

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

ORDER NO. R2-2012-XXXX

WASTE DISCHARGE REQUIREMENTS AND WATER QUALITY CERTIFICATION FOR:

**SANTA CLARA VALLEY WATER DISTRICT
STREAM MAINTENANCE PROGRAM
SANTA CLARA COUNTY**

1. The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board) finds that the Santa Clara Valley Water District (District) applied to the U.S. Army Corps of Engineers (Corps) for a ten-year regional general permit to implement the Stream Maintenance Program (SMP) under Clean Water Act (CWA) section 404 (33 U.S.C. §1344).
2. On July 21, 2011, the District filed an application for Clean Water Act section 401 Water Quality Certification and Waste Discharge Requirements (WDRs) with the Regional Water Board for authorization to continue to implement its Stream Maintenance Program (SMP) to conduct routine stream maintenance activities in streams within its maintenance jurisdiction (below the 1000-foot elevation contour throughout Santa Clara County). The SMP maintenance activities provide flood protection and maintain channel conveyance capacity, while protecting natural resources with avoidance and minimization measures.
3. The goals of the SMP include: (1) maintain the design flow conveyance capacity (or the appropriate capacity when no design capacity exists) of District facilities; and (2) maintain the structural and functional integrity of District facilities.

The objectives of the SMP include: (1) remove sediment to maintain the hydraulic, safety, and habitat functions of the creeks systems; (2) manage vegetation to maintain the hydraulic, safety, and habitat functions of the creek systems, and to allow for levee inspections and maintenance access; (3) stabilize beds and banks of creeks and canals to protect existing infrastructure, maintain public safety, reduce sediment loading, protect water quality, and protect habitat values; and (4) avoid, minimize, or mitigate impacts on the environment by incorporating stream stewardship measures into maintenance activities.

4. In August 2012, the District's Board revised and adopted its Natural Flood Protection and Water Resources Stewardship goals and objectives in its Governance Policies under the Ends Policy¹. The SMP is consistent with the following objectives:

Natural Flood Protection

- 3.1.2. Preserve flood conveyance capacity and structural integrity of stream banks, while minimizing impacts on the environment and protecting habitat values.

Water Resources Stewardship

- 4.1.1. Preserve creeks, bay and ecosystems through environmental stewardship.
- 4.1.2. Improve watersheds, streams, and natural resources.

¹ SCVWD Board Governance Policies: <http://www.valleywater.org/About/BoardPolicies.aspx>

4.1.3. Promote the protection of creeks, bay and other aquatic ecosystems from threats of pollution and degradation.

5. The District is currently conducting stream maintenance activities under Waste Discharge Requirements (Order No. R2-2002-0028) issued by the Regional Water Board on February 27, 2002.
6. This Order applies to four watersheds within Santa Clara County that drain to the San Francisco Bay. These include the Lower Peninsula, West Valley, Guadalupe, and Coyote watersheds, which are located within the jurisdiction of this Regional Water Board. Therefore all descriptions, findings and provisions in this Order apply only to stream maintenance activities within the four above mentioned watersheds. This Order does not apply to the Pajaro watershed, which is under the jurisdiction of the Central Coast Regional Water Board.
7. This Order does not authorize disturbance of the stream bed and banks in reaches where there is a reasonable possibility of anadromous fish spawning.
8. The SMP Manual describes maintenance work activities conducted in streams, creeks, and channels (collectively “channels” or “streams”) as well as canals and stream gauges, located within the District’s SMP maintenance jurisdiction. The SMP Manual also describes impact avoidance and minimization measures, best management practices (BMPs), mitigation, SMP oversight and management, and program-area resources. The District uses the SMP Manual as the main guiding document, which describes the maintenance work activities, maintenance timing, BMPs, excluded maintenance activities, and mitigation. The SMP Manual includes, as attachments, the following documents: Bank Stabilization Methods; Mitigation Feasibility Assessment (MFA); Tree Scoring for Removal of Trees and Shrubs 6-12” diameter at breast height (dbh); Invasive Plant Management Plan; Management of Large Woody Debris in Santa Clara County Streams – Guidelines for Implementation; Best Management Practices Listings (BMPs Listings); Sediment Characterization Plans (February 2012); and Water Quality Monitoring Plans (February 2012).
9. The SMP Manual and associated attachments are considered a “living document” which allows for updates and revisions as maintenance techniques and methods are changed to improve the District’s stream maintenance program. Accordingly, any changes to the SMP Manual and the associated attachments must meet the overall criteria and function of the methods described in this Order and the SMP and must be approved in writing by the Regional Water Board’s Executive Officer.

SMP Description, Impacts, and Mitigation

10. The SMP Manual covers five primary maintenance activities: vegetation management, sediment removal, bank stabilization, management of animal conflicts, and minor maintenance.
11. The SMP Manual covers activities in District maintained canals as well as modified and unmodified channels which are categorized as earthen, concrete, tunnel, siphon, pipeline, or waterbody. Maintenance conducted may extend past the top-of-bank.
12. A canal is defined as a lined water conveyance structure for passive flood control and water supply management.

13. A modified channel is defined as a waterway in which engineered alterations have occurred to improve the passage of flood flows or to provide drainage. Engineered alterations include straightening; constructing banks or levees; or lining banks with concrete, riprap, gabions or sack concrete.
14. An unmodified channel is defined as a creek, river, or section thereof, which has not been modified to meet specific flood control criteria.
15. The District maintains channels and canals where it has fee title or easements, or where the District has received specific direction from the District's Board or a regulatory agency.
16. The District removes sediment from channels to maintain or restore the design capacity of the channel; allow facilities or appurtenant structures to function as designed to control flood waters; and facilitate fish passage. The number of sediment removal projects undertaken annually and the quantity of sediment removed in a given year depends on weather and hydrologic conditions, as well as the frequency and extent of past maintenance activities. For most sediment removal projects, excavators are used from the top-of-bank. For projects where the use of excavators from the top-of-bank is not possible, or would cause major vegetation impacts, sediment removal equipment may be used within the channel if the channel is dry or dewatered. For larger equipment, this may require the construction of temporary access ramps. The District estimates that sediment removal activities will occur along an average of 3.5 miles of channels annually.
17. Vegetation management activities include pruning, removal, herbicide application, mowing, discing, flaming, and grazing. Vegetation management activities are conducted to maintain flow conveyance capacity, establish a canopy of native riparian trees and native understory plants, control invasive vegetation, and as a means of fire control. Vegetation management and removal activities are relatively consistent from year to year, though locations change depending on recent growth and blockages. Vegetation management techniques include hand removal using small tools and hand-held equipment, mechanical removal using heavy equipment such as a flail mower attached to an excavator, and spot chemical control on tree stumps and along access roads, herbicide application using backpack applicators or truck-mounted applicators, tractor-discing, hand-held flaming equipment, and grazing animals. Vegetation management also includes planting new trees and shrubs. Vegetation management is performed year-round in a manner to prevent loss of habitat and erosion, and does not include clear cutting or wholesale removal of vegetation. The District projects vegetation management activities will occur along an average of 148 miles of channels annually. The average annual mileage of vegetation management does not account for overlapping of work areas in which more than one type of vegetation management activity (i.e. pruning, removal, and herbicide application) will occur.
18. Bank stabilization involves repairing channel banks when a weakened, unstable, or failing bank causes or threatens to cause damage to an adjacent property; becomes a flood hazard; becomes a public safety concern; or creates problems with roads, transportation, or access. Bank stabilization techniques described in the SMP Manual use bioengineering techniques to the maximum extent possible while limiting the use of bank hardening. The number of bank stabilization projects to be conducted under the SMP will vary annually.

