

August 16, 2019

Ms. Cori Farrar
Acting South Coast Branch Chief
U.S. Army Corps of Engineers
Los Angeles District, Regulatory Division
5900 La Place Ct, Suite 100
Carlsbad, CA 92008-8832

Subject: Coast Boulevard Sea Cave Emergency Project – Regional General Permit 63

Dear Ms. Farrar:

During our conference call on Thursday August 15, 2019, the City of San Diego Public Works Department (City) was requested by the U.S. Army Corps of Engineers (USACE) to provide details on how the Coast Boulevard Sea Cave Emergency Project (Project) meets the conditions of Regional General Permit (RGP) 63. Specifically, the USACE asked the City to provide information on 1) how the Project meets the definition of “emergency situation”, 2) is the work the minimum necessary to alleviate the immediate emergency, and 3) will the activity result in more than minimal individual or cumulative adverse environmental effects. Each of these three topics are discussed in detail below.

1. Emergency Situation

As discussed, the City has been aware of the cave for the past couple of decades and has been monitoring the condition of the cave. In 2018 TerraCosta performed a detailed engineering analysis of the cave to determine its current condition and structural stability. This study was spurred by observations of extensive cracking in Coast Boulevard. This study documented additional block failures since the original study was conducted in 2002 and concluded there was a high probability of collapse within a few years. An expanded study was conducted in 2019 to evaluate any changes in condition since the 2018 effort, complete a low-tide survey of the cave to better document the geometry and sea floor elevation at the mouth of the cave, and determine both temporary and long-term solutions. During the 2019 survey, several concerning changes from the 2018 survey were observed. Those include: groundwater seepage, widening of the major through-going fracture, localized collapse of a block from the roof, and the migration of sand from the overlying terrace deposits. The June 2019 study concluded there was a high probability of collapse within a few years. On August 8, 2019 TerraCosta provided a presentation to City staff summarizing their study findings. It was during this presentation that TerraCosta fully explained the imminent possibility of a catastrophic failure of the cave. TerraCosta issued an addendum to their report detailing this and clarifying the cave could collapse at any time. Based on the changes in condition observed in the cave and the expert opinion of TerraCoasta the City immediately moved to declare

this an emergency. RGP 63 defines Emergency Situation as “a clear, sudden, unexpected, and imminent threat to life or property demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property or essential public services...” As detailed in the *Coastal Erosion Assessment and Cave Solution Feasibility Analysis* (TerraCosta August 8, 2019) the unexpected changes to the cave create a very unstable condition and present an imminent threat to life and property. Immediate action is necessary to stabilize the cave and prevent damage to property and essential public services.

2. Minimum Work Necessary

In the TerraCosta report four alternatives are discussed: No project, chemical grouting, constructing a bridge, and sea cave infill. The no project alternative is not an option as this does not address the imminent threat to life and property. Constructing a bridge is also not a feasible solution as this does not address utilities or private property that could potentially be impacted by a catastrophic failure. Chemical grouting is described in the TerraCosta report as temporary solution to reduce or prevent the further loss of ground and support for the roadway and utilities. The concern with this solution is the structural rock in the cave has collapsed, reducing the tensile load strength of the cave. Chemical grouting of the upper soil will help keep the soil together and reduce erosional decay, but the grouting provides no additional tensile load strength. Any type of loads to the roof and/or lateral movement could result in a catastrophic failure of the cave. To prevent a catastrophic failure of the cave and damage to property or loss of life, infilling of the cave is the only feasible option and the minimum necessary to alleviate the immediate emergency. Infilling will remove the void under the road, and stabilize Coast Boulevard and the numerous utilities in the roadway.

3. Environmental Effects

The project is located on the coastline along the Pacific Ocean near La Jolla. A number of environmental resources are known to occur in the immediate area, including archeological resources, marine mammals, and intertidal marine habitat. The City is implementing a number of measures to ensure impacts to resources are avoided, this includes having monitors present, water quality monitoring, and implementation of standard best management practices. Impacts to resources will be avoided or minimized to the greatest extent possible. This project will result in the permanent loss of tidal non-wetland waters of the U.S. from infilling of the cave and temporary impacts to open water from the temporary placement of k-rails and geo-bags. Currently, exact impact acreages are not known, but permanent impacts are expected to be well under 0.1 acre and temporary impacts less than 0.01 acre. A biological assessment and mapping of the cave is currently being performed. The biological assessment should provide a better understanding of the aquatic functions and values being impacted by this project. The City has an obligation to ensure our impacts to the environment are minimal. Following completion of the biological assessment the

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City will coordinate with USACE to determine what other mitigation measure may be needed to ensure the project has only a minimal effect to the environment.

If you require any additional information or have questions regarding this project you may reach out to Sean Paver at (619) 533-3629 or by email at spaver@sandiego.gov.

Sincerely,



James Nagelvoort, PE
Director and City Engineer
Public Works Department

SP/cp

cc: Johnny L. Perkins, Deputy Chief Operating Officer, Public Works & Utilities
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