Attachment A to Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order No. R9-2025-0010

North San Diego Bay and San Diego River January 2023 Sanitary Sewer Overflow

Penalty Calculation Methodology

A. Enforcement Policy Background

The State Water Resources Control Board (State Water Board) developed a 2017 Water Quality Enforcement Policy (2017 Enforcement Policy) [1] with a goal to protect and enhance the quality of the waters of the State by defining an enforcement process that addresses water quality problems in a fair, efficient, effective, and consistent manner. According to the 2017 Enforcement Policy, enforcement is a critical component in creating the deterrence needed to encourage the regulated community to anticipate, identify, and correct violations. Formal enforcement should always result when a non-compliant member of the regulated public begins to realize a competitive economic advantage over compliant members of the regulated public. Formal enforcement should be used as a tool to maintain a level playing field for those who comply with their regulatory obligations by setting appropriate administrative civil liabilities for those who do not.

On December 5, 2023 and August 20, 2024, the State Board adopted Resolution Nos. 2023-0043 and 2024-0027, which adopted the 2024 Water Quality Enforcement Policy (2024 Enforcement Policy).[2] The 2024 Enforcement Policy was approved by the Office of Administrative Law and become effective on November 7, 2024. The San Diego Regional Water Quality Control Board's (San Diego Water Board) Prosecution Team (Prosecution Team) developed the administrative civil liability based on the 2017 Enforcement Policy since the alleged violation occurred prior to the adoption of the 2024 Enforcement Policy. However, the 2024 Enforcement Policy was used to the extent it

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[1] The 2017 Enforcement Policy, which was in effect at the time of the alleged violation, is available at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/040417_9_final%20adopted%20policy.pdf.

[2] The 2024 Enforcement Policy is available at: https://waterboards.ca.gov/water_issues/programs/enforcement/docs/2024/2024-enforcement-policy.pdf.

provides clarifications or procedural changes to the 2017 Enforcement Policy. (*See* 2024 Enforcement Policy, Appendix D.)

California Water Code (Water Code) section 13385(e) requires the San Diego Water Board to consider several factors in determining administrative civil liability, such as the potential for harm to the environment, and a Discharger's culpability and ability to pay. The 2017 and 2024 Enforcement Policies incorporate these factors in a methodology for determining administrative civil liability in instances of noncompliance. This document describes the methodology and factors used by the Prosecution Team to calculate the proposed administrative civil liability for the alleged violation presented below.

B. Sanitary Sewer Overflow Background

The City of San Diego (City) provides wastewater conveyance and treatment services to its residents and 12 other cities and special districts. The City's sanitary sewer system serves over 2 million residents in San Diego County and includes over 3,000 miles of sewer pipeline and 82 pump stations.[3]

Pump Station 2 is a critical part of the sanitary sewer system. Approximately 80 percent of the total sewage from the system flows through Pump Station 2 and is subsequently treated at the Point Loma Wastewater Treatment Plant. Pump Station 2 was commissioned in 1963 and has 8 vertical shaft-driven pumps for a rated capacity of 432 million gallons a day (MGD).[4] The City completed upgrades to Pump Station 2 in 1986, 1987, 1990, and 1992. The City is nearly complete with a multi-year-long capital improvement project (CIP) to provide backup power to Pump Station 2 with two independent sources of power that will prevent loss of service in the event of power outages. The City is planning a CIP to perform a broader, comprehensive project to upgrade and rehabilitate the pump station to further improve performance and reliability. The City anticipates construction to be completed on the *Pump Station 2 Improvement and Modernization* project in the winter of 2029.

According to the City, on January 16, 2023, after heavy rains (approximately 2.77 inches over a 3-day period as measured from the San Diego International Airport, equating to a 5-year frequency storm event),[5] Pump Station 2 experienced a malfunction with its wet well level sensors. This malfunction, along with compromised pump station capacity, resulted in a sanitary sewer overflow (SSO) of approximately 9,781,765 gallons.[6] Untreated sewage was discharged from up to 20 manhole locations

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[3] City presentation to San Diego Water Board, November 8, 2023.

[4] Pump Station 1 and 2 Condition Assessment Report, May 11, 2018 (2018 Condition Assessment). The Condition Assessment was completed because the City had been experiencing service disruptions of several components at both Pump Stations 1 and 2, some of which required emergency repair.

[5] City response to Investigative Order No. R9-2023-0053 dated April 20, 2023.

