKHORN SLOUGH			
		RAILROAD BRIDGE			
DATE: MARCH 28th, 2002	SIZE: FROM HD	EX JOB NO.	JOB ORDER # 221546		REV
DRAWN BY: K. J. PEHLE	SCALE: 3/32" = 1'-0"			1 OF 1	



NOT TO SCALE



CALIFORNIA COASTAL COMMISSION

Natural Communities Map of Elkhorn Slough National Estuarine Research Reserve

EXHIBIT
J

UPRR Bridge Replacement
at Parson's Slough
3-02-052

UPRR Bridge Replacement at Parson's Slough
3-02-052



View from Railroad Tracks looking South



View from Railroad Tracks looking West



View from Railroad Tracks looking North



View from Railroad Tracks looking West



Harding ESE
A MACTEC COMPANY

DRAWN
CN

JOB NUMBER
52100 003

Representative Site Photographs
Parsons Slough Bridge Replacement Project
Union Pacific Railroad Project
Monterey County, California

APPROVED

DATE
01/02

REVISED

FIGURE

1-A

Exhibit **K**
Pg 1 of 2

3-02-052



View of bridge looking South



View of slough looking West



View of slough looking Southwest



View of slough looking West



Harding ESE
A MACTEC COMPANY

DRAWN
CN

JOB NUMBER
52100 003

Representative Site Photographs
Parsons Slough Bridge Replacement Project
Union Pacific Railroad Project
Monterey County, California

APPROVED

DATE
01/02

REVISED

FIGURE

1-B

