

**A. SECTION A—PRE-PROJECT PLANNING AND GENERAL BMPS**

General BMPs are applicable program-wide, for most routine SMP maintenance activities. These measures include standard construction practices and impact avoidance measures that will minimize potential environmental impacts. These BMPs will be implemented by the stream maintenance crew, as appropriate and as overseen by site managers, for all activities associated with the maintenance program. The majority of these BMPs are implemented prior to and during maintenance operations, though the level of activity varies depending on the work type. Stream Maintenance Program operations often pose situations that warrant standard measures to avoid or minimize impacts to water quality. The following best management practices represent measures currently used by the SMP; however, since many of these pollution prevention measures are based on industry standards for stormwater management maintained by the California Stormwater Quality Association (CASQA), the selection of appropriate BMPs from this list must be verified by comparison with the most current standards found on the CASQA website.

Other General BMPs are conducted prior to implementing maintenance activities on site. This group of measures includes procedures to identify site or maintenance constraints, such as biological or cultural resource surveys which coincide with permit compliance requirements. Site design constraints for sediment and bank stabilization activities in particular are also identified as part of the pre-project planning process.

BMP Number	BMP Title	BMP Description
GEN-1	In-Channel Work Window	<p>All ground-disturbing maintenance activities (i.e., sediment removal, bank stabilization, tree removal, and mechanized vegetation management) occurring in the channel (below bankfull) will take place between June 15 and October 15. No new instream sediment removal projects and bank protection work will be initiated after October 15. Requests for work window extensions must be submitted to the regulatory agencies by October 1<sup>st</sup>, listing the creek names and reaches where a work extension will occur. Work extensions vary per work activity. The agencies will provide a single response within one week. Significant rainfall applies after October 15. An extension through December 31 may apply if the following requirements are met and regulatory agency approval is received:</p> <p>For ground-disturbing activities:</p> <ul style="list-style-type: none"> <li>▪ Work may continue if no significant rainfall, defined as greater than 0.5 inches per 24 hours within a local watershed, is either forecasted<sup>1</sup> or observed. Following October 15<sup>th</sup>, maintenance work shall cease for the season if such a rain event is forecasted or observed.</li> <li>▪ Winterized sites will be visually inspected prior to, and within 48 hours following, each significant rain event (defined as rainfall 0.5 inch or greater within a 24-hour period in the subject watershed) to ensure that winterization measures are properly implemented and maintained.</li> </ul>

<sup>1</sup> Weather Forecasts. No phase of the project may be started if that phase and its associated erosion control measures cannot be completed prior to the onset of a storm event if that construction phase may cause the introduction of sediments into the stream. Seventy-two-hour weather forecasts from the National Weather Service or other localized and more detailed weather forecast service will be consulted prior to start-up of any phase of the project that may result in sediment runoff to a stream.

BMP Number	BMP Title	BMP Description
		<p>Sediment Removal</p> <ul style="list-style-type: none"> <li>▪ Extended Work Window:               <ol style="list-style-type: none"> <li>1. Creeks supporting anadromous fish: An extended work window may occur from October 15 through October 31, or until local rainfall of 0.5 inches or greater falls within the subject watershed within a 24-hour period, whichever occurs first.</li> <li>2. Creeks not supporting anadromous fish: An extended work window may occur from October 15 through November 30<sup>th</sup>, or until local rainfall of 0.5 inches or greater falls within the subject watershed within a 24-hour period, whichever occurs first.</li> </ol> </li> <li>▪ Extended Work Window in Lower Quality Areas:               <ol style="list-style-type: none"> <li>1. Sediment removal work may occur until December 31.</li> <li>2. Work will only occur on Berryessa Creek (0-88+80; 232+70-236+00; 284+30-288+00), Lower Silver Creek (Reach 3 between Stations 37+40 and 381+19), Thompson Creek (0+00-10+00), Canoas Creek (0+00-390+00), Ross Creek (0+00-86+30), Calabazas Creek (35+00-105+00), and San Tomas Aquino Creek (80+00-100+00) with the following conditions:                   <ul style="list-style-type: none"> <li>○ site conditions are dry and access for all construction equipment and vehicles will not impact waterways; and</li> <li>○ all work will stop if any rainfall is forecast for the next 72-hour period.</li> </ul> </li> <li>3. Work may occur after a significant rainfall event but no later than December 31.</li> <li>4. Sites must be maintained in a rapidly winterizable<sup>2</sup> state (implement control measures BMP GEN-20).</li> </ol> </li> </ul> <p>Bank stabilization projects may continue until the approved date stated below. Prior to a forecasted significant rainfall event (0.5 in/24 hrs), all incomplete bank stabilization projects must be winterized.</p> <ol style="list-style-type: none"> <li>1. In Creeks Supporting Anadromous Fish           <ul style="list-style-type: none"> <li>○ An extended work window may occur until October 31<sup>st</sup> for bank stabilization projects that will be 50% complete by October 15<sup>th</sup>.</li> </ul> </li> <li>2. In Creeks Not Supporting Anadromous Fish           <ul style="list-style-type: none"> <li>○ An extended work window may occur until November 30<sup>th</sup> for projects that will be 50% complete by October 15<sup>th</sup> or until significant rainfall.</li> <li>○ An extended work window may occur until November 30<sup>th</sup> for new bank stabilization projects that will be completed in five (5) days or less, or until significant rainfall.</li> </ul> </li> </ol> <ul style="list-style-type: none"> <li>▪ Instream hand pruning and hand removal of vegetation will occur year-round, except when:           <ul style="list-style-type: none"> <li>○ Wheeled or tracked equipment needs to access the site by crossing a creek, ponded area, or secondary channel; or</li> </ul> </li> </ul>

<sup>2</sup> Winterization is the process to maintain work sites with the appropriate BMP's to prevent erosion, sediment transport, and protect water quality. Winterization occurs upon completion of bank repairs or on incomplete projects after October 15 and prior to significant rainfall, 0.5 inches or greater of local watershed rainfall within 24 hours. Winterization shall be completed prior to the occurrence of such actual significant rainfall.

BMP Number	BMP Title	BMP Description
		<ul style="list-style-type: none"> <li>○ Work occurs in streams that support steelhead. In these streams instream vegetation maintenance will cease on December 31 or when local rainfall greater than 0.5 inches is predicted within a 24-hour period of planned activities, whichever happens first.</li> </ul> <p>Modification and removal of instream large woody debris will occur at any time of the year, and as further described in the NMFS Biological Opinion.</p> <p>Work (including LWD, encampment cleanup, and burrow filling) within the wetted channel of streams that support steelhead that is being done outside of the in-stream work window must adhere to the following conditions:</p> <ol style="list-style-type: none"> <li>1. Pre-activity surveys must be conducted within seven days of the start of work.</li> <li>2. A qualified biologist must be on site to monitor this in-stream work.</li> </ol>
GEN-2	Instream Herbicide Application Work Window	<p>Instream herbicide applications will take place between June 15 and October 15, or until the first occurrence of any of the following conditions; whichever happens first:</p> <ul style="list-style-type: none"> <li>▪ local rainfall greater than 0.5 inches is forecasted within a 24-hour period from planned application events; or               <ul style="list-style-type: none"> <li>• when steelhead begin upmigrating and spawning in the 14 anadromous steelhead creeks, as determined by a qualified biologist (typically in November/December),                   <ol style="list-style-type: none"> <li>i. A qualified biologist will determine presence/absence of sensitive resources in designated herbicide use areas. Proposed herbicide use will be limited to an aquatic formulation on the District's Approved Pesticide List. Surfactant use would be limited to non-ionic products on the District's Approved Pesticide List.</li> <li>ii. A qualified fisheries biologist will review the proposed stream reaches for aquatic herbicide application. The fisheries biologist would conduct a pre-construction survey (and any other appropriate data research) to determine whether the proposed herbicide application is consistent with approvals concerning biological resources and determine what BMPs would be instituted for work to proceed.</li> </ol> </li> </ul> </li> </ul> <p>In addition, herbicide application requirements are as follows:</p> <ul style="list-style-type: none"> <li>• No direct application into water.</li> <li>• Herbicide application shall not occur when wind conditions may result in drift.</li> </ul>

BMP Number	BMP Title	BMP Description
GEN-3	Avoid Exposing Soils with High Mercury Levels	<p>Sediment removal and bank stabilization projects in portions of the Guadalupe River watershed affected by historic mercury mining may expose soils containing mercury.</p> <ol style="list-style-type: none"> <li>1. In Basin Plan identified creeks in the Guadalupe River Basin, soils that are likely to be disturbed or excavated shall be tested for mercury (Hg). Soils shall be remediated if disturbed or excavated soils exposed to streamflow have a residual sample test exceeding 0.2 mg mercury per kg erodible sediment (dry wt., median).</li> <li>2. Remediation may be accomplished either by:               <ol style="list-style-type: none"> <li>a. treating the site so that contaminated soils excavated for the purpose of bank stabilization shall not be susceptible to erosion; or</li> <li>b. further excavating contaminated soils and replacing them with clean fill or other bank stabilization materials that are free from contaminants.</li> <li>c. Soils with residual sample mercury concentrations exceeding 0.2 mg mercury per kg erodible sediment (dry wt., median) shall be removed and disposed of in a Class I landfill following established work practices and hazard control measures. Soils with residual sample mercury concentrations less than 0.2 mg mercury per kg erodible sediment (dry wt., median) will remain at the project site.</li> </ol> </li> <li>3. To ensure worker safety during sediment removal and bank stabilization projects with elevated mercury concentrations in the exposed surfaces, personal protective equipment will be required during project construction to maintain exposure below levels established by the Occupational Safety and Health Agency (OSHA).</li> </ol>

**Biological Resources**

GEN-4	Minimize the Area of Disturbance	To minimize impacts to natural resources, soil disturbance will be kept to the minimum footprint necessary to complete the maintenance operation.
GEN-5	Mitten Crab Control Measure	Sediment from the San Francisco Bay Watershed, including that for reuse, cannot be moved to areas any farther south than Coyote Creek Golf Drive in south San Jose, and the intersection of McKean and Casa Loma Roads.
GEN-6	Minimize Impacts to Nesting Birds via Site Assessments and Avoidance Measures	<ol style="list-style-type: none"> <li>1. For activities occurring between January 15 and August 31, project areas will be checked by a qualified biologist or Designated Individuals (DI – for limited ground nesting species surveys) for nesting birds within 2 weeks prior to starting work. If a lapse in project-related work of 2 weeks or longer occurs, another focused survey will be conducted before project work can be reinitiated.</li> <li>2. If nesting birds are found, a buffer will be established around the nest and maintained until the young have fledged. Appropriate buffer widths are 0.5 mile for bald and golden eagles; 250 feet for other raptors and the least Bell’s vireo, herons, and egrets; 25 feet for ground-nesting non-raptors; 700 feet for the California clapper rail; 600 feet for the California least tern and western snowy plover; and 50 feet for non-raptors nesting on trees, shrubs and structures. Mowing and weed whacking will have a 25 feet buffer. A qualified biologist may identify an alternative buffer based on a site specific-evaluation. No work within the buffer will occur without written approval from a qualified biologist, for as long as the nest is active.</li> <li>3. All vegetation management, sediment reuse, road grading, or other SMP activities in or immediately adjacent to suitable California clapper rail or Alameda song sparrow nesting habitat, as determined by a qualified biologist, shall not be conducted prior to September 1 (the non-nesting season).</li> <li>4. If a pre-activity survey in high-quality San Francisco common yellowthroat breeding habitat (as determined by a qualified biologist) identifies more singing male San Francisco common yellowthroats than active nests,</li> </ol>