[6] Updated Certified Spill Report for Event ID 885537, dated May 24, 2024.

and 10 non-manhole locations within the sanitary sewer system upstream of Pump Station 2. An unknown volume of untreated sewage was conveyed via the municipal separate storm sewer system (MS4) to multiple locations along the San Diego Bay shoreline and the lower San Diego River. The City completed an analysis of possible flow paths in March 2023 and concluded that untreated sewage may have reached up to eight locations along the lower San Diego River, and up to ten locations along the northern San Diego Bay shoreline (see Figure 1).

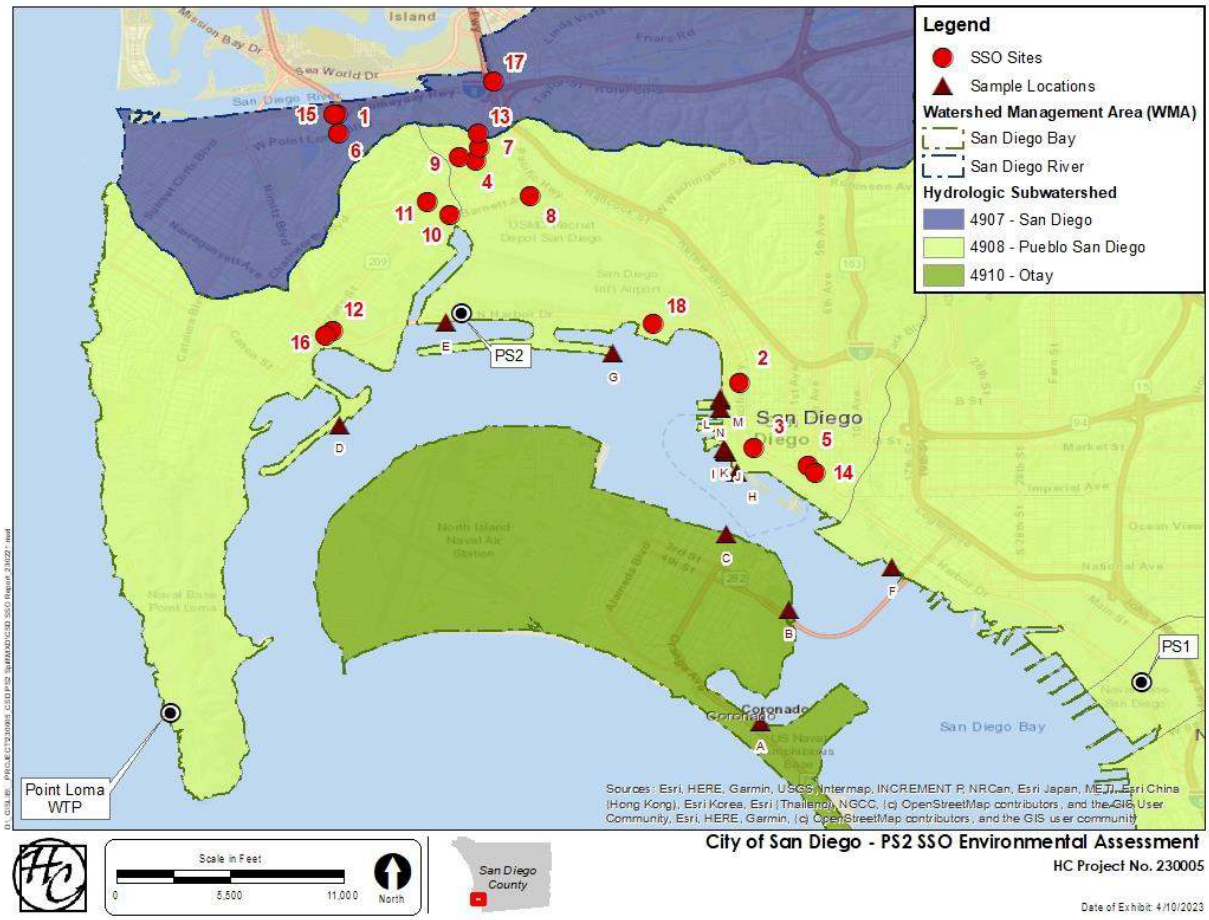

Figure 1. SSO Spill Locations and Sampling Points[7]

The City was immediately aware of the SSO and instituted protocols which included bringing the pumps back online, implementing the City's Sanitary Sewer Overflow Emergency Response Plan at each SSO site along San Diego Bay, and notifying the appropriate public agencies about the release of untreated sewage.

