

Attachment C

This page intentionally left blank.

Attachment C – Carmel Lagoon Project Background Information

Carmel River State Beach creates a natural seasonal barrier (sandbar) between the Pacific Ocean and the Carmel River forming a Lagoon at Carmel River Beach. Seasonally the Carmel River mouth will naturally open and close, depending on wave conditions and river flow conditions. When the Carmel River reaches a sufficiently high flow, generally following high rainfall, the Lagoon naturally rises and overtops the beach elevation, creating a channel opening to the ocean. Often, the Carmel River State Beach naturally builds up to a higher elevation than surrounding low lying homes and properties, leading to a risk of flooding before the Carmel River can fill the lagoon to a sufficient elevation to overtop the beach and break through to the ocean.

Background: Since the early 20th Century, a variety of entities have ‘managed’ the Lagoon water surface elevation by digging a channel in the beach to allow the Lagoon to enter the ocean, with the goal of lowering the Lagoon water surface level before it rises to a level that puts the adjacent properties at risk of flooding. This process has been referred to as sandbar management.

Below is a summary of the process that has led to the development of the FEIR/EA and the current permits for sandbar management. A more complete history of the steps leading up to the decision to develop a FEIR/EA can be seen on pages 11-16 of the FEIR.

1920’s – Odello family regularly breached the lagoon to prevent flooding of artichoke field.

1930’s to 1950’s – ‘Fourth Addition’ neighborhood developed.

1973 – Monterey County Water Management Agency (WRA) began managing the sandbar/breaching the lagoon.

1979 - County of Monterey Public Works began sandbar management on behalf of WRA.

1990’s – Transfer of ownership of the Lagoon area from Odello family to State Parks.

1992 - U.S. Army Corps of Engineers (USACE) and National Marine Fisheries (NMFS) informed the County that ongoing sandbar management did not constitute as an emergency due to the nearly annual occurrence of flooding at the Lagoon and adjacent properties. In response, the County prepared an Interim Sandbar Management Plan (ISMP) and breaching criteria and submitted it to the various regulatory agencies.

2005 - Follow consultation with NMFS the County graded a north-northwesterly aligned channel with the intent to decrease the Lagoon draw down following breaching and reduce the total drop in lagoon water surface level, thus decreasing the impact to federally listed species and critical habitat. Though the longer channel reduced flow rates and volume of lagoon draw down, the river and wave action following the initial lagoon breach led to significant damage to the Scenic Road bluff and State Parks parking lot. This event was the impetus to begin the process to identify a long-term solution to managing the Carmel Lagoon.

2007 – Publication of the Final Study Plan for Adaptive Management of the Carmel River State Beach and Lagoon by the Carmel River Watershed Conservancy (CRWC).

2005-2011 – Various stakeholder meetings were conducted to discuss the best way to solve ongoing flood problems and protect steelhead habitat. Concept of an EPB (in-lagoon floodwall) developed and recommended.

2010 – Carmel River Steelhead Association (CRSA) filed a 60-day notice of intent to sue the County for violating Federal Endangered Species Act (ESA). County discussed with NMFS a

USACE permit for sandbar management, including a biological opinion and a set of milestones to develop an alternative to mechanical sandbar breaching.

2010 – Channel dug to the north of Carmel River beach to reduce impacts on listed steelhead resulted in flood damage to the bluff below Scenic Road and washed away significant portions of the Carmel River Beach State Park parking lot. Monterey County Resource Management Agency (formerly Public Works) reduced the two lane Scenic Road to one lane.

2011 – NMFS drafted a Jeopardy Opinion (JO) following the WRA’s application for a permit to manage the sandbar on an annual basis. NMFS affirmed that annual sandbar breaching as proposed in the permit would jeopardize steelhead and destroy or adversely modify critical habitat. The JO included a draft reasonable and prudent alternative (draft RPA). County withdrew the permit application and developed the draft RPA into the EPB, SRPS, and ISMP project proposed in the EIR/EA.

2011 – County, USACE, and NMFS developed an MOU that established a long-term plan to balance the needs for flood risk reduction and the need to protect federally listed species, and allowed for temporary sandbar management during the interim while County completes the design and construction of the proposed EPB and SRPS.

2016/2017 – Draft EIR published for public comment over the 2016/2017 new year. Significant comments from regulatory agencies and strong local opposition from landowners and the Carmel Area Wastewater District (CAWD) for the EPB led to the need to add additional technical studies to the DEIR and future recirculation of the DEIR.

2017 – 2019 – County met with regulatory agencies to develop the scope of technical studies necessary for the SRPS.

