



November 8, 2016

Ms. Amy Grove
California Regional Water Quality
Control Board (CRWQCB)
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700

RE: COMMENTS ON TENTATIVE ORDER NO. R9-2016-0149, WASTE DISCHARGE REQUIREMENTS FOR THE CLOSURE, POST-CLOSURE MAINTENANCE, AND MONITORING OF FORSTER CANYON LANDFILL, ORANGE COUNTY (225044:agrove)

Dear Ms. Grove:

Tetra Tech BAS (TTBAS) is pleased to submit these comments on Tentative Order No. R9-2016-0149 on behalf of Advanced Group 99-SJ, a California Limited Partnership (AG 99-SJ). Tentative Order No. R9-2016-0149 was received by TTBAS and AG 99-SJ on September 22, 2016. Following are our written comments

Comment 1: Page 6 of Tentative Order No. R9-2016-0149, Part A – Findings

The following revision to the text is suggested:

IT IS HEREBY ORDERED, that this Order supersedes Order No. 94-106, as amended upon the effective date of this Order ~~except for enforcement purposes~~. In order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and applicable regulations, it is further ordered that the Dischargers comply with the requirements of this Order. **This action does not prevent the San Diego Water Board from taking enforcement actions for past violations of the previous Order.** In order to meet the provisions contained in division 7 of the Water Code, and regulations adopted thereunder, the Dischargers must comply with the following:

It is suggested that the end of the first sentence be deleted. The exception proposed to be deleted is addressed in the highlighted sentence.

Comment 2: Page 7 of Tentative Order No. R9-2016-0149, Part C – Excavation and Relocation of Refuse

C. EXCAVATION AND RELOCATION OF REFUSE.

The Joint Technical Document (JTD) estimates that approximately 250,000 cubic yards of waste (the project's Environmental Impact Report (EIR) evaluated a range of 225,000 to 275,000 cubic yards) must be removed from the perimeter of the landfill and relocated to the front face of the landfill. The relocation of waste ~~is necessary~~

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~~boundaries~~ meet the County of Orange Department of Environmental Health Local Enforcement Agency's (County LEA) setbacks requirements between the residential community and the landfill boundary. Details of the activities associated with the excavation, management, and discharge of wastes shall be documented in the Final Construction Quality Assurance (CQA) Report in accordance with the **Final Cover Design and Execution of the Construction Quality Assurance Plan D.8.**⁵

The suggested text revision is provided to clarify what has been evaluated and discussed in the Joint Technical Document as well as provide clarification as to what variation in the refuse removal quantity would be considered significant and require revision to the final closure design. In light of this it is suggested that text on Page C-6 of Attachment C (Information Sheet Order No. R9-2016-0149) of Tentative Order No. R9-2016-0149, Part E – Closure (first paragraph) be revised as follows:

E. CLOSURE

The closure of the Landfill will be completed in two phases. Phase one involves the excavation and relocation of wastes. In order to meet the final grading requirements for the Landfill and the average 100-foot easement for the proposed adjacent residential development,⁴ approximately 245,000 cubic yards of waste (the project's Environmental Impact Report (EIR) evaluated a range of 225,000 to 275,000 cubic yards) will be excavated from the north, south, and eastern perimeter of the upper deck and placed on the west-facing front slope within the existing footprint of the Landfill.

Comment 3: Page 9 of Tentative Order No. R9-2016-0149, Part D – Final Cover Design and Execution of the Construction Quality Assurance Plan, Item 3 – Final Cover Materials, Sub-items a and d

The following revision to the text is suggested:

- a. Have a maximum hydraulic conductivity of 1×10^{-5} and an average hydraulic conductivity of 1×10^{-6} centimeters per second or less as determined through field and laboratory testing.
- d. If at any time the Grain-Size Distribution tests (ASTM D422) indicate that the final cover soils contain particles in excess of three (3) inches and/or have a minimum fines content (defined by No. 200 sieve) less than 37 percent by weight, these materials shall be rejected for use in the final cover system. In addition, final cover soils shall have a minimum of 20 percent by weight Consist of soil with a grain-size finer than 5-microns (for an individual test) at a minimum of 20 percent by weight, and a minimum of 25 percent by weight of soils for which the mean of ten consecutive grain-size distribution tests is finer than 5-microns.

