



GAVIN NEWSOM
GOVERNOR



JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

March 4, 2019

Mr. Richard W. Parsons
Dredging Program Manager
City of Ventura
501 Poli Street
P.O. Box 99
Ventura, CA 93002-0099

RESPONSE TO COMMENTS/REVISED TENTATIVE CLEAN WATER ACT SECTION 401
WATER QUALITY CERTIFICATION AND RENEWAL OF WASTE DISCHARGE
REQUIREMENTS FOR VENTURA KEYS MAINTENANCE DREDGING (FILE NO. 97-127)

Dear Mr. Parsons,

On January 25, 2019, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) transmitted the tentative Waste Discharge Requirements (WDRs) for Ventura Keys Maintenance Dredging. Regional Board staff considered comments submitted by Heal the Bay and Ventura Coastkeeper on February 25, 2019. Enclosed are the Comment Letter, our Response to Comments and the Revised Tentative Clean Water Act Section 401 Water Quality Certification and WDRs. Changes in the Revised Tentative WDRs appear in the strikeout/underline format.

In accordance with the California Water Code, this Board, at a public meeting to be held on March 14, 2019, at 9:00 a.m., at the Port of Long Beach Board Room, located at 4801 Airport Plaza Dr., Long Beach 90815, California, will consider the enclosed tentative requirements and comments submitted in writing regarding any or all portions thereof. The Board will hear any testimony pertinent to these discharges and the tentative requirements. It is expected that the Board will take action at the hearing; however, as testimony indicates, the Board at its discretion may order further investigation. The agenda for the meeting has been posted on the Los Angeles Regional Water Control Board's website (https://www.waterboards.ca.gov/losangeles/board_info/agenda/index.shtml)

If you have any questions regarding this proposed action, please contact me at (213) 576-6681 or via email at jun.zhu@waterboards.ca.gov

Sincerely,

A handwritten signature in blue ink, appearing to read "Jun J. Zhu".

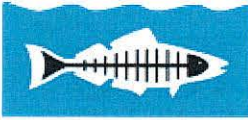
Jun J. Zhu, Ph.D.
Senior Environmental Scientist

IRMA MUÑOZ, CHAIR | DEBORAH SMITH, EXECUTIVE OFFICER

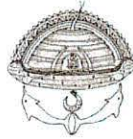
320 West 4th St., Suite 200, Los Angeles, CA 90013 | www.waterboards.ca.gov/losangeles

Enclosures: Comment Letter
Response to Comments
Revised Tentative Clean Water Act Section 401 Water Quality Certification and
Waste Discharge Requirements

cc: Elizabeth Payne, Water Quality Certification Unit, SWRCB
Larry Simon, California Coastal Commission
Szijj, Antal, U.S. Army Corps of Engineers
Jerry Hidalgo, U.S. Army Corps of Engineers
Allan Ota, U.S. Environmental Protection Agency
Melissa Scianni, U.S. Environmental Protection Agency
Carol Roberts, U.S. Fish and Wildlife Service
Bryan Chesney, National Marine Fisheries Service
Loni Adams, California Department of Fish and Wildlife
Annalisa Moe, Heal the Bay
Richard Parsons, City of Ventura



Heal the Bay



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CHUMASH FOUNDATION

February 25, 2019

Ms. Deborah Smith, Executive Officer
Regional Water Quality Control Board
Los Angeles Region
320 W 4th Street, Suite 200
Los Angeles, CA 90013

Sent via email to: losangeles@waterboards.ca.gov

RE: TENTATIVE CLEAN WATER ACT SECTION 401 CERTIFICATION AND RENEWAL OF WASTE DISCHARGE REQUIREMENTS: VENTURA KEYS MAINTENANCE DREDGING (FILE NO. 97-127).

To Ms. Smith:

Heal the Bay is a non-profit environmental organization with over 30 years of experience and 15,000 members dedicated to making the coastal waters and watersheds of Greater Los Angeles safe, healthy and clean. Wishtooyo is a Native-led non-profit whose mission is to protect the culture of Chumash Native Americans and indigenous Peoples, and the environment on which all people depend. On behalf of Heal the Bay and the Wishtooyo Chumash Foundation's Ventura Coastkeeper Program, we respectfully submit the following comments on the Tentative Clean Water Act Section 401 Certification and Renewal of Waste Discharge Requirements: Ventura Keys Maintenance Dredging (Tentative Permit).

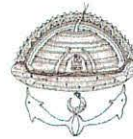
In general, we support the beneficial reuse of dredge material. However, it is necessary that the proper precautions are taken to ensure that the reuse of the dredge material is, in fact, beneficial to the receiving system. In review of the Tentative Permit, we submit the following comments:

- The City of Ventura should reassess beneficial uses of dredge material at the mouth of the Santa Clara River.
- Sediment chemistry results are inadequate to determine potential impacts to receiving ecosystems and their beneficial uses.
- The biological analysis conducted on invertebrate infauna toxicity is insufficient to determine potential impacts to receiving ecosystems and their beneficial uses.
- Receiving water monitoring must be sufficient to ensure compliance with receiving waters limitations.

These comments are discussed in further detail below.



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The City of Ventura should reassess beneficial uses of dredge material at the mouth of the Santa Clara River.

The Tentative Permit will authorize the discharge of fine-grained material near the mouth of the Santa Clara River, provided that the river is flowing at a rate of 100 cubic feet per second (cfs) or greater. We would like to see clarification in the Tentative Permit regarding the location of the flow monitoring point. Flows may be 100 cfs or greater in upriver reaches of the Santa Clara River; however, the flow exiting the Santa Clara River Estuary may be zero cfs due to sand berm accretion. The intermittent nature of the mouth of the Santa Clara River and seasonal variability of its flow raises concerns regarding receiving water beneficial uses when disposal of dredging material is occurring.

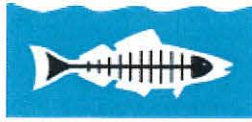
Additionally, the Ventura Wastewater Recycling Facility is currently exploring opportunities to decrease discharge into the Santa Clara River Estuary in order to improve habitat quality in the estuary and return the system to a more natural flow regime by decreasing unseasonal berm breach events. During investigation of hydrologic conditions in the Santa Clara River and the estuary for the purpose of this proposed project, Stillwater Sciences noted the impacts of dredge deposits at the mouth of the Santa Clara River, stating that "... material was placed in this location as part of permitted maintenance dredging activities..." and that "... the deposit may have temporarily increased the length of the seepage pathway through the mouth berm. An increase in the berm width would impede SCRE outflows, decreasing outflow through the berm, and account for the more rapid increase in SCRE volume...¹" Passage opportunity for adult steelhead is assessed in the Stillwater Sciences report based on the frequency of open mouth conditions, which could be effected by short term changes in berm seepage due to dredge deposits.

We request that an analysis be completed to show that this disposal method is consistent with the natural flow regime of the Santa Clara River and that discharge during this flow regime will eliminate any potential impacts to beneficial uses, considering current and likely future conditions in the Santa Clara River and the Santa Clara River Estuary. If it is found that that deposition of dredge material at the mouth of the Santa Clara River leads to unnatural berm accumulation that can make it harder for the estuary to breach during storm events, thereby shortening steelhead migration periods and harming the species, dredge material must no longer be deposited at this location.

Sediment chemistry results are inadequate to determine potential impacts to receiving ecosystems and their beneficial uses.

Sediment chemistry results from October 4, 2018 show that copper and nickel concentrations were measured above the Effects Range-Low (ERL) screening thresholds, which raises concerns regarding

¹ Stillwater Sciences. 2018. *City of Ventura Special Studies – Phase 3: Assessment of the Physical and Biological Conditions of the Santa Clara River Estuary, Ventura County, California.*
[file:///C:/Users/amoe/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/5J87CYWG/Ventura_Final_Phase%20III%20Studies_Report_20180220%20\(1\).pdf](file:///C:/Users/amoe/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/5J87CYWG/Ventura_Final_Phase%20III%20Studies_Report_20180220%20(1).pdf)



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toxicity to both aquatic life and impairment of beneficial uses. The Santa Clara Estuary is an important entryway for endangered Steelhead trout, which are particularly susceptible to adverse effects of copper². This high concentration of copper could impact Southern Steelhead recovery in the watershed, if it is being disposed of in the ocean near the Santa Clara River Estuary.

Heavy metals discharged near the Santa Clara River Estuary are likely to affect California Least Terns, as well. California Least Terns nest on McGrath State Beach from mid-April to late September every year³. Heavy metals and other pollutants can accumulate in the gills of small fish species which are eaten by Least Terns and other sea birds. The Southern California Coastal Water Research Project conducted a study on aquatic toxicants and their presence in seabird eggshells. Heavy metals as well as other toxicants were found in all analyzed California Least Tern eggshell samples. California Least Terns are especially susceptible to the biomagnification of these toxicants due to their foraging habits in near shore and coastal environments⁴. These possible impacts caused by the discharge of material containing high concentrations of copper and nickel can negatively affect the beneficial use of this ecosystem.

We have additional concerns that the analysis completed does not accurately represent constituent concentrations in the sediment. First, there are a very limited number of samples, as four core samples were combined into a single composite sample for the 2018 analysis. Second, the 2018 sampling did not include a multiple lines of evidence (benthic community, chemistry and toxicity) analysis approach to assess sediment quality objectives (SQOs)⁵. Instead of using this preferred approach, the initial 2018 results for copper and nickel were simply compared to initial 2015 results, and the sediment was therefore deemed safe for disposal at the authorized locations. Third, contaminants are more prone to sorb to fine-grained material than coarse-grained material, and are especially likely to be present at higher levels in fine material deposited by stormwater⁶. We request that more core sampling be taken to better represent constituent concentrations in the entire Ventura Keys waterways, that the multiple lines of evidence approach be used to determine SQOs for benthic organisms and to assess potential impact from sediment toxicity, and that consideration be given to sediment size in assessing contaminant concentrations.

² Woody, C.A., and O'Neal, S.L. 2012. *Effects of Copper on Fish and Aquatic Resources*.

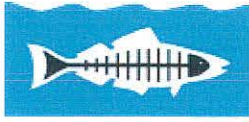
http://www.pebblescience.org/pdfs/2012-December/16%20June%202012_FINAL_%20Effects%20of%20Copper%20on%20Fish.pdf

³ California Department of Fish and Game South Coast Region, California Least Tern Breeding Survey 2009 Season (July, 2010)

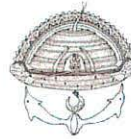
⁴ Southern California Coastal Water Research Project, *Technical Report 944, Contaminant Bioaccumulation in Seabird Eggs of the Southern California Bight* (September, 2016).

⁵ California Regional Water Quality Control Board, Los Angeles Region. 2018. *Reconsideration of Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL: Public Meeting*. https://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/128_New/01RegionalBoardPresentation060818final.pdf

⁶ Uddin, M.K. 2017. *A review on the adsorption of heavy metals by clay minerals, with special focus on the past decade*. *Chemical Engineering Journal*, v. 308, p. 438-462. <https://doi.org/10.1016/j.cej.2016.09.029>



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The biological analysis conducted on invertebrate infauna toxicity is insufficient to determine potential impacts to receiving ecosystems and their beneficial uses.