BMP Number	BMP Title	BMP Description
		<p>then the inconspicuous nests of this species might have been missed. In that case, maintenance activities in that area shall be delayed until the San Francisco common yellowthroat non-breeding season (i.e., August 16–March 14).</p> <ol style="list-style-type: none"> <li>5. The boundary of each buffer zone will be marked with fencing, flagging, or other easily identifiable marking if work will occur immediately outside the buffer zone.</li> <li>6. All protective buffer zones will be maintained until the nest becomes inactive, as determined by a qualified biologist.</li> <li>7. If monitoring shows that disturbance to actively nesting birds is occurring, buffer widths will be increased until monitoring shows that disturbance is no longer occurring. If this is not possible, work will cease in the area until young have fledged and the nest is no longer active.</li> <li>8. Biological evaluation is required for all vegetation management, sediment reuse, road grading, or other SMP activities conducted within 250 feet of occupied artificial nest structures (e.g. barn owl boxes). The appropriate buffer distance would be determined by a qualified biologist based on site-specific and activity-specific conditions to minimize nest disturbance and prevent abandonment.</li> </ol>
GEN-6.5	Protection of Nesting Least Bell's Vireos	<ol style="list-style-type: none"> <li>1. To the extent feasible, SMP activities within those areas mapped as vireo habitat in the Santa Clara Valley Habitat Plan shall be scheduled to occur outside of the least Bell's vireo nesting season (March 15 – July 31). If it is not feasible for maintenance activities along these reaches to be scheduled during the non-nesting season, the following measures will be implemented.</li> <li>2. For activities within woody riparian habitat mapped as vireo habitat in the Santa Clara Valley Habitat Plan that will occur between March 15 and July 31, any work will be preceded by a focused survey for least Bell's vireos. Pre-activity surveys will consist of two site visits, conducted on separate days within 14 days before the initiation of maintenance activities in the given area, with at least one of these surveys occurring within 5 calendar days before the initiation of such activities. Surveys will be conducted between dawn and 11:00 a.m., during mild weather conditions (i.e., not during excessive cold, heat, wind, or rain), within all riparian habitat in and within 250 feet of any proposed maintenance location along these reaches. The surveys will be conducted by a qualified biologist who is familiar with the visual and auditory identification of this species.</li> <li>3. To minimize impacts to nesting least Bell's vireos and other birds, the biologist will not initially be looking for Bell's vireo nests during these surveys. Rather the biologist will look and listen for individual vireos. If a least Bell's vireo is detected, it will be observed to determine whether it is actively nesting. The biologist will note the nest location, or if finding the actual nest could result in excessive disturbance or risk damaging the nest, the biologist will determine the approximate location, based on observation of birds carrying nesting material, carrying food, or repeatedly visiting a certain area.</li> <li>4. If an active nest is found, a minimum 250-foot no-activity buffer will be established around the nest. If a territorial male is found but no nest can be detected, then the approximate centroid of the bird's area of activity will be the point from which the buffer will be applied. The required buffer may be reduced in areas where dense riparian forest occurs between the construction activities and the active nest or where sufficient barriers or topographic relief exists to protect the nest from excessive noise or other disturbance. The biologist will coordinate with the USFWS and CDFW to evaluate exceptions to the minimum no-activity buffer distance on a case-by-case basis.</li> <li>5. No work will occur within the buffer without verification by a biologist that the nest is inactive and until any fledged young are no longer dependent on adults for food.</li> <li>6. If a least Bell's vireo and/or its nest is detected during pre-activity surveys, the District will contact the USFWS and CDFG within two working days regarding the presence and location of the bird/nest.</li> </ol>

BMP Number	BMP Title	BMP Description
GEN-7	Protection of Burrowing Owls	<ol style="list-style-type: none"> <li>1. If occupied burrows are identified, a 250-foot radius no work buffer zone will be established around the burrow. The buffer may be modified, with CDFW approval, to take into consideration of paved roads, intervening riparian corridors and levees.</li> <li>2. No construction work will occur within the 250-foot buffer zone until after the nesting season.</li> <li>3. After the nesting season, work may occur within the 250 foot buffer zone provided:               <ol style="list-style-type: none"> <li>a. A qualified biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).</li> <li>b. The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.</li> <li>c. If there is any change in owl foraging behavior as a result of construction activities, these activities will cease within the 250-foot buffer.</li> <li>d. If the owls are gone for at least one week, the project proponent may request approval from the Santa Clara County Habitat Agency that a qualified biologist excavate the usable burrows to prevent owls from re-occupying the site. After the usable burrows are excavated, the buffer zone will be removed and construction may continue.</li> <li>e. Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.</li> </ol> </li> <li>4. Routine use of existing District maintenance roads within the 250-foot buffer will be allowed. However, no construction traffic will be allowed to use the maintenance road during the active nesting period.</li> <li>5. Exceptions.               <ol style="list-style-type: none"> <li>a. Mowing on levees may occur during the nesting season and within 250 feet of active burrows provided the burrows are marked by a qualified biologist.</li> <li>b. No vehicle mounted mowers will be used within 10 ft of occupied burrows.</li> <li>c. A qualified biologist will monitor the mowing within the buffer zone and stop the mowing if burrowing owls are observed on the surface at the nest or another burrow.</li> <li>d. Areas within 10 feet of the burrows may be mowed using hand equipment when no owls are visible on the surface.</li> <li>e. All mowing activities within the buffer zone will be completed within 30 minutes.</li> </ol> </li> </ol>
GEN-8	Protection of Sensitive Fauna Species from Herbicide Use	<p>Approved herbicides and adjuvants may be applied in habitat areas for sensitive wildlife species (including steelhead, California red-legged frog, California tiger salamander, salt marsh harvest mouse, and Bay checkerspot butterfly); all applications will occur in accordance with federal and state regulations.</p> <p>For sprayable or dust formulations: when the air is calm or moving away from sensitive wildlife habitat, applications will commence on the side nearest the habitat and proceed away from the habitat. When air currents are moving toward habitat, applications will not be made within 200 yards by air or 40 yards by ground upwind from occupied habitat. However, these distances may be modified for the control of invasive species on salmonid streams if the following measures are implemented:</p> <ul style="list-style-type: none"> <li>▪ A qualified biologist will determine presence/absence of sensitive resources in designated herbicide use areas and develop site-specific control methods (including the use of approved herbicide and surfactants). Proposed herbicide use would be limited to the aquatic formulation of glyphosate (Rodeo or equal). Surfactant use would be limited to non-ionic products, such as Agri-dex, Competitor, or another brand name</li> </ul>

BMP Number	BMP Title	BMP Description
		<p>using the same ingredients. Any modifications to these materials would require review and approval by NMFS and CDFW.</p> <ul style="list-style-type: none"> <li>▪ A qualified fisheries biologist will review proposed herbicide application methods and stream reaches. The fisheries biologist would conduct a pre-construction survey (and any other appropriate data research) to determine whether the proposed herbicide application is consistent with SMP approvals concerning biological resources and determine which BMPs would be instituted for work to proceed.</li> </ul>
GEN-9	Avoid Impacts to Special-Status Plant Species and Sensitive Natural Vegetation Communities	<p>A qualified botanist will identify special status plant species and sensitive natural vegetation communities and clearly map or delineate them as needed in order to avoid and/or minimize disturbance, using the CDFW protocols and the <i>CNPS Botanical Survey Guidelines</i> to formulate the following protocols:</p> <ol style="list-style-type: none"> <li>1. A qualified botanist will use the GIS database, CNDDDB, and/or other suitable tools to identify special status plants and sensitive natural vegetation communities located within or near work areas.</li> <li>2. Surveys of areas identified as sensitive natural communities or suitable habitat for special status plant species will be conducted by a qualified botanist prior to commencement of work.</li> <li>3. Surveys will be conducted during the appropriate time of the year to adequately identify special-status plants that could occur on the site of proposed maintenance activities.</li> <li>4. The qualified botanist will ensure avoidance and/or minimize impacts by implementing one or more of the following, as appropriate, per the botanist’s recommendation:             <ol style="list-style-type: none"> <li>a. Flag or otherwise delineate in the field the special status plant populations and/or sensitive natural community to be protected;</li> <li>b. Allow adequate buffers around plants or habitat; the location of the buffer zone will be shown on the maintenance design drawings and marked in the field with stakes and/or flagging in such a way that exclusion zones are visible to maintenance personnel without excessive disturbance of the sensitive habitat or population itself (e.g., from installation of fencing).</li> <li>c. Time construction or other activities during dormant and/or non-critical life cycle period;</li> <li>d. Store removed sediment off site; and</li> <li>e. Limit the operation of maintenance equipment to established roads whenever possible.</li> </ol> </li> <li>5. No herbicides, terrestrial or aquatic, will be used in areas identified as potential habitat for special status plants species or containing sensitive natural communities, until a qualified botanist has surveyed the area and determined the locations of special status plant species present.</li> <li>6. If special status plant species or sensitive communities are present, then a qualified botanist will determine if a given type of vegetation management method is ecologically appropriate for a given area. Alternative strategies based on the botanist’s recommendations will be coordinated with appropriate staff.</li> <li>7. All impacts to sensitive natural communities and special status plants identified by the qualified botanist will be avoided and/or minimized.</li> </ol>
GEN-10	Avoid Impacts to Bay Checkerspot Butterfly and Associated Critical Habitat	<ol style="list-style-type: none"> <li>1. Areas supporting Bay checkerspot larval host plants will be identified by a qualified botanist and protected from disturbance to the extent feasible, by establishing buffer zones around individual plants or populations. The size of the buffer will be determined by a qualified botanist; the actual distance will depend on the plant species potentially affected and the type of disturbance. No herbicide will be applied to the buffer area, and to the extent feasible, maintenance personnel and equipment will not operate within such areas.</li> <li>2. Herbicides may be used in serpentine areas that do not contain Bay checkerspot butterfly larval host plants or sensitive plant species and habitat when approved by a qualified botanist and for the following maintenance purposes:             <ol style="list-style-type: none"> <li>a. To protect sensitive species and habitat;</li> </ol> </li> </ol>

