

SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM

Performance Standard and Supporting Documents for Rural Public Works Maintenance and Support Activities (December 19, 2002¹)

I. Introduction

The goal of the Rural Public Works Performance Standard is to minimize the water quality impacts resulting from public works maintenance and support activities in rural areas. This performance standard is intended to aid Co-permittees in ensuring that required control measures are implemented while performing maintenance activities adjacent to streams to prevent the degradation of stream functions. Santa Clara County contains habitat for the threatened Central California Coast Steelhead. Maintenance Activities in watersheds that support steelhead habitat are subject to Limit No. 10, Routine Road Maintenance, of the Endangered Species Act (ESA) Section 4(d) Rules to Protect Threatened Salmon and Steelhead, signed on June 20, 2000. This limit finds routine road maintenance activities must “not impair properly functioning habitat, appreciably reduce the functioning of already impaired habitat, or retard the long-term progress of impaired habitat toward [a properly functioning condition] (PFC)”²³ This Performance Standard is consistent with the goal of Limit No. 10.

The Rural Public Works Performance Standard defines the level of implementation that each Co-permittee in the Santa Clara Valley Urban Runoff Pollution Prevention Program will attain to demonstrate that water quality is protected to the maximum extent practicable.

¹ Approved by the SCVURPPP Management Committee at its December 19, 2002 meeting.

² *A Citizen's Guide to the 4(d) Rule for Threatened Salmon Steelhead on the West Coast*, National Marine Fisheries Service Northwest and Southwest Regions, June 20, 2000.

³ NMFS is not requiring states, local governments or private parties to change their practices to conform to any of the take limits described in the final rule. The limits provide one way to be sure an activity or program does not risk violating the take prohibitions. Simply because a program is not within a limit does not mean that it automatically violates the ESA or the 4(d) rule. However, it does mean that any program or jurisdiction would risk ESA penalties if the activity in question takes a listed fish. By receiving a limit, governments and individuals receive assurance that their activities do not violate the take prohibitions and will not be subject to enforcement. (NMFS, June 20, 2000).

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PERFORMANCE STANDARD

- 1) The Co-permittee will implement and require contractors to implement appropriate best management practices (BMPs) when performing maintenance activities in or adjacent to a stream channel unless required to do otherwise by emergency flood control procedures. During emergency flood control activities, water quality will be protected to the maximum extent practicable
- 2) The Co-permittee will plan for proper erosion prevention and sediment control measures in designing rural roads.
- 3) During construction, the Co-permittee will inspect the construction site, and maintain construction erosion prevention and sediment control BMPs to ensure that they are working properly and that problems are corrected as soon as they develop.
- 4) Maintenance staff will properly store, use, and dispose of materials, chemicals and wastes during and after the performance of activities. Mechanical equipment will be stored and operated properly as well.
- 5) Co-permittees will provide annual training and technical assistance to maintenance staff in the use of appropriate BMPs.
- 6) Co-permittees will obtain the correct permits for maintenance activities taking place in or adjacent to stream channels. The “correct permits” are defined on page 14 herein.
- 7) The Co-permittee will provide outreach materials to contractors, developers, and staff on Rural Public Works Maintenance and Support Activities BMPs and permitting requirements.
- 8) The Co-permittee will evaluate and report on the implementation of the rural public works performance standards as part of the individual Co-permittee annual reports. Annual reporting and inspections are not required under the following special cases: levees that are inspected frequently under another program (i.e. SCVWD levees inspected for flood protection and control) and levees where captured runoff would be under another NPDES permit (i.e. City of Sunnyvale treatment pond levees).

