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ORDER NO. R4-2016-XXXX
(FILE NO. 01-083)
CI NO. 8342

WASTE DISCHARGE REQUIREMENTS AND WATER RECLAMATION REQUIREMENTS FOR THE KISSEL COMPANY, INC. AND PARADISE COVE LAND COMPANY, LLC (PARADISE COVE MOBILE HOME PARK AND PARADISE COVE BEACH CAFÉ)

T E N T A T I V E

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

PURPOSE OF ORDER

1. The Kissel Company, Inc. (Kissel) and the Paradise Cove Land Company, LLC (jointly referred to as Dischargers) own and operate the Paradise Cove Mobile Home Park (Park) and the Paradise Cove Beach Café (Beach Café) located at 28128 Pacific Coast Highway in Malibu, California (Site).

2. Kissel is subject to Waste Discharge Requirements (WDRs) contained in Regional Board Order No. R4-2002-0108 and monitoring and reporting program (MRP) CI No. 8342, issued by the Regional Water Board on May 23, 2002, for the discharge of wastewater generated from the Park. Order No. R4-2008-0108 prescribed effluent limitations for pH, total dissolved solids, total suspended solids, biochemical oxygen demand, turbidity, oil and grease, total residual chlorine, total coliform and enterococcus. No effluent limitations for nitrate as N, total nitrogen, chloride, chloride, sulfate, and boron were prescribed. No receiving (groundwater) water limitations were prescribed except for total nitrogen.

3. On December 29, 2003, the Regional Water Board also authorized Kissel to discharge wastewater generated from the Beach Café under General WDRs contained in State Water Resources Control Board (State Water Board) Water Quality Order No. 97-10-DWQ, *General WDRs for Discharges to Land by Small Domestic Wastewater Treatment Systems*, adopted by State Water Board on November 18, 1997, along with MRP CI No. 8568. Based on the location of the Beach Café being on the coastal zone of the Pacific Ocean, the water quality objectives specified in the Ocean Plan were utilized as the receiving (groundwater) water limitations. The receiving water limitations were for ammonia, pH, total coliform, fecal coliform, and enterococcus. There were no effluent limitations contained in the General WDRs; rather, the General WDRs included performance goals that triggered additional actions when the goals were exceeded. The upgrades to the Beach Café OWTS were completed in 2014.

4. On October 2, 2015, the Regional Water Board issued a directive pursuant to Water Code section 13260 requiring Kissel to submit a report of waste discharge (RoWD) for the Park. On November 2, 2015, Kissel submitted a RoWD for the Park.

5. To verify the information provided in the RoWD, Regional Water Board staff conducted an inspection of the Park and Beach Café on January 26, 2016. During the inspection, the Dischargers expressed their intent to consolidate flows from the Café with the Park and add additional treatment to allow for the use of recycled water. The Dischargers propose to add 10 new mobile home units at the Park. The units will be located northeast of the Beach Café. It is anticipated that an additional 2,000 gpd of wastewater will be discharged through the Beach Café's OWTS. The current Beach Café's OWTS has enough capacity to treat the additional wastewater from these 10 new units. In addition, the Dischargers also propose to install a blending and polishing treatment system consisting of a two-stage ammonia reduction and denitrification, disinfection, and filtration treatment system, in order to meet recycled water requirements. The Dischargers plan to use recycled water for irrigation, which will reduce potable water usage at the Park.

6. On February 1, 2016, the Dischargers submitted a document to the Regional Water Board entitled "*Conceptual Plan and Timeline for Improving Effluent Quality, Blending Effluent, and Installing Subsurface Drip Reuse at Paradise Cove*" (Plan). The Plan contained a detailed timeline for the expansion and improvement of the Park's advanced OWTS and the Beach Café's OWTS. In the Plan, the Dischargers indicate they intend to install a filtration system at the Park's OWTS prior to disinfection to improve the disinfection efficiency. The Dischargers will develop an engineering plan for transferring the treated wastewater from the Beach Café OWTS and blending with the treated wastewater generated from the Park's OWTS. The Dischargers plan to install additional treatment units, which will include two blend tanks, followed by process units for enhanced nitrification and denitrification as well as filtration and disinfection in order to meet all requirements for recycling of the treated wastewater for irrigation at the Park. The capacity after the Dischargers' upgrades to the systems will be sufficient to treat wastewater from the Beach Café, the Sandbox restrooms, and the proposed additional 10 mobile home units. The combined wastewater treatment systems are hereafter collectively referred to as the Paradise Cove Wastewater Treatment Plant (Paradise Cove WWTP).

7. Following a review of the waste discharge requirements in Regional Board Order No. R4-2002-00108 for the Park and the General WDRs in State Water Board Order No. 97-10-DWQ for the Beach Café, and in consideration of the inspection conducted at both facilities on January 26, 2016, as well as the Plan submitted on February 1, 2016, the Regional Board has determined that revised and consolidated waste discharge requirements for the Park and the Beach Café are necessary and appropriate. This Order includes revised findings, effluent limitations, water reclamation requirements for the use of recycled water, groundwater limitations, standard provisions, and monitoring and reporting program requirements.

8. The upgraded Paradise Cove WWTP will provide additional treatment to the existing Beach Café wastewater treatment system and the Mobile Home Park wastewater treatment system. The treated wastewater, after meeting the more protective limits based on the Water Quality Control Plan, Los Angeles Region (Basin Plan) and recycled water requirements, will be used for landscape irrigation, which will reduce the volume of potable water use for vegetation maintenance. The improved effluent water quality from Paradise Cove WWTP and reduction of discharge volume to groundwater will minimize the impact to groundwater quality, and protect the public health and beneficial uses for

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underlying groundwater and adjacent coastal waters.

BACKGROUND

9. On November 5, 2009, the Regional Board adopted an amendment to Chapter 4 of the *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) to prohibit onsite wastewater discharge systems (OWDSs) in the Malibu Civic Center Area (and a small portion of unincorporated Los Angeles County) through Resolution No. R4-2009-007. Neither the Park nor the Beach Café are in the prohibition area; they are located approximately 6 miles west of the Malibu Civic Center Area.

Paradise Cove Mobile Home Park

10. The Park encompasses approximately 72 acres of land. There are approximately 210 mobile home sites. All mobile home sites in the Park are located within 1,300 feet of the Pacific Ocean.

11. The domestic wastewater generated from the mobile home units is sent to the Park's advanced onsite wastewater treatment system (OWTS), which was completed in 2008. The system provides secondary treatment followed by an ultraviolet (UV) disinfection system; effluent from the treatment system is then distributed to a series of seepage pits for disposal. The Park's advanced OWTS is designed for an average flow of about 40,000 gallons per day (gpd) and a peak flow rate of 60,000 gpd. The existing seepage pits for the Park have a total designed disposal capacity of 73,464 gpd.

12. On May 23, 2002, the Regional Board adopted Order No. R4-2002-0108 prescribing WDRs to Kissel for the Park to operate an onsite wastewater treatment plant and discharge treated effluent to a subsurface disposal systems consisting of seepage pits, leach fields, or subsurface drip irrigation areas. At that time, Kissel indicated that it could not immediately comply with the WDRs prescribed in Order No. R4-2002-0108 because the Park's then-existing septic disposal system provided only primary treatment and needed to be upgraded. In order to ensure compliance with the WDRs, the Regional Board adopted Time Schedule Order (TSO) No. R4-2002-0109 that allowed Kissel to complete all needed upgrades according to a set schedule. TSO No. R4-2002-0109 ordered Kissel to submit various plans for approval to upgrade the then-existing septic disposal system. Kissel was required to complete construction, and testing to achieve full compliance with all requirements contained in Order No. R4-2002-0108, by November 30, 2003. The deadline for achieving compliance with the WDRs was extended to September 30, 2004 by the Executive Officer upon Kissel's request.

13. On March 3, 2006, the Regional Board issued a Notice of Violation (NOV) to Kissel for the discharge of untreated sewage at the Park on February 14, 2006. The Regional Board issued another NOV on September 26, 2006 for discharges of untreated sewage at the Park on August 9, August 15, August 19, and September 17, 2006. Both NOVs required that Kissel submit to the Regional Board a report detailing implementation of corrective and preventative actions taken to prevent future sewage spills. On October 25, 2006, Kissel responded to the September 26, 2006 NOV and indicated that pump trucks were used to pump the affected system and that cleanup commenced

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immediately. Kissel also stated that sand bags were placed in the spill area and that disinfection was achieved by spraying bleach over the entire affected area.

14. On October 24, 2006, at a public hearing, the Regional Board adopted Amended TSO No. R4-2006-0079. TSO No. R4-2002-0109 was rescinded, except for enforcement purposes. The Amended TSO required Kissel to comply with the following tasks and respective deadlines: (A) By November 1, 2006, complete construction of the wastewater treatment plant; (B) By December 1, 2006, remove or legally abandon septic tanks not part of the new treatment system; and (C) By February 1, 2007, achieve full compliance.

15. On November 8, 2006, November 22, 2006, February 1, 2007, and August 8, 2007, the Regional Board issued Kissel NOVs for failure to meet all three deadlines prescribed in Amended TSO No. R4-2006-0079.

16. On August 13, 2007, Kissel completed construction of the advanced onsite wastewater treatment system (AOWTS). The AOWTS consists of an Orenco AdvanTex® treatment system. The system consists of 18 primary treatment tanks, two underground recirculation tanks, AXMAX packed bed treatment system, and a dosing tank (distribution). An ultraviolet (UV) system provides tertiary treatment and then the effluent from the treatment system is distributed to a series of seepage pits for disposal. While construction of the AOWTS was completed on August 13, 2007, and start-up began, Kissel did not achieve compliance with the WDRs prescribed in Order No. R4-2002-0108 until November 4, 2008.

