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August 19, 2020

Mr. Patrick Pulupa, Executive Officer
Mr. Ken Croyle, WRC Engineer
Ms. Kari Holmes, Senior WRC Engineer
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission
Hardcopy Upon Request

**Re: Mule Creek State Prison; Settlement & ACL Order R5-2020-xxxx,
California Department of Corrections and Rehabilitation**

Dear Ms. Holmes and Messrs. Pulupa and Croyle,

This firm represents the California Sportfishing Protection Alliance (“CSPA”) in this matter. We have reviewed the Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order R5-2020-xxxx (“ACLO”) entered into by and between the Regional Water Quality Control Board, Central Valley Region (“Regional Board”) and the California Department of Corrections and Rehabilitation (“CDCR”) and respectfully submit the following comments.

I. Sewage, Via Indirect Cross-connections, Is The Likely Source Of Pollutants Being Discharged To Surface Waters Through The Stormwater System -- Not Irrigation and Groundwater.

Section II of the ACLO unambiguously states that “[t]he water quality samples collected by Central Valley Water Board staff demonstrate that the water being discharged from the Old Prison Facility to the perimeter storm water collection system, and then into Mule Creek, was not solely storm water.” ACLO, ¶ 10. Although the CDCR’s Revised Stormwater Collection System Investigation Report of Findings “did not reveal any direct cross-connections between the stormwater and sanitary sewer collection systems” the ACLO elsewhere states “numerous potential sources of in-direct cross connections were discovered.” ACLO, ¶ 16. These included over 500 defects found in the stormwater and sewer systems, ranging from minor corrosion to broken and collapsed pipes, fully separated joints, deformations, compromised seals, failed previous repairs, and large holes, cracks, or breaks where soil is visible. *Id.*

The CDCR's investigation into this problem was fundamentally flawed. First, it was incomplete because it did not comprehensively include pipes less than six inches in diameter, due to the limitations of the equipment. *Id.* Second, the CCTV footage shows areas where water is leaking into both systems from defects and drain design problems, and smoke testing of the sanitary sewer revealed eight locations where smoke escaped the system through concrete seams or grassy areas. *Id.* Yet, there is no evidence in the ACLO that either of the water leakage or the smoke testing results – both indicative of potential systemic failure -- were further investigated. Third, although the ACLO notes that “the stormwater and sewer systems were constructed in close physical proximity at various points, with the sanitary sewer system above the stormwater system in most areas, providing an opportunity for leaking sewer pipes to gravity flow through the soil and enter the stormwater system” this issue was not explored any further. *Id.* Fourth, although the Regional Board's staff correctly and specifically concluded that “this is a clear conduit for indirect cross connection anywhere that both systems have nearby defects” CDCR made no effort to identify any such areas for further investigation or repair. *Id.* Finally, the Regional Board “believes the high groundwater is likely exacerbating these cross connections” and that “a number of repairs are necessary to both systems.” *Id.* And yet, nothing in the CDCR's investigation and report of findings addresses groundwater or overly deferred maintenance as potential exacerbating factors in the underlying problem of indirect cross-contamination of the stormwater system with sewage. Consequently, as discussed in further detail below, the ACLO does nothing to address these indirect cross-connections between the sanitary sewer and the stormwater collection systems, and the ACLO should be revised to address the problem at hand.

Rather than confront the evidence, the CDCR's findings erroneously identify “irrigation and groundwater within the stormwater collection system” as the likely non-stormwater sources of the waste constituents found in CDCR's discharges. ACLO, ¶ 16. However, this conclusion is unsupported by any facts in the ACLO and *directly contradicted by the monitoring data collected by CDCR*, which established:

...numerous detections in a wide range of waste constituents including coliform organisms, VOCs, SVOCs, surfactants, oil and grease, metals, inorganics, and nutrients at varying concentrations. Some of these results show concentrations of waste-type constituents at levels that would be expected in wastewater, sewage, and/or grey water. Constituent concentrations other than coliforms are shown to be highly variable. Coliforms, fecal coliforms, and E. Coli are consistently very high, and often not enumerated as the concentrations exceeded the upper quantification limit used by the lab. The summarized data shows thousands of instances in which the discharge from the stormwater system exceeded water quality objectives for a given constituent.

ACLO, ¶ 17. Based on the monitoring, the Regional Board own staff “does not believe that the identified non-stormwater sources of irrigation and groundwater are likely sources of waste constituents.” *Id.* The high levels of total coliform organisms, fecal coliform organisms and E coli very strongly suggest that the source of this waste is domestic sewage. Generally speaking, species of coliform bacteria originate from the feces of warm-blooded animals, including humans. E. coli (*Escherichia coli*) is an enteric bacterium, which means that it occurs

naturally in the intestinal tracts of humans and other animals. It is therefore reasonable to conclude that a contributing source of pollutants being discharged to surface waters is domestic sewage.