2019 – Due to overwhelming lack of support for the EPB, County informed USACE and NMFS to proceed with the SRPS, ISMP and no EPB as the project for Section 7 consultation under ESA. NMFS issued an updated BO analyzing only the SRPS and ISMP components.

2020 – USACE issued a five-year permit to the County for sandbar management.

Current Sandbar Management Practices:

Currently, the Department of Public Works, Facilities and Parks (PWFP) manages the sandbar under a five year permit from the USACE which includes the biological opinion from the NMFS, and annual emergency permits from the California Coastal Commission (CCC), with annual applications to the California Department of Fish and Wildlife (CDFW) for a Lake and Streambed Alteration (LSA) permit, and annual amendments to the California Regional Water Quality Control Board (RWQCB) 2020 permit, and with the permission of the California Department of Parks and Recreation (State Parks).

Due to the annual nature of the management activities, the permitting agencies have required the County study long-term alternatives to annual sandbar management that will allow the lagoon to return to natural functions. All current permits allow the County to manage the sandbar on the south end of the beach (to protect Scenic Road) but require the County to concurrently develop a long-term solution to seasonal Lagoon flooding that minimizes and adapts management of the sandbar such that the Lagoon may function as naturally as possible while maintaining flood protection for the surrounding properties.

Draft EIR, Revised EIR, and Final EIR

In 2016 the Draft EIR (DEIR) was circulated for public review, and in response over 40 letters were received from public agencies, organizations, and the general public, which included challenges to and requests for additional technical studies related to the proposed SRPS component of the Carmel Lagoon Project and requests to identify and analyze additional project alternatives, as well as a more detailed analysis regarding the location and alignment of a natural breach of the Carmel River. Therefore, the County retained Moffatt & Nichol to analyze the natural breach alignment and location and sediment transport and prepare an assessment of potential beach impacts from a mid-slope wall alternative similar to the “Mid-Slope Toe Soldier Pile Wall” analyzed in the 2016 DEIR and described in the 2024 Revised DEIR as the “SRPS-Mid Slope Wall” Alternative 5.3.2.5. The technical studies were the Carmel River Lagoon Natural Breach Alignment and Location Study, Sediment Transport Study, and Assessment of SRPS Mid-Slope Wall Alternative Beach Impact Potential; each of these study reports are contained in Appendix F of the FEIR/EA. Based on these technical analyses, Preliminary 30% Plans for a Mid-Slope Wall (MSW) Alternative 5.3.2.5 (Moffatt & Nichol, March 24, 2023) were developed and are incorporated in the 2024 Revised DEIR beginning on page 41 of Chapter 5.

Projects Components Analyzed in the FEIR/EA:

Ultimately the County and the permitting agencies desire to reduce or eliminate the need for costly sandbar management activities and allow the lagoon to return to its natural functioning without management. Technical studies included in the FEIR/EA have shown that if the County were to stop managing the lagoon levels without implementing any other solutions, homes in the 4th Addition would be at risk of flooding when the lagoon rises above 15’ NAVD88 elevation, which can occur during annual winter rain events, and there is a 20 percent chance in any year that the lagoon would naturally breach the sandbar on the northern end of the beach, which could erode the slope under a portion of Scenic Road and the State Parks parking lot and restroom facilities at the Carmel River Beach (as was experienced in 2005, 2010, and naturally in 2023). As such, the County explored a number of options to protect the 4th addition from floods (EPB component) and to protect Scenic Road and the State Parks parking lot from river and wave damage (SRPS component). Until a solution is in place, the County would continue to manage the lagoon (Sandbar Management) to reduce flood and erosion risks. Suggested alternatives to annual sandbar management activities have included managed retreat, home elevation, and various infrastructure improvements such as weirs and pipelines installed and are further outlined below.

EPB Components

Various options for an EPB component were explored to provide flood protection, including:

- EPB on State Parks property, at various distances from
- EPB on private property lines
- Weirs, pipelines, or other infrastructure to lower the Lagoon level mechanically without sandbar management.
- Managed retreat

- Home Elevation

The EPB options were all found to have regulatory agency conflicts, lack of permission from property owners, and substantial environmental impacts. Other options analyzed, including weir and lagoon overflow infrastructure, were found to be infeasible from an engineering standpoint, and significantly detracting from the scenic aspect of the location. There has been no stated support for managed retreat from property owners. The only currently feasible alternative to an EPB is a home elevation program.