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The added text for sub-item a provides flexibility for an average permeability for soils while meeting performance criteria. The suggested text for sub-item d correlates with the specifications from the Earthwork Construction Quality Assurance Plan for Construction of the Monolithic Final Cover included in Appendix D of the Joint Technical Document from which this specification was derived.

Comment 4: Page 10 of Tentative Order No. R9-2016-0149, Part D – Final Cover Design and Execution of the Construction Quality Assurance Plan, Item 4 – Final Cover Grade

The following revision to the text is suggested:

4. FINAL COVER GRADE.

The final cover of the Landfill shall be designed, graded, and maintained to prevent ponding and soil erosion due to high run-off velocities. In compliance with title 27, section 21090(b), all portions of the final cover shall have a slope of at least three percent unless otherwise approved in the JTD by the San Diego Water Board. Any slopes that are steeper than a horizontal to vertical ratio of 3:1 (at 33 percent slope), shall have their design supported by a slope stability analysis, as required by title 27, section 21750(f)(5).

The added text is suggested to clarify that there are two areas with slope gradients of two percent which are approved as part of the JTD; therefore not requiring San Diego Regional Water Quality Control Board approval for those areas.

Comment 5: Page 10 of Tentative Order No. R9-2016-0149, Part D – Final Cover Design and Execution of the Construction Quality Assurance Plan, Item 5 – Final Cover Vegetation Comment

The following revision to the text/schedule is suggested:

5. FINAL COVER VEGETATION.

*Upon completion of construction of the final cover system, a native seed mix shall be applied to the upper deck, and the slopes shall be planted with shrubs and grasses to provide protection against soil erosion. Only the side slopes shall be irrigated, temporarily to establish the vegetative cover. The vegetative cover should be established on the side slopes in approximately three to five years. Because California is facing long-term drought conditions, the Dischargers shall provide the San Diego Water Board with a contingency plan for providing side slope protection against erosion should the vegetative cover fail to become established within five years of the initial application of the seed mix and planting of vegetation. This contingency plan shall be submitted to the San Diego Water Board **within 180 days of adoption of this Order completion of construction of the final cover.***

This revision is suggested as it seems more reasonable to prepare the requested contingency plan once construction is complete and all vegetation placement details are known, thus a proper contingency plan can be prepared.

Comment 6: Page 11 of Tentative Order No. R9-2016-0149, Part D – Final Cover Design and Execution of the Construction Quality Assurance Plan, Item 8 – Final CQA Report

The following revision to the text/schedule is suggested:

8. FINAL CQA REPORT.

~~Within 90 days of completing~~ Upon completion of construction of the Landfill final cover system, the Dischargers shall provide the San Diego Water Board with a Final CQA Report, containing all the information required by title 27, section 20324(d).

The deletion of the 90 day time period is suggested to maintain consistency with the reporting schedule included on Table D-1 of Attachment B to the Waste Discharge Requirements which indicates that submittal of the CQA Report be “Upon completing construction of final cover”. Additionally, in Attachment B, Part III, Item C, sub item 2 – Construction Quality Assurance Report also indicates “The CQA Report shall be submitted upon completion of construction activities associated with the final closure of the Landfill.” No specific time period is indicated.

Comment 7: Page 12 of Tentative Order No. R9-2016-0149, Part E – Post-Closure Maintenance Specifications, Item 3 – Cover Maintenance

The following revision to the text is suggested:

3. COVER MAINTENANCE.

The structural integrity and effectiveness of all containment structures and the final cover system shall be maintained as necessary to correct the effects of settlement or other adverse factors. Annually, the Dischargers shall provide the San Diego Water Board ~~with a report which~~ documentations of the activities undertaken at the site to maintain the integrity of the Landfill final cover system as part of the Annual Site Certification Report.

