Appendix B

Comment Letters

PUBLIC WORKS
CITY OF PALO ALTO
2501 Embarcadero Way
Palo Alto, CA 94303
650.329.2598

April 28, 2014

VIA EMAIL: To: mliao@waterboards.ca.gov
Cc: bwolfe@waterboards.ca.gov; ltang@waterboards.ca.gov; wjohnson@waterboards.ca.gov; karin.north@cityofpaloalto.org; moakley@rmcwater.com

Marcia Liao
San Francisco Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Comments Regarding Tentative Order Reissuing the NPDES Permit (CA0037834) for Palo Alto Regional Water Quality Control Plant

Dear Ms. Liao:

Thank you for the opportunity to comment on the Tentative Order for the reissuance of the NPDES Permit for the Palo Alto Regional Water Quality Control Plant. We appreciate your diligence and care in preparing this document. Our detailed comments can be found in the attached document.

We would also like to highlight three items related to the tentative order, as follows:

- Fecal Coliform Limit – The City requests that the fecal coliform effluent limits be adjusted to reflect a dilution credit of 7:1 to account for natural bacterial die-off in the receiving water, to reflect the estimated dilution within the limits of the Baylands Nature Preserve where shellfish harvesting is prohibited, and to assure compliance feasibility. This dilution ratio results in a median fecal coliform effluent limit of 98 MPN/100 mL and a 90th percentile limit of 301 MPN/100 mL.

- Receiving Water Monitoring Modification – The City requests the RSW-001 receiving water monitoring station be located where a more representative sample can be collected, namely the Palo Alto Sailing Station. In addition, monitoring at this location is also sufficient to represent the proposed RSW-002 location because Matadero Creek is overwhelmingly influenced by South San Francisco Bay. A single receiving water monitoring station would be more cost-effective for the City.

- Additional Monitoring during Flow Diversions – As indicated in the permit, the City experiences a diversion around its fixed film reactors or dual media filters a couple of times per year on average. The City has a good record of compliance during these events and therefore requests that sampling be required only when the incident is 6 hours or longer. The City will still sample for all the constituents indicated in the proposed permit.

Thank you for consideration of the attached comments. Please contact Karin North at (650) 329-2104 or Karin.North@cityofpaloalto.org if you have any questions or need additional information. Thank you.

Sincerely,

Ken Torke
Acting Assistant Director of Public Works

cc: Bruce Wolfe, Regional Water Board
Lila Tang, Regional Water Board
Bill Johnson, Regional Water Board
Karin North, City of Palo Alto
Monica Oakley, RMC Water and Environment

City of Palo Alto
Palo Alto Regional Water Quality Control Plant

Comments Regarding Tentative Order for Reissuance of NPDES Permit

April 28, 2014

The City of Palo Alto (City) appreciates the opportunity to submit the following comments on the Tentative Order (TO) reissuing the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037834 for the discharge of treated wastewater to South San Francisco Bay. In order to assist Regional Water Board staff in locating the sections of the Tentative Order being commented on, page numbers are provided prior to any markup of permit language consistent with the comment being presented. The sections being commented on are shown in roughly the same order as they first appear in the TO. Due to variations in formatting, page numbers shown are approximate. In addition, small edits are highlighted in yellow to make them easier to see.

1. The City requests that the new effluent limit for fecal coliform be adjusted to reflect compliance considerations and adequate protection of the shellfish beneficial use.

The City has a strong history of compliance with bacteriological effluent limits. During the current permit term, when an effluent limitation of 35 MPN/100 mL for enterococcus, a more human-specific pathogen than fecal coliform, has been in place, the City has had no effluent violations for bacteria. The maximum geometric mean concentration of enterococcus within a calendar month was 7.1 MPN/100 mL. However, in preparation for this NPDES Permit reissuance, the City performed effluent sampling for fecal coliform, and most of these data were used to develop the permit limits in the TO. But the City **cannot comply** with the proposed limits, which do not take into consideration a legitimate and high fecal coliform result from the effluent monitoring data set.

The City has no quality control or other evidence to justify removal of the data point of 500 MPN/100 mL from the data set, and therefore specifically requests that it be included in the determination of effluent limits. It is a valid data point and is an indication of the variability of coliform data generally. The City requests that the fecal coliform effluent limits be adjusted to reflect a dilution credit of 7:1 for compliance feasibility, and to reflect the anticipated dilution within the limits of the Baylands Nature Preserve.

No shellfish harvesting is allowed in the area of the Baylands Nature Preserve, which extends to the City limits in the vicinity of Discharge Point No. 001. The only exception is for a research permit issued to the United States Geological Survey. A revised Facility Map (Attachment B) showing the extent of the City limits can be found at the end of this comment letter. The City can also provide the map in other formats to ensure sufficient resolution.

As noted above, the proposed dilution credit of 2:1 in the Tentative Order does not take into account the impact of natural bacterial die-off, which would be expected to reduce fecal coliform concentrations in wastewater by more than a factor of 1.5 in a 24-hour period, as demonstrated in the City's 2014 *Dilution Analysis of Palo Alto Regional Water Quality Control Plant's*

Discharge to South San Francisco Bay and Matadero Creek – Technical Memorandum Addendum (see attached). The mortality rate of 1.0 day^{-1} used in the *Technical Memorandum Addendum* is a conservative estimate that does not consider the effects of temperature, light, or settling, which can further reduce fecal coliform concentrations. Accounting for both bacterial die-off and dilution by water from South San Francisco Bay, fecal coliform concentrations are expected to be reduced by at least a factor of seven within the boundary of the Palo Alto Baylands Nature Preserve and within 50 acres of the City's two outfalls. Therefore, a mixing zone for fecal coliform reflecting a dilution ratio of 7:1 will be protective of the shellfish beneficial use outside the boundaries of the Nature Preserve.

On a related note, the City requests correction of a typographical error on page F-16 of the Fact Sheet that refers to units of MPN/100 L instead of MPN/100 mL.

The requested modifications are shown below.

(Page 6)

2. **Fecal Coliform.**The median fecal coliform density of all effluent samples collected within a calendar month shall not exceed 98 ~~28~~MPN/100 mL, and the 90th percentile value of the last eleven samples shall not exceed 301 ~~86~~ MPN/100 mL.

(Page F-16)

g. Fecal Coliform. Shellfish harvesting (SHELL) is a beneficial use of South San Francisco Bay. For waters with this beneficial use, Basin Plan Table 4-2A requires total coliform effluent limitations, but Basin Plan Table 4-2A, footnote c, allows substituting fecal coliform limitations for total coliform limitations provided that the substitution will not result in unacceptable adverse impacts on beneficial uses. This Order substitutes fecal coliform limitations for total coliform limitations.

