

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. ~~R2-2022-0004~~ R2-2023-00XX

**~~AMENDED WASTE DISCHARGE REQUIREMENTS and WATER QUALITY
CERTIFICATION, ORDER No. R2-2021-0005 for:~~**

**Amendment of Order No. R2-2019-0023, as amended by Order Nos. R2-2020-0034, R2-
2021-0005, and R2-2022-0004, for General Waste Discharge Requirements and Water
Quality Certification for:**

**Napa County Flood Control and Water Conservation District
Stream Maintenance Program
Napa County**

**San Mateo County
Routine Maintenance Program
San Mateo County**

**Contra Costa County Flood Control and Water Conservation District and
Contra Costa County Public Works Department
Routine Maintenance Program
Contra Costa County**

**Sonoma County Water Agency
Stream Maintenance Program
Sonoma County**

**Midpeninsula Regional Open Space District
Open Space Maintenance and Restoration Program
San Mateo County and Santa Clara County**

**Marin County Flood Control and Water Conservation District
Stream Maintenance Program
Marin County**

**City of Livermore
Livermore Stream Maintenance Program
Alameda County**

Findings Supporting the Amendment

The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), finds that:

1. The Water Board regulates discharges to surface waters and controllable water quality factors to protect the physical, chemical, and biological components of aquatic ecosystems and the associated functions provided by streams, wetlands, and associated riparian areas. Stream maintenance activities may affect vegetation or the physical features of a stream or riparian area and are considered controllable water quality factors.
2. The Water Board regulates the implementation of Stream Maintenance Programs (SMPs), also called Routine Maintenance Programs (RMPs), for routine stream maintenance activities, including sediment and debris removal, vegetation management, bank stabilization, and other maintenance activities in streams. Routine maintenance activities generally provide flood protection by maintaining conveyance capacity and also enhance and protect natural resources.
3. Order No. R2-2019-0023, as amended by Order Nos. R2-2020-0034, R2-2021-0005, and R2-2022-0004, applies to stream maintenance activities conducted pursuant to an approved SMP or RMP Manual (Manual) to guide implementation of each SMP or RMP. Each Manual describes routine stream maintenance activities conducted in a manner that enhances ecosystem processes while helping to mitigate flood-related hazards. Each Manual includes methods to improve understanding of channel conditions, identify potential underlying causes for maintenance, and develop channel discharge and vegetation objectives to reduce the frequency and need for future maintenance activities.
4. This Order amends Order No. 2019-0023, as previously amended, to add the following Dischargers: Marin County Flood Control and Water Conservation District and the City of Livermore.
5. Pursuant to California Water Code (Water Code) section 13149.2, the Water Board has considered readily available information concerning potential water quality impacts in disadvantaged and tribal communities that may result from the adoption of this Amendment. The discharges regulated by this Amendment may occur in disadvantaged or tribal communities. Stream maintenance activities have the potential to affect water quality through vegetation management, erosion protection, culvert repair and replacement, and sediment and debris removal activities. This Amendment addresses potential adverse impacts to water quality by requiring the implementation of mitigation measures and best management practices to restore and compensate for temporary and permanent loss of functions, values, and acreage of waters of the State.
6. The Water Board has notified the Dischargers and interested parties of its intent to consider adoption of this Amendment and provided an opportunity to submit written comments. The Water Board has also conducted outreach to potentially affected disadvantaged and tribal communities concerning this Amendment. In a public meeting, the Water Board heard and considered comments on this Amendment. Pursuant to California Code of Regulations, Title 23 (23 CCR) section 3858, the Marin County Flood Control and Water Conservation

District's application for General Waste Discharge Requirements and Water Quality Certification of their Stream Maintenance Program was received on March 23, 2023, and the City of Livermore's application for General Waste Discharge Requirements and Water Quality Certification of their Stream Maintenance Program was received on March 22, 2023. Both applications were posted for 21 days on the SF Bay Regional Water Board website before action was taken.

7. The Water Board is a responsible agency under the California Environmental Quality Act (CEQA). The Marin County Flood Control District, as lead agency, adopted a Mitigated Negative Declaration (MND) in 2012 for its West Marin SMP (State Clearinghouse No. 2007-092065), and filed an addendum in March 2013. The Marin County Flood Control District, as lead agency, adopted a MND for its East Marin SMP in 2012 (State Clearinghouse No. 2012-022053), and filed an addendum in April 2014. The City of Livermore, as lead agency, adopted an Initial Study/MND (IS/MND) (State Clearinghouse No. 2015042027) for its SMP in 2022. The Water Board has reviewed these CEQA documents and finds that the significant environmental effects that are within the Water Board's purview and jurisdiction have been identified and will be mitigated to less than significant levels. Specifically, significant impacts pertaining to wetland and aquatic habitat and water quality will be mitigated to less-than-significant levels through implementation of mitigation measures identified in the CEQA documents and the mitigation identified in the Order and in Marin County Flood Control District's and the City of Livermore's Manuals, all of which are required to be implemented and reported on by the amended Order.

IT IS HEREBY ORDERED that Order No. R2-2019-0023, as amended by Order Nos. R2-2020-0034, R2-2021-0005, and R2-2022-0004, is amended as shown below. Additions are shown in underline and deletions are shown in strikeout. The amendments are effective upon adoption. The Dischargers shall comply with Order No. R2-2019-0023 as amended.

The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), finds that:

1. **Water Quality Regulation.** The Water Board regulates discharges to surface waters and controllable water quality factors to protect the physical, chemical, and biological components of aquatic ecosystems and the associated functions provided by streams, wetlands, and associated riparian areas. Stream maintenance activities may affect vegetation or the physical features of a stream or riparian area and are considered controllable water quality factors.
2. **Stream Maintenance Regulation.** The Water Board regulates the implementation of Stream Maintenance Programs (SMPs), also called Routine Maintenance Programs (RMPs), for routine stream maintenance activities, including sediment and debris removal, vegetation management, bank stabilization, and other maintenance activities in streams. Routine maintenance activities generally provide flood protection by maintaining conveyance capacity and also enhance and protect natural resources.
3. **Order.** This amended Order applies to stream maintenance activities conducted pursuant to an approved SMP or RMP Manual (Manual) to guide implementation of each SMP or RMP. Each Manual describes routine stream maintenance activities conducted in a manner that enhances ecosystem processes while helping to mitigate flood-related hazards. Each Manual includes methods to improve understanding of channel conditions, identify potential underlying causes for maintenance, and develop channel discharge and vegetation objectives to reduce the frequency and need for future maintenance activities. This Order may be further amended to include additional Dischargers or to authorize SMPs or RMPs in other counties upon submittal of a complete application for Waste Discharge Requirements (WDRs) and Clean Water Act (CWA) Section 401 Water Quality Certification (Certification), including an approved Manual.
4. **Authorized Manual Revisions.** The Manuals and their appendices are considered “living documents” that may be updated or revised to improve maintenance protocols and increase their environmental protectiveness. Proposed changes will be submitted via an Annual Notification Report (ANR) or Annual Post-Maintenance Report for review and approval. All changes to an SMP or RMP Manual and its associated attachments must comply with all terms and conditions of this amended Order and be approved in writing by the Executive Officer.
5. **Dischargers.** This Order applies to the following programs, collectively referred to hereafter as the Dischargers:
 - The Napa County Flood Control and Water Conservation District’s (Napa County Flood Control District’s) SMP;
 - The County of San Mateo’s (San Mateo County’s) RMP;

- The Contra Costa County Flood Control and Water Conservation District and Contra Costa County Public Works Department's (Contra Costa County Flood Control District's) RMP;
- The Sonoma County Water Agency's (Sonoma Water's) SMP; and
- The Midpeninsula Regional Open Space District (Midpen) RMP.
- Marin County Flood Control and Water Conservation District and Marin County Public Works Department (Marin County Flood Control District's) SMP; and
- City of Livermore's SMP.

6. Program Specifics. The actions, impacts, mitigation, and requirements set forth in this amended Order reflect the differences among the Dischargers' stream maintenance activities. Each Discharger implements stream maintenance activities specific to the watersheds it manages:

a. Napa County Flood Control District:

- i. The Napa County Flood Control District's SMP covers stream maintenance activities within the Napa River watershed, which drains to San Pablo Bay, and the portion of the Suisun Creek watershed within Napa County, which drains to Suisun Bay. This amended Order does not apply to stream maintenance activities conducted in the Lake Berryessa/Putah Creek watershed, which is under the jurisdiction of the Central Valley Regional Water Quality Control Board;
- ii. The Napa County Flood Control District's program maintains approximately 13 miles of flood control channels and easements within areas where the land use is a mix of rural and urban uses comprising small cities and towns with a significant agricultural presence.

b. San Mateo County: San Mateo County's RMP covers stream maintenance activities within two physiographic regions: (1) County areas draining to San Francisco Bay (Bayside); and (2) County areas draining to the Pacific Ocean (Coastside) with the following watersheds:

- i. Bayside: San Francisco Bay, Visitacion Valley, Colma Creek, San Mateo Creek, Cordilleras Creek, San Mateo Creek, and San Francisquito Creek watershed; and
- ii. Coastside: San Pedro Creek, Denniston Creek, Arroyo Leon, Purisima Creek, San Gregorio Creek, La Honda Creek, Upper Pescadero Creek, Lower Pescadero Creek, Butano Creek, and the Gazos Creek watershed. The Gazos Creek watershed is under the jurisdiction of the Central Coast Regional Water Board and is not covered by this amended Order.

The San Mateo County Department of Public Works (DPW) and Parks Department (Parks Department) are responsible for conducting routine maintenance activities to ensure that County facilities function properly. DPW maintains over 300 miles of roadway and associated facilities, including shoulder areas, roadside ditches, ditch

relief culverts, bridges, green infrastructure (GI¹) and low impact development (LID)-based stormwater facilities, and flood control facilities in active flood control zones.

- c. *Contra Costa County Flood Control District*: The Contra Costa County Flood Control District's RMP covers routine maintenance activities in the Wildcat Creek, San Pablo Creek, Rheem Creek, Garrity Creek, Pinole Creek, Rodeo Creek, Alamo Creek, DA128, Vine Hill Creek, and Pacheco Creek (also known as Walnut Creek) watersheds. This amended Order does not apply to routine maintenance activities in the East Antioch Creek and Marsh Creek watersheds, which are under the jurisdiction of the Central Valley Regional Water Quality Control Board.
- i. The Contra Costa County Flood Control District's program maintains approximately 77 miles of streams that are engineered flood control channels (18.75 miles of concrete-lined channel) within an urbanized setting.
- d. *Sonoma County Water Agency*: The Sonoma County Water Agency's SMP covers stream maintenance activities in two Sonoma County watersheds within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board, the Petaluma River and Sonoma Creek watersheds, which both drain to San Pablo Bay. This amended Order does not apply to stream maintenance activities in the Russian River, Bodega Bay, and Gualala River watersheds, which are under the jurisdiction of the North Coast Regional Water Quality Control Board.
- i. The Sonoma County Water Agency's program maintains approximately 4.32 miles of engineered channels (owned in fee), 8.67 miles of engineered channels (easement maintained²), 18.29 miles of modified channels (easement maintained), and 10.20 miles of natural channels (easement maintained) within areas where the land use is a mix of rural and urban uses comprising small cities and towns with a significant agricultural presence.
- e. *Midpen*: Founded in 1972, Midpen protects over 64,000 acres of open space in the South Bay and San Francisco Peninsula. Most of these lands are located within 26 open space preserves (OSPs) that protect wildlife and habitat in the greater Santa Cruz Mountains region while also providing recreational opportunities for Bay Area residents. Midpen's RMP covers stream maintenance activities within two physiographic regions: (1) the western portion of the Midpen RMP area from Pedro Point just south of the City of Pacifica to the San Mateo and Santa Cruz counties boundary and eastward from the Pacific Ocean to between Skyline Boulevard and I-280, which Midpen designates as the Skyline Region; and (2) the eastern portion of the Midpen RMP area, just southeast of Upper Crystal Springs Reservoir to the Santa Clara and Santa Cruz County boundary at Loma Prieta Avenue and extending east from the Santa Cruz Mountains to San Francisco Bay, designated as the Foothill

¹ San Mateo County's RMP Manual defines GI activities as vegetation and thatch removal and light sediment and debris clearing and planting in their GI roadside swales and bioretention areas that require periodic maintenance.

² Easement maintained channels are not owned by Sonoma Water, but Sonoma Water performs channel maintenance on them through permissive easement agreements.

Region. Many of Midpen's OSPs are located within the headwaters or uppermost sections of the following watersheds:³

- i. Skyline Region: San Pedro Creek; Denniston Creek; Arroyo Leon; Purisima Creek; San Francisquito Creek; San Gregorio Creek; La Honda Creek; Adobe Creek; Stevens Creek; Saratoga Creek; Upper Pescadero Creek; Lower Pescadero Creek; Butano Creek; Gazos Creek; and Waddell Creek;
- ii. Foothill Region: San Mateo Creek; Adobe Creek; Permanente Creek; San Francisco Bay Estuaries; Stevens Creek; Saratoga Creek; San Tomas Aquinas Creek; Los Gatos Creek; and Alamitos Creek;

Midpen's RMP area contains approximately 900 culverts (including ditch relief and stream crossings), 150 trail bridges (including fords, puncheons, and boardwalks), 25 vehicles bridges, approximately 230 miles of streams (including many unmapped seasonal drainages and tributaries), 100 waterbodies (mostly ponds), 115 miles of single-track maintained unpaved trails, and 230 miles of maintained roads (including paved, unpaved seasonal, and unpaved all-season). As such, Midpen frequently conducts routine maintenance activities and implements restoration and enhancement projects. Midpen also conducts small-scale facility improvements, including on newly acquired land (See Finding 15(e)).

f. *Marin County Flood Control District: The Marin County Flood Control and Water Conservation District was formed in 1955 by an act of the California State Legislature with the primary purpose of controlling flood and storm waters of streams within Marin County. The Marin County Board of Supervisors sits as its board, and the Marin County Flood Control District is staffed by the County of Marin Department of Public Works. Maintenance work can only occur in eight flood control zones to address specific issues related to flooding within individual watersheds. Flood zones cover only a minority of the county, and the majority of work can only occur where permission has been granted from property owners.*

i. *The District holds legal title to thousands of acres of flood control lands (mostly along channels and in the Novato Baylands) and holds easements on additional channels. It maintains 37 miles of stream channels, several basins, and numerous flood control facilities (18 permanent and 4 portable pump stations; 10 miles of levees; tide gates, and other facilities) to ensure flood conveyance, the proper functioning of flood control facilities, and access to streams, channels, and facilities.*

ii. *Flood Control Zones: 1 – Novato; 3 – Richardson Bay; 4 – Bel Aire and Strawberry Circle; 5 – Stinson Beach; 7 – Santa Venetia; 9 – Ross Valley.*

g. *City of Livermore: The area streams managed under the City of Livermore's SMP are owned by the City of Livermore, the Alameda County Flood Control and Water*

³ Program activities occurring in Santa Cruz County are under the jurisdiction of the Central Coast Regional Water Board and are not covered by this amended Order.