This suggested text revision provides clarification as to which report these maintenance activities should be discussed.

Comment 8: Page 13 of Tentative Order No. R9-2016-0149, Part E – Post-Closure Maintenance Specifications, Item 4 – Management of Soil Stockpiles

The following added sub-item e is suggested:

- e. *Any changes to permanent stockpile locations shall be identified in the Annual Site Certification Report.*

This added sub-item is suggested to provide flexibility for any changes to permanent stockpile locations that may be necessary or advisable in the future.

Comment 9: Page 15 of Tentative Order No. R9-2016-0149, Part E – Post-Closure Maintenance Specifications, Item 7 – Storm Water Management, Sub-item c

The following revision to the text is suggested:

- c. *On the north and northwestern face of the Landfill, intermediate, ~~2015~~-foot wide benches located at intervals of ~~4035~~-feet in elevation shall contain flanged nestable corrugated steel pipe drains and channels to direct storm water flows from the front face of the Landfill towards the detention basins.*

The suggested text revision is provided to make this description consistent with the final grading plan design provided in the Joint Technical Document.

Comment 10: Page 17 of Tentative Order No. R9-2016-0149, Part F – Financial Assurances – Geologic Hazard Abatement District (second paragraph)

The following revision to the text/schedule is suggested:

*The Dischargers must establish the GHAD and provide the San Diego Water Board proof of adequate financial assurance mechanisms sufficient for the completion of closure of the Landfill, post-closure operations, maintenance and monitoring, and for corrective actions in the event of a release from the Landfill. The GHAD must be established and the proof provided within **one year** ~~from the date of adoption of this Order of completion of final cover construction.~~*

The suggested text/schedule revision is provided as this is the earliest reasonable time for establishment of the GHAD. The GHAD funds will not be required until post-closure maintenance operations begin and the application has funds available for the first few years of post-closure maintenance during which the GHAD will be funding.

Comment 11: Page 20 of Tentative Order No. R9-2016-0149, Part G – Provisions, Item 10 – Landfill Disclosure Statement (second paragraph)

In regards to the following paragraph:

*The landfill disclosure statement provided to the homeowners shall provide the necessary details, including information regarding the GHAD (or other financial assurance mechanism) and its oversight of the Landfill. In aAdditionally, the owner shall provide a copy of this Order, a copy of the **Plan of Control**, a copy of the most **recent fee invoice** for the property, and contact information for the GHAD and San Diego Water Board as attachments to the disclosure statement to any potential future owner of the landfill property. These actions are consistent with the San Diego Water Board's Practical Vision for Proactive Public Outreach and Communication.*

The highlighted items in the above paragraph are more appropriately provided to any potential future owner of the landfill property and are not viewed as necessary items to provide to future homeowners. Relevant information from the Plan of Control (i.e., responsibilities of GHAD) can be provided in the disclosure statement. The above suggested text revisions differentiate between disclosure requirements for future homeowners versus potential future landfill property owners.

Comment 12: Page 23 of Tentative Order No. R9-2016-0149, Part H – Reporting Requirements, Item 2 – Site Certification Report, Sub-item j

The following revision to the text is suggested:

~~j. The volume of liquids collected from any waste containment structure, recorded at a minimum on a quarterly basis.~~

It is suggested that this sub item be deleted as no liquids are collected from any waste containment structures as the landfill is unlined and there is no leachate collection system.

Comment 13: Pages 23 and 24 of Tentative Order No. R9-2016-0149, Part H – Reporting Requirements, Item 2 – Site Certification Report, Sub-items m and n

The following revision to the text is suggested:

~~m. Eroded portions of the final cover~~erosion-resistant layer~~ requiring regrading, repair, replacement, or (for areas where the problem persistently reoccurs), increased erosion resistance.~~

~~n. Eroded portions of the low-hydraulic conductivity layer needing repair or replacement.~~

Since the final cover design for landfill closure is a monolithic cover there is no distinction between the erosion resistant layer, low-hydraulic conductivity layer, and foundation layer. Based on this, the two items appear to be indicating the same thing which is to repair eroded portions of the final cover. Therefore, it is suggested that items m and n be combined into one item m.