19. Management of animal conflicts activities include (1) repairing damage caused by burrowing and foraging animals along channels, canals, and other structures within the District's SMP jurisdiction; and (2) managing channels and canals within the District's SMP jurisdiction to avoid further damage. These activities include methods such as biological control, site alterations, habitat alteration, and lethal control. Management of animal conflict activities will vary annually.
20. Minor maintenance activities include: cleaning and removing sediment at outfalls, culverts, flap gates, tide gates, inlets, grade control structures, fish ladders, fish screens (limited to 50 cubic yards per project site); removing sediment from channels or canals (less than 10 cubic yards per project site); removing trash and debris; repairing and installing fences and gates; grading and repairing to restore the original contour of existing maintenance roads; grading small areas without vegetation above channel banks to improve drainage and reduce erosion; repairing structures with substantially similar materials within approximately the same footprint; removing graffiti; installing and maintaining mitigation and landscape sites; removing obstructions at structures to maintain functions; and maintaining stream gauges. Minor Maintenance activities will vary annually and are limited to less than 0.2 acres of wetland or riparian vegetation impacts per year.
21. The following activities are not included in the SMP Manual and therefore not covered in this Order:
 - a. capital improvement projects;
 - b. projects that would alter the designed flood conveyance capacity of a channel or facility;
 - c. maintenance work in channel reaches that are above 1,000-foot elevation level;
 - d. maintenance work of dams, reservoirs and other water supply facilities, such as pipelines outside of channel corridors, groundwater percolation ponds, and instream summer dams;
 - e. installation of new or major modification of fish ladders;
 - f. hazardous tree removal. A hazardous tree is the combination of a failure of a tree (or tree part) with the presence of any adjacent target (structure or person);
 - g. work conducted on private property by owners or other agencies;
 - h. work performed by other agencies;
 - i. area-wide, intensive maintenance, or rehabilitation of large [>0.05 acre] mitigation projects installed as part of a capital improvement project;
 - j. work activities specifically excluded from the SMP; and
 - k. 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 (Cal. Pub. Res. Code § 21060.3).

22. The SMP Manual describes Maintenance Guidelines and Principles to determine how, where, and when routine maintenance activities should occur. These Principles have been developed to ensure that natural resources are protected to the furthest extent possible during routine stream maintenance projects. The District has developed three programs to evaluate channel conditions and assess the need for ongoing maintenance activities. These programs consider the natural function of the system, provide an understanding of local physical constraints, identify sensitive habitats, consider watershed processes, determine when action is needed, identify maintenance activities needed, and strive to recognize and implement solutions to minimize the need for future maintenance activities.
 - a. Maintenance Guidelines Program: This Program describes maintenance thresholds and criteria (e.g. allowable Mannings N, allowable vegetation condition, and allowable sediment height) developed from field surveys and engineering-based analysis to assess channels conditions and maintain flow conveyance for flood control capacity for each channel while protecting the natural resources of the area. Maintenance Guidelines are prepared within the context of protecting natural resources and beneficial uses.. This Program currently includes maintenance thresholds and criteria for approximately one-third of all the channels and canals in the District's SMP maintenance jurisdiction. The District will continue to update its Maintenance Guidelines for the remaining channels and canals in the SMP maintenance jurisdiction as described in Provision Nos. 62-64 of this Order.
 - b. Geomorphic Data Collection Program: This Program is a database of collected geomorphic data that supports the Maintenance Guidelines Program and includes channel cross-sections, profiles, and sediment conditions to evaluate channel conditions.
 - c. Asset Management Program: This Program provides an inventory of the District's assets (i.e. channels/creeks, levees, mitigation sites, and other features) including an assessment of the baseline condition and performance.
23. The District conducts an annual inventory and assessment of the routinely maintained channel and canals in its SMP maintenance jurisdiction. Understanding stream resources, their locations, and interactions is fundamental to the District's approach to avoid, minimize and mitigate environmental impacts of routine maintenance activities. The District will develop these channel characterizations to provide adequate detail and photo documentation to support the programs described in Findings No. 21 above as required in Provision Nos. 62-64 of this Order..
24. The SMP minimizes detrimental impacts to beneficial uses as identified in the Basin Plan. The SMP Manual proposes activities that, when compared with past practices, should result in long-term beneficial effects on riparian and aquatic habitat for a suite of fish and wildlife species. Strategic sediment reduction activities, such as stabilizing slide-prone areas, will reduce the amount of sediment delivered to maintained channels. These benefits will be realized through maintenance over time, reducing the need to conduct reach-scale sediment removal in channels, removing migratory barriers or impediments, and creating more natural stream channels and stream corridors. When considered collectively, the beneficial effects achieved through implementation of the SMP will help build a healthier and more naturally functional stream network and watersheds.

25. Mitigation measures and BMPs are described within the SMP Manual, the SMP Final Subsequent Environmental Impact Report (FSEIR), dated December 2011, and the Mitigation Approach for 2012-2022 SMP Update (Mitigation Approach), dated February 24, 2012.
26. Submittal of an annual Notice of Proposed Work (NPW) and Post Construction Reports (PCRs) will allow the Regional Water Board to appropriately oversee activities conducted pursuant to this certification and WDR. The NPWs will describe the channel maintenance activities to be conducted during the upcoming maintenance season and the proposed mitigation and monitoring projects that would compensate for any unavoidable adverse impacts, as outlined in the SMP Manual, the Mitigation Approach, and the FSEIR. The annual PCRs will describe maintenance activities conducted during the previous maintenance season, descriptions of mitigation implemented, and monitoring results. The PCRs include any lessons learned and recommendations to update BMPs identified in the SMP Manual, if needed. In addition to these reports, the District and Regional Water Board staff will meet to discuss the performance of the SMP; review lessons learned from the prior construction season; and determine the need to improve stream maintenance techniques and BMPs. This Order is effective only if the District pays all fees required under California Code of Regulations, title 23.
27. California Wetlands Portal: It has been determined through regional, state, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. In addition, to effectively carry out the State's Wetlands Conservation Policy of no net loss to wetlands, the State needs to closely track both wetland losses and mitigation/restoration project success. Therefore, the District will provide Regional Water Board staff with an annual summary to submit to the California Wetlands Form to provide Project information related to impacts and mitigation/restoration measures (see Provision No. 57.g of this Order). An electronic copy of the form and instructions can be downloaded at: <http://www.waterboards.ca.gov/sanfranciscobay/certs.shtml>. Project information concerning impacts and mitigation/restoration will be made available at the web link: <http://www.californiawetlands.net>.

Regulatory Framework

28. The Basin Plan is the Regional 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 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. EPA, where required.
29. The Basin Plan lists the following existing and potential beneficial uses for surfaces waters within the District's maintenance jurisdiction:
 - a. Agricultural Supply (AGR)
 - b. Freshwater Replenishment (FRESH)

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- c. Groundwater Recharge (GWR)
 - d. Municipal and Domestic Supply (MUN)
 - e. Preservation of Rare and Endangered Species (RARE)
 - f. Navigation (NAV)
 - g. Water Contact Recreation (REC1)
 - h. Non-contact Water Recreation (REC2)
 - i. Warm Freshwater Habitat (WARM)
 - j. Cold Freshwater Habitat (COLD)
 - k. Wildlife Habitat (WILD)
 - l. Estuarine Habitat (EST)
 - m. Fish Migration (MIGR) Fish Spawning (SPWN)
30. SMP activities could temporarily impact beneficial uses of waters of the State for:
- a. Cold Freshwater Habitat (COLD)
 - b. Fish Migration (MIGR)
 - c. Preservation of Rare and Endangered Species (RARE)
 - d. Non-contract Water Recreation (REC2)
 - e. Fish Spawning (SPWN)
 - f. Warm Freshwater Habitat (WARM)
 - g. Wildlife Habitat (WILD)
31. The Guadalupe River and San Francisco Bay are identified as impaired by mercury on the CWA section 303 list. The Total Maximum Daily Loads (TMDLs) for the Guadalupe River and the San Francisco Bay is 0.2 milligram mercury per kilogram suspended sediment dry weight annual median (0.2 mg/kg dry wt., annual median).
32. San Francisco Bay is identified as impaired by polychlorinated byphenyls (PCBs) on the CWA section 303 list. The TMDLs is an average fish issue concentration of 10 mg total PCBs per kg of typically consumed fish, on a wet weight basis (10 µg/kg wet weight).
33. Urban Creeks of the Bay Area are identified as impaired by diazinon and other pesticides resulting from stormwater runoff on the CWA section 303 list.
- a. The TMDLs for Pesticide-related Toxicity is expressed in terms of acute toxic units (TU_a) and chronic toxic units (TU_c). The targets are as follows: pesticide-related acute and chronic toxicity in urban creek water and sediment, as determined through standard toxicity tests, shall not exceed 1.0 TU_a or 1.0 TU_c, where TU_a = 100/NOAEC and TU_c = 100/NOEC. “NOAEC” refers to the “no observed adverse effect concentration,” which is the highest tested concentration of a sample that causes no observable effect (i.e., mortality) to exposed organisms during an acute toxicity test. For purposes of this strategy, “NOEC” refers to the “no observable

