# California Regional Water Quality Control Board
## San Francisco Bay Region

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Arnold Schwarzenegger
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Dan Leavitt
California High Speed Rail
925 L Street, Suite 1425
Sacramento, CA 95814

**Re: Comments on the Notice of Preparation for the Bay Area to Central Valley High-Speed Train draft Environmental Impact Report**
**SCH Number: 2005112051**

Dear Mr. Leavitt:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff have reviewed the *Notice of Preparation for the Bay Area to Central Valley High-Speed Train Draft Environmental Impact Report* (DEIR). The DEIR will define several alternate rail corridors between the Bay Area and the Central Valley, and evaluate anticipated environmental impacts resulting from each of the proposed rail corridors. Water Board staff have the following comments concerning topics that should be addressed in the DEIR.

**Comment 1**

The DEIR should address potential impacts on water quality associated with stormwater runoff from High-Speed Train (HST) system facilities. Both Alameda County and Santa Clara County have countywide clean water programs (the Alameda Countywide Clean Water Program and the Santa Clara Valley Urban Runoff Pollution Prevention Program) that oversee the implementation of National Pollutant Discharge Elimination System (NPDES) permits for stormwater discharges from new development and significant redevelopment. Under the terms of the NPDES permits, post-construction best management practices (BMPs) are required to meet the maximum extant practicable (MEP) definition of treatment specified in the Clean Water Act (CWA). New development and significant redevelopment Projects are required to comply with the numeric standards for post-construction stormwater BMPs in the NPDES permits. Treatment BMPs are to be constructed that incorporate, at a minimum, the following hydraulic sizing design criteria to treat stormwater runoff. As appropriate for each criterion, local rainfall data are to be used or appropriately analyzed for the design of the BMPs.

**Volume Hydraulic Design Basis:** Treatment BMPs whose primary mode of action depends on volume capacity, such as detention/retention units or infiltration structures, shall be designed to treat stormwater runoff equal to:

1. the maximized stormwater quality capture volume for the area, based on historical rainfall records, determined using the formula and volume capture coefficients set forth in *Urban Runoff Quality*

*Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or

2. the volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Appendix D of the *California Stormwater Best Management Practices Handbook,* (1993), using local rainfall data.

**Flow Hydraulic Design Basis:** Treatment BMPs whose primary mode of action depends on flow capacity, such as swales, sand filters, or wetlands, shall be sized to treat:

1. 10% of the 50-year peak flow rate; or
2. the flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or
3. the flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.

HST parking lots, stations, and other facilities with more than an acre of impervious surfaces will be required to meet these treatment standards. Water Board staff strongly encourage the use of landscape-based stormwater treatment measures, such as biofilters and vegetated swales, to manage runoff from the project sites. Since landscape-based stormwater treatment measures require that some of the site surface area be set aside for their construction, the proper sizing and placement of these features should be evaluated early in the design process to facilitate incorporation of the features into the site landscaping. Water Board staff discourage the use of inlet filter devices for stormwater management. Filtration systems require a maintenance program that is adequate to maintain the functional integrity of the systems and to ensure that improperly maintained filtration devices do not themselves become sources of stormwater contaminants or fail to function. Water Board staff have observed problems with the use of inlet filter inserts, since these devices require high levels of maintenance and are easily clogged by leaves or other commonly occurring debris, rendering them ineffective. Research conducted by the California Department of Transportation has demonstrated that inlet filters can be clogged by a single storm event. The study found that these devices required maintenance before and after storm events as small as 0.1 inch of rain. In addition, trash, debris, and sediment in the catchment had a significant impact on the frequency of maintenance[1]. Therefore,

[1] Othmer, Friedman, Borroum and Currier, November 2001, *Performance Evaluation of Structural BMPs: Drain Inlet Inserts (Fossil Filter™ and StreamGuard™) and Oil/Water Separator*, Sacramento, Caltrans.

adequate maintenance of inlet filters to provide MEP water quality treatment would be prohibitively expensive and impractically time consuming.

Water Board staff recommend that the project proponents refer to *Start at the Source*, a design guidance manual for storm water quality protection, for a fuller discussion of the selection of stormwater management practices. This manual provides innovative procedures for designing structures, parking lots, drainage systems, and landscaping to mitigate the impacts of stormwater runoff on receiving waters. This manual may be obtained from the Santa Clara Valley Urban Runoff Pollution Prevention Program's website (www.scvurppp.org) or by e-mailing a request to the e-mail address in the last paragraph of this letter. Useful information is also available in the *Contra Costa Clean Water Program Stormwater Quality Requirements for Development Applications* (available at http://www.cccleanwater.org) and in the *California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook, New Development and Redevelopment* (available at www.cabmphandbooks.com).

Additional innovative techniques for incorporating structural stormwater BMPs into urban design, such as infiltration planter boxes, can be found in Portland, Oregon's *2002 Stormwater Management Manual*, which can be obtained at www.cleanrivers-pdx.org/tech_resources/2002_swmm.htm.

**Comment 2**

The HST line is likely to cross the channels of several perennial and seasonal creeks. Any new crossings of such channels will require Clean Water Act (CWA) Section 404 Permits from the Army Corps of Engineers (ACOE), CWA Section 401 Certification from the Water Board, and/or the issuance of Waste Discharge Requirements (WDRs) from the Water Board. Please note that Water Board staff discourage the use of culverts for channel crossings. If a free span crossing is not feasible, new culverts should be designed to have an open bottom (e.g., a three-sided culvert, or a culvert with the bottom side buried beneath the cannel floor). An open bottom culvert design is less disruptive of any habitat values present in the channel and has fewer impacts on channel stability. Closed bottom culverts are likely to cause either excessive erosion of the creek bed or excessive deposition on the creek bed both upstream and downstream of the culvert.

The discussion of creek crossings in the DEIR should also note that the Porter-Cologne Water Quality Act gives the Water Board jurisdiction beyond areas under the jurisdiction of the ACOE, including areas on creek banks that are above the ordinary high water mark (OHW). For example, clear span bridges with abutments above OHW would not need a Clean Water Act Section 401 permit from the ACOE, but may require WDRs from the Water Board.

The evaluation of creek crossings should also evaluate any impacts that the HST system may have on wildlife migration corridors along the creek channels.

If you have any questions, please contact me at (510) 622-5680 or by e-mail at bwines@waterboards.ca.gov.

Sincerely,

Brian Wines
Water Resources Control Engineer

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USACE, San Francisco District, Attn: Regulatory Branch, 333 Market Street, San Francisco, CA 94105 –2197
CDFG, Central Coast Region, Attn: Robert Floerke, Regional Manager, P.O. Box 47, Yountville CA 94599 (Notification No. R3-2001-0016)