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Ventana Chapter / Pajaro River Watershed Committee

April 6, 2012

Planning Department, County of Santa Cruz
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

RE: Notice of Intent to Adopt a Mitigated Negative Declaration
Proposed Bench Excavation Project / Application 06-0133

Dear Santa Cruz County Planning Department:

This letter is being submitted on behalf of the Ventana Chapter of the Sierra Club, and specifically for its Pajaro River Watershed Committee.

We have reviewed an Initial Study and a Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for a proposed "Bench Excavation" project on the Pajaro River. The project application is referenced above. The project proposes to excavate excess sediment from selected locations along the upper terrace benches inside the Pajaro River levees, in order to improve the flood carrying capacity of the levee system. The project area consists of the lower 7.5 miles of the Pajaro River mainstem beginning immediately west of Murphy Road Crossing and ending immediately east of the State Route 1 Bridge.

As you know, it is proper to propose the construction of a project on the basis of a Negative Declaration (or of a Mitigated Negative Declaration) *only* when there is *no* reasonable argument that the proposed project will have significant adverse environmental impacts. Public Resources Code §21080(d); *Stanislaus Audubon*, 33 Cal.App. 4th, pp. 150-151. If there is any "fair argument" that the project as proposed (and as proposed to be mitigated) will have significant adverse environmental impacts, then a full Environmental Impact Report (EIR) must be prepared. This is a basic requirement of the California Environmental Quality Act (CEQA), as outlined in both the statute and the CEQA Guidelines, and as consistently enforced by the courts. We hope that the County will keep this requirement in mind as it considers whether or not it would be appropriate to carry out the proposed project without a full EIR.

Our comments are as follows:

1. We have reviewed the 460-page "Initial Study/Mitigated Negative Declaration," as it has been presented on the county's website at the following URL:

   http://www.sccoplanning.com/pdf/env/PajaroBenchExIS-MND3-8-12complete.pdf

   That document contains a county form, entitled "Mitigated Negative Declaration," which contains a check box indicating that required mitigation measures or conditions "are attached." Despite this statement, there does not seem to be any unified and clear set of proposed mitigation measures or conditions "attached," as is claimed. What

seems to be attached is a lengthy study, of some 400 pages. We make comments on that document, below. However, the MND itself appears to be legally deficient without the set of proposed mitigation measures and/or conditions which the form claims "are attached." The review period that CEQA requires is intended to be an opportunity for the public to comment on the sufficiency of the proposed mitigation measures and/or conditions, which is obviously impossible if a unified and clear set of such proposed mitigation measures or conditions is not actually provided for review.

2. Page 8 of the MND (Project Background) discusses the scale of the floods the lower river system has encountered in the past, and what flow rate the levee system was designed to carry in its original configuration (19,000 cfs upstream of Salsipuedes Creek, and 22,000 cfs downstream of Salsipuedes Creek). The design flow rate to be used in the design of the Bench Excavation Project is not identified in this section of MND. Furthermore, Page 10 of the MND (Detailed Project Description) describes the purpose of the project is to "improve flood carrying capacity of the levee system (emphasis added)," but does not quantify the scale of the capacity improvement which would result from the project if implemented. The design flow rate to be used in the design of the Bench Excavation Project is not identified in this section of the MND. Absence of design flow rate information is a fundamental flaw in the project description and must be corrected. The lack of accurate design flow information about the proposed project means that the possible environmental impacts of the proposed project cannot be properly evaluated, and/or mitigated. Without a stated design flow, there is no way to quantify the benefits or shortcomings of the proposed project, or to establish that negative impacts will be mitigated as required by CEQA.

3. Page 9 of the MND (Flood History) outlines and discusses the historic 1998 flood of record flow rate, and consequent levee geotechnical stability problems (erosion) that occurred. To address these problems, Page 11 MND (Hydraulic Modeling) proposes vegetative buffer strips to minimize said erosion risks in the Bench Excavation Project. The MND should address the combined risk of flow rate and levee stability parameters consistently with flood management practice used by the USACE for the planned Levee Reconstruction Project. Guidance for this practice is provided in their regulation ER1105-2-101. (See Attachment). This consistency is important for coordination between projects and integration with the broader watershed wide flood protection strategy discussed later in these comments.