We are also concerned that the biological analysis conducted on invertebrate infauna toxicity is insufficient. The analysis did not include a single native sandy beach invertebrate infauna species regularly found on Ventura County's Sandy Beaches other than *Macoma nasuta*. The closest related species analyzed was the polychaete worm *Nephtys caecoides* rather than *Nephtys californiensis*. Appropriate analyses would have been conducted on *Emerita analoga*, *Lepidopa Californica*, *Tylos punctatus*, *Euzonus mucronata*, *Nephtys californiensis* and other sandy beach invertebrates found on Ventura Beaches. Western Snowy Plovers, Sanderlings, Willets, Marbled Godwits, Whimbrels and other migratory shorebirds depend on these invertebrate communities for food during migration and breeding seasons. There was also no analysis of increased beach erosion rates, turbidity plumes, invertebrate burrowing rates, the decline in invertebrate community health, or increased predation of invertebrate infauna caused by beach nourishment. These analyses need to be completed to ensure the nourishment material will not negatively affect the habitat beneficial uses of the beach ecosystem.

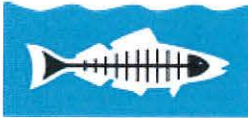
The analysis also included no literature review on ecological impacts of beach nourishment. Beach and coastal habitats are disturbed and degraded by the process of nourishment⁷. A lab controlled toxicity analysis does not provide sufficient information of the impacts on fragile beach ecosystems. Assessment should include the review of ecological studies on beach nourishment impacts on invertebrates, shorebirds, and coastal water quality. Tevin Schmitt, watershed scientist for the Wishtoyo Chumash Foundation, conducted sandy beach ecology studies at CSU Channel Islands. One such study found that the nourishment of Hueneme beach in 2014 caused an immediate decline in invertebrate community heterogeneity and found that it took over a year for invertebrate communities to recover. Continued beach nourishment can have a significant negative impact on beach invertebrate communities⁸. The City must consider the ecological impact on sandy beach invertebrate communities and shore birds in order to truly assess the impact on the beneficial use of the impacted systems.

Receiving water monitoring must be sufficient to ensure compliance with receiving water limitations.

Receiving water monitoring outlined in the Tentative Permit states that water column sampling be conducted once a week during dredging operations. We suggest that water column sampling be conducted twice a week, at a minimum, during dredging operations to reflect the variable nature of coastal systems (i.e. wave, tidal and wind action) and to best avoid conditions impacting aquatic life and beneficial uses. Further, we suggest the Tentative Permit require monitoring for copper and nickel as well as fecal indicator bacteria to ensure compliance with receiving water limitations, thus promoting conditions that support aquatic life, human health and all beneficial uses.

⁷ Peterson, Charles H. and Bishop, Melanie J. 2005. *Assessing the Environmental Impacts of Beach Nourishment*. <https://academic.oup.com/bioscience/article/55/10/887/274435>

⁸ Schmitt, T.J. 2016. *An Ecological Comparison of Southern California Sandy Beach Health*.



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CHUMASH FOUNDATION

Thank you for the opportunity to comment on the Tentative Clean Water Act Section 401 Certification and Renewal of Waste Discharge Requirements: Ventura Keys Maintenance Dredging. If you have any questions concerning these comments, please contact the undersigned staff.

Sincerely,

Annelisa Ehret Moe
Water Quality Scientist
Heal the Bay

Tevin Schmitt
Watershed Scientist
Wishtooyo Chumash Foundation

cc by e-mail: Mr. Jun Zhu, Senior Environmental Scientist, Standards & TMDL – Regional Programs,
Regional Water Quality Control Board, Los Angeles Region.
Jun.Zhu@waterboards.ca.gov

**Response to Waste Discharge Requirements (WDRs) for
Ventura Keys Maintenance Dredging
Comment Deadline: February 25, 2019**

No.	Comments	Response	Action Taken
Heal the Bay and Ventura Coastkeeper, February 25, 2019			
1.1	<p>In general, we support the beneficial reuse of dredge material. However, it is necessary that the proper precautions are taken to ensure that the reuse of the dredge material is, in fact, beneficial to the receiving system. In review of the Tentative Permit, we submit the following comments:</p> <ul style="list-style-type: none"> • The City of Ventura should reassess beneficial uses of dredge material at the mouth of the Santa Clara River. • Sediment chemistry results are inadequate to determine potential impacts to receiving ecosystems and their beneficial uses. • The biological analysis conducted on invertebrate infauna toxicity is insufficient to determine potential impacts to receiving ecosystems and their beneficial uses. • Receiving water monitoring must be sufficient to ensure compliance with receiving waters limitations. <p>These comments are discussed in further detail below.</p>	<p>The Los Angeles Regional Water Quality Control Board (Regional Board) appreciates the comments made by Heal the Bay and the Ventura Coastkeeper regarding the Clean Water Act Section 401 Water Quality Certification (WQC) and Tentative Waste Discharge Requirements (WDRs) for the Ventura Keys Maintenance Dredging. In addition to responses to the detailed comments, which are provided below, the following response provides a context for the Ventura Keys maintenance dredging and describes the approval procedures for each of the maintenance dredging events covered by the WDRs.</p> <p>The Ventura Keys are located on the California coast, approximately 55 miles northwest of Los Angeles, within the City limits of Ventura, Ventura County. The Ventura Keys waterways encompass an area of 32 acres and consist of three channels oriented in a general north-south alignment (Channels 1, 2 and 3) and a larger Connecting Channel to the south that interconnects the other three channels and provides a link to the Ventura Harbor. The 13.5 acres of actual channel area have existing depths between -8 and -16 Mean Lower Low Water (MLLW). Shoaling in the Ventura Keys results from accumulation of sediments transported into the area from the Arundell Barranca, a major storm drain system, and from 26 smaller storm drains. Therefore, dredging is required to maintain channel configurations and to restore and ensure safe navigability within the Ventura Keys waterways on an as-needed basis. The episodic nature of the need to dredge the Ventura Keys waterways is directly related to the occurrence</p>	None Necessary.

No.	Comments	Response	Action Taken
		<p>of major rainfall events within the local watershed. Over the past 5 years during the duration of Order No. R4-2013-0142, only a single, small dredging effort occurred in March 2016 to remove 1427 cubic yards of sediment that had accumulated at the mouth of the Arundell Barranca in the Connecting Channel. Based on the frequency of historical dredging events, it is expected that the Connecting Channel and Channels 1, 2 and 3 will only require maintenance dredging two or three times and once or twice in the next 10 years, respectively.</p> <p>As required by Order No. R4-2013-0142 as well as previous Orders, the City of Ventura must conduct a sediment characterization study in the Connecting Channel once every three years to confirm the quality of dredged material and the suitability of the disposal options. For each sediment characterization study, the City of Ventura must draft a sampling and analysis plan (SAP) following the <i>Dredged Material Management Program guidelines</i> with reference to the <i>USEPA's Sampling and Analysis Plan Guidance and Template, Version 4, General Projects, R9QA/009.1, May, 2014</i>, which must be presented to and discussed at the Southern California Dredged Material Management Team (DMMT) monthly meeting. The following agencies are regular attendees at the monthly SCDMMT meeting: United States Army Corps of Engineers (USACE), USEPA, Regional Water Quality Control Boards (Los Angeles and Santa Ana regions), California Coastal Commission, California Department of Fish and Wildlife, as well as the project agencies and consultants. Upon the approval of the SAP by the DMMT, the sediment characterization study will then be conducted, where sediment samples will be collected and tested based on the SAP approved by the DMMT. Tests typically include grain size analysis, chemical analysis (including sediment chemistry, tissue chemistry and elutriate testing) and biological testing (including solid and suspended particulate phase toxicity testing, and bioaccumulation potential analysis). A subsequent</p>	

No.	Comments	Response	Action Taken
		<p>sampling and analysis report (SAR) summarizing the results and findings of the sediment characterization study must be drafted by the City of Ventura and presented and discussed at the DMMT monthly meeting. Depending on the grain size, chemistry, toxicity and bioaccumulation potential of the sediment samples, the DMMT will determine the quality of the dredged material and make recommendations regarding the disposal options for the dredged material.</p> <p>The most recent sediment characterization study for the Connecting Channel was conducted in October 2018 and the one prior to that was conducted in December 2015. A separate sediment characterization study must be conducted in Channels 1, 2 and 3 prior to any dredging events in these waterways.</p> <p>The City has proposed to retain two disposal locations authorized in Order No. R4-2013-0142, which are dictated by the constraints of the streamflow rate and the grain size of the dredged material:</p> <ol style="list-style-type: none"> 1) The Santa Clara River Mouth Surf Zone, where dredged material from the Ventura Keys may be deposited no closer than 300 ft from the mouth of the Santa Clara River when the river is flowing at 100 cubic feet per second (cfs) or greater in order for the dredged material to be rapidly dispersed by the currents and the river flow discharge. 2) The Pierpont Groin Field Cell 1 Surf Zone, where dredged material from the Ventura Keys, if composed of more than 65% coarse-grained material, may be deposited for beach replenishment purposes. <p>The California Coastal Commission approved a Coastal Development Permit (No.4-18-0390) for the Ventura Keys</p>	

No.	Comments	Response	Action Taken
		<p>Maintenance Dredging on October 10, 2018. The permit is valid for 10 years and expires on October 10, 2028.</p> <p>The USACE also issued a public notice (SPL-2007-872-GLH) to renew the existing permit for Ventura Keys Maintenance Dredging and provided a comment period from October 25, 2018 to November 25, 2018. The permit is expected to be renewed in a timely fashion subsequent to adoption of the WDRs by the Regional Board.</p>	
1.2	<p>The City of Ventura should reassess beneficial uses of dredge material at the mouth of the Santa Clara River.</p> <p>The Tentative Permit will authorize the discharge of fine-grained material near the mouth of the Santa Clara River, provided that the river is flowing at a rate of 100 cubic feet per second (cfs) or greater. We would like to see clarification in the Tentative Permit regarding the location of the flow monitoring point. Flows may be 100 cfs or greater in upriver reaches of the Santa Clara River; however, the flow exiting the Santa Clara River Estuary may be zero cfs due to sand berm accretion. The intermittent nature of the mouth of the Santa Clara River and seasonal variability of its flow raises concerns regarding receiving water beneficial uses when disposal of dredging material is occurring.</p> <p>Additionally, the Ventura Wastewater Recycling Facility is currently exploring opportunities to decrease discharge into the Santa Clara River Estuary in order to improve habitat quality in the estuary and return the system to a more natural flow regime by decreasing unseasonal berm breach events. During investigation of hydrologic conditions in the Santa Clara River and the estuary for the purpose of this proposed project, Stillwater Sciences noted the impacts of dredge deposits at the mouth of the Santa Clara River, stating that "... material was placed in this location as part of permitted maintenance dredging activities..." and that "... the deposit may have temporarily increased the length of the seepage pathway through the mouth berm. An increase in the berm width would</p>	<p>Regarding the location of the flow monitoring point, field measurements are currently taken downstream of the Freeman Diversion to determine whether the flow rate is equal to or greater than 100 cfs for the purpose of evaluating disposal options. As noted by the commenter, per the tentative WQC and WDRs, the City may dispose of the dredged material in the Santa Clara River Surf Zone (>300 ft from the mouth of the Santa Clara River), as one of the two disposal options for the dredged material, only when the river is flowing at 100 cfs or greater. This disposal option was authorized in the existing Order No. R4-2013-0142. According to the lead staff of the project from the City of Ventura, who has over 20 years of experience with maintenance dredging in the Ventura Keys, under these conditions the river mouth would be open, and the sand berm would be breached.</p> <p>The report produced by Stillwater Sciences referenced in the comment letter documented the Santa Clara River mouth breaching and closure characteristics and it was found that the daily mean flow rate at the time of breach could be as low as 13 cfs during a breaching event triggered by rainfall/runoff. In this report, Santa Clara River streamflow for Water Year (WY) 2014-2015 was provided by the Ventura County Watershed Protection District from gaging station #723 at the Victoria Avenue bridge. Streamflow from WY 2016 was provided by</p>	<p>Revisions were made to the Order.</p> <p>(See Revised Tentative WDRs, Page 6).</p>

