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December 15, 2020

Erik Martinez  
Coastal Program Analyst  
California Coastal Commission  
45 Fremont, Suite 2000  
San Francisco, CA 94105-2219

**Re: Coastal Development Permit (CDP) Application Number 2-20-0319  
(Mirada Road Soil Nail Wall and Pedestrian Bridge Replacement Project)**

Dear Mr. Martinez:

Thank you for your letter dated September 17, 2020 requesting additional information for the subject project. We have restated the requested items or questions (Q) in your letter and provided our responses (R) below. I understand you have requested more information in an e-mail to staff dated November 3, 2020. We are working to compile the information and a separate letter to address your recent request will be forwarded to you as soon as we can.

**Q1.) Alternatives Analysis:** Thank you for clarifying that the Mirada Road Project Benefits and Alternatives Analysis dated October 2, 2019 is the most up to date information regarding alternative project configurations the County analyzed, including a no project alternative, managed retreat, seasonal access and a bridge replacement alternative. As proposed, the project consists of a hybrid armoring approach with three shotcrete walls with tieback anchors as well as rock slope protection along the northern and southern banks of the Arroyo de en Medio Creek.

Alternative 4 (preferred alternative) with the armoring option of the full height shotcrete wall states that tieback anchors extending 20+ feet landward would likely require easements from property owners. Please clarify the extent of the easements that will be required for this option, as well as for the other armoring options, for portions of the development located on adjacent properties, including the property to the south. Please also clarify the location and extent of the existing abutments and how they will be removed, modified and/or reused as part of this alternative. In addition, explain how the abutments will be integrated into the bridge foundation and any proposed armoring. For this alternative, please also address the feasibility of extending the pedestrian bridge further south and relocating the abutments further inland to eliminate the need for armoring on the southern end of the creek.

For Alternative 2, please estimate potential impacts to riparian vegetation or the creek bed from installing the bridge and foundation in this location. In addition,



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please discuss the feasibility of installing a longer free span bridge that will not require construction of foundational elements within the creek or adjacent riparian area.

**R1.) Anchor/ Wall Easements** - The anchors are established in a grid pattern both horizontal and vertical at 5 feet on center. The shallowest anchors, at the top of the wall, will be approximately 25 feet long. The deeper anchors will be approximately 15 feet long. There is a potential anchor encroachment into 2 and 445 Mirada Road which would require easements. The ultimate configuration will be determined during final design.

**Abutment Removal** - Note that the old concrete roadway arch bridge's abutments will be completely removed. The project proposes to retain and reuse the existing pedestrian bridge's abutments and cast-in-drilled-hole (CIDH) foundations. This is possible as the proposed prefabricated aluminum pedestrian bridge is lighter than the existing bridge. Note that the purpose of the shotcrete wall proposed on the north and south sides of the bridge is to attenuate wave energy protecting the abutments and CIDH foundations as well as the trail's approaches to the bridge.

**Bridge Extension** - A longer free span bridge would require the southerly abutment to be extended farther to the south. The longer span's increase in weight would also necessitate the replacement of the northerly abutment and foundation as well as the southerly foundation and result in additional impact to the slope, roadway, and private properties. Note that one of the key benefits of using the aluminum bridge is that it is lighter than the existing bridge, which allows the project to preserve and reuse the existing foundation. The cost associated with the new foundations, abutments, and increased bridge length would likely be more than the bank stabilization approach.

Finally, lengthening of the bridge will require the truss' depth to increase to allow for a free span over the Arroyo de en Medio. While some of this additional depth could be added below the deck, the height of the truss will likely increase. As the County has previously responded to the visual impact challenges from neighboring properties, we seek to maintain the bridge's size as close as possible to the existing condition.

**Alternative 2 - Managed Retreat.** The proposed relocation of the bridge along Alameda Avenue would propose placing the abutments at the top of bank. For the purpose of this narrative, the top of bank is the point along the bank of a stream where an abrupt change in slope is evident and where the stream is generally able to overflow the banks and enter the adjacent floodplain during an annual flood event.



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As shown in Exhibit 1 below, the proposed bridge would be about 95 feet long and would be a free span bridge across the Arroyo de en Medio. While the bridge's abutments would be clear of creek vegetation, the bridge's construction would require trimming and removal of riparian vegetation and mature trees as shown in Exhibits 2 and 3. For a bridge that is 12 feet wide, the total area of impact would be about 1,140 square feet. Note that this alternative varies from the previous configuration as we believe the approaches with curves is likely cost prohibitive to construct.

Note that installation of the bridge at this location will likely require right of way acquisition from 462 and 455 Alameda Avenue. As previously noted, the relocation of the bridge to Alameda Avenue will require trail improvements to the north and south that will be disruptive to numerous private properties. Acquisition of new public right of way or easements would be necessary and could take many years while the existing bridge will further deteriorate.