In sum, the CDCR's misidentification of the problem and failure to properly investigate, identify and address the actual issues prompting the initiation of this ACL render the ACLO completely ineffective in correcting the problem. This will result in further unlawful sewage discharges, necessitating supplemental citizen suit enforcement where the Regional Board has failed.

II. CDCR's Ongoing Unlawful Wastewater Discharges To the Mokelumne River Exceed The Basin Plan Water Quality Objective And US EPA Water Quality Criteria For Bacteria, Impairing Its Designated Beneficial Uses

The EPA has developed criteria intended as guidance to the states, territories and authorized tribes in developing water quality standards to protect swimmers from exposure to water that contains organisms that indicate the presence of fecal contamination. U.S. EPA Recreational Water Quality Criteria, 2012, EPA 820 -F-12-061. EPA's criteria are designed to protect primary contact recreation, including swimming, bathing, surfing, water skiing, tubing, water play by children, and similar water contact activities where a high degree of bodily contact with the water, immersion and ingestion are likely. The EPA criteria for E. coli is a geometric mean of 126 colony forming units ("cfu") per 100 mL and a statistical threshold value ("STV") of 410 cfu per 100 mL. *Id.* Here, CDCR's discharges of sewage to surface water exceed the upper quantification limits used by the lab (1600 MPN per 100 mL, for Total Coliforms, E. Coli and Fecal Coliforms). ACLO, ¶ 17, Table 1. These gross exceedances of EPA water quality standards and criteria have degraded and will continue to degrade contact recreational uses of Mule Creek and the Mokelumne River in violation of the Basin Plan.

"The beneficial uses of the Mokelumne River are irrigation and stock watering; contact and noncontact recreation; warm and cold freshwater habitat; warm and cold water migration; warm and cold spawning; wildlife habitat." ACLO, ¶ 24. Under the Central Valley Water Board's Water Quality Control Plan (Fourth Edition) for the Sacramento River and San Joaquin River Basins ("Basin Plan") Water Quality Objectives for fecal coliform in waters designated for contact recreation, discharges "shall not exceed 200 MPN/100 ml as a geometric mean in a minimum of 5 samples for any 30-day period." Basin Plan, Water Quality Objectives, at 3-2.

III. The ACLO Violates the State Board's Enforcement Policy Because It Fails To "Identify and Correct" the Violations At Issue

A. The State Board's Enforcement Policy Requires That Enforcement Actions Be Undertaken to "Identify and Correct" Violations.

The Introduction to the State Water Resources Control Board, 2017 Water Quality Enforcement Policy ("Enforcement Policy") states, in pertinent part, that:

A good enforcement program relies on well-developed compliance monitoring systems

designed to identify and correct violations, help establish an enforcement presence, collect evidence needed to support enforcement actions where there are identified violations, and help target and rank enforcement priorities. Compliance with regulations is critical to protecting public health and the environment, and it is the preference of the State Water Board that the most effective and timely methods be used to assure that the regulated community achieves and maintains compliance. Tools such as providing assistance, training, guidance, and incentives are commonly used by the Water Boards and work very well in many situations. There is a point, however, at which this cooperative approach should make way for a more forceful approach.”

Enforcement Policy, at 1 (Emphasis added.) The Enforcement Policy further “acknowledges that enforcement prioritization enhances the Water Boards’ ability to leverage their scarce enforcement resources and to achieve the general deterrence needed to encourage the regulated community to anticipate, identify, and correct violations.” *Id.*

This ACLO incorrectly identifies irrigation and groundwater as the cause the exceedingly high concentrations of coliform and other pollutants in MCSP’s storm water discharges, and as a result, fails to meaningfully address, much less correct, these unlawful non-stormwater discharges. The ACLO is therefore inconsistent with the Enforcement Policy and should be revised.

IV. The Irrigation Replacement ECA Set Forth In Attachment B Concerns Irrigation, Which Regional Board Staff Identified, With Groundwater, As Not “Likely Sources Of Waste Constituents”

The ACLO allows the CDCR to suspend \$1,250,000 in administrative civil liability upon the implementation of the Enhanced Compliance Actions (“ECAs”) described in Attachments B and C. ACLO, ¶ 36. The Attachment B ECA (“Irrigation Replacement”) requires the replacement of the landscape irrigation system at MCSP. ACLO, Attachment B. However, as discussed more fully above, the ACLO states that “Water Board staff does not believe that the identified non-stormwater sources of irrigation and groundwater are likely sources of waste constituents.” ACLO, ¶ 17. Therefore, while the existing irrigation system’s breeches in several mainlines may well be causing, in part, some non-storm water flows to enter the stormwater collection system (and fixing them could eliminate or reduce these non-stormwater flows), installing new piping for the landscape irrigation system will not address in any way the apparent cross connection between the sanitary sewer and stormwater systems.