No.	Comments	Response	Action Taken
	<p>impede SCRE outflows, decreasing outflow through the berm, and account for the more rapid increase in SCRE volume..." Passage opportunity for adult steelhead is assessed in the Stillwater Sciences report based on the frequency of open mouth conditions, which could be effected by short term changes in berm seepage due to dredge deposits.</p> <p>We request that an analysis be completed to show that this disposal method is consistent with the natural flow regime of the Santa Clara River and that discharge during this flow regime will eliminate any potential impacts to beneficial uses, considering current and likely future conditions in the Santa Clara River and the Santa Clara River Estuary. If it is found that that deposition of dredge material at the mouth of the Santa Clara River leads to unnatural berm accumulation that can make it harder for the estuary to breach during storm events, thereby shortening steelhead migration periods and harming the species, dredge material must no longer be deposited at this location.</p>	<p>United Water Conservation District from field measurements taken downstream of the Freeman Diversion.</p> <p>As mentioned in Response to Comment 1.1, maintenance dredging is only needed when shoaling occurs in the Connecting Channel as well as Channels 1, 2 and 3, usually due to wet weather conditions, such as an extreme rain event. Over the last 5 years, only a single, small dredging effort was made to remove 1427 cubic yards of sediment that had accumulated at the mouth of the Arundell Barranca in the Connecting Channel. Approximately 2 million cubic yards of fine-grained material are annually discharged from the Santa Clara River. The volume of the dredged material is minor compared to the sediment load from the Santa Clara River during these conditions such that the dredged material would be rapidly dispersed. As a result, it is not anticipated that the disposal option of discharging the dredged material at least 300 ft away from the mouth of the Santa Clara River when the stream flow rate is at or above 100 cfs would impact the natural flow regime of the Santa Clara River or affect the beneficial uses.</p> <p>Nonetheless, in response to this comment, the provisions in the tentative WDRs have been revised to reflect that dredged material from the Ventura Keys may be deposited in the surf zone no closer than 300 ft. from the mouth of the Santa Clara River only when the river is flowing at 100 cfs or greater and the river mouth is open/the berm is breached.</p>	
1.3	<p>Sediment chemistry results are inadequate to determine potential impacts to receiving ecosystems and their beneficial uses.</p> <p>Sediment chemistry results from October 4, 2018 show that copper and nickel concentrations were measured above the Effects Range-Low (ERL) screening thresholds, which raises concerns regarding toxicity to both aquatic life and impairment of beneficial uses. The Santa Clara Estuary is an important entryway for endangered</p>	<p>As reflected in Response to Comment 1.1, the oversight of the DMMT, consisting of multiple federal and state regulatory agencies, ensures that the determination of the quality of the dredged material and the suitability of the disposal options is appropriate. Prior to each sediment characterization study, the SAP, detailing the sampling collection procedures (including sampling location, sample size and etc.) as well as</p>	None Necessary.

No.	Comments	Response	Action Taken
	<p>Steelhead trout, which are particularly susceptible to adverse effects of copper. This high concentration of copper could impact Southern Steelhead recovery in the watershed, if it is being disposed of in the ocean near the Santa Clara River Estuary.</p> <p>Heavy metals discharged near the Santa Clara River Estuary are likely to affect California Least Terns, as well. California Least Terns nest on McGrath State Beach from mid-April to late September every year. Heavy metals and other pollutants can accumulate in the gills of small fish species which are eaten by Least Terns and other sea birds. The Southern California Coastal Water Research Project conducted a study on aquatic toxicants and their presence in seabird eggshells. Heavy metals as well as other toxicants were found in all analyzed California Least Tern eggshell samples. California Least Terns are especially susceptible to the biomagnification of these toxicants due to their foraging habits in near shore and coastal environments. These possible impacts caused by the discharge of material containing high concentrations of copper and nickel can negatively affect the beneficial use of this ecosystem.</p> <p>We have additional concerns that the analysis completed does not accurately represent constituent concentrations in the sediment. First, there are a very limited number of samples, as four core samples were combined into a single composite sample for the 2018 analysis. Second, the 2018 sampling did not include a multiple lines of evidence (benthic community, chemistry and toxicity) analysis approach to assess sediment quality objectives (SQOs). Instead of using this preferred approach, the initial 2018 results for copper and nickel were simply compared to initial 2015 results, and the sediment was therefore deemed safe for disposal at the authorized locations. Third, contaminants are more prone to sorb to fine-grained material than coarse-grained material, and are especially likely to be present at higher levels in fine material deposited by stormwater. We request that more core sampling be taken to better</p>	<p>the subsequent grain size, chemical analyses and toxicity testing, is in accordance with <i>USEPA's Sampling and Analysis Plan Guidance and Template, Version 4, General Projects, R9QA/009.1, May 2014</i> and must be approved by the DMMT at its monthly meeting.</p> <p>The SAP and SAR of the sediment characterization study conducted in the Connecting Channel in October 2018 and the disposal options for dredged material were reviewed and evaluated by the DMMT in November 2018 at its monthly meeting. As described in the tentative WDRs, none of the contaminant levels exceeded the effects range median (ERM) screening thresholds (at or above which adverse biological effects would frequently occur) in both studies conducted in 2015 and 2018, respectively. The concentrations of certain analytes exceeded the effects range low (ERL) screening thresholds at or above which adverse biological effects could occasionally occur in 2015, which led to a subsequent toxicity screening as an additional line of evidence. However, the results showed that no toxicity was observed in either suspended particulate phase toxicity testing or solid phase toxicity testing. Findings for both bioaccumulation exposure tests and tissue analyses also indicated that there was no apparent difference between those organisms in control conditions versus those in testing sediment conditions. Therefore, it was deemed by the DMMT that the chemical concentrations measured in sediments collected from the Ventura Keys are not likely to cause adverse biological effects. Since the results from the chemical analyses for the sediment characterization study conducted in 2018 were similar to the results from the study conducted in 2015, it was deemed by the DMMT that the toxicity testing was not necessary and that the dredged material was not deemed contaminated and thus the previous disposal options were retained.</p>	

No.	Comments	Response	Action Taken
	<p>represent constituent concentrations in the entire Ventura Keys waterways, that the multiple lines of evidence approach be used to determine SQOs for benthic organisms and to assess potential impact from sediment toxicity, and that consideration be given to sediment size in assessing contaminant concentrations.</p>	<p>Additionally, as mentioned in Response to Comment 1.1, the California Coastal Commission approved a Coastal Development Permit (No.4-18-0390) for the Ventura Keys Maintenance Dredging on October 10, 2018. The permit is valid for 10 years and expires on October 10, 2028. Seventeen special conditions were established in the permit to ensure that feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the project on the environment. These special conditions include (and are not limited to): Dredging and Disposal Operation Plan, Sediment Analysis, Dredge Spoil Compatibility, Shoreline Monitoring Program, Eelgrass Survey, Caulerpa Surveys and Monitoring, Sensitive Species Surveys and Monitoring, Snowy Plover and Least Tern Monitoring and Water Quality Monitoring. Each of the 17 special conditions has specific requirements for the City of Ventura to fulfill before, during and/or after each maintenance dredging event or on a regular basis, e.g. an annual shoreline monitoring program to document shoreline changes in the project vicinity is required for the Shoreline Monitoring Program. As described in the tentative WDRs, the dredging and disposal operations would not commence until after Labor Day in September of a given year and would cease on or before March 15th of the following year in order to avoid impacts on grunion spawning, California least tern and Western snowy plover nesting, and recreational use of the beach.</p>	
1.4	<p>The biological analysis conducted on invertebrate infauna toxicity is insufficient to determine potential impacts to receiving ecosystems and their beneficial uses. We are also concerned that the biological analysis conducted on invertebrate infauna toxicity is insufficient. The analysis did not include a single native sandy beach invertebrate infauna species regularly found on Ventura County's Sandy Beaches other than</p>	<p>The sediment samples collected in the Connecting Channel for sediment characterization studies in the past were typically found to be fine-grained material, which was used for chemical analyses and toxicity testing. The toxicity testing in the 2015 sediment characterization study was conducted by Applied Environmental Technologies Inc under the guidelines prescribed in the <i>American Society for Testing and Materials</i></p>	<p>Revisions were made to the Order. (See Revised Tentative</p>