17. On September 5, 2007, the Regional Board issued Cleanup and Abatement Order (CAO) No. R4-2007-0043 to Kissel. This CAO was issued in response to the chronic unpermitted discharges of untreated sewage that occurred between September 30, 2006 to July 23, 2007 at several locations within the Park. The CAO directed Kissel to take remedial action to cleanup and abate actual and threatened discharges of raw sewage at the Park.

18. On November 17, 2008, Kissel's representative transmitted the first laboratory results from the new AOWTS to the Regional Board. Samples of total coliform and enterococcus, which were collected on November 5, 2008, were in compliance with effluent limitations contained in Order No. R4-2002-0108.

19. On February 4, 2009, Administrative Civil Liability Complaint No. R4-2009-0017 was issued to Kissel for violations of requirements contained in Order No. R4-2002-0108, Amended TSO No. R4-2006-0079, and CAO No. R4-2007-0043. On June 5, 2009, a hearing on the Complaint was held before the Regional Board. Upon hearing the evidence and arguments presented by the parties, the Regional Board determined that Kissel violated requirements contained in Order No. R4-2002-0108, Amended TSO No. R4-2006-0079, and CAO No. R4-2007-0043. The Regional Board imposed administrative civil liability on Kissel in the amount of $54,500 pursuant to California Water Code section 13350.

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Paradise Cove Beach Café

20. The Beach Café is located on a flat arc-shaped beach, approximately 150 feet from the Pacific Ocean, between bluffs and 70 feet from the Ramirez Creek culvert. The Beach Café is a one-story building with seating for 300 persons.

21. The Beach Café is open daily and year-round for breakfast, lunch, and dinner. The number of meals served per day varies substantially with the high season occurring in the summer and low season in the winter. A separate restroom facility called the Sandbox serves the beach visitors.

22. On December 29, 2003, the Regional Board authorized Kissel to discharge wastewater generated from the Beach Café and Sandbox under General WDRs contained in State Water Board Water Quality Order No. 97-10-DWQ, *General WDRs for Discharges to Land by Small Domestic Wastewater Treatment Systems*, adopted by the State Water Board on November 18, 1997, along with MRP CI No. 8568.

23. On October 18, 2006, June 6, 2008, and September 20, 2011, the Regional Board issued NOVs to Kissel for violations of groundwater limitations for total coliform, enterococcus and for exceeding the allowable daily maximum flow of 20,000 gpd for the Beach Café.

24. On April 24, 2012, the Dischargers submitted a workplan to the Regional Board titled "Upgrade to Existing Wastewater Treatment and Disposal System." The proposed upgrades included the following: (1) reconfiguration of the existing grease tank and septic tank to dedicate both tanks to treating kitchen/food service wastewater; (2) installation of a larger septic tank providing additional equalization volume; (3) the installation of a new pump with a higher volume to upgrade the lift pump station; (4) the installation of two advanced aeration vacuum bubble technology (VBT) aerators within the pre-aeration compartment of the recirculation tank to increase nutrient reduction; and (5) the installation of a chlorination/dechlorination contact tank providing disinfection for the treated wastewater.

25. On December 14, 2012, the Regional Board approved the proposed upgrades at the Beach Café wastewater treatment system. MRP CI No. 8568 was subsequently revised on November 12, 2013; and the upgrades to the Beach Café's wastewater treatment system were completed in 2014.

26. All wastewater generated from the Beach Café and the Sandbox is sent to the Beach Café's advanced OWTS. The treated wastewater is then distributed to 21 seepage pits, and four (4) zones of subsurface drip dispersal located on the south slope of the east bluff section of the Park. The Beach Café's OWTS is designed for an average flow of 16,000 gpd and a peak flow rate of 25,000 gpd. The existing seepage pits for the Beach Café have a total designed disposal capacity of 23,159 gpd.

CURRENT FACILITY AND TREATMENT PROCESS DESCRIPTION

27. The Paradise Cove WWTP, which includes the Paradise Cove Mobile Home Park wastewater treatment system, the Paradise Cove Beach Café wastewater treatment system, the new blend/equalization tanks, disposal systems, and the proposed recycled

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water application areas, are located in and around Section 6, T1S, R16W, San Bernardino Base & Meridian. (See Figure 1. Facility Area Map, Figure 2. Wastewater Treatment and Collection System Layout Map, and Figure 3. Proposed Blending and Polishing Treatment System Layout Map).

28. The Park and Beach Café are located in an unsewered area of Los Angeles County. To date, no public sewers have been scheduled for construction in the vicinity of the Site. The closest sewer connection is approximately eight (8) miles away.

<u>Paradise Cove Mobile Home Park Wastewater Treatment System</u>

29. The wastewater generated at the Park is treated at the Paradise Cove Mobile Home Park wastewater treatment system. The Park's wastewater treatment system consist of 4-inch and 6-inch polyvinyl chloride (PVC) gravity sewer lines, 18 septic tanks with effluent filters, an Orenco Systems, Inc. AX100 AdvanTex® recirculating bed filter system, an ultraviolet (UV) disinfection unit, 67 seepage pits, and a designated area for 100% expansion.

30. Wastewater is first discharged into 18 primary treatment tanks; the filtered effluent then flows by gravity to the pump stations, from where it is pumped to an underground recirculation tank at the treatment facility.

31. Primary treated wastewater flows into two (2) 30,000-gallon fiberglass tanks, which provide sufficient volume for equalizing flow to the treatment pods and for recirculating the water though the AdvanTex® treatment pod system. Then the wastewater flows to twenty (20) AX100 AdvanTex® treatment pods for secondary treatment.

32. The effluent from all the treatment pods is collected by a filtrate line and flows by gravity to a recirculation splitter valve, located at the recirculation tank. A portion of the filtrate is recirculated back into the tank and a portion is released as secondary effluent.

33. The secondary treated wastewater flows by gravity from the recirculation splitter valve into an effluent pump station. This pump station pumps the secondary effluent to a UV disinfection unit.

34. The disinfected effluent flows by gravity to a 30,000-gallon fiberglass underground dosing tank, from which it is pumped and distributed to the seepage pits. The dosing tank is sized to accommodate shut-offs for up to 6 hours to allow for maintenance and repairs to the disinfected effluent distribution pipeline.

35. The Paradise Cove Mobile Home Park wastewater treatment system is designed for an average flow of about 40,000 gpd and a peak flow rate of 60,000 gpd. The existing seepage pits for the Park have a total designed disposal capacity of 73,464 gpd.

<u>Paradise Cove Beach Café Wastewater Treatment System</u>

36. The Paradise Cove Beach Café wastewater treatment system consists of a series of primary treatment tanks followed by an Orenco AX100 secondary treatment system, a disinfection system, 21 seepage pits, and a subsurface irrigation system.

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37. Wastewater generated from the Beach Café flows into two (2) grease interceptors followed by a 15,000-gallon septic tank. Wastewater generated from the Sandbox restrooms flows into a 5,000-gallon septic tank. The wastewater from the Beach Café and the Sandbox restrooms drains to a 12,000-gallon septic tank. The blended primary treated wastewater from this tank is then pumped up to the bluff for secondary treatment, in ten (10) AX100 Advantex® treatment pods, then to the dosing tank, followed by chlorination disinfection treatment. The treated wastewater is then distributed to the 21 seepage pits, and four (4) zones of subsurface drip dispersal located on the south slope of the east bluff section of the Park.

38. The Beach Café wastewater treatment system is designed for an average flow of about 16,000 gpd and a peak flow rate of 25,000 gpd. The capacity after the Dischargers' upgrade to the system will be sufficient to treat wastewater from the Beach Café, the Sandbox restrooms, and the proposed additional 10 mobile home units.

39. The existing seepage pits for the Beach Café have a total designed disposal capacity of 23,159 gpd.

<u>Recycled Water Use for Both Paradise Cove Mobile Home Park and Paradise Cove Beach Cafe</u>

40. The Dischargers are planning to install a blending and polishing treatment system, which will allow for the blending and further treatment of the wastewater from the existing Park's treatment system and the Beach Café treatment system.

41. Treated wastewater from both the Park's treatment system and the Beach Café's treatment system will be blended in a 30,000-gallon equalization tank and further treated in the AdvanTex® AX-MAX300 polishing treatment pods in order to meet Title 22 water recycling criteria. The treated wastewater will flow into the filtration system, followed by chlorination disinfection. The treated wastewater from the chlorination dosing tank will be pumped out and utilized for subsurface irrigation. The upgraded treatment system, including the Park's treatment system, the Beach Café's treatment system, the equalization tank and the polishing treatment pods, once completed, will be referred as the Paradise Cove Wastewater Treatment Plant.

42. Once completed, the Paradise Cove Wastewater Treatment Plant will have a designed capacity of 85,000 gpd and produce wastewater meeting advanced (with nitrification-denitrification) tertiary treatment effluent limits, which can be recycled for subsurface irrigation.

43. Treated wastewater from the Paradise Cove WWTP will irrigate up to 65,000 square-feet (1.5 acres) of landscape area controlled by the Dischargers. During the dry months, up to 60,000 gallons of the treated wastewater will be recycled on a daily basis, but the actual amount of recycled water use will depend on the demand of recycled water needed for irrigation.

44. Treated wastewater not being used for irrigation (e.g., during periods of rainfall) will be discharged to the seepages pits located throughout the Park. The seepages pits will also be used to divert treated wastewater during maintenance of the subsurface drip system and as an emergency backup disposal system. The existing seepage pits for the Paradise Cove WWTP has a total capacity of 96,623 gpd, which is sufficient to

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accommodate wastewater discharges from both the Paradise Cove Mobile Home Park wastewater treatment system and the Paradise Cove Beach Café wastewater treatment system under the circumstances that the recycled water cannot be used for irrigation.

45. The Paradise Cove WWTP is designed to produce wastewater meeting advanced (with nitrification-denitrification) secondary treatment effluent limits, which can be recycled for subsurface irrigation with a design capacity of 85,000 gpd.