BMP Number	BMP Title	BMP Description
		b. To manage for control of invasive and non-native plants; and/or c. To maintain access to a facility.
GEN-11	Protection of Salt Marsh Harvest Mouse and California Clapper Rail	<ol style="list-style-type: none"> <li>1. A District qualified biologist will conduct a desk audit to determine whether suitable Salt Marsh Harvest Mouse (SMHM) or California Clapper Rail (CCR) habitat is present in or adjacent to a maintenance activity.</li> <li>2. Within 7 days prior to work within the range of the Salt Marsh Harvest Mouse (SMHM) or California Clapper Rail (CCR), as depicted on the District's GIS layers, the proposed project area will be surveyed by a qualified biologist to identify specific habitat areas. Surveyed areas will include work locations and access routes. The range of the salt marsh harvest mouse and California clapper rail is based on the SCVWD's GIS mapping reflecting occurrence information and potential habitat. If this mapping is revised, it will be provided to the Service for review.</li> <li>3. To minimize or avoid the loss of individuals, activities within or adjacent to California clapper rail and salt marsh harvest mouse habitat will not occur within two hours before or after extreme high tides (6.5 feet or above) when the marsh plain is inundated, because protective cover for those species is limited and activities could prevent them from reaching available cover.</li> <li>4. Specific habitat areas are vegetated areas of cordgrass (<i>Spartina</i> spp), marsh gumplant (<i>Grindelia</i> spp.), pickleweed (<i>Sarcocornia pacifica</i>), alkali heath, (<i>Frankenia</i> sp.), and other high marsh vegetation, brackish marsh reaches of creek with heavy accumulations of bulrush thatch (old stands), and high water refugia habitat that may include annual grasses, and shrubs immediately adjacent to channels.</li> <li>5. Within the identified specific habitat areas, vegetation will be removed by hand from areas to be directly impacted by the work activities if possible (hand removal of vegetation is some channels may not be possible). If within the mapped range of the mouse but outside of areas identified as specific habitat areas, then other methods may be possible.</li> <li>6. Prior to the initiation of work each day for all vegetation management work, ground or vegetation disturbance, operation of large equipment, grading, sediment removal, and bank stabilization work and prior to expanding the work area, if suitable habitat occurs within the immediate work area, a qualified biologist will conduct a pre-construction survey of all suitable habitat that may be directly or indirectly impacted by the day's activities (work area, access routes, staging areas).                         <ol style="list-style-type: none"> <li>a. If during the initial daily survey or during work activities a CCR is observed within or immediately adjacent to the work area (50 feet), initiation of work will be delayed until the CCR leaves the work area.</li> <li>b. If during the initial daily survey or during work activities a SMHM or similar rodent is observed within or immediately adjacent to the work area (50 feet), initiation of work will be delayed until a <i>Site Specific Species Protection Form</i> can be developed and implemented by a qualified biologist to protect the SMHM or similar rodent is developed and implemented by the qualified biologist. Acceptable plan activities may include one or more of the following activities: 1) establishment of a buffer zone at least 50 feet in radius from the rodent; 2) ongoing active monitoring, 3) construction of silt fence barrier between maintenance work and location of the rodent, 4) delay of work activity until the qualified biologist can provide CDFW and the Service a suggested course of action and seek concurrence.</li> </ol> </li> <li>7. Mowing using heavy equipment (tractors, boom mowers, rider mowers) will not be conducted in habitat areas or within 50 feet of habitat areas. If mowing with hand equipment is necessary within 50 feet of habitat areas, an on-site monitor will observe the area in front of the mower from a safe vantage point while it is in operation. If SMHM are detected within the area to be mown, no mowing will occur in that area. If CCR are detected within the area to be mown, the mowing will stop until the individual(s) have left the work area.</li> </ol>

BMP Number	BMP Title	BMP Description
		<ul style="list-style-type: none"> <li>8. See ANI-2 for additional restrictions.</li> <li>9. If visual observation cannot confirm California clapper rail left the work area then it is assumed that the individual(s) remains in the work area and the work will not resume until the area has been thoroughly surveyed (and absence confirmed) or the Service has been contacted for guidance.</li> <li>10. When grazing occurs in or near salt marsh harvest mouse habitat, a qualified biologist will guide fence installation to exclude grazing animals from salt marsh harvest mouse specific habitat. Once exclusion fencing has been installed, a biologist does not need to be on site to monitor grazing.</li> </ul>
GEN-12	Protection of Special-Status Amphibian and Reptile Species	<ul style="list-style-type: none"> <li>1. A District qualified biologist will conduct a desk audit to determine whether suitable special-status amphibian or reptile habitat is present in or adjacent to a maintenance activity based on all available information including the habitats modeled in the Valley Habitat Plan.</li> <li>2. If the District Wildlife or Fisheries Biologist determines that a special-status amphibian or reptile could occur in the activity area, a qualified biologist will conduct one daytime and one nighttime survey within a 7 day period preceding the onset of maintenance activities.               <ul style="list-style-type: none"> <li>a. If a special-status amphibian or reptile, or the eggs or larvae of a special status amphibian or reptile, are found within the activity area during a pre-activity survey or during project activities, the qualified biologist shall notify the project proponent about the special-status species and conduct the following work specific activities:                   <ul style="list-style-type: none"> <li>(1) For minor maintenance activities and for vegetation removal activities that will take less than 1 day, a qualified biologist shall conduct a special status species survey on the morning of and prior to the scheduled work.                       <ul style="list-style-type: none"> <li>(a) If no special status species is found, the work may proceed.</li> <li>(b) If eggs or larvae of a special status species are found, a buffer will be established around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed.</li> <li>(c) If an active western pond turtle nest is detected within the activity area, a 50-foot buffer zone around the nest will be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist.</li> <li>(d) If adults or non-larval juveniles of a special status species are found, one of the following two procedures will be implemented:                           <ul style="list-style-type: none"> <li>i) If, in the opinion of the qualified biologist, capture and removal of the individual to a safe place outside of the work area is less likely to result in adverse effects than leaving the individual in place and rescheduling the work (e.g., if the species could potentially hide and be missed during a follow-up survey), the individual will be captured and relocated by a qualified biologist (with USFWS and/or CDFW approval, depending on the listing status of the species in question), and work may proceed.</li> <li>ii) If, in the opinion of the qualified biologist, the individual is likely to leave the work area on its own, and work can be feasibly rescheduled, a buffer will be established around the location of the individual(s) and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>

BMP Number	BMP Title	BMP Description
		<p>(2) For minor maintenance and vegetation removal activities that will take more than 1 day, the qualified biologist shall conduct a special-status species survey on each morning of and prior to the scheduled work commencing.</p> <p>(a) If eggs or larvae of a special status species are found, a buffer will be established around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed.</p> <p>(b) If an active western pond turtle nest is detected within the activity area, a 50 ft-buffer zone around the nest will be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist.</p> <p>(c) If adults or non-larval juveniles of a special status species are found, the individual will be captured and relocated by a qualified biologist (with USFWS and/or CDFW approval, depending on the listing status of the species in question), and work may proceed.</p> <p>(3) For Sediment Removal and Bank Stabilization Projects the wildlife or fisheries biologist in cooperation with the project proponent shall complete a <i>Site Specific Species Protection Form for the project</i>. Elements of the form include: work rescheduling, training work crews, daily surveys, establishment of buffers and buffer fencing, on-site monitoring, habitat modification in advance of work activities, capture and relocation of individual special-status species, methods of documentation, and reporting of results.</p> <p>b. If no special status amphibian or reptile is found within the activity area during a pre-activity survey, the work may proceed.</p> <p>c. During animal conflict management activities, if special status species are found within a burrow proposed for destruction, a qualified biologist will determine an appropriate buffer distance around that burrow to ensure adequate protection of the habitat. The buffer area may include not destroying adjacent burrows as that may damage subterranean networks of the occupied burrow or produce substrate vibrations which could interfere with prey detection mechanisms. If two consecutive follow up surveys are conducted (spaced 30 days apart) in which the burrow is found to be unoccupied, work can proceed as planned. A naturally found back filled burrow known to have been inhabited by a special-status species will be presumed to still be occupied by that species and a clearly delineated buffer demarcation of the burrow area will be in place for the duration of nearby work activities. In rare instances in which destruction of the burrow is not avoidable during animal conflict management, the animal will be relocated to a safe burrow outside the impact area, with USFWS and/or CDFW approval, depending on the listing status of the species in question. A biologist will observe the relocated animal until it is certain that the animal is not in immediate danger of desiccation or predation.</p>

BMP Number	BMP Title	BMP Description
GEN-13	Protection of Bat Colonies	<ol style="list-style-type: none"> <li>1. A District Wildlife Biologist will conduct a desk audit to determine whether suitable habitat (appropriate roost trees or anthropogenic structures) is present for bat colonies within 100 feet of the work site, staging areas, or access routes.</li> <li>2. If potential bat colony habitat is determined to be present, within two weeks prior to the onset of work activities a qualified biologist will conduct a survey to look for evidence of a bat use. If evidence is observed, or if potential roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if the bat colony is active and to identify the specific location of the bat colony.</li> <li>3. If an active bat colony is present then the qualified biologist will make the following determinations:               <ol style="list-style-type: none"> <li>a. The work can proceed without unduly disturbing the bat colony</li> <li>b. There is a need for a buffer zone to prevent disturbance to the bat colony, and implementation of the buffer zone (determined on a case-by-case basis by a qualified biologist) will reduce or eliminate the disturbance to an acceptable level.</li> </ol> </li> <li>4. If a bat colony is found in a tree or structure that must be removed or physically disturbed the qualified biologist will consult with DFW prior to initiating any removal or exclusion activities.</li> </ol>
GEN-14	Protection of San Francisco Dusky-footed Woodrat	<ol style="list-style-type: none"> <li>1. Prior to work within riparian, oak woodland, or coyote brush scrub habitat, or the removal of any oak trees outside these habitats, a District Wildlife Biologist will conduct a desk audit to determine whether woodrats could be present within suitable habitat for San Francisco dusky-footed woodrat or is known to be present in or adjacent to a maintenance activity site.</li> <li>2. If the District Wildlife Biologist determines that no San Francisco dusky-footed woodrat habitat is present, or there is habitat present but it will not be affected by the maintenance activity, then no further action is required.</li> <li>3. If the District Wildlife Biologist determines that suitable San Francisco dusky-footed woodrat habitat is present and may be affected by the maintenance activity, a qualified biologist shall conduct a pre-activity survey within 2 weeks prior to the start of work to determine if woodrat nests are present, or within 5 feet of, the immediate activity area. If woodrat nests are determined to be present, the following measures shall be implemented:               <ol style="list-style-type: none"> <li>a. To the extent feasible, impacts to woodrat nests will be avoided by maintaining a minimum 5-ft buffer between maintenance activities and nests. Even if a 5-ft buffer cannot be maintained, the District will minimize impacts to nests by avoiding the direct destruction or modification of the nests to the extent feasible.</li> <li>b. If one or more woodrat nests are determined to be present and physical disturbance or destruction of the nests cannot be avoided, then the woodrats shall be evicted from their nests and the nest material relocated outside of the disturbance area, prior to onset of activities that would disturb the nest, to avoid injury or mortality of the woodrats. First, an alternate location for the nest material shall be chosen by a qualified biologist based on the following criteria: 1) proximity to current nest location; 2) safe buffer distance from planned work; 3) availability of food resources; and 4) availability of cover. An alternate nest structure will then be built at the chosen location. The structure will be made up of small logs (e.g., available materials 2 inches in diameter or greater) stacked to provide a foundation on which the woodrats can add nest material. Subsequently, during the evening hours (i.e., within 2 hours prior to sunset), a qualified biologist will slowly dismantle the existing woodrat nest to allow any woodrats to flee and seek cover. All sticks from the nest will be collected and spread over the alternate structure. If</li> </ol> </li> </ol>