No.	Comments	Response	Action Taken
	<p><i>Macoma nasuta</i>. The closest related species analyzed was the polychaete worm <i>Nephtys caecoides</i> rather than <i>Nephtys californiensis</i>. Appropriate analyses would have been conducted on <i>Emerita analoga</i>, <i>Lepidopa Californica</i>, <i>Tylos punctatus</i>, <i>Euzonus mucronata</i>, <i>Nephtys californiensis</i> and other sandy beach invertebrates found on Ventura Beaches. Western Snowy Plovers, Sanderlings, Willets, Marbled Godwits, Whimbrels and other migratory shorebirds depend on these invertebrate communities for food during migration and breeding seasons. There was also no analysis of increased beach erosion rates, turbidity plumes, invertebrate burrowing rates, the decline in invertebrate community health, or increased predation of invertebrate infauna caused by beach nourishment. These analyses need to be completed to ensure the nourishment material will not negatively affect the habitat beneficial uses of the beach ecosystem.</p> <p>The analysis also included no literature review on ecological impacts of beach nourishment. Beach and coastal habitats are disturbed and degraded by the process of nourishment. A lab controlled toxicity analysis does not provide sufficient information of the impacts on fragile beach ecosystems. Assessment should include the review of ecological studies on beach nourishment impacts on invertebrates, shorebirds, and coastal water quality. Tevin Schmitt, watershed scientist for the Wishtoyo Chumash Foundation, conducted sandy beach ecology studies at CSU Channel Islands. One such study found that the nourishment of Hueneme beach in 2014 caused an immediate decline in invertebrate community heterogeneity and found that it took over a year for invertebrate communities to recover. Continued beach nourishment can have a significant negative impact on beach invertebrate communities. The City must consider the ecological impact on sandy beach invertebrate communities and shore birds in order to truly assess the impact on the beneficial use of the impacted systems.</p>	<p>(ASTM E724-98) <i>Standard Guide for Conducting Static Acute Toxicity Tests Starting with Embryos of Four Species of Saltwater Bivalve Mollusks</i> (2012) and <i>USACE/USEPA Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.</i> (1998).</p> <p>Additionally, beach nourishment for Pierpont Groin Field Cell 1 is one of the two disposal options for the clean dredged material, which can occur only when the dredged material contains 65% or more coarse-grained material (retained on a Standard US Sieve Size No. 200). In the past 20 years, only 3 maintenance dredging events occurred; no dredged material from these three dredging events was deemed suitable for beach nourishment due to the grain size constraints.</p> <p>See also Response to Comment 1.3 regarding the special conditions included in the Coastal Development Permit for the maintenance dredging; these special conditions in conjunction with the review and approval process set forth in the tentative WDRs address the commenters' concerns about potential impacts of beach nourishment.</p> <p>Finally, prior to the next sediment characterization study for the Connecting Channel occurring in 2021 and other sediment characterization studies for Channels 1, 2 and 3 needed prior to maintenance dredging, Regional Board staff will discuss with the DMMT whether, in consideration of relevant data and information, the City of Ventura should conduct toxicity testing in addition to the grain size analysis and the chemical analyses to confirm the quality the dredged material and the suitability of disposal options. Staff from Heal the Bay and the Ventura Coastkeeper are welcome to participate in the DMMT monthly meetings and engage in the discussion at those times.</p>	<p>WDRs, Page 7).</p>

No.	Comments	Response	Action Taken
1.5	<p>Receiving water monitoring must be sufficient to ensure compliance with receiving water limitations.</p> <p>Receiving water monitoring outlined in the Tentative Permit states that water column sampling be conducted once a week during dredging operations. We suggest that water column sampling be conducted twice a week, at a minimum, during dredging operations to reflect the variable nature of coastal systems (i.e. wave, tidal and wind action) and to best avoid conditions impacting aquatic life and beneficial uses. Further, we suggest the Tentative Permit require monitoring for copper and nickel as well as fecal indicator bacteria to ensure compliance with receiving water limitations, thus promoting conditions that support aquatic life, human health and all beneficial uses.</p>	<p>In accordance with the <i>USACE/USEPA Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.</i> (1998), a tiered approach to testing is typically applied to a sediment characterization study: in Tier I readily available, existing information including all previous testing is used. For certain dredged material with readily apparent potential for environmental impact (or lack thereof), information collected in Tier I may be sufficient for making a factual determination. Tier II is concerned solely with sediment and water chemistry. Tier III is concerned with well-defined, nationally accepted toxicity and bioaccumulation testing procedures. Tier IV allows for case-specific laboratory and field testing, and is intended for use in unusual circumstances. This tiered approach is designed to aid in generating physical, chemical, toxicity and bioaccumulation information, but not more information than is necessary to make the necessary factual determinations. This allows optimal use of resources by focusing the least effort on disposal operations where the potential (or lack thereof) for unacceptable adverse impact is clear, and expending the most effort on operations requiring more extensive investigation to determine the potential (or lack thereof) for impact. Identification of contaminants of concern is typically done in Tier I. Microbial analyses may be required if sediments are suspected to have high levels of microbial contamination and dredging or disposal sites are close to shellfish beds, swimming beaches or drinking water intakes.</p> <p>Since beach nourishment is one of the two proposed disposal options for dredged material, Regional Board staff will discuss with the DMMT whether, in consideration of relevant data and information, the City of Ventura should conduct microbial testing for fecal indicator bacteria in addition to the grain size analysis and the chemical analyses to confirm the quality the dredged material and its suitability for beach nourishment. Staff from Heal the Bay and the Ventura Coastkeeper are welcome to participate in the DMMT</p>	<p>Revisions were made to the Order.</p> <p>(See Revised Tentative WDRs, Page 6).</p>

No.	Comments	Response	Action Taken
		<p>monthly meetings and engage in the discussion at those times.</p> <p>In the tentative MRP, water column sampling is required twice a week during the first two weeks of the dredging operation. During each maintenance dredging event, receiving water monitoring shall be conducted in accordance with the MRP associated with the WDRs. At a minimum, one set of water samples shall be collected and analyzed for trace metals, including copper and nickel, and DDTs, PCBs and PAHs during the maintenance dredging operation. The receiving water sample locations (Stations A through C and the control site, Station D), the sampling frequency (twice per week during the first weeks of dredging and weekly thereafter) and the minimum requirements for sampling and analysis are in accordance with the <i>Los Angeles Regional Contaminated Sediments Task Force: Long-term Management Strategy</i> (2005).</p> <p>The City of Ventura has a long record of maintenance dredging in the Ventura Keys and a history of compliance with the provisions set in the WDRs and MRP. The WDRs, the MRP and the Standard Provisions contain appropriate and adequate requirements to ensure accountability by the City of Ventura when conducting maintenance dredging. The MRP also requires additional monitoring whenever the baseline monitoring results exceed action triggers (e.g., when excessive turbidity is measured near the dredging operation). Regional Board staff from the Watershed Regulatory Section will continue to work with the Regional Board staff from the Compliance & Enforcement Section to make sure that the City of Ventura is in compliance with the provisions and requirements set by the Order.</p>	

No.	Comments	Response	Action Taken
		The provisions of the WDRs are enforceable pursuant to applicable law, including but not limited to Water Code sections 13267, 13268, 13300, 13301, 13304, and 13350.	

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. R4-2019-xxxx

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND RENEWAL OF
WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF SAN BUENAVENTURA
(VENTURA KEYS MAINTENANCE DREDGING)
(FILE NO. 97-127)

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

1. On April 25, 2018, the City of San Buenaventura (the City) filed an application on April 25, 2018 for renewal of the waste discharge requirements (WDRs) contained in Regional Board Order No. R4-2013-0142, adopted on September 12, 2013, for routine maintenance dredging operations within the Ventura Keys, a waterfront residential community adjacent to the Ventura Harbor in the City and County of Ventura (Figure 1). On July 12, 2018, Order No. 2013-0142-A01 was adopted by the Board extending the expiration date of Order No. 2013-0142 from June 30, 2018 to December 31, 2018. This Order renews the WDRs and provides water quality certification pursuant to Clean Water Act (CWA) section 401.

The Ventura Keys are located on the California coast, approximately 55 miles northwest of Los Angeles, within the City limits of Ventura, Ventura County. The Ventura Keys waterways encompass an area of 32 acres and consist of three channels oriented in a general north-south alignment (Channels 1, 2 and 3) and a larger Connecting Channel to the south that interconnects the other three channels and provides a link to the Ventura Harbor (Figure 2). The 13.5 acres of actual channel area have existing depths between -8 and -16 Mean Lower Low Water (MLLW). Shoaling in the Ventura Keys results from accumulation of sediments transported into the area from the Arundell Barranca, a major storm drain system, and from 26 smaller storm drains. Dredging is required to maintain channel configurations and to restore and ensure safe navigability within the Ventura Keys waterways.

Order No. R4-2013-0142 authorized the City to dredge up to 200,000 cubic yards of sediment over a five-year period and limited the average annual dredged volume to less than or equal to 100,000 cubic yards. Over the past 25 years, the Ventura Keys waterways have been dredged six times, removing 269,179 cubic yards of sediment. The episodic nature of the need to dredge the Ventura Keys waterways is directly related to the occurrence of major rainfall events within the local watershed. The most recent dredging operation was completed in 2016. Due to the relatively dry conditions that have persisted over the past five years, only a small dredging effort was made to remove 1427 cubic yards of sediment that had accumulated at the mouth of the Arundell Barranca in the Connecting Channel on March 9, 2016.

Order No. R4-2013-0142 also authorized use of three alternatives for disposal of the dredged material: 1) into nearshore waters near the mouth of the Santa Clara River; 2) within the surf

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~~January 25, 2019~~ March 1, 2019

zone at the mouth of the Santa Clara River; or 3) in the surf zone at Cell 1 of the Pierpont Bay Groin Field (the first cell north of Marina Park).

Disposal options 1 and 2 (into nearshore waters near the mouth of the Santa Clara River or into the surf zone at the mouth of the Santa Clara River) would only occur when the Santa Clara River is flowing at a rate of 100 cubic feet per second or greater, in which case the dredged material would be rapidly dispersed by the currents and the river discharge flow, and some fraction of the coarse-grained material could contribute to beach replenishment at a nearby sand-depleted beach. Disposal option 3 (into Cell 1 of the Pierpont Bay Groin Field) would occur when the dredged material contains 65% or more coarse-grained material (i.e., retained on a number 200 sieve), in which case this coarse material would contribute to beach replenishment at a nearby sand-depleted beach. If disposal option 1 is employed, the dredged material would be barged to the area just south of the mouth of the Santa Clara River and deposited in waters no deeper than -30 feet MLLW. If disposal option 2 or 3 is employed, a discharge pipe would extend from the dredge site, through the harbor waters with a combination of floating and submerged pipe, and along the beach seaward of the existing sand dunes, to either the mouth of the Santa Clara River or Cell 1 of the Pierpont Groin Field. The dredging and disposal operations would not commence until after Labor Day in September of a given year and would cease on or before March 15th of the following year in order to avoid impacts on grunion spawning, least tern and snowy plover nesting, and recreational use of the beach.

2. Pursuant to Order No. R4-2013-0142, the City and its consulting firm, Applied Environmental Technologies Inc. conducted sediment sampling at four locations within the Ventura Keys on December 15, 2015 to assess trace metal and trace organic concentrations, including analysis of sediment toxicity, to verify the suitability of sediments for disposal as proposed (Figure 3). The sampling locations were spaced throughout the Connecting Channel where shoaling was most prominent with the Ventura Keys. One sediment core was collected at each of the four sampling locations and the sediment samples were then combined into a single composite sample for subsequent chemical analyses. As shown in Table 1, none of the contaminant levels exceeded the effects range median (ERM) screening thresholds at or above which adverse biological effects would frequently occur. However, the concentrations of certain analytes, such as copper and nickel, exceeded the effects range low (ERL) screening thresholds at or above which adverse biological effects could occasionally occur. As a result, biological analyses were conducted, including suspended-particulate phase toxicity testing, solid phase toxicity testing and bioaccumulation potential testing. The suspended particulate phase testing was conducted using bivalve larvae, *Mytilus Galloprovincialis*, fish larvae, *Menidia beryllina*, and mysid shrimp, *Mysidopsis bahia*. The solid phase toxicity testing was conducted using amphipod, *Ampelisca abdita*, and polychaeta worm, *Nephtys caecoides*. Bioaccumulation potential testing included two exposure tests and follow-up tissue analyses using polychaeta, *Nephtys caecoides*, and clam, *Macoma nasusta*. No toxicity was observed in either suspended particulate phase toxicity testing or solid phase toxicity testing. Bioaccumulation testing also showed 100% survival in both tests. Findings for both bioaccumulation exposure tests and tissue analyses indicate that there was no apparent difference between those organisms in control conditions versus those in testing sediment conditions. Therefore, the chemical concentrations measured in sediments collected from the Ventura Keys are not likely to cause adverse biological effects. The findings from this sediment characterization study indicated that no adverse biological effects were

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expected to occur from the dredged material from the Ventura Keys disposed of in the three disposal locations authorized in Order No. R4-2013-0142.