COMPLIANCE HISTORY

Paradise Cove Mobile Home Park

46. The effluent water quality data collected from the Paradise Cove Mobile Home Park wastewater treatment system from January 2009 to December 2015 are as follows:

Table 1. Paradise Cove Mobile Home Park Effluent Water Quality

Constituent	Units	Treated Wastewater[1]	Effluent Limit[3]	
			Daily Maximum	Monthly Average
pH	pH units	6.0 – 8.5	6.5 - 8.5	
$BOD_5$20°C	mg/L	5 – 386[2]	30	45
Total suspended solids	mg/L	5 – 52	30	45
Turbidity	NTU	0.3 – 33.9	5.0	NA[4]
Oil & grease	mg/L	5 – 48	15	NA[4]
Nitrate as N	mg/L	0.33 – 21.9	NA[4]	NA[4]
Nitrite as N	mg/L	0.02 – 1.99	NA[4]	NA[4]
Ammonia as N	mg/L	0.33 – 20.9	NA[4]	NA[4]
Organic Nitrogen	mg/L	0.10 – 18.5	NA[4]	NA[4]
Total Nitrogen	mg/L	1.02 – 53.3	10[5]	NA[4]
Total dissolved solids	mg/L	102 – 832	1,000	NA[4]
Total coliform	MPN/100mL	2 – 900	70	230
Fecal coliform	MPN/100mL	2 – 900	NA[4]	NA[4]
Enterococcus	MPN/100mL	1 – 2,419.2	24	NA[4]

[1]Range based on reported values for all samples analysis performed after the advanced OWTS was completed, from January 2009 to December 2015.
[2]BOD concentration of 386 mg/L was a one-time exceedance that occurred on November 28, 2012.
[3]Effluent limits prescribed in Order No. R4-2002-0108 as monthly average and daily maximum
[4]NA= Not applicable. No effluent limit was prescribed.
[5]Point of compliance was set at groundwater (Order No. R4-2002-0108).

47. Under Order No. R4-2002-0108 and MRP CI No. 8342, Kissel was not required to monitor chloride, sulfate, and boron concentrations in the effluent from Park's advanced OWTS. As indicated above, Order No. R4-2002-0108 did not prescribe effluent limitations for sulfate, chloride, and boron. Upon the request of Regional Water Board staff during permit development, the Dischargers collected and analyzed an effluent sample in May 2016, which indicated concentrations of 131 mg/L for chloride, 264 mg/L for sulfate and, 0.34 mg/L for boron.

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48. Groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed in 2002. Monitoring data from March 2008 to December 2015 characterize the recent groundwater quality resulting from discharges to the seepage pits as follows:

Table 2. Paradise Cove Mobile Home Park Monitoring Well Groundwater Quality

Constituent	Units[1]	MW-1[2] (Upgradient Well)	MW-3[2] (Cross-gradient Well)	MW-2[2] (Downgradient Well)	Water Quality Objectives[3]
pH	pH units	5.7 - 8.1	6.0 - 7.8	5.8 - 7.9	--
Ammonia as N	mg/L	0.02 - 0.6	0.01-1.54	0.01 - 0.37	--
Nitrate as N	mg/L	0.01 - 0.91	0.02-1.49	0.03 - 0.54	--
Nitrite as N	mg/L	0.01 - 0.04	0.03-0.07	0.03 - 0.07	--
Total Nitrogen	mg/L	6.1 - 17.9	0.44 - 2.58	0.1 - 2.16	10
Total dissolved solids	mg/L	932 - 1,588	2,288 - 3,432	29.8 - 3,360	--
Sulfate	mg/L	182 - 437	918 - 1,660	830 - 2,040	--
Chloride	mg/L	147 - 297	203 - 829	344 - 815	--
Boron	mg/L	0.38 - 0.57	0.15 - 0.3	0.26	--
Total Coliform	MPN/100mL	2 - 1,600	2 - 300	2 - 1,600	--
Fecal Coliform	MPN/100mL	2 - 50	4 - 300	2 - 12	--

[1]mg/L=milligrams per liter; MPN/100mL = most probable number (MPN) per 100 milliliters
[2]Based on analyses performed from April 30, 2003 to December 4, 2014
MW-1: Upgradient Well; MW-3: Cross-gradient Well; and MW-2: Downgradient Well
[3]Basin Plan water quality objectives for the Point Dume Area. However, Regional Board Order No. R4-2002-0108 did not prescribe receiving (groundwater) limitations.

50. Monitoring well MW-1 is located in the northwest part of the Park, near Pacific Coast Highway, and a groundwater survey conducted by Kissel show several likely sources of pollution, north of Pacific Coast Highway. Some possible contributors of wastewater-related pollutants might be the Malibu Villas condominiums and the residence(s) located on Pacific Coast Highway. Currently, Regional Board staff is working on preparing WDRs for the Malibu Villas condominiums.

51. Monitoring wells MW-2 and MW-3 are located closer to the Pacific Ocean and may be under tidal influence, which will result in higher concentrations of total dissolved solids (TDS), sulfate, and chloride.

<u>Paradise Cove Beach Café</u>

52. Monitoring data from the Paradise Cove Beach Café treatment system from March 2014 to December 2015 characterizes the effluent water quality as follows (see Table 3):

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Table 3. Paradise Cove Beach Café Effluent Water Quality

Constituent	Units	Treated Wastewater[1]	Performance Goals[2]
pH	pH units	6.9 – 8.2	6 - 9
$BOD_5$20°C	mg/L	5 – 43	10
Turbidity	NTU	0.60 – 20.5	NA[3]
Total suspended solids	mg/L	5 – 45	10
Oil & grease	mg/L	5 – 30	1
Nitrate as N	mg/L	0.04 - 37.2	10
Nitrite as N	mg/L	0.1 – 1.22	1
Ammonia as N	mg/L	0.27 – 6.78	NA[3]
Organic Nitrogen	mg/L	0.57 – 6.5	NA[3]
Total Nitrogen	mg/L	5.9 – 38.6	NA[3]
Total dissolved solids	mg/L	776 – 1,232	NA[3]
Total coliform	MPN/100mL	2 – 90,000	1.1
Fecal coliform	MPN/100mL	1 – 30,000	1.1
Enterococcus	MPN/100mL	1 – 2.419.6	1.1

[1]Range based on the statistical minimum and maximum reported values for all sample analysis performed after the upgrades to the wastewater treatment system were completed.
[2]The General WDRs did not prescribed effluent limitations; rather, performance goals were specified triggering additional actions upon exceedance of the goal.
[3]NA= Not applicable. There are not water quality objectives under the Ocean Plan.

53. The General WDRs for discharges from the Beach Café wastewater treatment system did not require effluent monitoring for chloride, sulfate, and boron. Upon, the request of Regional Water Board staff during permit development, the Dischargers collected and analyzed an effluent sample in May 2016, which indicated concentrations for TDS was 1,152 mg/L, 313 mg/L for chloride, 179 mg/L for sulfate and, 0.2 mg/L for boron.

54. Monitoring data for monitoring wells (MW-6, MW-12, and MW-11) from March 2014 to December 2015 characterize the recent groundwater quality resulting from discharges to the seepage pits as follows (See Table 4):

Table 4. Paradise Cove Beach Café Monitoring Well Groundwater Quality

Constituent	Units[1]	MW-6 [2] (Upgradient Well)	MW-12[2] (Cross-gradient Well)	MW-11[2] (Downgradient Well)	Water Quality Objectives[3]
pH	pH units	6.5 - 7.4	6.9 - 7.4	6.5 - 7.0	6.0 – 9.0
Ammonia as N	mg/L	0.02 - 0.23	0.07-0.32	0.11 - 0.36	2.4
Nitrate as N	mg/L	0.02 - 0.09	0.01 – 1.33	0.01 - 0.07	--
Nitrite as N	mg/L	0.02	0.01 -0.1	0.01 - 0.1	--
Organic N	mg/L	0.83 - 9.87	0.63-1.97	2 - 18.4	--
Total Nitrogen	mg/L	1.17 - 10	0.92-2.83	0.21 - 18.9	--
Total dissolved solids	mg/L	2,592-2,996	936-1,152	2,496 – 4,276	--

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Constituent	Units[1]	MW-6 [2] (Upgradient Well)	MW-12[2] (Cross-gradient Well)	MW-11[2] (Downgradient Well)	Water Quality Objectives[3]
Sulfate	mg/L	1,500 - 2,240	88.1 - 159	1,230 - 5,320	--
Chloride	mg/L	265 - 489	191 - 383	281 – 1,270	--
Boron	mg/L	0.25 - 0.33	0.18 - 0.26	0.18 - 0.31	--
Total Coliform	MPN/100mL	2 - 8,000	2 - 130	2 - 3,000	10,000
Fecal Coliform	MPN/100mL	2 - 1,600	2 - 130	2 - 20	400
Enterococcus	MPN/100mL	8.4 - 342.8	2 - 2,419.2	1 - 2,419.2	140

[1]mg/L=milligrams per liter; MPN/100mL = most probable number (MPN) per 100 milliliters
[2]Based on analyses performed after the upgrades to the wastewater treatment system were completed. MW-6: Upgradient Well; MW-12: Cross-gradient Well; and MW-11: Downgradient Well
[3]Water quality objectives based on the 2012 California Ocean Plan.

55. Monitoring well MW-6 is located near the Park's entrance, at the southwest corner of Paradise Cove Road and Pacific Coast Highway. Kissel conducted a groundwater survey, which shows that the sources of pollution are likely originating from the north of Pacific Coast Highway. Some possible contributors of wastewater-related pollutants might be the Saint Aidan's Episcopal Church and School, and the residence(s) located across the Park. Currently, Regional Board staff are preparing a directive pursuant to California Water Code section 13260 for Saint Aidan's School and church.