The fecal coliform effluent limits in this Order will not result in unacceptable adverse impacts because they are derived from the fecal coliform water quality objectives listed in Basin Plan Table 3-1. The limits (median fecal coliform density not to exceed 98 ~~28~~ MPN/100 mL and 90th percentile not to exceed 301 ~~86~~ MPN/100 mL) allow effluent fecal coliform concentrations to be seven times ~~twice~~ the Basin Plan objectives (median fecal coliform density not to exceed 14 MPN/100 mL and 90th percentile not to exceed 43 MPN/100 mL). The Discharger has demonstrated that effluent at Discharge Point No. 001 is diluted by at least 7~~2~~:1 before leaving the Palo Alto Bayland Nature Preserve (which surrounds the outfall) and entering the main body of South San Francisco Bay (see section IV.C.4.a of this Fact Sheet and the vicinity map in Attachment B). Harvesting shellfish for human consumption is prohibited within the preserve. In March 2014, a Supervising Ranger with the Preserve confirmed that the only shellfish harvesting within the preserve is performed by researchers for scientific purposes. Because fecal coliform discharged at Discharge Point No. 001 would be diluted to concentrations achieving the Basin Plan water quality objectives before reaching any portion of South San Francisco Bay where shellfish harvesting for

human consumption could potentially occur, the fecal coliform limits in this Order will not result in unacceptable adverse impacts on the shellfish harvesting beneficial use.

2. The City requests that antidegradation and/or anti-backsliding analyses only be required as part of a request for reopener if they are necessary.

The City understands that antidegradation and/or anti-backsliding analyses should only be developed if they are needed or appropriate for a permit modification. Not all permit modifications require the completion of antidegradation and antibacksliding analyses. For example, changes to studies or other non-numeric requirements would likely not require these studies. The requested clarification is shown below.

(Pages 8 to 9)

1. **Reopener Provisions**

   ⋮

   The Discharger may request a permit modification based on any of the circumstances above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses, if applicable.

3. The City requests confirmation that the City's interpretation of the 30-day period for reporting analytical results is the same as the Regional Water Board's interpretation.

Page 10 of the Tentative Order states that the City shall, within 30 days of receipt of analytical results, report the detailed monitoring information in the transmittal letter for the "appropriate self-monitoring report". The City understands that this requirement provides the City 30 days to perform appropriate quality control and quality assurance reviews of the results, and process the data internally, prior to submitting the final results in the monthly self-monitoring report (i.e. subsequent to the 30-day period). For example, if the City receives analytical results on March 29, the City is required to submit the results in its April self-monitoring report, not its March self-monitoring report. The City would appreciate confirmation from Regional Water Board staff that this interpretation is accurate. If this interpretation is not correct, the City requests 45 days instead of 30 days for submittal of the final analytical results.

4. The City requests a modification for the receiving water monitoring location RSW-001 and removal of monitoring location RSW-002.

The City requests the location of the RSW-001 receiving water monitoring location be modified to a location where a more representative sample may be collected, namely the Palo Alto Sailing Station. The sailing station was used as a sampling point in the City's 2011 *Ammonia Characterization Study Final Report*.

The City also requests the removal of the RSW-002 monitoring location because monitoring at the sailing station will provide a representative sample for both the South San Francisco Bay and Matadero Creek receiving waters. Matadero Creek is overwhelmingly influenced by South San

Francisco Bay and the one receiving water station is a more efficient use of scarce public resources.

The requested modifications are shown below.

(Page E-2)

Excerpt of **Table E-1. Monitoring Locations**

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
⋮	⋮	⋮
Receiving Water	RSW-001	A point in South San Francisco Bay located at the Palo Alto Sailing Station ~~in the unnamed channel within 500 feet of Discharge Point No. 001~~
~~Receiving Water~~	~~RSW-002~~	~~A point in Matadero Creek within 500 feet downgradient of Discharge Point No. 002~~
⋮	⋮	⋮

(Page E-9)

VI. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger shall continue to participate in the Regional Monitoring Program, which collects data on pollutants and toxicity in San Francisco Bay water, sediment, and biota. The Discharger shall also monitor receiving waters at Monitoring Location~~s~~ RSW-001 ~~and RSW-002~~ as follows…

Language revisions requested in Comment Nos. 5 – 11 are shown after Comment No. 11.

5. The City requests clarification in language related to BOD_5 and $CBOD_5$ throughout the Tentative Order.

Various sections of the Tentative Order do not appear to be consistent about whether the City should monitor $CBOD_5$ (5-day carbonaceous biochemical oxygen demand) or BOD_5 (biochemical oxygen demand). For example, page 5 of the Tentative Order indicates that the City has effluent limitations for $CBOD_5$ levels and percent removal of $CBOD_5$. However, the Tables E-2 and E-3 require influent monitoring for $CBOD_5$ and effluent monitoring for BOD_5, which would not provide sufficient information for the City and the Regional Water Board to determine compliance with its effluent limitations.

The City currently monitors BOD_5 in its effluent and requests that the limits and requirements related to $CBOD_5$ and BOD_5 contain footnotes that BOD_5 may be monitored for compliance with $CBOD_5$ limits for clarity. The changes requested in the tables below are also consistent with language in the existing permit.

6. **The City requests that the effluent flow for the Plant's two discharge points be monitored separately.**

Table E-3 indicates that total effluent flow for both discharge points will be monitored at Monitoring Location EFF-001. However, the City does not have the capability to monitor total flow at this monitoring location. The City requests that the effluent flow monitoring at EFF-001 occur for Discharge Point No. 001 only. Discharge Point No. 002 will be monitored at EFF-002 as indicated in Table E-4.

7. **The City requests that the monitoring requirements during diversions be modified to more closely conform to the City's current monitoring practices and consistent with the low frequency and unlikely water quality impact.**

The City appreciates the determination, noted in the Fact Sheet, that diverting wastewater around fixed film reactors or dual media filters is not a bypass during essential maintenance or for process control to ensure efficient operation. As the Fact sheet states, "[b]ecause the plant provides two phases of biological treatment (fixed film reactors followed by activated sludge), diverting wastewater around the fixed film reactors does not prevent the plant from providing full secondary treatment to all wastewater. Likewise, because the dual media filters provide advanced secondary treatment, diverting flows around them does not prevent the plant from providing full secondary treatment" (Tentative Order, pg. F-12).

The City has experience conducting approximately ten fixed film reactor or dual media filter diversions over the last five years, with a duration of up to 8 hours, and we are confident that the process controls at the Plant are sufficient to protect water quality and prevent exceedances of effluent limitations. Based on our strong record of successfully operating the plant in this manner, we request that sample collection during a diversion only be required for a diversion lasting more than 6 hours. The sampling analysis results will be submitted under separate cover to avoid mixing data from grab samples and 24-hour composite samples.

For consistency with current practice, the City also requests that bacteria monitoring during a diversion be based upon enterococcus rather than fecal coliform. Enterococcus is a more human-specific pathogen and therefore a more representative and protective bacteria indicator, and is more cost-effective to analyze.