A more recent sediment characterization study was conducted by the City and its consulting firm, Rincon Consultants Inc. on October 4, 2018. The sampling locations were once again spaced throughout the Connecting Channel where shoaling was most prominent with the Ventura Keys (Figure 4). One sediment core was collected at each of the four sampling locations and sediment samples were then combined into a single composite for subsequent chemical analyses. As shown in Table 1, similar to the findings from the 2015 sediment characterization study, none of the contaminant levels exceeded the ERM screening thresholds although the concentrations of certain analytes, such as copper and nickel, did exceed the ERL screening thresholds, consistent with the levels reported in 2015. The pesticide DDT and its derivatives DDD and DDE were detected well below the ERM screening thresholds and were consistent with the concentrations reported in the 2015 sediment characterization study as well as in previous studies in 2009 and 2012. As a result, it was concluded that the chemical concentrations measured in the sediments collected from the Ventura Keys Connecting Channels area are not considered significant and no adverse biological effects were expected to occur from the dredged material from the Ventura Keys disposed of in the three disposal locations authorized in Order No. R4-2013-0142.

Grain size analysis for both studies showed that sediments collected from the Ventura Keys were predominantly silt and clay, which is consistent with those discharged by the Santa Clara River. It was concluded that sediments dredged from the Ventura Keys Connecting Channel area could be placed near the river mouth without causing a long-term alteration of the grain size distributions in the area of the river mouth or affect biological assemblages.

3. The City estimates that approximately 250,000 cubic yards of material could accumulate in the Ventura Keys waterways over the next five years and may require removal via maintenance dredging. Consequently, the City proposes to dredge and dispose of an average of 50,000 cubic yards of sediment per year over the next five years. However, to provide operational flexibility, the City proposes to dredge up to a maximum volume of 100,000 cubic yards in any one calendar year, but not to exceed 250,000 cubic yards over five years. In the past, the maximum volume dredged over a five-year period has been approximately 200,000 cubic yards; therefore, this Order limits the cumulative five-year total to 200,000 cubic yards.

The Connecting Channel (Figure 5) would be dredged as needed to restore water depths to -15 ± 2 feet MLLW. The Connecting Channel currently contains approximately 14,000 cubic yards of shoaled sediments and is expected to require dredging twice or three times over the next ten-year period. Dredging is usually accomplished with a cutterhead hydraulic pipeline dredge and generally requires 10 to 30 days for completion per dredging episode. The portion of the Connecting Channel in the vicinity of the mouth of the Arundell Barranca may require more frequent dredging, which could be accomplished with a mechanical clamshell (either floating or shore-based).

Channels 1, 2 and 3 (Figure 5) would be dredged as needed to restore water depths to -12 ± 2 feet MLLW. These channels currently contain approximately 45,000 of shoaled sediments and

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are expected to require dredging once or twice over the next ten-year period. Dredging is usually accomplished with a cutterhead hydraulic pipeline dredge and generally requires 30 to 60 days for completion per dredging episode.

4. The City has proposed to retain two disposal locations authorized in the existing Order:
 - 1) San Clara River Mouth Surf Zone (Figure 6) – Dredged material from the Ventura Keys may be deposited in the surf zone no closer than 300 ft. from the mouth of the Santa Clara River when the river is flowing at 100 cubic feet per second (cfs) or greater in order for the dredged material to be rapidly dispersed by the currents and the river flow discharge.
 - 2) Pierpont Groin Field Cell 1 Surf Zone (Figure 7) – In order to provide replenishment material for the Cell 1 of the Pierpont Groin Field, dredged material from the Ventura Keys, if composed of more than 65% coarse-grained material, may be deposited in the surf zone for beach replenishment purposes.
5. The United States Army Corps of Engineers has issued a public notice (SPL-2007-872-GLH) to renew the existing permit for Ventura Keys Maintenance Dredging and provided a comment period from October 25, 2018 to November 25, 2018. The permit is expected to be renewed in a timely fashion subsequent to adoption of these WDRs/water quality certification by the Regional Board.
6. The California Coastal Commission approved a Coastal Development Permit (No. 4-18-0390) to cover maintenance dredging of the Ventura Keys on October 10, 2018. The permit expires on October 10, 2028.
7. The City of Ventura, as the lead agency carrying out the project, will be responsible for environmental review under, and documentation of its compliance with, the California Environmental Quality Act (CEQA), including notification to responsible agencies. The Regional Board is a responsible agency under CEQA and will participate in the environmental evaluation of each proposed maintenance project. Impacts on water quality will be evaluated during the required pre-dredge sediment and elutriate testing. Furthermore, compliance with the Monitoring and Reporting Program contained within this Order will ensure that no significant water quality impacts occur during dredging operations.
8. The Water Quality Control Plan for the Los Angeles Region (Basin Plan) designates the beneficial uses of the Ventura Keys and the Ventura County coastal nearshore and offshore waters and establishes water quality objectives for the protection of those uses. The requirements contained in this Order implement the Basin Plan.

The beneficial uses of the Ventura Keys waters are: navigation, water contact recreation, non-contact water recreation, commercial and sport fishing, marine habitat, and wildlife habitat. The beneficial uses of the Ventura County coastal nearshore and offshore waters are: industrial service supply, navigation, water contact recreation, non-contact water recreation, commercial and sport fishing, marine habitat, wildlife habitat, preservation of rare and endangered species, migration of aquatic organisms, spawning, reproduction and/or early development of aquatic

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organisms, and shellfish harvesting.

9. With proper management of the dredging and disposal operations, as proposed by the City and as conditioned in this Order, the project is not expected to release significant levels of contaminants to the waters within the Ventura Keys or other State waters nor adversely impact beneficial uses.
10. The Regional Board has notified the City and interested agencies and persons of its intent to prescribe Waste Discharge Requirements and provide water quality certification for this discharge and has provided them with an opportunity to submit their written comments.
11. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.
12. Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see:

<http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml>

IT IS HEREBY ORDERED that the City of San Buenaventura, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended, and regulations and guidelines adopted thereunder, shall comply with the following conditions and requirements:

A. Discharge Requirements

1. The removal and placement of dredged/excavated material shall be managed such that the concentrations of toxic pollutants in the water column, sediments or biota shall not adversely affect existing and designated beneficial uses, including those identified in Finding number 9 above.
2. Marine and enclosed bay and estuarine communities and populations, including vertebrate, invertebrate and plant species, shall not be degraded as a result of the discharge of waste.
3. The natural taste and odor of fish, shellfish or other marine and enclosed bay and estuarine resources used for human consumption shall not be impaired as a result of the discharge of waste.

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4. Toxic pollutants shall not be discharged at levels that will bioaccumulate in aquatic resources to levels which are harmful to human health.
5. There shall be no acute toxicity or chronic toxicity in ambient waters as a result of the discharge of waste.
6. Dredging, excavation or disposal of dredge spoils shall not cause any of the following conditions in the receiving waters:
 - a. The formation of sludge banks or deposits of waste origin that would adversely affect the composition of the bottom fauna and flora, interfere with the fish propagation or deleteriously affect their habitat, or adversely change the physical or chemical nature of the bottom.
 - b. Turbidity that would cause substantial visible contrast with the natural appearance of the water outside the immediate area of operation.
 - c. Discoloration outside the immediate area of operation.
 - d. Visible material, including oil and grease, either floating on or suspended in the water or deposited on beaches, shores, or channel structures outside the immediate area of operation.
 - e. Objectionable odors emanating from the water surface.
 - f. Depression of dissolved oxygen concentrations below 5.0 milligrams per liter at any time outside the immediate area of operation.
 - g. Any condition of pollution or nuisance.

B. Provisions

1. Dredging and disposal shall be limited to a maximum volume of 200,000 cubic yards of sediment over a five-year period. The average annual volume shall not exceed 100,000 cubic yards of sediment. Dredging and disposal operations shall not commence until after Labor Day in September of a given year and shall cease on or before March 15th of the following year.
2. The City shall dispose of dredged material at one of the following authorized disposal locations.
 - a. The City may dispose of dredged material for beach replenishment purposes into Cell 1 of the Pierpont Bay Groin Field provided that the material is composed of sediment that contains 65% or more coarse-grained material (i.e., retained on a number 200 sieve) and the dredged material does not contain elevated concentrations of trace metals or trace organics.
 - b. The City may dispose of dredged material in the surf zone or nearshore waters no closer than 300 feet from the mouth of the Santa Clara River provided that the river is flowing at a rate of 100 cubic feet per second or greater, the river mouth is open/the berm is breached, and the dredged material does not contain elevated concentrations of trace metals or trace organics.

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3. The City shall conduct a sediment characterization study within the Ventura Keys Connection Channel at a minimum of once every three years to verify the suitability of sediments for disposal as proposed. The next sediment characterization study shall occur no later than the end of 2021. A sediment characterization study shall also be completed prior to any dredging in Channels 1, 2 or 3. The sampling and analysis plan and report for each of the sediment characterization studies shall be submitted to the Southern California Dredged Material Management Team (DMMT) and Regional Board staff for review. The City shall solicit and follow the recommendation of the DMMT regarding the need to include toxicity testing and microbial testing (for fecal indicator bacteria) in the sediment characterization study in order to confirm the quality of the dredged material and the suitability of the disposal options. No dredging or disposal operations may occur without written approval from the Executive Officer.
4. The City shall conduct the monitoring required and comply with the reporting requirements outlined in the attached Monitoring and Reporting Program, which is part of these Waste Discharge Requirements and a condition of water quality certification.
5. The City shall notify this Regional Board immediately by telephone of any adverse conditions in receiving waters or adjacent areas resulting from the removal of dredge materials; written confirmation by the City to the Regional Board shall follow within one week.
6. This Order does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, §§ 2050-2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531-1544). If a "take" will result from any act authorized under this Order, the City must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The City is responsible for meeting all requirements of the applicable endangered species act for the Project authorized under this Order.
7. A copy of this Order shall be made available at all times to project construction personnel.
8. The City shall provide the following information to the Regional Board:
 - a. The scheduled date of commencement of each dredging operation and an engineering plan and profile of the excavation and the disposal site at least two weeks prior to commencement.
 - b. Notice of termination of the operation, within one week following the termination date.
9. The City shall submit, under penalty of perjury, technical reports to the Regional Board in accordance with any specifications directed by the Executive Officer.
10. In accordance with section 13260(c) of the Water Code, the City shall file a report of any material change or proposed change in the character, location, or volume of the

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waste.