The City's analysis of the causes of the SSO revealed that on the day of the SSO, incoming flows into Pump Station 2 were nearly equivalent to the flow capacities of the

[7] Figure 1 taken from the City's response to Investigative Order No. R9-2023-0053.

online pumps. In other words, the flows exceeded Pump Station 2's safety margin during a 5-year storm event with the attendant inflow and infiltration that occurred.

C. Violation: Unauthorized Discharge of 9,781,765 Gallons of Untreated Sewage to Waters of the State and United States.

The City is required to maintain and operate its sanitary sewer system in compliance with requirements contained in the following permits:

- State Water Resources Control Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (Statewide General Order),[8]
- San Diego Water Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Sanitary Sewer Agencies in the San Diego Region* (Regional General Order),[9] and
- San Diego Water Board Order No. R9-2017-0007, NPDES No. CA0107409, *Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the City of San Diego E.W. Blom Point Loma Wastewater Treatment Plant Discharge to the Pacific Ocean through the Point Loma Ocean Outfall* (NPDES Order).[10]

Prohibition C.1 of the Statewide General Order states that "[a]ny SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited." Prohibition B.1 of the Regional General Order states that "[t]he discharge of sewage from a sanitary sewer system at any point upstream of a sewage treatment plant is prohibited." Section III.A of the NPDES Order prohibits the discharge of waste from Pump Station 2 to a location other than Discharge Point No. 001, unless otherwise permitted by the NPDES Order or other waste discharge requirements. Section III.C of the NPDES Order requires the City to comply with Discharge Prohibitions contained in chapter 4 of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan),[11] which are incorporated and summarized in Attachment G of the NPDES Order. Discharge Prohibition B.7 of Attachment G of the NPDES Order prohibits the dumping,

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[8] The Statewide General Order is available at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf.

[9] The Regional General Order is available at: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2007/R9-2007-0005_ADA.pdf.

[10] The NPDES Order is available at: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2017/R9-2017-0007.pdf.

[11] The Basin Plan is available at: https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/.

deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, unless authorized by the San Diego Water Board. Finally, Provision D.8 of the Statewide General Order states that the Enrollee "shall properly manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities."

The City's discharge of untreated sewage on January 16, 2023, violated Statewide General Order Prohibition C.1, Regional General Order Prohibition B.1, Clean Water Act section 301, and Water Code section 13376, which prohibit the discharge of pollutants to surface waters except in compliance with an NPDES permit. The City's discharge violated Basin Plan Waste Discharge Prohibition No. 1, and NPDES Order, Attachment G, Basin Plan Discharge Prohibition B.1, which states "[t]he discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited." The City's discharge violated Basin Plan Waste Discharge Prohibition No. 9 and NPDES Order, Attachment G, Basin Plan Discharge Prohibition B.9, which states "[t]he unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited."

For the purposes of calculating the administrative civil liability, the Prosecution Team is using its discretion to calculate a single base liability amount for all violations since the violations are not independent of one another, are not substantially distinguishable, and are the result of a single act that violates similar requirements in different applicable permits and plans that are designed to address the same water quality issue.[12]

A discharger who violates Water Code section 13376, Clean Water Act section 301, or the NPDES Order is subject to administrative civil liability pursuant to Water Code section 13385(a). Additionally, the unauthorized discharge of untreated sewage in violation of the Statewide General Order, Regional General Order, and Basin Plan Prohibitions is subject to administrative civil liability pursuant to Water Code section 13350. The Prosecution Team elected to pursue enforcement of the alleged violations pursuant to Water Code section 13385. Water Code section 13385(c) authorizes the San Diego Water Board to impose administrative civil liability up to $10,000 per day of violation, plus $10 for each gallon exceeding 1,000 gallons discharged but not cleaned up.

Ten-Step Penalty Calculation Methodology

Step 1. Actual or Potential for Harm for Discharge Violations

[12] See 2017 Enforcement Policy, Section VI.A, Step 4 and 2024 Enforcement Policy, Section II.E, Multiple Violations Resulting from the Same Incident.

For discharge violations, the 2017 Enforcement Policy uses a three-factor scoring system to quantify: (1) the degree of toxicity of the discharge; (2) the actual harm or potential harm to beneficial uses; and (3) the discharge's susceptibility to cleanup or abatement. Application of the three-factor scoring system is set forth below.

Factor 1: Degree of Toxicity of the Discharge = Above Moderate (3)

The 2017 Enforcement Policy requires an evaluation, using a scale from zero to four (negligible to significant risk), of the degree of toxicity of the discharged material. The evaluation considers the physical, chemical, biological, and/or thermal characteristics of the discharge and the risk of damage the discharge could cause to the receptors or beneficial uses. A score of three or "above moderate" degree of toxicity is appropriate when the discharged material poses an above-moderate risk or a direct threat to potential receptors[13] (i.e., the chemical and/or physical characteristics of the discharged material exceed known risk factors or there is substantial threat to potential receptors).