The City will continue to report start and end times, duration, and total flow (MG) of any flow diversions in the cover letter of the SMR, so language has been added below to clarify this practice. This is a practical and effective approach for City staff.

Finally, the requirement to monitor flow during a diversion in footnote [9] is duplicative with the requirement in footnote [1] to report the total flow of any diversion. Therefore, the City requests that this requirement be removed.

8. The City requests an updated footnote related to the oil and grease method.

The City requests the specified method for oil and grease be updated because EPA Method 1644 has been revised to EPA Method 1644A.

9. The City requests that the option to reduce the monitoring frequency of one of the bacteria indicators be switched from enterococcus to fecal coliform.

The City appreciates the Regional Water Board's approach of granting a reduced monitoring frequency for one of the two bacteria indicators when consistent compliance with the effluent limitation is demonstrated. However, the City requests that routine bacteria monitoring be conducted with enterococcus rather than fecal coliform, and that the reduced monitoring frequency apply instead to fecal coliform. Enterococcus is a more human-specific pathogen and therefore a more representative and protective bacteria indicator to monitor for on a more regular basis. It is also more reliable and less expensive to monitor and therefore is more cost-effective.

10. The City requests a reduction in the monitoring frequency for whole effluent chronic toxicity from monthly to quarterly to be consistent both with the Basin Plan and with other permits in the region.

Table 4-5 of the Basin Plan clearly establishes that monthly monitoring of chronic toxicity is only required for shallow water dischargers when toxicity levels exceed a three-sample median trigger value of 1 TUc or a single-sample maximum value of 2 TUc. Although these same trigger levels are included in the Tentative Order, the frequency of the required monitoring in the Tentative Order is not consistent with Table 4-5 of the Basin Plan, nor is it consistent with the monitoring requirements in other permits in the region. Even the largest dischargers are required to sample only quarterly or bi-annually. Furthermore, the fact sheet states that there is "low reasonable potential for chronic toxicity in the receiving water" (page F-36). For all these reasons, the City requests a reduced monitoring frequency for chronic toxicity from monthly to quarterly.

11. The City requests removal of Continuous/H in the listed sampling frequency footnotes of Table E-3.

The City requests the removal of this sampling frequency footnote because the Continuous/H sampling frequency is not listed for any of the parameters in Table E-3.

Requested language changes for Comment Nos. 5-11:

(Pages 5 to 6)

Excerpt from **Table 4. Effluent Limitations for Discharge Point Nos. 001 and 002**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
CarbonaceousBiochemical Oxygen Demand, 5-day @ 20°C (CBOD5)[1]	mg/L	10	---	20	---	---
⋮	⋮	⋮	⋮	⋮	⋮	⋮
pH[1][2]	standard units	---	---	---	6.5	8.5
⋮	⋮	⋮	⋮	⋮	⋮	⋮

Unit Abbreviations:
mg/L = milligrams per liter
NTU = nephelometric turbidity units
µg/L = micrograms per liter

Footnotes:
[1] The Discharger may elect to monitor for BOD in lieu of CBOD, as defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*.
[2] If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.

(Pages E-2 to E-3)

Excerpt from **Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)(BOD_5)[3]	mg/L	C-24	1/Week
⋮	⋮	⋮	⋮

Footnotes:
⋮
[3] The Discharger may elect to monitor for BOD in lieu of CBOD.

(Pages E-3 to E-4)

IV. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor plant effluentat Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow[1]	MGD/MG	Continuous	Continuous/D[9]
$CBOD_5$[2]	mg/L	C-24	1/Week[9,10]
Total Suspended Solids (TSS)	mg/L	C-24	1/Week[9,10]
pH[3,3]	standard units	Continuous or Grab	Continuous/D or 1/Day[9,10]
Oil and Grease[3,4]	mg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Turbidity	NTU	Grab	1/Week [9][10]
Fecal Coliform	MPN/100 mL[4][5]	Grab	1/Quarter ~~2/Week~~ [9] [7]
Enterococcus [5][6]	MPN/100 mL[4][5]	Grab	2/Week ~~1/Quarter~~ [6] [10]
Acute Toxicity[7][8]	% Survival	Flow through	1/Quarter
Chronic Toxicity[8][9]	TUc	C-24	1/Quarter ~~1/Month~~
Ammonia, Total	mg/L as N	C-24	1/Month
Copper, Total Recoverable	µg/L	C-24	1/Month[9][10]
Nickel, Total Recoverable	µg/L	C-24	1/Month[9][10]
Cyanide, Total	µg/L	Grab	1/Month[9][10]
Dioxin-TEQ	µg/L	Grab	2/Year

Unit Abbreviations:

MGD = million gallons per day
MG = million gallons
mg/L = milligrams per liter
µg/L= micrograms per liter
mg/L as N = milligrams per liter as nitrogen
NTU = nephelometric turbidity units
MPN/100 mL = most probable number per 100 mL
TUc= chronic toxicity units, equal to 100/NOEL, where NOEL = IC_{25}, EC_{25}, or NOEC

Sample Type

Continuous = measured continuously
C-24 = 24 hour composite
Grab = Grab sample

Sampling Frequency

Continuous/D = measured continuously, and recorded and reported daily
~~Continuous/H = measured continuously, and recorded and reported hourly on the hour~~
1/Day = once per day
1/Week = once per week
2/Week = twice per week
1/Month = once per month
1/Quarter =once per calendar quarter
2/Year = twice per year

Footnotes:

[1] The total flow for Discharge Point Nos. 001 ~~and 002~~ shall be monitored continuously and the following information shall be reported in monthly self-monitoring reports:
Daily average flow rate (MGD)
Monthly average flow rate (MGD)
Total Monthly flow volume (MG)
Maximum and minimum daily average flow rates (MGD)

Reported flows may be adjusted to reflect water recycling.

The Discharger shall also provide start and end times, duration, and total flow (MG) of any flow diversion around fixed film reactors or dual media filters as described in Fact Sheet section IV.A.1. This information may be reported in the SMR cover letter.

[2] The Discharger may elect to monitor BOD as CBOD.

[3] If monitoring continuously, the minimum and maximum pH values for each day shall be reported in self-monitoring reports.

[~~3~~4] Each oil and grease sampling and analysis event shall be conducted in accordance with U.S. EPA Method 1664A.

[~~4~~5] Results may be reported as Colony Forming Units (CFU)/100 mL if the laboratory method used provides results in CFU/100 mL.

[~~5~~6] The Discharger shall monitor for enterococci using U.S. EPA-approved methods, including, for example, the IDEXX Enterolert method.

[67] The minimum monitoring frequency shall be once per quarter. If the ~~enterococcus~~ fecal coliform effluent limitation is exceeded, the Discharger shall conduct 2/Week accelerated sampling for at least three consecutive months. If full compliance is demonstrated after the three month period, the Discharger may return to the 1/Quarter sampling frequency.