BMP Number	BMP Title	BMP Description
		<p>young woodrats that are still dependent on their mother are discovered, relocation efforts will cease for the evening and the California Department of Fish and Wildlife will be contacted for guidance on how to proceed.</p>
GEN-15	Salvage Native Aquatic Vertebrates from Dewatered Channels	<p>If fisheries or native aquatic vertebrates are present when cofferdams, water bypass structures, and silt barriers are to be installed, a fish and native aquatic vertebrate relocation plan shall be implemented to ensure that fish and native aquatic vertebrates are not stranded. Relocation efforts will be based on the District’s Fish Relocation Guidelines (Attachment B). Streams that support a sensitive species (i.e. steelhead) will require a relocation effort and/ or initial onsite monitoring by a qualified biologist depending on seasonal conditions:</p> <ol style="list-style-type: none"> <li>1. In non-tidal channels, where water is to be diverted, prior to the start of work or during the installation of water diversion structures, native aquatic vertebrates shall be captured in the work area and transferred to another reach as determined by a qualified biologist. Timing of work in streams that supports a significant number of amphibians will be delayed until metamorphosis occurs to minimize impacts to the resource. Capture and relocation of aquatic native vertebrates is not required at individual work sites when site conditions preclude reasonably effective operation of capture gear and equipment.</li> <li>2. Aquatic invertebrates will not be transferred (other than incidental catches) because of their anticipated abundance and colonization after completion of the repair work.</li> </ol>
GEN-15.5	Avoidance of Impacts on the San Joaquin Kit Fox	<ol style="list-style-type: none"> <li>1. A qualified District biologist will conduct a desk audit to determine whether an SMP activity will occur in an area where the San Joaquin kit fox could potentially occur (i.e., roughly east of Frazier Lake Road and south of Bloomfield Avenue), and in potential habitat for the species.</li> <li>2. If the District biologist determines that an SMP activity could occur in an area that could potentially support a kit fox, the SCVWD will implement applicable pre-activity surveys and other measures in accordance with the USFWS’s <i>San Joaquin Kit Fox Survey Protocol for the Northern Range</i>, as follows:             <ol style="list-style-type: none"> <li>a) Conduct a preconstruction/pre-activity survey no less than 14 days and no more than 30 days prior to the beginning of project implementation. Surveys shall identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, and assess the potential impacts to the kit fox by the proposed activity. The status of all dens shall be determined and mapped in accordance with the survey protocol.</li> <li>b) If a natal/pupping den is discovered within the project area or within 200 feet of the project boundary, the USFWS shall be immediately notified. Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible. Destruction of any known or natal/pupping kit fox den would require take authorization from the USFWS.</li> <li>c) The project proponent will establish exclusion zones around the kit fox dens, if determined to be present. The configuration of the exclusion should have a radius measured outward from the entrance or cluster of entrances. The following radii are minima to be applied:                 <ul style="list-style-type: none"> <li>▪ Potential den: 50 feet</li> <li>▪ Known den: 100 feet</li> <li>▪ Natal/pupping den: Service must be contacted (occupied and unoccupied)</li> <li>▪ Atypical den: 50 feet.</li> </ul> </li> </ol> </li> <li>3. If take of the San Joaquin kit fox will occur, take authorization from the USFWS and CDFW will be necessary.</li> </ol>

BMP Number	BMP Title	BMP Description
<b>General Maintenance Practices</b>		
GEN-16	In-Channel Minor Activities	For in-channel minor work activities, work will be conducted from the top of the bank if access is available and there are flows in the channel.
GEN-17	Employee/Contractor Training	All appropriate District staff and contractors will receive annual training on Stream Maintenance Program BMPs. The training will also include an overview of special-status species identification and habitat requirements. District staff and contractors will receive fact sheets to assist with in-the-field identification of special-status species and their habitats.
GEN-18	Paperwork Required On-Site	<ol style="list-style-type: none"> <li>1. Copies of regulatory permits related to the Stream Maintenance Program will be kept on-site and available for review, if requested by regulatory personnel.</li> <li>2. Copies of the Stream Maintenance Program Manual and this BMP Manual will be kept on-site.</li> </ol>
GEN-19	Work Site Housekeeping	<ol style="list-style-type: none"> <li>1. District employees and contractors will maintain the work site in neat and orderly conditions on a daily basis, and will leave the site in a neat, clean, and orderly condition when work is complete.</li> <li>2. Slash, sawdust, cuttings, etc. will be removed to clear the site of vegetation debris. As needed, paved access roads and trails will be swept and cleared of any residual vegetation or dirt resulting from the maintenance activity.</li> <li>3. For activities that last more than one day, materials or equipment left on the site overnight will be stored as inconspicuously as possible, and will be neatly arranged. Any materials and equipment left on the site overnight will be stored to avoid erosion, leaks, or other potential impacts to water quality (see BMPs GEN-24).</li> <li>4. The District's maintenance crews are responsible for properly removing and disposing of all debris incurred as a result of construction within 72 hours of project completion.</li> <li>5. All trash that is brought to a project site during maintenance activities (e.g., plastic water bottles, plastic lunch bags, cigarettes) will be collected at the site daily.</li> </ol>
GEN-20	Erosion and Sediment Control Measures	<ol style="list-style-type: none"> <li>1. Soils exposed due to maintenance activities will be seeded and stabilized using hydroseeding, straw placement, mulching, and/or erosion control fabric. These measures will be implemented such that the site is stabilized and water quality protected prior to significant rainfall. The channel bed and areas below the Ordinary High Water Mark (OHWM) are exempt from this BMP.</li> <li>2. The preference for erosion control fabrics will be to consist of natural fibers; however, steeper slopes and areas that are highly erodible may require more structured erosion control methods. No non-porous fabric will be used as part of a permanent erosion control approach. Plastic sheeting may be used to temporarily protect a slope from runoff, but only if there are no indications that special-status species would be impacted by the application.</li> <li>3. Erosion control measures will be installed according to manufacturer's specifications and following the California Stormwater Quality Association (CASQA) Construction Stormwater Best Management Practice Handbook guidelines.</li> <li>4. Appropriate measures include, but are not limited to, the following: <ul style="list-style-type: none"> <li>o Silt Fences</li> <li>o Straw Bale Barriers</li> <li>o Brush or Rock Filters</li> <li>o Storm Drain Inlet Protection</li> <li>o Temporary Sediment Traps</li> <li>o Temporary Sediment Basins</li> </ul> </li> </ol>

BMP Number	BMP Title	BMP Description
		<ul style="list-style-type: none"> <li>○ Erosion Control Blankets and Mats</li> <li>○ Soil Stabilization (i.e., tackified straw with seed, jute or geotextile blankets, etc.)</li> <li>○ Wood chips</li> <li>○ Straw mulch</li> </ul> <ol style="list-style-type: none"> <li>5. Where necessary to minimize soil from being tracked onto streets near work sites, stabilize construction entrances and exits.</li> <li>6. All temporary construction-related erosion control methods shall be removed at the completion of the project (e.g., silt fences).</li> <li>7. Oily, greasy, or sediment-laden substances or other material that originate from the project operations and may degrade the quality of surface water or adversely affect aquatic life, fish, or wildlife will not be allowed to enter, or be placed where they may later enter, any waterway. The project will not increase the turbidity of any watercourse flowing past the construction site by taking all necessary precautions to limit the increase in turbidity as follows: where natural turbidity is between 0 and 50 NTU, waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses; where natural turbidity is greater than 50 NTU, increases will not exceed 10 percent; where the receiving water body is a dry creek bed or storm drain, waters in excess of 50 NTU will not be discharged from the work area.</li> <li>8. Active non-stormwater discharges of sediment, sediment-laden water, and/or construction related materials shall cease immediately. Corrective actions shall be implemented before the next rain event, but no longer than 10 business days after the potential and/or actual discharges are discovered. If more than 10 business days are required for compliance, a rationale shall be recorded. Active non-stormwater discharges and visual increases in turbidity must be immediately reported to the District’s Stream Maintenance Program Implementation Project Manager.</li> <li>9. Each maintenance site will be visually inspected at least once daily during extended storm events to confirm that BMPs are effective and maintained as necessary.</li> <li>10. Each maintenance site will be visually inspected within two business days (48 hours) after each significant rain event to determine whether BMPs were effective and identify the need to modify or maintain existing BMPs or include additional BMPs to be protective.</li> </ol>
GEN-21	Staging and Stockpiling of Materials	<ol style="list-style-type: none"> <li>1. To protect on-site vegetation and water quality, staging areas should occur on access roads, surface streets, or other disturbed areas that are already compacted and only support ruderal vegetation. Similarly, all maintenance equipment and materials (e.g., road rock and project spoil) will be contained within the existing service roads, paved roads, or other pre-determined staging areas.</li> <li>2. Building materials and other maintenance-related materials, including chemicals and sediment, will not be stockpiled or stored where they could spill into water bodies or storm drains.</li> <li>3. Materials with decaying organic material, or other potentially odorous materials, will be handled in a manner that avoids impacting residential areas and other sensitive receptors, including not stockpiling odorous materials longer than seven (7) calendar days.</li> <li>4. No runoff from the staging areas may be allowed to enter water ways, including the creek channel or storm drains, without being subjected to adequate filtration (e.g., vegetated buffer, swale, hay wattles or bales, silt screens).</li> <li>5. The discharge of decant water to water ways from any on-site temporary sediment stockpile or storage areas is prohibited.</li> </ol>

