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**San Francisco Bay Regional Water Quality Control Board**

*Sent via electronic mail – hard copy will not follow*

May 18, 2018

California Department of Transportation – District 4  
Ms. Laurie Berman, Director  
Laurie.Berman@dot.ca.gov  
111 Grand Ave.  
Oakland, CA 94612

Metropolitan Transportation Commission  
Mr. Jake Mackenzie, Chair  
blumacjazz@aol.com  
1536 Gladstone Way  
Rohnert Park, CA 94928

Highway 37 Policy Committee  
Mr. David Rabbitt, Chair  
David.Rabbitt@sonoma-county.org  
575 Administration Drive, Room 100 A  
Santa Rosa, CA 95403

**Subject: Water Board Design Alternatives Guidance and Permitting Requirements for Highway 37 Between U.S. 101 and Interstate 80**

Dear Ms. Berman, and Messrs. Mackenzie and Rabbitt:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to participate in the Environmental Working Group meetings for the State Route 37 (SR 37) design alternative assessment. We are encouraged that the California Department of Transportation (Caltrans), the Metropolitan Transportation Commission (MTC), and the Highway 37 Policy Committee (Committee) are seeking input on the many significant environmental issues associated with reconstructing SR 37 between U.S. 101 and Interstate 80. The purpose of this letter is to proactively advise Caltrans, MTC, and the Committee of our concerns and expectations for the SR 37 project (Project) so they may be incorporated into the planning, environmental documentation, and design process at an early date, so as to facilitate subsequent Water Board review, including permitting. We look forward to continuing to work collaboratively with the Project's partners and stakeholders.

**Summary**

This letter encourages the Project's partners to: evaluate a full range of project designs, including those that are located landward and bayward of the existing SR 37 corridor; consider an

appropriately protective range of anticipated sea level rise (SLR) projections given SR 37's anticipated life and role as key infrastructure; and evaluate design alternatives with respect to not only their ability to fulfill needed transportation goals, but also with an understanding of their potential impacts to the sensitive bay and wetland environments around SR 37. This includes the alternatives' potential impacts to beneficial uses of waters both now and in the future, considering anticipated SLR. Doing that work now is likely to result in a less-impacting Project that can be more-efficiently permitted by the Water Board and other regulatory agencies, that is likely to need less maintenance or future adaptation, and that is more likely to accommodate or even benefit surrounding sea level rise adaptation projects, including tidal wetland restoration.

### **Project Alternatives and Design Considerations**

At the February 23, 2018, working group meeting, staff from the Water Board, the U.S. Army Corps of Engineers, and U.S. EPA described the requirement for the Project to produce an alternatives analysis that considers and evaluates a broad range of design alternatives. Consideration of a reasonable range of alternatives, and identifying the least-impacting alternative, is a requirement of various permitting processes, so this work will facilitate future permitting. The alternatives should include, but not be limited to:

- Abandoning the existing SR 37 corridor and addressing traffic congestion by improving nearby local roads and highways and incorporating multi-modal transit improvements such as adding passenger rail, ferry services, bicycle and pedestrian facilities, etc.;
- Constructing a new highway alignment to the north of the existing SR 37 corridor that moves the corridor out of the San Pablo Baylands to the extent practicable;
- Constructing a new alignment south of the existing SR 37 corridor that connects the east and west project termini via a bridge or causeway over San Pablo Bay; and
- Elevating and reconstructing SR 37 along the existing alignment.

Each design alternative will require a detailed assessment of the direct and indirect hydrologic, geomorphic, and ecological impacts to the San Pablo Baylands, surrounding marsh and wetland habitats, and creeks in the project study area. For example, the alternatives analysis should address how each alternative would affect the conditions and processes that support beneficial uses of San Pablo Bay and its bayland habitats, including, but not limited to:

- Tidal flooding, wave inundation, sediment supply, habitat conditions (especially for listed species such as the salt marsh harvest mouse [SMHM]), and the potential landward transgression of the high marsh wave-built platform that is currently bayward of the existing SR 37 alignment (commonly referred to as the "SR 37 Strip Marsh");
- The SLR-driven landward transgression of estuarine habitats in the San Pablo Baylands across adjacent estuarine-terrestrial transition zones in the Marin, Sonoma, and Napa hills and lowlands;
- The movement and distribution of watershed-derived sediment, especially from the Napa River and Sonoma Creek, into the baylands;
- The movement and distribution of estuarine-derived sediment from San Pablo Bay into its baylands;

- The SR 37 embankment's condition as a vector for the rapid geographic spread of highly invasive, state-priority weeds (e.g., perennial pepperweed [*Lepidium latifolium*], stinkwort [*Dittrichia graveolens*], and Pacific bentgrass [*Agrostis avenaceae*]) throughout the San Pablo Baylands;
- The movement of wildlife between San Pablo Bay, its baylands, and adjacent estuarine-terrestrial transition zones; and
- The provision of adequate interior (non-transition zone) marsh high tide refugia for wildlife, especially listed species such as SMHM, Ridgway's rail, and black rail.

The preferred alternative should be the least environmentally damaging practicable alternative that accomplishes the basic project purpose and avoids and minimizes direct and indirect impacts to these conditions and processes and allows for natural adjustment of the surrounding habitats to SLR.

The stakeholder outreach and working group meetings have generally focused on discussing and evaluating different design alternatives along the existing SR 37 alignment. Project alternatives that have been studied for the existing alignment include elevating SR 37 on a fill embankment, a causeway, or a combination of fill and causeway. Elevating SR 37 on a fill embankment along all, or a portion, of the corridor will likely result in significant direct fill impacts to San Pablo Bay and surrounding wetlands and potentially significant indirect impacts to the physical and ecological processes that support these habitats. Raising SR 37 on a causeway would be more likely to allow for San Pablo Bay and the sensitive habitats surrounding SR 37 to more effectively adapt to future SLR.