Conservation District Zone 7 (Zone 7), Livermore Area Recreation and Parks District, or by a private entity.

- i. The City of Livermore owns and/or maintains for private entities natural creeks and engineered channels for 24.1 miles, 56.6% of SMP area reaches, Zone 7 owns approximately 10 miles (23.4%), and the Livermore Area Recreation and Parks District owns approximately 7.1 miles (16.6%). In addition, Zone 7 partially owns (owns portions of a given stream cross-section based on parcel boundaries) approximately 0.8 mile (1.8%), and has drainage easements on approximately 0.8 mile (1.8%).
 - ii. The City has a Recreational Use License Agreement in place with Zone 7 to conduct maintenance of stream channels where the City also maintains an access easement for recreational trails that follow the channel. This agreement is long-standing (initiated in 1968 and re-issued in 2005). It allows the City to use Zone 7 facilities to construct, improve, maintain, and operate facilities for parks and recreation purposes. The Agreement has a term of 25 years and may be renewed in 25-year increments.
 - iii. The Livermore Area Recreation and Parks District may manage both its owned reaches and reaches owned by the City of Livermore according to established management agreements between the agencies. The City of Livermore does not regularly maintain privately owned reaches. However, actions to clear debris or excess vegetation can occur at the landowner's request with an agreement of necessity by the City of Livermore.
- 7. Applications.** To enroll under this amended Order, each Discharger submitted an application for Certification and Waste Discharge Requirements for its respective SMP or RMP, as follows:
 - a. Napa County Flood Control District.* On June 5, 2018, the Napa County Flood Control District submitted an application for reissuance of Waste Discharge Requirements (WDRs) and Water Quality Certification (Certification) for its SMP. Napa County Flood Control District previously conducted stream maintenance activities under Waste Discharge Requirements (WDRs) and Water Quality Certification Order No. R2-2012-0063. On July 10, 2019, the Napa County Flood Control District's stream maintenance activities under Order R2-2012-0063 were reauthorized under Order No. R2-2019-0023. This amended Order makes no changes to Napa County Flood Control District's ongoing maintenance activities within its maintenance jurisdiction, described in its updated SMP Manual, dated January 2019 (Napa Manual or SMP Manual) (Attachment A), and summarized in Finding 6(a);
 - b. San Mateo County.* On May 1, 2019, San Mateo County submitted an application for WDRs and Certification for its RMP. This amended Order authorizes San Mateo County's maintenance activities within its maintenance jurisdiction as described in its RMP Manual, dated August 2020 (San Mateo Manual or RMP Manual) and summarized in Finding 6(b);

- c. *Contra Costa County Flood Control District*. On October 4, 2019, the Contra Costa County Flood Control District submitted an application for WDRs and Certification for its RMP. This amended Order authorizes Contra Costa County Flood Control District's maintenance activities within its maintenance jurisdiction as described in its RMP Manual, dated December 2020 (Contra Costa Manual or RMP Manual) and summarized in Finding 6(c);
- d. *Sonoma County Water Agency*: On March 19, 2021, the Sonoma County Water Agency submitted an application for WDRs and Certification for its SMP. This amended Order authorizes Sonoma County Water Agency's maintenance activities within its maintenance jurisdiction as described in its SMP Manual, dated February 2020 (Sonoma Water Manual or SMP Manual) and summarized in Finding 6(d).
- e. *Midpen*: On October 13, 2021, Midpen submitted an application for WDRs and Certification for its RMP. This amended Order authorizes Midpen's RMP within its maintenance jurisdiction as described in its RMP Manual and summarized in Finding 6(e).
- f. *Marin County Flood Control District*: On March 23, 2023, the Marin County Flood Control District submitted an application for WDRs and Certification for its SMP. This amended Order authorizes Marin County Flood Control District's maintenance activities within its maintenance jurisdiction as described in its SMP Manual, dated April 2023 (Marin Manual) and summarized in Finding 6(f); and
- g. *City of Livermore*: On March 22, 2023, The City of Livermore submitted an application for WDRs and Certification for its SMP. This amended Order authorizes the City of Livermore's maintenance activities within its maintenance jurisdiction as described in its SMP Manual, dated March 21, 2023 (Livermore Manual) and summarized in Finding 6(g).

I. Stream Maintenance Program/Routine Maintenance Program

8. **Stream Maintenance Activities.** The Dischargers' SMP and RMP Manuals (Manuals) include the following primary maintenance activities: (1) vegetation management; (2) downed tree management; (3) erosion protection; (4) culvert repair and replacement projects and (5) sediment and debris removal. The Contra Costa County Flood Control District's Manual also includes culvert repair and replacement as a primary maintenance activity. In addition, the Manuals discuss other, less-frequent maintenance activities specific to each Discharger (see "Other Maintenance Activities" in Finding 15 below).
9. **Stream Categories.** The Manuals categorize streams by channel type. The Manuals also characterize the hydrologic, geomorphic, and biological processes influencing each stream reach where maintenance is conducted. The channel type and stream reach characterizations help determine the timing, frequency, strategy, and need for maintenance activities. Maintenance activities in natural streams are more limited compared to maintenance activities in other channel types. Each Discharger's Manual categorizes the streams where maintenance activities will be conducted as follows:

- a. Napa County Flood Control District: The Napa County Flood Control District categorizes streams according to the following channel types: (1) engineered channels; (2) modified channels; (3) semi-modified channels; and (4) natural streams;
- b. San Mateo County: San Mateo County's RMP categorizes channels into three general types: (1) unmodified, natural channels; (2) modified earthen channels; or (3) road and bridge culverts;
- c. Contra Costa County Flood Control District: The Contra Costa County Flood Control District's RMP categorizes streams according to the following channel types: (1) concrete bed and bank channels; (2) concrete bed with earthen bank channels; (3) concrete bed with riprap bank channels; (4) earthen bed and bank channels; (5) earthen bed with riprap bank channels; (6) earthen bed with concrete bank channels; and (7) natural channels;
- d. Sonoma County Water Agency: The Sonoma County Water Agency's SMP categorizes streams according to the following channel types: (1) engineered channels – owned in fee; (2) engineered channels – easement maintained; (3) modified channels – easement maintained; and (4) natural channels – easement maintained; ~~and~~
- e. Midpen: Because Midpen's OSPs are undeveloped tracts of open space, Midpen's RMP will occur on (1) ephemeral streams, ~~and~~ (2) intermittent streams, and (3) perennial streams-; ~~and~~
- f. Marin County Flood Control District: Marin County Flood Control District's SMP categorizes streams according to the following channel types: (1) concrete engineered channels; (2) earthen engineered channels; and (3) natural channels;
- g. City of Livermore: The City of Livermore's SMP categorizes streams according to the following channel types: (1) engineered or modified channels and (2) natural creeks.

- 10. Vegetation Management.** Vegetation management generally refers to selective trimming, thinning, mowing, and removal of trees and vegetation that increase flood risk or are a flood hazard. Vegetation management activities also include maintenance conducted for public safety and to reduce fire fuel load and invasive plant removal. Vegetation management is required to be performed in a manner designed to prevent or minimize erosion, sedimentation, and loss of habitat.
- 11. Downed Tree Management.** Downed tree management refers to pruning, stabilizing, repositioning, or removal of fallen trees and large branches that increase flood risk, erosion, or threaten infrastructure like stream crossings or culverts. Downed tree management is required to be performed in a manner designed to maximize in-stream habitat value of this woody debris, while still maintaining channel flow capacity.
- 12. Erosion Protection.** Erosion protection refers to activities implemented to manage erosion, repair or enhance eroded banks, and to stabilize streambanks to reduce or eliminate the

need for future maintenance. Bank stabilization activities are required to use bioengineering techniques to the maximum extent practicable and minimize the use of hardscape.

13. Sediment and Debris Removal. Sediment and debris removal refers to activities that remove accumulated sediment and debris from stream channels to restore conveyance capacity and alleviate flood risk. Sediment and debris removal activities are required to be conducted with the minimum amount of soil disturbance to prevent downstream sedimentation. Sediment removal is limited to occur within the following channel types, by Discharger:

- a. Napa County Flood Control District: modified and engineered channels, or within proximity to culverts and bridges;
- b. San Mateo County: (1) unmodified, natural channels; (2) modified earthen channels; or road and bridge culverts;
- c. Contra Costa County Flood Control District: (1) concrete bed and bank channels; (2) concrete bed with earthen bank channels; (3) concrete bed with riprap bank channels; (4) earthen bed and bank channels; (5) earthen bed with riprap bank channels; (6) earthen bed with concrete bank channels; and (6) natural channels;
- d. Sonoma County Water Agency: modified and engineered channels and facilities, or within proximity to culverts and bridges; and
- e. Midpen: ephemeral streams, intermittent streams, perennial streams, and ponds.
- f. Marin County Flood Control District: concrete-lined channels, engineered sediment basins, and natural channels; and
- g. City of Livermore: individual crossings, culverts, outlets, other in-channel facilities, or other individual reaches where sediment accumulation is a concern (e.g., aggrading channel reaches near hills and the valley floor).

14. Roadside Ditch and Swale Maintenance. Roadside ditch and swale maintenance refers to sediment and vegetation clearing from unpaved and paved roadside ditches and swales.

15. Other Maintenance Activities. Each Discharger also conducts routine maintenance and monitoring activities or other program activities, as follows:

- a. Napa County Flood Control District:
 - i. Ceonducts routine monitoring and maintenance for other projects, including (1) restoration projects within the Napa County Community Facilities District (Rutherford Reach and Oakville to Oak Knoll Reach; Napa County Manual Appendices A and B), (2) dredged material rehandling sites (Edgerly Island and Imola Avenue sites, Napa County Manual Chapter 10), and (3) the Napa River/Napa Creek Flood Protection Project (Napa County Manual Appendix M).

Restoration projects will be monitored and maintained as described in the Napa County Manual and in project-specific maintenance plans approved by State and federal agencies. Maintenance of uplands at dredged material rehandling sites, including mowing the levees to minimize potential fire hazards, is also described in the Napa County Manual;

- ii. ~~H~~has partnered with the Napa Resource Conservation District to protect streams and water resources in the County by improving and maintaining unpaved roadways and drainages to reduce erosion and improve water quality. The Manual describes unpaved road maintenance goals, project activities, methods, and avoidance and minimization measures (Napa County Manual Appendix L);
- iii. ~~D~~escribes maintenance activities in its Manual to maintain channel access roads, roadside drainage ditches, bridges, drainage systems and outfalls, and to repair and replace culverts and beaver controls (Napa County Manual Chapter 12); and
- iv. ~~H~~has developed a Post-Construction Contingency Plan (PCCP; Manual Appendix N) that describes long-term monitoring of the Petroleum Residual Contamination Area (PRCA), located between 5th Street and Tulocay Creek, where petroleum contamination in soil and groundwater was investigated and remediated concurrent with construction of the Napa River/Napa Creek Flood Protection Project. The cleanup involved removal of petroleum-impacted soil and capping of residual contamination in soils. The PCCP requires semi-annual inspections of the soil cap and implementation of corrective actions as needed to ensure the long-term protectiveness of the cleanup.

b. San Mateo County conducts routine maintenance for:

- i. ~~O~~en-channel crossings; roadside ditch relief culverts; flood control channels, drainages, and creeks; roadside ditches and swales; roads; green infrastructure (GI); and storm drain facilities including storm drain pipes, manholes, catch basins, trash capture devices, flap gates, pump stations, and diversion structures;
- ii. ~~M~~arina facilities, including, but not limited to, docks, pump out facilities, sewer line and tank repair, water lines, boat launch ramps, and seawall revetments (San Mateo County Chapter 8); and
- iii. ~~R~~oad and trail grading, fire fuel management, concrete channel repair, repair of existing rock slope protection along creek banks, and maintenance of tide gates, floodwalls, bridges, and levees.

c. Contra Costa County Flood Control District conducts routine maintenance activities for:

- i. ~~I~~nstream and off-line detention basins, channel access roads and ramps, repair and replacement of culverts, flap gates, and diversion structures, and trash and debris removal; and
- ii. ~~R~~oadside drainage ditches, drainage systems, and outfalls;

- d. Sonoma County Water Agency conducts routine maintenance activities for:
- i. Upper bank zone vegetation, fences along channels, channel access roads and ramps, removing or covering graffiti on Sonoma Water Facilities, and trash and debris removal;
 - ii. ~~R~~oadside drainage ditches, drainage systems, drop-inlet culverts which direct local surface flow towards the flood control channels, outfalls, culvert blockages, and reservoir inlet structures;
- e. Midpen's program includes routine maintenance activities and other program activities for:
- i. Stream crossings, roadside and trailside culverts, roadside and trailside ditches, ponds and lakes;
 - ii. Water supply structures, such as spring box and/or water tank maintenance or replacement, water line replacement, extensions, or realignments, instream diversion intake clearing, and vegetation removal;
 - iii. Road grading and shaping, removal of asbestos from culverts and other structures, culvert repair and replacement, sediment and debris removal at inboard ditches and stream crossings, fords and swales repair and replacement, bank stabilization, installation of rolling dips and fords, trash rack clearing, repair or gabion rock or riprap, road brushing and mowing, vegetation management, minor relocation of road/trail segments to correct resource concerns, installation of new roadside and trailside ditch relief culverts at non-stream crossings, and repair and replacement of driveways;
 - iv. Bridge maintenance such as replacement of decking and handrails, minor structural repairs, repair and fortify bridge abutments, sediment and debris removal, replacement of existing non-vehicle bridges,⁴ removal of lead paint, and repainting bridges;
 - v. Invasive species removal in natural lands, fire fuel management for disc lines and fuel breaks, maintenance/clearing of defensive space buffers around OSP infrastructure; and mechanical and chemical treatment of vegetation at helicopter landing zones;
 - vi. Facility improvements that occur in areas outside of waters of the State,⁵ including trail bridge relocation or replacement, installation and repair of interpretative facilities and signage at existing preserves, improvements to existing ranching infrastructure, including fences, corrals, and stock water, maintenance of septic, telephone, telecommunications, and other utilities, rerouting or construction of unpaved trails, single-track trail resurfacing for Americans with Disabilities Act (ADA) compliance; construction of wildlife

⁴ This Order does not cover new bridge installation.