[78] Acute bioassay tests shall be performed in accordance with MRP section V.A.

[89] Chronic bioassay tests shall be performed in accordance with MRP section V.B.

[910] Monitoring shall occur at least once per event when diverting flows around fixed film reactors or dual media filters as described in Fact Sheet section IV.A.1 for at least 46 hours.

(Page E-6)

c. Frequency. Chronic toxicity monitoring shall be as specified below.

i. The Discharger shall monitor routinely once per ~~month~~quarter.

ii. The Discharger shall accelerate monitoring to ~~twice~~once per month when either of the following conditions is exceeded:

- Three-sample median value of 1 TUc, or
- Single-sample maximum value of 2 TUc.

12. The City requests that the language describing sampling requirements for whole effluent chronic toxicity be clarified to indicate that composite samples may be collected on alternate days or consecutive days.

The chronic toxicity sampling language found in Section V.B.1.a of the Monitoring and Reporting Program, which states that the City shall collect composite samples "on consecutive days," is inconsistent with Section V.B.1.d, immediately following, which states that the sample collection shall follow USEPA protocols. These protocols, such as USEPA method 1000.0 for larval survival and growth test in *Pimephales promelas* used by the City, clearly state that "[f]or off-site tests, a minimum of three samples (e.g., collected on days one, three and five) with a maximum holding time of 36 h before first use" meets test acceptability criteria. The City has collected samples on alternate days in the past, after notification of Regional Water Board staff. A revisions to permit language is requested as follows:

(Page E-6)

a. Sampling. The Discharger shall collect 24-hour composite effluent samples at Monitoring Location EFF-001 (samples may be taken from final effluent prior to disinfection) for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, the Discharger shall collect 24-hour composite samples ~~on consecutive days~~ according to the U.S. EPA protocols for the appropriate test method (see section d., below)

13. The City requests that the methodology for whole effluent chronic toxicity include a reference to the applicable USEPA test protocol.

It appears that the USEPA method guidance for the *Pimephales promelas* species was inadvertently omitted from the permit. It is included in other recently adopted permits in the region, such as Order No. R2-2012-0004 for the East Bay Dischargers Authority, which also

names *Pimephales promelas* as the test species. The requested language addition below is the same as in Order No. R2-2012-0004.

(Page E-7)

> **d. Methodology.** Sample collection, handling, and preservation shall be in accordance with U.S. EPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014) and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth edition (EPA-821-R-02-013). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification. If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment.

14. The City requests modifications to pretreatment monitoring requirements in Table E-6 to reflect current standards and regulations.

The City requests that incinerator ash monitoring requirements not indicate the organic compounds classified as VOCs and BNAs, because this monitoring is not required under 40 CFR 503. Only metals are required for incinerator ash. The City's sludge is incinerated and delivered to a landfill for disposal, unlike most other municipal wastewater agencies in the Bay Area. If the Regional Water Board wants to include VOC and BNA monitoring for incinerator ash, it would be a state-only requirement, contrary to Finding II.C. on page 4 of the TO.

In addition, the monitoring requirement for hexavalent chromium is presented in two places of the Table E-6: (1) listed as a constituent in the main portion of the table and (2) listed among the other metals in footnote 3. The City requests the removal of hexavalent chromium in the footnote to eliminate redundancy. Finally, the City request the correction of a typographical error that refers to footnote 6b, rather than footnote 7b, for mercury and hexavalent chromium.

The requested changes are shown below.

(Page E-10)

Table E-6. Pretreatment and Incinerator Ash Monitoring

Constituents	Sampling Frequency			Sample Type	
	Influent INF-001[6]	Effluent EFF-001[6]	Incinerator Ash ASH-001	Influent and Effluent	Incinerator Ash
VOC [1]	2/Year	2/year	--- ~~2/year~~	Grab	N/A ~~Grab~~[7b]
BNA [2]	2/year	2/year	--- ~~2/year~~	Grab	N/A ~~Grab~~[7b]
Metals and Other Elements [3]	1/Month	1/Month	2/Year	C-24[7a]	Grab[7b]
Chromium (VI) [4]	1/Month	1/Month	2/Year	Grab	Grab[~~6b~~ 7b]
Mercury [5]	1/Month	1/Month	2/Year	Grab	Grab[~~6b~~ 7b]
Cyanide, Total	1/Month	1/Month	2/Year	Grab	Grab[7b]

Footnotes:

[1] VOC: volatile organic compounds

[2] BNA: base/neutrals and acid extractable organic compounds

[3] Metals and other elements are arsenic, cadmium, ~~chromium (VI),~~ copper, lead, nickel, selenium, silver, and zinc.

[4] The Discharger may choose to monitor and report total chromium instead of hexavalent chromium. Samples collected for total chromium measurements may be 24-hour composites.

[5] The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring.

[6] Influent and effluent monitoring conducted in accordance with Tables E-2 and E-3 may be used to satisfy these pretreatment monitoring requirements.

[7] Sample types:

a. If an automatic compositor is used, the Discharger shall obtain 24-hour composite samples through flow-proportioned composite sampling. Alternatively, 24-hour composite samples may consist of discrete grab samples combined (volumetrically flow-weighted) prior to analysis or mathematically flow-weighted.

b. The incinerator ash sample shall be a composite of the incinerator ash to be disposed. Incinerator ash collection and monitoring shall comply with the requirements specified in Attachment H, Appendix H-4. The Discharger shall also comply with the incinerator ash monitoring requirements of 40 C.F.R. part 503.

15. The Petition for Change requirement under the Division of Water Rights is not applicable and is contradictory to the prohibition on shallow water discharges.

New permit language on page F-4 indicates that, "The Discharger must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse." This new requirement is not applicable to the City. The State Water Board's own website states, in this context, "…direct discharges to the ocean are automatically excluded…bays and estuaries are also excluded…" (See http://www.swrcb.ca.gov/water_issues/programs/grants_loans/water_recycling/waterrightsrequirements.shtml).

South San Francisco Bay and Matadero Creek are not drinking water sources (they are not designated for municipal or domestic supply (MUN) in the vicinity of the discharge and there are no water rights holders anywhere near the vicinity), and there would be no aquatic life impact in decreasing the discharge to San Francisco Bay or Matadero Creek, which are both tidal water

bodies. The amount of treated wastewater removed would not even be measurable in the context of tidal hydrodynamics for the waterbody.

Separate from not being applicable, the Petition for Change process can be very onerous and time consuming, and discourages rapid development of new recycled water projects in this time of drought, which is contrary to the State Water Board's Recycled Water Policy mandating recycled water use. The Petition for Change requirement is also contrary to Basin Plan Discharge Prohibition 1 which *prohibits* discharge to shallow waters (except under certain exceptions, which have been granted to the City).