The unauthorized discharge of untreated sewage represents an "above moderate" risk level because untreated sewage contains high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants known to exceed existing water quality standards. These pollutants exert varying levels of impacts to beneficial uses of the receiving waters. The high degree of toxicity in untreated sewage poses a direct threat to human and ecological receptors.

Factor 2: Actual Harm or Potential Harm to Beneficial Uses = Major (5)

The 2017 Enforcement Policy requires an evaluation, using a scale from zero to five (negligible to major harm), of the actual or potential harm to beneficial uses in the affected receiving waterbody. This risk may result from exposure to the pollutants or contaminants in the discharge, consistent with the statutory factors of the nature, circumstances, extent, and gravity of the violation. A score of five or "major" is typified by observed or reasonably expected potential significant impacts, and involves potential for actual acute, and/or chronic (e.g., more than five day) restrictions on, or impairment of, beneficial uses, aquatic life, and/or human health.

The SSO resulted in discharges of untreated sewage to the San Diego River and San Diego Bay. In accordance with Resolution No. R9-2017-0030,[14] both receiving waters affected by the SSO are key areas for key beneficial uses. The San Diego River is a key area for habitats and ecosystems, and supports the following beneficial uses: (AGR,

[13] The 2024 Enforcement Policy provides clarification that examples of potential receptors include human health, aquatic life, habitat, etc.

[14] The Resolution is available at: https://www.waterboards.ca.gov/rwqcb9/board_decisions/adopted_orders/2017/R9-2017-0030.pdf.

BIOL, IND, RARE, REC-1, REC-2, WARM, and WILD).[15] The San Diego River outlets at Ocean Beach, a popular swimming and surfing area that supports the contact and non-contact recreation (REC-1 and REC-2) beneficial uses. The lower San Diego River is listed on the California 2020-2022 Integrated Report (Integrated Report)[16] as impaired for pesticides, indicator bacteria, toxicity, dissolved oxygen, nutrients, total dissolved solids, turbidity, and benthic community effects.

San Diego Bay is a key area for three key beneficial use categories: habitats and ecosystems (BIOL, EST, MAR, MIGR, RARE, SPWN, and WILD), consumption of fish and shellfish (COMM, SHELL), and contact and noncontact recreation (REC-1 and REC-2). San Diego Bay also supports the industrial service supply (IND) and navigation (NAV) beneficial uses. San Diego Bay is listed on the Integrated Report as impaired for mercury, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs).

In general, untreated sewage is known to contain solids and organic materials, ammonia, and excessive nutrients, all of which are potentially harmful to habitat-related beneficial uses due to solids deposition, oxygen depletion, and toxicity. Pathogenic organisms harmful to human health (such as Campylobacter, Salmonella, Shigella, Vibrio Cholera, and Yersinia) have the potential to impact other beneficial uses such as municipal and domestic supply (MUN), contact recreation (REC-1), and sport fishing (COMM) due to direct contact with or ingestion of impacted waters, or indirect contact via foodborne pathways such as fish and/or shellfish consumption (SHELL). Oil, grease, and floatable or suspended materials may harm non-contact water recreation (REC-2) due to aesthetic impacts.

In the days following the SSO, the City took bacteria samples at 14 locations that were impacted by the SSO along the San Diego Bay shoreline, as required by the Statewide General Order and the City's SSO response plan. On February 22, 2023, San Diego Water Board staff issued Investigative Order No. R9-2023-0053 (Investigative Order), which required the City to interpret the data and conduct an environmental assessment. In evaluating the potential for harm to beneficial uses, the Prosecution Team reviewed the City's response to the Investigative Order.

The Investigative Order required the City to assess the impacts to contact and non-contact recreation in San Diego Bay or downstream beaches as a result of the SSO.[17]

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[15] The definitions of all beneficial uses are provided in the Basin Plan.

[16] The California 2020-2022 Integrated Report is available at: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html.

[17] The Investigative Order issued specifically required studies of "San Diego Bay or downstream beaches…as a result of the SSO" but did not specifically state that the San Diego River or downstream beaches should also be included in the analysis. This is because at the time that the Investigative Order was issued, San Diego Water Board staff was unaware that untreated sewage may have reached the San Diego River and downstream beaches.