⁵Though these activities are infrequently located in jurisdictional areas, impacts that may occur to waters of the State at stream crossings where appropriate ford crossings would be installed to prevent erosion and sedimentation effects. Per Midpen's RMP Manual, the Water Board would be notified of potential impacts to jurisdictional areas before work would occur, allowing Water Board staff to assess the crossing design and impacts.

crossings, repair to existing structures to provide habitat for wildlife species, and replacement or removal of degraded water infrastructure facilities; and

- vii. Restoration and enhancement activities consisting of in-stream infrastructure removal (e.g. impoundment removal, removal of collapsed bridges or culverts), upsizing of culverts, native vegetation planting and seeding; habitat enhancement to prevent wildlife entrapment at stock watering troughs or spring boxes; pond and stream restoration; treatment of invasive species; exclusion fencing; prescribed burns; conservation grazing; road decommissioning; water well decommissioning; and structural demolition in riparian and other sensitive areas.

f. Marin County Flood Control District conducts routine maintenance and other program activities for:

- i. Levee maintenance when levees are eroding or settling by using additional stabilizing fill materials to bring levees up to original height and no higher, and trimming plant growth on levee roads that would otherwise impede safe and expedient passage to flood control facilities; and
- ii. Controlling burrowing animals' damage to levees. A burrowing animal control plan will be used to grout and block dens to keep burrowing activity out of the levees for levee stability.

g. City of Livermore conducts routine maintenance activities for:

- i. Maintenance and repair of existing bridges (e.g., concrete patching or localized reinforcement), treatment of scour erosion around bridge structures, painting, graffiti removal, and cleaning;
- ii. Bank stabilization to repair and stabilize eroding stream banks, reservoir banks, and culvert outlets within creek channels; and
- iii. In-kind repair and replacement of culverts; irrigation system maintenance; maintaining creek and channel access roads and trails for accessibility; and removing trash and debris from creek channels.

II. Impacts to Waters of the State

16. Temporary Impacts. The SMP and RMP activities in the Manuals will result in temporary impacts to waters of the State. Each Discharger is expected to initiate at least one, but may not initiate all, of the following activities that will temporarily impact waters of the State:

- a. Vegetation Management: Temporary impacts requiring mitigation can result from the following vegetation management activities: (1) removal of live trees greater than six inches in diameter at breast height (dbh), and (2) trimming or removal of instream and riparian vegetation.

- b. *Sediment Removal*: Sediment removal also results in temporary impacts, for example when the sediment supports wetland vegetation, when the sediment/gravel removed provides habitat for benthic or aquatic species, including aquatic invertebrates, or when there are discharges such as sediment or turbidity associated with the removal.
- c. *Bank Stabilization or Slip-Out Repairs*: Temporary impacts to creek banks and beds may occur during repair or stabilization of banks by disturbing riparian vegetation or altering riparian habitat.
- d. *In-Kind Culvert Repair and Replacement*: Repairing and replacing culverts in-kind (i.e., with the same culvert dimensions) may temporarily impact waters of the State when the culvert is repair or replaced.

17. Permanent Impacts: The RMP and SMP activities in the Contra Costa County Flood Control District's, San Mateo County's, Sonoma County Water Agency's, ~~and~~ Midpen's, Marin County Flood Control District's, and the City of Livermore's Manuals may result in permanent impacts to waters of the State. The activities that may permanently impact waters of the State include culvert repair or replacement projects and bank stabilization projects. The Napa County Flood Control District's authorized stream maintenance activities will only result in temporary impacts.

III. Mitigation

- 18. Beneficial Uses.** Impacts to beneficial uses from SMP and RMP activities that cannot be avoided through premaintenance planning will be minimized through implementation of the mitigation measures and Best Management Practices (BMPs) described in the SMP and RMP Manuals.
- 19. Temporal Loss.** Each Manual describes mitigation that will be implemented to restore temporarily impacted locations and compensate for temporal losses in function associated with the temporary impacts.
- a. *Napa County Flood Control District*: Mitigation includes revegetation at bank stabilization sites, riparian planting, invasive plant removal, enhancing or developing in-stream habitat complexity, and gravel augmentation;
 - b. *San Mateo County*: Mitigation includes revegetation and bioengineering at bank stabilization sites, riparian planting, invasive plant removal, and additional compensatory mitigation acreage in mitigation projects implemented for permanent loss;
 - c. *Contra Costa County Flood Control District*: Mitigation includes invasive plant removal, native riparian planting projects, and planning and implementation of measures to optimize fish habitat in the program watersheds. Mitigation may include partnering with local watershed groups to implement invasive plant removal, native riparian planting projects and proactive measures using soil bioengineering to address bank instability throughout the local watershed areas;

- d. *Sonoma County Water Agency*: Mitigation includes: (Tier 1) on-site, in-kind mitigation; (Tier 2) off-site, in-kind mitigation; (Tier 3) and off-site, watershed-scale mitigation. Tier 1 and 2 mitigation involve native planting projects along riparian corridors, removal of exotic and invasive species, biotechnical bank stabilization, and the construction of low-flow channels and other geomorphic features to enhance instream habitat and remove migration barriers. Tier 2 mitigation is only implemented if there is no opportunity to mitigate on-site (Tier 1 mitigation) or in addition to Tier 1 mitigation to address temporary impacts. Tier 3 mitigation addresses the temporary loss of beneficial uses and ecological function and values during the time gap between SMP sediment maintenance activities and when on-site Tier 1 mitigation is established. Sonoma County Water Agency has partnered with local non-profit agencies and Resource Conservation Districts (RCDs) to form the Watershed Partnership Program (WPP), which funds and implements Tier 3 mitigation projects. Sonoma Water contributes 10 percent of the annual cost of implementing SMP sediment removal and bank stabilization projects towards funding Tier 3 mitigation. WPP-funded mitigation projects may include such activities as headwater-area erosion control, revegetation of riparian corridors, invasive plant removal, post-construction stormwater treatment/low impact development projects that are not required by the State Water Board's statewide Small and Non-Traditional Municipal Stormwater NPDES Permit, enhancing or developing in-stream habitat complexity, gravel augmentation, or other stream restoration practices.
- e. *Midpen*: Mitigation includes revegetation and bioengineering at bank and berm stabilization sites, riparian planting, invasive plant removal in riparian areas, and additional compensatory mitigation acreage in mitigation projects, which may include the restoration and enhancement activities summarized in Finding 15(e), implemented for permanent loss.
- f. *Marin County Flood Control District*: Mitigation includes biotechnical techniques such as native willow staking, planting of native riparian vegetation, the removal of trash and invasive plant species, and additional compensatory mitigation acreage in mitigation projects; and
- g. *City of Livermore*: Mitigation includes on-site, in-kind mitigation (Tier 1); in-kind mitigation in other SMP Area reaches (Tier 2); off-site and out-of-kind, compensatory mitigation (Tier 3). Mitigation opportunities are sought first on-site at the project location (Tier 1), and second in other SMP Area reaches (Tier 2). Tier 1 mitigation is implemented on-site within the specific project reach where maintenance work is conducted. On-site mitigation actions are intended to provide in-kind enhancement and/or restoration of stream and aquatic functions and species habitat that was impacted by the maintenance activities. Tier 1 mitigation, at a minimum, will restore the beneficial uses, ecological functions, and values provided by a site in its pre-maintenance condition to the extent practicable. Tier 2 is off-site mitigation applied at other SMP Area streams and channels. Like Tier 1 mitigation, Tier 2 mitigation provides in-kind mitigation in streams and channels that have undergone maintenance in the SMP Area. Tier 2 mitigation is used when there are no suitable opportunities for enhancement or restoration in a maintenance reach; the next

best opportunity is to pursue in-kind mitigation at a neighboring reach. Tier 3 mitigation is off-site and out-of-kind mitigation that compensates for the temporal loss of habitat functions in projects that enhance the Beneficial Uses of aquatic habitat. Examples of off-site and out-of-kind mitigation projects include (1) native riparian plant revegetations, (2) large woody debris installations, (3) invasive plant removals, (4) bioengineered erosion controls, and (5) watershed-based sediment or other contaminant reduction actions. Tier 3 mitigation will be funded by an amount equal to or greater than 10 percent of the annual SMP activity budget.

- 20. Temporary Loss.** Mitigation for ground-disturbing and other activities resulting in temporary impacts to waters of the State must meet the same criteria for all Dischargers. Ground disturbance and other activities generally refer to those that will result in temporary impacts to waters of the State, as listed in Finding 16, and the mitigation ratios defined herein account for the temporal loss associated with those impacts. Each Discharger's SMP or RMP Manual defines ground-disturbing and other activities. The mitigation must be: (1) of the same type; (2) located where it is most likely to successfully replace lost area, functions, and beneficial uses; and (3) implemented in advance of, or concurrently with, project impacts. This mitigation must achieve, in general order of preference: the restoration, creation, enhancement, or preservation of stream and wetland systems. In addition, the minimum amount of mitigation will be provided at a 1.1:1 mitigation ratio based on the extent of impacts in acres and linear feet and the duration of temporal loss. The minimum 1.1:1 mitigation ratio includes 1:1 for restoration of the temporarily impacted project area plus 0.1:1 to compensate for temporal loss in functions associated with the temporary impacts. The additional 0.1:1 can also be achieved if the temporarily impacted project area is restored to better than pre-project conditions, resulting in the long-term improvement of functions. This minimum mitigation ratio is specific to activities that will temporarily impact waters of the State, though some temporary impacts may not require mitigation. The final mitigation amount required in any given year must be commensurate with the impacts and will be determined in coordination with Water Board staff when each Discharger's ANR is reviewed (see Findings 33 and 34 and Provision 44).
- 21. Permanent Loss.** The RMP Manuals describe general mitigation approaches to compensate for permanent losses in functions, values, and acreage of waters of the State due to RMP activities. Mitigation provided for permanent impacts to waters of the State will be consistent with already-established compensatory mitigation practices, including the mitigation project's proximity to the impact location (e.g., on- or off-site), whether the mitigation is in-kind or out-of-kind, and the habitat that will be permanently impacted. San Mateo County, the Contra Costa County Flood Control District, ~~and~~ Midpen, and Marin County Flood District will develop annual mitigation plans for maintenance activities that require compensatory mitigation. The City of Livermore will create a program-tracking data management system that will document and track the implementation of restoration and mitigation activities monitor the on-going status of mitigation activities; and track all regulatory reporting requirements. Annual mitigation plans will be included in and submitted with the ANR (see Finding 33).
- 22. Trees.** Trees that are removed will be mitigated at ratios prescribed in each Discharger's respective Manual and pre-construction annual notification (see Findings 33 and 34).

Mitigation and tree planting activities will be included in the Annual Post-Maintenance Report submitted annually to the Water Board.

IV. Avoidance and Minimization Measures

- 23. Minimize Impacts to Beneficial Uses.** The SMPs and RMPs have been designed to minimize impacts to beneficial uses. The Manuals propose activities that are expected to result in long-term beneficial effects on riparian and aquatic habitat for a suite of fish and wildlife species by (1) reducing the amount of sediment delivered to maintained channels; (2) reducing maintenance over time; and (3) enhancing stream channels and riparian corridors.
- 24. Planning Guidelines.** The Manuals include planning guidelines that will be used in the development of each year's maintenance work plan to determine how, where, and when routine maintenance activities should occur. These guidelines consider factors such as the natural function of the system, local physical constraints, sensitive habitats, and watershed processes to (1) determine when action is needed, (2) identify maintenance activities needed, and (3) minimize the ongoing need for maintenance activities.
- 25. Stream Assessments.** Stream assessments⁶ will be conducted on a reach-by-reach basis and describe hydrology, geomorphology, and biological resources. Assessments will be updated periodically to reflect changes and progress in achieving the goals of the SMP or RMP. These stream characterizations will be developed to provide enough detail and photographic documentation to support the annual review and approval of maintenance projects.
- 26. Vegetation Management.** Vegetation management conducted for public safety and fire fuel load reduction will be based, in part, on local fire code requirements and will balance public safety, homeless encampment issues, and fire fuel load reduction responsibilities with the protection and restoration of beneficial uses. These activities include:
- a. *Napa County Flood Control District:* **P**runing the lower limbs of trees up to a height of about five feet and mowing along access roads;
 - b. *San Mateo County:* **M**owing, trimming, and pruning vegetation along county roads to maintain appropriate line-of-sight clearance, usually 4 feet at an intersection, a 14-foot height clearance for vehicles, and a 7-foot height clearance for pedestrians. San Mateo County's vegetation management also includes tree removal where the tree is creating a public safety hazard, and grazing to control herbaceous vegetation;
 - c. *Contra Costa County Flood Control District:* **M**owing, trimming and pruning, tree removal, and grazing. Pruning of vegetation along access roads will occur to maintain clearance and site distance for vehicles; and

⁶ San Mateo County's and Midpen's in-stream maintenance work is mostly small and localized (e.g., culvert repair, limited sediment/vegetation removal at road crossings). Therefore, San Mateo County and Midpen typically will conduct more-localized assessments of sites, facilities, and the adjacent stream reaches.

- d. *Sonoma County Water Agency*: **M**mowing, trimming and pruning, application of approved herbicide treatments, and removal of vegetation that constricts flows within the flood control channels and other constructed facilities. Vegetation management activities are conducted to maintain flow conveyance capacity, establish a canopy of riparian trees, control invasive vegetation, remove hazardous vegetation, reduce fire fuel, and increase visibility for public safety; and
- e. *Midpen*: **B**brushing and mowing, tree and shrub pruning, tree removal, aquatic vegetation removal, invasive plant removal, conservation grazing, and fuel management.
- 27. Non-Ground-Disturbing Work.** Non-ground-disturbing work may be performed in the channel zone, but not within the low-flow channel, throughout the year. Non-ground-disturbing work includes hand removal, and in limited cases use of mechanized equipment operated from the top of the bank as described in the Contra Costa County Flood Control District Manual, of debris and non-native invasive plant species, planting riparian vegetation, maintaining access roads for drainage and accessibility, and conducting minor repairs of culverts, provided there is no discharge of waste that may adversely impact water quality or beneficial uses.
- 28. Ground-Disturbing Work.** Ground-disturbing maintenance activities occurring below top-of-bank will be completed during the low-flow or dry season specific to each Discharger's SMP or RMP (i.e., June 15 to October 31 for Napa County Flood Control, Contra Costa County Flood Control, Sonoma County Water Agency, and Midpen;⁷ and June 15 to October 15 for San Mateo County; **and Marin County Flood Control District; May 1 to October 31 for the City of Livermore**), unless an exception is granted. Ground-disturbing activities vary among the Dischargers, but generally include downed tree management, mechanized vegetation management, bank stabilization, and sediment removal. During dry years, when channels remain dry earlier or later than the defined dry season for each Discharger, an exception may be granted to conduct ground-disturbing maintenance activities outside that Discharger's work window. Exceptions may be made on a project-by-project basis with advance approval by the Executive Officer and federal and State regulatory agencies, as appropriate.
- 29. Sediment Sampling and Analysis.** The Manuals' Sediment Sampling and Analysis Guidelines describe protocols for sampling, analysis, characterization, reuse and disposal of sediment removed during maintenance activities. Sediment reuse or disposal options are based on the chemical quality of the sediment removed.
- 30. Contaminated Soils.** Any observations of contamination, such as chemical odors, oily sheens, or irregularly-colored sediment must be immediately reported to the Water Board. Consultation with Water Board staff, and other regulatory agencies as appropriate, will

⁷ Midpen will conduct earthwork during this window in areas adjacent to a creek crossing or having the potential to direct drainage into a creek that provides habitat for salmonids. Where salmonid habitat is not present within or around creeks, earthwork is limited to April 15 to October 31. Earthwork on all other roads may occur year-round during dry periods, scheduled around blooming periods for special-status plant species, provisions for special status species (e.g., noise restrictions for murrelet, bats), and according to local grading ordinances.

determine additional follow-up actions including investigating potential sources of contamination, corrective actions, and appropriate disposal of contaminated sediment.