Perhaps the most perplexing aspect of this new language is that the City of Palo Alto recycles water to justify the shallow water prohibition exception, yet the Petition for Change process requires the City to engage in a time-consuming and costly documentation and regulatory process to show why and how taking treated wastewater out of San Francisco Bay will not affect water rights holders or aquatic life. The City is concerned about directing limited public resources to follow a regulatory process that is not applicable or useful.

Additional authority for this position is found in the 1996 "Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on Use of Reclaimed Water," which states on page 5 that "If a change in discharge or use of treated wastewater would occur due to a water reclamation project undertaken in response to a discharge restriction or other action by a RWQCB exercising its regulatory authority under Division 7 (commencing with Section 13000) of the Water Code, prior approval under Sections 1210-1212 is not required."

The reason for decreasing this discharge to the local watercourses is to supply recycled water to new or expanded users, which moves toward implementation of the discharge prohibition in the Basin Plan and also implements regulatory actions of the Regional Water Board, including mass reductions to assist in meeting TMDLs and reducing the discharge of nutrients. Instead of creating an additional burden on a new recycled water project, which is contrary to State Water Board initiatives, the Regional Water Board should make the requested change below to more strongly encourage the development of recycled water projects by wastewater agencies.

The City requests the following language change on page F-4 of the tentative order:

(Page F-4)

B. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037532. It was previously subject to Order No. R2-2009-0032 (previous order), which was adopted on April 8, 2009, and expired on May 31, 2014. The Facility discharges treated wastewater to South San Francisco Bay and Matadero Creek, both of which are waters of the United States. Attachment B provides maps of the area around the Facility. Attachment C provides a flow schematic.

~~The Discharger must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in~~

~~any portion of a watercourse. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.~~

16. The City requests a modification to the description of the Plant's satellite collection systems in the Fact Sheet.

The City requests a language modification to make it clear that the Plant receives wastewater from the East Palo Alto Sanitary District, not the City of East Palo Alto.

(Page F-4)

> 2. **Collection System.** The City of Palo Alto wastewater collection system is a 100 percent separate sanitary sewer system consisting of approximately 200 miles of pipes ranging from 6 inches to 72 inches in diameter and one small lift station. Outside the City of Palo Alto, wastewater is conveyed to the plant by several satellite collection systems serving Mountain View, Los Altos, Los Altos Hills, East Palo Alto Sanitary District, and Stanford University.

17. The City requests modifications to Table F-9 to reflect the requested monitoring changes in these comments as well as the removal of the paint filter test requirement which is not applicable.

The markups provided below reflect the requested changes in the comments above and consistency with the Monitoring and Reporting Program. In addition, the City requests the removal of the paint filter test monitoring requirement. The rationale presented for the paint filter test is provided in Attachment G Part III.B. 2. for ash that are sent to a municipal landfill. However, the City sends the incinerated ash to a hazardous waste landfill and monitors the biosolids in accordance with the requirements of that landfill and state-only regulations, and a paint filter test is not required for this activity.

(Pages F-41 to F-42)

Table F-9. Monitoring Requirements Summary

Parameter	Influent INF-001	Effluent EFF-001	Effluent EFF-002	Receiving Water RSW-001	~~Receiving Water RSW-002~~	Incinerator Ash ASH-001
Flow Rate	Continuous/ D	Continuous/ D	Continuous/ D	---	—	---
$CBOD_5$	1/Week	1/Week	---	---	—	---
TSS[1,2]	1/Week	1/Week	---	---	—	---
$CBOD_5$ and TSS percent removal	---	1/Month	---	---	---	---
pH	---	Continuous/ D or 1/D	---	1/Quarter	~~1/Quarter~~	---
Oil and Grease	---	1/Quarter	---	---	—	---
Turbidity	---	1/Week	---	---	—	---
Fecal Coliform	---	1/Quarter~~2/ Week~~	---	Support RMP	—	---
Enterococcus	---	2/Week	---	Support	~~—~~	---

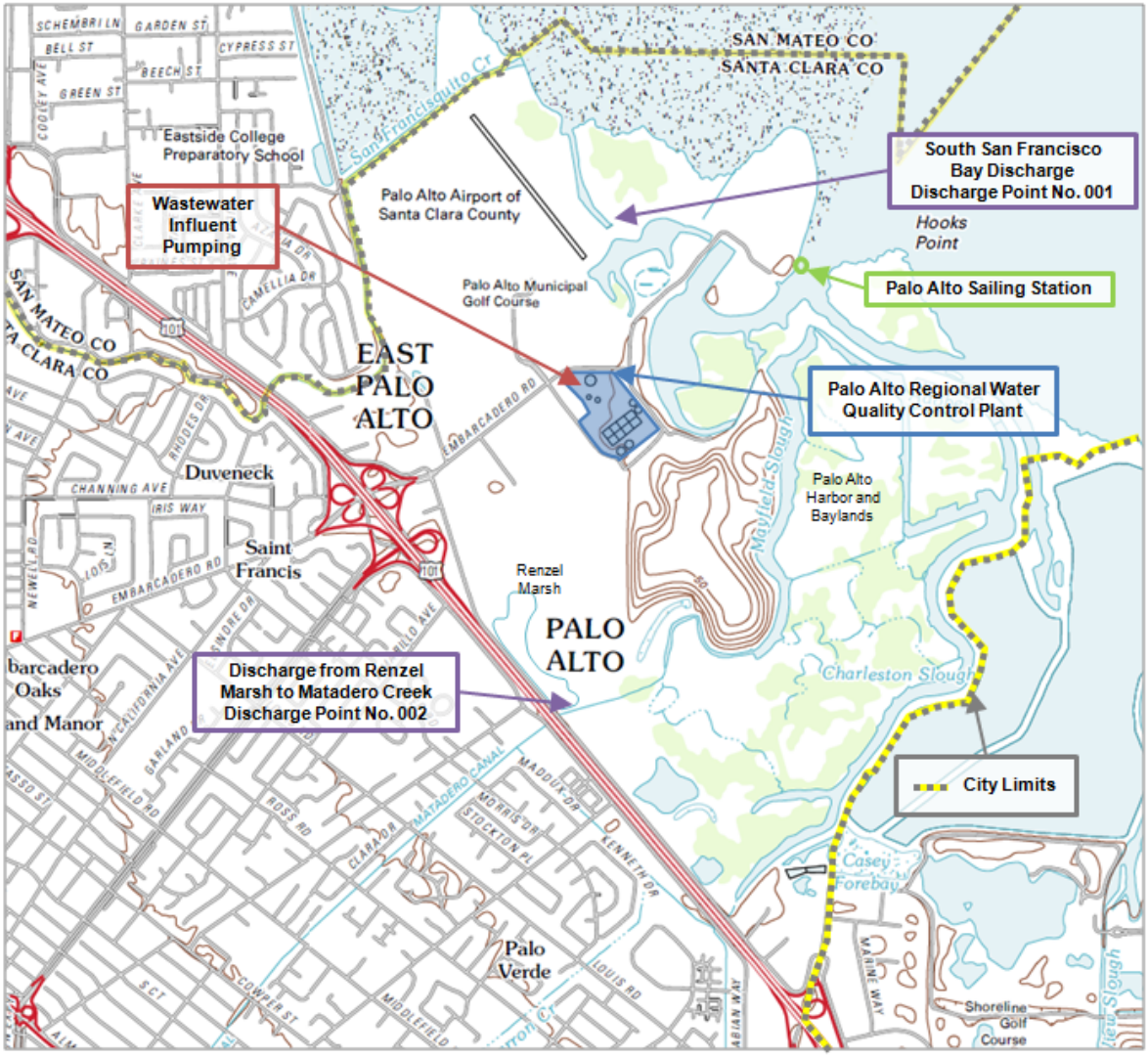
Parameter	Influent INF-001	Effluent EFF-001	Effluent EFF-002	Receiving Water RSW-001	~~Receiving Water RSW-002~~	Incinerator Ash ASH-001
Bacteria		~~1/Quarter~~		RMP		
Total Ammonia Nitrogen	---	1/Month	---	1/Quarter	~~1/Quarter~~	---
Acute Toxicity	---	1/Quarter	---	Support RMP	—	---
Chronic Toxicity	---	~~1/Month~~ 1/Quarter	---	Support RMP	—	---
Copper	---	1/Month	---	Support RMP	—	---
Nickel	---	1/Month	---	Support RMP	—	---
Cyanide	1/Month	1/Month	---	Support RMP	—	2/Year
Dioxin-TEQ	---	2/Year	---	Support RMP	—	---
Standard Observations	---	---	1/Month	1/Quarter	~~1/Quarter~~	---
Salinity	---	---	---	1/Quarter	~~1/Quarter~~	---
Hardness	---	---	---	1/Quarter	~~1/Quarter~~	---
Temperature	---	---	---	1/Quarter	~~1/Quarter~~	
Volatile Organic Compounds	2/Year	2/Year	---	---	—	~~2/Year~~
Base/Neutrals Acid Extract-able Organic Compounds	2/Year	2/Year	---	---	—	~~2/Year~~
Metals ~~and Non-Metallic Elements~~	1/Month	1/Month	---	---	—	2/Year
Metric tons/year	---	---	---	---	—	Attach. G §III.B.1
~~Paint filter test~~	—	—	—	—	—	~~Attach. G §III.B.2~~