BMP Number	BMP Title	BMP Description
		<ol style="list-style-type: none"> <li>6. Wet material removed from an isolated creek reach may be pulled to the side of the channel (within the channel and below top of bank) and allowed to naturally drain prior to removal from the channel. Pulled material will be removed from the channel prior to deactivation of the site or forecast of rain.</li> <li>7. During the wet season (generally October 1 through April 30), no stockpiled soils will remain exposed, unless surrounded by properly installed and maintained (i.e., per manufacturer specifications) silt fencing or other means of erosion control. During the dry season; exposed, dry stockpiles will be watered, enclosed, covered, or sprayed with non-toxic soil stabilizers (GEN-24).</li> <li>8. All pipes, culverts, or similar structures stored at a site within sensitive species areas, for one or more overnight periods shall be securely capped prior to storage or inspected before the pipe is subsequently moved. If any potential special-status species are observed within a pipe, a District biologist shall be consulted on what steps should be taken to protect the species. If a District biologist is on-site, they may remove the special status species from the pipes and relocate to the nearest appropriate and unaffected habitat.</li> </ol>
GEN-22	Sediment Transport	To prevent sediment-laden water from being released back into waterways during transport of spoils to disposal locations, truck beds will be lined with an impervious material (e.g., plastic), or the tailgate blocked with wattles, hay bales, or other appropriate filtration material. Trucks may then drain excess water by slightly tilting the loads and allowing the water to drain out through the applied filter, but only within the active project area of the creek where the sediment is being loaded into the trucks or within an identified vegetated area (swale) that is separated from the creek.
GEN-23	Stream Access	<p>District personnel will use existing access ramps and roads to the extent feasible. If necessary to avoid large mature trees, native vegetation, or other significant habitat features, temporary access points will be constructed in a manner that minimizes impacts according to the following guidelines:</p> <ol style="list-style-type: none"> <li>1. Temporary access points will be constructed as close to the work area as possible to minimize equipment transport</li> <li>2. In considering channel access routes, slopes of greater than 20 percent will be avoided, if possible.</li> <li>3. Any temporary fill used for access will be removed upon completion of the project and pre-project topography will be restored to the extent possible.</li> <li>4. When temporary access is removed, disturbed areas will be revegetated or filled with compacted soil, seeded, and/or stabilized with erosion control fabric immediately after construction to prevent future erosion.</li> <li>5. Personnel will use the appropriate equipment for the job that minimizes impacts and disturbance to the stream bottom. Appropriately-tired vehicles, either tracked or wheeled, will be used depending on the site and maintenance activity.</li> </ol>
GEN-24	On-Site Hazardous Materials Management	<ol style="list-style-type: none"> <li>1. An inventory of all hazardous materials used (and/or expected to be used) at the worksite and the end products that are produced (and/or expected to be produced) after their use will be maintained by the worksite manager.</li> <li>2. As appropriate, containers will be properly labeled with a "Hazardous Waste" label and hazardous waste will be properly recycled or disposed of off-site.</li> <li>3. Contact of chemicals with precipitation will be minimized by storing chemicals in watertight containers with appropriate secondary containment to prevent any spillage or leakage.</li> <li>4. Quantities of toxic materials, such as equipment fuels and lubricants, will be stored with secondary containment that is capable of containing 110% of the primary container(s). Generators and other equipment with the potential to leak or spill fuels and lubricants will be stored or operated with secondary containment.</li> </ol>

BMP Number	BMP Title	BMP Description
		<ol style="list-style-type: none"> <li>5. Petroleum products, chemicals, cement, fuels, lubricants, and non-storm drainage water or water contaminated with the aforementioned materials will not contact soil and not be allowed to enter surface waters or the storm drainage system.</li> <li>6. All toxic materials, including waste disposal containers, will be covered when they are not in use, and located as far away as possible from a direct connection to the storm drainage system or surface water.</li> <li>7. Sanitation facilities (e.g., portable toilets) will be placed outside of the creek channel and floodplain. Direct connections with soil, the storm drainage system, and surface waters will be avoided.</li> <li>8. Sanitation facilities will be regularly cleaned and/or replaced, and inspected daily for leaks and spills.</li> </ol>
GEN-25	Existing Hazardous Materials	<p>If hazardous materials, such as oil, batteries or paint cans, are encountered at the maintenance sites, the District will carefully remove and dispose of them according to applicable regulatory requirements. District staff will wear proper protective gear and store the waste in appropriate hazardous waste containers until it can be disposed at a hazardous waste facility.</p>
GEN-26	Spill Prevention and Response	<p>The District will prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels, storm drains, or on the ground following these measures:</p> <ol style="list-style-type: none"> <li>1. District field personnel will be appropriately trained in spill prevention, hazardous material control and cleanup of accidental spills.</li> <li>2. Equipment and materials for cleanup of spills will be available on site and spills and leaks will be cleaned up immediately and disposed of according to applicable regulatory requirements.</li> <li>3. Field personnel will ensure that hazardous materials are properly handled and natural resources are protected by all reasonable means.</li> <li>4. Secondary containment will be used for all containers, equipment, and vehicles with potential to leak or spill hazardous materials. Rainwater in secondary containment that may have mixed with hazardous waste will be properly disposed of.</li> <li>5. Spill prevention kits will always be in close proximity when using hazardous materials (e.g., at crew trucks and other logical locations). All field personnel will be advised of these locations.</li> <li>6. District staff will routinely inspect the work site to verify that spill prevention and response measures are properly implemented and maintained.</li> </ol> <p><i>Spill Response Measures:</i></p> <p>For small spills on impervious surfaces, absorbent materials will be used to remove the spill, rather than hosing it down with water. For small spills on pervious surfaces such as soil, the spill will be excavated and properly disposed rather than burying it. Absorbent materials will be collected and disposed of properly and promptly.</p> <p>If a hazardous materials spill occurs that cannot be contained or cleaned up with the onsite materials, the onsite District field personnel will be responsible for immediately initiating an emergency response sequence by notifying the proper authorities (i.e., District Emergency Response (ER) Team and public fire and hazmat agencies) of the release; taking appropriate defensive steps from a safe distance to secure the site to minimize damage to people, environment, and property (PEP); and deferring all other response activities to public emergency response agencies and/or the District Emergency Response (ER) Team or District ER Contractor. Depending on the nature of the release, the District ER Team's actions will include: urgent (responding within 2 hours of notification) field response site reconnaissance, emergency sequence initiation, defensive containment, release control, incident command; or priority (non 2-hour) field response site reconnaissance and clean-up operations.</p>

BMP Number	BMP Title	BMP Description
		<p>If a “reportable” spill of petroleum products occurs, the District’s Stream Maintenance Implementation Program Manager will be notified and action taken to contact the appropriate safety and cleanup crews. A reportable spill is defined as when:</p> <ul style="list-style-type: none"> <li>▪ a film or sheen on, or discoloration of, the water surface or adjoining bank/shoreline is observed; or</li> <li>▪ a sludge or emulsion is deposited beneath the surface of the water or adjoining banks/shorelines (40 Code of Federal Regulations 110); or when</li> <li>▪ another violation of water quality standards is observed.</li> </ul> <p>A written description of the reportable release must be submitted to the appropriate Regional Water Quality Control Board and the California Department of Toxic Substances Control (DTSC). This submittal must contain a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases.</p> <p>If an appreciable spill has occurred, and results determine that project activities have adversely affected surface water or groundwater quality, a detailed analysis will be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis will include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the District or contractors will select and implement measures to control contamination, with a performance standard that surface and groundwater quality will be returned to baseline conditions. These measures will be subject to approval by the District, DTSC, and the Regional Water Quality Control Board.</p>
GEN-27	Existing Hazardous Sites	<p>Upon selection of maintenance project locations, the District will conduct a search for existing known contaminated sites, as part of its annual preparation of the Notice of Proposed Work (NPW), on the State Water Resource Control Board’s GeoTracker Web site (<a href="http://www.geotracker.waterboards.ca.gov">http://www.geotracker.waterboards.ca.gov</a>). The GeoTracker search will only be performed for the District’s ground disturbing activities. For any proposed ground disturbing maintenance sites located within 1,500 feet of any “open” sites where contamination has not been remediated, the District will contact the RWQCB case manager listed in the database. The District will work with the case manager to ensure maintenance activities would not affect cleanup or monitoring activities or threaten the public or environment.</p>
GEN-28	Fire Prevention	<ol style="list-style-type: none"> <li>1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors.</li> <li>2. During the high fire danger period (April 1–December 1), work crews will have appropriate fire suppression equipment available at the work site.</li> </ol>
GEN-29	Dust Management	<p>The District will implement the Bay Area Air Quality Management District’s (BAAQMD) required Dust Control Measures (<a href="http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines%20May%202011.ashx?la=en">http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines%20May%202011.ashx?la=en</a>). Current measures stipulated by the BAAQMD Guidelines include the following:</p> <ol style="list-style-type: none"> <li>1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.</li> <li>2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</li> </ol>

BMP Number	BMP Title	BMP Description
		<ol style="list-style-type: none"> <li>3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</li> <li>4. Water used to wash the various exposed surfaces (i.e., parking areas, staging areas, soil piles, graded areas, etc.) will not be allowed to enter the water way.</li> <li>5. All vehicle speeds on unpaved roads shall be limited to 15 mph.</li> <li>6. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</li> <li>7. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</li> <li>8. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.</li> <li>9. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.</li> </ol>
GEN-30	Vehicle and Equipment Maintenance	<ol style="list-style-type: none"> <li>1. All vehicles and equipment will be kept clean. Excessive build-up of oil and grease will be prevented.</li> <li>2. All equipment used in the creek channel will be inspected for leaks each day prior to initiation of work. Maintenance, repairs, or other necessary actions will be taken to prevent or repair leaks, prior to use.</li> <li>3. Incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) will be checked for leaking oil and fluids. Vehicles or equipment visibly leaking operational fluids will not be allowed on-site.</li> <li>4. No heavy equipment will operate in a live stream. This will not apply to activities for which no other option exists, such as sediment removal which cannot be conducted from top of bank, etc. In these cases, dewatering will be conducted as necessary, following the protocols in BMPs GEN-33 or GEN-34.</li> <li>5. No equipment servicing will be done in the creek channel or immediate floodplain, unless equipment stationed in these locations cannot be readily relocated (i.e., pumps and generators).</li> <li>6. If emergency repairs are required in the field, only those repairs necessary to move equipment to a more secure location, and that can be performed without releasing any material into the floodway or water, will be conducted in the channel or floodplain.</li> <li>7. If necessary, all servicing of equipment done at the job site will be conducted in a designated, protected area to reduce threats to water quality from vehicle fluid spills. Designated areas will not directly connect to the ground, surface water, or the storm drain system. The service area will be clearly designated with berms, sandbags, or other barriers. Secondary containment, such as a drain pan, to catch spills or leaks will be used when removing or changing fluids. Fluids will be stored in appropriate containers with covers, and properly recycled or disposed of offsite.</li> </ol>
GEN-31	Vehicle Cleaning	<ol style="list-style-type: none"> <li>1. Equipment will be cleaned of any visible sediment or vegetation clumps before transferring and using in a different watershed to avoid spreading pathogens or exotic/invasive species.</li> <li>2. Vehicle and equipment washing can occur on-site only as needed to prevent the spread of sediment, pathogens or exotic/invasive species. No runoff from vehicle or equipment washing is allowed to enter water bodies, including creek channels and storm drains, without being subjected to adequate filtration (e.g., vegetated buffers, straw wattles or bales, fiber rolls, and silt screens). The discharge of decant water from</li> </ol>