4. Pages 63-64 of the MND (Surface Water Hydrology) somewhat discuss project scale to increase flood carrying capacity providing an overview of the project area's hydrologic history and method of analysis to predict the flow rate of a range of likely floods and the probability of occurring. The overview discusses the percent chance of a flood flow being equaled or exceeded in any single year, and refers to a table of several flood flows and their respective hydraulic properties; however, the design flow rate and other engineering parameters to be used in the design of the Bench Excavation Project are not identified in this section of MND. The aforementioned comments for Pages 9-12 apply here as well.

5. Page 65 of the MND (Flooding) refers to the fact that at "the time of authorization in 1944, the flood control project was believed to provide a 100-year level of flood protection, or to contain a flood event of 22,000 cfs. A 100-year (1 percent) flood today would feature a discharge of about 44,000 cfs at the Chittenden gage. The stream gage records now suggest that the channel is capable of safely conveying only a 15-year flood event (22,000 cfs)." The design flow rate and other engineering parameters to be used in the design of the Bench Excavation Project are not identified in this section of MND. The aforementioned comments for Page 9 apply here as well.

6. Page 77 of the MND (Impacts) states "The proposed project would provide additional capacity within the existing levee system, thereby providing additional freeboard that would relieve some stress from the levee system during peak flows." It also indicates there would be no impact. This statement does not indicate how much additional capacity and freeboard will be provided over existing conditions and whether the purpose of the project is to increase flood carrying capacity to its authorized 19,000-22,000 cfs design flow rate, or to increase the design flow rate beyond this amount. The current documentation is deficient because it is not clear whether or not this is, in fact, part of the project as proposed. This failure in the project description requirement means that potential adverse impacts cannot be properly understood.

   The 1944 authorization leading to the levee system construction in 1949 included an O&M Agreement to assure proper performance of the system (excerpt attached). The design flow rate cited in this O&M Agreement is 19,000 cfs upstream of Salsipuedes Creek and 22,000 cfs downstream of Salsipuedes Creek, as stated on Page 8 of the MND. The O&M Manual also makes reference to "standard engineering practice;" typically, three feet of freeboard must be provided in the design and sustained by maintenance activities.

   The conclusion reached in this section that no impacts are present is unfounded. There is no evidence in the MND that impacts to vegetation have been minimized in the design. The design must integrate the design flow rate, levee geotechnical stability parameters, the revegetation plan, and the maintenance and adaptive management plans. This design must demonstrate how impacts to existing vegetation, vegetation proposed in the revegetation plan and vegetation which would colonize naturally are minimized.

   Reasonable precision in the treatment of these inter-dependencies is necessary to evaluate properly the possible environmental impacts of the project, and specifically whether the proposed project will improve the flood carrying capacity of the levee system while minimizing impacts to public safety and vegetation. Issues involving how much flow retarding and geotechnical stabilizing vegetation can be allowed in the channel to meet the project purpose to "improve flood carrying capacity of the levee system" is in question. Pages 10 through 19 and 46 of the MND project description allude to this question but are unclear. Absent the information listed above, the analysis contained in the MND is inadequate to document and quantify the expected impacts to existing vegetation from the project design and the proposed maintenance program. This is inconsistent with the requirements of CEQA. In addition, the lack of this information raises public safety concerns regarding levee erosion due to excessive velocity that could be reduced by strategically placed vegetation.

The project description includes no mention of a Emergency Overflow Protection system, and such protection must be incorporated in all Federal flood control projects as discussed in the aforementioned USACE ER 1105-2-101. Massive adverse impacts will occur if levee overflow erodes levee stability causing failure, involving large volumes of high velocity flood water to escape from the system and sprawl down to lands below. It is vital that the project design include effective components to accommodate flows that exceed the flood carrying capacity of the project, whatever it is. No flood control project can be guaranteed to accommodate all future floods. Possible components of such overflow protection systems could include overflow weirs at low points (or designed low points) in the levees where overtopping could occur to avoid public safety problems and minimize flood damage, armoring to prevent the overflow from destroying the levees, ditching or berms to contain overflow waters and provisions for removing overflow waters from the land.

