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Carmel Lagoon Project (EPB/SRPS) Report REF120051 November 2017

Background

The Carmel Lagoon project is located within and adjacent to the Carmel River State Beach and Lagoon between State Route (SR) 1 and the Pacific Ocean in the unincorporated Carmel area of Monterey County, California. The Carmel River drains approximately 250 square miles of the Santa Lucia and Sierra de Salinas Mountains into the Carmel Bay. Approximately 270 acres of the Carmel River State Beach are owned by the California Department of Parks and Recreation (State Parks). Other property owners adjacent to the Lagoon include, but are not limited to: the Carmel Area Wastewater District (CAWD; 16 acres); Carmel Unified School District (CUSD; 9 acres); City of Carmel-by-the-Sea (City; 6 acres); and Homestead Inn/Mission Ranch (Mission Ranch; 16 acres).

Historically the sandbar at Carmel River State Beach was managed to cause the Carmel Lagoon to breach, providing flood protection to the lands adjacent to and surrounding the Carmel Lagoon. This historical sandbar breaching was provided originally by the farming operations. This allowed development to occur within the floodplain. From 1973 until 2011, emergency sandbar management was carried out by the County, WRA and State Parks. In 1992, the USACE and NOAA Fisheries informed the County that its ongoing sandbar management did not qualify as emergency actions due to the predictability of flooding at the lagoon. Despite regulatory and environmental organization concerns about the impact and lack of data and analysis of the activity, mechanical breaching continued without permits. In 2005, various agencies, organizations, and individuals came together with the intent of developing a long-term solution to the breaching, and in 2007 resulted in identifying baseline studies needed to find a long-term solution.

Monterey County Code Section 16.16.050.c states that “New construction and substantial improvement of any structure shall have the lowest floor, including basement, elevated to at least one (1) foot above the base flood elevation.” There are 27 residential structures within the repetitive loss area of the mapped flood zone affected by the Carmel Lagoon. Of these, only three have received elevation certificates with finished floor elevations above the base flood elevation. No homes have been elevated out of the floodplain since 2009.

In 2010, the WRA submitted an application to the US Army Corps of Engineers (USACE) for a permit to manage the sandbar. The USACE consulted with NOAA Fisheries through the required Section 7 consultation process under the Endangered Species Act (ESA). During the consultation NOAA Fisheries affirmed that annual mechanical breaching as proposed would likely jeopardize the Carmel River population of the South-Central California Coast steelhead (S-CCC steelhead), and had drafted a Draft Jeopardy Opinion. To avoid having the Jeopardy Opinion issued, the County developed the proposed EPB/SRPS with the ISMP project to maintain the flood protection of the lagoon-adjacent neighborhoods while enhancing steelhead habitat and protection in the lagoon. The County also entered into the MOU with USACE and NOAA Fisheries to demonstrate its commitment to assess the project and implement a long-term solution to mechanical breaching.

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Project Overview

The Carmel Lagoon project is a multi-objective, multi-year, multi-organizational effort to improve habitat for threatened and endangered species in the lower Carmel River area, improve natural floodplain function, and protect public infrastructure, while maintaining or improving flood risk protection to existing developed areas. Consideration for how to restore the natural breaching regime in the Lagoon while maintaining current flood protection to low-lying areas has been a cooperative effort between multiple Federal, State, regional, and local agencies, as well as conservation organizations, for more than a decade, and has included evaluating numerous project alternatives to get to the proposed Ecosystem Protective Barrier (EPB) and Scenic Road Protection Structure (SRPS) options. The County's long-range goal is to work collaboratively with agencies and other interested parties to develop a comprehensive strategy that allows the Carmel River watershed to operate as naturally as possible.

In 2013 the Carmel River Lagoon Ecosystem Protective Barrier (EPB) and Scenic Road Protection Structure (SRPS) Projects Feasibility Report (dated May 29, 2013) was completed and the Board of Supervisors selected the EPB (Alternative 2A and 3B with a top wall elevation of 17.5 feet) and SRPS (Alt1) as the preferred project alternatives June 25, 2013 (Resolution No. 13-206).