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DEFINITIONS

Berm	An elevated area constructed of asphalt materials, base rock, soils, sandbags or other materials to divert runoff. Typically located along roadway shoulders.
Brush	Vegetative material smaller in length/diameter than large woody debris. May consist of cuttings of native vegetation intended for use in slope stabilization BMPs such as brushlayering, brushpacking, willow wattles, etc.
Cut and Plug	The practice of cutting woody debris in streams that may become lodged in downstream obstructions into small pieces and/or short lengths. (culverts, log jams, etc.)
Emergency	<p>An emergency consists of circumstances creating a substantial risk of loss, damage, interruption of essential services, or threat to public health or safety that could not have been reasonably foreseen. “Emergency” includes any man-made or natural event or circumstances causing or threatening loss of life, injury to person or property, including but not limited to fire, explosion, flood, severe weather, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, actual or imminent loss of transportation facilities, civil disturbance, riot, sabotage and war.</p> <p>The distinction must be made as to when the emergency is over and cleanup begins. An emergency ends when threats of loss of life or injury are mitigated and pre-emergency service is restored. Examples of emergency operations include, but are not limited to, modification of large woody debris/log jams in streams, streambank/slope stabilization, flood response and emergency road opening measures.</p>
Habitat	An area used by a species for migration, breeding, spawning, foraging, shelter, etc. May refer to generic types of habitat, such as riparian (near water bodies), upland (above riparian habitat), etc.

Diversion Potential	Occurs at a stream crossing having one approach that slopes away from the stream bed so as to potentially divert flow reaching the road surface away from the channel.
Large Woody Debris	Large pieces of woody material 6 inches and larger in diameter and at least 10 feet long. Also includes root wads and stumps. Typically refers to woody debris in water bodies.
Revegetation	The placement, planting and/or fostering of growth of beneficial plant species.
Rural Road	<p>A public paved or unpaved road that is:</p> <ol style="list-style-type: none"> in an area having average lot sizes of 1 acre net or greater or zoned as open space under Co-permittee jurisdiction; and not served by an integrated municipal storm drain system; not served by curbs and gutters; and intended to be passable to a maintenance vehicle. <p>This definition does not include hiking and equestrian trails, unless they are intended to be passable to a maintenance vehicle.</p>
Sensitive Area	<p>Any area in which plant or animal life or their habitats are rare or especially valuable, including any area in the following categories:</p> <ol style="list-style-type: none"> habitats containing or supporting “rare and endangered” species as defined by the State Fish and Game Commission as well as “threatened and endangered” species and their associated critical habitat, as defined under the Federal Endangered Species Act; perennial and intermittent streams and their tributaries that support aquatic habitat; lakes, ponds and adjacent shore habitat; wetlands, marshes and coastal tide lands; coastal and offshore areas containing breeding or nesting sites or used by migratory and resident water –associated birds for resting areas and feeding; areas used for scientific study and research concerning fish and wildlife; existing game and wildlife refuges and reserves; and sand dunes and sea cliffs.
Sidecast	Material placed on or within the banks of any water body; the practice of placing material on or within the banks of any water body.
Slipout	A shallow slope failure, typically involving the shoulder of a road or trail. May be caused by high groundwater, falling trees (windthrow), etc.
Washout	A slope or bank failure, typically involving the shoulder of a road or trail. May be caused by high flows in streams, concentrated runoff, etc.

Watercourse Bank

The slope of land that adjoins a watercourse, the top of which shall be the topographic line roughly parallel to the watercourse center line where the side slopes intersect the plane of the ground adjacent to that traversed by the watercourse. Where banks do not distinguishably end, the surrounding land being extensions of the banks, the top of such banks shall be determined by the Santa Clara Valley Water District Community Project Review Unit, Unit Manager.

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Attachment 1 WORK PLAN IMPLEMENTATION

This section describes the activities to be conducted by the co-permittee, and described in the co-permittee's local Urban Runoff Management Plan (URMP) to implement the performance standard, along with an implementation schedule.