11. These requirements do not exempt the City from compliance with any other laws, regulations, or ordinances which may be applicable, and they leave unaffected any further restraint on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
12. In accordance with Water Code section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into waters of the State are privileges, not rights.
13. This Order includes Attachment A: "Standard Provisions, General Monitoring and Reporting Requirements" ("Standard Provisions") and the attached Monitoring and Reporting Requirements, both of which are incorporated herein by reference. If there is any conflict between provisions stated hereinbefore and said "Standard Provisions", those provisions stated hereinbefore prevail. If there is any conflict between requirements stated in the attached Monitoring and Reporting Program and said "Standard Provisions", the former shall prevail.
14. This Order certifies, pursuant to Clean Water Act Section 401 Water Quality Certification, that the proposed project, as conditioned by this Order complies with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards). Pursuant to section 3860 of title 23 of the California Code of Regulations (23 CCR), the following three standard conditions shall apply to this project:
 - a. this certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and Article 6 (commencing with 23 CCR section 3867);
 - b. this certification action is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought;
 - c. this certification is conditioned upon total payment of any fee required pursuant to 23 CCR division 3, chapter 28, and owed by the applicant.
15. This Order shall expire on March 31, 2024.
16. This Order terminates Regional Board Order No. R4-2013-0142, except for enforcement purposes.

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City of San Buenaventura
Ventura Keys Maintenance Dredging

Order No. R4-2019-xxxx

I, Deborah J. Smith, 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 March 14, 2019.

DEBORAH J. SMITH
Executive Officer

vjjz

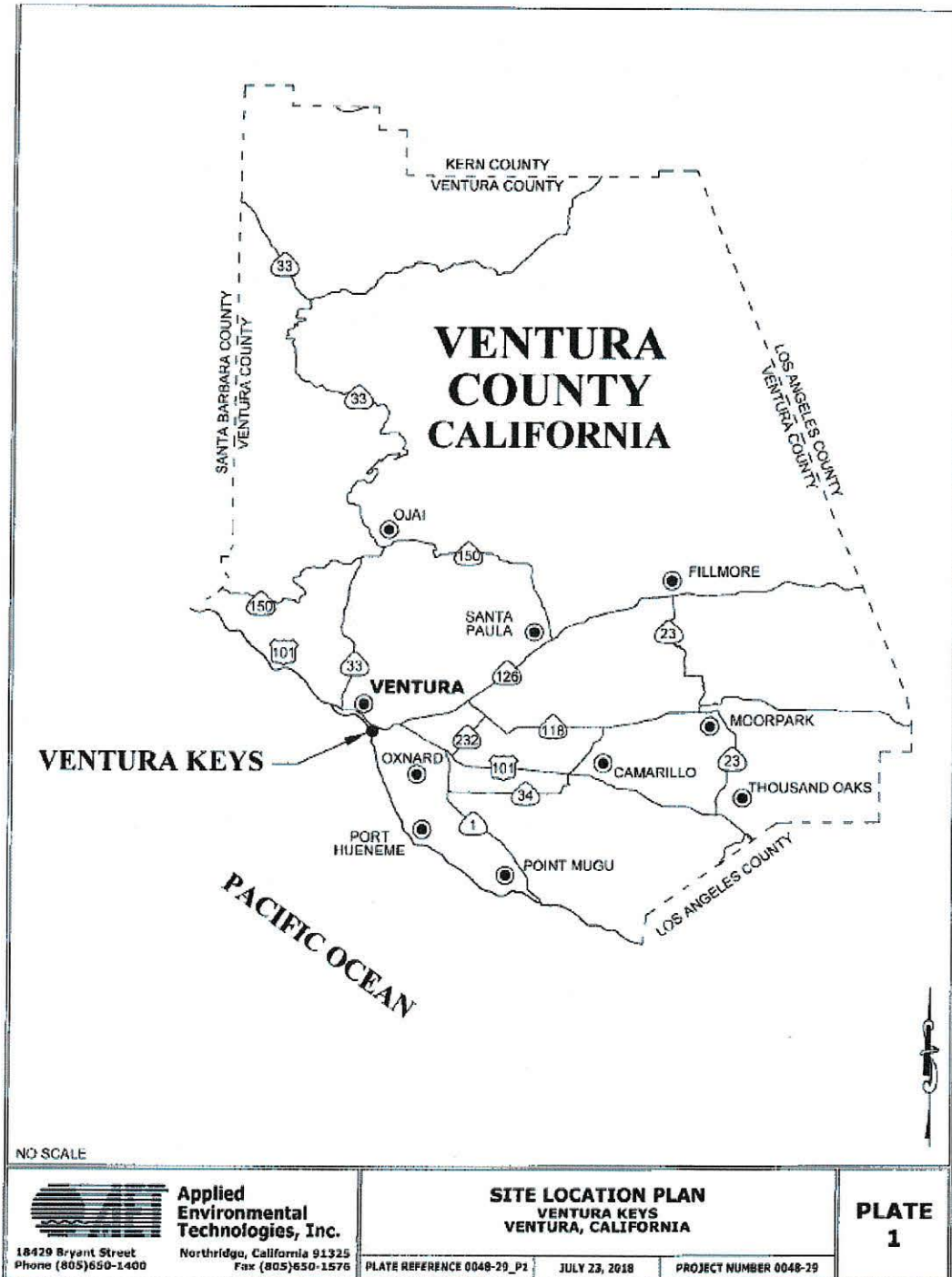
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Table 1. Results from Sediment Chemical Analysis.

Analyte	2018 Composite Sample	2015 Composite Sample	Screening Threshold 1 (ERL)	Screening Threshold 2 (ERM)
Metals (mg/kg)				
Arsenic	7.01	6.32	8.2	70
Cadmium	0.59	0.66	1.2	9.6
Chromium	26.4	27.5	81	370
Copper	41.4	52.7	34	270
Lead	13.5	15.6	46.7	218
Nickel	34.5	31.5	20.9	51.6
Selenium	ND	0.52	NA	NA
Silver	0.67	ND	1.0	3.7
Zinc	109	134	150	410
Mercury	ND	ND	0.15	0.71
Chlorinated Pesticides (µg/kg)				
Total DDTs	ND	18.3	1.58	46.1
Semi-Volatile Organics (µg/kg)				
2-Methylnaphthalene	ND	ND	70	670
Acenaphthene	ND	ND	16	500
Acenaphthylene	ND	ND	44	640
Anthracene	ND	53	85.3	1100
Benzo (a) Anthracene	18	180	261	1600
Benzo (a) Pyrene	21	140	430	1600
Chrysene	30	250	384	2800
Dibenz (a,h) Anthracene	ND	24	63.4	260
Fluoranthene	49	500	600	5100
Fluorene	ND	ND	19	540
Naphthalene	ND	ND	160	2100
Phenanthrene	21	350	240	1500
Pyrene	44	430	665	2600
Total PAHs	346	3100	4022	44792
PCBs (µg/kg)				
Total PCBs	ND	ND	22.7	180

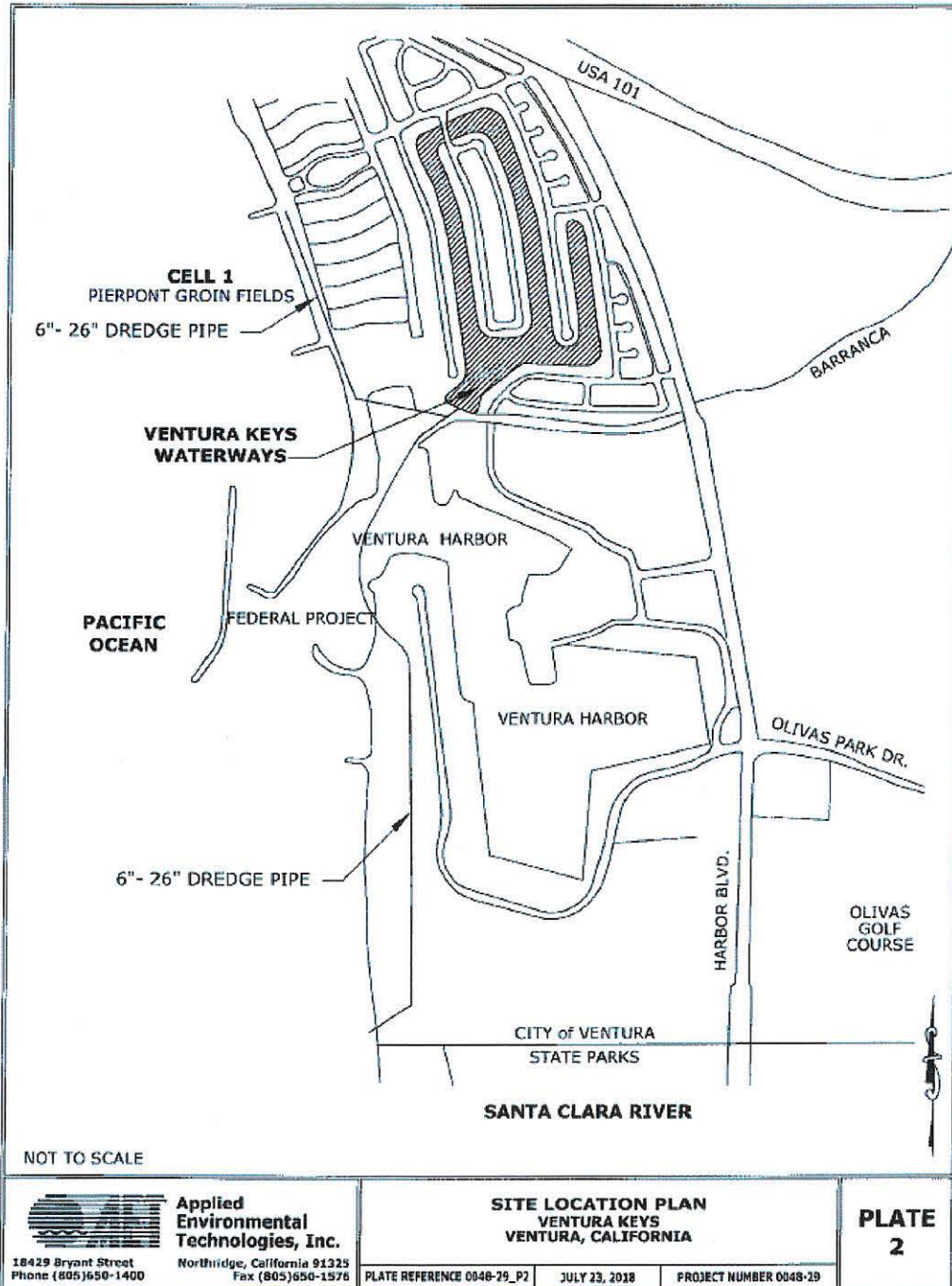
NA = no data available;
 ND = non-detect;
 DDE = dichloro-diphenyl-dichloroethylene;
 DDT = dichloro-diphenyl-trichloroethane;
 PAHs = polycyclic aromatic hydrocarbons;
 PCBs = polychlorinated biphenyls;
 ERL = effects range low;
 ERM = effects range median

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Figure 1. Location of Ventura Keys, Ventura County, California.