The ECA is inconsistent with the Enforcement Policy which requires that the ACLO correct the numerous problems resulting in indirect cross-connection of the stormwater and sewage collection systems identified in the ACL. The ACLO should be revised to include ECAs to address the problem, not other problems.

V. The SCCWRP Study ECA Set Forth In Attachment C Requires A Characterization Of The Microbiological Quality Of Mule Creek That Is Inadequate To Determine The Effects Of Wastewater Discharges On Mule Creek Or The Associated Impacts To Beneficial Uses.

The Attachment C ECA (“SCCWRP Study”) seeks to “characterize the microbiological quality of the MCSP storm water collection system discharges and any effects these discharges have on Mule Creek water quality.” For the reasons set forth below, this ECA fails to accomplish these goals and therefore should be rejected.

The microbiological study called for in the ECA would only assess bacteria and the associated impacts to recreational contact uses of Mule Creek, ignoring all of the water quality and beneficial use impacts arising from elevated temperature, toxicity, aluminum, dissolved oxygen and pH -- all of which could significantly impact the aquatic life, and other beneficial uses of Mule Creek. The study also fails to address the individual constituents making up what the Regional Board termed “thousands of instances in which the discharge from the stormwater system exceeded water quality objectives for a given constituent.” ACLO, ¶ 17.

In order to properly characterize the microbiological quality of the MCSP storm water collection system discharges and any effects these discharges have on water quality, the proposed study should include, at a minimum:

- a bioassessment of aquatic life, upstream and downstream of the discharge
- dissolved oxygen (DO) sampling and analysis, including downstream sags
- sampling and analysis for temperature¹ and pH
- an evaluation of aquatic toxicity including additive toxicity
- an evaluation of possible leaching or groundwater surfacing to upstream waters
- analysis of the individual constituents that make up the “thousands of instances in which the discharge from the stormwater system exceeded water quality objectives”
- an assessment of beneficial use impacts by the above-referenced pollutants, with emphasis to aquatic life and recreational uses.

In order to fully understand the effects that MCSP’s storm water discharges have on Mule Creek water quality, the ACLO’s SCCWRP Study should be revised to include each of the above-referenced improvements.

VI. The ACLO Fails To Require An Assessment Of Significant pH, Nitrogen, Phosphorus, Orthophosphate And Dissolved Oxygen Impacts – All Of Which Undermine The Basin Plan’s Water Quality Objectives And Degrade The Warm And Cold-Water Aquatic Life Beneficial Uses Of The Receiving Waters.

Nitrogen in various forms is commonly found in domestic wastewater and has been routinely detected in sampling conducted by staff at Mule Creek State Prison. In addition, phosphorus and orthophosphate were detected in sampling conducted by the Regional Board. These illegal discharges of biostimulatory substances threatens to promote aquatic growths that adversely affect beneficial uses, contrary to the Water Quality Objectives in the Basin Plan.

¹ Notably, the original December 28, 2017 complaint described the color of the discharges as varying between clear and jet black, sometimes with solids, and sometimes “steaming hot.” ACLO, ¶6. There is no indication in the sampling results submitted by either Regional Board staff or CDCR that the discharge or surface water were sampled for temperature. The Basin Plan water quality objective prohibits a wastewater discharge from causing a surface water temperature to be increased more than 5 degrees F. The discharge of “steaming hot” wastewater to Mule Creek would plainly threaten the cold and warm aquatic life beneficial uses of Mule Creek.

High concentrations of both phosphorus and nitrogen cause of eutrophication. The chemical byproducts of the resulting increased photosynthesis of algal growth can increase the pH, making it more basic. The bacterial decomposition of the algae then leach oxygen from the water and produces acidic byproducts. These lower dissolved oxygen content and lower pH levels in turn threaten freshwater aquatic life -- a designated beneficial use of Mule Creek and the Mokelumne River.

An analysis of impacts from biostimulatory substances, pH and dissolved oxygen, as well as a rapid bioassessment of the impacts to aquatic life, should be required under the ACLO.

