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PLN220090 - CALTRANS/GARRAPATA BRIDGE RAILS
Public hearing to consider California Department of Transportation's ("Caltrans") appeal concerning its Garrapata Creek Bridge Rail Replacement project on Highway 1, Big Sur.
Project Location: Garrapata Creek Bridge near post mile 63.0 on HWY 1, Big Sur Land Use Plan.
Proposed California Environmental Quality Act ("CEQA") action: Certify that the Board has considered Caltrans' Environmental Impact Report (SCH No. 2020049027) for the Garrapata Creek Bridge Rail Replacement Project.

RECOMMENDATION:
It is recommended that the Board of Supervisors adopt a resolution to:

- Certify that Caltrans' Environmental Impact Report (SCH No. 2020049027) for the Garrapata Creek Bridge Rail Replacement Project has been considered;
- Adopt a Statement of Overriding considerations for Aesthetic Impacts;
- Grant Caltrans' appeal of the Planning Commission's denial of the Garrapata Creek Bridge Rail Replacement Project (PLN220090);
- Approve a Combined Development Permit consisting of:
  - A Coastal Development Permit and Design Approval to allow the replacement of the bridge rails on the historic Garrapata Bridge;
  - A Coastal Development Permit to allow development within 750 feet of known archaeological resources; and
  - A Coastal Development Permit to allow development within 100 feet of environmentally sensitive habitat; and
- Adopt a Mitigation Monitoring and Reporting Plan.

A draft resolution, including findings with evidence is attached for consideration (**Attachment B**).

PROJECT INFORMATION:
Agent: Mitch Dallas
Project Applicant: California Department of Transportation ("Caltrans")
Zoning: WSC/40-D
Plan Area: Big Sur Land Use Plan
Flagged and Staked: No (visual simulations provided)

SUMMARY:
The California Department of Transportation ("Caltrans") proposes to remove and replace the bridge rails on the Garrapata Creek bridge. This bridge is one of seven historic bridges in Big

Sur, six of which have open spandrel designs. All seven bridges are part of the Carmel San Simeon Highway Historic District ("CSSHHD"), a non-contiguous district named after the rural state highway constructed between 1922 and 1938, which stretches approximately 75 miles from the San Carpoforo Creek in San Luis Obispo County to the Carmel River in Monterey County. The Garrapata Creek Bridge is also individually eligible for listing on the National Register of Historic Places ("NRHP") and the California Register of Historic Resources ("CRHR").

The existing bridge rails on Garrapata Bridge are steel reinforced concrete rails with arched openings constructed in 1931 with the original bridge. The rails are showing signs of advanced deterioration with areas of exposed rebar and concrete spalling. Caltrans desires to replace the deteriorating rails with new bridge rails that comply with current safety standards. On December 22, 2015, the Federal Highway Administration ("FHWA") and the American Association of State Highway and Transportation Officials ("AASHTO") jointly released a memo approving a schedule for compliance with the Manual for Assessing Safety Hardware ("MASH") for roadside safety hardware devices. Caltrans has adopted a policy of compliance with current MASH standards for all bridge rails on state highways in California. As it relates to Garrapata Bridge, new rails meeting current safety standards include rails that have much bulkier inside curbs and top rails (to withstand the impact of modern vehicles traveling at speeds of 55 miles per hour or greater), and smaller openings in the rail (10 inch arched openings exist and 6 inch maximum are allowed under current standards) as compared to the existing 1931 bridge rail. The overall height of the rail will remain the same as existing. Bulkier curbs and rails and smaller openings mean that the new bridge rails will have a reduced transparency partially obscuring views when compared to the existing rails and have a bulkier more modern appearance.

Since five other concrete bridges on Highway 1, including most famously the Bixby Bridge, are in a similar condition (most showing less deterioration than the Garrapata Bridge rails), Caltrans prepared a "Tier 1 Programmatic Environmental Impact Report (EIR)" for the replacement of bridge rails on all of the historic concrete bridges. Only the Garrapata Bridge rail replacement is proposed at this time and Caltrans has completed a "Tier 2" project level environmental analysis specific to the Garrapata Bridge Rail project.

