La Cholla Boulevard
Ruthrauff Road to River Road

Stormwater Pollution Prevention Plan

August 2009

Pima County Department of Transportation

Project No. 4LCITR

HDR

2008 Construction General Permit SWPPP Guidance Checklist

This optional checklist is provided to assist owners and operators in preparing their AZPDES Stormwater Pollution Prevention Plan (SWPPP) to meet the requirements of Arizona's 2008 Construction General Permit (AZG2008-001). The "Descriptions" provided below do not necessarily reflect the exact wording used in the permit; rather these are stated in simplified language to provide additional guidance. (Note if any inadvertent conflict exists between this document and the permit, the permit language prevails). The "Permit Citation" column shows you where each particular requirement is found in the 2008 CGP. Use the "Location" column to note the page where the requirement is addressed in your SWPPP. Please leave the "For ADEQ Use Only" column blank. Using this SWPPP checklist will help you ensure that all the permit requirements are addressed in your SWPPP and will also assist the Department in conducting a more efficient review of your SWPPP if it is required to be submitted.

Please note that your SWPPP does not have to follow the format of this checklist; the purpose of this checklist is only to ensure that your SWPPP contains all required components. While this checklist is intended for use in preparing your initial SWPPP, your SWPPP is a "living" document and it is important that it be updated to document changes in your project, best management practices (BMPs), Inspections, and other pertinent information.

Permit Citation	Description	Location in SWPPP & Notes	For ADEQ Use Only
	OPERATOR RESPONSIBILITIES		
Part III.A.2.d	Identify who is responsible for on-site SWPPP implementation	Section 1.2	
Part III.B.2.a.	Indicate or show the areas of the project where the operator has control over project specifications, including the ability to make changes in specifications	Appendix B	
Part III.B.2.a	Provide name(s) of the person(s) who have day-to-day control over construction plans and specifications	Section 1.2	
Part III.B.2.b	Identify who is responsible for installing, implementing, and maintaining the BMPs in the plan	Section 1.2	
Part III.B.2.b	Identify or show the areas of the project where each operator has control over day-to-day activities	Section 1.2	
Part III.B.2.b	Provide name(s) of the person(s) having control over project specifications, including the ability to make changes in specifications	Section 1.2	
Part III.C.1	Provide the name and contact information for all operators and indicate the areas of the project each operator controls	Section 1.2	
	PROJECT DESCRIPTION		
Part III.A.2.a	Identify all potential sources of pollutants/pollution from construction activities that could possibly contact stormwater	Section 1.9	
Part III.C.2.	Describe the construction activity (what is being built, what is being disturbed, how long it is expected to take, etc.)	Section 1.1	
Part III.C.2.a	Describe the project and what it will be used for when completed (after Notice of Termination (NOT) is filed)	Section 1.1	

Permit Citation	Description	Location in SWPPP & Notes	For ADEQ Use Only
Part III.C.2.b	Describe the planned phasing or sequencing of land disturbance activities. The amount of open/disturbed dirt left open at one time should be minimized where possible	Section 2.2	
Part III.C.2.c	Indicate the **total** acres of the site and number of acres that will be **disturbed** (include off-site borrow and fill area, staging and equipment storage areas)	Section 1.6	
Part III.C.2.d	Indicate the percentage of the site that is impervious (e.g., paved, roofed, etc.) **before** and **after** construction	Section 1.6	
Part III C.2.e	Describe the soil (e.g., sand, clay, etc.) at the site and its potential for erosion (Suggestion: reference the Soil Survey covering the project site prepared by the U.S. Department of Agriculture, Natural Resource Conservation Service for soil information http://soils.usda.gov/survey/)	Section 1.5	
Part III.C.2.f	Include a map showing the project location (e.g. U.S.G.S. quadrangle, portion of a city or county map). The map must also show any washes or other waterbodies within 1 mile of the site	Appendix A	
Part III.C.4	Identify the nearest receiving water(s). A receiving water is a natural watercourse into which stormwater would flow in a storm event and includes dry washes, streams, tributaries, and other waters of the U.S. (such as designated canals). Man-made structures such as retention basins, storm sewer systems, or city storm drains are not receiving waters.	Section 1.7	
Part III.C.4	Identify the areal extent where soils may be disturbed and show any wetlands near the site that could receive dirt or run-off from the construction activity	Appendix B	
Part III.C.6	Describe any pollutant sources from areas other than dirt moving (e.g., dedicated concrete and asphalt plants, fueling operations, material or waste storage etc. that are associated with the construction project). Identify where these sources are or will occur on site	Section 1.9	
	SITE MAP (note multiple maps may be used) All the following are to be shown on the site map or maps		
Part III.C.3.	Include a site map completed to scale	Appendix B	
Part III.C.3.a.	Use arrows to show the direction(s) where stormwater will flow for all areas within the project limits (This is for the period during construction, not final contours. Flow direction may change as project grading progresses; when this occurs, maps are to be updated.)	Appendix B	
Part III.C.3.b.	Show areas of soil disturbance **and** areas that will not be disturbed	Appendix B	
Part III.C.3.c.	Show all structural BMPs identified in the SWPPP	Appendix B	
Part III.C.3.d.	Show locations where stabilization BMPs are expected to occur	Appendix B Landscape Plans	
Part III.C.3.e.	Show locations of on-site material storage, waste storage or receptacles, borrow areas, equipment storage or other supporting activities	Appendix B	

Permit Citation	Description	Location in SWPPP & Notes	For ADEQ Use Only
Part III.C.3.f.	Identify any water bodies (including dry washes and wetlands) on the site. If there are no water bodies, indicate this on the map	Appendix B	
Part III.C.3.g.	Show locations where stormwater discharges to surface water (including wetlands, ephemeral waters and dry washes) and to municipal storm sewer systems (MS4s) (use an "X" to indicate discharge location(s)). Where surface waters and/or MS4s receiving stormwater do not fit on the map, use arrows to show the direction and indicate the approximate distance to the surface water and/or MS4	Appendix B	
Part III.C.3.h.	Show the location and registration number of all onsite dry-wells and dry-wells located on adjacent properties that could receive stormwater from the site (if none exist, indicate that)	Appendix B	
Part III.C.3.i.	Identify any areas of the site where final stabilization has been achieved	Construction Plans Landscape Plans	
Part III.C.3.j	Specify existing vegetated areas (trees, brush, etc.) and boundaries of environmentally sensitive areas and buffer zones that are to be preserved	Native Plant Preservation Plans	
	BMP (Best Management Practices) REQUIREMENTS		
Part III.A.2.b, III.C.5.a, and IV.A.1	Identify BMPs selected for the site and describe how each will reduce pollutants in stormwater	Section 2	
Part III.C.5.b	Describe how BMPs will be added, modified, or replaced for each phase or sequence of construction activities. Also, identify which operator is responsible for the implementation of BMPs	Section 2.2	
Part III.C.5.c	Provide drawings and/or specifications of structural BMPs that include design or installation details	Appendix B	
Part IV.B.1.a	Describe where natural/existing vegetation will be preserved. Locations of trees and boundaries of environmentally sensitive areas and buffer zones to be preserved are also to be on the SWPPP site map	Native Plant Preservation Plans	
Part IV.B.1.b	If using seed to revegetate, provide the mixture and application specifications. (These may be obtained from product provider)	Landscape Plans Special Provisions	
Part IV.B.1.c	If culverts are present on-site, describe measures that will be used to minimize erosion at and around the culvert(s)	Appendix B	
Part IV.B.1.d	Describe how off site stormwater that may run onto the project site will be diverted or otherwise managed with on-site engineering controls, containment, or BMPs	Section 2.3	
Part IV.B.3.a.	Identify how records of dates when major grading activities occur will be kept	Appendix N	
Part IV.B.3.b.	Identify how records of when construction activities temporarily or permanently cease on all portions of the site will be kept	Appendix N	
Part IV.B.3.c.	Identify how records of when stabilization measures are initiated and completed and reason(s) for delay will be kept	Appendix N	

Permit Citation	Description	Location in SWPPP & Notes	For ADEQ Use Only
Part IV.C.3	Provide sizing criteria and show calculations for sediment basin(s) and indicate whether basin(s) will be temporary or permanent (i.e., post-construction)	Section 2.8	
Part IV.C.3	Provide reason(s) or rationale why a sediment basin was determined to **not** be possible at the project site (If applicable)	Section 2.8	
Part IV.D.3.	Describe the location(s) and how materials will be stored or staged both on-site and offsite; including overburden, soil stockpiles, and borrow areas	Section 3.1	
Part IV.E.2.	Identify and provide the location(s) of all non-stormwater discharges allowed by this permit expected to be associated with the project and describe BMPs used to minimize discharge of pollutants	Section 3.8	
Part VI.B.1	Describe measures for preventing and responding to spills, including spill notification requirements	Section 3.2, 3.6	
	POST-CONSTRUCTION CONTROLS		
Part IV.F.1.	Identify post-construction stormwater BMPs (e.g., porous pavement, open space preservation, etc.) that will be installed as part of this project. Note: temporary BMPs (e.g., straw waddles, etc.) must be removed prior to submitting your Notice of Termination	Construction Plans Landscape Plans	
	INSPECTIONS		
Part IV.H.1	Identify the minimum inspection frequency as well as goals for more frequent inspections	Section 5	
Part IV.H.2.	Provide name, title, and qualifications of person(s) who will be conducting inspections	Section 1.2	
Part IV.H.3.a	Describe how inspection of the following items will be conducted:		
	Good housekeeping BMPs (e.g., solid waste storage and pickup; chemical storage, use, and cleanup; fueling; etc.)	Section 5, 3	
	Erosion and sediment control BMPs	Section 5, 2.3-2.5	
	Construction site entrance and egress location(s) including looking for evidence of sediment, debris, and other pollutants tacked offsite onto paved surfaces (e.g., streets, sidewalks, parking lots, etc)	Section 5, 2.9	
	Municipal storm sewer systems, including streets, inlets, etc. which can be observed at ground level. Should focus on discharge (and potential for discharge) and accumulation of sediment, trash, and other pollutants	Section 5	
	Observation and assessment of accessible discharge locations to determine if erosion control BMPs are adequate and effective in reducing discharge of sediments	Section 5	
	For discharge points that are inaccessible, inspection of downstream locations should occur, where practicable	Section 5	
Part IV.H.3.b	Describe how inspections will be documented (note: inspection reports must be added to the SWPPP in chronological order, Permit Part IV.H.4)	Appendix E	
Part IV.H.3.c	Describe procedures for repairing, replacing, and/or supplementing nonfunctional and underperforming BMPs (see Permit Part IV.I.2)	Section 5	

Permit Citation	Description	Location in SWPPP & Notes	For ADEQ Use Only
	INSPECTION REPORT		
Part IV.H.4	Provide a copy of the inspection report form to be used to document site inspections. At a minimum, the report form must include the following information (note, an example form is provided in the permit and may be used to satisfy this permit requirement):	Appendix E	
	Date of inspection	Appendix E	
	Name and title of person(s) conducting the inspection	Appendix E	
	Information about weather conditions since the last inspection, including: best estimate of the beginning and end of each rain event; time elapsed since last rain event; and approximate amount of rainfall for each event (in inches)	Appendix E	
	Locations where sediment and other pollutants are or were discharged from the site	Appendix E	
	For inspections conducted while stormwater can be observed discharging from the site, provide a description of the physical characteristics (e.g., presence of suspended sediment, turbid water, discoloration, oil sheen, etc.)	Appendix E	
	Location and identification of BMPs in that need to be maintained, failed to operate, or proved inadequate	Appendix E	
	Location(s) where additional BMPs are needed that did not exist at the time of inspection	Appendix E	
	Identification of all sources of non-stormwater and the associated pollution prevention control BMPs	Appendix E	
	Identification of material storage areas and evidence of or potential for pollutant discharge from such areas	Appendix E	
	Corrective actions required, including any changes to SWPPP necessary, and implementation dates (of corrective actions/maintenance, and SWPPP changes)	Appendix E	
	Identification of any non-compliance with the conditions of this permit, or where the inspector does not identify any incidents of non-compliance, the inspection report shall contain a certification that the construction project or site is being operated in compliance with the SWPPP and permit	Appendix E	
	Certification statement and signature for inspection report in agreement with Part VIII.J.	Appendix E	
	MONITORING PLAN - (if applicable)		
Part III.C.6	If discharging to an impaired water, identify sources of pollutants of concern listed on the 303(d) list that may be potentially discharged through construction site activities and soil disturbances. If these exist, describe added or better BMPs to minimize discharges of these pollutants	N/A	
Part V.B.1	For projects located within ¼-mile of a unique or impaired water, your SWPPP must include a Monitoring Plan that (at a minimum) contains the following information	N/A	
	Specific location(s) at the site where visual and analytical monitoring activities will be conducted	N/A	