effect concentration,” which is the highest tested concentration of a sample that causes no observable effect to exposed organism during a chronic toxicity test. NOAEC and NOEC are both expressed as the percentage of a sample in a test container (e.g., an undiluted sample has a concentration of 100%).

- b. The TMDLs for diazinon concentration in urban creeks shall not exceed 100 ng/l as a one-hour average. The target addresses both acute and chronic diazinon-related toxicity.
34. 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 (in this case, the District) to prepare an appropriate environmental document for such projects. The District prepared and certified the Stream Maintenance Program Update Final Subsequent Environmental Impact Report (FSEIR) on February 14, 2012, State Clearinghouse No. 2000 102 055. The FSEIR found significant impacts that are under the purview and jurisdiction of the Regional Water Board: 1) aquatic species including habitat for special status species; 2) water quality; and 3) hazardous materials. The FSEIR also found that the mitigation measures would mitigate all of these impacts to less than significant levels. The mitigation measures specified in the FSEIR include compensatory mitigation to mitigate for any temporary disturbance or loss of aquatic habitat and specific BMPs to avoid and minimize maintenance activity-related impacts.
35. The Regional Water Board, as a responsible agency under CEQA, has considered the FSEIR, and finds that the significant environmental impacts of the proposed activities, which are within the Regional Water Board’s purview and jurisdiction, have been identified and mitigated to less than significant levels. The monitoring required in this Order will provide information regarding the effectiveness of the required mitigation measures. In adopting this Order, the Regional Water Board has eliminated or substantially lessened the effects on water quality, and therefore approves the SMP.
36. The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858 on October 15, 2012, and posted information describing the project on the Regional Water Board’s website. The Regional Water Board has notified the District and interested parties of its intent to issue WDRs and Water Quality Certification for the activities proposed in the SMP.
37. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.
38. The federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” (33 U.S.C. § 1251(a).) Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which 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 Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Clean Water Act section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further

provides that state certification conditions shall become conditions of any federal license or permit for the project. This discharge is also regulated under Water Code section 13263 and California Code of Regulations, title 23.

IT IS HEREBY ORDERED that the District shall comply with CWA sections 301, 302, 303, 306, 307, and 401, and with applicable provisions of State law. The District, its agents, successors, and assigns shall comply with the following terms and conditions in carrying out the Stream Maintenance Program:

A. *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 Order.
2. The District shall not cause degradation of any water supply.
3. Excavated sediment shall remain within designated disposal areas at all times. The designated disposal areas are: a) any offsite, authorized temporary or permanent location maintained in compliance with federal and State regulations, b) any onsite, 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 c) a permitted landfill.
4. The discharge of sediment and runoff or decant water from excavated materials disposed of at any temporary or permanent disposal site, to waters of the State, is prohibited.
5. Maintenance activities subject to these requirements shall not cause a condition of pollution or nuisance as defined in Water Code section 13050.
6. Groundwater beneficial uses shall not be degraded as a result of the SMP.
7. No debris, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into waters of the State.

B. *Discharge Specifications*

1. Appropriate soil erosion control measures as specified in the SMP Manual and BMPs Listings (Attachment F of the SMP Manual) shall be undertaken and maintained to prevent discharge of sediment to surface waters or 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, per the BMPs Listings for temporary storage.

3. In accordance with Water Code section 13260, the District shall file with the Regional Water Board a report of any material change in the character, location, or quantity of this waste discharge that is beyond the scope of this Order. Any proposed material change in the discharge requires approval by the Regional Water Board after a hearing.
4. The District shall notify the Regional Water Board promptly by telephone or email, and in no case more than 24 hours after, if an adverse condition occurs as a result of a discharge. An adverse condition includes, but is not limited to, a violation or threatened violation of the conditions of this 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 Regional Water Board within five days of occurrence. The written notification shall identify the adverse condition, describe the actions taken or planned to remedy the condition, and specify a timetable, subject to approval by the Regional Water Board's Executive Officer, for the remedial actions that follow any initial response to the adverse condition.

C. Receiving Water Limitations

1. SMP activities shall not cause the following conditions to exist in waters of the State at any place:
 - a. Waters shall not contain floating material, 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 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 Regional Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
2. SMP 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. When natural factors cause lesser concentrations, then this discharge 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.

- 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: The project shall not increase total dissolved solids or salinity to adversely affect 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 activities shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted there under. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

Vegetation Management

1. The District shall follow the vegetation management guidelines described in the SMP Manual and this Order.
2. All vegetation management activities that could result in the runoff of pesticides, which are not registered for aquatic use, into waters of the State, are prohibited.
3. Vegetation management activities that could result in the destabilization of channel banks or increase sediment input into waters of the State that is not consistent with the SMP Manual are prohibited.
4. Vegetation management and replanting shall be conducted using a strategy which maximizes the functions of the vegetation to shade the active channel, stabilize active channel banks, and provide instream habitat.
5. Vegetation management activities shall not adversely impact the riparian zone, shade, canopy coverage, or habitat. Overall vegetation management activities consistent with the SMP Manual including implementation of BMPs Listings and compensatory mitigation shall improve beneficial uses.

Pesticides and Herbicides

6. The District shall continue coverage under the Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States General Permit No. CAG990005.
7. The District shall comply with the Integrated Pest Management (IPM) Policy or Ordinance pursuant to Sections C.9.a – C.9.g of the California Regional Water Quality Control Board San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit (Order No. R2-2009-0074).

Sediment Removal

8. The District shall follow the sediment removal guidelines described in the SMP Manual, Maintenance Guidelines, and this Order.
9. In modified channels, only sediment removal within the as-built design shall be allowed per the reach-specific thresholds and criteria specified in the Maintenance Guidelines. If maintenance thresholds and criteria have not yet been developed for the reach where sediment removal will be conducted, sediment removal shall not expand the channel dimensions beyond the original channel design.
10. In unmodified channels, sediment removal shall be conducted per the reach-specific thresholds and criteria specified in the Maintenance Guidelines. If maintenance thresholds and criteria have not yet been developed for the reach where sediment removal will be conducted, sediment removal shall not expand the channel capacity beyond the natural contours.
11. In-channel features (e.g., bars and depositional features) shall be preserved in their location wherever possible. If bars or depositional features must be removed to provide conveyance capacity, the District shall minimize impacts and preserve as much habitat function that protects beneficial uses as possible. The NPWs shall include an explanation of why these features cannot be avoided.
12. After sediment removal, the District shall restore channel geometry at sediment removal sites to a natural state based on the channel geometry, and slope upstream and downstream of the project site. The channel geometry shall be designed to enhance post-maintenance sediment transport through the excavated reach.
13. After sediment removal, the District 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.
14. After sediment removal, the District shall compact the soil to match pre-excavation conditions so that disturbed soils are not transported downstream.
15. Excavated materials, maintenance materials, and equipment shall not cover aquatic or riparian vegetation.
16. The District may temporarily stockpile excavated sediment prior to disposal or reuse, provided that appropriate State and federal regulations are met and effective BMPs are implemented to protect water quality and beneficial uses. The excavated sediment may be

stockpiled onsite so that it can be loaded into trucks for offsite disposal within seven calendar days of the completion of the active work. Onsite stockpiled materials shall be fully contained to prevent any wind or water transport. The excavated sediment may also be temporarily stockpiled at an offsite location. Offsite stockpiles shall be covered and surrounded with perimeter sediment control BMPs to ensure that excavated materials remain stable. Runoff, sediment, or decant water from excavated materials shall not contact waters of the State.