56. Monitoring wells MW-11 and MW-12 are located approximately 100 feet away from the Pacific Ocean and may be under tidal influence, which will result in higher concentrations of total dissolved solids (TDS), sulfate, and chloride.

57. Based on the location of the Beach Café, and the connectivity of the underlying groundwater with the Pacific Ocean, Water Quality objectives specified in the California Ocean Plan are applicable as the groundwater quality objectives. After the upgrade of the Beach Café wastewater treatment system, the effluent has met all the performance goals, and the groundwater quality underlying the Beach Café has been in compliance with the State Water Board General Order No. 97-10-DWQ.

58. The Dischargers, with the current treatment processes at the Park and the Beach Café, will achieve compliance with the effluent limitations listed in this Order except nitrateas nitrogen, total nitrogen, total coliform, turbidity, total dissolved solids, sulfate, and chloride. In other to allow recycled water to be utilized form this system, this tentative Order No. R4-2016-XXXX prescribes more protective effluent limits based on the requirements specified in the Basin Plan and Title 22. A separate Cease and Desist Order will prescribe the schedule and requirements to effect these improvements.

SITE-SPECIFIC CONDITIONS

59. Paradise Cove Mobile Home Park, Paradise Cove Beach Café, the proposed recycled water application area, the Paradise Cove Wastewater Treatment Plant, disposal area,

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and seepage pits are located in the Ramirez Canyon Creek Hydrologic Subarea of the Point Dume Hydrologic Area.

60. Groundwater beneath the Site is contained in terrace deposits. Groundwater levels and flow directions beneath the Site are determined by these deposits. In addition, groundwater may be present in some sandstone rock formations underlying recent deposits, especially in fracture systems within bedrock formations. According to the lithologic logs from all the borings drilled at the Park, there is no continuous impermeable layer (i.e., aquitard) between the land surface and the groundwater table.

61. Groundwater underneath the Beach Café parking lot was reportedly encountered at 6 feet below ground surface (bgs) with a flow direction toward the Pacific Ocean. Groundwater flow direction in the bluff area underneath the seepage pits, however, was complicated because of the existing east/west-trending Paradise Cove Fault which transverses through the Park. Generally, the groundwater was encountered at 81 feet bgs. Groundwater at northern part of the Park flows in a southwesterly direction toward the Fault, and groundwater at the area adjacent to the Fault flows toward to the Fault line. The groundwater in the southern portion of the Park closer to the Ocean flows southerly towards the canyon located at the west of the Site or to the Pacific Ocean.

62. The geological materials underneath the Site consist of fill, silty sand and sandy clay soil, marine terrace deposits, and the Monterey Formation siltstone bedrock.

63. The fill deposits are minor and it overlies the natural soil. The fill deposits are present on portions of the Site, primarily on the level areas, which are occupied by trailers and access roads. The fill consists of disturbed soil and also an admixture of soil and marine terrace deposits. The fill is described as silty sand, clayey sand, and sandy clay with gravel. The gravel component of the fill varies from angular, pebble-size siltstone clasts to construction size gravel.

64. The Late Pleistocene marine, coastal terrace deposits are especially prominent west of Point Dume, where younger, Holocene and upper Pleistocene, nonmarine coastal terrace deposits also occur. Holocene and upper Pleistocene stream terrace deposits are perched on the flanks of Trancas, Zuma, Ramirez, and Medea Creek canyons. Most of these terrace deposits consist of gravel, sand, and silt.

65. The remaining Quaternary deposits are relatively young and are considered to be of late Pleistocene to Holocene age, except for the artificial fill, which is strictly Holocene.

66. The natural residual soil is described as silty sand and sandy clay; and it overlies the marine terrace deposits and bedrock on the majority of the Park. The basal contact of the soil is gradational with the underlying marine terrace deposits and bedrock.

67. The marine terrace deposits underlie the “bluff-top” areas of the Site. These deposits consist of clayey sand, silty sand, and sand with gravel. The marine terrace deposits are horizontally stratified and have a horizontal basal contact with the underlying sedimentary bedrock.

68. The bedrock underlying the Site consists of diatomaceous siltstone, part of the Monterey Formation of Miocene age.

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69. The geological materials underneath the Site are porous media consisting of unconsolidated loose sands, sandy clay, and marine terrace deposits, or fractured bedrock, all of which are pathways for percolating water. Wastewater discharged to the irrigation fields and percolation pits at the Park will travel through the vadose zone (unsaturated zone between land surface and groundwater table) by gravity, and reach the groundwater underneath the irrigation fields and pits.

70. There are no domestic water wells downgradient of the Paradise Cove Mobile Home Park and Paradise Cove Beach Café. The Park, the Beach Café, and all the residents receive their water supplies from the Los Angeles County Waterworks District 29.

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APPLICABLE PLANS, POLICIES AND REGULATIONS

71. *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) – On June 13, 1994, the Regional Board adopted a revised Basin Plan. The Basin Plan: (i) designates beneficial uses for surface and groundwater, (ii) establishes narrative and numeric water quality objectives that must be attained or maintained to protect the designated beneficial uses, and (iii) sets forth implementation programs to protect the beneficial uses of the waters of the state. The Basin Plan also incorporates State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality Waters in California", also called the "Antidegradation Policy"). In addition, the Basin Plan incorporates applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The Basin Plan has been amended occasionally since 1994, including recent administrative updates. This Order implements the Basin Plan.

72. To protect sources of drinking water, the Basin Plan (Chapter 3) incorporates the primary and secondary maximum contaminants levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water, which are codified in California Code of Regulations, Title 22, Division 4. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. The primary MCLs are applicable water quality objectives for a receiving water to protect beneficial uses when that receiving water is designated as municipal and domestic supply. Also, the Basin Plan specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Therefore, the secondary MCLs, which are limits based on aesthetic, organoleptic standards, are applicable water quality objectives for a receiving water to protect beneficial uses when that receiving water is designated as municipal and domestic supply. These water quality objectives are implemented in this Order to protect groundwater quality.

73. The Paradise Cove Wastewater Treatment Plant, seepage pits, and the recycled water application areas are located 1,100 feet west of the Ramirez Canyon Creek, and approximately 1,033 feet away from the Pacific Ocean Nearshore Zone. The Basin Plan specifies the following beneficial use designations:

<u>Surface water (Ramirez Canyon Creek):</u>
Existing: wildlife habitat
Intermittent: municipal and domestic water supply, contact and non-contact recreation, warm fresh water habitat

Potential: spawning, reproduction, and /or early development

Coastal Features (Nearshore):
Existing: Industrial service supply, navigation, water contact and non-water contact recreation, commercial and sport fishing, marine habitat, wildlife habitat, biological habitat preserve, rare and endangered species habitat support, migration of aquatic organisms, spawning and reproduction of aquatic organisms and shell fish harvesting.

74. The Site overlies the groundwater along the southern slopes of the Santa Monica Mountains (Point Dume Area). The Basin Plan contains water quality objectives for the Point Dume Area, which is considered to be the receiving water underlying the future recycled water use area. The beneficial uses of the receiving groundwater are as follows:

Groundwater (Point Dume Hydrologic area):
Existing: municipal and domestic water supply, agricultural supply
Potential: industrial service supply

75. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet MCLs designed to protect human health and ensure that water is safe for domestic use.

76. The State Water Board adopted Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*, which includes principles that encourage and recommend funding for water recycling and its use in water-short areas of the state. On September 26, 1988, the Regional Water Board also adopted Resolution No. 88-012, *Supporting Beneficial Use of Available Reclaimed Water in Lieu of Potable Water for the Same Purpose*, which encourages the beneficial use of recycled wastewater and supports water recycling projects.

77. The State Water Board's Division of Drinking Water (DDW) has primary statewide responsibility for protecting public health with respect to the use and application of recycled water. It has established statewide water recycling criteria in California Code of Regulations, Title 22, Division 4, Chapter 3 (hereafter referred to as Title 22). Approved uses of recycled water under Title 22 depend on the level of treatment, disinfection, and potential for public contact.

State Water Board Resolution No. 68-16 requires the Regional Board, in regulating the discharges of waste, to maintain high quality waters of the state unless it is demonstrated that any change in quality is consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the State Water Board's policies (e.g., quality that exceeds water quality objectives). The Regional Board finds that the discharge, as allowed in this Order, is consistent with Resolution No. 68-16 since this Order: (1) requires compliance with the requirements set forth in this Order, including the use of best practicable treatment and control of the discharges, (2) requires implementation of a Monitoring and Reporting Program (MRP); and (3) requires that the discharges comply with effluent limits to meet water quality objectives. Application of recycled water for

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irrigation is limited to agronomic rates and therefore is not expected to measurably impact groundwater quality. This Order requires the effluent to meet MCLs for drinking water and groundwater quality objectives in the Basin Plan.

78. The California Legislature has declared that a substantial portion of the future water requirements of the state may be economically met by beneficial use of recycled water (Water Code section 13511). The Legislature also expressed its intent that the State undertake all possible steps to encourage development of water recycling facilities so that recycled water may be made available to help meet the growing water demands of the state (Water Code section 13512). This Order requires best practicable treatment or control, which is a combination of treatment, storage, and application methods that implement the requirements of Title 22 and the Basin Plan. The use of recycled water in place of both raw and potable water supplies for the non-potable uses allowed under this Order improves water supply availability and helps to ensure that higher quality water will continue to be available for human uses. Treatment technologies required under this Order include tertiary treatment and disinfection for pathogen removal. As required by the Antidegradation Policy, the Regional Water Board finds that very little, if any, degradation of water may occur as the result of the use of disinfected tertiary treated effluent as a source of recycled water, since limited percolation to groundwater is expected to take place through irrigation.