Permit Citation	Description	Location in SWPPP & Notes	For ADEQ Use Only
	The name(s) and titles of the person(s) who will perform the monitoring	N/A	
	Map showing the segments or portions of the receiving water (stream, lake, etc.) that are most likely to be impacted by the discharge of pollutant(s)	N/A	
	Water quality parameters/pollutants to be sampled	N/A	
	The citation and description of the sampling protocols to be used (should include Standard Operation Procedure for sample collection, preservation, etc.)	N/A	
Part V.B.1, continued	Identify analytical methods and related method detection limits (if applicable) for each parameter to be monitored	N/A	
	Identify any special pollutants of concern based on the most recent 305(b)/303(d) listing or other information available	N/A	
	Describe the potential sources of this pollutant from the project, if any (including disturbances of soil containing this pollutant)	N/A	
Part V.D.3	If the unique or impaired water is a lake, your monitoring plan (including monitoring locations) must be submitted to and approved by the Department	N/A	
Part V.D.5	Chain-of-custody (COC) forms including: sampler's name, phone number, date and time of sample collection, sample identification, requested analysis, and project name or number	N/A	
	ADMINISTRATIVE		
Part III.A.3 Part VIII.J.2	Ensure the SWPPP is signed by a person meeting the certification requirements of Permit Part VIII.J	Section 8	
Part III.D.1	Include a copy of AZPDES permit (AZG2008-001) with the SWPPP	Appendix C	
Part III.D.2	Include a copy of the completed NOI form that was submitted to ADEQ	Appendix D	
Part III.D.3	Include a copy of the authorization certificate received from ADEQ	Appendix D	
Part III.D.4	Identify any city or county which received a copy of the authorization certificate	Appendix D	
Part III.D.5	Include copies of other agreements with any state, local or federal agencies that would affect the provisions or implementation of the SWPPP, **if** applicable (404 permits, local grading permits, etc.)	Appendix L	

Stormwater Pollution Prevention Plan

for:

La Cholla Boulevard
Ruthrauff Road to River Road
Tucson, AZ

Operator(s):

Pima County Department of Transportation
Priscilla Cornelio, P.E.
201 N. Stone Ave., 4th Floor
Tucson, AZ 85701
Main: 520-740-6410
Fax: 520-838-7537

SWPPP Contact(s):

PCDOT – Field Engineering
Thomas Kilargis
1313 S. Mission Rd.
Tucson, AZ 85713
Main: 520-740-2635
Fax: 520-243-2915

SWPPP Preparation Date:

August 21, 2009

Estimated Project Dates:

Project Start Date: October 2009
Project Completion Date: January 2011

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Appendix P – Inspector Qualifications
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SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Project/Site Information

Project/Site Name: La Cholla Boulevard
Project Street/Location: La Cholla Boulevard, Ruthrauff Road to River Road
City: Tucson State: AZ ZIP Code: 85705
County or Similar Subdivision: PIMA

Provide brief description of project area:

La Cholla Blvd. is an existing two-lane rural roadway within 150 feet of right-of-way.

Latitude/Longitude (Use **one** of three possible formats, and delete others)

Latitude:	Longitude:
32 ° 17’ 59” N	-111 ° 00’ 43” W

Method for determining latitude/longitude:
☐ USGS topographic map (specify scale: _____) ☐ EPA Web site
☐ Other (please specify): ☐ GPS

Is the project located in Indian country? ☐ Yes ☒ No
If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."_____
N/A

Is this project considered a federal facility? ☐ Yes ☒ No

Owner AZPDES permit tracking number:_____

Operator AZPDES permit tracking number:_____

This SWPPP has been prepared in accordance with the ADEQ Arizona Pollutant Discharge Elimination System (AZPDES) General Permit No. AZG2008-001 (General Permit)

Proposed Use After Construction:

The completed project will be a six-lane arterial roadway with curbs, median, and sidewalks used for pedestrian, bicycle, and vehicular transportation. A new bridge will be designed to convey the 100-year flow.

1.2 Contact Information/Responsible Parties

General Contractor/Operator(s): TBD

Insert Company or Organization Name:
Insert Name:
Insert Address:
Insert City, State, Zip Code:
Insert Telephone Number:
Insert Fax/Email:

Contractor has control over day-to-day operations. Contractor implements and maintains the best management practices (BMPs) specified in Sections 2, 3, 4 and 7, conducts inspections (Section 5) and maintains records (Section 6).

Project Owner:

Pima County Department of Transportation
Priscilla Cornelio, Director
201 N. Stone Ave., 4th Floor
Tucson, AZ, 85701
Phone: (520) 740-6410
Fax: (520) 838-7537

DOT Field Engineering is responsible for general oversight, and has operational control over construction plans and specifications and work within the Right-of-way and easements.

SWPPP Contact(s):

PCDOT – Field Engineering
Thomas Kilargis, Field Engineering Division Manager
1313 S. Mission Rd.
Tucson, AZ 86713
Insert Telephone Number: (520) 740-2635
Fax: (520) 243-2915

This SWPPP was Prepared by:

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1.3 General SWPPP Responsibilities

This SWPPP will be implemented prior to the commencement of soil disturbing activities associated with new construction. All conditions of the General Permit will be complied with. A copy of the General Permit is included in this SWPPP (Appendix C). The SWPPP shall be kept at the construction site at all times during construction and is considered a document to be made available upon request by representatives of USEPA or ADEQ. If the project falls within the geographic boundaries of the City of Tucson's, Pima County's, or Town of Marana's Municipal Separate Storm Sewer System (MS4), then the respective agencies of those municipalities may also inspect the site and SWPPP.

This SWPPP shall be amended if any or all of the following occur: (1) There is a change in construction or operations which may affect the quality of the storm water runoff. (2) It is in violation of, or does not meet any condition of the AZPDES General Permit. (3) At the request of USEPA, ADEQ or other applicable agency (with concurrence from USEPA or ADEQ).

Amendments to the SWPPP, as described above, shall occur within 15 business days.

This SWPPP, together with all inspection and maintenance reports and data records for the construction activity shall be retained at the construction site during all phases of construction. SWPPP will be located in the Field Office once construction is complete.

1.4 Nature and Sequence of Construction Activity

Describe the general scope of the work for the project, major phases of construction, etc:

The project involves the reconstruction of La Cholla Boulevard from Ruthrauff Road to River Road from a two-lane roadway into a six-lane arterial street. Drainage improvements will include a new six-lane bridge over the Rillito River and a storm sewer system consisting of catch basins and pipe culverts.

What is the function of the construction activity?

☐ Residential ☐ Commercial ☐ Industrial ☒ Road Construction ☐ Linear Utility
☐ Other (please specify):

Estimated Project Start Date: October 19, 2009

Estimated Project Completion Date: July 21, 2011

1.5 Soils, Slopes, Vegetation, and Current Drainage Patterns

Soil type(s):

According to the United States Department of Agriculture Natural Resources Conservation Service's (USDA-NRCS) website (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvet.aspx), the main soil within the Study Area are mapped as follows:

- Arizo-gravelly sand loam complex, 0 to 1% slope (approximately 3% of project area)
- Comoro loam, 0 to 1% slope (approximately 4% of project area)
- Grabe loam, 0 to 1% slope (approximately 49% of project area)
- Riverwash, 0 to 3% slope (approximately 9% of project area)
- Vinton sandy loam, 0 to 1% slope (approximately 17% of project area)

Slopes (describe current slopes and note any changes due to grading or fill activities):

The watershed consists of gently sloping profiles with gradients of less than 1%. In general, the proposed road will be higher than the existing road, except at locations matching the existing ground and at Ruthrauff Rd. The proposed cut slopes will be 4:1, and fill slopes will range from 4:1 to 6:1. These side slopes will be generally steeper than the existing side slopes.

Drainage Patterns (describe current drainage patterns and note any changes due to grading or fill activities):

On La Cholla Blvd., pavement runoff south of the Rillito River generally flows north towards the river, while runoff north of the river flows south towards the river. The proposed roadway will not change these general drainage patterns.

Vegetation:

Biotic Community – The predominant vegetative community is paloverde-cacti-mixed scrub series within the Arizona Upland Subdivision (Brown 1994). Disturbed upland occurs along the entire project corridor with minimal vegetation remaining. Native and nonnative weedy species have recolonized previously graded areas near the Rillito River Bridge.

Dominant species – The paloverde-cacti-mixed scrib sercies is dominated by foothills paloverde *(Parkinsonia microphylla)*. Cacti are represented by *Carnegiea gigantea* (saguaro). Additional common species include: velvet mesquite *(Prosopis velutina)*, blue paloverde *(Parkinsonia floridum)*, catclaw acacia *(Acacia greggii)*, desert willow *(Chilopsis linearis)*.

Groundcover vegetation within the Study Area is approximately 10 percent.

Other:

Based on the hazardous material investigations for this project, no hazardous materials issues having the potential to cause project site contamination are anticipated.

1.6 Construction Site Estimates

The following are estimates of the construction site.

Total project area:	25 acres
Construction site area to be disturbed:	20 acres
Percentage impervious area before construction:	65 %
Runoff coefficient before construction:	0.6
Percentage impervious area after construction:	80 %
Runoff coefficient after construction	0.85

1.7 Receiving Waters

Description of receiving waters:

Rillito River is the receiving water for this project. The Rillito River is a tributary to the Santa Cruz River. Both are ephemeral washes. The Rillito River crosses La Cholla Boulevard at approximately 3000 feet north of Ruthrauff Road.

Description of storm sewer systems:

Two storm sewer systems currently exist along La Cholla Boulevard. An existing 60" storm sewer begins at Ruthrauff Road and discharges into the Rillito River as a 66" storm sewer. An existing 48" storm sewer runs parallel to the previous storm sewer, beginning from Jay Avenue and likewise discharging into the Rillito River as a 66" storm sewer.

Because the existing storm sewer systems cannot carry the entire 50-year flow, two proposed storm sewer systems will be added to carry the remaining flow. The first proposed system runs west of and parallel to the existing systems, starting from Ruthrauff Road and discharging into the Rillito River. The second proposed system runs east of and parallel to the existing storm drains, starting from a catch basin approximately 700 feet north of Jay Avenue and likewise discharging into the Rillito River.

Description/location of drywells in project area:

No drywells are known to be in the project area.

Description of impaired waters or waters subject to TMDLs: N/A See below.

This project is not located within ¼ mile of an Impaired (as listed under section 303(d) of the Clean Water Act) or Unique Water (as listed under AAC R18-11-112).

TMDLs: According to the ADEQ document "Arizona's 2006/2008 Impaired and Not Attaining Waters," TMDLs for the Santa Cruz River have not been developed. TMDL development for the Santa Cruz River will be initiated when stream flow returns after the current drought.

1.8 Site Features and Sensitive Areas to be Protected

Description of unique features that are to be preserved:
The project area hosts five species of Pima County protected native plants. The growing locations of individual specimens of Pima County projected native plants have been identified and each specimen has been assessed for viability and transplantability according to Pima County's Native Plant Protection Ordinance. This information is depicted in the Native Plant Preservation Plans developed for this project. One saguaro exists within the project limits.

Describe measures to protect these features:
Individual specimens of plant species protected under the Pima County Native Plant Protection Ordinance have been identified to remain in place during construction and will be avoided by construction activities, thus minimizing impacts to established vegetation within the project area. Plants to be preserved in place will be fenced prior to ground disturbance. Refer to the Native Plant Preservation Plan for the locations of plants to be preserved in place. Protected native plants that are removed from the project area or destroyed will be mitigated in accordance with the guidelines outlined in the Native Plant Protection Ordinance. One saguaro is located within the project's grading limits. The saguaro will be salvaged and moved to an undisturbed location.

Please refer to the Native Plant Preservation Sheets and Landscaping Plans.

1.9 Potential Sources of Pollution

Potential sources of sediment to stormwater runoff:

Clearing, grubbing, excavating, paving operations, debris disposal, landscaping operations, soil stockpiles, vehicle tracking, trenching, backfill.

Potential pollutants and sources, other than sediment, to stormwater runoff:

Combined staging area, construction activity, concrete washout area, vehicle maintenance areas, fueling locations, waste storage locations, sanitary facilities, material delivery and storage, and polymer slurry.

Trade Name Material	Stormwater Pollutants	Location
Concrete	Limestone, sand, pH, chromium	Curb construction, concrete wash out, sidewalks, walls
Paints	Metal oxides, Stoddard solvent, talc, calcium carbonate, arsenic	Roadway during striping, storage in staging area
Solid Waste	Bacteria, parasites, viruses, debris	Portable toilets, trash bins
Asphalt	Oil, petroleum distillates	Roadway during paving operations
Fuels	Benzene, ethyl benzene, toluene, xylene	Fueling areas
Hydraulic Oils/Fluids	Mineral oil	Vehicle fueling/maintenance area
Antifreeze/coolant	Ethylene glycol, propylene, glycol, heavy metals	Vehicle fueling/maintenance area
Curing Compounds	Naptha	Curb, sidewalks, walls

1.10 Endangered Species Evaluation

Are endangered or threatened species and critical habitats on or near the project area?