On March 8, 2023, the Monterey County Planning Commission considered the application and denied the project, finding the project inconsistent with the Big Sur Coast Land Use Plan, as the reduced width and number of openings reduce visual access for the travelling public and the proposed design does not meet the exacting standards for visual resource protection in the plan area, that other design options had not been given adequate consideration. The Planning Commission also found that the project has the potential to adversely impact considerations on the rail replacement process for the other "Big Sur Arches" as those rail replacements are proposed in the future.

Caltrans appealed the Planning Commission's denial on March 23, 2023. The appeal contends that the Planning Commission decision was not supported by the evidence and was contrary to law. The Appeal is attached to this report as **Attachment D**, and while County staff do not concur with many of the appeal contentions, staff recommend approval of the bridge rail replacement, with a minor modification, given the overriding safety concerns.

Staff has reviewed all the materials and had many discussions with Caltrans staff regarding the bridge rails. Potential exceptions to bridge rail design standards for historic preservation and ways in which maximum visual access can be maximized, including the potential to reduce speed on Highway 1, have been explored. The speed cannot be reduced, and Caltrans is not willing to make any exceptions to its standards. At various points Caltrans has also contended that exceptions to these standards are not possible; however, this does not appear to be supported by the materials submitted. The March 17, 2017, MASH implementation memo from the FHWA states that it is the states' responsibility to select a particular hardware device (in this case a bridge rail) in a particular location. Caltrans' November 12, 2019, MASH Compliance Plan and Policy memo states that when a MASH compliant device is not available to address a specific need, to use a National Cooperative Highway Research Program ("NCHRP") Report 350 approved device, and when neither are available, to use engineering judgment to address the specific need. Another August 19, 2019, Caltrans' memo regarding the adoption of "AASHTO LRFD BDS-8" states that the State Bridge Engineer shall approve any exceptions to those standards, and such a request shall be made as early as possible.

Taking all these memos together it is up to Caltrans to determine the appropriate bridge rail to propose at a given location, and while it is its internal policy to utilize devices that are compliant with its design standards for full replacements where available, there are processes in place to allow design exceptions to these standards to address specific design needs. The available technical guidance materials also mention design exceptions for context sensitive design and historic preservation purposes, including the 2020 AASHTO Historic Bridge Preservation Guide released after the adoption of the current bridge rail design standards, the 2007 NCHRP Project 25-25/Task 19 *"Guidelines for Historic Bridge Rehabilitation and Replacement"* available on Caltrans website, and the NCHRP Report 101 *"Historic Bridges - Criteria for Decision Marking".*

Staff contends that strategic exceptions that do not significantly compromise safety can and should be considered for these visually and historically important bridges on Highway 1 in Big Sur. One such design exception appears to be the minimum opening size. A higher and bulkier curb is intended to redirect vehicles back into the highway and prevent them from going over the side of the Bridge. The top rail is intended to do the same while also protecting bicyclists. Sandwiched between the curb and top rail are arched openings that are designed to mimic the existing openings. Existing openings are 10 inches. As proposed by Caltrans, these openings would be no more than 6 inches wide to comply with safety standards. These standards appear to be intended to prevent the ability for a person to fit through, or get stuck, in the openings. In this case, the Bridge has almost no shoulder on which pedestrians or bicyclists can travel without being within inches of vehicles traveling 55 mph. Given the nature of the Garrapata Bridge, staff believes that the 10 inch opening is a prime example of a standard from which an exception can be made without compromising safety for everyday use, and are recommending that this be required as Condition of Approval No. 9. Other than the resistance to variances from the standards, Caltrans has developed a proposal that improves safety and is sensitive to the visual and historic setting.