31. Activities Not Covered. The following activities are not included in the SMP and therefore are not covered in this amended Order: capital improvement projects, projects that would alter the designed flood conveyance capacity of a channel, sediment removal or dredging projects greater than the length specified in Provision D.19, and emergency activities and procedures. A situation is considered an “emergency” if it is a sudden, unexpected occurrence involving a clear and imminent danger that demands immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services (Pub. Res. Code §21060.3).

V. Channel Assessments

32. Channel Assessments. Conducting channel assessments to gain an improved understanding of channel conditions, including causal factors for maintenance, flow capacity objectives, and vegetation maintenance objectives of routinely-maintained channels is fundamental to the Programs’ objectives of avoiding and minimizing environmental impacts while conducting maintenance.

- a. *Napa County Flood Control District:* The District will develop a channel assessment approach that will identify one stream reach per year where routine maintenance activities will be assessed for the following conditions: (1) typical maintenance needs; (2) geomorphic and hydrologic conditions; (3) vegetation communities; (4) habitat functions and values; (5) existing constraints and limiting factors to achieving improved habitat functioning; (6) opportunities for potential habitat enhancement or restoration; and (7) longer-term maintenance goals. These channel assessments will be used to identify restorative maintenance activities that will be integrated into routine maintenance projects to enhance physical and biological processes over time (Napa Manual Chapter 14).
- b. *San Mateo County:* The County will update its facility characterization sheets, culvert inventory, and assessment program. San Mateo County will also evaluate maintenance needs at the sites identified in its Manual (San Mateo County RMP Manual App. B) based on quantitative capacity evaluations, including, but not limited to, factors such as design and current channel geometries, historical flow records, observed flow records, and historical and current maintenance actions and needs. These factors will be further defined and used over time to plan for and implement maintenance actions necessary to reduce flooding risk and improve habitat conditions in both the short and long term.
- c. *Contra Costa County Flood Control District:* The District will update and expand the Resource Characterizations at high priority maintenance sites to provide the quantitative capacity evaluations needed to document and support maintenance goals. The capacity evaluations will consider channel geometry conditions, the observed flow record, history of past flooding (as available), history of past maintenance activities, and other factors. The methodology used to evaluate channel capacity will

be updated and refined each year to improve the quantitative evaluations over time. The updated Resource Characterizations will include existing constraints and limiting factors to achieving improved habitat functions, opportunities for potential habitat enhancement or restoration, and longer-term maintenance goals. These Resource Characterizations will be used to identify and support maintenance activities each year and to collectively optimize physical and biological processes in the various program watersheds over time.

- d. Sonoma County Water Agency*: Sonoma Water has supplemented its SMP Manual with a SMP Database that inventories and spatially maps assessments performed on each stream reach in the SMP area to characterize the following reach conditions: (1) general setting information (i.e., location, jurisdiction, adjacent land use, reach length); (2) physical conditions (i.e., active flow width, channel geometry, geomorphic setting); (3) biological conditions (i.e., instream habitats, riparian vegetation composition, listed species); and (4) management considerations and opportunities (i.e., maintenance history, current priorities, natural resource enhancement/protection opportunities). These reach characterization sheets (“reach sheets”) are described in detail in Appendix C of the SMP Manual and are continually updated in the SMP Database to reflect changes and progress in achieving the goals of the SMP. Annual stream channel assessments are conducted to organize and prioritize maintenance activities each year and follow an assessment checklist **which that** evaluates channel conditions relative to maintenance triggers described in the SMP Manual. Sonoma Water is also continually developing Channel Maintenance Objectives for select stream reaches, which considers channel roughness from existing sediment and vegetation conditions to produce reach-specific vegetation **templates templates** and nomographs to inform the maintenance prioritization process. Reach sheets, annual channel assessments, and Channel Maintenance Objectives (where developed) are all continually updated in the SMP Database and are reviewed holistically for a full understanding of stream resources, locations, and interactions to help avoid, minimize, and mitigate environmental impacts of planned routine maintenance activities. With input from staff of the Water Board and other regulatory agencies, Sonoma Water developed these channel characterizations to provide enough detail and photo documentation to support the review and approval of annual maintenance projects.
- e. Midpen*: Midpen will characterize the reaches where work is proposed. Similarly, Midpen will evaluate the maintenance needs at the sites identified in its Manual (Midpen RMP Manual, App. E) based on historical and current maintenance actions and needs.
- f. Marin County Flood Control District*: The Marin County Flood Control District will maintain a Creek Assessment Database that includes quantitative, observational, Geographic Information System (GIS), maintenance trigger, recognizance SMP data over time, and as describe din in its Manual. The database will be queried to chronicle past maintenance activities or prioritize future actions on any maintained natural channel or ditch, concrete-lined channel, or engineered sediment basin.

g. *City of Livermore*: The City of Livermore initially will complete a qualitative assessment of channel conditions and capacity. Over time, the City will complete a quantitative assessment of channel conditions and capacity. Conditions and resources will be assessed regarding the potential need for sediment removal, vegetation management, or bank stabilization. Assessment categories will receive rankings ranging from 1 (high priority) to 4 (low priority). The assessment process will be informed by the inventories provided in response to Provision 68 of Order No. R2-2016-0036. These inventories included: an inventory of engineered, modified, and natural channels, along with a list of all channels that are subject to routine maintenance activities; inventories of targeted sediment and vegetation removal areas; an inventory of stream reaches with hydraulic constrictions (e.g., under-sized culverts, bridge abutments, railroad trestles, utility crossings, and other natural or human caused obstructions) potentially causing backwater conditions, increased water surface elevations, bank instabilities, or fish passage barriers; an inventory of stream reaches that are a priority for maintenance based on chronic problems, such as sediment accumulation, flooding, or excessive erosion; and an inventory of those reaches that potentially function as migration, breeding, foraging, or cover from predation for special status species. The creek and channel assessment process will also be supported by information provided by GIS mapping and aerial photography. An annual work plan will be developed using data from reach assessments.

VI. Monitoring and Reporting

- 33. Annual Notification Report.** This amended Order requires submittal of an Annual Notification Report (ANR), acceptable to the Executive Officer, by June 1 of each year. The ANR will describe the maintenance activities to be conducted during the upcoming maintenance season and propose mitigation to compensate for unavoidable impacts, as described in the SMP and RMP Manuals. The ANR will include the following information: (1) the location of proposed maintenance activities; (2) the stream(s) and structures affected; (3) an assessment of potential project impacts; (4) the expected total cubic yards of material to be removed; (5) if dewatering will be required; (6) sediment disposal plan; and (7) proposed mitigation, if required.
- 34. Mitigation Plan.** This amended Order requires the development and submittal of Mitigation Plans, acceptable to the Executive Officer, by June 1 of each year for San Mateo County, the Contra Costa County Flood Control District, ~~and~~ Midpen, Marin County Flood Control District, and the City of Livermore. This Finding does not apply to Napa County Flood Control District or Sonoma County Water Agency as their mitigation for temporal impacts is encompassed in their SMPs and included in their ANRs. The Mitigation Plans will include the information specified in the RMP Manuals, including: (1) a description of on-site and off-site habitat restoration or enhancement activities, (2) the entity implementing the mitigation projects, (3) how the mitigation projects will be consistent with established compensatory mitigation practices for Certifications; (4) a schedule for implementing the mitigation projects; and (5) a mitigation monitoring plan specific to the proposed mitigation projects.

- 35. Annual Post-Maintenance Report.** This amended Order requires submittal of an Annual Post-Maintenance Report, acceptable to the Executive Officer, by January 31 of the year following the completion of maintenance activities. The Annual Post-Maintenance Report will describe the stream maintenance activities conducted, any mitigation implemented, monitoring results, lessons learned, and recommendations to update the BMPs identified in the Manuals, as needed.
- 36. Project Specific Notification:** This amended Order requires the submittal of Project-Specific Notifications, acceptable to the Executive Officer, for any proposed maintenance projects that: (1) exceed the limits set forth by this amended Order (Provisions D.2 and D.19); (2) may modify stream cross-sections and/or profiles (Provision D.22); and/or (3) meet any additional criteria included in the Dischargers' SMP or RMP Manuals for Project-Specific Notifications. Project-Specific Notifications will include photo documentation of existing conditions, a description of the project, an assessment of the need for the proposed maintenance activities, and measures taken to avoid and minimize impacts to beneficial uses. Maintenance activities that may modify stream cross-sections and/or profiles are required to submit a grading plan that describes steps to be taken towards achieving a dynamic equilibrium channel, including project design details with a channel form (e.g., channel shape, width/depth ratio) consistent with channel dimension objectives;
- 37. Project-Specific Notification Summary Report:** This amended Order requires submittal of a Project-Specific Notification Summary Report, acceptable to the Executive Officer, by January 31 or the year following completion of maintenance activities. This report will describe activities conducted, mitigation implemented, and monitoring results including photo documentation of BMP success.
- 38. Lessons Learned.** This amended Order requires that, after each maintenance season, the Dischargers meet individually with Water Board staff to discuss the performance of the SMP, review lessons learned from the prior maintenance season, and determine the need to improve any stream maintenance techniques and BMPs. The Dischargers will implement all stream maintenance techniques and BMPs deemed necessary under this SMP or RMP performance review and update their Manuals accordingly.
- 39. Other Monitoring Reports.** This amended Order also requires submittal of monitoring reports as required by:
- a. *Napa County Flood Control District:* (1) the *Post Construction Contingency Plan* for the Petroleum Residual Contamination Area; (2) the *Operations, Maintenance, Repair, Replacement and Rehabilitation Manual for the Napa River/Napa Creek Flood Protection Project*; (3) the *Monitoring Plan for the Rutherford Reach Restoration of the Napa River*; and (4) the *Napa River Restoration: Oakville to Oak Knoll Project Monitoring Plan*.

VII. Regulatory Framework

- 40. Waste Discharge Requirements (WDRs).** Pursuant to Water Code section 13263 and ~~California Code of Regulations (23-CCR) Title 23~~, sections 3857 and 3859, the Water

Board is issuing WDRs for discharges associated with routine stream maintenance activities, including sediment management, vegetation management, bank stabilization, and other maintenance activities in streams within the Dischargers' maintenance jurisdiction. In accordance with ~~CWC~~ **Water Code** sections 13263(a) and 13241, the Water Board, after considering this matter at a public hearing, has prescribed requirements as to the nature of the proposed discharge. These requirements implement the Water Board's relevant water quality control plans and policies and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisance.

41. Water Quality Certification (Certification). Pursuant to CWA section 401 (33 USC § 1341), the Water Board is issuing a Certification imposing state conditions on discharges of dredge or fill material that occur during routine stream maintenance activities in waters of the United States. The CWA (33 USC §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 USC § 1251(a)). CWA Section 401 requires every applicant for a federal license or permit that may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the CWA, including water quality standards and implementation plans promulgated pursuant to CWA section 303 (33 USC § 1313). CWA section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the CWA and with any other appropriate requirement of state law. CWA section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project.

42. Order Amendments: This Order ~~No. R2-2023-00XX~~ amends Order No. ~~R2-2019-0023~~, as amended by Order Nos. R2-2020-0034, R2-2021-0005, and R2-2022-0004 to include Marin County Flood Control District and the City of Livermore. Previous actions on the Order includes: (1) The initial Order, Order No. R2-2019-0023, was adopted on October 31, 2019, to authorize Napa County's SMP, (2) Order No-R2-2020-0034, adopted on December 16, 2020, amended the Order to include San Mateo County's and Contra Costa County's RMPs, (3) Order No. R2-2021-0005, adopted April 14, 2021, amended the amended Order to include Sonoma County Water Agency's SMP, (4) Order No. R2-2022-0004, adopted on February 9, 2022, amended the amended Order to include Midpen's RMP.

~~This Order amends Order No. R2-2020-0034 to include Sonoma County Water Agency's SMP. Order No. R2-2020-0034 was adopted on December 16, 2020 and amended Order No. R2-2019-0023 to include San Mateo County's and Contra Costa County's RMPs. Order No. R2-2019-0023 was adopted on October 31, 2019 to authorize Napa County's SMP.~~

43. Basin Plan. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation plans to achieve water quality objectives. The beneficial uses of any water body identified in the Basin Plan generally

apply to that water body's tributaries. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law, and U.S. Environmental Protection Agency, where required.