☐ Yes ☒ No

Describe how this determination was made:

Biological Review

Please refer to the Biological Review for this project in Appendix L for the report.

1.11 Historic Preservation

Are there any historic sites on or near the construction site?

☒ Yes ☐ No

Describe how this determination was made:

A Class III Cultural Resources Survey was completed to satisfy the requirements of Section 106 of the National Historic Preservation Act. State Historic Preservation Office concurrence was received in December 2008. The concurrence letter is included in Appendix L.

A Class III Cultural Resources Survey was conducted for the project area. The results are documented in the report entitled *Cultural Resources Assessment of the La Cholla Boulevard-Ruthrauff Road to River Road Project, Pima County, Arizona* prepared by Patricia Cook, Desert Archaeology, Inc., November 2008. See Appendix L. Two previously recorded sites are intersected by the proposed project. Site investigations could not confirm the existence of one of the sites, so no significance determination was made. Subsurface testing did not result in evidence of the site within the project R/W, therefore no effects to this site are anticipated as a result of the project.

The project has the potential to affect subsurface features of another site that has previously been determined eligible for inclusion in the National Register of Historic Places. In addition, there is the potential to expose human remains and other resources. Archaeological monitoring will be conducted for construction activities within 100 feet of the site boundary. (See Appendix L for monitoring and other mitigation requirements.)

1.12 Applicable Federal, Tribal, State or Local Programs

The following soil, erosion control and stormwater management actions are being taken:

- The project requires work within the Rillito River; therefore, a non-notification Section 404 Nationwide Permit 14 for Linear Projects is required. See Appendix L for the conditions of the 404 permit.
- Because the project will disturb more than 1 acre of land, the project will require a CWA Section 402 permit for compliance with the Arizona Pollutant Discharge Elimination System program. Section 402 compliance requires filing a Notice of Intent o use the statewide General Construction permit with the Arizona Department of Environmental Quality (ADEQ), and with the preparation and implementation of this Stormwater Pollution Prevention Plan (SWPPP).
- ADEQ Aquifer Protection Plan Type 1 General Permit must be followed for concrete washouts. No notification is required by the Type 1 General Permit, however best management practices must be followed to reduce or prevent the discharge of pollution. Please see Appendix L for general permit.
- Type 3 APP General Permit for vehicle washing will be required if allowed on site. Please see Appendix L for application.

The following additional permit will be obtained for this project:

- An activity permit related to air quality will be obtained from the Pima County

Department of Environmental Quality before activities such as earthmoving, trenching or road construction are conducted. Please see Appendix L for application.

- NESHAP Notification must be filed with the Pima County Department of Environmental Quality before bridge demolition. Please see Appendix L for application.

1.13 Maps

The Location Map illustrating the project area and a 1-mile vicinity surrounding the site is included as Appendix A. The Location Map illustrates the nearest Receiving Water.

The Site Maps and BMP Details are included as Appendix B.

1.14 Allowable Non-Storm Water Discharges

The following non-regulated, non-storm water discharges (not regulated) are anticipated to occur on site during construction activities:

Non-Storm Water Discharge: Dust Control	
Location of Discharge:	Project wide
Duration of Discharge:	During soil disturbing activities and high winds

Non-Storm Water Discharge: Potable water line flushing	
Location of Discharge:	Project wide
Duration of Discharge:	During testing and flushing

Non-Storm Water Discharge: Soil Compaction	
Location of Discharge:	Project wide
Duration of Discharge:	As needed

Non-Storm Water Discharge: Dewatering Operations	
Location of Discharge:	To be Determined
Duration of Discharge:	

Non-Storm Water Discharge: Pavement Wash Waters	
Location of Discharge:	Project wide
Duration of Discharge:	During washing of the pavement

Although these flows may occur onsite, efforts will be made to control these flows to the maximum extent practicable. Note that the Construction General Permit does not authorize discharges that have been covered or are eligible to be covered under another AZPDES permit.

Superchlorinated waters will not be discharged to drainages before chlorination removed.

SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

Events occur throughout the duration of the construction project that may alter these locations. Therefore, the Site Maps in Appendix B shall be revised/amended by the general contractor when appropriate. All revisions and/or amendments will be dated and attached, as well as logged into Appendix G.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

All construction work will be limited to Pima County right-of way and temporary construction, slope, and drainage easements. All construction limits will be staked and/or flagged by a surveyor. Sensitive areas will be fenced off and plants that are to remain will be flagged. The need to maintain access to adjacent properties will limit use of fencing. Stockpiles will be maintained and protected at the end of every shift and over weekends. Stockpiles will not be placed in paved areas where concentrated stormwater flows.

There is no identified top soil that will be salvaged on this project.

2.2 Phase Construction Activity

For dust control, main line traffic will be maintained on a paved surface at all times and the contractor will be required to have a water truck on the project at all times. Because traffic must be maintained, only about half of the area will be under construction at a time.

Phase 1 – Install logs and wattles BMPs for perimeter control, install good housekeeping, plant salvage, remove existing pavement, scarification.

Phase 2 – Includes all underground work including utilities, cross drainage, and culverts. Place temporary and permanent BMPs for storm drain inlets and culvert outlets.

Phase 3 – Final grading and paving, landscape and revegetation of all disturbed areas that are not paved or covered by decomposed granite.

See Appendix N (Contractors Construction Schedule and Implementation).

2.3 Control Stormwater Flowing onto and through the Project

La Cholla Boulevard does not have major slopes, therefore large amounts of stormwater running onto the project are not anticipated. Sediment logs will be installed around the grate inlets to trap sediment from stormwater flowing onto the project and into the storm drain system.

Stormwater running through the project and exiting along the western boundary of the construction area will be treated with sediment wattles at the base of each fill slope. Stormwater discharging into culvert washes will be treated with downstream sediment logs before travelling further downstream. Culverts will also have rock protection for inlets/outlets at headwalls to prevent erosion from discharging into the wash.

BMP Description: **Sediment Wattle (E4)**	
Installation Schedule:	Initiation of construction/disturbance
Maintenance and Inspection:	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Sediment Log (E1)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater. Logs are temporarily allowed across bottom of channels as a sediment control during the construction of the culverts. Per the SWPPP, once culverts are functional, all logs will be removed from the perpendicular position so as not to impede or obstruct flow. Final placement shall run parallel to wash banks/flow and should be placed in a manner that filters all run-off from project area through logs before entry into drainage.

***BMP Description:* Storm Drain Inlet Protection (SC10)**	
Installation Schedule:	Once installed or as soon as area around existing inlet is disturbed
Maintenance and Inspection:	Remove debris when clogged. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Earth dikes/Drainage Swales and Lined Ditches (SS9)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment from stabilized outlets routinely and before and after rain events. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Rock Protection for Inlets/Outlets (E2)** **Refer to Gradation B in Section 810-2 of the Special Provisions.**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment from stabilized outlets routinely and before and after rain events. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Gravel Bag Berm (SC6)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment from stabilized outlets routinely and before and after rain events. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.

2.4 Stabilize Soils

The operator must initiate stabilization measures on disturbed areas as soon as practicable, but no more than 14 days after construction activity has temporarily or permanently ceased, except where earth disturbing activity will resume within fourteen days from cessation. When vegetative measures are used and it is during seasonally arid conditions, stabilization measures shall be initiated as soon as practicable.

***BMP Description*: Scheduling (SS1)**	
***Installation Schedule*:**	Preconstruction Meeting
***Maintenance and Inspection*:**	Schedule should be updated at monthly update meetings.

***BMP Description*: Preservation of Existing Vegetation (SS2) (Native Plant Preservation Plans)**	
***Installation Schedule*:**	Prior to salvage and clearing and grubbing operations
***Maintenance and Inspection*:**	Ensure protection of existing vegetation conforms to requirements of landscape plans. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Decomposed/Crushed Granite (Landscaping Plans)**	
***Installation Schedule*:**	Stabilization Phase
***Maintenance and Inspection*:**	If washout occurs, reinstall material. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See construction documents for Native Plant Preservation Plans and Landscaping Plans.

2.5 Protect Slopes

On La Cholla Boulevard, stormwater generally flows from east to west. Sediment wattles shall be installed at the base of all fill slopes west of the roadway. The construction area does not have major slopes and will not need further slope protection.

***BMP Description*: Sediment Wattle (E4)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans BMP details and descriptions.

2.6 Protect Storm Drain Inlets

BMP Description: **Storm Drain Inlet Protection (SC10)**	
Installation Schedule:	Once installed or as soon as area around existing inlet is disturbed
Maintenance and Inspection:	Remove debris when clogged. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Curb Inlet Protection** Use ERTEC Curb Inlet Guard at all existing and proposed curb inlets. See Appendix B for detail. Secure with gravelbags as described in Gravel Bag Berm (SC-6).	
Installation Schedule:	Once installed or as soon as area around existing inlet is disturbed
Maintenance and Inspection:	Remove debris when clogged. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.

2.7 Establish Perimeter Controls and Sediment Barriers

The need to maintain access to adjacent properties at all times will limit use of fencing and other perimeter controls. See Section 2.1 on minimizing disturbed area and protect natural features and soil. See Section 2.3 on controlling stormwater flowing onto and through the project.

BMP Description: **Sediment Wattle (E4)**	
Installation Schedule:	Initiation of construction/disturbance
Maintenance and Inspection:	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description**: Sediment Log (E1)**	
Installation Schedule**:**	Initiation of construction/disturbance
Maintenance and Inspection**:**	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Earth dikes/Drainage Swales and Lined Ditches (SS9)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment from stabilized outlets routinely and before and after rain events. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.

2.8 Retain Sediment On-Site

As stated previously, stormwater generally flows from east to west across La Cholla Boulevard. Along the western boundary, sediment wattles shall be installed at the base of fill slopes to prevent sediment from exiting the west side of the construction area. The construction area does not have major slopes and will not need further perimeter control. No sediment traps are needed as no single drainage area contributing to a common location on the site exceeds 10 acres.

***BMP Description:* Street Sweeping (SC7)**	
Installation Schedule:	Street sweeping shall occur weekly, every _____, starting on _____, until the project is temporarily or permanently stabilized.
Maintenance and Inspection:	During hauling activities, if streets are observed to have track-out from unpaved areas, additional sweeping shall be required.

***BMP Description*: Sediment Log (E1)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Sediment Wattle (E4)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment when it reaches 1/3 height of the fiber roll. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Rock Protection for Inlets/Outlets (E2)** **Refer to Gradation B in Section 810-2 of the Special Provisions.**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment from stabilized outlets routinely and before and after rain events. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description*: Earth dikes/Drainage Swales and Lined Ditches (SS9)**	
***Installation Schedule*:**	Initiation of construction/disturbance
***Maintenance and Inspection*:**	Remove accumulated sediment from stabilized outlets routinely and before and after rain events. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.

2.9 Establish Stabilized Construction Exits

This is a roadway project which will be constructed "under traffic." Maintaining traffic and access to adjacent properties will require other means of sediment control. The main line traffic will be maintained on pavement but driveways and side streets will unpaved for periods during construction

***BMP Description:* Stabilized Construction Entrances – heavy equipment (TC1)**	
Installation Schedule:	Construction initiates
Maintenance and Inspection:	Hand sweep and remove sediment when track out occurs. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description:* Stabilized Project Egress/Ingress – vehicle traffic (TC1)** Place gravel beds at ends of the project. Smaller gravel or recycled asphalt may be used.	
Installation Schedule:	When road egress/ingress disturbed
Maintenance and Inspection:	Hand sweep and remove sediment when track out occurs. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Stabilized Construction Roadway (TC2)**	
Installation Schedule:	When road egress/ingress disturbed
Maintenance and Inspection:	Hand sweep and remove sediment when track out occurs. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.

2.10 Additional BMPs

BMP Description: **Wind Erosion Control (WE1)**	
Installation Schedule:	Soil disturbing activities
Maintenance and Inspection:	Daily during hauling activities

SECTION 3: GOOD HOUSEKEEPING BMPS

3.1 Material Handling and Waste Management

See Appendix B for BMP details.

BMP Description: Good housekeeping is a key part of this project and the contractor shall clean up the project site each day. All large trash items will be moved to a county dump as required and smaller item will be placed in a commercial dumpster which is part of the contractor's yard.	
Installation Schedule:	A dumpster will be maintained for the duration of the project. Removal of large items like old pavement and curbs will be on an as needed basis.
Maintenance and Inspection:	The inspector shall check the project site at the end of each working day.
BMP Description: Portable toilets	
Installation Schedule:	Portable toilets will be furnished when the yard is established, which will be done before major construction.
Maintenance and Inspection:	Weekly.
BMP Description: **Stockpile Management**	
Installation Schedule:	Protection for stockpiles will be placed as soon as stockpiles are generated. Sediment control berms and drainage swales shall be constructed at the base of the stockpile. Geotextile/Plastic covers shall be used to protect soil from wind and rain.
Maintenance and Inspection:	Stockpiles will be protected at the end of every construction day and over the weekends.