Example Contents of the Work Plan

- Develop (or review and revise) standard operating procedures for rural public works activities.
- Develop or adapt BMPs and control measures.
- Ensure adequate legal authority, including chain of command, used to conduct and enforce the use of rural public works maintenance BMPs by others, if necessary, as documented by reference in Attachment 2.
- Obtain or develop educational materials for training maintenance staff and for outreach to contractors.
- Develop an annual training program for maintenance staff.
- Annually conduct an evaluation of the effectiveness of the rural public works program, report the results of the evaluation in the Annual Report, and identify items for continuous improvement.
- Identify the rural public works facilities that are under the agency's jurisdiction.

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Attachment 2
LEGAL AUTHORITY TO IMPLEMENT

This section contains a demonstration of the co-permittee's legal authority to implement the performance standard, or a time schedule for developing and obtaining additional authority.

The co-permittee should provide references to municipal codes or ordinances that demonstrate adequate legal authority to require contractors to conduct O&M activities in a manner that eliminates or reduces water quality impacts. These include:

- Storm water discharge ordinance.
- Other ordinance or section(s) of municipal code that apply to maintenance activities.
- Standard Operating Procedures (see Attachment 4)
- Standard contract language (see model language below).

Model Standard Contract Language⁴

Storm water runoff flows directly to creeks and San Francisco Bay without treatment. Allowing pollutants (including sediment) to directly or indirectly enter the storm drain system is prohibited by federal, state and local regulations. The operation and maintenance of public streets, roads, and highways can cause storm water pollution in numerous ways. For example, storm water pollution can be caused by wastes from street or equipment cleaning, by improper storage of products or wastes, or inadequate clean up of left-over or spilled products or wastes. These pollutants can either enter storm drains directly or be transported by storm water runoff.

The Contractor shall take all measures necessary to prevent pollutants (including sediment) from entering storm drains or watercourses. For the purpose of eliminating storm water pollution, the contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system. These BMPs shall be maintained for the duration of the Contractor's work. The Contractor shall also be responsible for proper disposal of all waste materials, including wastes generated by the implementation of BMPs.

The following BMPs shall be implemented to prevent storm water pollution: (add appropriate BMPs from Section 3 here).

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⁴ Based on language in *Modifications to the Standard Specifications for Public Works Construction*, 1994, City of Oakland, *Pollution Prevention Language for Construction Contractors*, 1995, City of Palo Alto, and *Supplemental General Provisions*, 1994, City of Sunnyvale.

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Attachment 3 WORK PLAN BMPS AND CONTROL MEASURES

This section contains the list of Model Best Management Practices to be used as guidance for compliance in the implementation of the performance standard. Each Co-permittee will adopt specific BMPs applicable to their agencies in order to implement the Performance Standards. For consistency, each co-permittee should maintain the entire list of Model BMPs. Co-permittees may agree to implement the Model BMPs or propose modifications or alternatives to those that apply as long as justification of why the modifications are effective in reducing pollutants in storm water to the maximum extent practicable and in eliminating illicit discharges is provided. If a group of BMPs does not apply, Co-permittees should provide an explanation as to why they are not applicable under their jurisdiction. This will be documented in the Co-permittees URMP.

Some of the BMPs in this document can also be found in the previously adopted Santa Clara Valley Urban Runoff Pollution Prevention Program's Model BMPs for Public Streets, Roads and Highway Operation and Maintenance. Those portions of Sections II. Street/Road/Highway Repair and Maintenance and V. Median and Road Embankment Maintenance, of the Public Streets, Roads, and Highways Operation and Maintenance Model BMPs that address the prevention of road-related erosion are restated in this document. In addition, the report entitled "Effects of County Land Use Policies and Management Practices on Anadromous Salmonids and their Habitats" prepared for the FishNet 4C Program was reviewed in development of the BMPs contained within, in order to include BMPs considered effective for protection of fish habitat. For further information and guidance on the implementation of the BMPs recommended, co-permittees should consult the references listed below.