DISCUSSION:
Big Sur Land Use Plan

Within Big Sur, all areas visible from Highway 1 are part of the "critical viewshed." Development within the critical viewshed is generally prohibited in the Big Sur Land Use Plan (BSLUP). Policy 3.2.5.C.1 of the BSLUP provides an exception to the Critical Viewshed Policies for Highway 1. This Policy states in relevant part: "*Road capacity, safety and aesthetic improvements shall be allowed, as set forth below, provided they are consistent with Section 4.1.1, 4.1.2, and 4.1.3 of this plan. Signs, guardrails, and restrooms shall be of a design complementary to the rural setting and character of Big Sur, with preference for natural materials. Protective barriers constructed by Caltrans should utilize boulders or walls of rock construction*." Policies 4.1.1, 4.1.2, and 4.1.3 are policies specific to Highway 1 in the Big Sur area. These policies establish a principal objective to maintain the highest possible standard of visual beauty and interest in the management, maintenance, and construction activities within the Highway 1 right-of-way. This particular project is a safety improvement and does not affect road capacity. The proposed guardrail will be bulkier than the existing guardrail making views through the rail less accessible. This is in most part due to the smaller sizes of openings in the guard rail and the introduction of more posts and shorter spans of the open railing style. The height of the rail will remain the same.

Design Parameters & Summary

MASH

The Manual for Assessing Safety Hardware, also known as "MASH" is a set of design and testing parameters for bridge rails and other highway safety devices. The testing parameters require physically running vehicles of different types into the rail at different speeds to withstand their impact. MASH establishes different "Test Levels" based on the anticipated speed and level of service on a particular road. Lower test levels, such as the TL-2, are appropriate for lower speed locations (45 mph or less), while higher test levels, such as the TL-4 are appropriate to higher speed locations. The current railings do not meet current MASH standards, while the new ones are proposed to meet them.

AASHTO LRFD BDS

The "Frequently Asked Questions" on the project submitted in August 2022 indicates that the openings need to be narrower for bicycle safety. The Notice of Appeal elaborates on this, indicating that the 6-inch-wide opening maximum is from the *"AASHTO LRFD Bridge Design Specifications, Eighth Edition with California Amendments (AASHTO-CA BDS-8)"* Section 13: new railings are not permitted to allow a 6-inch sphere to pass through any clear openings. Staff is proposing a modification to the project that would require an exception to the maximum opening size from the AASHTO LRFD BDS-8 standards.

Traffic Speed and Replacement with Another Standard Rail Type

One of the options explored was reduction in speed and use of a standard rail type rated as safe for reduced speeds, such as the Texas C411, which is rated for speeds of 45 miles an hour and below), and was discussed as being more in line with the historic character of the existing Bridge rails in both the Historic Resources Review Board's consultation comments and Caltrans "Finding of Adverse Effect" included in their historical report. This discussion of reducing speed relies on two different definitions of traffic speeds:

- **The posted speed** (or regulatory speed) is the speed limit at a particular location.
- **The operating speed** is the speed which drivers are driving at a location. The 85th percentile operating speed is the speed at which 85 percent of drivers are driving at or

below.

California Vehicle Code Section 22349(b) sets the speed limit on a two-lane undivided highway at 55 miles per hour. Vehicle Code Section 22354 does allow Caltrans to reduce speed limits on the State Highway System, but they must make the finding that the reduction in speed limit is *"most appropriate to facilitate the orderly movement of traffic and is reasonable and safe."* Caltrans conducted a speed survey in 2019 which determined the 85th percentile operating speed of drivers at Garrapata Creek Bridge was 58 miles an hour. The California Manual for Setting Speed Limits indicates that this 85th percentile operating speed is the speed that should be used to establish the speed limit. The studies cited in this manual indicate that reducing the speed limit below the 85th percentile generally results in increased collision rates. Therefore, under existing conditions Caltrans would not be able to make the necessary findings to allow reducing the speed limit. Regardless of whether the speed limit is reduced, if the operating speed along the Highway remains at or around 58 miles an hour, designing a bridge rail for a reduced traffic speed (below 45 miles an hour) would not be safe.

Project Review

Caltrans has consulted with the State Historic Preservation Officer ("SHPO"), prepared an Environmental Impact Report ("EIR") for the project, and convened an Aesthetic Design Review Committee ("ADAC") in an attempt to design a MASH compliant bridge rail that is sensitive to the environment on which it sits. The proposed design retains an arched opening type; the openings have been chamfered to maximize visibility while maintaining the maximum 6-inch width requirement of Caltrans standards; it uses a rounded top pilaster consistent with the original rail with a similar vertical seam; it locates major pilasters above the support superstructure, maintaining the same symmetry and visual relationships of the bridge; has a warmer/sandier concrete color to match the existing railings; and maintains the same 42-inch height of the original rails.