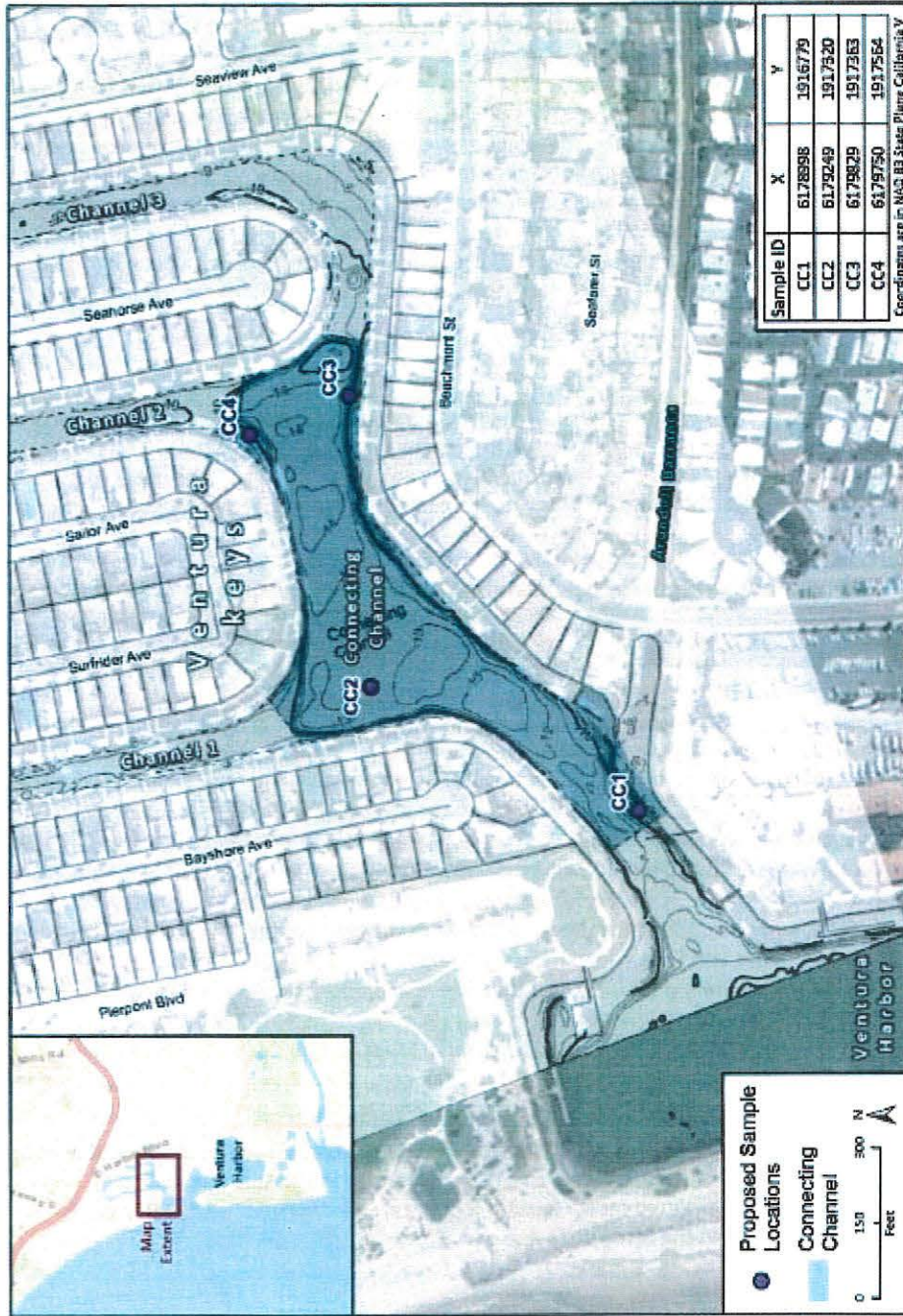
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Figure 2. Location of Ventura Keys Waterways.



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Figure 3. 2015 Sampling Locations within the Ventura Keys



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Figure 4. 2018 Sampling Locations within the Ventura Keys

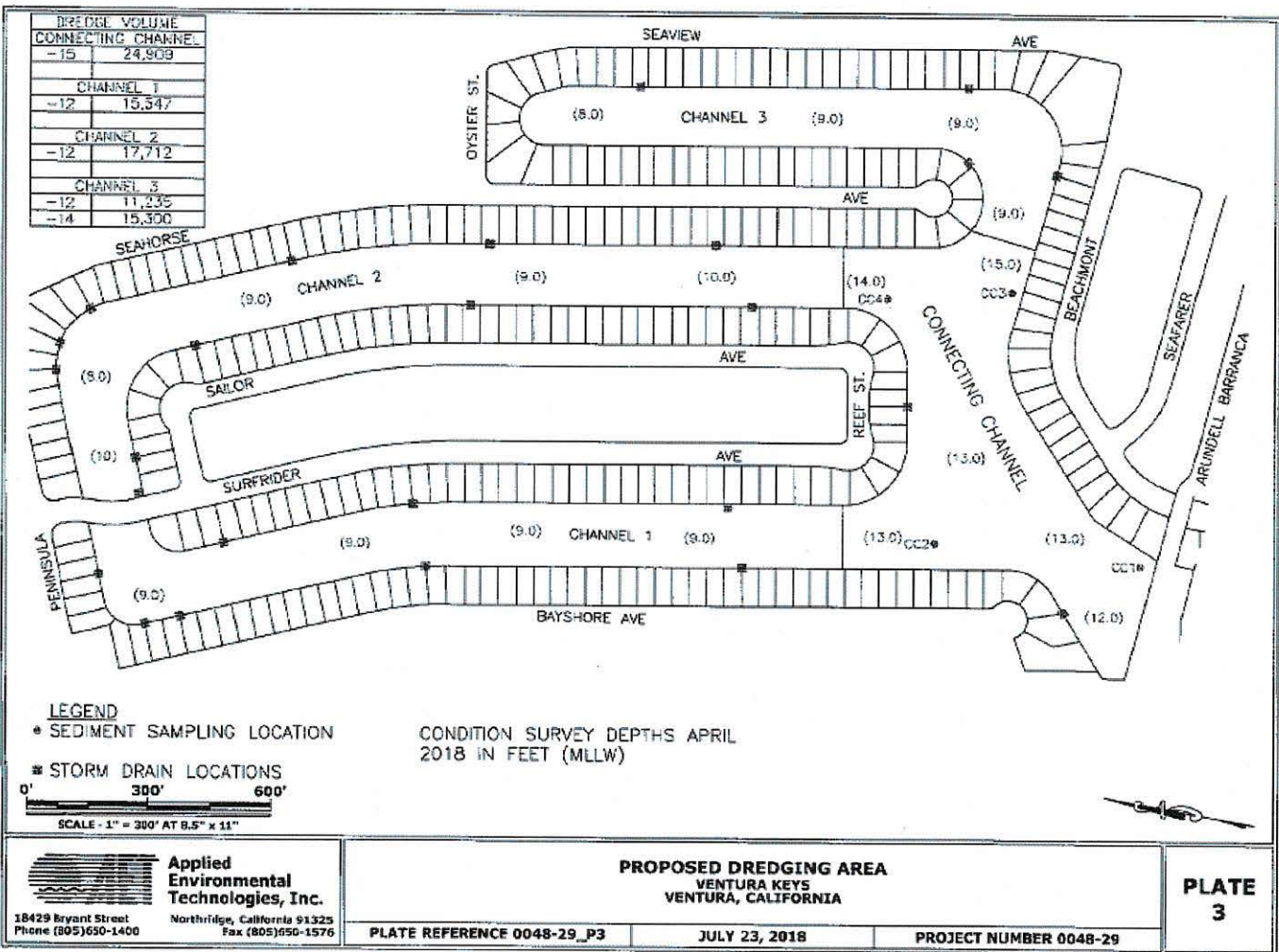
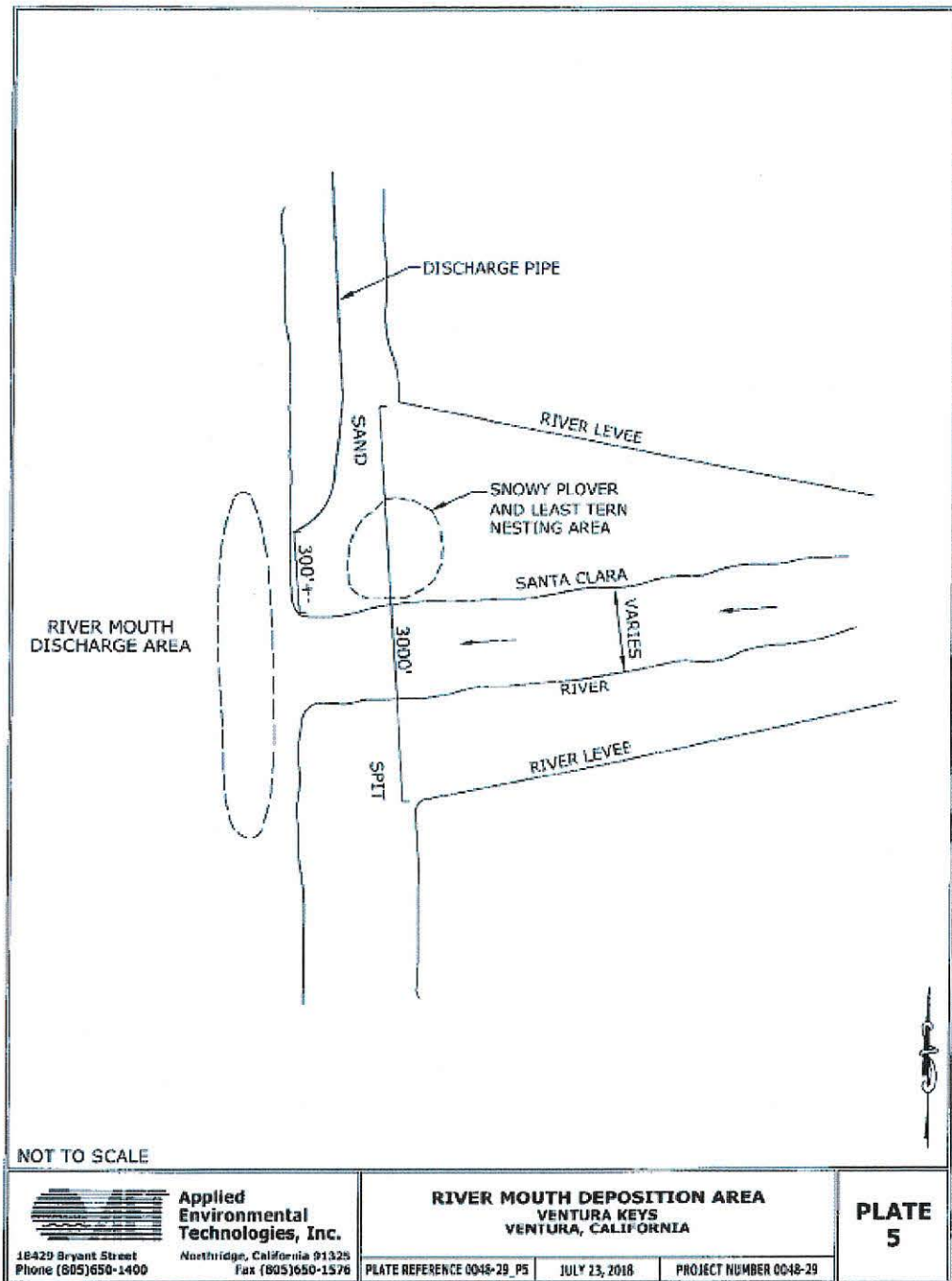


Figure 5. Potential areas to be dredged within Ventura Keys waterways (Connecting Channel, Channel 1, Channel 2, Channel 3).