The City reported that the County of San Diego Department of Environmental Health (DEH) or the City's Public Utilities Department (PUD) posted closure signs at shoreline locations at seven public access points along San Diego Bay from January 16, 2023, to January 23, 2023 because these locations were impacted by the SSO. The closed segment of San Diego Bay included all water north and west of Chollas Creek, including beaches at Coronado, up to Shelter Island. The closure signs were lifted once concentrations of indicator bacteria were within Basin Plan water quality objectives at all seven posted locations (some of the locations reached water quality objectives sooner than January 23, 2023; however, the closure signs remained up until all locations were cleared).

The City did not take bacteria samples at the San Diego River and downstream beaches as part of its SSO response because it was unaware that untreated sewage reached the San Diego River until modeling analysis was completed in March 2023.[18]

In response to the Investigative Order, the City conducted an environmental assessment to assess impacts to the aquatic species habitat in San Diego Bay from the SSO. As part of the assessment, the City searched for data relating to the occurrences of algal blooms, avian or other species die offs, and wildlife or habitat observations during and immediately after the SSO. Finding no useful data amongst agencies or academia, the City conducted interviews with staff from the San Diego Unified Port District of San Diego (Port District), San Diego Bay National Wildlife Refuge (Refuge), and the Tijuana River National Estuarine Research Reserve (Reserve). The City learned that the Port District conducted inspections at two locations following the SSO but did not observe any significant impacts. Staff at the Reserve measured low dissolved oxygen but could not distinguish a signal from the SSO separate from ongoing transboundary flows. Staff at the Refuge likewise did not notice any impacts or issues of concern for the wildlife following the SSO. A similar assessment was not conducted for the San Diego River receiver sites; therefore, there is no evidence related to actual harm to ecosystem health at these sites.

Although the City's assessment of environmental impacts to multiple receptors found little evidence of impacts to wildlife-related beneficial uses, a score of 5, or major, is appropriate for the Harm to Beneficial Use factor in the penalty calculator. The SSO caused chronic impacts to REC-1 and REC-2 beneficial uses along the San Diego Bay shoreline from the high bacteria counts and use restrictions to public spaces due to the closure signs lasting more than five days.

Factor 3: Susceptibility to Cleanup or Abatement = 1

A score of 1 is assigned for this factor if less than 50 percent of the discharge is susceptible to cleanup or abatement, or if the Discharger failed to cleanup 50 percent or

[18] Email from D. Campbell, City of San Diego, to C. Arias, San Diego Water Board, dated April 24, 2024.

more of the discharge within a reasonable amount of time. In this case, none of the discharged sewage was cleaned up.

The Potential for Harm score is:

Potential for Harm score = 3 [Factor 1] + 5 [Factor 2] + 1 [Factor 3] = **9**

Step 2. Assessment for Discharge Violations

The initial liability amount is based on the potential for harm score from Step 1 and the extent of deviation from requirement. The deviation from requirement must be characterized as either minor, moderate, or major.

The deviation from requirement is **major**. According to the 2017 Enforcement Policy, a major deviation from requirement occurs when the requirement was rendered ineffective (e.g., the requirement was rendered ineffective in its essential functions). The discharge of approximately 9.8 million gallons of untreated sewage is a major deviation from the Discharge Prohibitions in Statewide General Order, Regional General Order, and Basin Plan, as well as Clean Water Act section 301 and Water Code section 13376.

The per gallon liability assessment is the per gallon factor from Table 1 of the 2017 Enforcement Policy multiplied by the maximum per gallon amount allowed under the Water Code. Using a potential for harm score of 9 and a major deviation from requirement, the per gallon factor from Table 1 is 0.8.

Water Code section 13385(c)(2) states that the per gallon maximum administrative civil liability is $10.00 per gallon multiplied by the number of gallons discharged but not cleaned up over 1,000 gallons. For this violation, the per gallon amount is based on 9,781,765 million gallons (minus 1,000 gallons) that were discharged but not cleaned up. The 2017 Enforcement Policy allows for discharges that exceed 2 million gallons, use of $1.00 per gallon in the penalty calculation methodology instead of the statutory maximum of $10.00 per gallon. For this case, the Prosecution Team elected to use $1.00 per gallon. This reduction does not result in an inappropriately small liability.