79. *Recycled Water Policy* – On February 9, 2009, the State Water Board adopted Resolution No. 2009-0011, *Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The Recycled Water Policy became effective when it was approved by the Office of Administrative Law on May 14, 2009. This Recycled Water Policy is intended to support the State Water Board's Strategic Plan to promote sustainable local water supplies. Increasing the acceptance and promoting the use of recycled water is a means towards achieving sustainable local water supplies and can result in reduction in greenhouse gases, a significant driver of climate change. The Recycled Water Policy is also intended to encourage beneficial use of, rather than solely disposal of, recycled water generated from municipal wastewater sources in a manner that fully implements state and federal water quality laws.

80. Section 13523 of the California Water Code provides that a Regional Water Board, after consulting with and receiving recommendations from DDW or its delegated local health agency, and after any necessary hearing, shall, if it determines such action to be necessary to protect the health, safety, or welfare of the public, prescribe water reclamation requirements (WRRs) for water that is used or proposed to be used as recycled water. California Water Code section 13523 further provides that, at a minimum, the WRRs shall include, or be in conformance with, the statewide water recycling criteria established by DDW pursuant to California Water Code section 13521.

81. Pursuant to California Water Code section 13523, the Regional Water Board has consulted with DDW regarding the proposed recycling project. On April 22, 2016, a Title 22 Engineering Report was submitted to DDW for its review and approval for the recycled use of treated wastewater for subsurface irrigation as required by section 60323 of Title 22. The Title 22 Engineering Report was subsequently approved by DDW on June 14, 2016. All of DDW's requirements and/or conditions are incorporated into this Order by attachment.

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82. Salt and Nutrient Management Plans (SNMPs) are required for each basin/sub-basin in California in accordance with the State Board's Recycled Water Policy. The Malibu SNMP Planning Area is located within the lower Malibu Creek watershed area and includes the Civic Center area of the City of Malibu and portions of unincorporated Los Angeles County, and overlies the Malibu Valley Groundwater Basin. The Malibu SNMP will be adopted by the Regional Board at a future Board meeting. Furthermore, Paradise Cove Mobile Home Park, Paradise Cove Beach Café, and the Paradise Cove Wastewater Treatment Plant are located approximately 6 miles west of the Malibu Civic Center, and it is not subject to the Malibu SNMP.

83. California Water Code section 13523.5 concerning water recycling requirements states that a regional water board may not deny issuance of water recycling requirements to a project that violates only a salinity standard in a basin plan. In 1985, soon after this provision was added to the Water Code, the State Water Board's Office of Chief Counsel issued a legal opinion concluding that this provision does not apply to waste discharge requirements. Hence, waste discharge requirements for recycled water projects may contain effluent and other limitations on discharges of salts as necessary to meet water quality objectives, comply with the Antidegradation Policy, or otherwise protect beneficial uses.

84. The WRRs in this Order are proposed pursuant to California Water Code section 13523. The WRRs prescribe the requirements and limits for recycled water and the Dischargers' responsibilities for the production and monitoring of recycled water. The Dischargers are also responsible for inspecting point-of-use facilities, and ensuring compliance with the WRRs contained in this Order. The distribution and irrigation systems will be maintained by the Dischargers.

85. The requirements contained in this Order are in conformance with the goals and objectives of the Basin Plan and implement the requirements of the California Water Code and California Code of Regulations, Title 22, Division 4, Chapter 3 - Water Recycling Criteria.

86. This Order establishes limitations and requirements that will not unreasonably affect present and anticipated beneficial uses or result in receiving water quality that exceeds water quality objectives set forth in the Basin Plan. This means that where the stringency of the limitations for the same waste constituent differs according to beneficial use, the most stringent applies as the governing limitation for that waste constituent. This Order contains tasks for assuring that best practicable treatment or control (BPTC) and the highest water quality consistent with the maximum benefit to the people of the State will be achieved. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution 68-16. Based on the results of the scheduled tasks for the proposed upgrade, the Regional Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

87. The use of recycled wastewater for subsurface drip irrigation could affect the public health, safety, or welfare; requirements for such use are therefore necessary in accordance with section 13523 of the California Water Code.

88. Global Warming and Climate Change – In Southern California, the predicted impacts of climate change are numerous. Annual average temperatures are expected to increase, coupled with a higher frequency of extreme heat days. A likely consequence of this

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warmer climate will be more severe drought periods, leading to an increase in the amount and intensity of fires and a longer fire season. In addition, precipitation patterns are likely to be modified. A decrease in snowfall, combined with warmer temperatures, will induce a decrease in the amount and duration of snowpack, an essential source of freshwater to the region. Although changes to mean precipitation are expected to be small, the increasing occurrence of extreme precipitation events will amplify the risk of flooding. Climate change will also induce an additional rise in sea level (sea level rise has already occurred with warming), and with it, an increase in the incidence of extreme high sea level-related events such as extreme tides, wave-driven run-up and storm surge, causing more extensive and frequent damage including flooding, and land and beach erosion.

These impacts will affect water quality in multiple ways, including decreases in stream flow, reductions in, and changes to, aquatic habitats, increases in surface water temperature, increases in pollutant levels, sedimentation, algal growth, and changes in salinity levels and acidification in coastal areas. For permitted facilities such as Publically Owned Treatment Works (POTWs), specific impacts could include, but are not limited to, an increase in the concentration of pollutants entering the facility, an increase in the temperature of effluents and receiving waters, an increase in storm water inflow and infiltration, increase in flooding/inundation of facilities, sewer overflows, power outages, pump maintenance issues, and onsite or nearby hillside destabilization.

Recognizing the challenges posed by climate change, on April 29, 2015, Governor Jerry Brown issued Executive Order B-30-15, which directs state agencies to take climate change into account in their planning decisions, guided by the following principles: Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions; where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts; actions should protect the state's most vulnerable populations; and natural infrastructure solutions should be prioritized.

Waste Discharge Requirements for this facility contain provisions to require planning and actions to address climate-related impacts that can cause or contribute to violations of permit requirements and/or degradation of waters of the state.

89. Pursuant to California Water Code section 13263(g), the discharge of waste is a privilege, not a right, and adoption of this Order does not create a vested right to continue discharging.

90. The Regional Board will review this Order periodically and will revise requirements when necessary. The Regional Board may reopen this Order at any time.

91. Section 13267(b) of the California Water Code states, in part, that “In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state within its region shall furnish under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports shall bear a reasonable relationship to the

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need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports." The Dischargers operate facilities that discharge waste to waters of the state, subject to this Order. The information and reports required by Monitoring and Reporting Program CI No. 8342 are necessary to assure compliance with these waste discharge requirements and water reclamation requirements.

CALIFORNIA ENVIRONMENTAL QUALITY ACT AND NOTIFICATION

92. This project involves the renewal of WDRs/WRRs for two existing facilities, Paradise Cove Mobile Home Park and Paradise Cove Beach Café that involves the addition of ten new mobile home units. The proposed Paradise Cove Wastewater Treatment Plant will recycle the treated wastewater for irrigation at an agronomic rate. The amount of treated wastewater discharged to groundwater, after recycled water use, will be significantly less than the current volume of wastewater discharged from the Park and the Beach Café.

93. The City of Malibu (City) is the lead agency for the proposed addition of ten mobile home units at the Park. The City has determined that this expansion is a revision to the existing project. The conditional use permit issued by the City has been revised to incorporated the proposed expansion; therefore, the action to adopt WDRs/WRRs is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21000 et seq.) in accordance with California Code of Regulations, title 14, section 15301.

94. On April 22, 2016, the Regional Board notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs/WRRs for the Site and has provided them with an opportunity to submit their written comments and recommendations.

95. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

96. Pursuant to California Water Code section 13320, any person affected by this action of the Regional Board may petition the State Water Board to review the action in accordance with section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The State Water Board (P.O. Box 100, Sacramento, California, 95812) must receive the petition within 30 days of the date this Order is adopted. The regulations regarding petitions may be found at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml

THEREFORE, IT IS HEREBY ORDERED that in order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, The Kissel Company, Inc. and the Paradise Cove Land Company, LLC shall comply with the following requirements in this Order in all wastewater operations and activities at the Paradise Cove Wastewater Treatment Plant, including the Paradise Cove Mobile Home Park wastewater treatment system and the Paradise Cove Beach Café wastewater treatment system:

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A. EFFLUENT LIMITATIONS

1. The maximum daily discharge from the Paradise Cove Wastewater Treatment Plant shall not exceed 85,000 gpd.

   a. The maximum daily discharge from the Paradise Cove Mobile Home Park wastewater treatment system shall not exceed 60,000 gpd.

   b. The maximum daily discharge from the Paradise Cove Beach Café wastewater treatment system shall not exceed 25,000 gpd.

2. The pH in the effluent (treated wastewater discharged from the Paradise Cove Wastewater Treatment Plant) shall at all times be from 6.5 to 8.5 pH units.

3. Effluent shall not contain constituents in excess of the following limits: (see Table 5):

Table 5. Effluent Limitations

Constituent	Units[1]	Daily Maximum	30-Day Average
$BOD_5$20ºC	mg/L	45	30
Total suspended solids	mg/L	45	30
Total nitrogen[2]	mg/L	10	--
Nitrate as N	mg/L	10	--
Nitrite as N	mg/L	1	--
Oil and grease	mg/L	15	10
Total dissolved solids (TDS)	mg/L	1,000	--
Sulfate	mg/L	250	--
Chloride	mg/L	250	--
Boron	mg/L	1.0	--
MBAS[3]	mg/L	0.5	--

[1]mg/L=milligrams per liter; MPN/100mL = most probable number (MPN) per 100 milliliters;
[2]Total nitrogen= nitrate-N + nitrite-N + ammonia-N + Organic Nitrogen
[3]Methylene Blue Active Substances

4. Turbidity Limits: The turbidity of the effluent shall not exceed any of the following:
   a) A daily average of 2 Nephelometric turbidity units (NTUs),
   b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24-hour period, and
   c) 10 NTU at any time.