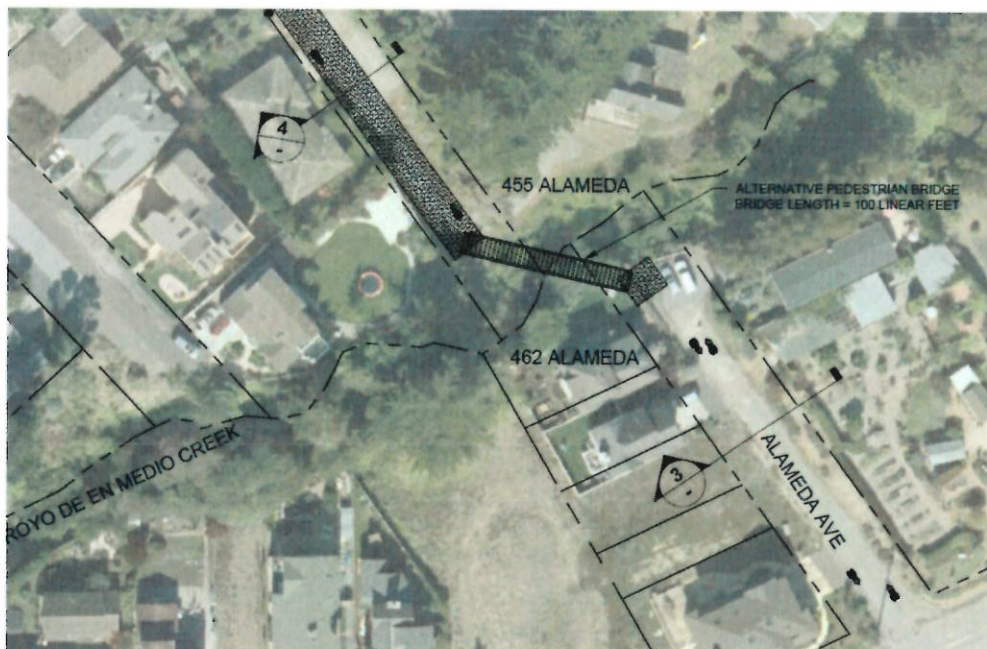


Exhibit 1 – Alternative 2 Alignment

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Exhibit 2 – Alternative 2 Alameda Avenue looking north towards bridge crossing location



Exhibit 3 – Alternative 2 Alameda Avenue looking south towards bridge crossing location

**Q2.) Project Plans:** The Sand Supply Calculations for Soil Nail Wall and the Geotechnical Design Recommendations Memo both state that three soil nail walls will be constructed at three

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different location: location 1 is approximately 125 feet long to the north of the pedestrian bridge; location 2 is 55 feet long at the north eastern abutment of the bridge and location 3 is 90 feet long and to the south of the pedestrian bridge. On the project plans submitted, only two walls are identifiable. Please clarify the proposed plans for the soil nail wall described for location 2 (the north eastern abutment).

**R2.)** Please note that the description listed in Q2 does not reflect the current project description. The current project currently proposes to construct shotcrete walls with tieback anchors as well as rock slope protection (RSP). The walls would be approximately 170 feet and 110 feet in length along the north and south sides of the pedestrian bridge, respectively. The base of shotcrete wall will be at an absolute elevation of 8 feet based upon the North American Vertical Datum of 1988 (NAVD 88). The base of the RSP will be set to an elevation of 2 feet and rise to about an elevation of 10 feet. In the summer months, sand will cover the RSP; during the winter, the RSP may be exposed.

**Q3.) Existing Riprap Along the Creek.** There appears to be riprap along the base of the creek to the south extending inland from the pedestrian bridge. Please provide permits for this riprap and any information related to its placement.

**R3.)** The County did not place this riprap and we are unaware of the party that completed the work. It appears the majority of rip rap on the south bank is within private property (201 Mirada Road).

**Q4.) Utility Reroute:** The additional information provided with the CDP states that the Granada Community Services District will either install a temporary bypass for the force main placed under the abutments for the new pedestrian bridge or would be completely rerouted permanently. Please provide more details on how the sewer would be rerouted and inform CCC staff if a decision has been made regarding the final proposed alternative. If replaced under the bridge abutments, please indicate the elevation it will be placed at and if the proposed elevation would be covered by sand throughout the year.

**R4.)** The Granada Community Services District (GCSD) currently has a force main and a gravity sanitary sewer main crossing the Arroyo de en Medio on the pedestrian and old highway bridge (arch bridge). The force main is active, and the gravity sanitary sewer main serves as an emergency bypass for GCSD.

GCSD is planning to attach an 8 inch diameter Class 51 ductile iron pipe below the replacement pedestrian bridge, which will allow the removal of both the existing force main and bypass line. However, as an alternative to attaching a new line to the pedestrian bridge, the GCSD is working to re-route the sanitary sewer collection system easterly on Mirada Road to a parcel owned by



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California State Parks, which is west of Alameda Avenue. Within this parcel, the sewer line would be routed southerly to the collection system along Alcatraz Avenue. The total length of new pipe installation is about 1,000 linear feet.

GCSD has been collaborating with State Parks who, we understand, is willing to issue a Right of Entry permit to construct the re-routed sewer line. Currently, GCSD is seeking to secure a separate Coastal Development Permit through the City of Half Moon Bay (City) to construct the pipeline.

Upon the City's approval of the Coastal Development Permit and State Parks' issuance of the Right of Entry permit, GCSD will advertise the sewer line re-route project for bidding. If GCSD can complete the re-route project before the bridge's installation, there would be no need to temporarily re-route the force main or have a sewer pipe attached to the new bridge. If this does not occur, GCSD would need to install a temporary force main crossing the Arroyo de en Medio.

It is in the best interest of all parties for GCSD to complete the sewer line re-route project before the bridge construction as this would eliminate the need for a temporary bypass or attaching a permanent pipe below the new pedestrian bridge.

We appreciate the Commission's staff review of our response to your comments. Please let us know if you have any further questions.

Very truly yours,



Mark Chow, P.E.  
Principal Civil Engineer

cc: Ann M. Stillman, P.E., Deputy Director, Engineering & Resource Protection Division  
Krzysztof Lisaj, P.E., Senior Civil Engineer, Utilities-Flood Control-Watershed Protection  
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Gil Tourel, P.E., Principal Civil Engineer, Engineering and Construction  
Wency Ng, P.E., Senior Civil Engineer, Project Development and Design  
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