

CALIFORNIA COASTAL COMMISSION

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F8b

MEMORANDUM

Date: November 3, 2020

To: Commissioners and Interested Persons

From: Alison Dettmer, Senior Deputy Director
Bob Merrill, District Manager
Melissa Kraemer, Supervising Analyst

Subject: Addendum to Commission Meeting for Friday, November 6, 2020
Item F8b, CDP Application No. 1-09-050 (Humboldt County)

This addendum presents certain minor changes to the staff recommendation dated October 23, 2020 in response to changes suggested by the applicant on October 29th (see [correspondence](#)). The changes modify recommended Special Conditions 1 and 2-A.

Special Condition 1 specifies monitoring and reporting requirements for the bluff stabilization structure. The applicant's suggested changes (1) promote clarity with respect to the types of equipment that will be used to access and monitor the key aspects of the armoring structure (subsection A-iii); (2) increase the triggering flood event for monitoring from a two-year recurrence interval to a five-year recurrence interval (subsection A-v); and (3) modify the reporting timeline (subsection B).

Special Condition 2-A requires routine maintenance of the armoring structure. The changes to Special Condition 2-A clarify that the required maintenance will be informed by the monitoring and reporting that will be undertaken pursuant to Special Condition 1 and tie the maintenance requirement to the need to maintain the structural integrity of the armoring structure or avoid impacts to coastal resources.

Staff continues to recommend that the Commission approve, with special conditions, the CDP for the proposed project. The staff recommendation as revised is acceptable to the applicant. Therefore, staff is recommending that the item be moved to the consent calendar.

Changes to the Special Conditions:

Bullets below reference page numbers of the October 23, 2020 staff report where changes are made. Text to be deleted is shown in ~~bold double strikethrough~~, and text to be added is shown in **bold double underline** format.

- Page 5: Revise Special Condition 1 as follows:

1. Monitoring and Reporting Requirements.

- A. Monitoring Plan: Within 90 days after approval of this coastal development permit, the permittee shall submit a monitoring plan for the review and approval of the Executive Director that will include, at a minimum, the following elements:
- i. Identification of the qualifications of the person(s) who will be undertaking the monitoring, such as geologist, civil or geotechnical engineer or other;
 - ii. Monitoring locations for the riverbank and blufftop, either through line surveys or transects, such that measurements shall be taken every 100 feet for the length of the armoring and 200 feet both up and down stream of the armoring;
 - iii. Types of equipment that will be used to access and monitor the key aspects of the armoring, and locations of the riverbank and blufftop, for example, traditional survey equipment (**total station**), drone-mounted cameras, ~~RTK, or LiDAR~~, boat-mounted cameras, RTK, LiDAR, and such.
 - iv. Methods to ensure that riverbank and blufftop measurements will be replicated between monitoring events so that riverbank and blufftop positions can be compared and changes in position can be quantified to develop trends, such as establishment of fixed survey monument locations; and
 - v. Monitoring shall be undertaken every ten (10) years, and after any significant seismic event or major flood on the Mad River [seismic event of Richter Scale magnitude > 7.0 in the region, and/or flood event with a discharge rate of **42,500** ~~27,900~~ cubic ft./second (cfs) measured at the Lower Mad River USGS Station (Stn # 11481000) (i.e., a **twofive**-year recurrence interval)].
- B. Reporting: By May 1 of every tenth year for the life of the structure, and within **three four** months of any significant seismic or flooding event (as defined above), the permittee shall submit a monitoring report to the Executive Director. Inspection of the condition of the structure shall be performed by a licensed geologist, or civil or geotechnical engineer. Monitoring reports shall assess the condition and performance of the approved armoring structure and shall contain the following:

- i. An evaluation of the condition and performance of the approved armoring structure, including an assessment of whether any weathering or damage has occurred that could adversely impact future performance of the structure;
 - ii. All measurements taken in conformance with the approved monitoring plan;
 - iii. An analysis of erosion trends, amount of retreat and rate of retreat of the riverbank and blufftop edge based upon the measurements and in conformance with the approved monitoring plan;
 - iv. A description of any migration or movement of rock that has occurred on the site, with photographs if possible; and
 - v. Recommendations for repair, maintenance, modifications or other work to the armoring structure.
- C. If a monitoring report contains recommendations for repair, maintenance or other work, the permittee shall contact the Coastal Commission's North Coast District Office to determine whether such work requires a coastal development permit or amendment.

Reason for suggested changes: The special condition requires monitoring every ten years and after river flood flows to help ensure that the structural integrity of the bank stabilization structure is maintained. According to the applicant, the two-year flow event (27,900 cfs) was identified as the flood flow that was correlated with bluff erosion prior to constructing the bank stabilization structure. The structure significantly increased the erosion resistance of the streambank. In the 12 years since construction, the structure has withstood two five-year flows (i.e., 42,500 cfs in 2013 and 2016), a four-year flow (2019), and two two-year flows (2011, 2017) without any observed displacement. Therefore, changing the required monitoring to occur after flood flows equivalent to or greater than a five-year flow should be sufficient for monitoring for any damage to the bank stabilization structure from flood flows. With respect to the reporting change, four months rather than three months is a more realistic timeframe for mobilizing a survey crew, collecting and processing the data, retaining professionals to perform inspections as appropriate, and preparing a report following a significant seismic or flood event.

- Page 6: Revise Special Condition 2-A as follows:

2. Maintenance Activities and Future Alterations. The permittee shall maintain the armoring structure for the life of the structure. The authorized structure may be maintained in its authorized as-built state, subject to the following:

- A. Routine Maintenance Required. The permittee shall remove or redeposit any debris, rock, or material that becomes dislodged as soon as possible after such displacement occurs, unless the Executive Director determines, based on the monitoring reports presented by the permittee pursuant to Special Condition 1 or other information, that removal or redepositing of

dislodged debris, rock, or material is not necessary to maintain the structural integrity of the armoring structure or to avoid impacts to coastal resources. The permittee shall contact the Coastal Commission's North Coast District Office immediately **upon discovery of dislodged material** to determine whether **the Executive Director believes that removal or repositioning is necessary, and if so, whether** such activities require a coastal development permit **or amendment**.

...

Reason for suggested changes: The proposed bioengineered structure includes a "hybrid" design of traditional armoring materials (e.g., rock groins) interspersed with natural "living shoreline" stabilization techniques (i.e., willow wattles, which, since planted over 10 years ago, have grown into mature riparian vegetation). As such, a certain level of dynamic conditions is expected with the structure, which was designed to reduce the risk of erosion to existing structures but not to eliminate all risk. Importantly, the project was not designed or built with access roads or landings that would facilitate future maintenance activities. Nevertheless, routine maintenance is necessary to assure the stability and structural integrity of the armoring structure and to ensure that the structure minimizes impacts to coastal resources. The suggested changes will enable the Executive Director to use the results of the monitoring undertaken pursuant to Special Condition 1 to determine upon discovery of any dislodged material if the permittee must perform maintenance at that time to protect the structural integrity of the armoring structure or to avoid impact to coastal resources.