References for Model BMPs

California Regional Water Quality Control Board San Francisco Bay Region, 1999. *Erosion and Sediment Control Field Manual, Third Edition.*

Camp Dresser and McKee, December 2000. *Alameda Countywide Clean Water Program Unpaved Road BMP Guide.*

Camp Dresser & McKee, et. al., 1993. *California Storm Water Best Management Practice Handbook (Municipal).* Prepared for the State Stormwater Quality Task Force.

County of San Mateo Department of Public Works, 2001. *Endangered Species and Watershed Protection Program, Volume 1: Maintenance Standards.*

Fifield, Jerald, 2002, *Field Manual on Sediment and Erosion Control Best Management Practices for Contractors and Inspectors*, Forester Press, publisher

Keith Guenther, Wildland Solutions, PO Box 710 Brewster, WA 98812. *Low Maintenance Roads for Ranch, Fire and Utilities Access Wildland Solutions Field Guide Series*

Harris, Richard R., Susan D. Kocher, and Kallie Marie Kull, January 2001. *Effects of County Land Use Policies and Management Practices on Anadromous Salmonids and their Habitats: Sonoma, Marin, San Mateo, Santa Cruz and Monterey Counties, California.*

Santa Clara Valley Nonpoint Source Pollution Control Program, 1994. *Best Management Practices for the Construction Industry* (7 tri-fold brochures)

Weaver, William E. and Danny K Hagans, Pacific Watershed Associates, *Handbook for Forest and Ranch Roads: A guide for planning, designing, constructing, reconstructing, maintaining and closing wildland roads*, June 1994.

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Attachment 3, continued
MODEL BMPs

a) Management and/or Removal of Large Woody Debris and Live Vegetation from Stream Channels

1. Do not remove or physically alter any large woody debris in any body of water except under the following emergency conditions:
 - A. Material backing up flows at a bridge or culvert during a storm may be modified to halt damage or flooding.
 - B. Large woody debris/log jams on public property that are damaging or immediately threatening the integrity of roads, bridges, other public facilities or private developments during high flows may be modified to reduce or halt damage and direct flow toward a more desirable path.
 - C. Logs and debris shall only be removed from streams as a “last resort” (i.e. failure to remove them will most likely cause the loss of an essential facility or in order to maintain channel capacity).
 - D. Non-emergency debris maintenance will only be undertaken after the appropriate permits have been obtained.
2. Crews should take precautions when modifying log or debris jams in order to prevent damage downstream. “Cut and plug” practices should be avoided, when possible.
3. Emergency modifications and/or removal shall be limited to materials higher than approximately 2’ above the streambed (i.e. above knee height) to preserve some instream habitat features unless the log or debris jam is immediately upstream of a culvert or bridge, or if permit conditions require otherwise. Secure root wads should be left in place, when possible.
4. Reusable large woody debris such as root balls and sizeable logs shall be transported, when logistically feasible to a storage facility. These materials can be used at a later date for erosion repair, mitigation projects or ground up to be used as ground cover. Trees, logs and/or stumps shall be left in the longest lengths/diameters practicable for removal and hauling. When uprooted trees must be cut, leave at least 8’ of trunk attached to the root ball. All other logs should be left at least 12’ long (to stockpile for future use).