17. To prevent sediment-laden water from being released back into waters of the State during transport of spoils to disposal or reuse locations, truck beds shall be lined with an impervious material (e.g., plastic), or the tailgate shall be blocked with wattles or other appropriate filtration material.
18. Sediment removed as part of maintenance activities must be properly characterized through laboratory analytical testing, as described in Sediment Characterization Plan (Attachment G of the SMP Manual) and be hauled offsite to suitable upland disposal sites, permitted landfill, or at a reuse site in accordance with applicable State and federal regulations including applicable Provisions of this Order. Proposed disposal and reuse locations shall be submitted by District annually in the NPWs and approved by the Regional Water Board's Executive Officer. The Regional Water Board Executive Officer will approve the sediment disposal and reuse proposal and provide a notice to proceed, or indicate needed modifications, within 30 days of receipt.
19. Excavated sediment that contains mercury concentrations exceeding the screening guidelines specified in the Beneficial Reuse of Dredge Materials: Sediment Screening and Test Guidelines (May 2000) shall be disposed of in accordance with the Sediment Characterization Plan. Upon completing sediment removal activities, the District shall remedy any residual sediment that contains mercury concentrations exceeding the screening guidelines in accordance with the San Francisco Bay and Guadalupe River TMDLs for mercury.
20. The discharge of any hazardous, designated or non-hazardous waste, as defined in California Code of Regulations, Title 27, shall be conducted in accordance with applicable State and federal regulations.
21. The District shall clean up, remove and relocate any wastes that are discharged in violation of this Order.
22. The District shall demonstrate compliance with all permitting and CEQA review requirements for offsite sediment disposal sites proposed for the SMP and for any alternative offsite sediment disposal sites. If requested by the Regional Water Board's Executive Officer, a delineation of existing jurisdictional waters of the State and United States at any temporary or permanent sediment disposal site, verified according to Corps' delineation standards, shall be conducted prior to the preparation for disposal and submitted for the Regional Water Board's Executive Officer's acceptance prior to the disposal of sediment.

Vegetation Management and Sediment Removal

23. For all proposed sediment removal and vegetation management, the District will follow the Maintenance Guidelines and principles as described in the SMP Manual and pursuant to Provision Nos. 62-63 to justify maintenance needs based on the analysis of channel capacity, hydraulic constrictions and roughness. The analysis shall include, but not be limited to, an evaluation of whether instream vegetation or sediment is contributing to the problem and the short and long-term benefits of the proposed removal actions. The analysis shall include reach management strategies using a primary objective to sustain and restore a selected desirable value for vegetative roughness in order to balance the functions of the vegetation for erosion control, shade and stream temperature control, other water quality parameters, and habitat and flood risk reduction.
24. The District shall have equipment and supplies onsite (or readily available nearby) for rapid deployment in the event the District has caused or potentially may cause an exceedence of receiving water limitations specified in this Order.
25. All staging shall occur on adjacent access roads or previously disturbed areas. Soil and riprap shall be staged in areas that have been previously disturbed (e.g., service road, turn-outs). If repair activities affect the active channel, the work area shall be isolated from flowing channel segments and restored to pre-project conditions after maintenance is complete.

Bank Stabilization

26. The District shall use the bank stabilization guidelines and methods described in the SMP Manual. Any changes to the bank repair methods shall be proposed in the NPWs, or equivalent document, and approved in writing by the Regional Water Board's Executive Officer prior to implementation. The Regional Water Board Executive Officer will approve any proposed changes to the bank repair method(s) in the NPWs or equivalent document, or indicate needed modifications, within 30 days of receipt.
27. The District shall follow the Bank Stabilization Method Selection Process specified in the SMP Manual to determine the most appropriate bank stabilization methods. The use of hardscape materials shall be limited to only those areas where bioengineering systems are not feasible.
28. Maintenance activities that may result in modifications to channel cross-sections and/or profiles shall be implemented to achieve sustainable and appropriate channel geometries.

Management of Animals Conflict

29. The District shall follow the management of animal conflict guidelines described in the SMP Manual.
30. Management of animal conflict activities shall not result in direct or cumulative significant impacts to water quality or beneficial uses of waters of the State.

Minor Maintenance

31. The District shall follow the minor maintenance guidelines described in the SMP Manual.
32. Minor maintenance activities shall not result in direct or cumulative significant impacts to water quality or beneficial uses of waters of the State.
33. Minor maintenance activities shall not impact more than 0.05 acre of wetland and/or riparian habitat per activity site and 0.2 acre total per year for all activities. Minor maintenance projects resulting in impacts equal to or greater than 0.01 acre shall be included in annual reporting (pursuant to Provision No. 57.f).

Best Management Practices

34. The District shall implement the Best Management Practices Listings (BMPs Listings), in Attachment F of the SMP Manual, to prevent pollutants from draining, washing, or otherwise discharging into waters of the State during SMP maintenance activities. The BMPs Listing may be revised, as necessary, with the written approval of the Regional Water Board's Executive Officer, provided that any revisions meet the overall criteria described in this Order and the SMP maintains the same or improved function.
35. The District shall visually observe (inspect) stormwater discharges at all discharge locations, within the active project site, during business hours, within two business days (48 hours) prior to each qualifying rain event. The visually observations shall include:
 - a) All stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.
 - b) All BMPs to identify whether they have been properly implemented in accordance with SMP and this Order. If needed, the discharger shall implement appropriate corrective actions.
 - c) Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.
36. The District shall visually observe (inspect) stormwater discharges at all discharge locations within the active project site, during business hours, at least once each 24-hour period during extended storm events to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended.
37. The District shall visually observe (inspect) stormwater discharges at all discharge locations, within the active project site, during business hours, within two business days (48 hours) after each qualifying rain event to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs to be implemented.
38. The District shall visually observe (inspect) the discharge of stored or contained stormwater, within the active project site, that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contain stormwater that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

39. The Discharger shall record the time, date and rain gauge reading of all qualifying rain events.
40. The District shall maintain records of all visual observations (as specified in Provision Nos. 35-39 above), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.
41. The District is not required to conduct visual observations (inspections) during dangerous weather conditions such as flooding and electrical storms or outside of scheduled site business hours.
42. The District shall implement Management of Large Woody Debris in Santa Clara County Streams – Guidelines for Implementation (Attachment E of the SMP Manual) when removing large woody debris for maintenance purposes.
43. The District shall divert any flow around the active maintenance areas in a non-erosive manner.
44. The District shall halt work activities and notify Regional Water Board and California Department of Fish and Game staff if fish, amphibians or other aquatic organisms are exhibiting stress or death within 1,000 feet of work activity or discharge. The District shall immediately assign a qualified biologist to investigate the cause of the problem, and to determine if the cause is related to SMP activities. If so, the District shall prepare and implement an acceptable corrective action plan.