The Basin Plan lists the following existing and potential beneficial uses for surface waters and groundwater:

a. Napa County Flood Control District:

- i. Within the Napa River and Suisun Creek watersheds: agricultural supply; cold freshwater habitat; municipal and domestic supply; commercial and sport fishing; estuarine habitat; fish migration; fish spawning; freshwater replenishment; navigation; non-contact water recreation; water contact recreation; preservation of rare and endangered species; warm freshwater habitat; and wildlife habitat. The Discharger routinely conducts maintenance activities within the Napa River and Suisun Creek watersheds which may temporarily impact the beneficial uses identified above;
- ii. The Napa-Sonoma Valley and Napa-Sonoma Volcanic Highlands groundwater basins are located in the Napa River watershed area and support the following beneficial uses: agricultural water supply; industrial service water supply; industrial process water supply; and municipal and domestic water supply.

b. San Mateo County:

- i. Within Visitacion Valley—Frontal San Francisco Bay Estuaries, Colma Creek—Frontal San Francisco Bay Estuaries, San Mateo Creek—Frontal San Francisco Bay Estuaries, and San Francisco Bay Estuaries: cold freshwater habitat; commercial and sport fishing; estuarine habitat; fish migration; fish spawning; freshwater replenishment; industrial service supply; municipal and domestic supply; navigation; non-contact water recreation; preservation of rare and endangered species; shellfish harvesting; warm freshwater habitat; water contact recreation; and wildlife habitat;
- ii. Cordilleras Creek, San Mateo Creek, San Francisquito Creek, and San Francisco Bay Estuaries: agricultural supply; cold freshwater habitat; estuarine habitat; fish migration; fish spawning; non-contact water recreation; preservation of rare and endangered species; warm freshwater habitat; water contact recreation; and wildlife habitat;
- iii. Within San Pedro Creek and Denniston Creek: agricultural supply; cold freshwater habitat; commercial and sport fishing; fish migration; fish spawning; industrial service supply; marine habitat; municipal and domestic supply; navigation; non-contact water recreation; preservation of rare and endangered species; shellfish harvesting; warm freshwater habitat; water contact recreation; and wildlife habitat;
- iv. Within Arroyo Leon, Purisima Creek, San Gregorio Creek, La Honda Creek: agricultural supply; cold freshwater habitat; fish spawning; municipal and

domestic supply; non-contact water recreation; preservation of rare and endangered species; warm freshwater habitat; water contact recreation; and wildlife habitat; and

- v. Within Upper Pescadero Creek, Power Pescadero Creek, and Butano Creek watersheds, as well as the Gazos Creek watershed, which is under the jurisdiction of the Central Coast Regional Water Board: agricultural supply; cold freshwater habitat; commercial and sport fishing; commercial and sport fishing; fish spawning; freshwater replenishment; municipal and domestic supply; non-contact water recreation; preservation of rare and endangered species; warm freshwater habitat; water contact recreation; and wildlife habitat.

c. Contra Costa County Flood Control District:

- i. Within the Walnut Creek and Pinole Creek watersheds: cold freshwater habitat; fish migration; preservation of rare and endangered species; fish spawning; warm freshwater habitat; wildlife habitat; water contact recreation; and non-contact water recreation;
- ii. Within the Wildcat Creek and San Pablo Creek watersheds: freshwater replenishment; in addition to all of the beneficial uses included for Walnut Creek;
- iii. Within the Rheem Creek and Garrity Creek watersheds: warm freshwater habitat; wildlife habitat; water contact recreation; and non-contact water recreation;
- iv. Within the Rodeo Creek watershed: cold freshwater habitat; preservation of rare and endangered species; wildlife habitat; water contact recreation; and non-contact water recreation;
- v. Within the Willow Creek watershed, which is tributary to the Suisun Bay: industrial service water supply; industrial process water supply; commercial and sport fishing; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; water contact recreation; non-contact water recreation; and navigation; and
- vi. The Pittsburg Plain, Clayton Valley, Ygnacio Valley, Santa Clara Valley – East Bay Plain groundwater basins are located within the Contra Costa County RMP watershed areas and support the following beneficial uses: agricultural water supply; industrial service water supply; industrial process water supply; and municipal and domestic water supply.

d. Sonoma County Water Agency:

- i. Within the Petaluma River and Sonoma Creek watersheds: navigation; water contact recreation; non-water contact recreation; commercial and sport fishing; warm freshwater habitat; cold freshwater habitat; wildlife habitat; estuarine habitat; fish migration; fish spawning; and preservation of rare and endangered species. Sonoma Water routinely conducts maintenance activities within the Petaluma River and eleven creeks within the Petaluma River watershed: Lichau,

Corona, Capri, Washington, McDowell, Adobe, Jessie Lane, East Washington, Lynch, Ellis, and Thompson creeks. Within the Sonoma Creek watershed, maintenance is conducted on Fryer, Rodgers, Lawndale, and Verano creek, and the Nathanson Bypass. These beneficial uses are supported by the above-listed water bodies in accordance with the tributary rule included in the Basin Plan; ~~and~~

- ii. The Petaluma Valley, Napa-Sonoma Valley, Wilson Grove Formation, Highlands, Kenwood Valley, and Napa-Sonoma Volcanic Highlands groundwater basins are located in the Petaluma River and Sonoma Creek watersheds and support the following beneficial uses: agricultural water supply; industrial service water supply; industrial process water supply; and municipal and domestic water supply; ~~and~~

e. Midpen:

- i. Within the Skyline Region—San Pedro Creek, Denniston Creek, Arroyo Leon, Purisima Creek, San Francisquito Creek, San Gregorio Creek, La Honda Creek, Adobe Creek, Stevens Creek, Saratoga Creek, Upper Pescadero Creek, Lower Pescadero Creek, Butano Creek, Gazos Creek, and Waddell Creek watersheds: agricultural supply; municipal and domestic supply; freshwater replenishment; industrial service supply, commercial and sport fishing; shellfish harvesting; cold freshwater habitat; estuarine habitat; marine habitat, fish migration; rare, threatened, or endangered species; fish spawning; warm freshwater habitat; wildlife habitat, non-contact water recreation; water contact recreation; and navigation;
- ii. Within the Foothill Region—San Mateo Creek, Adobe Creek, Permanente Creek, San Francisco Bay Estuaries, Stevens Creek, Calabazas Creek, Saratoga Creek, San Tomas Aquinas Creek, Los Gatos Creek, Guadalupe River, and Alamitos Creek watersheds: agricultural supply; municipal and domestic supply; freshwater replenishment; Industrial service supply; commercial and sport fishing; shellfish harvesting; cold freshwater habitat; estuarine habitat; fish migration; rare, threatened, or endangered species; fish spawning; warm freshwater habitat; wildlife habitat; non-contact water recreation; water contact recreation; and navigation.

f. Marin County Flood Control District:

- i. Within the Marin Coastal Basin: Pacific Ocean (Marin), Abbotts Lagoon, Drakes Estero, Limantour Estero, Santa Maria Creek, Coast Creek, Alamere Creek, Wildcat Lake, Crystal Lake, Bass Lake, Pelican Lake, Arroyo Hondo (Marin), Bolinas Lagoon, Webb Creek, Lone Tree Creek, Redwood Creek (Marin), Tennessee Valley Creek, Rodeo Lagoon, Tomales Bay, Lagunitas Creek watersheds: agricultural supply; groundwater recharge; municipal and domestic supply; freshwater replenishment; industrial service supply, commercial and sport fishing; shellfish harvesting; cold freshwater habitat; marine habitat, fish migration; rare, threatened, or endangered species; fish

spawning; warm freshwater habitat; wildlife habitat; non-contact water recreation; water contact recreation; and navigation.

ii. Within the Central Basin: San Rafael Creek, Corte Madera Creek, Richardson Bay, Arroyo Corte Madera del Presidio, Coyote Creek (Marin) watersheds: groundwater recharge, municipal and domestic supply; freshwater replenishment; industrial service supply; commercial and sport fishing; shellfish harvesting; cold freshwater habitat; estuarine habitat; marine habitat, fish migration; habitat for rare, threatened, or endangered species; fish spawning; warm freshwater habitat; wildlife habitat; non-contact water recreation; water contact recreation; and navigation.

iii. Within the San Pablo Basin: Black John Slough, Bahia Lagoon, Novato Creek watersheds: municipal and domestic supply; commercial and sport fishing; cold freshwater habitat; estuarine habitat; fish migration; habitat for rare, threatened, or endangered species; fish spawning; warm freshwater habitat; wildlife habitat; non-contact water recreation; and water contact recreation.

g. City of Livermore:

i. Within the primary creeks and channels: Arroyo Las Positas, Altamont Creek, Arroyo Seco, Arroyo Mocho, and Arroyo del Valle watersheds: groundwater recharge, agricultural supply; municipal and domestic supply; commercial and sport fishing; cold freshwater habitat; fish migration; habitat for rare, threatened, or endangered species; fish spawning; warm freshwater habitat; wildlife habitat; non-contact water recreation; and water contact recreation.

ii. Within the secondary tributary creeks and channels: include the realigned Arroyo Las Positas, Cottonwood Creek, Collier Creek, and Kellogg Creek watersheds: habitat for rare, threatened, or endangered species; warm freshwater habitat; wildlife habitat; non-contact water recreation; and water contact recreation.

44. TMDLs. The Basin Plan also identifies water bodies that are impaired on the CWA section 303(d) list (303(d) list) and lists the sources of impairment. The Manual discusses how the SMP supports the goals and objectives of the Total Maximum Daily Loads (TMDLs) that have been developed for impaired water bodies. This Order authorizes routine maintenance activities on the following water bodies listed on the 303(d) list as impaired, or on waters tributary to the listed water bodies:

a. Napa County Flood Control District

i. The Napa River is listed as impaired by nutrients, pathogens, and sedimentation/siltation. The Water Board adopted a Resolution on February 12, 2014, to delist the non-tidal portion of the Napa River for nutrients (Resolution No. R2-2014-0006);

- ii. The Napa River drains into San Pablo Bay, which is listed as impaired by chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), and selenium;
- iii. Suisun Creek is listed as impaired by low dissolved oxygen and temperature;
- iv. Suisun Creek drains into Suisun Marsh and Suisun Bay. Suisun Marsh is listed as impaired by mercury, nutrients, organic enrichment/low dissolved oxygen, and salinity. Suisun Bay is listed as impaired by chlordane, DDT, diazinon, dieldrin, dioxin compounds, furan compounds, invasive species, mercury, nickel, PCBs, polybrominated diphenyl ethers (PBDEs), and selenium.

b. San Mateo County:

- i. San Francisco Bay, Lower is listed as impaired by chlordane, DDT, dieldrin, Dioxin compounds, furan compounds, invasive species, mercury, PCBs, and trash;
- i. The Colma Creek watershed is listed as impaired by trash;
- ii. San Mateo Creek is listed as impaired by diazinon and trash;
- iii. San Mateo Creek, lower is listed as impaired by sediment toxicity;
- iv. Laurel Creek is listed as impaired by diazinon;
- v. San Francisquito Creek is listed as impaired by diazinon, sedimentation/siltation, and trash;
- vi. Marina Lagoon, Pacific Ocean at Pacifica State/Linda Mar Beach, San Pedro Creek, Pacific Ocean at Fitzgerald Marine Reserve, San Vicente Creek, Pacific Ocean at Pillar Point Beach, Pacific Ocean at Venice Beach, and Pomponio Creek are listed as impaired by fecal indicator bacteria;
- vii. Pilarcitos Lake and Pacific Ocean at Pillar Point are listed as impaired by mercury;
- viii. San Gregorio Creek is listed as impaired by indicator bacteria; and
- ix. The Pescadero-Butano and San Gregorio Creek watersheds are listed as impaired for sediment. The State Water Board approved the Pescadero and Butano Creeks Sediment TMDL Basin Plan amendment on December 11, 2018. On October 14, 2021, the Water Board approved Resolution No. R2-2021-0020, Supporting Implementing a Water Quality Improvement Plan to Achieve Water Quality Objectives for Sediment and Population and Community Ecology in San Gregorio Creek.

c. Contra Costa County Flood Control District:

- i. Pinole, Wildcat, and Walnut creeks are listed as impaired by diazinon. San Pablo Creek is listed as impaired by diazinon and trash. Grayson Creek, which is tributary to Walnut Creek, is also listed as impaired by trash;

- i. Pinole, Wildcat, and San Pablo creeks drain into San Pablo Bay, which is listed as impaired by chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), and selenium;
 - ii. Walnut Creek drains into the Suisun Bay, which is listed as impaired by chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), and selenium.
- d. *Sonoma County Water Agency*: Sonoma Creek is listed as impaired by nutrients, pathogens, and sedimentation/siltation. The Water Board adopted a Resolution on February 12, 2014, to delist the non-tidal portion of Sonoma Creek for nutrients (Resolution No. R2-2014-0006);
- i. The Petaluma River is listed as impaired by diazinon, nutrients, pathogens, sedimentation/siltation, and trash. The tidal portion of the Petaluma River is also listed for nickel;
 - ii. San Antonia Creek, a tributary to the Petaluma River, is listed as impaired by diazinon;
 - iii. The Petaluma River and Sonoma Creek drain into San Pablo Bay, which is listed as impaired by chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), and selenium.
- e. *Midpen*:
- i. The Pescadero and Butano creeks watershed and the San Gregorio Creek watershed are listed as impaired for excessive sediment (see Finding 44(b))
 - ii. Calabazas, Corte Madera, Matadero, Permanente, Stevens, Los Gatos, San Tomas Aquino, Saratoga, Alamitos, and San Francisquito creeks are currently identified as exceeding water quality standards for aquatic toxicity.
 - iii. Permanente Creek is listed as impaired for selenium;
 - iv. Waterbodies in the Guadalupe River watershed, including Guadalupe Creek, Guadalupe Reservoir, Almaden Reservoir, Lexington Reservoir, and Alamitos Creek, are listed as impaired for mercury.
- f. *Marin County Flood Control District*:
- i. San Pablo Bay is listed as impaired by chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, invasive species, furan compounds, mercury, polychlorinated biphenyls (PCBs), and selenium. The creeks in Flood Control Zones 1 – Novato, and 7 – Santa Venetia drain into San Pablo Bay;
 - ii. San Francisco Bay (Central) is listed as impaired by chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, invasive species,

furan compounds, mercury, polychlorinated biphenyls (PCBs), selenium, and trash. The creeks in Flood Control Zone 9 – Ross Valley drain into San Francisco Bay (Central);

- iii. Richardson Bay is listed as impaired by chlordane, coliform bacteria, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, invasive species, furan compounds, mercury, polychlorinated biphenyls (PCBs), and selenium. The creeks in Flood Control Zones 3 – Richardson Bay, and 4 – Bel Aire and Strawberry Circle drain into Richardson Bay.

g. City of Livermore:

- i. Arroyo Del Valle, Arroyo Las Positas, and Arroyo Mocho are listed as impaired by diazinon and other pesticides transported into these creeks in stormwater runoff;
- ii. Arroyo Mocho is listed as impaired due to high water temperatures.

45. Antidegradation Policy. State Water Board Resolution No. 68-16, “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (Antidegradation Policy), which incorporates the federal antidegradation policy where it applies, states that discharges to existing high quality waters will be required to meet WDRs that will result in the best practicable treatment or control of the discharge necessary to assure that (a) a condition of pollution or nuisance will not occur, and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained. This amended Order is consistent with Resolution No. 68-16 because implementation of the proposed activities in accordance with the Order’s requirements and the Manuals should not lead to degradation of water quality or beneficial uses. To the contrary, the Dischargers’ adherence to the prohibitions and provisions in this amended Order, and the BMPs and mitigation requirements in their Manuals, is expected to maintain or improve water quality and riparian and in-stream habitat. For instance, BMPs requiring most stream maintenance activities to occur when there is no flow in the channels, prohibiting the discharge of sediment or decant water to channels, and requiring proper storage and handling of sediment and vegetation debris, are intended to minimize or eliminate discharges altogether.

46. No Net Loss Policy. The California Wetlands Conservation Policy (“No Net Loss Policy;” Executive Order W-59-93) was adopted to “ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.” Implementation of the SMP and RMP is consistent with the No Net Loss Policy because it is anticipated to preserve existing and potential beneficial uses of waters of the State and may, over time, restore or enhance beneficial uses for some stream reaches. The requirement that activities causing both temporary and permanent impacts be mitigated will lead to an overall improvement in stream and wetland habitat throughout the watersheds in which these WDRs apply.

47. California Environmental Quality Act. The California Environmental Quality Act (CEQA) requires all discretionary projects approved by public agencies to be in full compliance with CEQA and requires a lead agency to prepare an appropriate environmental document for such projects.