Using a maximum of $1.00 per gallon for high volume discharges as allowed by the 2017 Enforcement Policy, the initial liability assessment calculated on a per-gallon basis is:

[$1.00 (per gallon maximum) x 0.8 (per gallon factor) x (9,781,765 – 1,000 gallons)] = **$7,824,612.**

The per day liability assessment is the per day factor from Table 2 of the 2017 Enforcement Policy multiplied by the maximum per day amount allowed under the Water Code. Using a potential for harm score of 9, and a major deviation from requirement, the per day factor from Table 2 is 0.8. Water Code section 13385(c)(1) states the per day maximum administrative civil liability is $10,000 for each day in which the violation occurs. The SSO occurred on January 16, 2023, from 2:50 pm to 4:20 pm. The initial liability assessment calculated on a per day basis for this violation is:

[$10,000 (per day statutory maximum) x 0.8 (per day factor) x 1 (day of violation)] = **$8,000**

The Initial Liability Amount is $7,824,612 + $8,000 = **$7,832,612.**

Step 3. Per Day Assessment for Non-Discharge Violations

This step is not applicable.

Step 4. Adjustment Factors

The San Diego Water Board must consider three additional factors for potential modification of the administrative civil liability amount: the discharger's degree of culpability, the discharger's prior violation history, and the discharger's voluntary efforts to clean up and cooperate with regulatory authorities after the violation.

Degree of Culpability = 1.1

The 2017 Enforcement Policy allows a multiplier between 0.75 and 1.5 to be used, with a higher multiplier for intentional or negligent behavior, and a lower multiplier for accidental or non-negligent behavior.

The City reported that the cause of the SSO at Pump Station 2 was false readings by two ultrasonic level sensors and their programmed logic. Water levels in the wet wells at Pump Station 2 were previously monitored using two hydrostatic pressure sensors but were replaced by ultrasonic level sensors in February 2021. These level sensors record the sewage levels in the wet wells and use this information to control the pump speeds and the number of pumps in use. According to the City, the level sensors likely became inundated with sewage during the peak of the storm on January 16, 2023, and registered a false low-level reading. This malfunction automatically caused all working pumps to shut off per the programmed logic (programmed logic is in place to protect the pumps from cavitation should there be no flow entering the pumps). Had the City utilized equipment guards on the level sensors to safeguard against contact with sewage, the malfunction may not have occurred.

Pump Station 2 operators were immediately aware of the pump shut-off and instituted protocols to bring them back online. Operators restored pump operation, which required overriding the programmed logic that caused the pumps to shut off. The electrical demand required to restart the pumps necessitated that they be brought online sequentially, with specified durations between pump startups. The City reported that it took approximately one hour for all working pumps to return to full service.

Another contributing factor to the SSO was that two of the eight pumps were out of service (the City's normal operating procedure is to utilize seven pumps to reach maximum station capacity and have one pump on standby). Pump 2 was out of service due to an alignment issue with the main drive shaft. Pump 5 was out of service for cone valve repair. According to the City, the estimated flow into Pump Station 2 on the day of the SSO was approximately 293-297 MGD—the same flow rate capable of the six

online pumps. The City's freeboard, or margin of safety, was exceeded on this day. Had there been available freeboard provided by a seventh pump, the level sensors may not have been inundated with sewage and the SSO may not have occurred or may have been significantly smaller in volume.

The 2018 Condition Assessment found that several critical components at Pump Stations 1 and 2 required replacement or rehabilitation. The Condition Assessment recommended that Priority 2 capital and operational tasks, including pump repair, should be initiated within two to five years, as the worn components compromised the performance of the pump stations. Consequently, the City began a concerted effort to repair the pumps within the recommended timeframe.

In an email dated April 24, 2024, the City demonstrated its extensive efforts to rehabilitate both Pump Nos. 2 and 5. These efforts included comprehensive troubleshooting by City staff, consultation with several engineering and electrical firms, contractors, and vendors, and working closely with engineers from the pump manufacturer. The City experienced numerous setbacks during the Pump No. 2 repair attempts spanning seven years, many of which took a significant amount of time due to the complexity of the pump and equipment involved, and because some work could not be completed during the rainy season. Pump No. 5 was routinely in service until October 2021, but then experienced problems with its cone valve that were difficult to diagnose until the pump was shipped to the vendor and disassembled, evaluated, and tested. The City's lengthy procurement process also contributed to the delay. The City continued to experience setbacks with the pump repair, but finally made substantial progress in 2024 partly due to using a different contracting mechanism process. Because the City did not utilize sensor equipment guards or institute expeditious contracting processes prior to the SSO, a score of 1.1 is appropriate for the Culpability factor.