Compensatory Mitigation

45. The District shall implement the Mitigation Approach for 2012-2022 SMP Update (Mitigation Approach), dated February 24, 2012, and the Mitigation and Monitoring Reporting Plan (MMRP) included in the FSEIR to mitigate for impacts to water quality and beneficial uses from its maintenance activities. The District shall provide mitigation on an annual “Pay as you go” basis depending on actual impacts incurred during the maintenance season. The Acquisition and Restoration Program (described below) provides mitigation in perpetuity for recurring maintenance impacts. The District first considers mitigation on-site (within the area of maintenance) and if on-site mitigation is not feasible, then off-site mitigation is provided within the SMP maintenance jurisdiction that would be beneficial to natural resources and water quality beneficial uses. The Mitigation Approach describes various mitigation options, as summarized below, for impacts resulting from the following SMP maintenance activities (a) sediment removal and vegetation management in “new” work areas; (b) Species-Targeted Mitigation; and (c) Bank Stabilization. The Mitigation Approach describes the following mitigation options:
 - a. For sediment removal and vegetation management maintenance activities in “new” work areas, mitigation can include one or a combination of the options described below. New work areas are locations where work is conducted during the life of this Order, but was not projected or conducted during the previous SMP period (2002-2012). Compensatory mitigation was provided in perpetuity for all impacts incurred from sediment removal and vegetation management during the previous SMP period (2002-2012) and, therefore additional mitigation is not necessary for those work areas.

- i. Acquisition and Restoration Program: Land will be acquired and protected in perpetuity. Land acquisition will also include in-kind preservation and enhancement; in-kind restoration; watershed lands (out-of-kind); and enhancement or management of land that is owned by other agencies. It is anticipated that the District will acquire a sufficient amount of land to provide adequate mitigation for long-term maintenance activities to be protected in perpetuity.

Maintenance areas that have dedicated mitigation habitat provided in perpetuity will be referred to as Permanent Mitigation Areas (PMAs) as described in SMP Manual. The PMAs will be a set of work areas that are mitigated for in perpetuity. These areas will grow as new work areas are mitigated through the land acquisition and enhancement process. When mitigation lands are acquired, the District will identify which of the “new work areas” identified in the SMP Manual and the FSEIR and non-projected work areas identified in Order R2-2002-0028 would be mitigated for (in perpetuity) by the acquired lands.

- ii. Invasive Plant Management Program (IPMP): Eliminate or significantly reduce populations of invasive plant species by removing or controlling the growth of invasive plants within the SMP area.
 - iii. Riparian Restoration Planting Program: Restore riparian habitat along the channel banks and floodplain. The District will use the MFA program to design a vegetation plan including the appropriate success criterion based on an assessment of existing site conditions including, but not limited to, hydrology, soils, adjacent land use, slope, presence of invasive vegetation, and maintenance needs.
 - iv. Tree and Shrub Replacement: Replant trees and shrubs for removing trees sized 6-12 inches diameter at breast height either through the IPMP and riparian restoration listed above, or through the *Tree Scoring for Removal of Trees and Shrubs 6-12” DBH*.
 - v. Instream Habitat Complexity: Install large woody debris or alter or restore geomorphic features to improve habitat. Provides mitigation for the removal of instream complexity.
- b. Species-Targeted Habitat Mitigation. Improve or protect habitat depending on the nature of the impact and particular species (i.e. gravel augmentation in steelhead channels) for impacting special-status species.
 - c. Bank Stabilization Mitigation. The District uses softscape materials where feasible. However, for bank repairs that require hardscape materials, mitigation will include the Riparian Restoration Planting Program described above.
46. Any substantive changes to any of the aforementioned Mitigation Approach and the MMRP for compensatory mitigation under the SMP must meet the overall criteria and function of the methods described in this Order and the SMP Manual and must be approved in writing by the Regional Water Board’s Executive Officer.
 47. The District shall submit proposed mitigation as part of the NPWs to the Regional Water Board’s Executive Officer for approval. In the event that a proposed mitigation activity is denied, or a site is rescinded for any reason, by the Regional Water Board’s Executive

Officer, an alternative mitigation proposal(s) that provides comparable levels of mitigation shall be submitted to the Regional Water Board's Executive Officer for written approval no later than 90 days following denial or rescission. The Regional Water Board Executive Officer will approve the alternative mitigation proposal(s) and provide a notice to proceed, or indicate needed modifications to the NPW, within 30 days of receipt. The District shall implement those alternative mitigation proposal(s) that the Regional Water Board's Executive Officer has approved.

48. If the mitigation sites have not developed in accordance with the performance criteria established in the annual NPWs by year five (5) after completion of construction, the District shall prepare and implement a revised mitigation plan acceptable to the Regional Water Board's Executive Officer, addressing corrective action, outlining additional monitoring, or proposing new mitigation.
49. Throughout the course of the SMP, the District shall continue to look for in-kind mitigation opportunities within the District's jurisdiction to offset impacts resulting from maintenance activities.
50. The District may propose mitigation credit for channel bank stabilization projects that provide an environmental benefit beyond expected bank stabilization measures. Mitigation credit shall be approved by the Regional Water Board's Executive Officer on a case-by-case basis.
51. Annual minor maintenance activities that impact greater than 0.2 acre of wetland or riparian habitat shall be mitigated. Impacts shall be excluded in areas that have already been accounted for under the original SMP impact projection for sediment removal and vegetation management.
52. The District shall identify, in the NPW, maintenance activities and associated locations for which perpetual mitigation habitat has already been provided and listed as a Permanent Mitigation Area (PMA) (see Provision No. 45.a of this Order).

Monitoring and Reporting

53. The District shall monitor all active project sites according to the Mitigation Approach and SMP Manual. All monitoring reports shall be submitted annually by January 31 to the Regional Water Board.
54. The District shall submit an NPW, acceptable to the Regional Water Board Executive Officer, by May 1 of each year. The District shall submit NPWs according to the process established in the SMP Manual, the Mitigation Approach, and this Order. Annual maintenance plans and NPWs shall be developed by an interdisciplinary team with expertise in hydraulic engineering, horticulture, and biology. The team's expertise shall be documented in the NPWs. The Regional Water Board Executive Officer will approve the NPWs for that year's projects and provide a notice to proceed, or indicate needed modifications to the NPW, within 30 days of receipt. NPWs shall include the following information, at a minimum:

- a) Project Description: NPWs shall include a detailed description of proposed maintenance activities at each maintenance project site, including:
 - i. The location (including channel stations and observable landmarks, such as street crossings) and anticipated site conditions (including a description of vegetation and approximate density of plants and special-status species potentially occurring on the site);
 - ii. Whether the site has been subject to similar maintenance in the past, and how often;
 - iii. Whether the site is a hydraulic constriction or subject to chronic problems;
 - iv. Whether the proposed maintenance activity is covered under an existing PMA;
 - v. A determination by the District whether the proposed projects would impact any channels identified as functioning as potential habitat for threatened or endangered species, or providing habitat for different life cycles for salmonids (i.e., migration, spawning, rearing, or refugia).
 - vi. The rationale for the proposed maintenance activity which effectively demonstrates that the proposed maintenance is necessary, and no more than necessary, to achieve objectives;
 1. Where the information is available, the rationale shall be based on numeric maintenance guidelines and thresholds developed in accordance with Provision Nos. 64 and 65 of this Order;
 2. Where numeric maintenance guidelines and thresholds are not yet available, the rationale shall be based on the District's best estimate of roughness and sediment objectives, vegetation objectives, and channel dimension estimates, as described in Provision Nos. 64 and 65 of this Order;
 - vii. A detailed description of the type, size, and amount of vegetation proposed for removal, in relation to the vegetation objective, and how the vegetation will be removed; and
 - viii. A detailed description of sediment proposed for removal, in relation to the sediment objective or the District's best estimate of channel dimensions (as described in Provision Nos. 64 and 65 of this Order), including the length, width, and depth of sediment proposed for removal, and proposed disposal and reuse locations.
- b) Bank Stabilization: For each proposed bank stabilization, NPWs shall include:
 - i. For each proposed bank stabilization involving new hardscape, the flow rate for which the project is designed, the return period of that flow rate, and the shear stress and velocity resulting from that flow rate;
 - ii. Identification of the least invasive bank stabilization treatment that can withstand the shear stress;
 - iii. Where hardscape methods are proposed, a discussion of alternatives and a quantitative demonstration of why non-hardscape means of stabilization are infeasible;