BMP Description: **Material Delivery and Storage (WM1)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Material Use (WM2)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Stockpile Management (WM3)**	
Use plastic covers according to Caltrans detail.	
Installation Schedule:	Protection for stockpiles will be placed as soon as stockpiles are generated.
Maintenance and Inspection:	Stockpiles will be protected at end of every construction day and over the weekends.

BMP Description: **Solid Waste Management (WM5)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Hazardous Waste Management (WM6)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Contaminated Soil Management (WM7)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Sanitary/Septic Waste Management (WM9)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Liquid Waste Management (WM10)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.

3.2 Establish Proper Building Material Staging Areas

Offsite material storage areas/staging areas used solely for this project and kept on private property shall be addressed by the contractor under their own NOI application and authorization and will include the acreage for the offsite storage/staging areas. The contractor is responsible for all implementation, inspections, documentation, etc. required for the SWPPP. The contractor must provide an approved Temporary Use Permit (Development Services).

BMP Description: **Material Delivery and Storage (WM1)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Material Use (WM2)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Spill Prevention and Control (WM4)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

3.3 Designate Washout Areas

The conditions listed in the ADEQ Aquifer Protection Plan Type 1 General Permit must be followed for Concrete Washouts.

BMP Description: **Concrete Wash Out (WM8) (APP Type 1 Permit)**	
Installation Schedule:	Concrete work initiated
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for SWPPP Plans. See Appendix L for APP Type 1 Permit Conditions.

3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

BMP Description: **Vehicle and Equipment Fueling (NS9)**	
All vehicle and equipment fueling will occur in contractor's yard.	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Vehicle and Equipment Maintenance (NS10)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

3.5 Control Equipment/Vehicle Washing

An ADEQ Aquifer Protection Plan Type 3.03 General Permit must be followed for Vehicle and Equipment Washing. See Appendix L.

Vehicle and equipment washing will not occur on this site but may be part of the construction yard. The construction yard will be the sole responsibility of the contractor and will not be on Pima County right-of-way. The yard will be fenced for security and will be the location for material storage, vehicle maintenance, portable toilets, employee parking, emergency equipment, and field office.

BMP Description: Contractor shall provide a SWPPP addendum for the yard.	
Installation Schedule:	N/A
Maintenance and Inspection:	N/A

3.6 Spill Prevention and Control Plan

A copy of the Contractor's Spill Prevention Plan and a Spill Report Form are included in Appendix M.

In the event of a reportable spill (per 40 CFR, Part 302.4), the operator shall report incident to ADEQ as well any noncompliance which may endanger human health or the environment. The Operator shall notify ADEQ within 24 hours by calling their spill report line at (602) 771-2330 or by toll-free at (800) 234-5677.

A written submission shall also be provided to ADEQ within five days of the time the operator becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

Submissions shall be sent to: Arizona Department of Environmental Quality
1110 W. Washington, 5th Floor (5515B-1)
Phoenix, AZ 85007

The operator shall notify Pima County DOT inspector immediately and complete a Spill Report Form for every incident, regardless if reportable.

BMP Description: **Spill Prevention and Control (WM4)**	
Installation Schedule:	Construction Initiation
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

A copy of the Contractor's Spill Prevention Plan and a Spill Report Form are included in Appendix M.

3.7 Any Additional BMPs

BMP Description: **Water Conservation Practices (NS1)**	
Installation Schedule:	Project Wide
Maintenance and Inspection:	Ensure excessive water use causing erosion and sediment transport does not occur. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description:* Paving and Grinding Operations (NS3)**	
Installation Schedule:	Road demolition and paving operations
Maintenance and Inspection:	Do not allow asphalt products or slurries to enter drainageways. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description:* Potable Water/Irrigation Practices (NS7)**	
Installation Schedule:	Landscape Establishment
Maintenance and Inspection:	Do not allow run-off from irrigation to enter drainageways. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***BMP Description:* Illicit Connection/Illegal Discharge Detection and Reporting (NS6)**	
Installation Schedule:	Project Wide at all times
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for Caltrans BMP details.

3.8 Allowable Non-Stormwater Discharge Management

List each non-stormwater discharge and the measures used to eliminate or reduce them and to prevent them from becoming contaminated:

***Allowable Discharge:* Dust Control**	
***BMP Description:* Wind Erosion Control (WE1)**	
Installation Schedule:	Project Wide
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

***Allowable Discharge:* Potable Water Line Flushing**	
***BMP Description:* Potable Water/Irrigation (NS7)**	
Installation Schedule:	Project Wide – To Be Determined
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

Allowable Discharge: **Soil Compaction**	
BMP Description: **Wind Erosion Control (WE1)**	
Installation Schedule:	Project Wide – To Be Determined
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

Allowable Discharge: **Dewatering**	
BMP Description: **Dewatering Operations (NS2)**	
Installation Schedule:	Project Wide – To Be Determined
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

SECTION 4: SELECTING POST-CONSTRUCTION BMPs

BMP Description: **Outlet Protection/Velocity Dissipation Devices (Drainage Plans)**	
Installation Schedule:	As soon as drainage features installed
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Earth Dikes/Drainage Swales/Lined Ditches (Drainage Plans)**	
Installation Schedule:	To Be Determined
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Rock Riprap (Drainage Plans)**	
Installation Schedule:	As soon as drainage features installed
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

BMP Description: **Wingwalls (Drainage Plans)**	
Installation Schedule:	As soon as drainage features installed
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See Appendix B for ADOT and Caltrans design and installation details.
See construction documents for Drainage Plans.

SECTION 5: INSPECTIONS

5.1 Inspections

1. Inspection Personnel: ***Identify the person(s) who will be responsible for conducting inspections and describe their qualifications:*** *See Appendix P, Inspector Qualifications.*

2. Inspection Schedule and Procedures:

During construction activities, inspections shall occur: At least once every fourteen calendar days, and within twenty-four hours following any storm event which generates greater than 0.50 inches of rainfall.

Inspections shall include all disturbed areas that have not achieved final stabilization, installed control measures, discharge locations, storage yards and locations where vehicles enter and exit the site.

If corrective actions are required, they must be identified in the inspection report and submitted to the Operator. Corrective actions must be taken within 24 hours of the inspection report, and completed as soon as possible and before the next rain event.

Contractor/Operator has 7 calendar days to correct a deficient field condition from the date identified or prior to next rain event, and 15 business days to amend the SWPPP document.

Inspection reports shall be completed by the inspector and kept on file for at least 3 years by PCDOT.

Construction Complete:
In the event that final stabilization is contingent on growth of vegetation, a reduced inspection schedule can be followed upon completion of construction until final stabilization has been achieved. The reduced inspections shall be conducted at least once every 28 days, and anytime rain is predicted (30% chance), and within twenty-four hours of the end of any storm event of 0.50 inches or greater in 24 hours.

Final Stabilization is achieved when uniform ground cover, without large bare areas, reaches a density of 70% of the native background vegetation cover. The background vegetation cover for this project is 10%; therefore, stabilization is reached when cover approaches 7%.
Example: .70 of .30 = .21 = 21% Total Uniform Coverage

See Appendix E for Inspection Forms.

5.2 Delegation of Authority

Duly Authorized Representative(s) or Position(s):

Insert Contractor Information
Insert Name: TBD

Insert Address:
Insert City, State, Zip Code:
Insert Telephone Number:
Insert Fax/Email:

Insert PCDOT Field Engineering or Operations and Maintenance Information
Insert Name: Thomas Kilargis
Insert Position: PCDOT – Field Engineering
Insert Address: 1313 S. Mission Rd.
Insert City, State, Zip Code: Tucson, AZ 85713
Insert Telephone Number: 520-740-2635
Insert Fax/Email: 520-243-2915

Copies of the signed Delegation of Authority form are in Appendix K.

5.3 Corrective Action Log/Maintenance Log

Based on inspection results, the site description and pollution prevention measures shall be revised within this SWPPP if inadequacies are discovered. The inspection and plan review process shall include timely implementation of any changes to the SWPPP. Field changes shall occur within seven calendar days following the inspection. Amendments to the SWPPP shall occur within 15 business days. If existing BMP's need to be modified or if additional BMP's are necessary, implementation shall be completed before the next anticipated storm event. If implementation before the next anticipated storm event is not practical, they shall be implemented as soon as practical.

Corrective Action Log/Maintenance Log in Appendix F.

SECTION 6: RECORDKEEPING AND TRAINING

6.1 Recordkeeping

A copy of this SWPPP, all reports and records required by the AZPDES Permit, and all data used to complete the NOI, shall be retained by the operator for a period of at least three years from the date that the site has been finally stabilized and NOT completed.

A copy of this SWPPP shall be retained at the construction site at all times, from the date of project initiation to the date of final construction. The SWPPP will be located in the Pima County Field Office after stabilization of the site.

Date(s) when major grading activities occur:
See Appendix I.
Date(s) when construction activities temporarily or permanently cease on a portion of the site:
See Appendix I.
Date(s) when an area is either temporarily or permanently stabilized:
See Appendix I.

6.2 Log of Changes to the SWPPP

Disturbed areas and storage areas that are exposed to rainfall or run-on must be inspected for evidence of, or the potential for, pollutants entering site runoff.

Based on inspection results, the site description and pollution prevention measures shall be revised within this SWPPP if inadequacies are discovered. The inspection and plan review process shall include timely implementation of any changes to the SWPPP. These changes to the field conditions shall occur within seven calendar days following the inspection. If existing BMP's need to be modified or if additional BMP's are necessary, implementation shall be completed before the next anticipated storm event. If implementation before the next anticipated storm event is not practical, they shall be implemented as soon as practical. Inspection records are included in Appendix E of this SWPPP. These records shall be retained as part of the SWPPP for at least three years after the date the NOT is filed.

This SWPPP shall be amended whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the plan, or if the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges. Where such an Amendment occurs, the permittee shall update the SWPPP document within 15 business days.

Log of changes and updates to the SWPPP: See Appendix G

6.3 Training

Individual(s) Responsible for Training:
See Appendix J (Training Log).

Contractor Responsible for providing:

- General stormwater and BMP awareness training for staff and subcontractors.
- Detailed training for staff and subcontractors with specific stormwater responsibilities.

SECTION 7: FINAL STABILIZATION

Final Stabilization is achieved when uniform ground cover, without large bare areas, reaches a density of 70% of the native background vegetation cover. The background vegetation cover for this project is 10%; therefore, stabilization is reached when cover approaches 7%.
Example: .70 of .30 = .21 = 21% Total Uniform Coverage

***BMP Description:* Landscaping (Landscape Plans)**	
Installation Schedule:	Landscape Establishment
Maintenance and Inspection:	Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater. If final stabilization is contingent on growth of vegetation, a reduced inspection schedule can be followed: Inspections shall be conducted at least once every 28 days, and anytime rain is predicted (30% chance), and within twenty-four hours of the end of any storm event of 0.50 inches or greater in 24 hours.

***BMP Description*: Decomposed/Crushed Granite/Rock Mulch (Landscape Plans)**	
***Installation Schedule*:**	Stabilization Phase
***Maintenance and Inspection*:**	If washout occurs, reinstall material. Every 14 days and also within 24 hours of the end of each rain event of 0.5 inches or greater.

See construction documents for Landscaping Plans.