Proposed Revised Version of Attachment B (Page B-1)

See Comment No. 1 regarding the City's request to replace the map in Attachment B with the version below.

Palo Alto Regional Water Quality Control Plant, NPDES Permit No. CA0037834

Topographic and Vicinity Map (including extent of City limits)



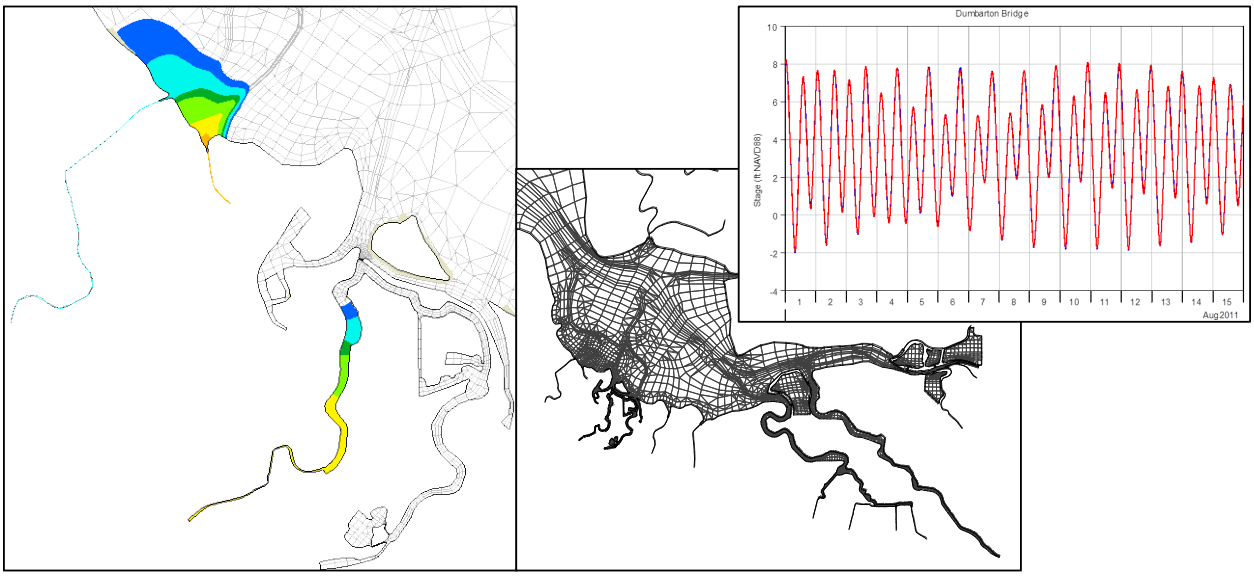
Notes:

This map is an excerpt from the 2012 USGS 7.5 Minute Maps for the Palo Alto and Mountain View Quadrangles. There are no spring or drinking water wells located within 1/4 mile of the facility.

Dilution Analysis of Palo Alto Regional Water Quality Control Plant's Discharge to South San Francisco Bay and Matadero Creek