History of Violations = 1.1

The 2017 Enforcement Policy states that where a discharger has prior violations within the last five years, the Water Boards should use a multiplier of greater than 1.0. Within the last five years, on April 10-11, 2020, the City experienced an 11.23-million-gallon SSO into the Sweetwater River and San Diego Bay, which was addressed through Cease and Desist Order No. R9-2023-0016 and Stipulated Order No. R9-2023-0017.[19] That SSO was the result of a sanitary sewer system failure including failures at Pump Station 1 and the Sweetwater River siphons during a high-intensity storm, that took several days to identify. Therefore, a score of 1.1 is appropriate for this factor.

Cleanup and Cooperation = 1.2

The 2017 Enforcement Policy allows a multiplier between 0.75 and 1.5 to be used to adjust the penalty to account for voluntary efforts to cleanup and/or cooperate with

[19] The Orders associated with the Sweetwater SSO are available at: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/orders2023.html.

regulatory authorities in returning to compliance after the violation. Adjustments below or above 1.0 should be applied where the discharger's response to a violation or order is above and beyond, or falls below, the normally expected response, respectively.

As required by law following the SSO, the City posted warning signs at affected beaches and public spaces around the San Diego Bay shoreline until bacterial levels were within Basin Plan water quality objectives. As required by the Investigative Order, the City also conducted an environmental assessment to assess impacts to fish and wildlife.

Further, the City replaced the ultrasonic level sensors and purchased equipment guards which should prevent the sensors from malfunctioning if wet well levels rise above sensor levels again. The City also changed the programming logic so that a low-level reading from the ultrasonic level sensors will not cause automatic pump shut-off without staff intervention.

The City inspected an overflow structure in the San Diego River on January 19, 2023, three days after the SSO occurred. The City found neither evidence of an SSO nor signs of disturbance in the surrounding flora and fauna and concluded that sampling anywhere along the San Diego River or the downstream beaches was unnecessary. However, the Statewide General Order requires sampling to be completed within 48 hours of an SSO – even if the City did take samples of bacterial indicators, the samples would not have been taken within the window allowed by the Statewide General Order. Moreover, the City did not see evidence of an SSO but failed to account for the possibility that any evidence had washed downstream during the storm. The City's SSO response relied on complainants calling to report sewage surfacing on streets and basements in the vicinity of San Diego Bay and did not consider the collection system's overflow design to the San Diego River.

Additionally, although the City put forth extensive efforts spanning several years to rehabilitate the pumps and the challenges therein, the City was not able to complete the rehabilitation until November 2024,[20] nearly two years following the SSO. The inadequate SSO response and delay in rehabilitating pump station capacity for nearly two years warrant a Cleanup and Cooperation score of 1.2 because overall, the City's post-SSO actions fell below the normally expected response.

Step 5. Determination of Total Base Liability Amount

The Total Base Liability Amount is determined by multiplying the Initial Liability Amount by the Adjustment Factors in Step 4:

Total Base Liability Amount = [$7,832,612 (initial liability amount) x 1.1 (degree of culpability) x 1.1 (history of violations) x 1.2 (cleanup and cooperation)] = **$11,372,953.**

[20] Email from D. Campbell, City of San Diego, to C. Arias, San Diego Water Board, dated December 11, 2024.

Step 6. Economic Benefit[21]

The 2017 Enforcement Policy states that the economic benefit of noncompliance should be calculated using the United States Environmental Protection Agency's (USEPA's) Economic Benefit Model (BEN Model) liability and financial modeling program. For this case, economic benefit was calculated using BEN Model Version 2024.0.0. Using standard economic principles such as the time-value of money and tax deductibility of compliance costs, the BEN Model calculates a discharger's economic benefit derived from delaying or avoiding compliance with environmental statutes.

The City gained an economic benefit by 1) delayed costs associated with not utilizing equipment guards on the level sensors, 2) delayed costs associated with repairs to the pumps that were inoperative at Pump Station 2 at the time of the SSO, and 3) avoided costs for not treating approximately 9.8 million gallons of untreated sewage:

- Cost to purchase equipment guards: $86[22]
- Cost to complete repairs related to Pumps Nos. 2 and No. 5: $1,119,586[23]
- Cost to treat 9.8 million gallons of untreated sewage: $12,740.[24]

Using USEPA's BEN Model, the City experienced an economic benefit of approximately $70,751 from not timely completing the delayed and avoided actions described above.