SECTION 8: CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Priscilla S. Cornelio, P.E. Title: Director, Pima County DOT

Signature: _____ Date: _____

References:

The following sources can be used to help develop BMPs for this project and cited as references:

- *ADOT Erosion and Pollution Control Manual for Highway Design and Construction, Chapter 5,* ADOT, February 1, 2005 ,
- AZPDES General Permit, Appendix C
- *California Department of Transportation Storm Water Quality Handbooks*, Chapters 3-8, CA Dept. of Transportation, March 2003
- EPA National Menu of BMPs http://www.epa.gov/npdes/stormwater/menuofbmps
- Standard Specifications for Public Improvements, Section 810, City of Tucson/Pima County, 2003 Edition

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – General Location Map

Appendix B – Erosion Control Plans (Site Maps/BMP Details)

Appendix C – Construction General Permit

Appendix D – NOI and Acknowledgement Letter from State

Appendix E – Inspection Reports

Appendix F – Corrective Action Log/Maintenance Log

Appendix G – SWPPP Amendment Log

Appendix H –Contractor/Subcontractor Certifications

Appendix I – Grading and Stabilization Activities Log

Appendix J – Training Log

Appendix K – Delegation of Authority

Appendix L – Additional Information (i.e., Endangered Species and Historic Preservation Documentation, 401/404, APP Type 1)

Appendix M – Contractor's Spill Prevention Plan

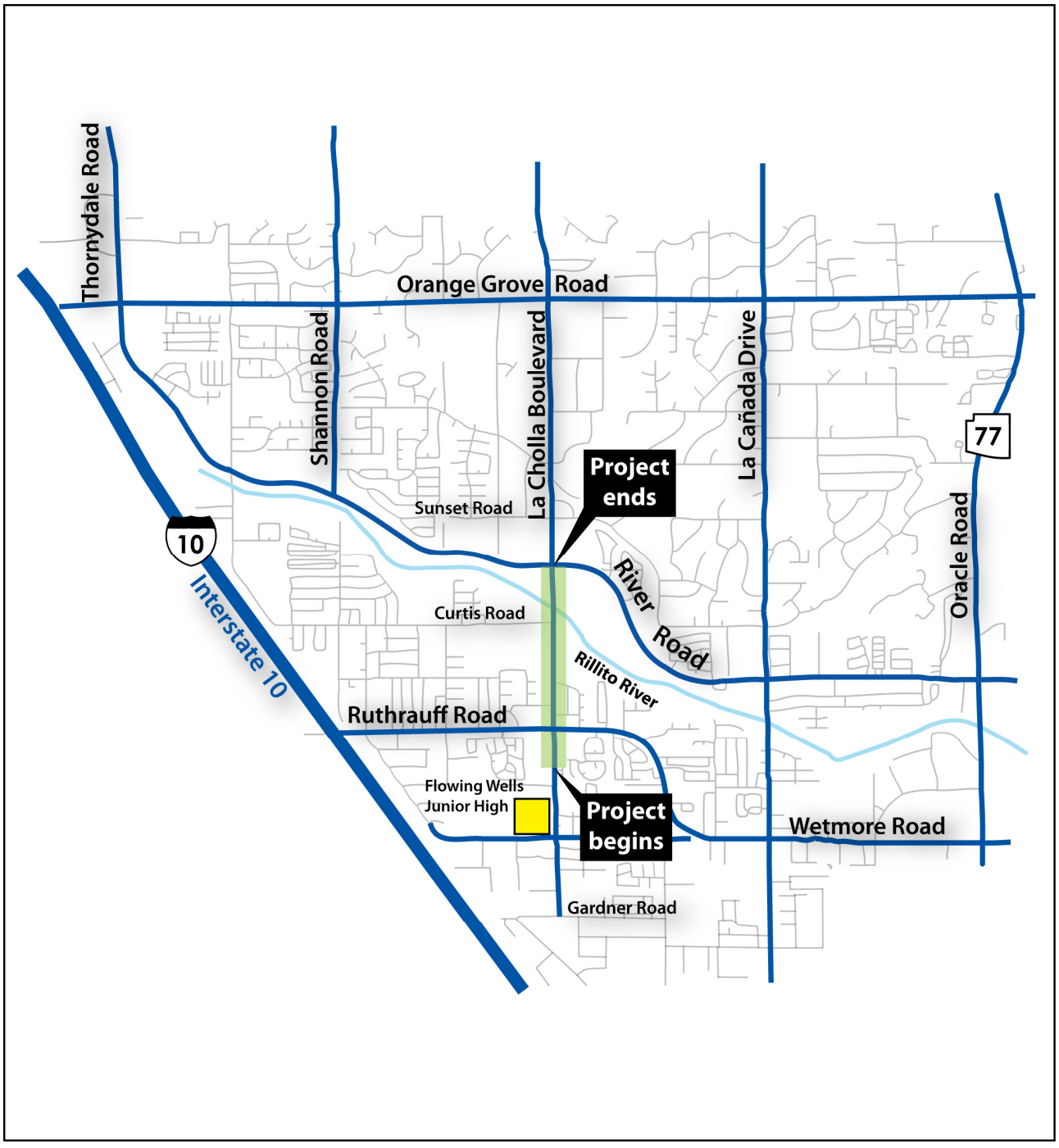
Appendix N – Construction Schedule and Implementation

Appendix O –Field Contacts/ Subcontractor List

Appendix P – Inspector Qualifications

Appendix Q - NOT and Acknowledgement from ADEQ

Appendix A – General Location Map



La Cholla Boulevard: Ruthrauff to River
Figure 2. Vicinity Map

Appendix B – Erosion Control Plans (Site Map and BMPS)

List of BMP Details

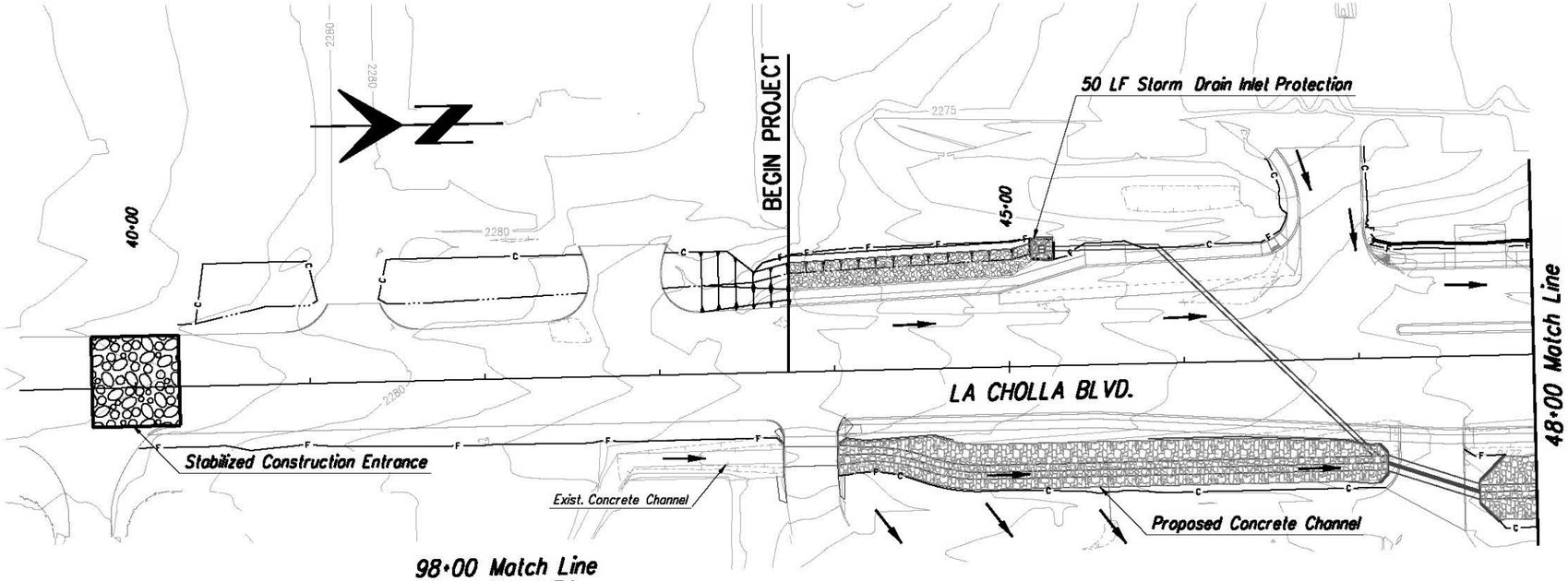
ADOT

- E1 Sediment Log in Ditch/Channel, Sediment Log at Storm Drain
- E2 Rock Protection BMP for Inlets/Outlets
- E4 Sediment Wattle
- E5 Sediment Control Berm

Curb Inlet Guard™

CALTRANS

- SS-1 Scheduling
- SS-2 Preservation of Existing Vegetation
- SS-10 Outlet Protection/Velocity Dissipation Devices
- SC-3 Sediment Trap
- SC-5 Fiber Rolls
- SC-6 Gravel Bag Berm
- SC-7 Street Sweeping and Vacuuming
- SC-10 Storm Drain Inlet Protection
- WE-1 Wind Erosion Control
- TC-1 Stabilized Construction Entrance/Exit
- TC-2 Stabilized Construction Roadway
- NS-1 Water Conservation Practices
- NS-2 Dewatering Operations
- NS-3 Paving and Grinding Operations
- NS-4 Temporary Stream Crossing
- NS-6 Illicit Connection/Illegal Discharge Detection and Reporting
- NS-7 Potable Water/Irrigation
- NS-8 Vehicle and Equipment Cleaning
- NS-10 Vehicle and Equipment Maintenance
- WM-1 Material Delivery and Storage
- WM-2 Material Use
- WM-3 Stockpile Management
- WM-4 Spill Prevention and Control
- WM-5 Solid Waste Management
- WM-6 Hazardous Waste Management
- WM-7 Contaminated Soil Management
- WM-8 Concrete Waste Management
- WM-9 Sanitary/Septic Waste Management



General Notes:

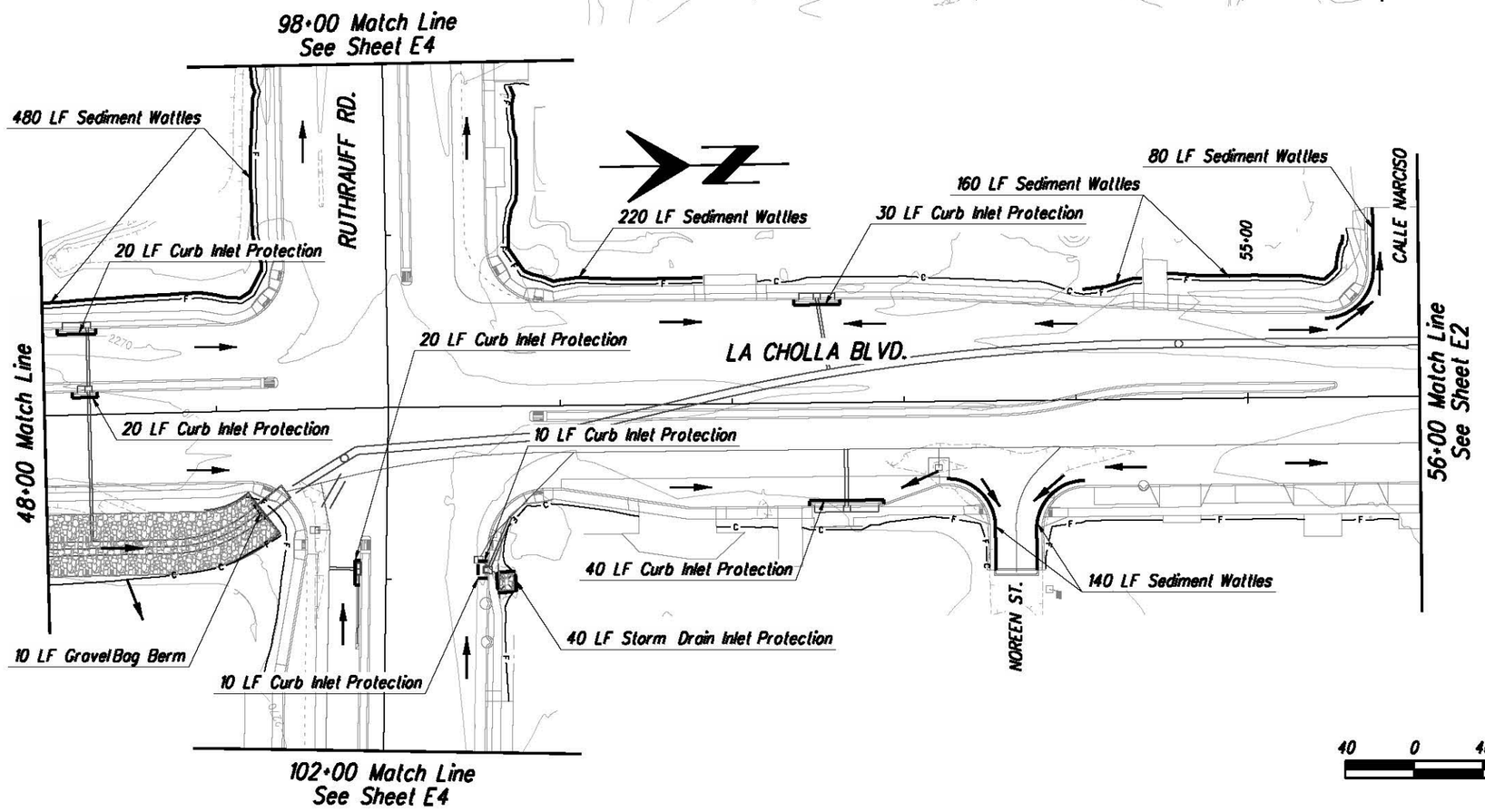
1. See Appendix B for Caltrans and ADOT BMP construction details and descriptions.

2. Use ERTEC Curb Inlet Guard for curb inlet protection BMP.

3. Upon completion of construction, all sediment logs and wattles shall be removed and placed lateral to drainage channels and abutting to end walls. Logs shall serve as filters to waters entering the drainage channel.