It should also be noted that applicable regulations require the project description and design to include a thorough analysis of the risks for damages from bank overflow, and provisions for addressing those risks. (See attachment). Without a specification of the carrying capacity of the project, and without an assessment of potential flood flows, and definitive plans for Emergency Overflow Protection, it is not possible to quantify the potential consequences of the project or the adequacy of any mitigation measures. In other words, it is not possible to determine how much current or future danger there is for the land adjacent to the river (urban areas in particular). Again, this is a serious deficiency of the current Mitigated Negative Declaration.

7. Page 5 of the MND (Environmental Factors Potentially Affected) A check list of all the categories of impacts evaluated for the project is provided in this section, and includes a category for Land Use and Planning. This category was not checked indicating the evaluation was made to less detail than the others checked. It appears the evaluation did not evaluate how the Bench Excavation Project is will be integrated with concurrent Watershed Planning efforts for flood protection. During the recent decade of water and flood management in the Pajaro River Watershed, the Sierra Club has participated with responsible agencies to improve the flood carrying capacity of the levee system, and the Club believes that all parties have properly concluded that the approach outlined in the State Water Plan (to be implemented via the Pajaro River Watershed Integrated Regional Water Plan, or IRWMP) is the most logical and reliable way to accomplish the Bench Excavation Project purpose. The IRWMP Pajaro River Watershed Study, conducted by the Pajaro River Watershed Flood Protection Authority (FPA), investigated the watershed wide water and flood management system shortly after it was formed, and then commenced to formulate a program to remedy problems discovered in strategic manner. Central to this flood management strategy is the integration of past and current Federal Flood Control Projects, IRWMP projects, and local plans addressing public interests and leveraging benefits among projects. The Bench Excavation Project is part of this flood management strategy, and is planned to integrate with other projects also included in the FPA flood management strategy, including the proposed Lower River Levee Project, the Soap Lake Floodplain Preservation Project, and perhaps other projects that are part of the aforementioned FPA strategy. The current analysis of the Bench Excavation Project, as contained in the proposed Mitigated Negative Declaration, fails to evaluate the issues related to the

integration of the currently proposed project with the overall strategy. This strategy includes upper watershed flood water detention projects that can function in conjunction with or as alternatives to meeting the Bench Excavation Project purpose, to increase flood carrying capacity of the levee system. A clear statement of how the proposed project objectives relate to the project design and actual specifications of the project is absolutely required. Following are two significant issue areas that are inadequately treated in the Initial Study and MND:

- It appears that improved levee stability is to be achieved by lowering the flow depth in the channel and thus reducing erosion risk and providing a higher conveyance efficiency for the 1949 Design flow rate, thereby restoring or enhancing freeboard (See Page 77 of MND). Enhancement would be at the expense of the amount of vegetation allowed, which would not be necessary with alternative projects accomplishing the same objective, including upper watershed detention and a residual risk management plan; whereas restoration to 3 ft. would not because it was included in the original design and maintenance required in the existing ACOE O&M Agreement. (See Page 10 and 11 of MND, Detailed Project Description).

- Will the project proposed result in an increase in the design flow rate and or freeboard beyond what is authorized in the 1949 ACOE project Operation and Maintenance Agreement? (This document is attached) If so, this would be at the expense of the amount of vegetation allowed, while the same benefits could be accomplished with alternative projects, including upper watershed detention and a residual risk management plan. (See Page 19 of MND, Hydraulic Modeling).

8. Page 31 of the Initial Study and the proposed Mitigated Negative Declaration (Adaptive Management Plan for Vegetation Maintenance), proposes a five year establishment period for the revegetation and proposes to continue the vegetation maintenance cited in the 2002 Final EIR for the Pajaro River and Salsipuedes and Corralitos Creeks Management and Restoration Plan, Santa Cruz County, California (Harding ESE. 2002, excerpt below:

> Flood control management has been a primary issue regarding the Pajaro River, Salsipuedes and Corralitos Creeks since at least 1936 when the USCOE initiated a flood control study. Significant amounts of riparian vegetation were removed from the river corridor when the levee system was constructed in 1949 and flood control management, agriculture, and other development since then have significantly altered the natural system. More recently, removal of a significant amount of the riparian habitat along the Pajaro River conducted by USCOE in response to flooding in 1995, as well as maintenance activities conducted by the Counties of Santa Cruz and Monterey to maintain hydraulic capacity in the river system, may have had negative impacts to several federally and state listed species.