- a. Napa County Flood Control District: The Napa County Flood Control District, as lead agency, adopted an Initial Study/Mitigated Negative Declaration (State Clearinghouse No. 2019029055) for its SMP and filed a Notice of Determination on March 22, 2019;
- b. San Mateo County: San Mateo County, as lead agency, adopted a Final Environmental Impact Report (FEIR) (State Clearinghouse No. 2019012009) for its RMP and filed a Notice of Determination on September 16, 2020;
- c. Contra Costa County Flood Control District: The Contra Costa County Flood Control District, as lead agency, adopted an Initial Study/Mitigated Negative Declaration (ISMND) (State Clearinghouse No. 2020060286) for the Project and filed a Notice of Determination on November 19, 2020;
- d. Sonoma County Water Agency: Sonoma Water, as lead agency, adopted a Final Environmental Impact Report (FEIR) (State Clearinghouse No. 2005082131) for its SMP and filed a Notice of Determination on June 23, 2009. Sonoma Water also prepared and certified an Initial Study and Negative Declaration (IS/ND) of Environmental Impacts for the Zones 2A and 3A (the Petaluma River and Sonoma Creek Watersheds) Natural Channels Maintenance Project on February 9, 2016.
- e. Midpen: Midpen, as lead agency, adopted an Initial Study/Mitigated Negative Declaration (ISMND) (State Clearinghouse No. 2021080129) for its RMP and filed a Notice of Determination on September 22, 2021.
- f. Marin County Flood Control District:
 - i. Marin County Flood Control District, as lead agency, adopted a Mitigated Negative Declaration (MND) (State Clearinghouse No. 2007-092065) for its West Marin SMP and filed a Notice of Determination on October 22, 2007, with an addendum filed in March 2013 modifying a project site.
 - ii. Marin County Flood Control District, as lead agency, adopted a Mitigated Negative Declaration (MND) (State Clearinghouse No. 2012-022053) for its East Marin SMP and filed a Notice of Determination on June 6, 2012, with an addendum filed in April 2014 to add several new sites and change the parameters of several existing sites.
- g. City of Livermore: The City of Livermore, as lead agency, adopted an Initial Study/Mitigated Negative Declaration (IS/MND) (State Clearinghouse No. 2015042027) for its SMP and filed a Notice of Determination on August 15, 2022.

- 48. Responsible Agency.** The Water Board, as a Responsible Agency under CEQA, has reviewed the project CEQA documents and finds that the Programs' significant environmental effects that are within the Water Board's purview and jurisdiction have been identified and will be mitigated to less-than-significant levels. Specifically, significant impacts pertaining to wetland and aquatic habitat and water quality will be mitigated to less-than-significant levels through implementation of mitigation measures identified in the CEQA documents and the mitigation identified in this amended Order and in the Manuals, all of which are required to be implemented and reported on by this amended Order.
- 49. Human Right to Water.** It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. (Water Code Section 106.3.) Many of the water bodies where this amended Order applies have the beneficial use designation of MUN, meaning that water can be used for drinking. This amended Order promotes the human right to water by requiring that stream maintenance activities minimize or eliminate adverse water quality impacts to the water body in which they occur, thereby protecting that water body's beneficial uses, including MUN. Over time, implementation of this amended Order and of the Manuals is expected to lead to improvements in water quality, which will help advance the human right to water.
- 50. Cleanup and Abatement** State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to the activities covered by this amended Order. Resolution No. 92-49 directs the Regional Water Boards to set cleanup levels equal to background water quality or the best water quality which is reasonable, if background levels cannot be restored. In this instance, background levels cannot be restored, based on the nature of the contamination, the limitations of available cleanup methods, and the Water Board's experience with many other similarly-impacted sites. This amended Order requires monitoring provisions designed to ensure that residual contamination will not unreasonably affect present and anticipated beneficial uses of such water and will not result in exceedance of applicable water quality objectives. This amended Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.
- 51. Nonpoint Source Enforcement Policy.** State Water Board's 2004 Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program (Nonpoint Source Enforcement Policy) requires that all nonpoint source pollution, including discharges from grazing lands, be regulated through WDRs, waivers of WDRs, or discharge prohibitions. This amended Order is consistent with the Nonpoint Source Enforcement Policy because implementation of BMPs described in the Manuals is expected to help to control nonpoint source pollution from erosion and agricultural runoff.
- 52. Public Notice.** The Water Board has notified the Discharger and interested parties of its intent to issue WDRs and Certification for the activities proposed in the SMP and RMP. Pursuant to 23 CCR section 3858, each Discharger's application was posted as follows:
- a. *Napa County Flood Control District:* The Water Board provided public notice of the Napa County Flood Control and Water Conservations District's application on May

15, 2019, and posted information describing the project on the Water Board's website;

- b. San Mateo County: The Water Board provided public notice of the San Mateo County's application on October 21, 2020, and posted information describing the project on the Water Board's website;
- c. Contra Costa County Flood Control District: The Water Board provided public notice of the Contra Costa County's application on October 21, 2020, and posted information describing the project on the Water Board's website;
- d. Sonoma County Water Agency: The Water Board provided public notice of Sonoma Water's application on February 17, 2021, and posted information describing the project on the Water Board's website; ~~and~~
- e. Midpen: The Water Board provided public notice of Midpen's application on October 13, 2021, and posted information describing the project on the Water Board's website.
- f. Marin County Flood Control District: The Water Board provided public notice of Marin County's application on March 24, 2023, and posted information describing the project on the Water Board's website; and
- g. City of Livermore: The Water Board provided public notice of the City of Livermore's application on March 24, 2023, and posted information describing the project on the Water Board's website.

53. Public Hearing. The Water Board, in a public meeting, heard and considered all comments pertaining to this amended Order.

IT IS HEREBY ORDERED that Order No. R2-2021-0005 is amended upon the effective date of this Order, and, in order to meet the provisions of Water Code Division 7 (commencing with § 13000) and regulations and guidelines adopted thereunder, the Dischargers, their agents, successors, and assigns shall comply with the requirements in this amended Order. The Water Board certifies that the Stream Maintenance Programs and Routine Maintenance Programs described herein comply with CWA sections 301, 302, 303, 306, 307, and 401, and with applicable provisions of State law, provided that the Dischargers comply with the following terms and conditions:

Discharge Prohibitions

1. The direct or indirect discharge of wastes, as defined in Water Code section 13050(d), within or outside of the active project site, to surface waters or surface water drainage courses is prohibited, except as authorized in this amended Order.
2. The discharge shall not cause degradation of any water supply.
3. All SMP and RMP activities that could result in the runoff of pesticides (which category includes, but is not limited to, pesticides, herbicides, insecticides, rodenticides, and fungicides), that are not registered for aquatic use into waters of the State are prohibited.
4. SMP and RMP activities that could result in long-term adverse impacts, such as destabilization of stream banks or a deleterious increase in sediment input into waters of the State, are prohibited.
5. Excavated sediment shall remain within designated disposal areas unless it is determined appropriate for beneficial reuse. Designated disposal areas are: (1) any off-site, authorized temporary, or permanent location maintained in compliance with federal and State regulations, (2) any on-site, authorized temporary, or permanent location, provided material shall be isolated and contained to prevent impacts to waters of the State and their beneficial uses, or (3) a permitted landfill.
6. The discharge of sediment and runoff or decant water from excavated materials disposed of at any temporary or permanent disposal, to waters of the State, is prohibited.
7. Maintenance activities subject to these requirements shall not cause a condition of pollution or nuisance as defined in Water Code section 13050.
8. Groundwater beneficial uses shall not be degraded as a result of activities conducted under this amended Order.
9. No unauthorized construction-related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into waters of the State. When construction is completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be discharged to waters of the State.

Discharge Specifications

1. Appropriate soil erosion control measures shall be implemented and maintained to prevent the discharge of sediment to surface waters, including surface water drainage courses.
2. Excavated material shall be fully contained to prevent any wind transport, surface runoff or erosion into waters of the State.
3. In accordance with Water Code section 13260, the Dischargers shall file with the Water Board a report of any material changes in the character, location, or quantity of this waste discharge that is beyond the scope of this amended Order. Any proposed material changes in the discharge or SMP or RMP require approval by the Water Board after a hearing under Water Code section 13263.
4. The Dischargers shall immediately, and in all cases within 24 hours, notify the Water Board staff by telephone or e-mail of an adverse condition that results from a discharge. An adverse condition includes, but is not limited to, a violation or threatened violation of the conditions of this amended Order, spill of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance. A written notification of the adverse condition shall be submitted to the Water Board within five days of its occurrence. The written notification shall identify the adverse condition, describe the actions necessary to remedy the condition, and specify a timetable, subject to approval by the Executive Officer, for any necessary remedial actions.

Receiving Water Limitations

1. SMP and RMP activities shall not cause the following conditions to exist in any waters of the State:
 - a. Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
 - b. Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
 - c. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth cause nuisance or adversely affect beneficial uses.
 - d. Waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
 - e. The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Executive Officer that such alteration in temperature does not adversely affect beneficial uses.
 - f. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above the natural receiving water temperature.

2. SMP and RMP activities shall not cause the following limits to be exceeded in waters of the State at any point:
- a. Dissolved Oxygen: 5.0 (WARM) or 7.0 (COLD) mg/l minimum.⁸ When natural factors cause lesser concentrations, then discharges under this amended Order shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved Sulfide: All water shall be free from dissolved sulfide concentrations above natural background levels. Concentrations of only a few hundredths of a milligram per liter can cause a noticeable odor or be toxic to aquatic life. Violation of the sulfide objective will reflect violation of dissolved oxygen objectives as sulfides cannot exist to a significant degree in an oxygenated environment.
 - c. pH: A variation of natural ambient pH by more than 0.5 pH units.
 - d. Toxicity: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
 - e. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and 0.16 mg/L as N, maximum.
 - f. Salinity: Maintenance activities shall not increase total dissolved solids or salinity to a degree that the increase adversely affects beneficial uses.
 - g. Turbidity: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.
3. SMP and RMP activities shall not cause a violation of any water quality standard for receiving waters adopted by the Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Water Board may revise and modify this amended Order in accordance with more stringent standards.

⁸ Resolution No. R2-2018-0015 adopted site-specific objectives for dissolved oxygen in Suisun Marsh.

Provisions

1. The Dischargers shall implement all mitigation measures identified in the Manual. In addition, the Dischargers shall comply with (1) the Monitoring and Reporting Program attached to this amended Order, and (2) their respective Manuals and corresponding appendices. Any proposed changes to the Manuals or appendices shall be submitted via the ANR or the Annual Post-Maintenance Report for review and approval. All changes to the Manuals or appendices must comply with all terms and conditions of this amended Order and be approved in writing by the Executive Officer.

Vegetation Management

2. Targeted and localized vegetation removal areas exceeding the following contiguous feet of channel length for each Discharger will require Project Specific Notification:
 - a. Napa County Flood Control District: 100 contiguous feet of channel length;
 - b. San Mateo County: 150 linear feet of channel length for maintenance at crossings or other features or to provide access to maintenance sites;
 - c. Contra Costa County Flood Control District: Up to 4,200 linear feet of channel length for mowing grass and trimming cattails along engineered flood control channels;
 - d. Sonoma County Water Agency: 100 contiguous feet of channel length; ~~and~~
 - e. Midpen: Up to 9,000 linear feet of stream channel, and not more than 120 linear feet per site, for tree trimming and pruning;:
 - f. Marin County Flood Control District: Up to 2,800 contiguous linear feet within concrete engineered flood control channels; up to 800 linear feet within an earthen engineered flood control channel; up to 600 linear feet within a natural channel; and
 - g. City of Livermore: The total area in combination with the other temporary and permanent impacts shall not exceed a total of 1.5 acres over 5 years.
3. Vegetation management and replanting shall be conducted in a manner that maximizes the functions of the vegetation, including shading the stream, stabilizing channel banks, erosion and sediment control, and providing in-stream habitat while addressing public safety and land management responsibilities, including visibility, access, and fire management.
4. The Dischargers shall describe how proposed vegetation management activities meet maintenance channel objectives for that reach in the ANR. Selection and prioritization of vegetation management activities shall consider channel capacity conditions, hydraulic constrictions, channel dimensions, roughness objectives, reach-specific vegetation templates, public safety, and land management responsibilities, such as visibility, access, and fire management.

5. Vegetation management activities shall be conducted, as described in the Manuals, in a manner that ensures that the work is effective and avoids, minimizes, and compensates for potential environmental impacts.
6. Vegetation management activities shall not adversely impact the riparian zone, shade, canopy coverage, or habitat.
7. Overall impacts of vegetation management activities shall improve beneficial uses.
8. The Dischargers shall follow the Bay Friendly Landscape Guidelines, or its equivalent, to minimize the use of herbicides to the maximum extent practicable.
9. The Dischargers shall maintain coverage and comply with the State Water Board's Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Aquatic Pesticides Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (General Permit No. CAG990005; Water Quality Order No. 2013-0002-DWQ, as amended, and as may be reissued).

Downed Tree Management

10. The Dischargers shall follow the downed tree management guidelines described in their Manuals.
11. Downed tree management shall be conducted in a manner that maximizes the environmental benefit of the tree to stabilize stream banks and provide in-stream habitat.
12. Downed tree management activities shall not adversely impact riparian zone habitat. Overall downed tree management activities shall be conducted such that they improve water quality and beneficial uses.
13. The Dischargers shall follow the guidelines in the Manuals when removing large woody debris for maintenance purposes. If a channel functions, or potentially could function, as habitat for salmonids or other threatened and endangered species, then large woody debris cannot be removed, unless described in a Discharger's Manual and authorized by the federal agencies overseeing special-status species protection. If the large woody debris poses a credible risk of blocking a culvert, bridge, or otherwise obstructing flow, causing structural damage, or destabilizing a channel, it may be relocated, repositioned, or cabled to a stream bank in a manner that protects existing habitat.
14. For channels designated by the SMP or RMP not to have existing or potential salmonid or other threatened and endangered species habitat, large woody debris may be removed or relocated to a more suitable location if the large woody debris is posing a significant and imminent threat to infrastructure or structures on adjacent properties.

Erosion Control and Bank Stabilization

15. The Dischargers shall follow the erosion control and bank stabilization guidelines described in the Manual. The use of soil bioengineering systems as presented in the

Natural Resource Conservation Service (NRCS) manual⁹ shall be used as the first and primary strategy for stream bank stabilization projects. Rock and rock riprap installation shall be limited to only those areas experiencing shear stresses that exceed the performance of vegetation-based soil bioengineering systems, as designated in the NRCS and U.S. Army Corps of Engineers shear stress tables.¹⁰

16. Any changes to bank repair methods shall be proposed in the ANR and be approved in writing by the Executive Officer before implementation. Proposed changes to the bank repair methods must demonstrate that the change does not adversely affect beneficial uses and will result in no net loss and a long-term net gain in the extent, functions, and beneficial uses of waters of the State.
17. Where bank stabilization activities may result in modifications to stream cross-sections and/or profiles, the banks shall be re-contoured to match the adjacent bank slope.