SRPS

Options explored to protect Scenic Road and the Carmel River Beach parking lot from erosion from a northerly breach of the sandbar included:

- Living Wall
- Mid-slope Wall
- Full height wall
- Rip-rap along the Scenic Road bluff

A living wall, reinforced earthen wall, and rip rap protection system were analyzed as alternatives and were found to be infeasible due to the technical infeasibility and significant unavoidable impacts on aesthetics and public access. No project, or allowing Scenic Road to continue to erode, is not a considered option. PWWP has already reduced the road to one lane following the damage sustained in 2010, and State Parks has already reduced the parking lot to approximately half its former size. Further damage will restrict access to four homes on Scenic Road, endanger the CAWD infrastructure under the road, and restrict public access from State Parks parking lot, which is the only parking lot for Carmel River State Beach.

Feasible options include a SRPS at toe of slope (the proposed project) or a SRPS at the mid slope (the project proposed for approval). Approval of the SRPS as described as the “Proposed Project” in the FEIR/EA is not recommended due to opposition from State Parks to locate the SRPS entirely on State Parks property (Carmel River State Beach) and opposition from the CCC due to reliance on the proposed rip rap construction components of the SRPS. At the recommendation of the engineers on the project, the remaining feasible project with the least environmental impacts (other than no project) is the mid-slope wall alternative which includes a seawall along the areas of Scenic Road that would be compromised from a northerly breach (either naturally or by design under the sandbar management scenario in consultation with permitting agencies), and placement of 2 ton interlocking boulders buried in the sand in front of the State Parks Parking lot. Further, State Parks, as the primary landowner in the Project area, has consistently stated that the Mid-Slope SRPS alternative is the only SRPS project component they will consider granting a Right of Entry (ROE) permit for. The wall with the boulders will protect access and infrastructure along Scenic Road and public access to the beach and lagoon on the State Parks property.

Sandbar Management Plan/Adaptive Sandbar Management

Staff recommends that until a long-term solution to the flooding and erosion hazards are in place, that sandbar management continue. The proposed sandbar management activities in the FEIR are consistent with existing permits. Specifically, sandbar management is permitted when certain lagoon water surface elevation or Carmel River flow rate criteria are met. Key actions included and required by the permits are:

- Homeowners are informed of the flood risk and encouraged to protect their own properties in an annual flood risk meeting.
- A sandbag wall is built (with permission of the landowners) along the three lowest lying homes adjacent to the lagoon (homes are at approximately 14.5' NAVD88, the wall is built to approximately 15' NAVD88).
- One of the following criteria must be met before the sandbar is managed:
 - o Carmel River flow exceeds or is predicted to exceed 200 cubic feet per second at the Robles Del Rio Bridge.
 - o The Carmel Lagoon has risen or is predicted to rise over 12.77' NAVD88.
 - o In consultation with NMFS, staff have determined that a flood risk exists.
- PWFPP then builds a pilot channel at 12.74' NAVD88, without directly breaching the lagoon. Biological and Water Quality monitoring is done, and public safety signage is posted. Mechanical management must occur during daylight hours and at a low tide due to safety and environmental concerns.

If sandbar management is approved as an ongoing part of the project, as proposed by staff and further described in alternative 5.3.3.2 of the FEIR, future sandbar management activities would continue in a similar manner to current activities with a few exceptions. Once the SRPS is constructed, sandbar management may occur to the north end of the beach if recommended by NMFS for protection of steelhead species. Additionally, ongoing sandbar management would include developing a management and monitoring plan (MMP) to collect data to inform the procedures of the sandbar management plan and provide adaptive sandbar management criteria. Data would include riverine processes, wave processes, beach topography and dynamics, lagoon water level, lagoon salinity, and rainfall runoff. The purpose of sandbar management as approved under this alternative is to allow the County time to explore, fund, and implement projects to elevate homes and protect infrastructure, and to reduce the need for sandbar management.

Garden Walls

As discussed in the FEIR/EA under alternative 5.3.2.4, ongoing sandbar management activities include the County building a sandbag wall along the property lines of three homes adjacent to the Carmel Lagoon. The County would then install seasonal sandbags that abut the walls where they exist under this scenario. The Garden wall alternative lays out the potential risks associated with building an individual garden walls along private property lines to replace the sandbag wall. The main benefit to a garden wall is that it is more aesthetically pleasing than a sandbag wall, and it does not require annual activity by the County on private property, at the permission of the property owner. In 2021 residents requested a study that would allow them to build their own alternatives to the sandbag wall. There is one garden wall constructed on one of the properties fronting on the lagoon already. Construction of garden walls are subject to approval of a Coastal Development Permit in each case because of the sensitivity of the habitat in the vicinity.

Home Elevation

Development of a home elevation program would substantially reduce the risk of flooding for the approximately 27 homes located in the 100-year floodplain in the Fourth Addition neighborhood to the north of the Carmel Lagoon. Current County Code already requires homes built in the 100-year floodplain, or undergoing an extensive remodel, to raise their first floor 1 foot above the 100-year floodplain.

This page intentionally left blank