Adverse construction impacts to existing vegetation from the proposed project and perhaps cumulative adverse impacts from historical maintenance conducted since

1995 described above, are proposed, and/or should be mitigated in a revegetation and adaptive management plan as part of the bench Excavation Project.

Page 10 of the Initial Study and the proposed Mitigated Negative Declaration (Santa Cruz County Flood Control and Water Conservation District Zone 7) describes the aforementioned County's on-going method of channel maintenance, providing greater detail that what is described on Page 31, and states that "maintenance is based on adaptive management and involves monitoring based on performing annual surveys of the channel cross section and comparing changes to historical cross sections. This is done in order to determine the extent to which vegetation and sediment removal are necessary from year to year. In this way, the Counties present an actual need for thinning and/or sediment removal on a year-to-year basis. Determination of the need to work in the channel is based on surveys and modeling work that demonstrates how much maintenance work is necessary each year."

Our understanding of the hydraulic model involves how it computes and reports how the design flow rate is conveyed through the vegetated channel/levee system in terms of flow depth, velocity, and shear stress against channel banks and levee slopes, all of which affect levee the potential for levee erosion/failure. Without the design flow rate reported and linked to the hydraulic model results, demonstrating levee erosion stability and optimal vegetation amounts and placements, the Mitigated Negative Declaration cannot not logically validate the revegetation plan and adaptive management plan, so the current environmental documentation is deficient.

Once the aforementioned revegetation plans are validated with the appropriate design flow rate, a monitoring plan with a theory involving biological and hydraulic engineering estimates for performance standards and success criteria can be developed. The monitoring plan described on Page 18 of Attachment 1 of the MND of the Initial Study and the proposed Mitigated Negative Declaration of the Biological Assessment Pajaro River Bench Excavation Project, Chapter 1 (Executive Summary) states, "Maintenance and monitoring of the revegetation plan shall be driven by an adaptive management approach that will respond to annual botanical and wildlife surveys, in addition to regular hydraulic surveys and analysis." It is anticipated that this data would be used to calibrate and quality assure the hydraulic model and adaptive management theory involving vegetation roughness coefficients used in the hydraulic model to validate the model accuracy and legitimacy to recommend vegetation maintenance. In essence, this would defer the analysis of the project that needs to occur prior to project approval or construction, and this is not consistent with the requirements of CEQA.

Thank you for giving serious consideration to our comments on the Initial Study and Mitigated Negative Declaration for the proposed Bench Excavation Project., and taking action to cure the deficiencies of the current documentation to meet CEQA requirements.

Very truly yours,

Lois Robin, Chairperson
Pajaro River Watershed Committee

Richard Roos-Collins, Principal
Water and Power Law Group

Gary A. Patton, Of Counsel
Wittwer & Parkin LLP

cc: Board of Supervisors, Santa Cruz County / Zone 7 Board of Directors
Board of Supervisors, Monterey County
Pajaro River Watershed Flood Prevention Authority
United States Army Corps of Engineers
Congress Member Sam Farr
Action Pajaro Valley
Pajaro Valley Water Management Agency
Sierra Club, Ventana Chapter
Other Interested Persons

Attachment
Excerpts from USACE ER 1105-2-101

5. Definitions. To describe effectively the concepts of risk analysis for flood damage reduction studies, this document uses the following terminology:

a. "Risk" is the probability an area will be flooded, resulting in undesirable consequences.

b. "Uncertainty" is a measure of imprecision of knowledge of parameters and functions used to describe the hydraulic, hydrologic, geotechnical, and economic aspects of a project plan.

c. "Risk Analysis" is an approach to evaluation and decision making that explicitly, and to the extent practical, analytically, incorporates considerations of risk and uncertainty in a flood damage reduction study.