BMP Number	BMP Title	BMP Description
GEN-32	Vehicle and Equipment Fueling	<p>any on-site wash area to water bodies or to areas outside of the active project site is prohibited. Additional vehicle/equipment washing will occur at the approved wash area in the District's corporation yard.</p> <ol style="list-style-type: none"> <li>1. No fueling will be done in the channel (top-of-bank to top-of-bank) or immediate floodplain unless equipment stationed in these locations cannot be readily relocated (e.g., pumps and generators).</li> <li>2. All off-site fueling sites (i.e., on access roads above the top-of-bank) will be equipped with secondary containment and avoid a direct connection to soil, surface water, or the storm drainage system.</li> <li>3. For stationary equipment that must be fueled on-site, secondary containment, such as a drain pan or drop cloth, will be used to prevent accidental spills of fuels from reaching the soil, surface water, or the storm drain system.</li> </ol>

**Dewatering**

GEN-33	Dewatering for Non-Tidal Sites	<p>When a work area includes a flowing stream (e.g., sediment removal, bank stabilization, instream complexity or concrete work), the entire streamflow will be diverted around the work area by construction of a temporary dam and/or bypass. Where appropriate, stream flow diversions will occur via gravity driven systems.</p> <p>A. Planning to avoid and minimize impacts to water quality and aquatic wildlife:</p> <ol style="list-style-type: none"> <li>1. For construction and monitoring of a stream flow bypass, the <i>Sediment Removal and Bank Stabilization Projects</i> checklist will be completed.</li> <li>2. Recommendations by a qualified Fisheries Biologist to protect native fisheries and aquatic vertebrates will be incorporated into the bypass design. The recommendations may include but are not limited to:               <ol style="list-style-type: none"> <li>a. Screening the stream flow diversion source or pump to prevent entrainment of native fish or amphibian species. The screening dimensions will be appropriate to the species present.</li> <li>b. Relocation of native aquatic vertebrates. This will include the methods to be used to capture and hold and move the aquatic vertebrates and a description of where the aquatic vertebrates will be relocated.</li> </ol> </li> <li>3. Depending on the channel configurations, sediment removal activities may occur where the flows are not bypassed around the work site as long as a berm is left between the work area and stream flows to</li> </ol>
--------	--------------------------------	--

BMP Number	BMP Title	BMP Description
		<p>minimize water quality impacts during excavation activities. The berm between the work and the live channel will be wide enough to prevent introduction of turbid water from the cell into the live channel.</p> <p>B. Construction:</p> <ol style="list-style-type: none"> <li>1. The construction of facilities will be based on the water bypass plan.</li> <li>2. Cofferdams will be installed both upstream and downstream of the work area to minimize impacts or the distance necessary to accomplish effective passive systems.</li> <li>3. In streams where water may enter the construction site from downstream (reverse flow) additional coffer dams (downstream) may be necessary. When multiple coffer dams are constructed, the upstream dam will be constructed first.</li> <li>4. Instream cofferdams will only be built from materials such as sandbags, earth fill, clean gravel, or rubber bladders which will cause little or no siltation or turbidity.</li> <li>5. Plastic sheeting will be placed over k-rails, timbers, and earth fill to minimize water seepage into and out of the maintenance areas. The plastic sheets will be firmly anchored, using sandbags, to the streambed to minimize water seepage.</li> <li>6. When pumping is necessary to dewater a work site, a temporary siltation basin and/or use of silt bags may be required to prevent sediment from re-entering the wetted channel. Pump intakes will be screened to prevent harm to aquatic wildlife.</li> <li>7. If necessary to prevent erosion, an energy dissipater will be constructed at the discharge point.</li> <li>8. Timing of flow diversions will be coordinated with the completion of the dam structure to facilitate not drying up the downstream creek area and to minimize dry back conditions.</li> </ol>

BMP Number	BMP Title	BMP Description
GEN-33	Dewatering for Non-Tidal Sites	<p>C. Implementation:</p> <ol style="list-style-type: none"> <li>1. Water flows downstream of the project site will be maintained to prevent stranding aquatic vertebrates.</li> <li>2. Water diverted around work sites and water detained by coffer dams will be protected from maintenance activity-related pollutants, such as soils, equipment lubricants or fuels.</li> <li>3. The Fish Relocation Guidelines (Attachment B) will be implemented to ensure that fish and other aquatic vertebrates are not stranded during construction and implementation of channel dewatering.               <ol style="list-style-type: none"> <li>a. Native aquatic vertebrates shall be captured in the work area and transferred to another reach as determined by a qualified biologist. Timing of work in streams that supports a significant number of amphibians will be delayed until metamorphosis occurs to minimize impacts to the resource. Capture and relocation of aquatic native vertebrates is not required at individual work sites when site conditions preclude reasonably effective operation of capture gear and equipment.</li> <li>b. Aquatic invertebrates will not be transferred (other than incidental catches) because of their anticipated abundance and colonization after completion of the repair work.</li> </ol> </li> <li>4. Filtration devices (silt bags attached to the end of discharge hoses and pipes to remove sediment from discharged water) or settling basins will be provided as necessary at discharge sites to ensure that the turbidity of discharged water is not visibly more turbid than the water in the channel upstream of the maintenance site. If increases in turbidity are observed, additional measures will be implemented such as a larger settling basin or additional filtration. If increases in turbidity persist, the District’s Stream Maintenance Program Implementation Project Manager will be alerted since turbidity measurements may be required.</li> <li>5. Water remaining in the work area will be removed by evaporation, seepage, or pumping. When pumping is required to dewater a site, the decanted water will be discharged with water bypassed around the site or in a separate erosion control – energy dissipation area/vegetated swale. The turbidity of discharged water will not be visibly more turbid than the receiving water.</li> </ol> <p>D. Deconstruction:</p> <ol style="list-style-type: none"> <li>1. When maintenance is completed, the flow diversion structure will be removed as soon as possible. Impounded water will be released at a reduced velocity to minimize erosion, turbidity, or harm to downstream habitat.</li> <li>2. Removal will normally proceed from downstream in an upstream direction.</li> <li>3. When diversion structures are removed, the ponded water will be directed back into the low-flow channel in a phased manner to minimize erosion and downstream water quality impacts. Normal flows will be restored.</li> <li>4. The area disturbed by flow bypass mechanisms will be restored to the pre-project condition at the completion of the project (to the extent practical). This may include, but is not limited to, recontouring the area and planting of riparian vegetation.</li> </ol>

BMP Number	BMP Title	BMP Description
GEN-34	Dewatering in Tidal Work Areas	<p>For tidal areas, a downstream cofferdam will be constructed to prevent the work area from being inundated by tidal flows:</p> <ol style="list-style-type: none"> <li>1. Installation of cofferdams and fish exclusion measures will be installed at low tide when the channel and project site are at their driest.</li> <li>2. It is preferable to not use any bypass pipes when work is being conducted on one side of the channel, if isolated by the cofferdam, and flows can continue on the other side of the creek channel without entering the project area.</li> <li>3. If downstream flows cannot be diverted around the project site, the creek waters will be transmitted around the site through cofferdam bypass pipes. Waters discharged through tidal cofferdam bypass pipes will not exceed 50 NTUs over the background levels of the tidal waters into which they are discharged. If necessary to prevent erosion, an energy dissipater will be constructed at the discharge point.</li> <li>4. Water diverted around work sites and water detained by coffer dams will be protected from maintenance activity-related pollutants, such as soils, equipment lubricants or fuels.</li> <li>5. If upstream flows are present, the entire streamflow will be diverted around the work area. This may occur in work areas straddling non-tidal and tidal reaches. In muted tidal reaches (e.g., systems with a downstream tide gate), timing of flow diversions will be coordinated with the completion of the dam structure to facilitate not drying up the downstream creek area and to minimize dry back conditions during low tide.</li> <li>6. Cofferdams in tidal areas may be made from earthen or gravel material. If earth is used, the downstream and upstream faces will be covered by a protected covering (e.g., plastic or fabric) if needed to minimize erosion. A protected covering or sheeting will be placed on the water side of an earthen coffer dam to protect water quality.</li> <li>7. When maintenance is completed, the cofferdams and bypass pipes will be removed as soon as possible but no more than 72 hours after work is completed. Flows will be restored at a reduced velocity to minimize erosion, turbidity, or harm to downstream habitat.</li> </ol>
GEN-35	Pump/Generator Operations and Maintenance	<p>When needed to assist in channel dewatering, pumps and generators will be maintained and operated in a manner that minimizes impacts to water quality and aquatic species:</p> <ol style="list-style-type: none"> <li>1. Pumps and generators will be maintained according to manufacturers' specifications to regulate flows to prevent dryback or washout conditions.</li> <li>2. Generators will be stored or operated with secondary containment.</li> <li>3. Pumps will be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding.</li> <li>4. All pump intakes will be screened. Pumps in steelhead creeks will be screened according to NMFS criteria (<a href="http://www.swr.noaa.gov/sr/fishscrn.pdf">http://www.swr.noaa.gov/sr/fishscrn.pdf</a>) to prevent entrainment of steelhead.</li> </ol>

**Public Safety**

GEN-36	Public Outreach	<p>The public will be informed of stream maintenance work prior to the start of work as part of the preparation of the NPW for all projects in the NPW:</p> <ol style="list-style-type: none"> <li>1. Each spring, a newspaper notice will be published with information on the NPW work sites, approximate work dates, and contact information.</li> <li>2. Neighborhood Work Notices will be distributed as part of the NPW preparation prior to the start of work.</li> <li>3. Local governments (cities and County) will be notified of scheduled maintenance work. The NPW will be submitted to the public works departments, local fire districts, and the District's Flood Protection and Watershed Advisory Committees.</li> </ol>
--------	-----------------	--