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- iv. Photographs, including aerial images (including immediately adjacent land use), of the bank area proposed to be stabilized;
 - v. Drawings (including plan view and cross section), grading plans, the quantity of materials to be used (including volume, area and linear feet of fill and excavated material), linear foot measure of impact, and type of impact (temporary and permanent);
 - vi. Assessment of the potential fluvial geomorphologic impacts for the proposed bank stabilization activity involving new hardscape and/or altering channel configuration, including:
 1. The response of flow to stabilization structures or channel shaping, including potential resultant undercutting or erosion to upstream, opposite, and/or downstream bed and banks;
 2. Impacts on vegetation and aquatic habitat resulting from changes in waterbody flow and morphology;
 3. Impacts to sediment transport within the waterbody; and
 4. Impacts at the hardscape site such as undercutting or erosion directly adjacent to the hardscape.
- c) Mitigation: NPWs shall include the following information for each activity:
- i. Proposed mitigation for impacts caused by the activity;
 - ii. Proposed success criteria for the mitigation;
 - iii. Identification of activities that are proposed for mitigation credits; and
 - iv. Identification of any areas that are proposed for inclusion into the PMA pool of work areas.
55. The District shall not commence annual maintenance activities until receiving approval of NPW by the Regional Water Board's Executive Officer. The Regional Water Board Executive Officer will approve the NPW or indicate needed modifications within 30 days of receipt.
56. After May 1, and before June 15 of each year, the District shall organize a meeting and a field tour with the Regional Water Board along with other regulatory agencies to discuss the projects scheduled for that year.
57. The District shall submit annual reports by January 31 according to the process established in the SMP Manual and the Mitigation Approach. The annual report shall include the following:
- a) A Post-Construction Report (PCR): This report shall describe maintenance activities completed in the previous year. The PCR shall include the following information:
 - i. Project Description - The PCR shall include a detailed description of maintenance activities conducted during the previous maintenance season at each maintenance site, including:

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1. The location of each maintenance site, channel stations, and observable landmarks, such as street crossings;
 2. A description of site conditions encountered, vegetation types and approximate density, and special-status species;
 3. A detailed description of the type, size, and amount of vegetation removed and how the vegetation was removed;
 4. A detailed description of sediment removed, including the length, width, and depth of sediment removed; and
- ii. Photographs: The PCR shall include pre-project and post-project photographs for each maintenance site and activity.
 - iii. Mitigation: The PCR shall include the following information for each maintenance activity:
 1. The results of any MFA;
 2. A description of the amount and type of mitigation (in accordance with Provision No. 45 of this Order) implemented, or which will be implemented, including onsite mitigation;
 3. Identification of activities that are proposed for mitigation credits; and
 4. Identification of maintenance sites and activities proposed for inclusion into the PMA pool of work areas.
- b) **Monitoring of Bank Stabilization Sites:** The District shall monitor and report all bank stabilization sites in years 1, 3, and 5 after construction. Monitoring shall include photo documentation and an explanation of visual inspections of (1) conditions upstream and downstream of the site, (2) conditions of the bank stabilization repair, and (3) condition of vegetation plantings.
- i. For bank stabilization sites that have a history of bank failure (bank stabilization sites that have failed more than twice in a five year period), the District shall monitor creek flows (cfs) and water levels (stage) during two storm events per rainy season, including a 1.5 to 5 year recurrence interval storm. Monitoring shall also include photo documentation and explanation of visual inspections of (1) conditions upstream and downstream of the site, (2) conditions of the bank stabilization repair, and (3) condition of vegetation plantings. The District shall monitor these repeated bank failure sites within 48 hours of the beginning of the rain event.
- c) **Mitigation and Monitoring Report:** This report shall describe monitoring results of mitigation sites identified in the NPWs as specified in the Mitigation Approach. The District shall provide reports until mitigation success criteria have been achieved; construction at the mitigation site(s) is complete; and a notice of mitigation has been submitted to the Regional Water Board's Executive Officer. After submittal of the acceptable notice of mitigation completion, submittal of annual mitigation monitoring reports is no longer required.

- i. For land acquisition provided as mitigation in perpetuity for all sediment removal and vegetation maintenance activities conducted under the SMP, the notice of mitigation completion shall include a plan, acceptable to the Regional Water Board's Executive Officer, for long-term maintenance and management of the mitigation sites.
 - d) Sediment Characterization Plan: This report shall summarize sediment characterization results for which the District submitted a proposal for re-use of sediments that exceeded the Beneficial Re-use Guidelines as specified in the Sediment Characterization Plan.
 - e) Water Quality Monitoring Plan: This report shall describe monitoring results in accordance with the Water Quality Plan.
 - f) Minor Maintenance: This report shall describe minor maintenance activities that resulted in impacts greater than 0.01 acre of wetlands or riparian habitat. Minor maintenance vegetation projects that are less than 0.01 acre per project site are exempt from annual notification requirements and may occur any time consistent with the SMP Manual.
 - g) California Wetlands Portal: It has been determined through regional, state, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. Therefore, the District shall provide Regional Water Board staff with the information necessary to use the California Wetlands Form to provide an annual summary of SMP projects reported in the PCRs. Regional Water Board staff will complete the standard California Wetlands form using the information provided in the PCRs. The District shall electronically submit the completed standard form and map(s) showing the locations and boundaries of all SMP projects to habitatdata@waterboards.ca.gov.
58. The District shall implement the Sediment Characterization Plan for the Santa Clara Valley Water District Multi-Year Stream Maintenance Program - San Francisco Region (Sediment Plan), dated February 2012, Attachment G of the SMP Manual. The Sediment Plan may be updated and improved with the written approval of the Regional Water Board's Executive Officer provided that any amendments meet the overall criteria and function of the methods described in this Order and the SMP.
59. The District shall implement the Water Quality Monitoring Plan for the Santa Clara Valley Water District Multi-Year Stream Maintenance Program - San Francisco Region (Water Quality Plan), dated February 2012, Attachment H of the SMP Manual. The Water Quality Plan may be updated and improved with the written approval of the Regional Water Board's Executive Officer provided that any amendments meet the overall criteria and function of the methods described in this Order and the SMP.
60. After each maintenance season, the District and Regional Water Board staff shall meet in February or March to discuss the performance of the SMP, review lessons learned from the completed construction season, and determine the need to implement improved channel maintenance techniques and BMPs. The District shall implement all channel maintenance techniques and BMPs as revised through the annual lessons learned process and approved by the Regional Water Board's Executive Officer in connection with such review.

61. After four years of SMP implementation, the District and Water Board will review the SMP to evaluate its overall effectiveness. The Regional Water Board will consider issuing Water Quality Certification and WDRs for an additional five years. The review will include an assessment of maintenance activities conducted, BMPs, adequacy of the SMP mitigation program, data management, adaptive updates and SMP Manual revisions, and overall program coordination and communication. The SMP Manual, the Water Quality Certification, and the WDRs may be revised or updated based on this review.