b) Streambank Stabilization Projects

1. When areas adjacent to water bodies wash or slip out resulting in a reduction of the width of the traveled way, Co-permittees shall consider responding by:
 - A. Temporary one-way traffic controls
 - B. Temporary closure of the road if adequate alternate route(s) exist
 - C. Rerouting road into cut slope (This is acceptable if the impacts to the slope and road are minimal, if the additional cut is within the existing right of way or if written approval can be obtained from the owner of the property impacted by the cut slope.)
 - D. Emergency stabilization using large wood materials (root wads, log cribbing, etc.)
 - E. Placement of asphalt concrete or cutback berms to divert runoff away from the damaged area.
2. Potential impacts to upstream and downstream banks, structures and facilities should be identified before performing maintenance.
3. Slide debris shall not be sidecast. Reuse of slide debris shall be allowed for use in berms if the debris are free of organic materials and if the reuse is approved by a licensed engineer.
4. Notify proper regulatory agencies (e.g., Santa Clara Valley Water District, California Department of Fish and Game, and Regional Water Quality Control Board) about material that has naturally fallen into a watercourse due to a substantial slide.
5. In the case of an unexpected slide, use temporary erosion prevention and sediment control measures, such as sediment basins, silt fences, hay bales, erosion control mats, blankets or wattles, if necessary, to protect the slope until repairs have been completed. (Hay bales should not be used as filters alone)
6. Denuded slopes shall be revegetated. Perform hand seeding and/or hydroseeding and watering to allow germination of the seed prior to the first rains. Erosion control mats and mulching are necessary in the first wet season following revegetation.
7. Slide debris shall be removed to the nearest suitable area for temporary storage and shall be enclosed or contained after the emergency to prevent erosion. Slide debris removed by maintenance crews should not be allowed to erode into any water body. Slide debris shall be removed to the nearest permanent, stable storage or recycling location at the earliest opportunity, or may be used as backfill in permanent repair projects, except where such material is prohibited from use, as described in item 3 above.
8. Whenever possible, brush and garbage shall be sorted and stored separately from soils.
9. Rip rap shall only be used on stream banks for emergency stabilization of roads that have no alternate access, where one or more of the following conditions apply:
 - A. Rip rap previously existed, and is to be replaced in the same quantity and location and is immediately reported to agencies specified in Section d) Environmental Permitting for Rural Public Works Activities.

- B. Rip rap is to be placed only below the ordinary high water line to halt scour at the toe of a slope or bank supporting a public road, and is immediately reported.
- C. Large wood materials (root wads, logs, etc.) are not available or are not considered to be effective.

- 10. Rip rap may be used to protect bridge support structures (abutments, embankments, etc.) that are actively being undermined and are at imminent risk of failure.
- 11. Wherever possible, key trenches shall be dug prior to placing rip rap.
- 12. Rip rap may be used for non-emergency stabilization only after applicable permits have been obtained. Proposals for non-emergency rip rap use shall include mitigation and avoidance measures such as incorporating large woody debris, revegetation, etc. into the bank stabilization.
- 13. Monitor finished streambanks to ensure stability and vegetative growth. Consult original design engineer as necessary for adjustments and modifications.

c) Road Construction, Maintenance, and Repairs in Rural Areas to Prevent and Control Road-Related Erosion

Note: This section is applicable to work performed on all “rural roads”, paved and unpaved, as defined in the Definition Section on page 4.

- 1. From the previously adopted Public Streets, Roads and Highways Operation and Maintenance Performance Standards, the following apply:

A. Road Construction/Maintenance

1. General Road Construction/Maintenance Practices

- a. Schedule construction and maintenance activities for dry weather. Minimize the exposed area and the duration of exposure. Stabilize disturbed areas as quickly as possible.
- b. Protect downslope drainage courses, streams, and storm drains with wattles, sand bags, earth dikes, or temporary drainage swales to divert or trap and filter runoff.
- c. Stockpile materials away from streets, gutter areas, storm drain inlets or watercourses. During wet weather, prevent transport of materials in runoff. Possible methods include covering stockpiles and excavated soil with secured tarps or plastic sheeting, or surrounding stockpiles and excavated soils with berms.
- d. Prevent excess material from entering streets or storm drain inlets. Designate an area for clean up and properly dispose of excess materials
- e. Use only as much water as necessary for dust control, to avoid runoff.