VII. The ACLO Fails To Require An Assessment Of Acutely Toxic Levels of Aluminum Discharges Form CDCR, Which Also Violates The Basin Plan's Water Quality Objectives And Degrades Beneficial Uses.

The Regional Board sampling shows aluminum concentrations as high as 3,700 ug/L. ACLO, Table 1. The US EPA's Ambient Criteria for aluminum establishes an acute toxicity (1 hr. average) for aquatic life at between 1 and 4,800 ug/L depending on the pH, hardness and dissolved organic carbon ("DOC") in the discharge. The Basin Plan Water Quality Objective for toxicity prohibits the discharge of toxic substances that produce detrimental physiological responses in human, plant, animal or aquatic life. Basin Plan, Water Quality Objectives, at 3-8. Although the existing monitoring data for pH, hardness and DOC is insufficient to determine the actual toxic level of aluminum in the discharge, the known aluminum concentrations of as high as 3,700 ug/L present a significant threat of exceeding the ambient criteria and therefore degrading the beneficial use of Mule Creek for freshwater aquatic life.

VIII. A Toxicity Score of Four, Not Two, More Appropriately Characterizes These Discharges

A three-factor scoring system is used for each violation or group of violations: (1) the degree of toxicity of the discharge; (2) the actual or potential for harm to beneficial uses; and (3) the discharge's susceptibility to cleanup or abatement. As to (1), the degree of toxicity, the ACLO concludes that "[i]n this case, the comingled discharges during rain events contained unknown but relatively small amounts of waste from unknown sources diluted by large volumes of stormwater.

Based on data collected during both wet and dry weather, the discharge contained varying concentrations of numerous waste constituents normally found in domestic and industrial wastewater including coliform organisms, total suspended solids, biochemical oxygen demand, chemical oxygen demand, nutrients, surfactants, metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). These constituents can impact aquatic life and human health. Because the discharged material possesses 'less than moderate threat to beneficial uses,' a score of 2 was assigned for this factor." ACLO, Attachment A, at 5.

The Regional Board's toxicity conclusions contradicts itself. Since the discharges were shown to occur during both wet and dry weather, it is not possible that diluting storm water flows were present during all of the illegal discharge events. *Undiluted* industrial and domestic sewage was discharged illegally to surface waters when diluting storm water flows were not present. The Regional Board's collected data in-stream during storm events and during dry weather demonstrate toxic levels of some constituents. The data was not assessed for exceedance of acute and/or toxic levels of constituents that exceed toxic water quality criteria and standards.

The ACLO also states that the discharge contained: "coliform organisms, total suspended solids, biochemical oxygen demand, chemical oxygen demand, nutrients, surfactants, metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs)". Nutrients (if in the form of ammonia), metals, VOCs, and semi-volatile organic compounds have the potential to exceed aquatic toxicity criteria and standards. Therefore, in the absence of a visual assessment, as well as a bioassessment, of the impacts to the receiving stream a toxicity score of 4 should have been used to determine the relative harm of the discharges at issue.

IX. The Non-Waived Portion Of The ACL Penalty (\$1,250,000) Violates The Enforcement Policy Because It Is Less Than CDCR's Economic Benefit Obtained As Estimated in the ACLO

The Enforcement Policy states that the non-waived portion of the ACL penalty must be more than the economic benefit obtained by non-compliance:

...the monetary liability that is not suspended shall be no less than the amount of the economic benefit that the discharger received from its unauthorized activity, plus an additional amount that is generally consistent with the factors for monetary liability assessment to deter future violations.

Enforcement Policy, Section IX, at 32. The Economic Benefit Estimate included as Attachment D to the ACLO itemizes CDCR's avoided compliance costs and concludes that these amounted to a total benefit of \$2,111,563. To this amount, the ACLO properly adds 10% to arrive at the minimum administrative civil liability required under the Enforcement Policy (\$2,322,719). ACLO, ¶32, Attachment A.

However, the ACLO goes on to erroneously conclude that the *total* administrative civil liability of \$2,500,000 is sufficient under the Enforcement Policy, when the relevant number is the non-suspended portion *only*. Accordingly, the ACLO should be restructured and revised to require that the non-suspended portion of the administrative civil liability exceeds \$2,322,719, as required under the Enforcement Policy. Anything less than this amount would fail to achieve the kind of general deterrence needed to encourage the regulated community to anticipate, identify, and correct violations.

Thank you for your consideration of these comments. If you have questions or require clarification, please don't hesitate to contact the undersigned.

Very Truly Yours,

A handwritten signature in black ink, appearing to read "Andrew L. Packard". The signature is fluid and cursive, with a prominent loop at the end.

Andrew L. Packard