Sediment and Debris Removal

18. In its ANR, each Discharger shall describe how proposed sediment management activities meet maintenance channel objectives for that reach. Selection and prioritization of sediment management activities shall consider: (1) channel capacity conditions; (2) hydraulic constrictions; (3) sediment, channel dimension, and roughness objectives; (4) how the activity will address short-term flood management needs; and (5) whether proposed maintenance activities will result in longer-term habitat and water quality benefits consistent with the maintenance strategy for that reach.
19. Targeted and localized sediment removal shall occur in limited areas that do not exceed the following limits set for each Discharger:
 - a. *Napa County Flood Control District*: 500 contiguous linear feet of channel. Sediment removal in areas greater than 500 linear feet will require Project Specific Notification;
 - b. *San Mateo County*:
 - i. Unmodified Natural Channels and Modified Channels: (1) 500 contiguous linear feet and 3,750 square feet of channel;
 - ii. Culverts and Crossings: 150 contiguous linear feet and 1,125 square feet of channel;
 - iii. Total, Annual Limit: 1,500 linear feet in a given year total for all channel types, and 18,750 square feet. No more than 10 sediment removal projects will occur in a given year, per NMFS guidance; and

⁹ Bentrup, G. and J.C. Hoag. 1998. The Practical Streambank Bioengineering Guide, User's Guide for Natural Streambank Stabilization Techniques in the Arid and Semi-Arid Great Basin and Intermountain West. U.S. Department of Agriculture, Natural Resources Conservation Service.

¹⁰ Fischenich, C. 2001. Stability Thresholds for Stream Restoration Materials. EMRRP Technical Notes Collection (ERDC TN-EMRRP-SR-29). U.S. Army Engineer Research and Development Center, U.S. Army Corps of Engineers, Vicksburg, MS.
National Resource Conservation Service (NRCS). 2007. Part 654 National Engineering Handbook Stream Restoration Design.

- c. Contra Costa County Flood Control District: total area of sediment removal, in combination with the other temporary and permanent impacts shall not exceed the area used for calculating the project fee.

100, 250, and 1,000 contiguous linear feet of channel at sites located in, as previously defined, natural channels, engineered earthen channels, and concrete channels, respectively;

Sediment removal is limited to 1,000, 1,500, and 5,000 linear feet per stream, in natural, engineered earthen, and concrete channels, respectively. Sediment removal in areas greater than these limits will require Project Specific Notification;

At locations around bridges, culverts, storm drain outlets, trash racks and other trash capture devices, and water diversion inlets, the limit will not exceed 100 contiguous linear feet in natural channels and 200 contiguous linear feet in concrete channels; and

- b. Sonoma County Water Agency: 500 contiguous linear feet of channel. Sediment removal areas greater than 500 linear feet will require a Project Specific Notification.

- c. Midpen:

- i. 1,000 linear feet for all sediment removal sites along channels (annual and program limit).
- ii. 100 linear feet per site, with an annual limit of 800 linear feet (8 sites in a wet year), for sediment removal from culverts, crossings, and other drainage features.
- iii. Sediment removal in all ponds will be limited to one acre per year, total.

- f. Marin County Flood Control District:

- i. Sediment and natural debris removal from concrete-engineered channels shall be limited to 2,800 linear feet.
- ii. Sediment and natural debris removal from earthen-engineered channels shall be limited to 800 linear feet.
- iii. Sediment and natural debris in natural channels shall be limited to 600 linear feet.
- iv. The maximum debris or sediment removal volume from any site shall be 2,100 cubic yards.
- v. Over the 5-year term of the Order, sediment removal shall not exceed the program-wide cumulative total of 25,000 linear feet, 55,000 cubic yards, and 5 acres of sediment and debris.

- g. City of Livermore: The total area in combination with the other temporary and permanent impacts shall not exceed a total of 1.5 acres over 5 years.

For all Dischargers, individual sediment removal projects occurring in proximity to one another and resulting in cumulative impacts to a stream reach will require a project-specific notification to the Water Board.

20. In-stream depositional features (e.g., bars) shall be preserved in their location unless they must be removed to avoid imminent threat of flooding. During removal of depositional features, the Dischargers shall minimize impacts and preserve habitat functions to the extent practicable to protect beneficial uses.
21. After sediment removal, the Dischargers shall grade the channel so that the transition between the existing channel both upstream and downstream is smooth and continuous between the maintained and non-maintained areas and does not present a “wall” of sediment or other blockage that could erode or cause erosion once flows are restored.
22. Maintenance activities that may modify stream cross-sections and or profiles require Project-Specific Notification to the Water Board. The Dischargers are required to submit a grading plan that describes steps to be taken towards achieving a dynamic equilibrium channel, including project design details with a channel form (e.g., channel shape, width/depth ratio) consistent with channel dimension objectives.
23. Excavated sediment may be temporarily stockpiled prior to disposal or reuse, provided that appropriate State and federal regulations are met and BMPs are implemented to protect water quality and beneficial uses. The excavated sediment may be stockpiled onsite for up to three working days, or up to 10 working days for San Mateo County and the Contra Costa County Flood Control District,¹¹ within engineered containment areas so that it can be loaded into trucks for off-site disposal. The excavated sediment may also be temporarily stockpiled at an offsite location. Runoff, sediment, or decant water from the excavated materials shall not discharge to waters of the State, nor discharge from trucks during transport.
24. Sediment removed as part of maintenance activities shall be properly characterized through laboratory analytical testing, as described in the approved Sediment Sampling and Analysis Guidelines included in the Manuals and shall be hauled offsite to an approved suitable upland disposal site, to a landfill approved to accept the sediment as characterized, or to another approved location. Vegetative debris generated by maintenance activities will either be chipped and left onsite or taken to a local compost or mulch facility.
25. Any observed contamination during maintenance activities, as evidenced by chemical odors, oily sheens, or irregularly colored sediment shall be immediately reported to the Water Board. The Dischargers shall work with Water Board staff, and other regulatory agencies as appropriate, to conduct additional follow-up actions, including investigating

¹¹ Sediment testing in San Mateo County and Contra Costa County is expected to take longer than three working days to complete. If sediment testing is delayed past 10 working days, the County will notify Water Board staff to request an extension.

potential sources of contamination, corrective actions, and appropriate disposal of contaminated sediment.

26. The Dischargers shall have equipment and supplies on-site (or readily available nearby) that shall be quickly deployed to provide additional filtration if turbidity is observed.
27. All staging shall occur on adjacent access roads or previously disturbed areas. Soil and rock riprap shall be staged in areas that have been previously disturbed (e.g., service roads and turnouts). If maintenance activities affect the active channel, the work area shall be effectively isolated from stream segments containing standing or flowing water through the use of effective BMPs and restored to pre-project conditions immediately after maintenance is complete.
28. The disposal of any hazardous, designated, or non-hazardous waste as defined in 27 CCR Division 2, Subdivision 1, Chapter 2, shall be conducted in accordance with applicable State and federal regulations.
29. The Dischargers shall clean up, remove, and relocate any wastes that are discharged in violation of this amended Order.

Other Maintenance Activities

30. The Dischargers shall follow the guidelines described in their Manuals for other maintenance activities. The Napa County Flood Control District shall implement the following for its existing projects that have maintenance needs:
- a. Maintenance activities for restoration projects within the Napa County Community Facilities District (Rutherford Reach and Oakville to Oak Knoll Reach) shall be implemented in accordance with the maintenance plans developed for each project, as described in the Napa County Manual (Appendices A and B).
 - b. Maintenance activities for the Napa River/Napa Creek Flood Protection Project shall be implemented as described in the Napa County Manual (Appendix M) and in accordance with the *Operations, Maintenance, Repair, Replacement and Rehabilitation Manual for the Napa River/Napa Creek Flood Protection Project*, dated April 2018, and incorporated herein by reference.
 - c. The Napa County Flood County Flood Control District shall implement the approved *Post Construction Contingency Plan* (PCCP) in the Petroleum Residual Contamination Area (PRCA). Inspections shall be conducted in April and October of each year and after significant flood events, significant earthquakes, or major modifications to the Napa Creek/Napa River Flood Protection Project. Significant damage that threatens the integrity of the soil cap in the PRCA shall be reported to the Water Board within seven days of discovery. A corrective action plan to remedy such damage shall be submitted within 30 days after observation
31. Other stream maintenance activities shall not result in direct or cumulative significant impacts to water quality or beneficial uses of waters of the State.

Best Management Practices

32. The Dischargers shall implement the BMPs described in their respective Manuals and CEQA documents (or alternative BMPs of comparable effectiveness) to prevent pollutants from draining, being washed, or otherwise discharging into waters of the State during SMP/RMP activities.
33. The Dischargers shall divert any flow at work sites around the active maintenance areas in a non-erosive manner.
34. The Dischargers shall operate pumps/generators in locations where spills will not result in direct discharge of petroleum products or other pollutants to waters of the State.
35. The Dischargers shall halt work activities if fish, amphibians, or other aquatic organisms are exhibiting stress or are dead within 1,000 feet of a work activity or discharge. The Dischargers shall immediately assign a qualified biologist to investigate the cause of the problem, develop an acceptable corrective action plan, and determine if the cause is related to SMP activities. The Dischargers shall immediately report all incidents involving stressed or dead aquatic organisms, as well as prescribed action plans, to the Water Board and other regulatory agencies as appropriate.

Channel Assessments

36. Channel assessments shall be conducted as follows:

- a. Napa County Flood Control District: The Napa County Flood Control and Water Conservation District shall develop a channel assessment approach to identify one stream reach per year where routine maintenance activities will be assessed to better understand underlying flood management needs, habitat conditions, existing constraints, and opportunities for potential habitat enhancement or restoration. These channel assessments shall be used to develop restorative maintenance recommendations that achieves flood management objectives and enhances physical and biological processes over time;
- b. San Mateo County: Sshall prepare reach characterization sheets, or facility characterization sheets (see Finding 25), or update existing sheets each year to provide background on maintenance, underlying flood management needs, habitat conditions, existing constraints, opportunities for potential habitat enhancement or restoration. San Mateo County shall also evaluate maintenance needs at the sites identified in their Manual and update the maintenance triggering criteria, as appropriate, in coordination with Water Board and other regulatory agencies;
- c. Contra Costa Flood Control District: Sshall update and expand the Resource Characterizations at high priority maintenance sites to provide the quantitative capacity evaluations needed to document and support maintenance goals. The capacity evaluations will consider channel geometry conditions, the observed flow record, history of past flooding (as available), history of past maintenance activities, and other factors. The methodology used to evaluate channel capacity will be updated and refined each year to improve the quantitative evaluations over time. The updated Resource Characterizations will include existing constraints and limiting factors to achieving improved habitat functions, opportunities for potential habitat enhancement or restoration, and longer-term maintenance goals. These Resource Characterizations will be used to identify and support maintenance activities each year and to collectively optimize physical and biological processes in the various program watersheds over time. The Contra Costa County Flood Control District shall also evaluate maintenance needs at the sites identified in their Manual and update the maintenance triggering criteria, as appropriate, in coordination with Water Board and other regulatory agencies; ~~and~~
- d. Sonoma County Water Agency: Sshall supplement~~ed~~ its SMP Manual with ~~an~~ SMP Database that inventories and assesses each stream reach in the SMP area through characterization of the following reach conditions: (1) general setting information (i.e., location, jurisdiction, adjacent land use, reach length); (2) physical conditions (i.e., active flow width, channel geometry, geomorphic setting); (3) biological conditions (i.e., instream habitats, riparian vegetation composition, listed species); and (4) management considerations and opportunities (i.e., maintenance history, current priorities, natural resource enhancement/protection opportunities). These reach characterization sheets (“reach sheets”) are described in detail in Appendix C of the

SMP Manual and shall be continually updated in the SMP Database to reflect changes and progress in achieving the goals of the SMP. Annual stream channel assessments shall be conducted to organize and prioritize maintenance activities each year and follow an assessment checklist which evaluates channel conditions relative to maintenance triggers described in the SMP Manual. Sonoma Water shall also continue to develop Channel Maintenance Objectives for select stream reaches, which considers channel roughness from existing sediment and vegetation conditions to produce reach-specific vegetation templates and nomographs to inform the maintenance prioritization process. Reach sheets, annual channel assessments, and Channel Maintenance Objectives (where developed) shall all be continually updated in the SMP Database and shall be reviewed holistically for a full understanding of stream resources, locations, and interactions to help avoid, minimize, and mitigate the environmental impacts of routine maintenance activities. These channel characterizations shall provide enough detail and photo documentation to support the review and approval of annual maintenance projects-;

- e. *Midpen*: Sshall prepare reach characterization sheets (see Finding 25) or update existing sheets each year to provide background on maintenance, underlying flood management needs, habitat conditions, existing constraints, opportunities for potential habitat enhancement or restoration. Midpen shall also evaluate maintenance needs at the sites identified in their Manual and update the maintenance triggering criteria, as appropriate, in coordination with the Water Board and other regulatory agencies.
- f. *Marin County Flood Control District*: Shall supplement its SMP Manual with an SMP Database that inventories and assesses each stream reach in the SMP area through characterization of the following reach conditions: (1) GIS reach mapping; (2) BMP tracking; (3) pre- and post-project photos; (4) channel geomorphic characterizations; (5) annual maintenance notes documenting triggers; (6) special status species mapping; (7) invasive species locations; (8) specific data required by permits; (9) pre-project notification packages; (10) annual reports; and
- g. *City of Livermore*: Shall initially complete a qualitative assessment of channel conditions and capacity. Over time, the City shall complete a quantitative assessment of channel conditions and capacity. In the late winter or early spring, the City shall initiate a reconnaissance of the stormwater drainage system included in the SMP on a reach-by-reach basis to assess potential maintenance needs. This reconnaissance shall include monitoring of project sites where maintenance occurring in the previous 5 years involved ground disturbance. Staff shall monitor these sites for geomorphic stability. Conditions and resources shall be assessed regarding the potential need for sediment removal, vegetation management, or bank stabilization. Assessment categories shall receive rankings ranging from 1 (high priority) to 4 (low priority). Creek and channel vegetation conditions shall be assessed for the presence of cattails, willows, exotic species, etc., and the need for vegetation removal or management. Photographs shall be taken of each reach and archived in the SMP database. The creek and channel assessment process shall also be supported by information provided by GIS mapping and aerial photography. Information from the completed assessment checklist shall be integrated into an SMP data management system (“SMP Tracker”).

The data system shall be accessed during the creek and channel assessment process to query past maintenance activities, identify specific resource conditions, and prioritize maintenance activities by reach to develop the year's work plan. Based on the field reconnaissance, completion of the reach assessment checklist, and subsequent prioritization using the SMP database, an initial listing of reaches requiring maintenance for the current work cycle shall be compiled.

