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ENVIRONMENTAL PROTECTION

California Regional Water Quality Control Board, San Diego Region

June 20, 2013

Mr. Neil Mohr
General Manager
Sycamore Landfill
8514 Mast Boulevard
Santee, CA 92071

In reply refer to / attn:
259845:agrove

Subject: ADOPTION OF ADDENDUM NO. 2 TO ORDER NO. 99-74, MODIFICATIONS OF WASTE DISCHARGE REQUIREMENTS FOR THE SYCAMORE LANDFILL: SANTEE, CA

Mr. Mohr:

Enclosed is a copy of Addendum No. 2 to Order No. 99-74, *Waste Discharge Requirements for the Sycamore Landfill Inc., a Subsidiary of Republic Services Inc., Sycamore Landfill, San Diego County*. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) adopted this addendum during its meeting on June 19, 2013. Addendum No. 2 to Order No. 99-74 modifies the liner specifications found in Order No. 99-74 for the Stage III-B expansion area.

In the subject line of any response, please include the reference number **259845:agrove**. For questions or comments, please contact Ms. Amy Grove by phone at (858) 637-7136, or by email at agrove@waterboards.ca.gov.

Respectfully,

David W. Gibson
Executive Officer

DWG:jac:jro:alg

Enclosure: Addendum No. 2 to Order No. 99-74

cc via email: Mr. Bill Prinz, City of San Diego Solid Waste Local Enforcement Agency, via email to WPrinz@sandiego.gov

Mr. Tom Gardner, Sycamore Landfill Inc., via email to TGardner@republicservices.com

Mr. Len Yamamoto, CB&I, via email to len.yamamoto@cbifederalservices.com

Tech Staff Info & Use	
Order No.	99-74
Party (GT/CIWQS) ID	1302
File No.	06-0252
WDID	9 000000252
Reg. Measure ID	147420
Place ID	259845

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ADDENDUM NO. 2 TO ORDER NO. 99-74

WASTE DISCHARGE REQUIREMENTS FOR
THE SYCAMORE LANDFILL INC., A SUBSIDIARY OF
REPUBLIC SERVICES INC., SYCAMORE LANDFILL, SAN DIEGO COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board) finds that:

Introduction

1. The Sycamore Landfill is a municipal solid waste landfill operated by Sycamore Landfill, Inc., a wholly owned subsidiary of Republic Services, Inc. Discharges to the landfill are regulated under Order No. 99-74 and Addendum No. 1 thereto, **"Waste Discharge Requirements for the Sycamore Landfill Inc., a Subsidiary of Allied Waste Industries Inc., Sycamore Landfill, San Diego County,"** issued by the San Diego Water Board on October 13, 1999 and June 8, 2005 respectively.

2. Sycamore Landfill is approximately 491 acres in area, and is located north of the San Diego River and east of the City of Santee within Little Sycamore Canyon.

3. The Sycamore Landfill has an estimated 40,355,079 cubic yards (approximately 29,862,758 tons) of remaining capacity for solid waste and daily cover soil. The landfill owner has estimated the operational life of the site to be 20.7 years, or until October 2031.[1]

Background

4. Prior to the issuance of Order No. 99-74, Allied Waste Industries Inc. submitted a Report of Waste Discharge for a proposed lined lateral expansion of the Sycamore Landfill. The lateral expansion consists of Stages 1-B North, II, III, and IV. The Discharger proposed an engineered alternative to the prescriptive liner requirements set forth in State and federal regulations.[2] Pursuant to State regulations, the Discharger demonstrated that placement of a prescriptive composite liner versus the placement of an engineered alternative liner was unnecessarily burdensome, would cost substantially more than the proposed alternative,

[1] Joint Technical Document (JTD), dated November 2011.
[2] California Code of Regulations (CCR) Title 27, section 20080(b) and Code of Federal Requirements (CFR) Title 40, Parts 258.15 and 258.40

and would not promote additional attainment of applicable performance standards. Consequently, the San Diego Water Board approved the placement of an engineered alternative liner for the lateral expansion in Order No. 99-74.

5. The Stages 1-B North and 1-B South units were constructed in accordance with the liner design approved by the San Diego Water Board and prescribed in Order No. 99-74. The area and estimated volume of these two expansion units are shown in the following table. The locations of the units are shown in Attachment A to this Order.