Comment 14: Page 25 of Tentative Order No. R9-2016-0149, Part H – Reporting Requirements, Item 9 – Reporting of Slope Failure

The following revision to the text is suggested:

9. REPORTING OF SLOPE FAILURE.

*The San Diego Water Board shall be **immediately** notified of, ~~and any slope failure occurring at the Landfill.~~ ~~t~~The Dischargers shall promptly repair any failure that threatens the integrity of containment structures, or structures that control surface drainage or erosion, groundwater monitoring wells, or the landfill gas collection system. A written summary of the actions that were implemented to correct the slope failure shall be prepared and submitted with the next Annual Compliance Report ~~monitoring report~~.*

This text revision is suggested to remove duplicative text and provide clarification as to the report this information should be included.

Comment 15: Page 26 of Tentative Order No. R9-2016-0149, Part H – Reporting Requirements, Item 12 – Reporting of Leachate Production or Change in Production

The following revision to the text is suggested:

12. REPORTING OF LEACHATE PRODUCTION OR CHANGE IN PRODUCTION.

*Pursuant to title 27, section 21710(c)(3), the Dischargers shall notify the San Diego Water Board within **7 days** if fluid is detected in any unsaturated zone monitoring system (i.e., landfill gas migration monitoring probes), or if a progressive increase is detected in the volume of fluid in any unsaturated zone monitoring system.*

This text revision is suggested to clarify which monitoring system applies to this reporting item.

Comment 16: Page B-10 of Attachment B (Monitoring and Reporting Program R9-2016-0149) of Tentative Order No. R9-2016-0149, Part I – Sampling and Analysis Plan, Item D – Slope Stability Monitoring

The majority of settlement on the front face slope is expected to occur within the first year and it is anticipated that the settlement will be progressively less from then on. Based on this, it is suggested that after the first year of monthly monitoring, the frequency be reduced to annual visual inspection only thereafter. The following revision to the text/schedule is suggested:

D. SLOPE STABILITY MONITORING.

The Sampling and Analysis Plan shall include a Slope Stability Monitoring Program for the slopes in the final cover of the Landfill. The Slope Stability Monitoring Program shall incorporate a combination of inclinometers and/or permanent surface monuments for measuring the displacement or slope movement of the final cover slopes, and a schedule for periodic visual inspections. The Slope Stability Monitoring Program must include activities adequate to determine if the integrity of final cover system has been compromised such that it no longer functions as designed. The Dischargers shall provide the San Diego Water Board with revisions to the Slope Stability Monitoring Program as warranted by changing conditions at the Landfill. Monitoring frequency shall be monthly for the first year after closure of the landfill is completed and visual inspection quarterly annually thereafter.

Additionally, Note 2 for Table D.1 (Reporting Schedule) should be revised as follows:

² *For the first year after closure of the Landfill, the Dischargers shall monitor slope stability on a monthly basis and report on a quarterly basis. After the first year of closure, the Dischargers shall visually inspect the monitor slope stability on an quarterly annual basis and report the results ~~on a semi-annual basis~~ as part of the semi-annual monitoring reports.*

Comment 17: Page B-20 of Attachment B (Monitoring and Reporting Program R9-2016-0149) of Tentative Order No. R9-2016-0149, Part III – Reports to be filed with the San Diego Water Board, Item C - Other Reports to be filed with the San Diego Water Board, Sub-Item 3 – Five Year Dewatering Effluent Constituents of Concern Report

The following revision to the text/schedule is suggested:

3. Five Year Dewatering Effluent Constituents of Concern Report.

Every five years, the Dischargers shall sample the dewatering effluent (when effluent is present) for all COCs found in Appendix II of title 40, Code of Federal Regulations part 258. The first COC report shall be received within no later than the first COC reporting period (April or October) upon completion of 5:00 p.m. on April 30, 2017 installation and operation of the dewatering system and in conjunction with the Five Yearly COC

Scan for the detection monitoring program groundwater monitoring system (per Part I, Item A9), and subsequent COC reports shall be due every fifth year alternately by ~~October~~ April 30 and ~~April~~ October 30 in conjunction with the detection monitoring program groundwater monitoring system Five Yearly COC Scan. The COC report shall be submitted as an appendix to any Detection Groundwater Monitoring Report or Annual Compliance Report having a reporting period that ends at the same time.

At this time, the applicant is not certain as to when the dewatering system will be in-place. In order to avoid violations before the closure construction is complete, it is suggested that the first five year dewatering effluent COC report be provided as presented in the proposed text. It is suggested that Table D.1 – Reporting Schedule and footnotes also be revised as indicated below:

Table D.1: Reporting Schedule

Report Type	Report Frequency	Reporting Period	Report Due Date⁵
Initial Five-Yearly Dewatering COC scan	Once	October - March	April 30, 2017 April or October ⁴
Five-Yearly Dewatering COC scan	Every 5 years	April - September	October 30
		October - March	April 30
Initial Five-Yearly COC Scan	Once	October - March	April 30, 2017
Five-Yearly COC Scan	Every 5 years	April - September	October 30
		October - March	April 30

⁴ The first COC report shall be received within the first COC reporting period (April or October) upon completion of installation and operation of the dewatering system and in coordination with the Five Yearly COC Scan for the detection monitoring program groundwater monitoring system.

Additionally, the applicant requests that COC sampling not be required for the dewatering effluent since any COC constituents would be detected in the Detection Monitoring Program groundwater monitoring system before those constituents would reach the much deeper aquifer from which the dewatering wells are drawing.

Comment 18: Page C-1 of Attachment C (Information Sheet Order No. R9-2016-0149) of Tentative Order No. R9-2016-0149, Part A – Introduction (second paragraph)

The following revision to the text is suggested:

Monitoring and Reporting Program No. R9-2016-0149 (M&RP) requires the Discharger to furnish certain technical and monitoring program reports to demonstrate compliance with the WDRs in the Order. The M&RP also prescribes performance standards for a detection monitoring program as required by title 27, California Code of Regulations, sections 20415 and 20420. This program will ensure early detection of any releases of waste constituents from the landfill for the protection of water quality and beneficial uses of groundwater and surface waters within the Lower San Juan Hydrologic Subarea (HSA 901.27) of the San Juan Hydrologic Unit (901.00). The M&RP also requires landfill gas, dewatering effluent, and slope stability monitoring and summary reports on landfill gas monitoring required of the County local enforcement agency (LEA) and CalRecycle.

The suggested text revision provides clarification that landfill gas monitoring is required by the LEA and CalRecycle.

Comment 19: Pages C-12 and C-13 of Attachment C (Information Sheet Order No. R9-2016-0149) of Tentative Order No. R9-2016-0149, Part K – Rationale for Financial Assurance Requirements (paragraphs 5 and 6)

The following revision to the text is suggested:

The Dischargers have chosen to establish a Geologic Hazard Abatement District (GHAD), a publicly financed assessment entity, to collect, manage, and allocate financial assurances for post-closure costs. The proposed GHAD will be administered as an independent public agency and in accordance with California Public Resources Code Section 26500 et. seq.~~by members of the City of San Juan Capistrano City Council.~~

To manage the post-closure funds, the GHAD will develop a Plan of Control and an Engineer's Plan Report. The Plan of Control will define the responsibility, funding mechanism(s), and physical boundaries of the GHAD. The Plan of Control will require the GHAD to provide post-closure operations, maintenance, and monitoring of the closed Landfill, and implement corrective actions as necessary should a release or slope failure occur. The Plan of Control must be submitted to the San Diego Water Board, the County of Orange Local Enforcement Agency (LEA), and any other local regulatory agency for review and comment prior to the formation of the GHAD.