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Figure 6. Santa Clara River Mouth Surf Zone for Disposal of Dredged Material.

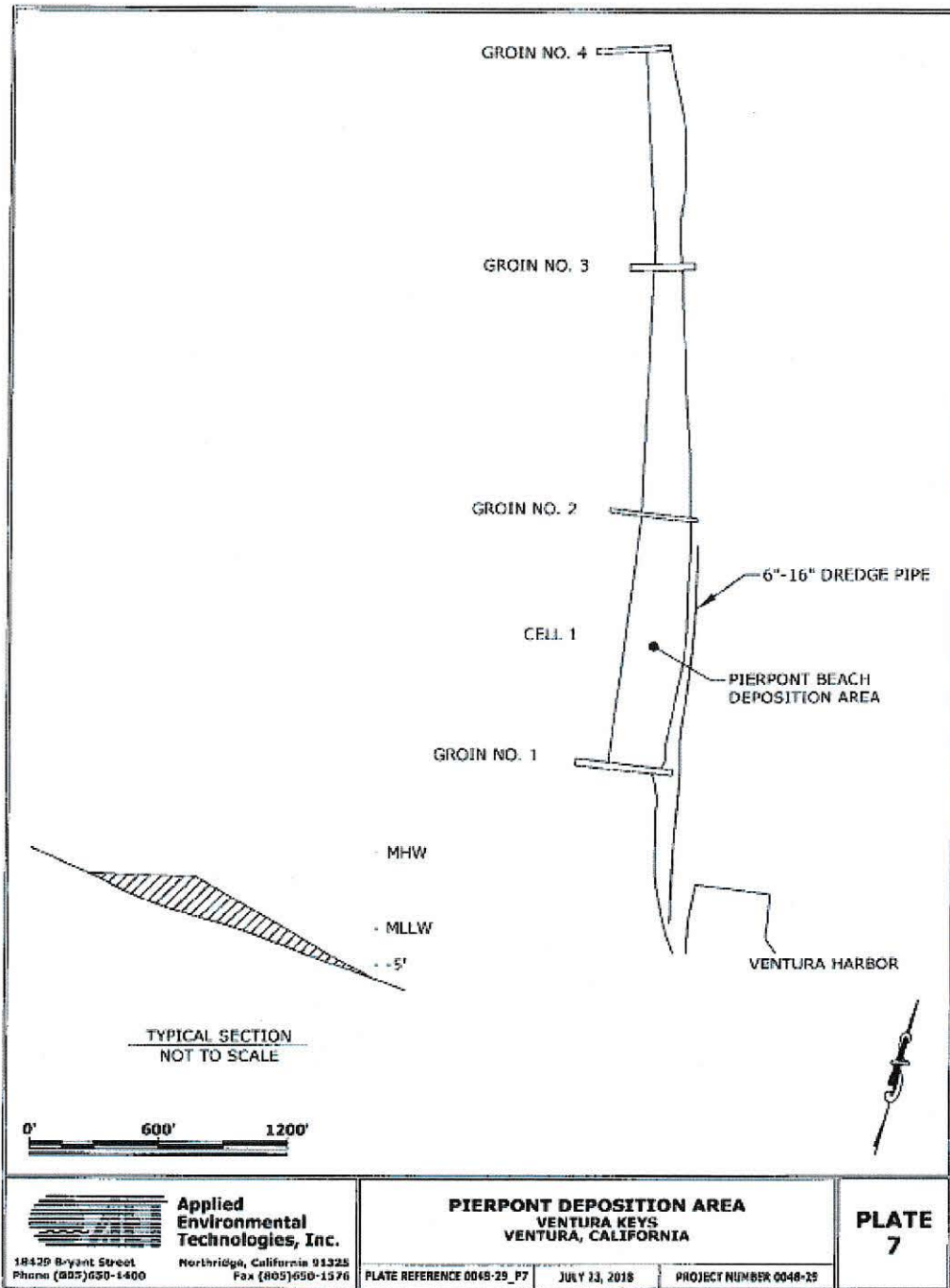


Figure 7. Cell 1 of Pierpont Groin Field Area for Disposal of Dredged Material.

ATTACHMENT A - STANDARD PROVISIONS, GENERAL MONITORING AND REPORTING REQUIREMENTS

A. Duty to Comply

The Project Sponsor must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Water Board. (CWC Sections 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350). Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or other order or prohibition issued, reissued or amended by the Regional Water Board or State Water Board is a violation of these waste discharge requirements and the Water Code, which can result in the imposition of civil liability. (CWC Section 13350, subdivision (a).)

B. General Prohibition

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the CWC. In addition, the discharge of waste classified as hazardous, as defined in California Code of Regulations, Title 23, Section 2521, subdivision (a) is also prohibited.

C. Availability

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. (CWC Section 13263).

D. Change in Ownership

The Project Sponsor must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new Project Sponsor containing a specific date for the transfer of this Order's responsibility and coverage between the current Project Sponsor and the new Project Sponsor. This agreement shall include an acknowledgement that the existing Project Sponsor is liable for violation up to the transfer date and that the new Project Sponsor is liable from the transfer date forward. (CWC Sections 13267 and 13263).

E. Change in Discharge

In the event of a material change in the character, location, or volume of a discharge, the Project Sponsor shall file with this Regional Water Board a new receiving water monitoring report (CWC Section 13260, subdivision (c)). A material change includes, but is not limited to, the following:

1. Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.

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2. Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.
3. Increase in flow beyond that specified in the waste discharge requirements.
4. Increase in area or depth to be used for disposal beyond that specified in the waste discharge requirements. (CCR Title 23 Section 2210).

In addition, modifications to project may require an amendment of the Order. The Project Sponsor shall give advance notice to the Regional Water Board staff if project implementation as described in the application materials is altered in any way or by the imposition of subsequent permit conditions by any local, state or federal regulatory authority by submitting a Modifications to Project Report. The Permittee shall inform the Regional Water Board staff of any project modifications that will interfere with the permittee's compliance with the Order.

F. Revision

These waste discharge requirements are subject to review and revision by the Regional Water Board. (CWC Section 13263).

G. Notification

Where a project sponsor becomes aware that it failed to submit any relevant facts in a receiving water monitoring report or submitted incorrect information in a receiving water monitoring report or in any report to the Regional Water Board, it shall promptly submit such facts or information. (CWC Sections 13260 and 13267).

H. Vested Rights

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect a Project Sponsor from his liability under Federal, State or local laws, nor do they create a vested right for the Project sponsor to continue the waste discharge. (CWC Section 13263, subdivision (g)).

I. Severability

Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected. (CWC Section 921).

J. Operation and Maintenance

The Project Sponsor shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Project Sponsor to achieve compliance with conditions of this Order. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of

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backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. (CWC Section 13263, subdivision (f)).

K. Hazardous Releases Requirement

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Water Board or the appropriate Regional Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the California Water Code unless the discharge is in violation of a prohibition in the applicable Water Quality Control plan. (CWC Section 13271, subdivision (a)).

L. Oil or Petroleum Releases

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any water of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. (CWC Section 13272).

M. Investigations and Inspection

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

1. Enter upon the Project Sponsor's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order.
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this Order.

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3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order.
4. 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 location. (CWC Section 13267).
5. Except for material determined to be confidential in accordance with applicable law, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the office of the Los Angeles Regional Water Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

N. Monitoring Program and Devices

The Project Sponsor shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. (CWC Section 13267).

All monitoring instruments and devices used by the discharge to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the Project Sponsor shall submit to the Executive Officer a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

The analysis of any material required pursuant to Division 7 of the Water Code shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. However, this requirement does not apply to field tests, such as test for color, odor, turbidity, pH, temperature, dissolved oxygen, conductivity, and disinfectant residual chlorine. (California Water Code, Section 13176).

Unless otherwise permitted by the Regional Water Board Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Water Resources Control Board's Division of Drinking Water. All analyses shall be required to be conducted in accordance with the latest edition of "*Guidelines Establishing Test Procedures for Analysis of Pollutants*" (40 CFR Part 136) promulgated by the U.S. Environmental Protection Agency. (CCR Title 23, Section 2230). The Quality Assurance-Quality Control Program must conform to the USEPA Guidelines "*Laboratory Documentation Requirements for Data Validation*", January 1990, USEPA Region 9) or procedures approved by the Los Angeles Regional Water Quality Control Board.

All quality assurance and quality control (QA/QC) analyses must be run on the same dates when samples were actually analyzed. All QA/QC data shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, and explanation for any recovery

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that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (e.g., field, trip, or lab blanks); the accompanying sample results shall be appropriately flagged.

The Project Sponsor shall make all QA/QC data available for inspection by Regional Board staff and submit the QA/QC documentation with its respective quarterly report. If required, proper chain of custody procedures must be followed, and a copy of that documentation shall be submitted with the quarterly report.

O. Operation Failure

In an enforcement action, it shall not be a defense for the Project Sponsor that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the facility, the Project Sponsor shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored, or an alternative method is provided. (CWC Section 13263(f)).

P. Discharge to Navigable Waters

Any person who discharges pollutants or proposes to discharge pollutants to navigable waters of the United States within the jurisdiction of this state or a person who discharges dredged or fill material or proposes to discharge dredged or fill material into navigable waters of the United States within the jurisdiction of this state shall file a report of waste discharge in compliance with the procedures set forth in Water Code section 13260. (California Water Code, Section 13376).

Q. Endangerment to Health and Environment

The Project Sponsor shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the Project Sponsor becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Project Sponsor becomes aware of the circumstances. The written submission shall contain a description and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Maintenance of Records

The Project Sponsor shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation

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regarding this discharge or when requested by the Regional Water Board Executive Officer.

Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements.
2. The individual(s) who performed the sampling or measurements.
3. The date(s) analyses were performed.
4. The individual(s) who performed the analyses.
5. The analytical techniques or method used.
6. The results of such analyses.

R. Signatory Requirement

1. All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:
 - a. For a corporation – by a principle executive officer or at least the level of vice president.
 - b. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
 - c. For a municipality, state, federal or other public agency – by either a principal executive officer or ranking elected official.
2. A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:
 - a. The authorization is made in writing by a person described in paragraph (a) of this provision.
 - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity.
 - c. The written authorization is submitted to the Executive Officer.

S. Continue Past Expiration Date

If the Project Sponsor/Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Project Sponsor/Discharger must apply for and obtain a new Order.

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