Expansion Unit	**Area in Acres**	**Estimated Volume (cubic yards)**
Stage I-B North	17.4	1,750,000
Stage I-B South	6.9	611,000

The liner design for the two expansion units are described in the following table.

Expansion Unit	**Basal Composite Liner System (Top to Bottom)**	**Sideslope Composite Liner System (Top to Bottom)**
Stage I-B North and Stage I-B South	Two feet protective soil layer, 8 ounce nonwoven geotextile, 1 foot gravel LCRS[1] layer, 16 ounce geotextile, 60 mil HDPE[2] (both sides textured), GCL[3] on prepared subgrade.	Two feet protective soil layer, 60 mil HDPE (single side textured, textured side down), GCL, geotextile on prepared subgrade.

1 = LCRS is leachate collection and removal system.
2 = HDPE is high density polyethylene, flexible membrane liner.
3 = GCL is geosynthetic clay liner with permeability less than $5x10^{-9}$ cm/sec.
4 = "*Final Construction Quality Assurance Report for Sycamore Landfill, Stage III Cell Liner and Leachate Collection System*," dated November 2008.

Liner Design

6. The Discharger proposed a redesign of the engineered alternative liner system for the Stage III lateral expansion area in August 2007. The redesign again proposed an engineered alternative to the prescriptive requirements, and the Discharger demonstrated that the proposed design met the regulatory criteria for use of an engineered alternative liner system. The demonstration showed that the proposed engineered alternative design offers comparable protection of water quality as compared to the prescriptive standards found in CCR Title 27. The area and estimated volume of the Stage III expansion unit is shown in the

following table. The location of the unit is shown in Attachment A to this Order.

Expansion Unit	Area in Acres	Estimated Volume (cubic yards)
Stage III	23.9	2,050,000

The liner design for the Stage III expansion unit is described in the following table.

Expansion Unit	Basal Composite Liner System (Top to Bottom)	Sideslope Composite Liner System (Top to Bottom)
Stage III	Two feet protective soil layer, 16 ounce nonwoven geotextile, 1 foot gravel LCRS layer, 16 ounce geotextile, 60 mil HDPE (both sides textured), GCL, 40 mil HDPE (both sides textured), prepared subgrade.	Two feet protective soil layer, 60 mil HDPE (single side textured, textured side down), GCL, 40 mil HDPE (both sides textured), prepared subgrade.

1 = LCRS is leachate collection and removal system.
2 = HDPE is high density polyethylene, flexible membrane liner.
3 = GCL is geosynthetic clay liner with permeability less than $5x10^{-9}$ cm/sec.
4 = "*Final Construction Quality Assurance Report for Sycamore Landfill, Stage III Cell Liner and Leachate Collection System*," dated November 2008.

By letter dated July 21, 2008, San Diego Water Board staff concurred with the proposed modified liner design. Prior to construction, the Discharger further modified the expansion project to split Stage III into two phases of development: Stages III-A and III-B. Although the Discharger subsequently constructed the Stage III-A unit per the staff-approved design modification, the San Diego Water Board never revised the waste discharge requirements in Order No. 99-74 to reflect the change in liner design. This problem came to light when the Discharger submitted a Design Report for the Stage III-B, 9.5 acre lateral expansion unit in August 2012.

7. The Stage III-B unit area is projected to contain approximately 1,000,000 cubic yards (740,000 tons) of wastes. The Design Report proposes to construct Stage III-B with the modified liner design constructed in Stage III-A and described in the table above.

8. The Protective Soil Cover (PCS) (a.k.a., the "operations layer") is the uppermost layer of the liner system. This layer serves to protect the underlying liner components from punctures or tears during waste disposal operations, and to facilitate drainage of leachate from the overlying solid wastes into the underlying Leachate Collection and Removal System (LCRS). In order to accomplish these functions, the PCS must be comprised of materials that afford protection of the underlying composite liner components, and have a permeability that allows leachate to drain into the LCRS. The proposed design is adequate to accomplish the functions of the PCS.