5. Total coliform Limits: The total coliform (median number of coliform organisms in the effluent) shall not exceed 23 MPN per 100 ml, as determined from the bacteriological results of the last 7 days for which analyses have been completed, and the number of total coliform bacteria shall not exceed 240 MPN/100 mL in more than one sample in any 30 days period.

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6. Effluent shall not contain heavy metals, arsenic, or cyanide, or other pollutants designated Priority Pollutants (Appendix A to 40 CFR, Part 423--126 Priority Pollutants) by the U.S. Environmental Protection Agency in concentrations exceeding the limits contained in the California Drinking Water Standards, California Code of Regulations, title 22, section 64431 (Attachment A-1).

7. Effluent shall not contain organic chemicals in concentrations exceeding the limits contained in the current California Drinking Water Standards, California Code of Regulations, title 22, section 64444 or subsequent revisions (Attachment A-2).

8. Effluent shall not contain disinfectant byproducts in concentrations exceeding the limits contained in the current California Drinking Water Standards, California Code of Regulations, title 22, section 64533, or subsequent revisions (Attachment A-3).

B. GROUNDWATER LIMITATIONS

1. "Receiving water" is defined as groundwater underlying the Site, including the Paradise Cove wastewater treatment plant, the discharge areas, and the recycled water application area.

2. The Dischargers shall monitor the background of the receiving groundwater quality as it relates to its effluent discharges. Should the constituent concentrations in groundwater exceed the limits specified in Table 6; the Dischargers shall demonstrate that the discharge from the Paradise Cove Wastewater Treatment Plant does not contribute to the degradation of groundwater quality.

Table 6. Groundwater Limitations

Constituent	Units[1]	Maximum Limitation[2]
Total dissolved solids (TDS)	mg/L	1,000
Sulfate	mg/L	250
Chloride	mg/L	250
Boron	mg/L	1.0
Total nitrogen[3]	mg/L	10
Nitrate as N	mg/L	10
Nitrite as N	mg/L	1
Total coliform	MPN/100mL	1.1
Fecal coliform	MPN/100mL	1.1
Enterococcus	MPN/100mL	1.1

[1]mg/L=milligrams per liter; MPN/100mL=most probable number (MPN) per 100 milliliters.
[2]The point of compliance with groundwater limitations is the downgradient monitoring wells.
[3]Total nitrogen= nitrate-N + nitrite-N + ammonia-N + Organic Nitrogen

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C. RECYCLED WATER SPECIFICATIONS FOR IRRIGATION

1. Recycled water used as a source of supply for nonedible vegetation irrigation shall meet at all times water quality limitations listed in Section A above, and if necessary, be adequately oxidized and disinfected.

2. Recycled water shall be distributed uniformly on adequate acreage or disposal area.

3. Hydraulic loading of recycled water shall be at agronomic rates designed to minimize the percolation of process wastewater and irrigation water below the root zone (i.e., deep percolation).

4. Recycled water used for irrigation shall be retained on the areas of use and shall not be allowed to escape as surface flow.

5. Recycled water shall be applied at such a rate and volume as not to exceed vegetation demand and soil moisture conditions. Special precautions shall be taken to prevent clogging of drip tubes, to prevent over-watering and to exclude the production of runoff. Pipelines shall be maintained so as to prevent leaks.

6. Recycled water shall not be applied within 100 feet of any well used for domestic purposes.

7. The use of the recycled water shall not cause the concentration of organic and inorganic chemicals (i.e., heavy metals, arsenic, or cyanide) in the receiving water to exceed the limits contained in California Code of Regulations, title 22, sections 64431 (Inorganic chemical) and 64444 (Organic chemical).

8. Recycled water shall not be used for irrigation during periods of rainfall and/or runoff.

9. Recycled water use shall not result in breeding of mosquitoes, gnats, or other pests.

10. Recycled water used for irrigation shall not result in earth movement in geologically unstable areas.

11. All disposal areas with public access and landscape impoundments shall be posted to warm the public that recycled water is being stored or used.

12. Recycled water distribution systems shall be inspected at least monthly to assure proper operation, absence of leaks, and absence of illegal connections.

13. All areas where recycled water is used shall be posted with conspicuous signs that include the following wording in a size no less than 4 inches high by 8 inches wide: "ATTENTION: NON-POTABLE WATER - DO NOT DRINK" or “RECYCLED WATER USED FOR IRRIGATION – DO NOT DRINK.” Perimeter warning signs indicating that the treated wastewater is in use shall be posted at least every 500 feet, with a minimum of at least one sign on each corner of each irrigation area at

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access road entrances.

14. The portions of the wastewater piping system that are in areas subject to access by the public shall not include any hose bibs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the wastewater piping system in areas subject to public access.

15. Discharges to the land application area shall be managed to minimize erosion, runoff, and over irrigation from the land application area.

16. There shall be no standing water in the land application area 24 hours after wastewater is applied.

17. The perimeter of the land application areas shall be bermed or graded to prevent ponding along public roads or other public areas.

18. The resulting effect of the wastewater discharge on the soil pH shall not exceed the buffering capacity of the soil profile.

D. GENERAL REQUIREMENTS

1. The Dischargers shall evaluate the possible damage caused by extreme weather, such as heavy precipitation and floods, as a result of climate change to the infrastructure including collection system, pipelines, and treatment facility(ies). The siting, design, and construction of the Paradise Cove wastewater treatment plant shall be sufficient to ensure proper operation during extreme weathers, be protective of groundwater quality and public health, and prevent the possible loss of human life.

2. Standby or emergency power facilities and/or sufficient capacity shall be provided for treated wastewater storage during rainfall or in the event of plant upsets or outages.

3. The Dischargers shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.

4. The Dischargers shall comply with all the effluent limitations listed in this Order and shall not discharge any wastewater to surface water from the treatment system.

5. The treatment system, including the collection system that is a part of the treatment system and the disposal system, shall be maintained in such a manner that prevents wastewater from surfacing or overflowing at any location.

6. Sludge and other solids removed from wastewater shall be disposed of in a manner that is consistent with California Code of Regulations, Title 27, Division 2, Subdivision 1 and approved by the Executive Officer.

7. Sludge and other solids shall be removed from wastewater treatment equipment, sumps, ponds, etc. as needed to ensure optimal plant operation and

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adequate hydraulic capacity.

8. Storage and disposal of domestic wastewater shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards.

9. Any proposed change in solids use or disposal practice from a previously approved practice shall be reported to the Executive Officer at least 60 days in advance of the change.

10. Wastewater discharged to land via subsurface irrigation shall not result in concentrations of salts, heavy metals, or organic pollutants from being present in the receiving water at levels that would affect the designated beneficial uses of groundwater or, in the event that groundwater is in hydraulic connection with surface waters, the designated beneficial uses of surface water.

11. Any wastes that do not meet the foregoing requirements shall be held in impervious containers and discharged at a legal point of disposal.

12. The Dischargers shall comply with all requirements specified in the attached conditional approval letter issued by the DDW on June 14, 2016.

13. A copy of these requirements shall be maintained at the wastewater treatment facility(ies) at the Site so as to be available at all times to operating personnel.

14. Dischargers are directed to submit all reports required by the WDRs/WRRs, including all analytical data and discharge location data, to the State Water Board GeoTracker database under Global ID WDR100026601.

E. PROHIBITIONS

1. The direct or indirect discharge of any waste and/or wastewater to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as “hazardous," as defined in section 2521(a) of Title 23, CCR, Section 2510 et seq., is prohibited. Discharge of waste classified as “designated,” as defined in California Water Code section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

3. Wastes discharged shall not impart tastes, odors, color, foaming or other objectionable characteristics to the receiving water.

4. Any offsite disposal of wastewater or sludge shall be made only to a legal point of disposal. For purposes of this Order, a legal disposal site is one for which requirements have been established by a California Regional Water Quality Control Board or comparable regulatory entity, and which is in full compliance therewith. Any wastewater or sludge handling shall be in such a manner as to prevent its reaching surface waters or watercourses.

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5. Odors originating at this facility shall not be perceivable beyond the limits of the property owned by the Dischargers.

6. Wastes discharged from the wastewater treatment plant shall at no time contain any substances in concentrations toxic to human, animal, plant, or aquatic life.

7. The discharge of waste shall not create a condition of pollution, contamination, or nuisance.

8. No new connections may be made without notification to the Regional Board.

9. The holding tanks shall not contain floating materials, including solids, foams or scum in concentrations that cause nuisance, adversely affect beneficial uses, or serve as a substrate for undesirable bacterial or algae growth or insect vectors.

10. Any discharge of wastewater from the treatment plant(s) (including the wastewater collection system) at any point other than specifically described in this Order is prohibited and constitutes a violation of this Order.

F. PROVISIONS

1. A copy of this Order shall be maintained at the facility so as to be available at all times to operating personnel.

2. The Dischargers shall file with the Regional Board technical reports on self-monitoring work performed according to the detailed specifications contained in Monitoring and Reporting Program CI No. 8342, attached hereto and incorporated herein by reference, as directed by the Executive Officer. The results of any monitoring done more frequently than required at the location and/or times specified in the Monitoring and Reporting Program shall be reported to the Regional Board. The Dischargers shall comply with all of the provisions and requirements of the Monitoring and Reporting Program.

3. The Dischargers shall comply with all limitations and requirements prescribed in this Order.

4. Wastewater treatment and discharge at the discharge/disposal recycle water use areas shall not cause pollution or nuisance as defined in California Water Code section 13050.

5. In accordance with California Water Code section 13260(c), the Dischargers shall file a report of any material change or proposed change in the character, location, or volume of the discharge.

6. The Dischargers shall operate and maintain its wastewater collection, treatment and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Dischargers' responsibilities. Anyone employed in the operation of the

TENTATIVE

wastewater treatment plant must be certified pursuant to California Water Code sections 13625 to 13633.