BMP Number	BMP Title	BMP Description
		<ol style="list-style-type: none"> <li>4. The District will post specific information on individual maintenance projects on the Stream Maintenance Web site: (<a href="http://valleywater.org/EkContent.aspx?id=379&amp;terms=stream+maintenance">http://valleywater.org/EkContent.aspx?id=379&amp;terms=stream+maintenance</a>)</li> <li>5. For high profile projects, at the District's discretion, signs will be posted in the neighborhood to notify the public at least one week in advance of maintenance schedules, trail closures, and road/lane closures as necessary and as possible. Signage used at work sites will include contact information for lodging comments and/or complaints regarding the maintenance activities.</li> </ol>
GEN-37	Implement Public Safety Measures	<p>The District will implement public safety measures during maintenance as follows:</p> <ol style="list-style-type: none"> <li>1. Construction signs will be posted at job sites warning the public of construction work and to exercise caution, as appropriate to public accessed areas.</li> <li>2. Where work is proposed adjacent to a recreational trail, warning signs will be posted several feet beyond the limits of work. Signs will also be posted if trails will be temporarily closed.</li> <li>3. If needed, a lane will be temporarily closed to allow for trucks to pull into and out of access points to the work site.</li> <li>4. Temporary fencing, either the orange safety type or chain link, will be installed above repair sites on bank stabilization projects.</li> <li>5. When necessary, District or contracted staff will provide traffic control and site security.</li> </ol>
GEN-38	Minimize Noise Disturbances to Residential Areas	<p>The District will implement maintenance practices that minimize disturbances to residential areas surrounding work sites:</p> <ol style="list-style-type: none"> <li>1. With the exception of emergencies, work will be conducted during normal working hours. Maintenance activities in residential areas will not occur on Saturdays, Sundays, or District observed holidays except during emergencies, or with approval by the local jurisdiction and advance notification of surrounding residents.</li> <li>2. Vehicles, generators and heavy equipment will be equipped with adequate mufflers.</li> <li>3. Idling of vehicles will be prohibited beyond 5 minutes unless operation of the engine is required to operate a necessary system such as a power take-off (PTO).</li> </ol>
GEN-39	Planning for Pedestrians, Traffic Flow, and Safety Measures	<ol style="list-style-type: none"> <li>1. Work will be staged and conducted in a manner that maintains two-way traffic flow on public roadways in the vicinity of the work site. If temporary lane closures are necessary, they will be coordinated with the appropriate jurisdictional agency and scheduled to occur outside of peak traffic hours (7:00 – 10:00 a.m. and 3:00 – 6:00 p.m.) to the maximum extent practicable. Any lane closures will include advance warning signage, a detour route and flaggers in both directions. When work is conducted on public roads and may have the potential to affect traffic flow, work will be coordinated with local emergency service providers as necessary to ensure that emergency vehicle access and response is not impeded.</li> <li>2. Bicycle and pedestrian facility closures will be scheduled outside of peak traffic hours (7:00 – 10:00 a.m. and 3:00 – 6:00 p.m.) to the maximum extent practicable.</li> <li>3. Public transit access and routes will be maintained in the vicinity of the work site. If public transit will be affected by temporary road closures and require detours, affected transit authorities will be consulted and kept informed of project activities.</li> <li>4. Adequate parking will be provided or designated public parking areas will be used for maintenance-related vehicles not in use through the maintenance period.</li> <li>5. Access to driveways and private roads will be maintained. If brief periods of maintenance would temporarily block access, property owners will be notified prior to maintenance activities.</li> </ol>

BMP Number	BMP Title	BMP Description
------------	-----------	-----------------

**Cultural Resources**

GEN-40	Discovery of Cultural Remains or Historic or Paleontological Artifacts	<p>Work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met.</p> <ol style="list-style-type: none"> <li>1. Work at the location of the find will halt immediately within 100 feet of the find. A “no work” zone shall be established utilizing appropriate flagging to delineate the boundary of this zone, which shall measure at least 100 feet in all directions from the find.</li> <li>2. The District shall retain the services of a Consulting Archaeologist or Paleontologist, who shall visit the discovery site as soon as practicable, and perform minor hand-excavation to describe the archaeological or paleontological resources present and assess the amount of disturbance.</li> <li>3. The Consulting Archaeologist shall provide to the District and the Corps, at a minimum, written and digital-photographic documentation of all observed materials, utilizing the guidelines for evaluating archaeological resources for the California Register of Historic Places (CRHP) and National Register of Historic Places (NRHP). Based on the assessment, the District and Corps shall identify the CEQA and Section 106 cultural-resources compliance procedure to be implemented.</li> <li>4. If the find appears to not meet the CRHP or NRHP criteria of significance, and the Corps archaeologist concurs with the Consulting Archaeologist’s conclusions, construction shall continue while monitored by the Consulting Archaeologist. The authorized maintenance work shall resume at the discovery site only after the District has retained a Consulting Archaeologist to monitor and the Watershed Manager has received notification from the Corps to continue work.</li> <li>5. If the find appears significant, avoidance of additional impacts is the preferred alternative. The Consulting Archaeologist shall determine if adverse impacts to the resources can be avoided.</li> <li>6. When avoidance is not practical (e.g., maintenance activities cannot be deferred or they must be completed to satisfy the SMP objective), the District shall develop an Action Plan and submit it to the Corps within 48 hours of Consulting Archaeologist’s evaluation of the discovery. The action Plan may be submitted via e-mail to {rstradford@spd.usace.army.mil}. The Action Plan is synonymous with a data-recovery plan. It shall be prepared in accordance with the current professional standards and State guidelines for reporting the results of the work, and shall describe the services of a Native American Consultant and a proposal for curation of cultural materials recovered from a non-grave context.</li> <li>7. The recovery effort will be detailed in a report prepared by the archaeologist in accordance with current archaeological standards. Any non-grave artifacts will be placed with an appropriate repository.</li> <li>8. The Consulting Paleontologist will meet the Society for Vertebrate Paleontology’s criteria for a “qualified professional paleontologist” (Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee 1995).</li> </ol>
--------	--	--

BMP Number	BMP Title	BMP Description
		<p>9. The paleontologist will follow the Society for Vertebrate Paleontology’s guidelines for treatment of the artifact. Treatment may include preparation and recovery of fossil materials for an appropriate museum or university collection, and may include preparation of a report describing the finds. The District will be responsible for ensuring that paleontologist’s recommendations are implemented.</p> <p>10. In the event of discovery of human remains (or the find consists of bones suspected to be human), the field crew supervisor shall take immediate steps to secure and protect such remains from vandalism during periods when work crews are absent.)</p> <p>11. Immediately notify the Santa Clara County Coroner and provide any information that identify the remains as Native American. If the remains are determined to be from a prehistoric Native American, or determined to be a Native American from the ethnographic period, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours of being notified of the remains. The NAHC then designates and notifies within 24 hours a Most Likely Descendant (MLD). The MLD has 24 hours to consult and provide recommendations for the treatment or disposition, with proper dignity, of the human remains and grave goods.</p> <p>12. Preservation in situ is the preferred option. Human remains shall be preserved in situ if continuation of the maintenance work, as determined by the Consulting Archaeologist and MLD, will not cause further damage to the remains. The remains and artifacts shall be documented and the find location carefully backfilled (with protective geo-fabric if desirable) and recorded in District project files.</p> <p>13. Human remains or cultural items exposed during maintenance that cannot be protected from further damage shall be exhumed by the Consulting Archaeologist at the discretion of the MLD and reburied with the concurrence of the MLD in a place mutually agreed upon by all parties.</p>
GEN-41	Review of Projects with Native Soil	<p>A cultural resources specialist will conduct a review and evaluation of those sites that would involve disturbance / excavation of native soil previously undisturbed by contemporary human activities to determine their potential for affecting significant cultural resources. The evaluation of the potential to disturb cultural resources will be based on an initial review of archival information provided by the California Historical Resources System/Northwest Information Center (CHRIS/NWIC) in regard to the project area based on a 0.25 mile search radius. It is recommended that this initial archival review be completed by a professional archaeologist who will be able to view confidential site location data and literature to arrive at a preliminary sensitivity determination. If necessary, a further archival record search and literature review (including a review of the Sacred Lands Inventory of the Native American Heritage Commission); and a field inventory of the project area will be conducted to determine the presence/absence of surface cultural materials associated with either prehistoric or historic occupation. The results along with any mitigation and/or management recommendations would be presented in an appropriate report format and include any necessary maps, figures, and correspondence with interested parties. A summary table indicating appropriate management actions (e.g., monitoring during construction, presence/absence testing for subsurface resources; data recovery, etc.) will be developed for each project site reviewed. The management actions will be implemented on site to avoid significant effects to cultural resources.</p>

BMP Number	BMP Title	BMP Description
------------	-----------	-----------------

**Utilities**

GEN-42	Investigation of Utility Line Locations	<p>An evaluation of the locations of utility lines that could be affected by maintenance activities will be conducted annually as part of the preparation of the Notice of Proposed Work (NPW). Utilities will be avoided as much as possible. For maintenance areas with the potential for adverse effects on utility services, the following measures shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Utility excavation or encroachment permits shall be required from the appropriate agencies. These permits include measures to minimize utility disruption. The District and its contractors shall comply with permit conditions. Such conditions shall be included in construction contract specifications.</li> <li>2. Utility locations shall be verified through a field survey (potholing) and use of the Underground Service Alert services.</li> <li>3. Detailed specifications shall be prepared as part of the design plans to include procedures for the excavation, support, and/or fill of areas around utility cables and pipelines. All affected utility services shall be notified of the District’s maintenance plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services.</li> <li>4. Residents and businesses in the project area shall be notified of planned utility service disruption 2 to 4 days in advance, in conformance with state standards.</li> <li>5. Disconnected cables and lines shall be reconnected promptly.</li> </ol>
--------	---	---

**B. SECTION B—SEDIMENT REMOVAL BMPS**

This group of BMPs is intended to be implemented specifically during sediment removal activities to avoid potential impacts on biological resources.

BMP Number	BMP Title	BMP Description
SED-1	Groundwater Management	If high levels of groundwater (i.e., visible water) are encountered during excavations in a work area, the water will be pumped out of the work site or left within the work area if the work activity is not causing water quality degradation in a live stream. Water Quality monitoring would need to occur. If necessary to protect water quality, the extracted water will be discharged into specifically constructed infiltration basins, holding ponds, or areas with vegetation to remove sediment prior to the water re-entering a creek. Water discharged into vegetated areas or swales will be pumped in a manner that will not create erosion around vegetation.
SED-2	Prevent Scour Downstream of Sediment Removal	Sediment removal sites in the transport zone on alluvial fans may cause increased scour downstream if they experience scouring flows or rapid sediment accumulation after maintenance. After sediment removal, the channel will be graded so that the transition between the existing channel both upstream and downstream of the maintenance area is smooth and continuous between the maintained and non-maintained areas and does not present a sudden vertical transition (wall of sediment) or other blockage that could erode once flows are restored to the channel.
SED-3	Restore Channel Features	Low-flow channels within non-tidal streams will be contoured to facilitate fish passage and will emulate the pre-construction conditions as closely as possible, within the finished channel topography.