4. Refer to Landscape Plans for permanent decomposed granite.

→ Flow Direction



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1-800-782-5348
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Pima County Department of Transportation
Priscilla S. Cornelio, P.E., Director

No.	Revision Description	Engineer	Date

	Designed	Drawn	Checked	Proj. Engr.
Engineer	J. Amos	J. Amos	R. Britain	L. Barela
Date	May/2009	May/2009	June/2009	June/2009

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Tucson, AZ 85711-4459
(520) 584-3500

LA CHOLLA BL VD.
RUTHRAUFF RD. TO RIVER RD.
STORMWATER POLLUTION
PREVENTION PLANS

Scales	Horiz. 1"=40' Vert. 1"=NA	Sheet	E1 of E5	Page	1 of 5

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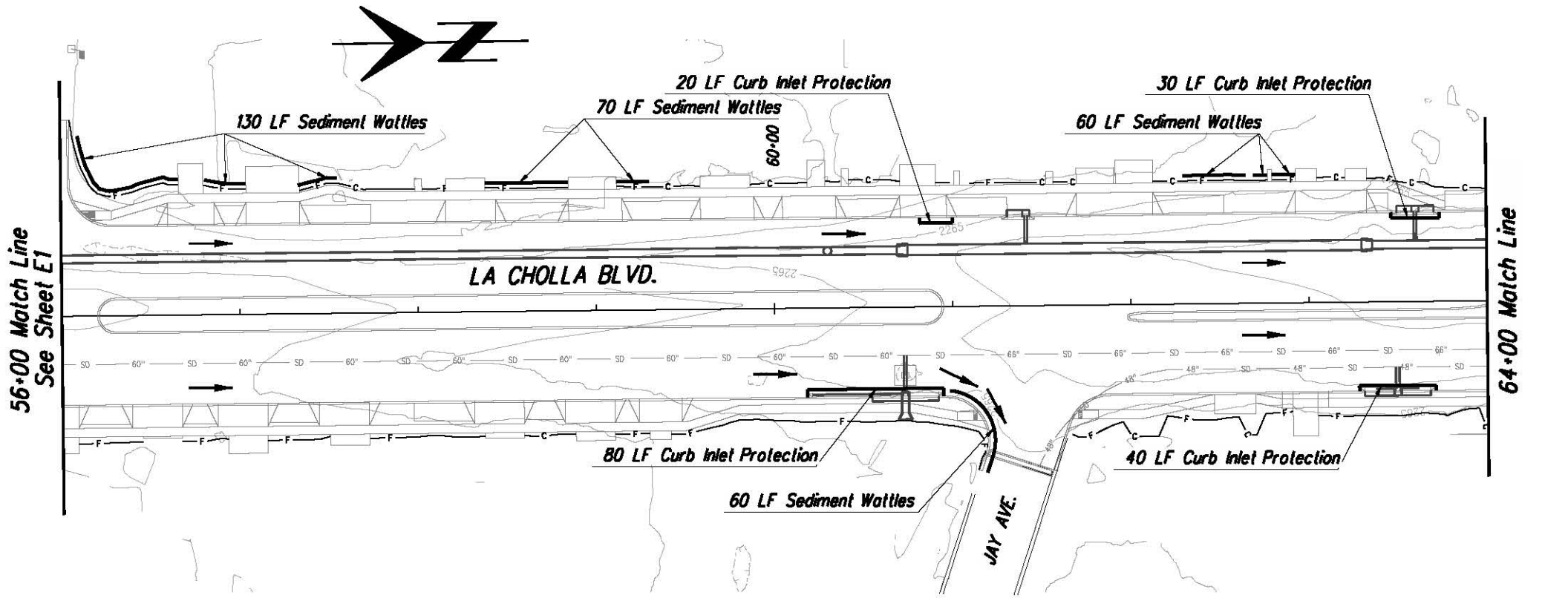

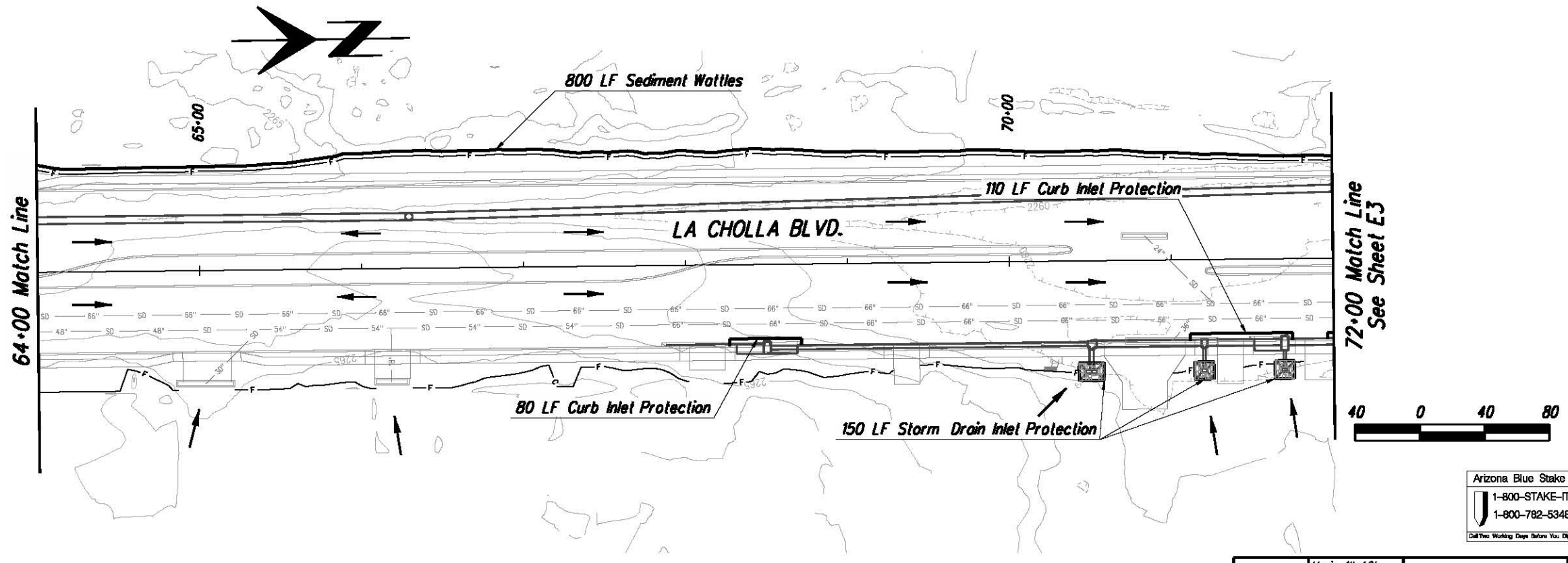

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Designed	J. Amos	May/2009
Drawn	J. Amos	May/2009
Checked	R. Britain	June/2009
Proj. Engr.	L. Barela	June/2009

No.	Revision Description	Engineer	Date

Scales	Horiz. 1"=40'
	Vert. 1"=NA

Sheet E2 of E5

Page 2 of 5

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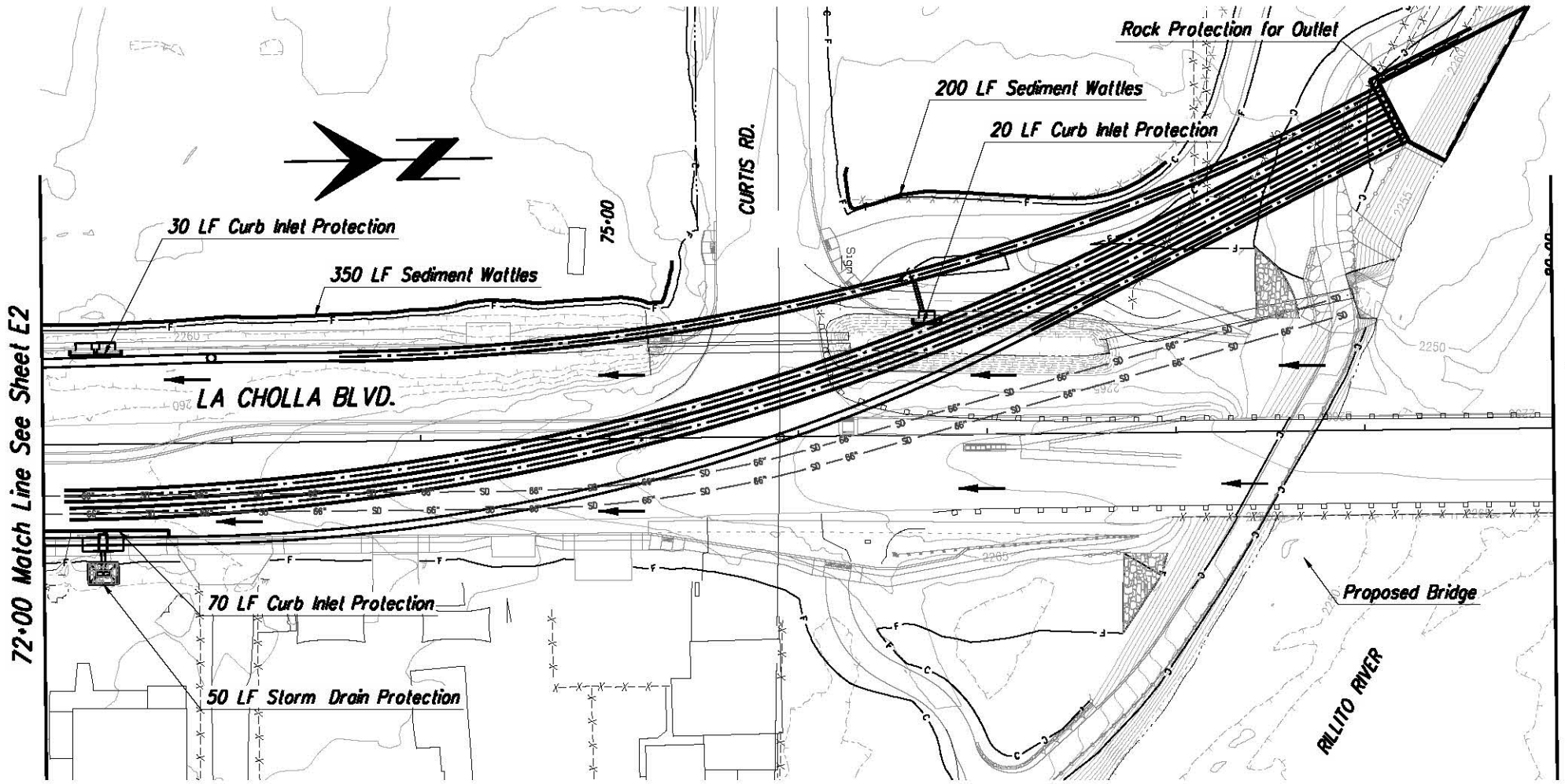

Priscilla S. Cornelio, P.E., Director

No.	Revision Description	Engineer	Date

	Date
Designed	May/2009
Drawn	May/2009
Checked	R. Brittain / June/2009
Proj. Engr.	L. Barreto / June/2009

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Scales	Horiz. 1"=40' / Vert. 1"=NA	Sheet	E3 of E5	Page	3 of 5

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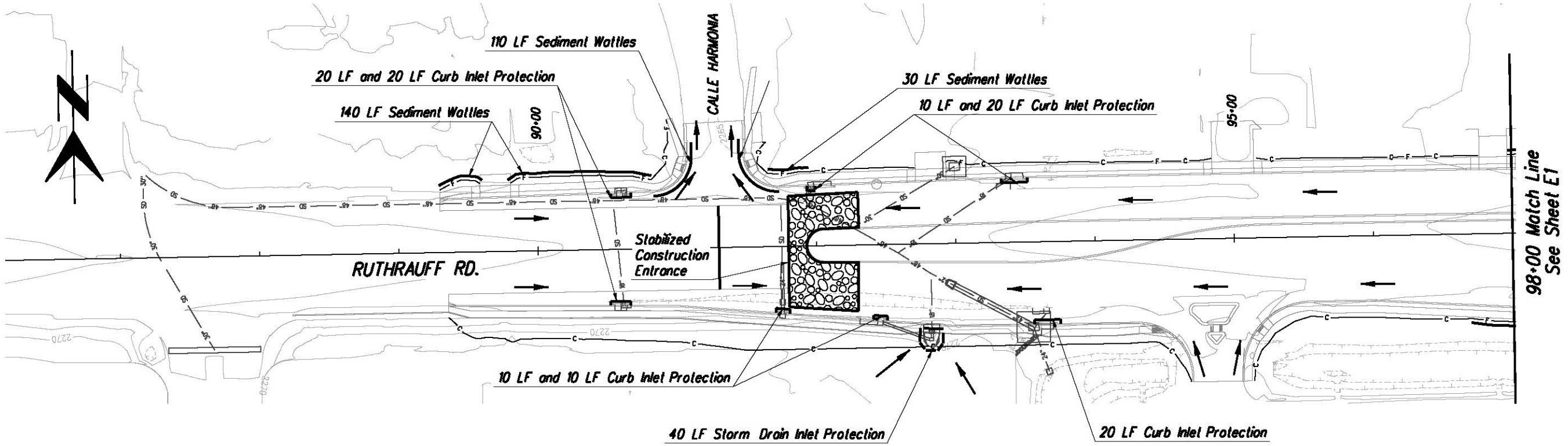