The Big Sur Land Use Advisory Committee ("LUAC"), the Historic Resources Review Board ("HRRB"), members of the ADAC, and the Planning Commission have all considered the project. All have questioned options for repair of the existing rails and/or the possibility for variations from current bridge rail standards that would allow for a rail design that retains more visual and historic character, and more closely resembles the existing rails. This line of questioning has included a discussion of the possibility of reducing speed limits on the Highway which would provide for other design options. Caltrans staff has consistently maintained that they cannot and/or will not deviate from current design safety standards, and/or have already considered such exceptions. If the premise that no design exceptions will be allowed is to be accepted, Caltrans staff have made substantial efforts to solicit feedback and incorporate design features that balance historic design and visual access while meeting current safety standards.

Planning Commission

On March 8, 2023, the Planning Commission considered the application and adopted a resolution to deny the permit, finding it inconsistent with the exacting standards of the BSLUP. Caltrans appealed the Planning Commission's denial, but agreed to extend the Board consideration of the appeal while alternative solutions were explored.

After filing the appeal, Housing and Community Development (HCD) staff coordinated with Caltrans staff to explore potential solutions that address the basis for the denial from the Planning Commission. Staff requested that Caltrans consider changing the proposed 6-inch arched openings to 10-inch arched openings, as the 6-inch opening did not appear to be related to the crash test standards that have driven much of the consideration on the project, and a 10-inch opening would match the width of the current bridge rail openings. Caltrans staff prepared revised renderings and drawings which depict a bridge rail with a 10-inch opening that utilizes a metal element within the arched openings to meet a design standard that a 6-inch sphere not be allowed to pass through the rail, as well as simulated renderings of the driving experience across Garrapata Creek Bridge for the various design options. The alternatives were taken back to the ADAC, and no consensus was reached regarding a preferred design. After this meeting, Caltrans has affirmed that its preferred alternative would be the version previously recommended by the ADAC which has a 6-inch arch opening with chamfered edges. This is the same design presented to the Planning Commission.

The justification for why this specific bridge must limit the width of the clear opening to a 6-inch diameter sphere is lacking, and staff do not concur with Caltrans' underlying reasoning that any exceptions to its design standards are impossible. Staff is recommending approval of the wider 10-inch opening prepared after the Planning Commission's denial, with chamfered edges and that an interrupting metal element not be placed within the opening (Recommended Condition of Approval No. 9). This appears to be the least environmentally damaging alternative based on the present information, incorporates feedback from the LUAC and Planning Commission regarding matching the existing rail design as much as possible and the critical importance of visual access in Big Sur, and approves a rail design rated to withstand modern vehicular traffic at high speeds.

Weighing on staff's recommendation is the potential for precedent to be set for the replacement of other bridge rails of the "Big Sur Arches", including Bixby Bridge. At the other bridge locations, all alternatives including repairing the existing bridge rails, rehabilitating the existing bridge rails, reducing traffic speeds, design exceptions, and using a replacement rail designed for lower traffic speeds should still be explored.

ENVIRONMENTAL REVIEW:
Caltrans, as the Lead Agency for the project under the California Environmental Quality Act ("CEQA"), has prepared an Environmental Impact Report ("EIR") consisting of a Tier 1 program level review for the Big Sur Bridge Rail Replacement Program and a Tier 2 project level review of the Garrapata Creek Bridge Rail Replacement Project. While not being federally funded, in the environmental analysis Caltrans found the project qualified for a Categorical Exclusion from the National Environmental Policy Act ("NEPA").

As a Responsible Agency, the County must certify that it has reviewed and considered the information contained in the EIR. As such, the Board of Supervisors is asked to certify it has reviewed and considered the Tier 2 Project Level Environmental Impact Report (SCH No. 2020049027) for the Garrapata Creek Bridge Rail Replacement Project (**Attachment E**) and affirm its conclusions prior to approving the project.