- f. If it rains unexpectedly, take appropriate action to prevent pollution of storm water runoff. (e.g., divert runoff around work areas)
 - g. When designing roads for construction, consider incorporating ditches, berms, dikes and swales in order to intercept runoff from surfaces and convey it to stabilized watercourses, drainage pipes, or channels.
 - h. During construction, inspect and maintain all BMPs daily to ensure that they are working properly and to ensure that problems are corrected as soon as they develop.
 - i. Road drainage systems and stream crossings should be maintained by annual and storm period inspections to prevent small problems from growing into large failures.
 - j. Consider replacement of stream crossing structure, when ongoing maintenance does not mitigate any associated problems. See Section e. Road Planning and Design BMPs for specific design considerations.
2. Asphalt/Concrete Removal
- a. After breaking up old pavement, sweep up materials thoroughly to avoid contact with rainfall and storm water runoff. Recycle as much material as possible, and properly dispose of non-recyclable materials.
 - b. During saw cutting and grinding operations, use as little water as possible. Block or place berms around nearby storm drain inlets, in drainage channel (if no inlet is nearby), or around work area (when bordering watercourse) using sand bags or an equivalent appropriate barrier, or absorbent materials such as Wet Vac, pads, pillows and socks to contain slurry. If slurry enters the storm drain system, remove material immediately.
 - c. Remove saw-cut slurry (e.g., with a shovel or vacuum, or sweep up when dry) as soon as possible.
3. Concrete Installation and Repair
- a. Avoid mixing excess amounts of fresh concrete or cement mortar on-site.
 - b. Wash out concrete transit mixers only in designated washout areas where the water will flow into drums or settling ponds or onto dirt or stockpiles of aggregate base or sand. Pump water from settling ponds to the sanitary sewer, where allowed. Whenever possible, recycle washout by pumping back into mixers for reuse. Never dispose of washout into the street, storm drains, drainage ditches, or creeks.
 - c. Whenever possible, return leftover materials in the mixer barrel to the yard for recycling. Dispose of small amounts of excess concrete, grout, and mortar in the trash.
4. Patching, Resurfacing, and Surface Sealing

- a. Sweep up as much material as possible and dispose of properly. Only wash down streets if runoff is controlled or contained.

5. Traffic Detector Loop Installation and Repair

- a. Protect nearby storm drain inlets prior to cutting or flushing slot for traffic detector loops. Block or berm around nearby storm drain inlets using sand bags or an equivalent barrier, or use absorbent materials such as pads, pillows and socks to contain slurry.
- b. Clean up residues by sweeping up as much material as possible, and dispose of material properly.

B. Road Embankment and Median Maintenance

1. Erosion Prevention and Sediment Controls

- a. Maintain vegetative cover on medians and road embankments to prevent soil erosion, trap pollutants and slow the rate of storm water runoff. Plant and/or retain native vegetation as much as possible. Adjust mowing heights to allow substantial stubble. Leave clippings in place or apply mulch as additional cover.
- b. Use measures that break the slopes to reduce the problems associated with concentrated flow volumes and runoff velocities.
- c. Avoid moving large quantities of earth, except where regrading is necessary to repair or reconfigure an embankment. Disking may be used to manage vegetation on slopes less than 20%. It shall be performed parallel to the contour to prevent rills and gullies from forming during rain events. Disking shall not be performed in areas that support endangered species such as ground burrowing owls, harvest mice, beetles, etc.
- d. Inspect drainage facilities, including cross drains, on a regular basis to ensure that sufficient drainage is provided during storm periods, so that runoff diverted onto slopes does not cause erosion. Report and remediate any observed erosion problems as soon as possible.
- e. Ensure that erosion prevention and sediment control is provided for storm drain outfalls.

2. Vegetation Controls

- a. Manual and Mechanical Vegetation Removal
 - i. Preserve existing vegetation to the maximum extent practicable within the riparian corridor in order to provide erosion prevention and sediment control, watershed protection, habitat protection, landscape beautification, dust control, pollution control and shade cover. Existing vegetation may

be modified if restoring the riparian corridor with native vegetation species.