In an effort to demonstrate the commitment to assess the project components and implement a long-term solution to mechanical breaching, the County of Monterey (County), U.S. Army Corps of Engineers (USACE), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS, aka NOAA Fisheries) entered into a 2013 Memorandum of Understanding (MOU). The MOU project involves implementing three project components: 1) Ecosystem Protective Barrier (EPB); 2) Scenic Road Protection Structure (SRPS); and 3) Interim Sandbar Management Plan (ISMP). The three project components are located within the following areas:

- Scenic Road Protection Structure (SRPS) – from the toe of slope of the embankment to Scenic Road, from approximately Valley View Avenue to the southern end of the Carmel River State Beach (State Beach) parking lot;
- Ecosystem Protective Barrier (EPB) – Carmelo Street between the State Parks parking lot and 17th Avenue and continuing east along the southern boundary of the Fourth Addition neighborhood (between 16th and 17th Avenues) terminating at the eastern boundary of the Carmel River Elementary School property; and
- Interim Sandbar Management Plan (ISMP) – various management activities within the Carmel River State Beach and Lagoon.

The SRPS project component provides protection to Scenic Road from erosive forces caused when the lagoon is open to the Carmel Bay/Pacific Ocean, should the lagoon breach or migrate to the north end of the beach and threaten Scenic Road. The EPB project component will provide at least the current level of flood protection to the lagoon-adjacent properties accounting for sea level rise over 50 years, while allowing the lagoon to breach the sandbar conditions naturally (without sandbar management).

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Pursuant to the MOU, the County is able to conduct sandbar management with proper permits to reduce flood risk by following the Interim Sandbar Management Plan (ISMP) while it works to complete the environmental analysis, permitting, designs and construction for the structural project components (SRPS/EPB). Since 2011 the RMA has applied for permits to manage the sandbar by lowering a portion of the sandbar to allow the lagoon to breach on its own, but at an elevation that avoids flooding the lagoon-adjacent neighborhoods; the RMA does not breach the sandbar under the current management regime. Per the 2013 MOU and as a condition of receiving permits for sandbar management, the RMA continues advance the EPB/SRPS project through the planning stages.

Project Status – SRPS/EPB

An Environmental Impact Report (EIR) on the project is currently being prepared. The EIR is analyzing three project components: 1) EPB; 2) SRPS; and 3) Interim Sandbar Management Plan (ISMP). The EIR is also analyzing alternatives. To facilitate the environmental analysis thirty-percent (30%) designs are complete for the EPB and three SRPS alternatives (rock rip rap at toe of slope, full-height secant pile wall, and low toe soldier pile wall).

The County received early comments on the project prior to the public draft release of the EIR from CSA-1 and the Carmel Area Wastewater District (CAWD). Due to the risk of potential litigation on this project and the nature of the early comments received, the County engaged its consultant team to prepare technical responses to these comments. This information was then integrated into the numerous DEIR sections (alternatives, aesthetics, land use and policy consistency table, biological resources, hydrology/water quality, geology/soils and noise) prior to public release delaying the public release until December 2016. Additionally, the passing of AB52 required additional revisions to the cultural resources section to address tribal cultural resources.

The Draft EIR was released for a 60-day public review period beginning December 2, 2016 and ending on January 31, 2017. The County received 45 comment letters in response to the DEIR, many of which came from legal firms representing various stakeholders. The quantity and nature of public comment received to date on this project has brought to light a number technical, legal and policy challenges (some were previously identified) that may influence how the County decides to respond to comments and ultimately proceed with respect to the project.

A number of technical, institutional and policy challenges have been identified related to the EPB project component. The EPB is situated on California Department of Parks and Recreation (State Parks) property that is designated as the Carmel Lagoon State Natural Preserve. State Parks has stated that the EPB is not consistent with State Parks mission and the Natural Preserve designated lands should not be used for a project to protect privately owned homes from flooding. State Parks does support the EPB being installed on the State Natural Preserve, and they go further to state that should special legislation be proposed to condemn the State Natural Preserve lands for the purposes of the EPB, State Parks would oppose such legislation. An alternative to locating the EPB on State Parks land would be to locate it on the private properties and within the public right of way. Such a solution brings with it a number of technical, regulatory and other challenges, but such an option could be explored.