Mitigation

37. The Dischargers shall mitigate for impacts to water quality and beneficial uses from its maintenance activities as described in the Manuals. The Dischargers shall submit proposed compensatory mitigation, acceptable to the Executive Officer, as part of the ANR, as described in their Manuals.
38. To the maximum extent practicable, the Dischargers shall implement compensatory mitigation projects in advance of, or concurrent with, the activity causing the permitted impacts, particularly when off-site mitigation is pursued. Due to the nature of on-site mitigation, it is recognized that on-site mitigation activities will likely occur during or following the maintenance activities.
39. Mitigation shall be provided to compensate for impacts from ground-disturbing and other maintenance activities that temporarily impact waters of the State. The minimum amount of mitigation shall be provided at a 1.1:1 mitigation ratio based on the extent of impacts in acres and linear feet and the duration of temporal loss. The minimum 1.1:1 mitigation ratio shall consist of 1:1 for restoration of the temporarily impacted project area plus 0.1:1 compensatory mitigation for temporal loss in functions resulting from maintenance activities. The additional 0.1:1 may be achieved through the long-term improvement of functions within the project area if the Executive Officer determines that the temporarily impacted area is restored to better than pre-project conditions.
40. Mitigation shall be provided to compensate for permanent losses in functions, values, and acreage of waters of the State associated with permanent impacts that will occur from SMP and RMP activities. Mitigation provided for permanent impacts to waters of the State will be consistent with established compensatory mitigation practices and factors like the mitigation project's proximity to the impact location (e.g., on-site, off-site), whether the mitigation is in-kind or out-of-kind, and the habitat that will be permanently impacted. The Dischargers shall propose appropriate compensatory mitigation, consistent with existing mitigation requirements for Certification and WDRs, with their ANRs. Water Board staff shall review mitigation proposals on a case-by-case basis for consistency with Certification and WDR requirements;
41. If mitigation sites do not meet performance criteria after completion of the monitoring period, the Dischargers shall prepare and implement a revised mitigation plan, acceptable to the Executive Officer, addressing corrective action, outlining additional monitoring, or proposing new mitigation.

42. The Dischargers shall be responsible for the long-term management and maintenance of the mitigation sites. The mitigation site(s) shall be placed under perpetual deed restrictions to provide long-term protection, or tracked and protected by other means, as appropriate for each Discharger.

Monitoring and Reporting

43. Each Discharger shall monitor its active project sites according to the Sediment Monitoring and Reporting Program attached to this amended Order (Attachment B). All self-monitoring reports shall be submitted annually to the Water Board as part of the Annual Post-Maintenance Report.
44. Each Discharger shall submit the Annual Notification Report (ANR), acceptable to the Executive Officer, by June 1 of the year maintenance is proposed to be conducted. The ANR shall describe the location of the proposed maintenance activity, the stream(s) and structures affected, the extent of the impact area in acres and linear feet, the expected total cubic yards of material to be removed, the sediment disposal plan, if dewatering will be required, and proposed compensatory mitigation if required. The ANR will also include photo documentation of existing conditions, an assessment of the need for the proposed maintenance activities, measures taken to avoid and minimize impacts to beneficial uses, and any additional content specified in the Dischargers' Manuals.
45. Each Discharger shall submit the Annual Post-Maintenance Report, acceptable to the Executive Officer, by January 31 of the year following completion of maintenance activities. The Annual Post-Maintenance Report shall describe activities conducted, mitigation implemented, monitoring results, and post-maintenance photos to document BMP effectiveness as well as channel and bank conditions immediately upstream and downstream of each project site. The Annual Post-Maintenance Report shall also include a description of any corrective actions planned to ensure effectiveness of BMPs and the results of any threatened or endangered species surveys conducted.
46. Project-Specific Notification on all channels shall include photo documentation of existing conditions, a description of the project, an assessment of the need for the proposed maintenance activities, and measures taken to avoid and minimize impacts to beneficial uses.
47. The Dischargers shall each submit a Project-Specific Notification Summary Report, acceptable to the Executive Officer, by January 31 of the year following completion of maintenance activities. This report shall describe activities conducted, mitigation implemented, and monitoring results including photo documentation of BMP success.
48. Reports, including maintenance plans, the ANR, and the Annual Post-Maintenance Report shall be developed by an interdisciplinary team with expertise in fisheries biology, hydrology, and fluvial geomorphology. The team's expertise shall be documented in the reports.

49. Before June 15 of each year, the Dischargers shall each organize a meeting and/or field tour (to discuss the projects scheduled for the upcoming maintenance season, based on the ANR).
50. After each maintenance season, the Dischargers shall each meet with Water Board staff to discuss the performance of the SMP or RMP, review lessons learned from the completed construction season, and determine the need to implement improved stream maintenance techniques and BMPs. The Dischargers shall implement all stream maintenance techniques and BMPs deemed necessary by the Executive Officer in connection with such review to protect beneficial uses.
51. Each Discharger's Manual includes activities that are exempt from annual notification requirements and which may occur any time at the discretion of the Dischargers and consistent with their Manuals.
52. After four years of SMP or RMP implementation, each Discharger shall review its respective SMP or RMP Manual with the Water Board and other regulatory agencies as appropriate, to evaluate its overall effectiveness. The review shall include an assessment of maintenance activities conducted to date, BMPs, adequacy of the SMP or RMP mitigation program, data management, adaptive updates and revisions of their Manual, and overall program coordination and communication among the Dischargers and the regulatory agencies. The Manuals may be revised or updated based on this review. The Executive Officer may extend this amended Order's authorization administratively, and the Water Board may consider issuing Water Quality Certification and WDRs for additional five-year periods to allow continuation of SMP or RMP implementation.
53. Napa County Flood Control District shall submit the following additional monitoring reports, as referenced in Finding 39:
 - a. The Napa County Flood Control District shall submit monitoring reports as required by the *Post Construction Contingency Plan*, dated February 2019 (see Attachment C for monitoring and reporting schedule). This report shall describe monitoring conducted for the Petroleum Residual Contamination Area and shall include the results of semi-annual inspections, any episodic inspections, and any corrective actions that may have been implemented
 - b. The Napa County Flood Control District shall submit monitoring reports as required by the *Operations, Maintenance, Repair, Replacement and Rehabilitation Manual for the Napa River/Napa Creek Flood Protection Project*, dated April 2018 (see Attachment C for monitoring and reporting schedule).
 - c. The Napa County Flood Control District shall submit monitoring reports as required by the *Monitoring Plan for the Rutherford Reach Restoration of the Napa River*, dated 2015 (see Attachment C for monitoring and reporting schedule).
 - d. The Napa County Flood Control District shall submit monitoring reports as required by the *Napa River Restoration: Oakville to Oak Knoll Project Monitoring Plan*, dated March 2015 (see Attachment C for monitoring and reporting schedule).

Fees

54. In accordance with 23 CCR section 2200, the Dischargers shall pay an annual fee to the Water Board each fiscal year (July 1 – June 30) until Project construction activities are completed. If monitoring is required, the Dischargers shall pay an annual fee to the Water Board until monitoring activities are completed.
55. This amended Order is conditioned upon total payment of the full fees, including annual fees, required in State regulations (23 CCR sections 2200(a)(3) and 3833(b)(3) and owed by each Discharger. Extension of this amended Order’s authorization may require payment of a fee. The Dischargers paid the following fees:
- a. Napa County Flood Control District: ~~P~~paid the Application, \$9,169, fee for this Project in full on May 15, 2019, calculated as “Category A – Fill & Excavation Discharges” with the dredge and fill fee calculator.
 - b. San Mateo County: ~~P~~paid the Application fee for this Project calculated as “Category A – Fill and Excavation Discharges” with the dredge and fill fee calculator, in two payments, \$1,638 on May 1, 2019, and \$59,071 on September 17, 2020;
 - c. Contra Costa County Flood Control District: ~~P~~paid the Application fee for this Project, calculated as “Category A – Fill and Excavation Discharges” with the dredge and fill fee calculator, in two payments, \$1,638 on October 4, 2020, and \$54,290 on December 14, 2020;
 - d. Sonoma County Water Agency: ~~P~~paid the Application fee for this Project, calculated as “Category A – Fill and Excavation Discharges” with the dredge and fill fee calculator, \$96,305, in full on April 13, 2021; and
 - e. Midpen: ~~P~~paid the Application fee for this Project, calculated as “Category A—Fill and Excavation Discharges” with the dredge and fill fee calculator, \$53,769, in full on October 13, 2021.
 - f. Marin County Flood Control District: ~~P~~aid the Application fee for this Project, calculated as “Category A – Fill and Excavation Discharges” with the dredge and fill fee calculator, \$121,830 in full on XXXX XX, 2023;
 - g. City of Livermore: ~~P~~aid the Application fee for this Project, calculated as “Category A – Fill and Excavation Discharges” with the dredge and fill fee calculator, \$36,549 in full on April 11, 2023;

Records Provisions

56. The Dischargers shall maintain a data management system to monitor stream maintenance activities, natural resources in the SMP and RMP areas, permitting requirements, and mitigation activities.

57. The Executive Officer may request that information regarding the SMP and RMP be provided to the Water Board at times outside of the reporting requirements specified in this amended Order.
58. The Dischargers shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this amended Order, and records of all data used to complete the application for this amended Order, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Executive Officer at any time.
59. The Dischargers shall submit electronic versions of any submitted reports or documents.

General Provisions

60. All provisions in this amended Order apply to all streams and maintenance activities identified in the Manuals.
61. The following activities are not included in the Manual and, therefore, are not covered in this amended Order: capital improvement projects; discharge of decant water from dredged sediments back to receiving waters; projects that would alter the designed flood conveyance capacity of a channel; large sediment removal or dredging projects greater in length than the limits established in the Provision 19 of this amended Order; and emergency activities and procedures. A situation is considered an “emergency” if it is a sudden, unexpected occurrence involving a clear and imminent danger that demands immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake or other soil or geologic movements, as well as such occurrences as riot, accident or sabotage (Pub. Res. Code § 21060.3).
62. The Dischargers shall comply with all the Prohibitions, Discharge Specifications, Receiving Water Limitations, and Provisions of this amended Order immediately upon adoption of the Order or as otherwise provided in the Order.
63. This amended Order does not allow for the take, or incidental take, of any special status species.
64. The Dischargers shall implement the SMP or RMP in accordance with the methods described in the Manual and the requirements of this Order and shall comply with all applicable water quality standards.
65. Ground-disturbing maintenance activities occurring below top-of-bank shall only occur during the low-flow or dry season specific to each Discharger’s SMP or RMP (herein defined as June 15 to October 31 for Napa County Flood Control; June 15 to October 15 for San Mateo County; and June 15 to October 31 for Contra Costa County Flood Control and Midpen), unless an exception is granted. No new instream sediment removal work shall start after October 15 of any year but work already underway shall have until October 31 to be completed. During dry years, when channels become dry earlier than the defined dry season for each Discharger, an exception may be granted to conduct

ground-disturbing maintenance activities outside their work window. Exceptions may be made on a project-by-project basis with advance approval by the Executive Officer and federal and State regulatory agencies, as appropriate.

66. Disturbed soil related to SMP or RMP activities shall be stabilized and winterized. Required planting shall be performed no later than the fall/winter planting season in the year following project installation.
67. If, at any time, an unauthorized discharge to surface water (including wetlands, rivers or streams) occurs, or any water quality problem arises, the associated SMP and RMP activities shall cease immediately until corrective actions have been implemented. Corrective actions shall include (1) implementing adequate BMPs to eliminate the discharge, and (2) clean up and remediate any recoverable pollutants. The Water Board shall be notified promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.
68. This Water Quality Certification and issuance of WDRs is subject to modification or revocation upon administrative or judicial review, including review and/or reconsideration pursuant to Water Code section 13330 and 23 CCR section 3867.
69. This Water Quality Certification is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility 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 section 3855, Subdivision (b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
70. The Water Board may add to or modify the conditions of this Order, as appropriate, to implement any new or revised water quality standards and implementation plans, such as new or revised total maximum daily load requirements adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or CWA section 303.
71. The Dischargers shall maintain a copy of this Order and all relevant plans and BMPs at SMP work sites, so as to be available at all times to site operating personnel.
72. The Dischargers shall correct any and all problems that arise from an SMP activity, including a failure to meet the conditions of this Order that results in an unauthorized release of pollutants, including sediment.
73. The Dischargers shall permit Water Board staff or their authorized representatives, upon presentation of credentials,
 - a. to enter areas where maintenance activities are planned or under way, wastes are located, or records are kept;
 - a. Access to copy any records required to be kept under the terms and conditions of this Order;

- b. Access to inspect any treatment equipment, monitoring equipment, or monitoring method required by this Order; and
 - c. Access to sample any discharge or surface water covered by this Order.
74. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under applicable State or federal law. For the purposes of CWA section 401(d), the applicability of any State law authorizing remedies, penalties, process or sanctions constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Order. In response to a suspected violation of any condition in this Order, the Water Board may require the holder of any federal permit or license subject to this Order to furnish, under penalty of perjury, any technical or monitoring reports the Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions in this Order, the Water Board may add to or modify the conditions in this Order as appropriate to ensure compliance.
75. This amended Order authorizes SMP and RMP activities for the following periods. That authorization may be extended for periods of up to five years by the Executive Officer following a review of the SMP and RMP by the Dischargers and Water Board staff, submittal of a comprehensively updated Manuals to address the results of the review, and acceptance of that Manuals by the Executive Officer, as described in the Provisions. Mitigation and monitoring requirements that extend beyond the term of this Order are not subject to the Order's expiration date outlined above and remain in full effect and are enforceable.
- a. Napa County Flood Control District: For the Napa County Flood Control District, the authorization expires on October 31, 2024;
 - b. San Mateo County: For San Mateo County, the authorization expires on December 16, 2025;
 - c. Contra Costa County Flood Control District: For Contra Costa County, the authorization expires on December 16, 2025;
 - d. Sonoma County Water Agency: For Sonoma Water, the authorization expires on April 14, 2026; ~~and~~
 - e. Midpen: For Midpen, the authorization expires on February 9, 2027.
 - f. Marin County Flood Control District: For the Marin County Flood Control District, the authorization expires on July 12, 2028; and
 - g. City of Livermore: For the City of Livermore, the authorization expires on July 12, 2028.

76. This amended Order rescinds Marin County Flood Control District’s existing SMP Order No. R2-2017-0028 except for the purposes of enforcement, effective July 12, 2023;

I, ~~Eileen White~~Thomas Mumley, ~~Interim~~ Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an amended Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on, and effective on, July 12, 2023 ~~February 9, 2022~~.

Eileen White
Executive Officer
~~Thomas Mumley~~
~~Interim Executive Officer~~

- Attachment A: Napa County Flood Control District SMP Manual
- Attachment B: Sediment Monitoring and Reporting Program
- Attachment C: Monitoring and Reporting Schedule
- Attachment D: San Mateo County RMP Manual
- Attachment E: Contra Costa County Flood Control District RMP Manual
- Attachment F: Sonoma County Water Agency SMP Manual
- Attachment G: Midpen RMP Manual
- Attachment H: Marin County Flood Control District Stream Maintenance Manual
- Attachment I: Revised Manual Livermore Stream Maintenance Program