BMP Number	BMP Title	BMP Description
SED-4	Berm Bypass	Where sediment removal is accomplished without a bypass by removing alternating cells, the berm between the work and the live channel will be wide enough to prevent introduction of turbid water from the cell into the live channel.
SED-5	Sediment Characterization	Projects involving sediment removal at stream gauges, outfalls, culverts, flap gates, tide gates, grade control structures, bridges, fish ladders, and fish screens in excess of 25 cubic yards shall be characterized in accordance with the SCVWD’s Sediment Characterization Plans for SMP-2. These projects shall be reported in the annual summary report. Sediment removed will not be reused without pre-approval from appropriate regulatory agencies. See section 5.4 for information on the waiver process.

**C. SECTION C—VEGETATION MANAGEMENT BMPS**

These BMPs provide specific and detailed guidance on the variety of vegetation management procedures implemented by the District. BMPs for the following maintenance techniques are included: tree pruning, tree removal, plant removal, woody debris management, herbicide application, mowing, discing, flaming, and grazing. Practices will be implemented by fully trained and qualified field crews.

BMP Number	BMP Title	BMP Description
VEG-1	Minimize Local Erosion Increase from In-channel Vegetation Removal	To minimize the potential effect of localized erosion, the toe of the bank will be protected by leaving vegetation to the maximum extent possible and consistent with the maintenance guidelines or original design requirements.
VEG-2	Non-native Invasive Plant Removal	Invasive species (e.g., cape ivy [ <i>Delairea odorata/Senecio mikanooides</i> ], arundo [ <i>Arundo donax</i> ]) will be disposed of in a manner that will not contribute to the further spread of the species. Cape ivy removed during a project shall be bagged and disposed of in a landfill. Arundo canes will be prevented from floating downstream or otherwise entering the creek or waterway.
VEG-3	Use Appropriate Equipment for Instream Removal	When using heavy equipment to cut or remove instream vegetation, low ground pressure equipment, such as tracked wheels will be utilized to reduce impacts to the streambed.
VEG-4	Standard Grazing Procedures	1. Vegetation and areas to be preserved will be fenced off to exclude grazing animals. 2. Grazing animals will be excluded from stream channels, using fencing or other barriers.

**D. SECTION D—BANK STABILIZATION BMPS**

These BMPs provide additional guidance during implementation of bank stabilization projects to avoid impacts on biological and cultural resources. Review of the Post-Project Restoration BMPs in Section E is recommended because those measures will be implemented after bank stabilization projects are complete. The BMPs included in this section are implemented by the field crew and site manager.

BMP Number	BMP Title	BMP Description
BANK-1	Bank Stabilization Design to Prevent Erosion Downstream	<p>To further prevent potential downstream erosion impacts due to bank stabilization, the site design will be adjusted to provide proactive protection of vulnerable areas within the reach of the worksite. Such measures include, but are not limited to, appropriately keyed-in coir logs, riparian planting, strategic placement of rock, and flow deflectors.</p> <p>Bank stabilization will include appropriate transition designs upstream and downstream of the work site to prevent potential erosion impacts.</p>
BANK-2	Concrete Use Near Waterways	<p>Concrete that has not been cured is alkaline and can increase the pH of the water. Fresh concrete will be isolated until it no longer poses a threat to water quality using the following appropriate measures:</p> <ol style="list-style-type: none"> <li>1. Wet sacked concrete will be excluded from the wetted channel for a period of 30 days after installation. During that time, the wet sacked concrete will be kept moist (such as covering with wet carpet) and runoff from the wet sacked concrete will not be allowed to enter a live stream.</li> <li>2. Poured concrete will be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete will be kept moist, and runoff from the wet concrete will not be allowed to enter a live stream. Commercial sealants (e.g., Deep Seal, Elasto-Deck Reservoir Grade) may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If a sealant is used, water will be excluded from the site until the sealant is dry.</li> <li>3. Dry sacked concrete will not be used in any channel.</li> <li>4. An area outside of the channel and floodplain will be designated to clean out concrete transit vehicles.</li> <li>5. Temporary concrete washout facilities shall be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations. Concrete wasted shall be removed and disposed of appropriately.</li> <li>6. Where slurries containing portland cement concrete or asphalt concrete are generated (such as from saw cutting, coring, grinding, etc.), slurry wastes shall not be allowed to enter storm drains or watercourses, and shall be removed and disposed of appropriately.</li> </ol>
BANK-3	Bank Stabilization Post-Construction Maintenance	<p>The District may maintain or repair bank stabilization projects that are less than 2 years old that are damaged by winter flows.</p> <p>The District will notify the regulatory agencies 24 hours prior to beginning the work and the work will be reported as part of the Post-Construction Report submitted by January 15 of each year or if necessary, the subsequent year. Appropriate BMPs will be applied during maintenance repairs.</p>

**E. SECTION E—POST-PROJECT RESTORATION BMPS**

These BMPs will be implemented, as appropriate, on all sites that involve ground disturbance.

BMP Number	BMP Title	BMP Description
REVEG-1	Seeding	Sites where maintenance activities result in exposed soil will be stabilized to prevent erosion. Disturbed areas shall be seeded with native seed as soon as is appropriate after maintenance activities are complete. An erosion control seed mix may be applied to exposed soils, and down to the ordinary high water mark (OHWM). 1. The seed mix should consist of California native grasses (e.g., <i>Hordeum brachyantherum</i> , <i>Elymus glaucus</i> , and <i>Vulpia microstachyes</i> ) or annual, sterile seed mix. 2. Temporary earthen access roads may be seeded when site and horticultural conditions are suitable, or have other appropriate erosion control measures in place (GEN-20).
REVEG-2	Planting Material	Revegetation and replacement plantings will consist of locally collected native species. Species selection will be based on surveys of natural areas on the same creek that have a similar ecological setting and/or as appropriate for the site location.

**F. SECTION F—MANAGEMENT OF ANIMAL CONFLICT BMPS**

Methods of animal management included in the SMP are avoidance, biological controls, physical alterations, habitat alterations, and lethal controls. Of all these methods, implementation of lethal controls has the highest potential for environmental and biological impacts. Therefore, the animal management BMPs provided in this section focus on lethal controls. The application area for lethal controls will be identified during the annual planning process (see the Biological Resource Planning BMPs) and guided as directed by wildlife biologists. Species habitat areas are defined by the District’s GIS species mapping, updated CNDDDB and known local biological information and are included in the SMP Update Subsequent EIR.

BMP Number	BMP Title	BMP Description
ANI-1	Surface Barrier Applications to prevent burrowing	Surface barrier applications installed as a method of animal conflict management, such as chain link fencing, woven geotextiles, and other similar materials, will be installed no longer than 300 feet and only above OHW. This area may include both inboard and outboard side of levee for 300 feet with at least an equal amount of open area prior to another linear installation; and only on one side of levee slopes. Inboard and outboard areas will only have installations set in an alternating pattern, such that no inboard and outboard levee faces would have erosion control blankets along the same levee stationing.
ANI-2	Prevent Harm to the Salt Marsh Harvest Mouse and California Clapper Rail	1. No rodenticides or fumigants will be used within the range of the SMHM or CCR as identified on District range maps. 2. Methods of rodent control within SMHM or CCR habitat will be limited to live trapping. All live traps shall have openings measuring no smaller than 2 inches by 1 inch to allow any SMHM that inadvertently enter the trap to easily escape. All traps will be placed outside of pickleweed areas and above the high tide line.
ANI-3	Burrowing Owl, Bald Eagle and Golden Eagle Buffer Zone	Per the California Department of Fish and Wildlife’s 2008 <i>Guidance for Burrowing Owl Conservation</i> , a 656-yard buffer will be established around known burrowing owl locations where no rodenticides or fumigants (including smoke bombs) will be used. A 0.5-mile buffer will be established around known bald eagle and golden eagle nesting locations where no rodenticides will be used.

BMP Number	BMP Title	BMP Description
ANI-4	Animal Control in Sensitive Amphibian Habitat	<ol style="list-style-type: none"> <li>1. Fumigants will not be used within the habitat areas of special status amphibians.</li> <li>2. The use of bait stations within the potential habitat areas of California red-legged frog, California tiger salamander, or foothill yellow-legged frog will be limited to bait stations specifically designed to prevent entry by these species.</li> <li>3. Any live traps will allow California red-legged frogs, California tiger salamanders, or foothill yellow-legged frogs to safely exit (e.g., by having openings measuring no smaller than 2 inches by 1 inch).</li> </ol>
ANI-5	Slurry Mixture near Waterways	All slurry type mixes used to fill rodent burrows will be prevented from entering any waterway by using appropriate erosion control methods and according to the manufacturer’s specifications. If the creek bed is dry or has been dewatered, any material that has entered the channel will be removed. Staff will monitor the work activity.
ANI-6	Species requiring depredation permit	Animal Conflict Management will not include lethal control of species listed in California F&G Code Section 4181 including beaver and gray squirrel without first obtaining a depredation permit.

**G. SECTION G—USE OF PESTICIDES**

Pesticides may be used for vegetation management or control of animal damage.

BMP Number	BMP Title	BMP Description
HM-4	Posting and Notification for Pesticide Use	<p>Posting of areas where pesticides are used will be performed in compliance with District Policy Ad-8.2 Pesticide Use as follows:</p> <ol style="list-style-type: none"> <li>1. Posting will be performed in compliance with the label requirements of the product being applied.</li> <li>2. In addition, posting will be provided for any products applied in areas used by the public for recreational purposes, or those areas readily accessible to the public, regardless of whether the label requires such notification. In doing this, the District ensures that exposure risk is minimized further by adopting practices that go beyond the product label requirements. (The posting method may be modified to avoid destruction of bait stations or scattering of rodenticide.)</li> <li>3. These postings will notify staff and the general public of the date and time of application, the product’s active ingredients, and common name, and the time of allowable re-entry into the treated area.</li> <li>4. Signs will not be removed until after the end of the specified re-entry interval.</li> <li>5. Right-to-know literature on the product will be made available to anyone in the area during the re-entry period.</li> <li>6. A District staff contact phone number will be posted on the sign, including a cellular phone number.</li> <li>7. Notification of pesticide activities will be made as required by law. Also, the District will maintain records of neighbors with specific needs relative to notification before treatment of an adjacent area so that such needs are met.</li> </ol>

Source: Data compiled by Horizon Water and Environment in 2011