



# California Regional Water Quality Control Board Central Valley Region

Karl E. Longley, ScD, P.E., Chair



Linda S. Adams  
Secretary for  
Environmental  
Protection

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114  
Phone (916) 464-3291 • FAX (916) 464-4645  
<http://www.waterboards.ca.gov/centralvalley>

Arnold  
Schwarzenegger  
Governor

APPROVED

author

senior

*70*  
*YLR*

FILE COPY

19 August 2009

Edison Hicks  
Integrated Waste General Manager  
Department of Utilities, Solid Waste Division  
City of Sacramento  
2812 Meadowview Road  
Sacramento, CA 95832

Douglas Daggs, Trustee  
Sylvia Dellar Survivor's Trust  
P.O. Box 971  
925 North Lake Boulevard, Suite B-301  
Tahoe City, CA 96145-0987

## **REVIEW OF FINAL CLOSURE AND POST-CLOSURE MAINTENANCE PLAN, DELLAR PROPERTY, SACRAMENTO COUNTY**

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) Compliance and Enforcement staff has reviewed the Final Closure and Post-Closure Maintenance Plan (Plan) for the Dellar Property. The Plan is a requirement of Cleanup and Abatement Order (CAO) No. R5-2008-0705 for landfill closure as a corrective action.

The Plan proposes to construct a grade-to-drain final cover in accordance with Title 27, §21090 et seq. The final cover design will be constructed with a minimum 3% slope with appropriate drainage controls and collection basins sized to contain a 100 year, 24-hour precipitation event as required by Title 27. Environmental monitoring controls in place include groundwater monitoring wells associated with the 28<sup>th</sup> Street Landfill. Other controls are not recommended by the Discharger at this time. In general, the Plan contains the required elements satisfying the CAO with the exception of several items discussed below.

Order 1.h. of the CAO requires submittal of a post closure monitoring program, including plans for:

- iii. background groundwater monitoring, and
- iv. Groundwater corrective action monitoring, including evaluation monitoring. This plan shall specify constituents of concern, monitoring parameters, monitoring points, and the point of compliance, as defined in 27 CCR §20164.

According to section 3.8 of the Plan, monitoring for landfill impacts to underlying groundwater is performed quarterly in accordance with monitoring and reporting requirements in the City of Sacramento's 28<sup>th</sup> Street Landfill Waste Discharge Requirement (WDRs) Order R5-2004-0039. According to the Plan, four wells (C-12 through C-15) are located near the Dellar property. The Plan lacks the appropriate detail requested in items 1.h. iii and iv of the CAO.

Staff requests the Discharger explain how the existing monitoring wells C-12 through C-15 meet the conditions of CAO items 1.h. iii and iv.

The purpose of constructing a final cover is to isolate the waste from precipitation and ultimately protection of water quality. The ability of a cover to meet this performance standard is derived, in large part, by the thickness of the cover constructed. Upon review of the design plan, it is unclear how the thickness of the Final Cover was derived since the Plan does not provide UNSAT-H or HELP models evaluating the design thickness and its ability to isolate the waste in the unit. Staff recommends the Discharger provide calculations and reasoning to support the proposed design thickness including preparation of an appropriate model evaluating the proposed design.

The Final Grade Detail shown on Figure 5 does not provide sufficient detail concerning thickness of the Foundation Layer, thickness of the Low-Hydraulic Conductivity Layer, or thickness of the Erosion Resistant Layer or Vegetative Layer. The Final Grade Detail indicates a minimum soil thickness of 1-foot over waste. The Technical Specifications for Final Closure Grading, Section 02222, Part 3, 3.3A indicates the Foundation Layer will be a verified 2-foot thickness, but does not discuss what soil will be used as a Foundation Layer.

*Title 27, §21090 (a) (1) states: "Closed landfills shall be provided with not less than two feet of appropriate materials as a foundation layer for the final cover. These materials may be soil, contaminated soil, incinerator ash, or other waste materials, provided that such materials have appropriate engineering properties to be used for a foundation layer. The foundation layer shall be compacted to the maximum density obtainable at optimum moisture content using methods that are in accordance with accepted civil engineering practice. A lesser thickness may be allowed for Units if the RWQCB finds that differential settlement of waste, and ultimate land use will not affect the structural integrity of the final cover."*

Based on the design plan, it appears the proposed thickness of the final cover including the Foundation Layer will be less than the thickness required by Title 27, §21090 and discussed in the Technical Specifications. The Plan does not discuss the use of the underlying waste as a Foundation Layer nor does it provide evidence the underlying waste has the appropriate engineering properties to be used in such a capacity. The Plan should provide a thorough discussion clearly supporting a lesser design thickness that will isolate the waste from precipitation as required by Title 27, §21090.

Staff recommends the additional information requested to complete the Final Cover Design should be submitted by **15 October 2009** prior to the Discharger finalizing bid documents.

Please contact me directly at (916) 464-4737, if you have any questions.



TODD A. DEL FRATE, P.G.  
Engineering Geologist  
Title 27 & Non 15 Programs  
Compliance & Enforcement

cc: Patrick Palupa, Office of Chief Counsel, State Water Resources Control Board, Sacramento  
Frank Davies, California Integrated Waste Management Board, Sacramento  
Dawn Owen, California Integrated Waste Management Board, Sacramento  
Lisa Todd, Sacramento County Environmental Management Department, Sacramento  
Gerald R. Hicks, City Attorney's Office, City of Sacramento, Sacramento  
Marty Strauss, Department of Utilities, City of Sacramento, Sacramento  
Jeffory J. Scharff, Scharff, Brady, and Vinding Attorney at Law, Sacramento  
Arelia De Luna Garcia, Moon Broadcasting Sacramento, LLC, Los Angeles