TECHNICAL MEMORANDUM – ADDENDUM

April 14, 2014



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City of Palo Alto

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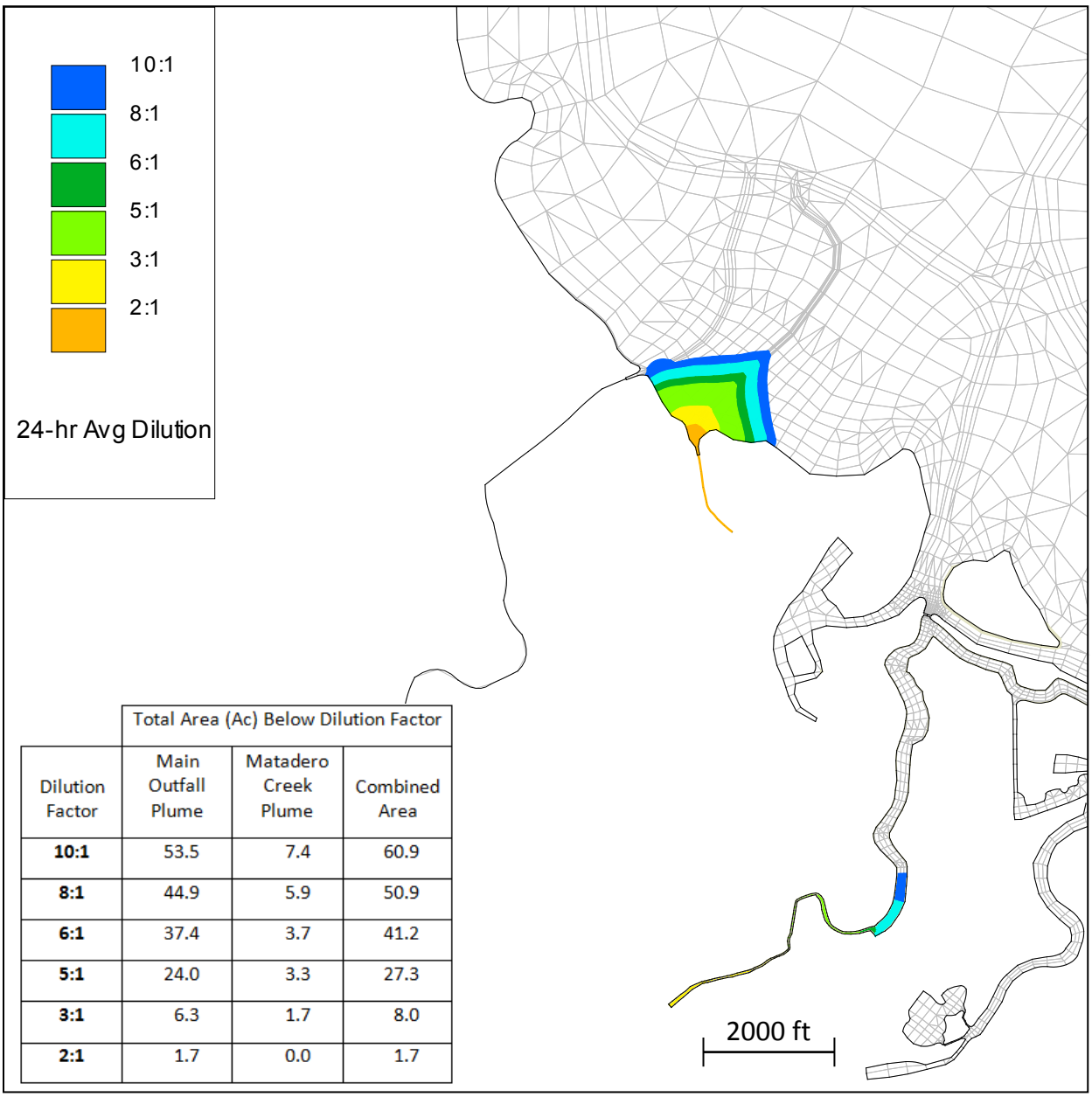
Results of Fecal Coliform Tracer Analysis

Additional dilution analysis simulations were performed for the Palo Alto RWQCB main outfall and Matadero Creek discharges using a decaying tracer to represent fecal coliform.

A decay rate of 1.0/day was used as a worst-cast representation of the die-off rate for fecal coliform. This first order die-off rate is consistent with USEPA guidance for die-off of total coliform (USEPA, 2001; Chapra, 1997). It is conservative for a number of reasons, including the fact that fecal coliform die-off rates are typically slightly higher than those for total coliform (USEPA, 2001). Also, salinity increases the die-off rate considerably (Chapra, 1997), but even though South San Francisco is estuarine, no adjustment was made since the receiving water can be nearly fresh during the wet season.

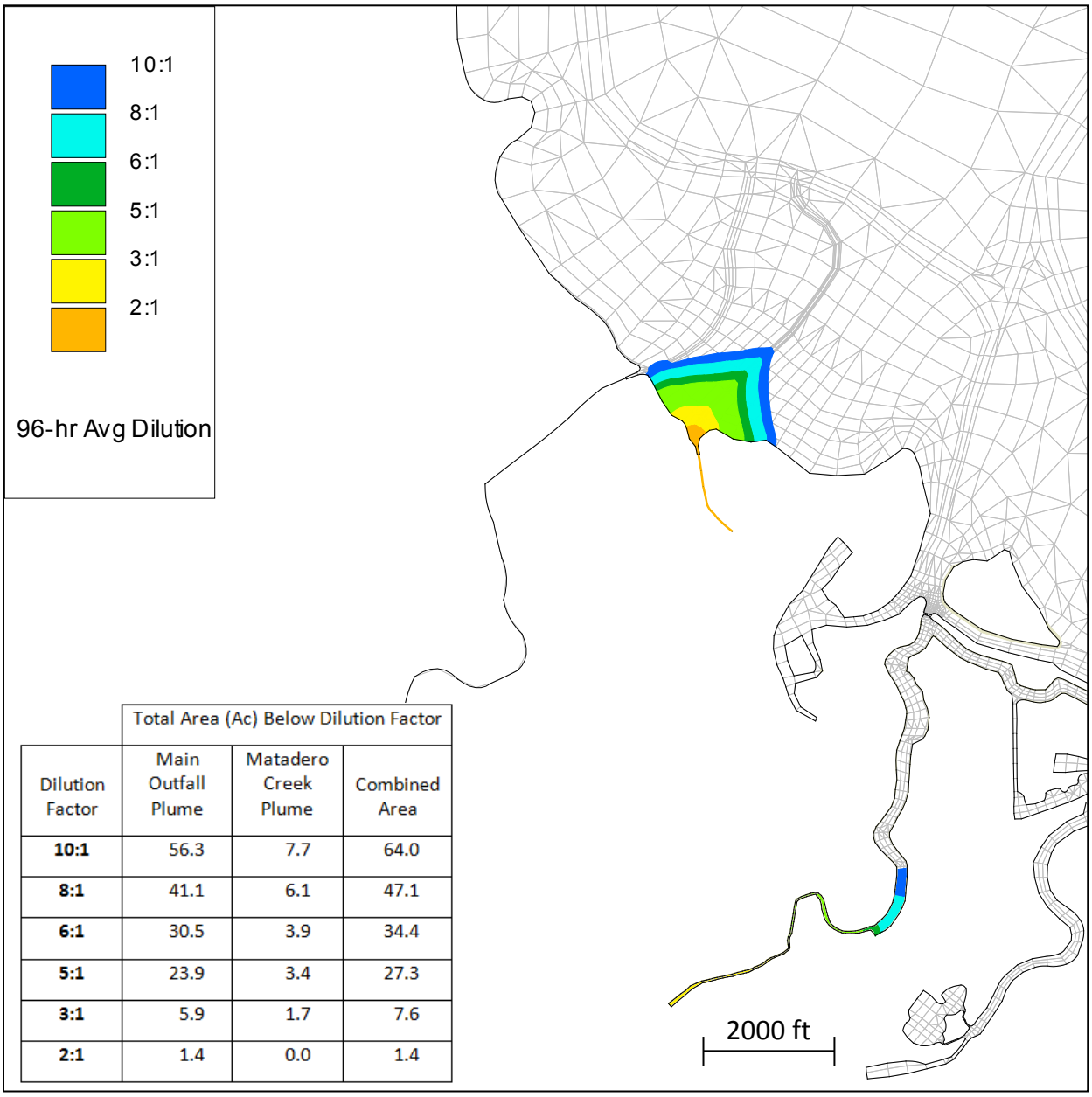
All boundary conditions for the fecal coliform dilution analysis remain the same as for the conservative tracer analysis. The application of the die-off rate is the only change. The same May through December 2011 simulation period was used, with the same May 1 starting condition from the March through April 2011 conservative tracer simulation.