- ii. Keep removed vegetation, including clippings, chips, and pruning debris, away from storm drain inlets and watercourses.
- iii. When loading or chipping brush into a parked truck, do not leave leaves, twigs, chips, or other debris in the gutter or shoulder.
- iv. When working on a slope, avoid loosening soil that could erode into drainage systems. Loosen only the amount of soil needed to remove the vegetation.
- v. Avoid loosening soil or removing vegetation when rain is expected.
- vi. Avoid using mechanical machinery on slopes greater than 30% whenever possible.
- vii. Minimize the use of heavy equipment on saturated soils.

2. Maintenance Activities Unique to Unpaved Rural Roads

- A. Perform regular inspection to determine if grading is needed to maintain smooth drivable surfaces that are adequately sloped to drain water from the surface without creating erosion problems. Choose appropriate grading, crowning, inslope or outslope, and drainage for road sections.
- B. Consider using additional road surface drainage such as rolling dips, water bars, water bars/breaks or open-top culverts, to safely remove runoff that consistently builds up on the road surface or inside ditch.
- C. Monitor for soft spots or areas of poor subsurface drainage in subgrade. Fill and re-compact holes in subgrade. Provide subsurface drainage if needed.
- D. Monitor and re-grade rolling dips if needed.
- E. Clean ditch and re-build berm for water bars, as needed.
- F. Monitor open-top culverts after storms and clean as needed.
- G. Monitor for potholes, washboarding, and areas of poor surface drainage on gravel surface roads. Re-slope, smooth, and compact where necessary.
- H. Water, fertilize, re-seed and mow vegetative surface treatments when necessary.
- I. Re-apply mulches and fabric surface treatments as needed.
- J. Monitor fords after storms. Repair as needed. See Section C.1.A.1.j for replacement options when ongoing maintenance does not mitigate associated problems.

d) Environmental Permitting for Rural Public Works Activities

1. Permits or written exemptions are required for work involving any of the following:
 - A. Discharge or placement of any structure or within the banks of the stream or channel (including rip rap, concrete or asphalt, and woody material)
 - B. Dredging, removal or modification of any structure, fill, sediment, large woody debris or vegetation within the banks of the stream or channel

- C. Any work that potentially alters the habitat of any endangered species (including streams, tributaries, lakes, ponds, certain ditches, beaches, wetlands, marshes, banks, and riparian areas, and upland areas).
2. The jurisdictions of the various agencies that must be contacted in response to work performed in areas identified in item 1 above are as follows:
 - A. Regional Water Quality Control Board
 1. Certification under Section 401 of the Clean Water Act is required whenever project activities require a Federal permit (such as an Army Corps of Engineers nationwide permit or individual permit issued under Section 404 of the Clean Water Act) for a discharge to waters of the U.S. Discharges may include landfill, rip rap slope protection, bridge piers, outfall structures, etc.
 2. Waste Discharge Requirements (WDR's) are required for all proposed discharges above and below ordinary high water, that may impact beneficial uses of Waters of the State. For some discharges, it is possible to obtain waiver of WDR. "Fill", and thus structures, are considered discharges.
 - B. U.S. Army Corps of Engineers
 1. Certification under Section 404 of the Clean Water Act is required for discharges of dredge or fill material into waters of the U.S.
 2. Certification under Section 10 of the Rivers and Harbors Act is required for structures or work affecting navigable waters of the U.S.
 - C. California Department of Fish and Game
 1. Section 1600 Streambed Alteration Agreements are required for work in any riparian corridor, even if no actual work is performed in the stream channel.
 - D. Santa Clara Valley Water District
 1. Encroachment permits are required for any work within 50 feet of a watercourse in Santa Clara County, or for work that will result in the discharge of water to a watercourse.⁵
 - E. Bay Conservation and Development Commission (BCDC)
 1. Approval is required for all work in or within 100 feet of the San Francisco Bay.
 2. Permits or written exemptions shall be obtained prior to performing planned work such as culvert replacements, slide repairs, bank stabilization, etc. Maintenance

⁵ The District's Ordinance 83-2 is being revised and an increase in the width of the corridor within which encroachment permits are required is being considered.

supervisors shall keep in their possession copies of permits for work being performed under their supervision.