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The proposed EPB would result in a more naturally functioning lagoon ecosystem as the need to mechanically breach the Lagoon to prevent flooding would diminish, which meets the expressed goal of NOAA Fisheries and other regulatory agencies. The EPB would allow an increased depth and duration of inundation within the lagoon, which has the potential to increase river and lagoon surface water elevations and effect low-lying buildings and other facilities adjacent to the lagoon (e.g. those not protected by the proposed EPB project component). The Carmel Area Wastewater District (CAWD) has expressed concern that the increase in sustained water surface elevation would limit their use of an 8-acre area on their property and create additional regulatory burdens to CAWD. In addition the EPB would raise groundwater levels adjacent to the CAWD facilities, potentially resulting in seepage where ground surface in locations within the CAWD facilities are below 16 feet. At this time no feasible mitigation measure to reduce these impacts have been identified. CAWD has proposed installation of a floodwall similar to the proposed EPB at the CAWD facility to address these impacts which would require: additional funding; additional environmental analysis; State Parks and/or CAWD permission; additional technical studies; and agreement between the parties on funding, operation and maintenance. To address the groundwater impacts the County proposed the installation and operation of a high capacity pump at the CAWD facility; CAWD has not thus far agreed to the installation of the pumps.

To provide reasonable alternatives given the technical, institutional and policy challenges of the EPB project component, the Draft EIR included and analyzed two other project alternatives. One alternative includes the SRPS, ISMP, with a delayed EPB (Delayed-EPB Alternative). A second alternative includes SRPS with on-going Sandbar Management Plan only (No-EPB Alternative).

A number of challenges have been identified related to the SRPS project component, and the County continues to work through those issues as part of the environmental analysis process. Upon review of the public comments received for the Draft EIR, the need to conduct additional technical studies has been identified for the SRPS with respect to coastal processes, sediment transport, additional preliminary design and geotechnical recommendations. Staff is processing an amendment to the consultant agreement to conduct these technical studies.

State Parks is opposed to the SRPS as currently proposed on State-owned lands. The State requests that the County propose a project that is within its own jurisdiction, further stating State Parks does not endorse the SRPS within the State Beach. In response, the County convened a meeting with representatives from State Parks, US Army Corps of Engineers (USACE), and NOAA Fisheries. Of the SRPS alternative designs that are analyzed in the environmental document, the full-height wall alternative could feasibly be located entirely within the County right-of-way at the base of Scenic Road. County staff continue to coordinate with State Parks and our regulatory partners to identify possible solutions to State Park's concerns. State Parks has requested that the County secure a third-party consultant to present an analysis of the three SRPS project components as compared to the State Parks mission. At the suggestion of NOAA Fisheries, County staff is considering applying to NOAA Fisheries for grant funding to assist with this effort.

Staff anticipates presenting a Carmel Lagoon EPB/SRPS Project update and bringing the consultant agreement amendment for additional technical studies to the Board of Supervisors as a scheduled item on December 5, 2017.

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Project Status - ISMP

Taking place separately yet in tandem with this project, and pursuant to the 2013 MOU, County staff continues taking steps necessary to permit and prepare to conduct possible sandbar management at the Carmel River Lagoon for the 2017-2018 rainy season, should flood conditions arise. The Carmel River watershed received significant rainfall during the 2016 – 2017 season, and as a result Carmel River flows continued well into the summer months necessitating the sandbag wall remain in place. County crews have obtained necessary permissions from property owners and are in the process of shoring-up and rebuilding where necessary the sandbag wall to help protect the lagoon-adjacent neighborhood.

A sandbar survey was conducted in September to inform possible sandbar management and alignment of a pilot channel, should action be necessary to avoid flooding of lagoon-adjacent homes and infrastructure. On September 29, 2017 the County held a consultation with regulatory agencies. At this time the sandbar elevations are low enough that sandbar management is not warranted. Crews will continue to monitor the lagoon conditions for possible actions should the sandbar build up through the rainy season and the lagoon level rise to a level that threatens flooding.

County staff is coordinating with the regulatory agencies to ensure permits are obtained and appropriate action may be taken to alleviate flood risk this rainy season. The following permits have been applied for and/or received for the 2017-2018 ISMP, to date:

- Regional Water Quality Control Board, Water Quality Certification No. 32717WQ19 Applied June 26, 2017 - Pending
- California Coastal Commission, Emergency Coastal Development Permit, Applied June 20, 2017 - Pending
- California Department of Fish and Wildlife, Notification of Lake or Streambed Alteration No. 1600-2017-0150-R4 Deemed Complete July 7, 2017 – Issued by Operation of Law September 7, 2017
- US Army Corps of Engineers, Application for 404 Permit File No. 190890S submitted November 4, 2014 – Pending
 - National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA Fisheries) Consultation - Pending
 - US Fish and Wildlife Service Biological Opinion – Final Biological Opinion Issued May 8, 2017