7. The Dischargers shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

8. For any violation of requirements in this Order, the Dischargers shall notify the Regional Board within 24 hours of knowledge of the violation either by telephone or electronic mail. The notification shall be followed by a written report within one week of the violation. The Dischargers in the next monitoring report shall also confirm this information. In addition, the report shall include the reasons for the violations or adverse conditions, the steps being taken to correct the problem (including dates thereof), and the steps being taken to prevent a recurrence.

9. This Order does not relieve the Dischargers from the responsibility to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.

10. After notice and opportunity for a hearing, this Order may be terminated or modified for causes including, but not limited, to:

    a) Violation of any term or condition contained in this Order;

    b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or

    c) A change in any condition, or the discovery of any information, that requires either a temporary or permanent reduction or elimination of the authorized discharge.

11. The Dischargers shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Dischargers shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

12. The Dischargers shall comply with the attached *Standard Provisions Applicable to Waste Discharge Requirements,* which are incorporated herein by reference. If there is any conflict between provisions stated herein and the *Standard Provisions Applicable to Waste Discharge Requirements*, the provisions stated herein will prevail.

13. The Dischargers shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

    a) Enter upon the Dischargers' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of

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this Order;

b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any locations.

14. The WDRs/WRRs contained in this Order will remain in effect and will be reviewed periodically.

15. All discharges of waste into the waters of the State are privileges, not rights. In accordance with California Water Code section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification.

16. Failure to comply with this Order and MRP No. 8342, could subject the Dischargers to monetary civil liability pursuant to the California Water Code, including sections 13268 and 13350. Persons failing to furnish monitoring reports or falsifying any information provided therein is guilty of a misdemeanor.

G. TERMINATION

Regional Board Order No. R4-2002-0108, adopted by the Regional Board on May 23, 2002, is hereby terminated, except for enforcement purposes. This action in no way prevents the Regional Board from taking enforcement action for past violations of Order No. R4-2002-0108.

H. REOPENER

The Regional Board may modify, revoke, or revoke and reissue this Order at any time, including if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters or to address the Dischargers' expansion or mitigation plans, or Basin Plan provisions, or compliance with Resolution 68-16.

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 14, 2016.

_____
Samuel Unger, P. E.
Executive Officer

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Attachment A-1

Table 64431-A: Inorganic Chemicals[1]	
Constituent	**Maximum Contamination Levels (mg/L)**
Aluminum	1
Antimony	0.006
Arsenic	0.05
Asbestos	7 MFL[2]
Barium	1
Beryllium	0.004
Cadmium	0.005
Chromium	0.05
Cyanide	0.2
Fluoride	2
Mercury	0.002
Nickel	0.1
Selenium	0.05
Thallium	0.002

1. California Code of Regulation (CCR) Title 22, Section 64431
2. MFL= million fibers per liter; MCL for fibers exceeding 10µm in length

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Attachment A-2

Table 4 – Radioactivity[3]	
Constituent	**Maximum Contamination Levels (pCi/L)**
Combined Radium-226 and Radium-228	5
Gross Alpha Particle Activity (Including Radium-226 but Excluding Radon and Uranium)	15
Tritium	20,000
Strontium-90	8
Gross Beta Particle Activity	50
Uranium	20

3. CCR Title 22, Section 64443

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Attachment A-3

Table 64444-A – Organic/Regulated Chemicals	
Constituent	**Maximum Contamination Levels (mg/L)**
Volatile Organic Chemicals	
Benzene	0.001
Carbon Tetrachloride (CTC)	0.0005
1,2-Dichlorobenzene	0.6
1,4-Dichlorobenzene	0.005
1,1-Dichloroethane	0.005
1,2-Dichloroethane (1,2-DCA)	0.0005
1,1-Dichloroethene (1,1-DCE)	0.006
Cis-1,2-Dichloroethylene	0.006
Trans-1,2-Dichloroethylene	0.01
Dichloromethane	0.005
1,2-Dichloropropane	0.005
1,3-Dichloropropene	0.0005
Ethylbenzene	0.7
Methyl-tert-butyl-ether	0.013
Monochlorobenzene	0.07
Styrene	0.1
1,1,2,2-Tetrachloroethane	0.001
Tetrachloroethylene (PCE)	0.005
Toluene	0.15
1,2,4-Trichlorobenzene	0.07
1,1,1-Trichloroethane	0.2
1,1,2-Trichloroethane	0.005
Trichloroethylene (TCE)	0.005
Trichlorofluoromethane	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2
Vinyl Chloride	0.0005
Xylenes (m,p)	1.75
Non-Volatile synthetic Organic Chemicals	
Alachlor	0.002
Atrazine	0.003
Bentazon	0.018
Benzo(a)pyrene	0.0002
Carbofuran	0.018
Chloradane	0.0001
2,4-D	0.07
Dalapon	0.2
1,2-Dibromo-3-chloropropane	0.0002

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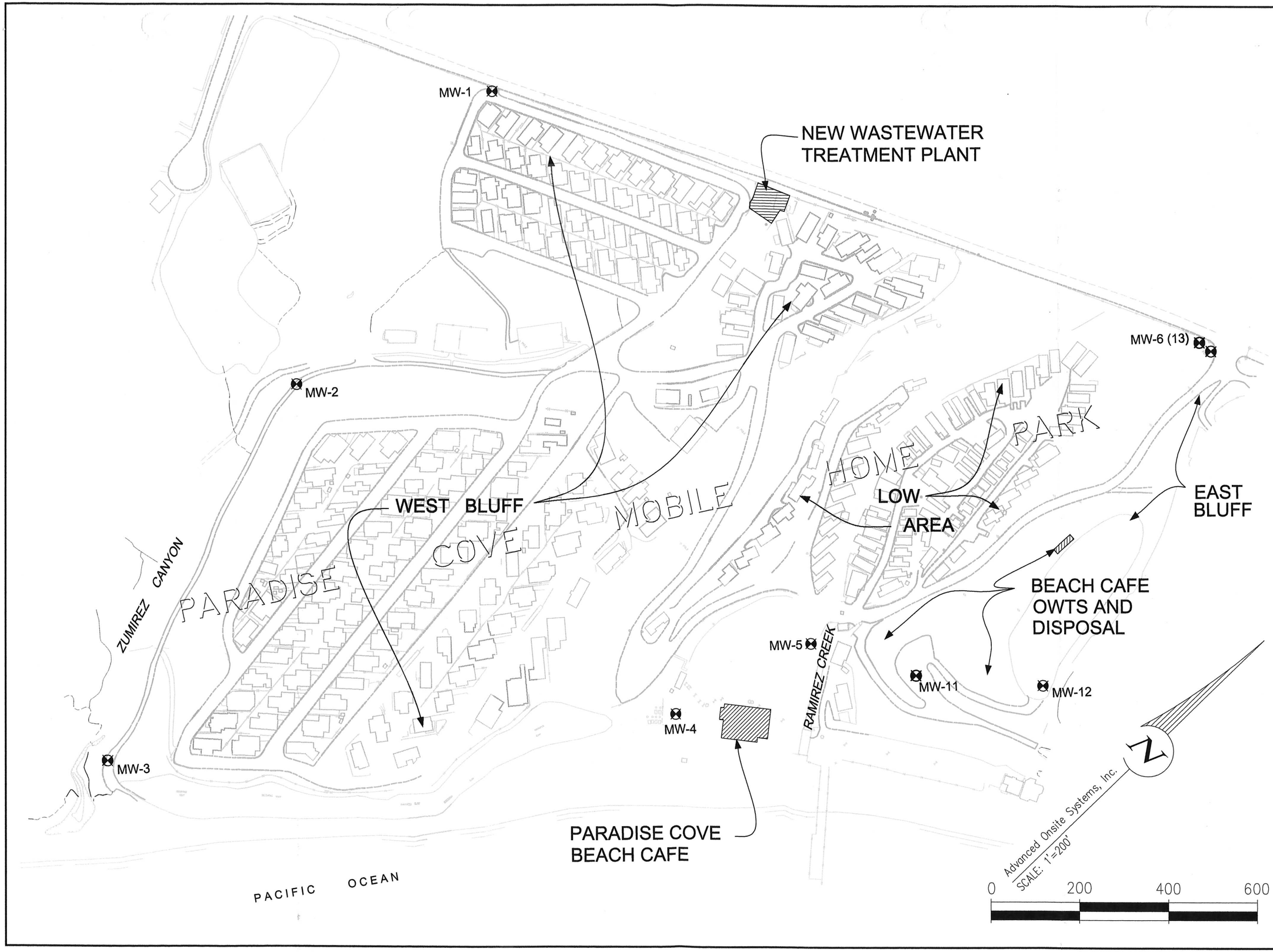
Table 64444-A – Organic/Regulated Chemicals	
Constituent	**Maximum Contamination Levels (mg/L)**
Non-Volatile synthetic Organic Chemicals	
Di(2-ethylhexyl)adipate	0.4
Di(2- ethylhexyl)phthalate	0.004
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylene Dibromide (EDB)	0.00005
Glyphosate	0.7
Heptachlor	0.00001
Heptachlor Epoxie	0.00001
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Molinate	0.02
Oxamyl	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated Biphenyls	0.0005
Simazine	0.004
Thiobencarb	0.07
Toxaphene	0.003
2,3,7,8-TCDD (Dioxin)	3×10^{-8}
2,4,5-TP (Silvex)	0.05

4. CCR Title 22, Section 64444

TENTATIVE



PARADISE COVE
MONITORING WELL
LOCATIONS
FIGURE 1

THE KISSEL COMPANY
28128 W. PACIFIC COAST HWY
MALIBU, CA 92065

Job No.	
Designed By:	B. BRADLEY PE
Drawn By:	BENCHMARK
Checked By:	B. BRADLEY PE
Date:	JANUARY 2007
Scale:	1"=200'