d. "Annual Exceedance Probability (AEP)" is the probability that flooding will occur in any given year considering the full range of possible annual floods.

e. "Residual Risk" is the flood risk that remains if a proposed flood damage reduction project is implemented. Residual risk includes the consequence of capacity exceedance as well.

f. The flood protection performance will be presented. The risk analysis will quantify the performance of all scales of all alternatives considered for final recommendation. The analysis will evaluate and report residual risk, which includes consequence of project capacity exceedance. This requires explicitly considering the joint effects of the uncertainties associated with key hydrologic, hydraulic, and geotechnical variables. This performance will be reported in the following ways:

(1) the annual exceedance probability with associated estimates of uncertainty,

(2) the equivalent long-term risk of exceedance over 10-, 30-, and 50-years, and

(3) the ability to contain specific historic floods.

Attachment
Excerpts from USACE Pajaro River Levee Project Operations and Maintenance Manual

PAJARO RIVER
LEVEE PROJECT

OPERATION AND MAINTENANCE MANUAL

PAJARO RIVER LEVEES
AND
CORRALITOS CREEK LEVEES

SAN FRANCISCO DISTRICT
CORPS OF ENGINEERS
U. S. ARMY

SAN FRANCISCO, CALIFORNIA

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OPERATION AND MAINTENANCE MANUAL PAJARO

LEVEE PROJECT

SECTION I

INTRODUCTION

1-01. Authority of Existing Project. The Pajaro River Levee Project was authorized by the Flood Control Act approved 22 December 1944, Public Law 534-78th Congress, Chapter 665-2nd Session, and is contained in House Document 505, 78th Congress, 2nd Session.

1-02. Pajaro River Levee Project. The Pajaro River and its tributaries drain approximately 1,300 square miles of mountain and valley land situated in the Coast Range of California easterly from Monterey Bay into which the river empties. The northern tributaries of the Pajaro River rise in the Santa Cruz Mountains while the southern tributaries rise in the Gabilan and Diablo Ranges. The various tributaries enter the Pajaro River proper at the eastern end of Chittenden Pass through which the river flows before emerging in the Pajaro Valley. The Pajaro River Levee Project consists of levees on the Pajaro River from its mouth to approximate River Mile 12, on Corralitos Creek from its confluence with the Pajaro River to approximate Creek Mile 2.5 and on Carnadero Creek from Creek Mile 7.5 to 9.0.

1-03. Protection Provided. The Pajaro River and Corralitos Creek Levees will afford protection against flood damages to approximately 8,000 acres of land in the Pajaro Valley, including the city of Watsonville.

The project is designed to provide protection against all floods on the Pajaro River up to a discharge of 22,000 c.f.s. below the confluence with Corralitos Creek and 19,000 c.f.s. above that point and on Corralitos Creek for discharges up to 3,400 c.f.s.

1-04. Project History. During 1938, 1939 and 1940 the Works Progress Administration and Monterey County constructed 14,700 feet of levee and revetment on the left bank of the Pajaro River from Pajaro Road (River Mile 8.6) to the Southern Pacific Railroad bridge in Watsonville. In 1939 the City of Watsonville and Santa Cruz County replaced and repaired 7,760 feet of levee from a point 1,100 feet upstream from Bridge Street bridge on Corralitos Creek to a point 1,000 feet west of the west boundary of the city on the Pajaro River. Both of these levees have been modified during construction by the Corps of Engineers in 1948 and are incorporated in the Pajaro River Levee Project. The Corps of Engineers constructed new levees from the mouth of the river to the above-mentioned levees and from the upper limits of these levees to River Mile 12 on the Pajaro River and Creek Mile 2.5 on Corralitos Creek. This work was carried out in 1948 under Contract No. W 04-203-eng-2728 by the Bird Development Company and by hired labor. All construction on the Pajaro River was by contract, as was the work on Corralitos Creek to Creek Mile 1.0. The Corralitos Creek levee was extended from Creek Mile 1.0 to 2.5 after construction had begun on the original project, and was done by hired labor. Construction was begun on 22 March 1948 and was completed on 22 January 1949.