Project Finances

The County has spent a total of \$779,099 in FY13, 14, 15, 16, and 17 toward planning and analyzing the long-term project. The total estimated cost to complete the project is \$17,465,470, with the following remaining activities and associated costs:

Technical Studies = \$360,470
State Parks Facilitation = \$20,000
Recirculate and Final EIR = \$160,000
Design = \$500,000
Permitting = \$190,000

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Construction = \$15,500,000

Total Estimated Remaining Cost = \$16,730,470

The RMA's FY2017-18 Adopted Budget includes \$100,000 (of the \$630,000 augmentation requested amount) for the project. The County is processing an amendment to its consultant's contract to continue the environmental analysis for the project by providing additional technical studies regarding the Scenic Road Protection Structure. The \$100,000 for FY17-18 will allow the consultant to complete the first of three stage of the additional technical studies. The technical study activities are broken out into three stages and generally includes the following:

- *Stage 1:* Establishment of a Technical Advisory Committee (TAC), evaluation of natural stream alignment and breach location (draft), evaluation impacts of wall options on the beach (draft), preliminary 60% design (draft)
- *Stage 2:* Ongoing TAC activities, sediment transport analysis
- *Stage 3:* Complete TAC activities, evaluation of natural stream alignment and breach location (final), evaluation impacts of wall options on the beach (final), preliminary 60% design (final)

Anticipated cost to complete the additional technical studies is estimated to be:

Stage 1 = \$ 99,780 (\$100,000 from approved FY17-18 budget)

Stage 2 = \$188,310

Stage 3 = \$ 72,380

TOTAL = \$360,470

Stage 1 is fully funded and is anticipated to be complete within six (6) months of the consultant beginning work. Once funding is identified to complete stages 2 and 3 of the technical studies (\$260,690), the County will authorize the consultant team to begin work. If Stages 1, 2 and 3 were to be completed concurrently the technical studies could be completed within 9 months; if they are completed sequentially the timeline expands out to 18 months.

Staff is working with State Parks and NOAA Fisheries staff to identify a scope of work, cost, and funding mechanism to retain a third-party consultant to advance discussions regarding the different SRPS project alternatives.

It is anticipated that the additional technical studies, once complete, will cause the DEIR to be updated and recirculated. Once the technical studies are near completion staff will work with the consultant to prepare a scope of work and budget for DEIR recirculation, and update cost estimates for Final EIR and project permitting. Staff anticipates a need to request General Fund appropriations for FY2018-19 to fund DEIR recirculation, Final EIR, and project permitting. RMA staff is working with the County's Strategic Grant Program to identify and apply for the estimated \$15.5 million in additional funds necessary to complete the planning, construction and post construction monitoring phases of this project.

Once the Final EIR is complete and a project is selected, staff will complete a cost estimate, timeline and funding strategy to complete the design, construction and post-construction monitoring of the project.

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Next Step Options

Staff requests direction as to how to proceed with management in the Carmel Lagoon:

- 1) Continue environmental document process, technical studies and obtain permits to manage the lagoon for winter season 2017-2018.
- 2) Discontinue long-term project and sandbar management, except for implementing the sand bag flood protection barrier, if property owner's permit.

If the County continues with the project as planned, habitat and natural floodplain functions would be improved, public infrastructure would be protected, flood protection to existing structures would be improved and the natural breaching regime in the lagoon would be restored. To continue the analysis of the long-term project, permitting, design and ultimately construction of a long-term project, and subsequently be able to secure permits sandbar management, the County would need to: identify funding for the approximately \$16.7M gap; address the technical, institutional and policy challenges; and risk of possible litigation (e.g. CAWD, State Parks).

Discontinuing the long-term project and sandbar management would save the County millions of dollars in project costs and make staffing resources available for other priority projects. Cessation of developing the long-term project (effectively withdrawing from the MOU) would result in the regulatory agencies no longer issuing permits to the County for sandbar management, resulting in the surrounding properties being subject to natural flood/breach cycle of the lagoon. Installing and managing a sand bag wall at the property lines and in the public right of way adjacent to the lagoon would provide some level of flood protection to the adjacent neighborhood when sandbar conditions would naturally allow a breach at a lagoon water elevation below the maximum height of the sandbag wall (approximately between 10 – 11 ft. elevation NAV29). This approach may still expose the County to risk of possible litigation.

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