Quantitative Assessments

62. The District shall use the Maintenance Guidelines and Principles described in the SMP Manual to evaluate channel conditions and determine the need for maintenance. The District shall consider the natural function of the system, watershed processes, sensitive habitats, and local physical constraints in assessing how, where, and when routine maintenance activities should occur. The District shall identify and implement solutions to minimize the on-going need for maintenance activities.
63. The District shall modify the Maintenance Guidelines and Principles to incorporate numeric maintenance guidelines and thresholds to meet District goals and objectives while minimizing impacts to channels and natural resources. These Maintenance Guidelines and Principles shall be developed according to the workplan description and implementation schedule described in Provision No. 64.
64. The District shall develop a workplan and implementation schedule for developing new and updated Maintenance Guidelines (MG) and Principles describing general stream functions and characteristics, high flow capacity objectives and estimates of flood stage-discharge relationships for creek reaches each year, so that quantifiable information will inform when maintenance is needed to provide for flood protection. The workplan shall be submitted to the Regional Water Board by April 1, 2013. The workplan and any modifications shall be acceptable to the Regional Water Board Executive Officer. The workplan shall include a 10-year implementation schedule that addresses all channels covered by this Order. The level of detail for each MG shall be commensurate with the level of maintenance needed for the specific channel reach; either due to the level of flood protection required to meet FEMA and/or design requirements, the complexity/simplicity of the area, or the ecological function of that area within the larger stream system. Specifically, the District will collect the data necessary to generate the following information to aid the development of Maintenance Guidelines:
 - a) Modified and Unmodified Channels
 - i. Estimates of stage-discharge relationships will be developed for channel reaches. These estimates should be based on actual field measurements.
 - ii. For channels which may be subject to sediment removal, estimate active (bankfull) channel dimensions or dimensions which can best establish quasi-stable hydrogeomorphic conditions that do not cause nuisance or excessive erosion or deposition. These dimensions shall be developed using a combination of information

from regional stream restoration curves, reference reach data, computation of effective discharges, shear stresses and other assessments, as well as addressing different reach conditions and constraints. These active channel dimensions shall guide the management approaches contained in the Maintenance Guidelines and inform how to finish grading in reaches undergoing sediment removal.

- iii. A map that shows all maintained channels for modified and unmodified channel types, and identifies salmonid habitat and migration corridors, other sensitive habitats and areas with high ecological values, and those channels for which minimum flow capacity and corresponding maintenance requirements are specified with the U.S. Army Corps of Engineers.
- iv. The following shall be notated in the MG and updated as new information and when observations are made. Suggested corrective actions may be included as notations to inform potential future actions.
 1. Channel 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;
 2. Channel reaches that are a priority for maintenance based on chronic problems, such as sediment accumulation, flooding, or excessive erosion and an assessment the chronic problem causes, and a corrective action plan and schedule;
 3. Channel reaches that do or potentially could function as migration, spawning, or high flow refugia habitat for salmonids; and
 4. Maintenance Guidelines include important maintenance elements, such as sediment deposition from topographic features (opposed to morphological issues).

b) Modified Channels

- i. Roughness objectives for each modified reach will be developed to determine the tolerance for loss of freeboard in engineered flood control channels. Roughness objectives will incorporate both sediment deposition and vegetation objectives while still providing the necessary flood flow conveyance.
- ii. Sediment objectives for each modified reach will be developed to establish how much deposition can occur before the tolerance for loss of flood flow capacity is exceeded. Sediment objectives will include consideration for vegetation objectives while still providing the necessary flood flow conveyance.
- iii. Vegetation management objectives for each modified reach will be developed. Vegetation objectives shall be derived from identified roughness objectives and shall describe the desired vegetation condition (e.g., vegetation type, density, etc.) that optimizes environmental values for the reach (e.g., habitat, complexity, shade, etc.) for the given roughness while still providing the necessary flood flow conveyance.

- c) Unmodified Channels
 - i. Roughness and sediment objectives for unmodified reaches subject to routine maintenance activities shall be based on the District's best estimate of the condition of each reach needed to support stable geomorphic and hydrologic processes. The District shall document assumptions used to estimate the natural condition.
 - ii. Vegetation objectives for unmodified reaches subject to routine maintenance activities shall be derived from roughness objectives and shall describe the desired vegetation condition (e.g., vegetation type, density, etc.) that optimizes environmental values for the reach (e.g., habitat, complexity, shade, etc.) for the given roughness.
- 65. Each successive Notice of Proposed Work during the permit term shall contain a higher percentage of work (proposed sediment removal, bank stabilization, and vegetation management) this is located within reaches where new or updated Maintenance Guidelines have been developed.
- 66. For routine sediment removal or vegetation management work being performed in channels without updated or new Maintenance Guidelines, the District will provide analytical documentation for work line items on the Notice of Proposed Work. Analytical documentation shall include the following:
 - a) The specific location of each channel reach, including channel station and observable landmarks (such as street crossings);
 - b) Classification of the channel reach as modified or unmodified or natural;
 - c) Statement as to whether the channel reach is part of a PMA, and if so, maintenance activities covered under the PMA;
 - d) For modified channel reaches, the design flood return period for each reach (e.g., the one-hundred-year flood) and the design flow rate;
 - e) For unmodified channel reaches, a description of the District's best estimate of the natural condition of the reach;
 - f) Roughness and sediment objectives, where available;
 - g) Vegetation objective, where available;
 - h) General channel reach dimensions;
 - i) Anticipated frequency of maintenance;
- 67. The following activities are exempt from annual notification requirements and may occur any time at the discretion of the District and consistent with the SMP Manual: minor maintenance activities listed in Findings No. 19; maintenance of existing access roads located along the top-of-bank where there will be no impact on waters of the State; and maintenance of V-ditches along existing service roads where all work is above the level of top-of-bank of the adjacent channel, and there will be no impact to waters of the State.

68. This Order combines WDRs and Water Quality Certification provisions. The annual fee shall reflect this, and consist of the following:

The fee amount for the WDRs portion shall be in accordance with the current fee schedule, per California Code of Regulations, section 2200(a), based on the discharge's Threat to Water Quality and Complexity rating of the Discharge to Land or Surface Waters, plus applicable surcharge(s). The Threat and Complexity rating shall be rated as 3B, and shall remain at this level throughout the period of this Order. After the initial year, this portion of the fee shall be billed annually to the District. The fee payment shall indicate the Order number, WDID number, and the applicable season.

Records Provisions

69. The District shall maintain a data management system to monitor stream maintenance activities, natural resources in the SMP maintenance jurisdiction, permitting requirements, and mitigation efforts, consistent with the SMP Manual and this Order.
70. The Regional Water Board's Executive Officer may request that data be provided to the Regional Water Board at times outside of the reporting requirements specified in this Order. Adequate time will be provided for the data request.
71. The District shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this 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 Regional Water Board's Executive Officer at any time, but not retroactively for greater than five years.
72. The District shall submit electronic versions of any submitted reports or documents.

General Provisions

73. All provisions in this Order apply to all channels and activities identified in the SMP Manual.
74. The following activities are not included in the SMP Manual and, therefore, are not covered in this Order: capital improvement projects; projects that would alter the designed flood conveyance capacity of a channel or facility; maintenance work in channel reaches that are above 1,000-foot elevation level; maintenance work of dams, reservoirs and other water supply facilities, such as pipelines outside of channel corridors, groundwater percolation ponds, and instream summer dams; installation of new or major modification of fish ladders; hazardous tree removal; work conducted on private property by owners or other agencies; work performed by other agencies; area-wide intensive maintenance, or rehabilitation of large [>0.05 acre] mitigation projects installed as part of a capital improvement project; work activities specifically excluded from the SMP; 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).

75. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat; measures shall be employed to minimize disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation;
76. The District shall comply with all the Prohibitions, Discharge Specifications, Receiving Water Limitations, and Provisions of this Order immediately upon adoption of the Order or as provided in the Order.
77. The District shall comply with all necessary approvals or permits for the SMP and its mitigation projects from applicable regulatory agencies, including, but not limited to, the Regional Water Board, California Department of Fish and Game (CDFG), the U.S. Army Corps of Engineers (Corps), U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and local agencies. The District shall submit copies of such approvals or permits to the Regional Water Board's Executive Officer prior to SMP implementation.
78. This Order does not allow for the take, or incidental take, of any special status species. The District shall use the appropriate protocols, as approved by the CDFG, and USFWS, to ensure that Project activities do not impact the Beneficial Use of the Preservation of Rare and Endangered Species.
79. The District shall implement the SMP in accordance with the conditions described in the SMP Manual and all the associated attachments, the Mitigation Approach, and the findings herein, and shall comply with all applicable water quality standards. The SMP Manual and associated attachments are considered a "living document," which allows for updates and revisions as maintenance techniques and methods are changed to improve the District's stream maintenance program. Accordingly, any substantive changes to the SMP Manual and the associated attachments must be approved in writing by the Water Board's Executive Officer. The Water Board Executive Officer will approve the proposed changes or indicate needed modifications within 30 days of receipt.
80. The District shall conduct SMP maintenance work during the dry season or low-flow season, June 15 – October 15, as shown in the work windows below. Depending on channel conditions (i.e. dry channel conditions) and whether the channel supports anadromous fish, The District may conduct limited SMP maintenance work activities per the work windows below.