Findings in the EIR include significant and unavoidable impacts of the project due to a loss of

scenic vistas, substantial reduction of visual quality and character, and loss of visual access to coastal scenic resources. When significant impacts are identified, CEQA requires the decision-making body to balance the economic, legal, social, technological, or other benefits of the project against is unavoidable environmental risks when determining whether to approve the project. If the specific benefits outweigh the unavoidable adverse environmental effects, the adverse effects may be considered acceptable (Overriding Considerations). Caltrans has adopted a statement of overriding considerations stating "Garrapata Creek Bridge Rail Replacement Project is needed because the existing rails do not meet current traffic safety standards…". County staff has expanded upon that within the attached Resolution to relate the current traffic safety standards to protection of life and health.

OTHER AGENCY INVOLVEMENT:
This project is being proposed by Caltrans. Prior to submitting the Coastal Development Permit for the project, Caltrans consulted with the SHPO to fulfill requirements of Section 106 of the NHPA. Caltrans also undertook a Department of Transportation Act of 1966 Section 4(f) analysis under its assumption of FHWA responsibilities.

The project is in the California Coastal Zone, which is appealable to the California Coastal Commission. Coastal Commission staff have submitted a number of letters asking questions and expressing concern regarding the visual impacts of the project. No other external agencies were involved in the review of this application.

On November 8, 2022, the LUAC considered the proposed project. The LUAC recommended approval with changes by a vote of 4 ayes to 1 no (**Exhibit I**). Comments were made that the reduced opening sizes in the proposed replacement rails obscure the viewshed and the openings should be widened to their original height and width and that the historic design be maintained while attempting to meet current safety standards. One of the concerns noted is that the new design is effectively a wall as a result of the smaller openings.

On December 1, 2022, and January 25, 2023, the HRRB considered the proposed project. After receiving additional information between the December and January meetings on the design and justification, the HRRB voted 6-0 with 1 absent to recommend approval of the project with two conditions. The first condition was that the final color be approved by the Chief of Planning to match the existing rails as closely as possible, and the second condition was that speed studies and other alternatives be explored for each bridge.

PUBLIC COMMENTS AND WEBSITE ATTACHMENTS:
Due to the large volume of comments, correspondence, and supplemental materials related to the project, materials have been placed on the Housing and Community Development's Website here rather than included as additional attachments:
<https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/current-planning/general-info/current-major-projects>

The materials are under the drop-down menu "California Department of Transportation (Garrapata Creek Bridge Rail Replacement)".

Additionally, Caltrans has a website which includes information on the project, drive through

photo-simulations, and the 10 design variations with 10-inch openings developed after the Planning Commission's denial of the project:
<https://dot.ca.gov/caltrans-near-me/district-5/district-5-current-projects/05-1h800>

FINANCING:
Funding for staff time associated with this project is included in the FY 2023-24 Adopted Budgets for HCD, Appropriation Unit HCD002, Unit 8543. A fee was collected to partially recuperate the cost of staff time associated with processing the application. No fee is collected for an appeal for projects located in the Coastal Zone.

Prepared by: Phil Angelo, Associate Planner x5731
Approved by: Craig Spencer, Acting Director of Housing & Community Development

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Attachment A - Draft Resolution, including Conditions of Approval, Project Plans, and Alternative Designs
Attachment B - Appeal (Including Planning Commission Denial Resolution)
Attachment C - Environmental Documents (Tier I & II EIR, NEPA Exclusion)
Attachment D - Big Sur LUAC Recommendation
Attachment E - Historic Resources Review Board Recommendation
Attachment F - Public Comments

cc: Front Counter Copy; Planning Commission; Craig Spencer, Acting HCD Director; Phil Angelo, Planner; Mitch Dallas, Caltrans (applicant); Keep Big Sur Wild, Christina McGinnis; Martha Diehl; The Open Monterey Project (Molly Erickson); Albion Bridge Stewarts; Big Sur Land Use Advisory Committee; Historic Resources Review Board; LandWatch (Executive Director); Project File PLN220090.