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The purpose of setting up the GHAD as a state level agency is to ensure that it has an independent administrator and that its funds cannot be used by any local agency for uses other than for what they are assigned.

Please note that all references in Order No. R9-2016-0149 (including Attachments B and C) to the "Engineer's Plan" should be revised to "Engineer's Report".

If you should have any questions regarding these comments please feel free to contact either Ms. Virginia Becerra at virginia.becerra@tetrattech.com or myself at christine.arbogast@tetrattech.com or call (909) 860-7777.

Respectfully Submitted,



Christine Arbogast
Vice President
Solid Waste Division

Attachments

c: Robb Cerruti, AG 99-SJ
Mike Recupero, Recupero and Assoc., Inc.

From: [Becerra, Virginia](#)
To: Grove, Amy@Waterboards
Cc: Odermatt, John@Waterboards
Subject: RE: Clarification on Comments for Forster WDRs
Date: Wednesday, November 16, 2016 2:22:15 PM
Attachments: [image001.png](#)

Hi Amy,

The relationship between the 20 percent for individual tests and 25 percent for 10 consecutive tests is to provide a range for the samples. The 25 percent represents a minimum allowable for the 10 tests. This provides flexibility during cover construction.

Also, please use the following text as our suggested revisions to Item 3, Sub-item d on page 9 of the Tentative WDRs. We inadvertently left some text out.

“If at any time the Grain-Size Distribution tests (ASTM D422) indicate that the final cover soils contain particles in excess of three (3) inches and/or have a minimum fines content (defined by No. 200 sieve) less than 37 percent for any individual test and an arithmetic mean for ten (10) consecutive tests of less than 42 percent, these materials shall be rejected for use in the final cover system. In addition, final cover soils shall have a minimum of 20 percent finer than 5-microns for an individual test and 25 percent for the mean of ten (10) consecutive tests.”

Thank you,

Virginia Becerra | Senior Regulatory Compliance Specialist
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From: Grove, Amy@Waterboards [mailto: Amy.Grove@waterboards.ca.gov]
Sent: Tuesday, November 15, 2016 1:40 PM
To: Becerra, Virginia <Virginia.Becerra@tetrattech.com>
Cc: Odermatt, John@Waterboards <John.Odermatt@waterboards.ca.gov>
Subject: Clarification on Comments for Forster WDRs

Virginia,

The San Diego Water Board is in the process of reviewing the comments provided by Tetra Tech BAS on behalf of Advanced Group, 99-SJ, owners of the Forster Canyon Landfill by letter dated November 8, 2016. Comment No. 3 provides suggested text modifications regarding the final cover materials (WDR Order No. R9-2016-0149, Part D.3.a & d) to provide more flexibility in the material specifications that would need to be met while constructing the final cover for the Forster Canyon Landfill.

Staff have a question regarding the proposed language modification for part (d) which states:

“If at any time the Grain-Size Distribution tests (ASTM D422) indicate that the final cover soils contain particles in excess of three (3) inches and/or have a minimum fines content (defined by No. 200 sieve) less than 37 percent by weight, these materials shall be rejected for use in the final cover system. In addition, final cover soils shall have a minimum of 20 percent by weight finer than 5-microns for an individual test and 25 percent by weight for the mean of ten consecutive tests.”

Our questions are:

1. What is the relationship between 20 percent for individual tests and 25 percent for 10 consecutive tests and why are these percentages different? Does 25 percent represent an average or a maximum percent allowable for the 10 consecutive tests?

If you could provide revised text that clarifies the relationship for the material testing, it would be greatly appreciated. If you have any questions regarding this email, please feel free to contact me directly.

Regards,

Amy L. Grove, P.G. 9258
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