California Environmental Quality Act

9. An Environmental Impact Report (EIR) for the project was certified by the City of San Diego on September 20, 2012 pursuant to requirements of the California Environmental Quality Act (CEQA) (Public Resources Code section 21000, et seq.). The EIR concludes that the proposed project will have significant unmitigatable impacts related to land use, transportation and circulation, noise, aesthetics, biological resources, and air quality. The EIR identifies significant but mitigatable impacts to transportation and circulation, noise, aesthetics, biological resources, air quality, historical resources and paleontological resources. The EIR incorporates a statement of Overriding Considerations and a Mitigation, Monitoring and Reporting Program (MMRP), which were also adopted by the City of San Diego. The EIR also concludes that the project will have no significant or less than significant impacts related to water quality, greenhouse gas emissions, energy, geologic conditions, hydrology, and water quality.

10. The Regional Board has considered all water resource related environmental factors associated with the discharge of waste to the Sycamore Landfill.

Public Participation

11. The Regional Board has notified interested parties of its intent to amend waste discharge requirements for the Sycamore Landfill.

12. The Regional Board, in a public meeting heard and considered all comments pertaining to the Sycamore Landfill.

IT IS HEREBY ORDERED, that Order No. 99-74 be amended as follows:

1. DISCHARGE SPECIFICATIONS B.3 of Order No. 99-74 is revised to add the underlined text below: The discharger is responsible for accurate characterization of wastes, including determinations of whether or not

wastes will be compatible with containment features and other wastes at the Sycamore landfill in order to comply with 27 CCR, section 20200(c), and whether or not wastes are required to be managed as hazardous wastes under 22 CCR section 66300 et seq. The discharge of bulk or non-containerized liquid waste must be in compliance with 27 CCR section 20200(d) and 40 CFR, Part 258.28.

2. DISCHARGE SPECIFICATIONS B.29 is revised to add B.29(a), (b), and (c) to Order No. 99-74 as shown in the underlined text below:

   Each landfill unit phase constructed after the effective date of this Order shall be designed and constructed in accordance with Title 27 and this Order and approved by Regional Board staff prior to operation. At least 120 days prior to the beginning of construction for each new construction phase, a Final Design Report shall be submitted to Regional Board staff for review and approval and shall include, but not be limited to, the engineered design plans, the contract specifications, a construction quality assurance (CQA) plan to verify that construction specifications will be met, and a revised water quality monitoring plan. Approval of the final design report shall be obtained from Regional Board staff prior to the construction of the landfill liner or cover. A final construction report shall be submitted for approval by Regional Board staff after each phase of construction and prior to the discharge of waste into the constructed phase. The final construction report shall include, but not be limited to, as-built plans, a CQA report with a written summary of the CQA program and all test results, analyses, and copies of the inspector's original field notes, and a certification as described in Section 20324 of Title 27.

   The phased construction of waste management units at Sycamore Landfill shall be as follows:

   a. The proposed composite liner system for Stage III (comprised of phases III-A and III-B) shall be constructed as follows:

Expansion Unit	**Basal Composite Liner System (Top to Bottom)**	**Sideslope Composite Liner System (Top to Bottom)**
Stage III	Two feet protective soil layer, 8 ounce nonwoven geotextile, 1 foot gravel LCRS layer, 16 or 18 ounce geotextile, 60 mil HDPE (both sides textured), GCL, 40 mil HDPE (both sides textured), prepared subgrade.	Two feet protective soil layer, 60 mil HDPE (single side textured, textured side down), GCL, 40 mil HDPE (both sides textured), prepared subgrade.

b. The Protective Soil Cover (or Operations Layer). On the basal liner system, this layer will be at least 24-inches thick. On the sideslopes, this layer enhances the draining of leachate along the sideslope and shall be placed 8 to 10 feet vertically up the sideslopes, initially, and incrementally 8 to 10 feet up the entire lined sideslopes for placement of subsequent lifts.

c. The Protective Soil Cover (or Operations Layer) shall also meet the following minimum requirements:

   i. Be free of debris, roots, scrap material, asphalt, concrete, vegetation, untreated refuse, and other deleterious, or objectionable material.

   ii. Not contain asphalt, concrete, limestone, or other material that could adversely react with Unit's leachate.

   iii. Be comprised of gravel, sands, clays and/or silts, and have a minimum average permeability of at least $1x10^{-4}$ cm/sec, but in no case shall the protective soil layer have a permeability of $1x10^{-5}$ cm/sec or less.

I, David W. Gibson, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on June 19, 2013.

DAVID W. GIBSON
Executive Officer