Step 7. Other Factors As Justice May Require

The 2017 Enforcement Policy allows an adjustment to the administrative civil liability in consideration of the costs of investigating and enforcing the matter. As of February 29, 2024, San Diego Water Board staff expended over 216 staff hours and accrued $46,655 in staff costs associated with the investigation and preparation of this penalty methodology. It is appropriate to increase the Total Base Liability Amount by $46,655 for the violation given the totality of the circumstances and is intended to serve as a sufficient general and specific deterrent against future violations.

Additionally, to provide context related to the City's collection system, the Prosecution Team evaluated the City's SSOs during the previous five years. According to the California Integrated Water Quality System (CIWQS) database, the City experienced 213 Category 1, 2, and 3 SSOs from January 16, 2018 to January 16, 2023. [25] The total

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[21] The Order of Steps 6-8 is consistent with procedural changes in the 2024 Enforcement Policy.

[22] City response to Investigative Order No. R9-2023-0053.

[23] Information provided by the City to the Prosecution Team on February 25, 2025.

[24] In its response to Investigative Order No. R9-2020-0205, the City reported that the wastewater treatment and conveyance cost is approximately $1,300 per million gallons.

[25] The CIWQS database, and definitions of Category 1, 2, and 3 SSOs, can be found here: https://www.waterboards.ca.gov/water_issues/programs/sso/. Data is entered into the database by the enrollee (City).

volume of untreated sewage spilled from the City's sanitary sewer system was 21.7 million gallons. This volume includes the 9.8 million gallon SSO discussed herein and the 11.23 million gallon SSO into the Sweetwater River and San Diego Bay addressed through Cease and Desist Order No. R9-2023-0016 and Stipulated Order No. R9-2023-0017. The remaining SSOs were relatively small and have not been adjudicated. No adjustment to the administrative civil liability is warranted based on this information.

Step 8. Ability to Pay and Ability to Continue in Business

The City of San Diego is a public entity with the ability to leverage fees or taxes. The San Diego Water Board is not aware of, and the City of San Diego has not provided, any evidence of inability to pay.

Step 9. Maximum and Minimum Liability Amounts

Maximum Liability – The alleged violation subjects the City to administrative civil liability pursuant to Water Code section 13385(c), which authorize the San Diego Water Board to impose administrative civil liability up to $10,000 per violation per day, plus $10 for each gallon exceeding 1,000 gallons discharged but not cleaned up.

The Maximum Liability Amount that could be assessed for the violation is:

[9,781,765 gallons -1,000 gallons)] x ($10/gallon)] + [(1 day of violation) x ($10,000/day)] = **$97,817,650.**

Minimum Liability – Water Code section 13385 requires recovery of economic benefit. The 2017 Enforcement Policy states that the minimum liability should be at least ten percent higher than the economic benefit amount.

The Minimum Liability Amount that could be assessed for the violation is:

$70,751 + ($70,751 x 10%) = **$77,826.**

Step 10. Final Liability Amount

The Final Liability Amount is $11,372,953 (Total Base Liability Amount) + $46,655 (investigation and enforcement costs) = **$11,419,608,** which is between the maximum and minimum liability amounts.

Documents Relied Upon

Exhibit No.	ECM Document Handle No.	Item	Date
1	9371099	Pump Stations 1-2 Facilities Condition Assessment Report	5/11/2018
2	8859205	City's Response to Investigative Order No. R9-2020-0204	9/14/2020
3	9902207	Notice of Violation No. R9-2023-0052	2/22/2023
4	9903808	Investigative Order No. R9-2023-0053	2/22/2023
5	9927231	City's Response to Investigative Order No. R9-2023-0053	4/20/2023
6	10228051	Pump Station 2 Improvement and Modernization Design Bid	10/26/2023
7	10155130	City Presentation: Wastewater System--Planning and Operations	11/8/2023
8	10228047	NOAA Jan 2023 Climatological Data for San Diego International Airport	11/30/2023
9	10228050	NOAA Precipitation Frequency Estimates: San Diego NWS Station	11/30/2023
10	10228048	NOAA San Diego International Airport rain gauge location	11/30/2023
11	10266182	Investigation and Enforcement Costs as of February 29, 2024	2/29/2024
12	10409053	Email from D. Campbell to C. Arias regarding efforts to rehabilitate pumps	4/24/2024
13	10628729	Updated Spill Report for Event ID 885537	5/24/2024
14	10636621	Email from D. Campbell to C. Arias confirming date of pump repair	12/11/2024
15	11272660	City of San Diego SSO Data from CIWQS (2018-2023)	1/21/2025

16	11541248	Actual Costs to Repair Pump Nos. 2 and 5	2/25/2025
17	11541263	Economic Benefit Analysis	2/26/2025