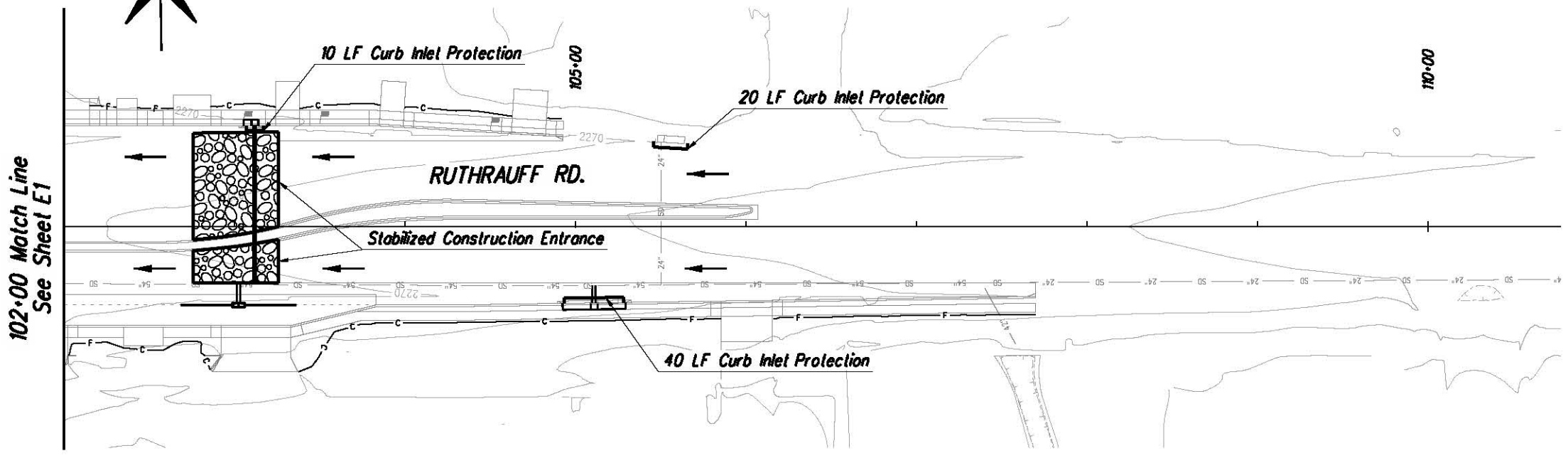

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Priscilla S. Cornelio, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	J. Amos	May/2009
Drawn	J. Amos	May/2009
Checked	R. Brittain	June/2009
Proj. Engr.	L. Barela	June/2009

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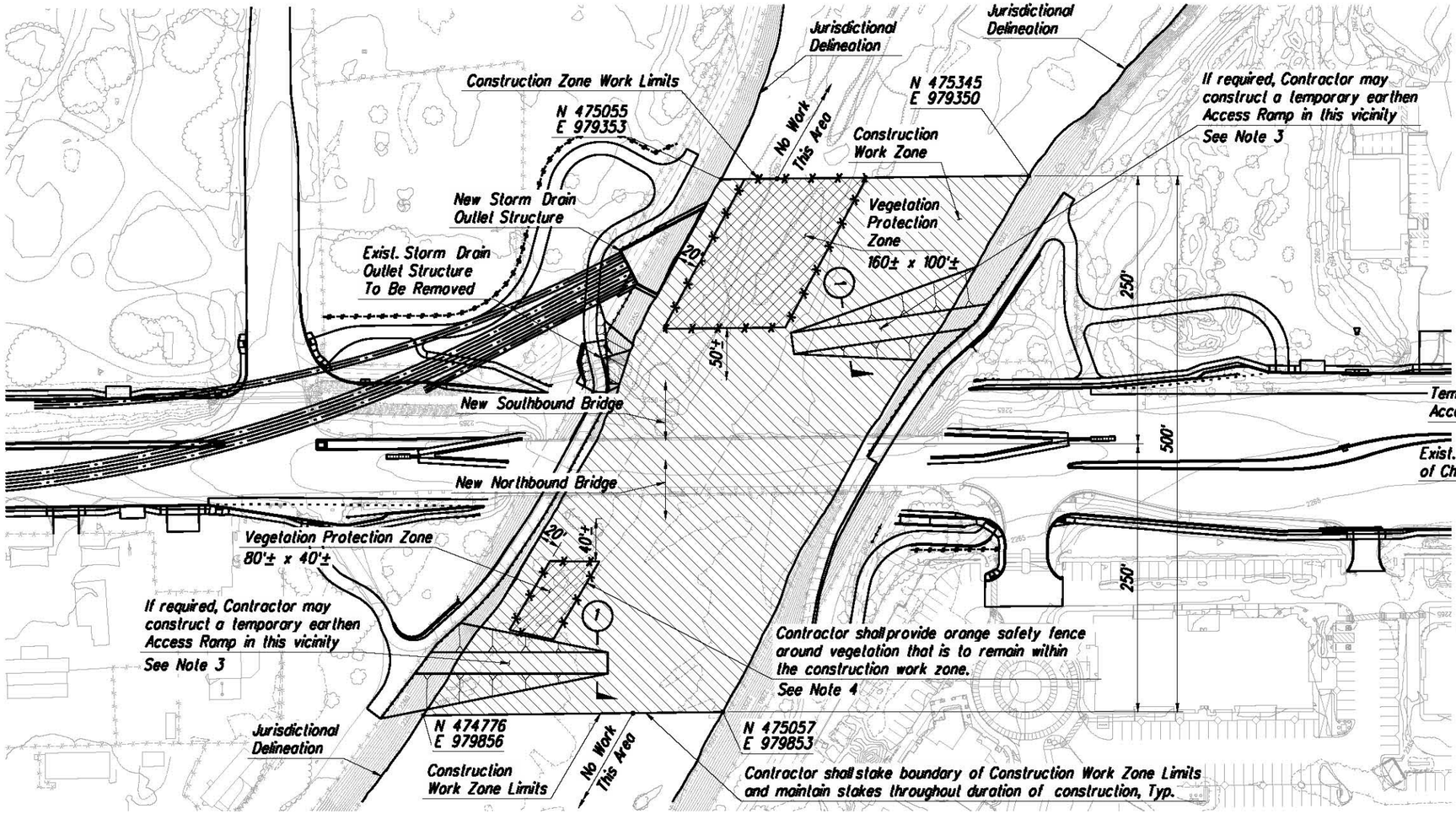
LEGEND

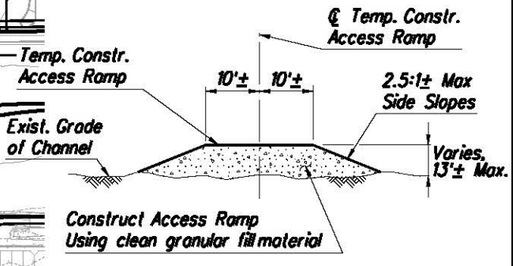
Temporary Work Zone within Jurisdictional Limits
Area = 3.18 Acres
See Note 3

Vegetation Protection Zone
Area = 0.44 Acres Minimum
See Note 4

Notes:

1. No construction activities shall be performed in the Rillito River channel outside the construction work zone limits shown.
2. Contractor shall minimize construction equipment and disturbance within the Rillito River channel as much as practical.
3. Contractor shall submit an access plan to the Engineer for review and approval by the Engineer and PCDOT Environmental Compliance prior to constructing temporary access ramps. The plan shall show the locations where the contractor plans to access the river channel and construction details including the location, orientation, size, length, width, slopes, etc. of the temporary earthen access ramps. The temporary access ramps shown on this plan are conceptual and the contractor may construct them in a different orientation, size, etc. as necessary and as approved in the access plan. Access ramps must be constructed to minimize the amount of fill and the destruction of vegetation.
4. Contractor shall submit a Vegetation Removal Plan to the Engineer for review and approval prior to removing vegetation. The plan shall show the areas where vegetation will be required to be removed in order to construct the bridge and the storm drain outlet structure, and other miscellaneous work. The vegetation that is to remain in the river channel shall be protected with orange safety fencing. At a minimum 0.44 acres of vegetation within the construction work zone limits shall be protected. The vegetation protection limits shown on this plan are conceptual and the contractor may modify the protection zone as required and approved in the Vegetation Removal Plan provided the minimum area of protection is not decreased. The contractor shall also minimize vegetation loss on the top of the banks of the Rillito River. Any vegetation that needs to be removed outside of the river channel to allow access to the temporary access ramps shall be identified in the vegetation removal plan and shall be replaced by the contractor upon completion of construction.
5. Contractor shall not disturb vegetation within the Vegetation Protection Zone without prior approval from the Engineer.
6. All fill used to construct the access ramps shall be removed from the channel upon completion of construction.
7. Contractor shall restore the channel to its preconstruction contours upon completion of construction.
8. All barricade railing that was removed to obtain access to the channel shall be replaced in kind and painted to match existing upon completion of construction. This work is considered incidental to other contract items unless the barricade railing is removed within the sections of railing already depicted to be removed and replaced as part of path reconstruction.
9. All work this sheet, except for orange safety fencing is considered incidental to other contract items. Orange safety fencing will be paid for under Force Account Item No. 701006.





SECTION - TEMP. ACCESS RAMP (1)

DELINEATION OF CONSTRUCTION WORK ZONE AND VEGETATION PROTECTION ZONE

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Priscilla S. Cornelio, P.E., Director

No.	Revision Description	Engineer	Date

	Designed	Drawn	Checked	Proj. Engr.
Date	May/2009	May/2009	June/2009	June/2009
	J. Amos, T. King	R. Britain	L. Barela	

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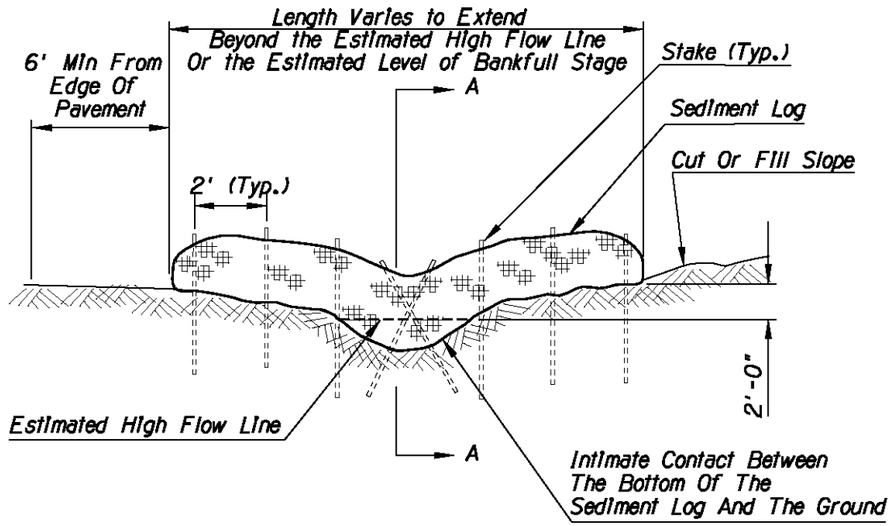
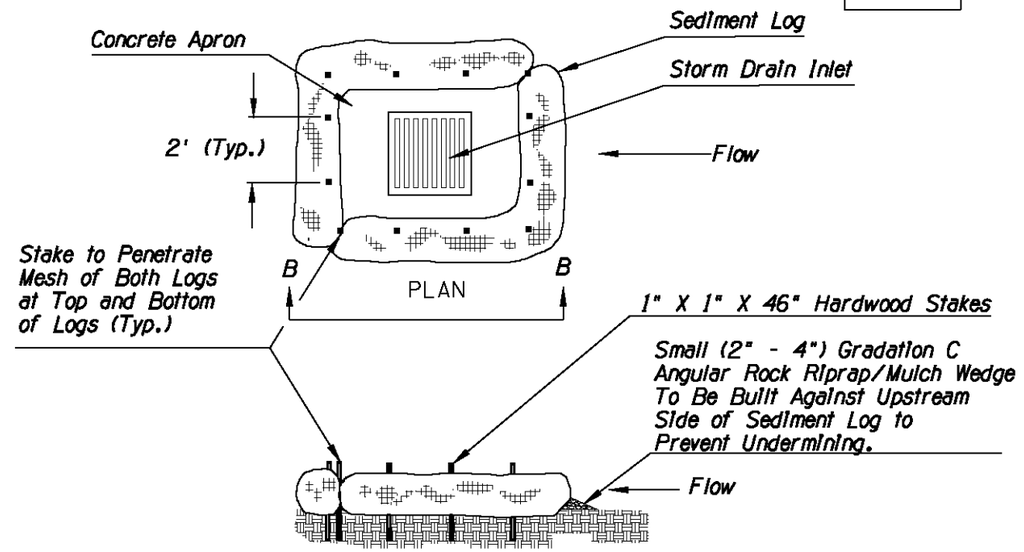
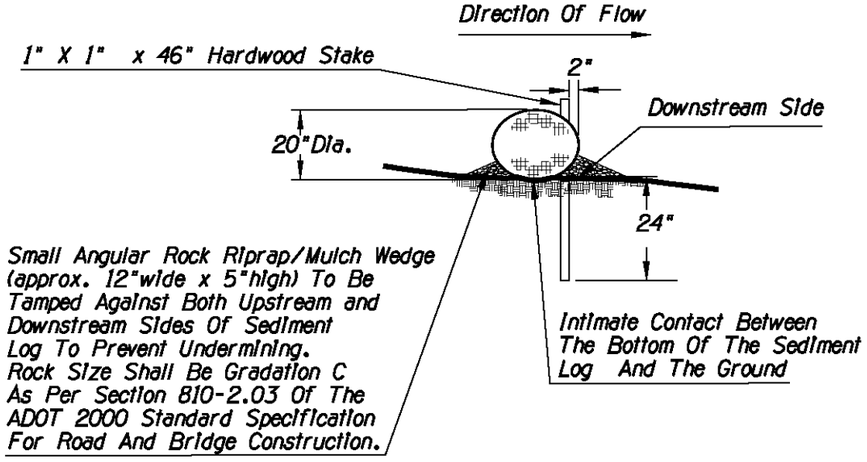