Other considerations that should be considered while assessing project alternatives include, but are not limited to, the risk of structural failure and associated impacts to beneficial uses due to seismic activity on the Hayward-Rogers Creek Fault, which runs through the SR 37 corridor; and geotechnical challenges to constructing a new roadway on fill or piles along or near the existing alignment, such as the availability of roadway fill, feasibility of transporting significant volumes of fill to the Project, and settling and consolidation of underlying younger and older Bay Muds.

### **Sea-Level Rise Considerations**

Consideration of design alternatives that will accommodate projected SLR in the year 2100, as the Project proposes, will require a comprehensive range of alternatives to be assessed to avoid and minimize impacts and protect the beneficial uses of San Pablo Bay, the multiple tidal creeks passing under SR 37, and the sensitive marsh habitats and listed species present throughout the SR 37 corridor.

We expect the Project's partners to apply the California Ocean Protection Council's State of California Sea-Level Rise Guidance – 2018 Update (Guidance) to develop and evaluate project alternatives. The Guidance provides a science-based methodology for State and local governments to analyze and assess the risks associated with SLR and to incorporate SLR into their planning, permitting, and investment decisions. The Guidance also provides a step-wise approach to help decision-makers assess risk by evaluating a range of SLR projections and the impacts or consequences associated with those projections. The Guidance assigns statistical

probabilities to a range of potential SLR scenarios, to help planners and decision-makers contextualize the risk associated with planning for specific levels of SLR.

The range of SLR projections in the Guidance includes an extreme SLR risk aversion scenario, called H++, which is not tied to a specific emissions trajectory but should be considered for projects with a lifespan beyond 2050 that have a low tolerance for risk, including major roads and regional transportation corridors such as SR 37. The Guidance states that the H++ SLR projection for year 2100 is 10.2 feet (roughly 122 inches), but, since it is a single scenario, the Guidance does not assign it a probability (likelihood of occurrence). The next most conservative SLR risk aversion scenario (medium-high, with a 0.5% likelihood of occurrence) projects a SLR range of 5.7 to 6.9 feet (roughly 68 to 83 inches), which approximates the SLR scenario of 66 inches (plus storm surge) that has been discussed in past SR 37 working group discussions and presentations. The State and its partners will likely invest considerable public funds in modifying SR 37, and significant impacts to beneficial uses of State waters could result from design modifications that insufficiently address SLR. For these reasons we urge the Project to consider utilizing the more conservative H++ and/or 0.5% probability SLR scenarios described in the Guidance to develop SR 37 design alternatives. Where appropriate, design alternatives may consider phased paths to SLR adaptation; that is, approaches that identify sequential thresholds that trigger new phases of adaptation. The Guidance describes a decision framework for defining these adaptation pathways.

### **Stormwater Treatment**

The Project will be required to treat stormwater runoff from all new and reworked impervious surfaces associated with the Project through low impact development best management practices (BMPs). The current location of SR 37 could make onsite construction and maintenance of stormwater treatment BMPs difficult, so incorporating stormwater treatment planning and design into the Project's early development stages will be beneficial. If stormwater treatment for all new and reworked impervious areas associated with the Project is not feasible onsite, an alternative compliance project(s) will be required to treat an equivalent area of impervious surface offsite. As such, the development of project alternatives should consider the degree to which onsite treatment is feasible and identify offsite alternative compliance projects to make up for any shortfall.

### **Project Segments, Stages, and Near-Term Improvements**

For project planning and design purposes, the Project has been broken up into three segments:

- Segment A – U.S. 101 in Novato to SR 121 near Sears Point
- Segment B – SR 121 to Mare Island in Vallejo, and
- Segment C – Mare Island to the SR 37 junction with I-80.

The February 23, 2018, environmental working group meeting included a discussion that the middle segment, Segment B, may be prioritized for improvements before Segments A and C. We urge the Project's partners to continue to consider all three segments together during project planning to ensure a corridor-wide vision guides the design and so that the long-term adaptation planning for Segments A and C will not be constrained by the design of Segment B.

Prior to full build-out of all of the Project's segments, near-term projects to address maintenance and flooding issues may be needed, such as the project to address flooding and closure of SR 37 west of Novato Creek in February 2017. The Water Board expects that any short-term projects will be designed, as practicable, in accordance with the future SR 37 corridor vision currently being developed. Any small-scale, short-term SR 37 projects needed prior to the full corridor build-out projects will be required to avoid and minimize impacts and mitigate for unavoidable impacts to jurisdictional waters and wetlands. Stormwater treatment must also be implemented as required by Caltrans's statewide stormwater permit and/or any Water Board permit issued for the short-term project.

### **Closing**

Water Board staff are available to meet to discuss the above comments. We encourage Caltrans, MTC, and the Committee to continue stakeholder outreach efforts and provide regular updates as project planning and design progresses. If you have any questions or comments, please contact Derek Beauduy of my staff at (510) 622-2348 or via email to [derek.beauduy@waterboards.ca.gov](mailto:derek.beauduy@waterboards.ca.gov).

Sincerely,

Bruce H. Wolfe  
Executive Officer

cc: Richard Bottoms, U.S. Army Corps of Engineers  
Jessica Davenport, State Coastal Conservancy  
Steven Moore, State Water Resources Control Board  
Hardeep Takhar, Caltrans, District 4  
Luisa Valiela, U.S. EPA  
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