Work Window for SMP Maintenance Activities in Channels and Canals that Support Anadromous Fish

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SMP Maintenance Activity	June 15 - October 15	October 15 - 31, work allowed if no significant rainfall¹ occurs	October 15 - December 31, work allowed if no significant rainfall¹ occurs
Sediment Removal	X	X	
Instream Hand Pruning	X		X
Instream Hand Removal	X		X
Herbicide ^{2,3,4}	X ^{2,3,4}		X ^{2,3,4}
Bank Stabilization	X	X, if at least 50% complete by October 15,	

- 1 A significant rainfall event is defined as local rainfall 0.5 inches or greater within 24-hour period in the subject watershed.
- 2 Surfactant use on the 14 steelhead channels is permitted when the channel is dry in the immediate work location and no rain is forecast for the next 48 hours by the National Weather Service Forecast Office (by entering the zip code of the project location at <http://www.srh.noaa.gov/forecast>).
- 3 Aquatic herbicide can only be used in California red-legged frog and California tiger salamander SMP mapped areas when the channel is dry and no rain is forecasted for the next 48 hours by the National Weather Service Forecast Office (by entering the zip code of the project location at <http://www.srh.noaa.gov/forecast>).
- 4 The District shall continue coverage under the Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States General Permit No. CAG990005.

Work Window for SMP Maintenance Activities in Channels and Canals that do not Support Anadromous Fish

SMP Maintenance Activity	June 15- October 15	October 15 – November 30, work allowed if no significant rainfall¹ occurs	October 15- December 31, work allowed if no significant rainfall¹ occurs	June 15- December 31, work allowed after significant rainfall¹ occurs	Year-round, except where mechanized equipment crosses a channel or otherwise affecting water quality
Sediment Removal	X	X		X, specific reaches of Berryessa, Lower Silver, Thompson, Canoas, Ross, Calabazas, and San Aquino channels (identified in Chapter 3 of	

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SMP Maintenance Activity	June 15-October 15	October 15 – November 30, work allowed if no significant rainfall¹ occurs	October 15-December 31, work allowed if no significant rainfall¹ occurs	June 15-December 31, work allowed after significant rainfall¹ occurs	Year-round, except where mechanized equipment crosses a channel or otherwise affecting water quality
				the SMP Manual)	
Instream Hand Pruning	X				X
Instream Hand Removal	X				X
Herbicide ^{2,3,4}	X ^{2,3,4}		X ^{2,3,4}		
Bank Stabilization	X	X, a) if at least 50% complete on October 15; b) new projects that will be completed in five (5) days or less			

- 1 A significant rainfall event is defined as local rainfall 0.5 inches or greater within 24-hour period in the subject watershed.
- 2 Surfactant use on the 14 steelhead channels is permitted when the channel is dry in the immediate work location and no rain is forecast for the next 48 hours by the National Weather Service Forecast Office (by entering the zip code of the project location at <http://www.srh.noaa.gov/forecast>).
- 3 Aquatic herbicide can only be used in California red-legged frog and California tiger salamander SMP mapped areas when the channel is dry and no rain is forecasted for the next 48 hours by the National Weather Service Forecast Office (by entering the zip code of the project location at <http://www.srh.noaa.gov/forecast>).
- 4 The District shall continue coverage under the Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States General Permit No. CAG990005.

Work Window for Non-Instream¹ SMP Maintenance Activities

SMP Maintenance Activity	Year-Round, except where mechanized equipment crosses a channel or otherwise affecting water quality	Time Specific

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SMP Maintenance Activity	Year-Round, except where mechanized equipment crosses a channel or otherwise affecting water quality	Time Specific
Vegetation Management	X	
Mowing		February 1 – November 30
Discing		February 1 – October 15
Flaming, Grazing	X	
Herbicide ^{2,3,4}	X ^{2,3,4} , per MSDS label	
Large Woody Debris	X	
Management of Animal Conflicts	X	
Minor Maintenance	X	

- 1 “Non-Instream” is defined as outside the wetted portion of the channel.
- 2 Surfactant use on the 14 steelhead channels is permitted when the channel is dry in the immediate work location and no rain is forecast for the next 48 hours by the National Weather Service Forecast Office (by entering the zip code of the project location at <http://www.srh.noaa.gov/forecast>).
- 3 Aquatic herbicide can only be used in California red-legged frog and California tiger salamander SMP mapped areas when the channel is dry and no rain is forecasted for the next 48 hours by the National Weather Service Forecast Office (by entering the zip code of the project location at <http://www.srh.noaa.gov/forecast>).
- 4 The District shall continue coverage under the Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States General Permit No. CAG990005.

81. Any deviation from the approved work windows requires prior approval by the Regional Water Board’s Executive Officer. The District may submit a work window extension request by October 1, for review and approval by the Water Board Executive Officer, for SMP activities that need additional time to complete beyond the work windows described above. The extension request shall include, but not be limited to, the following information: channel names and reaches, maintenance activity type, reason for the extension request and estimated date of completion. The Regional Water Board Executive Officer will approve the proposed work window extension and provide a notice to proceed, or indicate needed modifications to the work windows and/or proposed maintenance activity(ies), within 30 days of receipt.
82. If, at any time, an unauthorized discharge to surface water (including wetlands, rivers or streams) occurs, or any water quality problem arises that is not consistent with the requirements of this Order and the water quality objectives specified in the Basin Plan, the associated SMP activities shall cease immediately until corrective actions have been implemented, including ensuring that effective BMPs are implemented to eliminate the discharge and clean up and remediate any recoverable pollutants. The Regional Water Board

shall be notified promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.

83. All mitigation activities shall be completed as described in the Mitigation Approach, FSEIR, and the SMP Manual.
84. All District or District contracted personnel who shall engage in maintenance activities shall be educated on the terms of this Order and the specific plans for the subject project site(s).
85. All District or District contracted personnel shall be trained in fluid (e.g., chemicals, fuels or oil) spill cleanup procedures.
86. The District shall maintain a copy of this Order, site-specific project plans, and site-specific BMP plans at each maintenance site at all times, so as to be available at all times to all personnel.
87. This Water Quality Certification and issuance of WDRs is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, section 3867.
88. 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 California Code of Regulations, title 23, section 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
89. The Regional Water Board may add to or modify conditions of this Order, as appropriate, to implement any new or revised total maximum daily load requirements.
90. The Regional 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 adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or CWA section 303.
91. The District 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.
92. The District shall permit the Regional Water Board staff or its authorized representative, upon presentation of credentials:
 - a. Entry on to the premises on which maintenance activities are planned or underway, wastes are located, or in which records are kept.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Access to inspect any treatment equipment, monitoring equipment or monitoring method required by this Order.
 - d. Access to sample any discharge or surface water covered by this Order.

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93. 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 of this Order, the Regional 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 Regional 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 of this Order, the Regional Water Board may add to or modify the conditions of this Order as appropriate to ensure compliance.
94. The District shall implement all mitigation measures identified in the FSEIR relating to aquatic species, water quality, and hazardous materials.
95. This Order is not transferable.
96. The authorization of this Order for SMP activities expires on December 31, 2017. Mitigation and monitoring requirements that extend beyond the term of this Order are not subject to the expiration date outlined above, and remain in full effect and are enforceable.

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I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on [mm dd, 2012].

Bruce H. Wolfe
Executive Officer

- Attachment A: Stream Maintenance Program Manual
- Attachment B: Attachments to SMP Manual
- Attachment C: Mitigation Approach for 2012 – 2022 SMP Update