3. Emergency conditions may require that work be performed prior to obtaining written permits or exemptions. Maintenance managers and/or supervisors shall complete report forms for emergency work involving any of the elements described in a-c above. Forms shall document that emergency work was performed in response to valid conditions and should be submitted to the proper regulatory agencies. The Co-permittee is subject to enforcement action by one or more of the environmental agencies if work performed is found to be unnecessary. Forms shall be forwarded to the appropriate internal authority at the earliest opportunity and not more than three working days after completion of work.

e) Road Planning and Design BMPs⁶

1. General

- A. Road junctions on steep slopes should be located far upslope from watercourses to protect against erosion.
- B. Where feasible, replace fords that have maintenance problems with an overpass stream crossing.

2. When designing road drainage, the Co-permittee will consider the following:

- A. Outslope roads to minimize flows in the inside ditch and reduce the potential for erosion and sediment delivery to the next culvert.
- B. Insloped roads should be constructed where road surface drainage discharged over the fill slope would cause unacceptable erosion or discharge directly into stream channels, where fill slopes are unstable or where outsloping would create unsafe conditions for use.
- C. Insloped roads should be built with an inside drainage ditch to collect and remove road surface runoff.
- D. Inside ditches should be drained at intervals sufficient to prevent ditch erosion or outlet gullyng, and at locations where water and sediment can be filtered before entering a watercourse (filtering accomplished by thick vegetation, gentle slopes, settling basins, or filter windthrows of woody debris and mulches placed and secured on the slope).
- E. Ditch relief culverts should be designed and installed at intervals along the road that are close enough to prevent erosion of the ditch, gullyng or sliding of the slope below the culvert outlet of a cross-drain, direct transport of sediment along

⁶ Language in Section e) is based on recommendations in Weaver, William E. and Danny K Hagans, Pacific Watershed Associates, *Handbook for Forest and Ranch Roads: A guide for planning, designing, constructing, reconstructing, maintaining and closing wildland roads*, June 1994. See reference for more details.

an inside ditch to a watercourse, and loss of capacity of culvert cross-drains due to filling with sediment.

- F. Ditches should not discharge directly into the inlet of a watercourse crossing culvert, and ditch relief culverts should not discharge into a watercourse without first directing flow through an adequate filter strip when possible.
- G. Where possible, replacement culverts should have a grade at least 2% greater than the ditch, which feeds it to prevent sediment build-up and blockage. Where possible, ditch relief culverts should be installed at the gradient of the original ground slope so that the outlet of the culvert will emerge on the ground surface beyond the base of the fill. (if not, fill below the culvert should be armored by rocks, or the culvert should be fitted with an anchored downspout to carry erosive flow past the base of the fill)⁷

⁷ Depending upon site conditions, culvert grades may deviate from this recommendation upon the professional opinion of the project engineer.

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Performance Standard and Supporting Documents for Rural Public Works Maintenance and Support Activities

Attachment 4 STANDARD OPERATING PROCEDURES

This section should contain the co-permittee's standard operating procedures (SOPs) for implementation of the performance standard.

Description of Rural Public Works Maintenance Program

- Which departments will be performing the various components of rural public works maintenance and support activities and what is the chain of command?
- How will contractors be instructed to conduct rural public works maintenance and support activities with regards to water quality?
- Who is responsible for maintaining the BMPs implemented?
- Where will maintenance staff store and dispose of wastes from rural public works activities?
- How is mechanical equipment to be stored and operated?
- Annual training on the use of appropriate BMPs will be provided to maintenance staff.
- How will technical assistance needs be met?
- How will permit requirements for work to be performed be coordinated amongst the differing agencies?
- What outreach materials will be provided for contractors, developers and staff on BMPs and permitting requirements?
- How will activities performed under emergency conditions be documented and who will they be submitted to?
- Which specific agencies and/or persons should be notified when emergency stabilization of roads is needed?