Advanced Onsite Systems, Inc.
1704 Summit Drive
Escondido, CA. 92027-4728
(760) 743-8777
(760) 743-3306 FAX

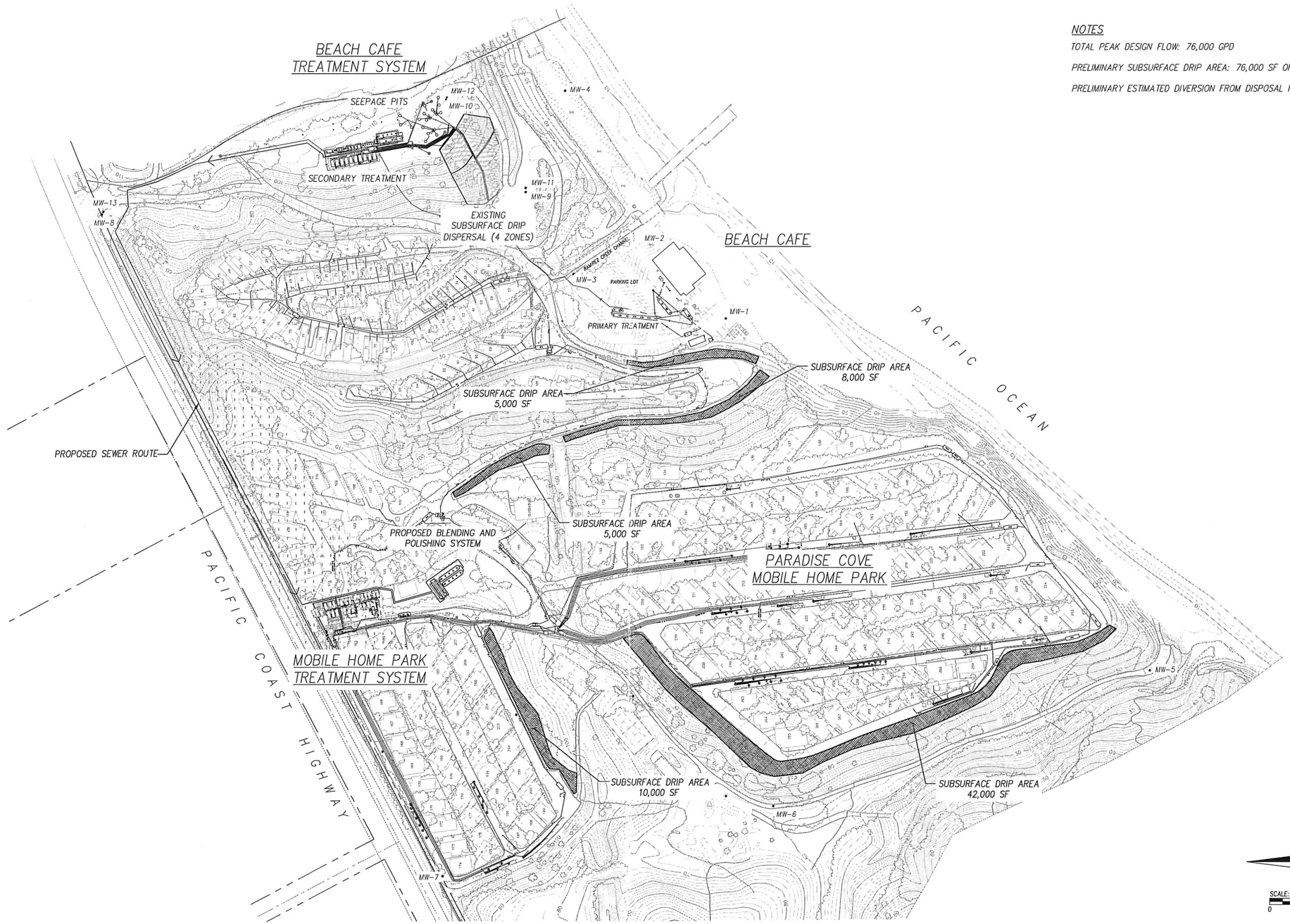
C:\BENCHMARK\CLIENTS\AOS\PARADISE COVE\dwg\PCOV-EXB1.dwg 01/30/2007

NOTES

TOTAL PEAK DESIGN FLOW: 76,000 GPD

PRELIMINARY SUBSURFACE DRIP AREA: 76,000 SF OR 1.4 ACRES

PRELIMINARY ESTIMATED DIVERSION FROM DISPOSAL IN SEEPAGE PITS: 38,000 GPD



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Revisions:

ADVANCED ONSITEWATER
WWW.ADVANCEDONSITEWATER.COM
1704 SUMMIT DRIVE
ESCONDIDO, CA 92027
(760) 743-8777

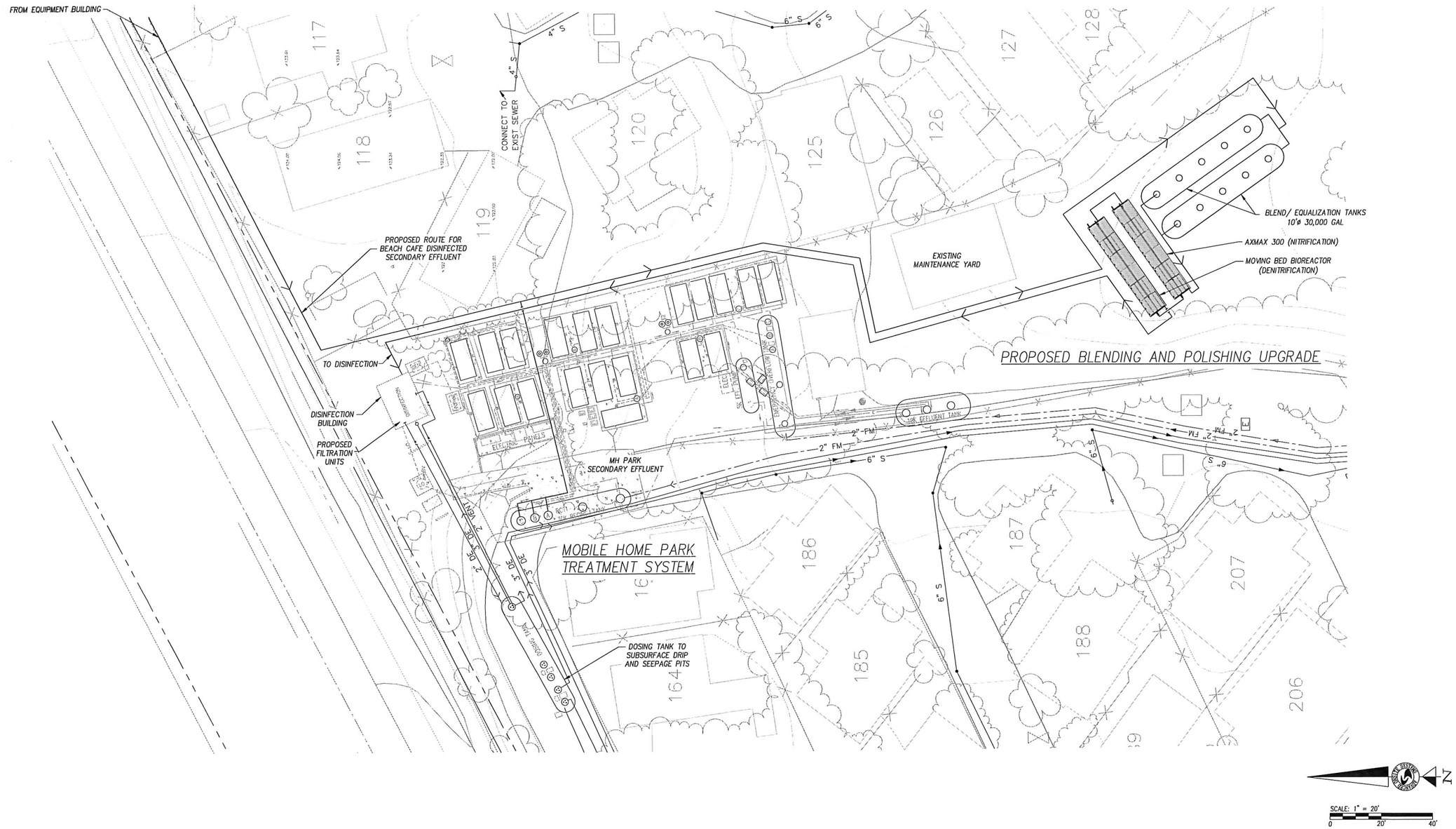
REGISTERED PROFESSIONAL ENGINEER
BARBARA RIGHTER BRADLEY
No. C-53105
Exp.6/30/17
CIVIL
STATE OF CALIFORNIA

Designed By	B. BRADLEY PE
Drawn By	A. HERNANDEZ
Checked By	B. BRADLEY PE
Date	FEBRUARY 2016
Scale	1"=120'

THE KISSEL COMPANY
28128 PACIFIC COAST HWY
MALIBU, CA 90265

PROPOSED ROUTE, TREATMENT AND SUBSURFACE DRIP AREAS COMBINED FLOWS AND SUBSURFACE DRIP CONCEPT PLAN

Figure 2



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Revisions:

ADVANCED ONSITEWATER
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REGISTERED PROFESSIONAL ENGINEER
BARBARA RIGHTER BRADLEY
No. C-53105
Exp.6/30/17
CIVIL
STATE OF CALIFORNIA

Designed By	B. BRADLEY PE
Drawn By	A. HERNANDEZ
Checked By	B. BRADLEY PE
Date	FEBRUARY 2016
Scale	1"=20'

THE KISSEL COMPANY
28128 PACIFIC COAST HWY
MALIBU, CA 90265

CONCEPTUAL FOR BLENDING AND POLISHING TREATMENT EFFLUENT COMBINED FLOWS AND SUBSURFACE DRIP CONCEPT PLAN

Figure 3