Model results were output at 15-minute intervals and post-processed to produce 24-hour and 96-hour average dilution. Representative results from late August are plotted in Figure 1 and Figure 2 with total acres below each dilution value listed in inset tables in each plot. Two distinct plumes are evident, and, in addition to the combined areas, the individual plume areas associated with each outfall are reported. The individual plume areas reported may be slightly affected by concentration increases resulting from plume interaction, however the effect is small. The times chosen for plotting represent times during the summer with relatively high area below 10:1 as well as below 2:1.



Dilution Factor	Total Area (Ac) Below Dilution Factor		
	Main Outfall Plume	Matadero Creek Plume	Combined Area
10:1	53.5	7.4	60.9
8:1	44.9	5.9	50.9
6:1	37.4	3.7	41.2
5:1	24.0	3.3	27.3
3:1	6.3	1.7	8.0
2:1	1.7	0.0	1.7

Figure 1 Computed 24-hour fecal coliform dilution contours during August 2011.



Dilution Factor	Total Area (Ac) Below Dilution Factor		
	Main Outfall Plume	Matadero Creek Plume	Combined Area
10:1	56.3	7.7	64.0
8:1	41.1	6.1	47.1
6:1	30.5	3.9	34.4
5:1	23.9	3.4	27.3
3:1	5.9	1.7	7.6
2:1	1.4	0.0	1.4

Figure 2 Computed 96-hour fecal coliform dilution contours during August 2011.

References

USEPA, 2001. Protocol for Establish Pathogen TMDLs, EPA 841-R-00-002. First edition. Available online at http://www.epa.gov/owow/tmdl/pathogen_all.pdf

Chapra, S.C. 1997. Surface Water-Quality Modeling. McGraw-Hill Publishers, Inc.

BACWA
BAY AREA
CLEAN WATER
AGENCIES

April 28, 2014

Marcia Liao
Water Resources Control Engineer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Via e-mail: *mliao@waterboards.ca.gov*

SUBJECT: Comment Letter – City of Palo Alto Tentative Order for NPDES Permit

Dear Ms. Liao:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the San Francisco Bay Regional Water Quality Control Board's (Regional Water Board's) Tentative Order for reissuance of the City of Palo Alto NPDES Permit. BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide wastewater services to over 6.5 million people in the nine county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals to protect the environment and public health.

BACWA acknowledges the extensive effort that Regional Water Board staff has undertaken to prepare this tentative NPDES permit. However, BACWA has a major concern with one element of the tentative order. On page F-4 of the permit, new permit language would require that, "The Discharger must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse."

This new requirement is not applicable to the City of Palo Alto, or any other municipal Bay or Estuary discharger in the region. The State Water Board's own website states, "…direct discharges to the ocean are automatically excluded, …bays and estuaries are also excluded…." (http://www.swrcb.ca.gov/water_issues/programs/grants_loans/water_recycling/waterrightsrequirements.shtml). South San Francisco Bay and Matadero Creek are not drinking water sources (they are not designated for municipal or domestic supply (MUN) in the vicinity of the discharge and there are no water rights holders anywhere near the vicinity), and there would be no aquatic life impact in decreasing the discharge to San Francisco Bay or Matadero Creek, which are both tidal water bodies. The amount of treated wastewater removed would not even be measurable in the context of tidal hydrodynamics for the waterbody.

Besides not being applicable to Bay discharges, the Petition for Change process can be very onerous and time consuming, and discourages rapid development of new recycled water projects in this time of drought, which is contrary to the State Water Board's Recycled Water Policy mandating recycled water use. The Petition for Change requirement is also contrary to Basin Plan Discharge Prohibition 1 which *prohibits* discharge to shallow waters (except under certain exceptions, which have been granted to the City of Palo Alto). Perhaps the most perplexing aspect of this new language is that the City of Palo Alto recycles water to justify the shallow water prohibition exception, yet the Petition for Change process requires the City to engage in a time-consuming, and costly documentation and regulatory process to show why and how taking treated wastewater out of San Francisco Bay will not affect water rights holders or aquatic life. BACWA is concerned about directing limited public resources to follow a regulatory process that is not applicable to BACWA member agencies' discharges according to the State Water Board's policy documents on their web site.

Additional authority for BACWA's position is found in the 1996 "Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on Use of Reclaimed Water," which states on page 5 that "If a change in discharge or use of treated wastewater would occur due to a water reclamation project undertaken in response to a discharge restriction or other action by a RWQCB exercising its regulatory authority under Division 7 (commencing with Section 13000) of the Water Code, prior approval under Sections 1210-1212 is not required."

The reason for decreasing this discharge to the local watercourses is to supply recycled water to new or expanded users, which moves toward implementation of the discharge prohibition in the Basin Plan and also implements regulatory actions of the Regional Board, including mass reductions to assist in meeting TMDLs and reducing the discharge of *nutrients*. Instead of creating an additional burden on a new recycled water project, which is contrary to the State Water Board's Recycled Water Policy, the Regional Water Board should make the requested change below to more strongly encourage the development of recycled water projects by wastewater agencies.

For all these reasons, BACWA requests that the second paragraph of paragraph B on page F-4 of the tentative order be removed in its entirety. Alternatively, the paragraph should at least be modified as follows:

B. The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037532. It was previously subject to Order No. R2-2009-0032 (previous order), which was adopted on April 8, 2009, and expired on May 31, 2014. The Facility discharges treated wastewater to South San Francisco Bay and Matadero Creek, both of which are waters of the United States. Attachment B provides maps of the area around the Facility. Attachment C provides a flow schematic.

When applicable, State law requires dischargers to ~~The Discharger must~~ file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains the separate jurisdictional authority to enforce ~~such~~ any applicable requirements under Water Code section 1211, even though this is not an NPDES permit requirement.

BACWA appreciates the Regional Water Board's close attention to the comments made herein. Representatives of BACWA would be more than happy to discuss our comments and concerns with you in more detail if necessary.

David R. Williams

David R. Williams
Executive Director
Bay Area Clean Water Agencies

cc: Barbara Evoy, State Water Board Division of Water Rights
Bruce Wolfe, Regional Water Board
Lila Tang, Regional Water Board
Bill Johnson, Regional Water Board
BACWA Executive Board