SEDIMENT LOG IN DITCH/CHANNEL
SECTIONAL ELEVATION (NTS)



During Construction

SEDIMENT LOG AT STORM DRAIN
SECTION-ELEVATION B-B (NTS)



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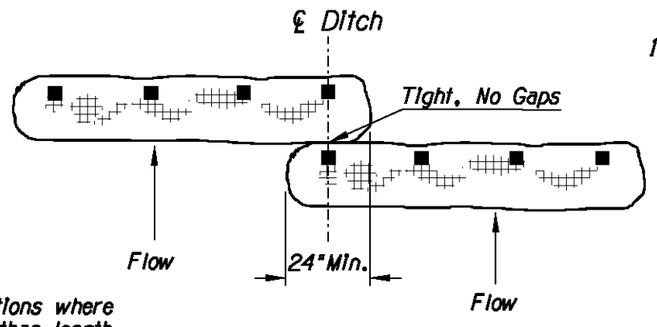

Note:
Overlap applies to situations where ditch/channel is wider than length of single Sediment Log.

TYPICAL OVERLAP
PLAN (NTS)

NOTES:

1. *No Sediment Logs shall be installed in the urban freeway medians, as well as where cable barrier systems are employed.*
2. *Sediment Logs shall be located as indicated in plans SWPPP or as directed by the Engineer.*
3. *Logs shall be selected, installed, and maintained with manufacturers' specifications and good engineering practices.*
4. *Lay sediment log across prepared ditch or channel. Trenching or burial of Sediment Logs is not required. The intimate contact between the bottom of the Log and the ground is mandatory. The Logs shall be installed in the ditch, swale or channel bottom perpendicular to the flow of water as shown on detail this sheet.*
5. *Stake Log as shown. Stakes shall be placed through downstream side only as shown.*
6. *DO NOT drive stakes through center of the log. Stakes must be driven into the ground as shown.*
7. *Ensure that no gaps exist between soil and bottom of Sediment Log. Repair any rills or undercuts promptly.*
8. *In rock conditions the Engineer will evaluate placement of Sediment Logs.*
9. *For ditch slopes that exceed 5%, install rock riprap for channel/ditch lining or rock check dams in place of Sediment Logs.*
10. *Remove Sediment Log and stakes once final stabilization requirements are met.*
11. *Contractor to dispose Sediment Logs and trapped sediment material and to fill shallow trench created by Sediment Log.*
12. *The installation and maintenance of Sediment Log BMPs shall not negatively impact traffic safety, as well as the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Sediment Log BMPs shall be installed and maintained to carry the storm water of at least 2-year, 24-hour events.*
13. *The Sediment Log BMP's pay/bid item shall include all materials used for this BMP, all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.*

DETAIL E1

	NAME	DATE
DESIGN	E LEROY BRADY	10-2007
DESIGN	ZITAO FANG	10-2007
DRAWN	ZITAO FANG	10-2007
CHECKED	E LEROY BRADY	10-2007
TEAM LEADER	E LEROY BRADY	10-2007

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

EROSION/SEDIMENT CONTROL AND WATER QUALITY PROTECTION DETAILS

ROUTE | MP | LOCATION | SHEET OF

TRACS NO. | ___ OF ___

NO.1 DESCRIPTION OF REVISION | DATE | MADE BY

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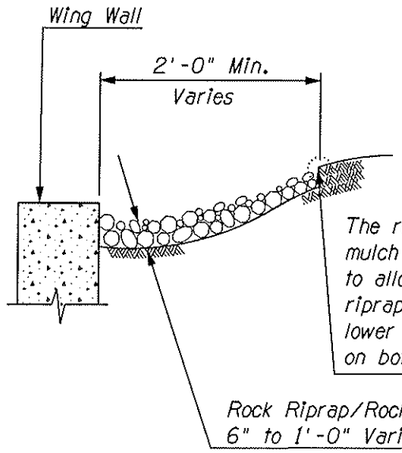
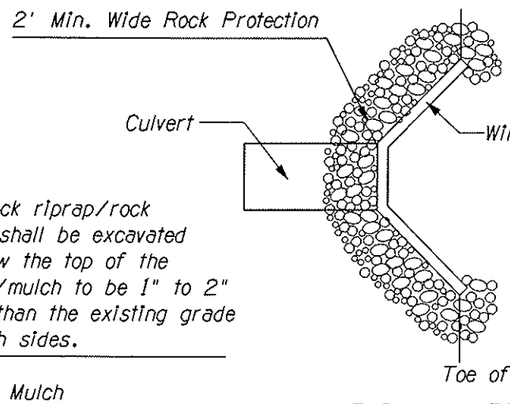
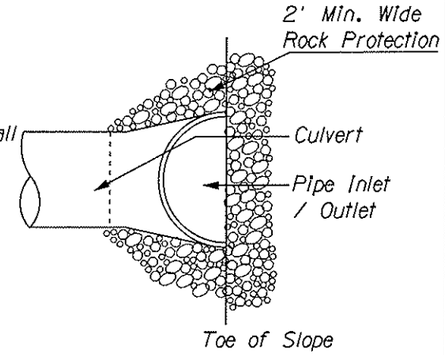
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



ROCK PROTECTION BMP FOR INLETS/OUTLETS
ROCK RIPRAP/ROCK MULCH FOR HEADWALL TRANSITION
CROSS SECTION (NTS)

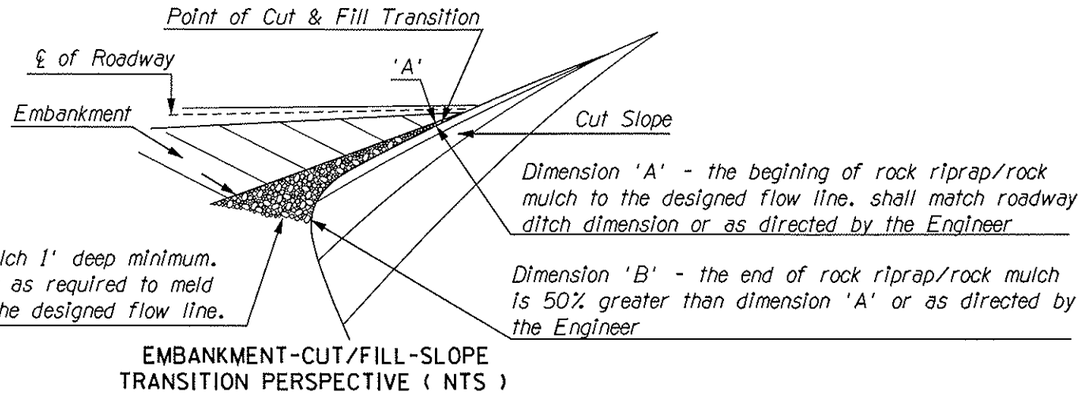


HEADWALL (NTS)



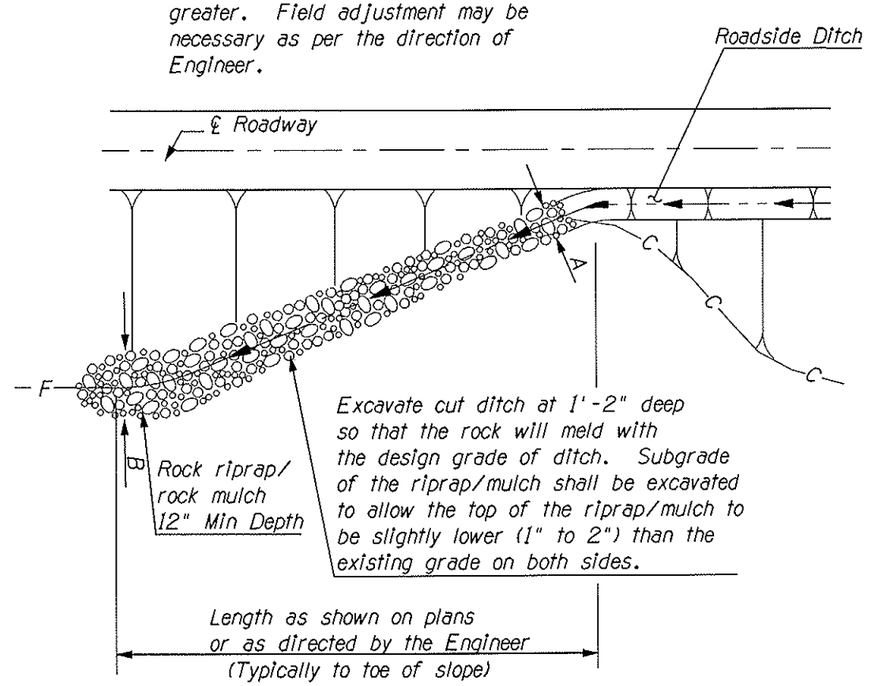
FLARED END SECTION (NTS)

DETAIL E2

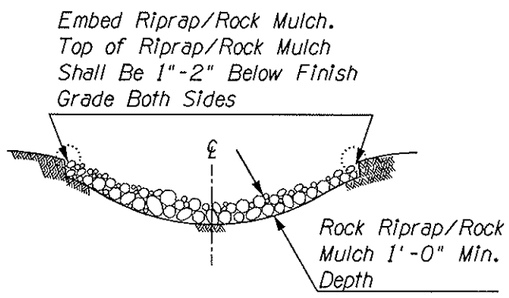


EMBANKMENT-CUT/FILL-SLOPE
TRANSITION PERSPECTIVE (NTS)

NOTE:
Cut and fill transition should be placed as shown on plans or where the length of the roadside ditch is 50 feet or greater. Field adjustment may be necessary as per the direction of Engineer.



CUT AND FILL TRANSITION
PLAN VIEW



CUT AND FILL TRANSITION
ROCK RIPRAP/ROCK MULCH CHANNEL LINING
CROSS SECTION (NTS)

DETAIL E3

ROCK PROTECTION BMP FOR CUT & FILL TRANSITION
ROCK RIPRAP/ROCK MULCH CHANNEL LINING

GENERAL NOTES FOR ROCK PROTECTION BMP DETAIL E2 & E3:
ROCK RIPRAP/ROCK MULCH IN THE CLEAR ZONE/RECOVERY AREA

1. Rock Riprap/Rock Mulch within the traffic Clear Zone/Recovery Area shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913.
2. The minimum depth of the rock riprap/rock mulch shall be 12" for Channel Lining and Cut & Fill Transition. The ground surface shall be excavated to a depth that the rock will meld with the grade of the ditch.
3. Within traffic recovery area/clear zone, any rock size 4 inches or greater shall be imbedded into the finished grade so that any portion of the rock above the grade will be less than 4 inches in height.
4. The installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, as well as the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Rock Protection BMPs shall be installed and maintained to carry the storm water of at least 2-year, 24-hour events.
5. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP, all ground preparation, furnishing, installing, as well as returning the area to an acceptable condition as approved by the Engineer.

	NAME	DATE
DESIGN	E LEROY BRADY	9-2007
DESIGN	ZITAO FANG	9-2007
DRAWN	ZITAO FANG	9-2007
CHECKED	E LEROY BRADY	9-2007
TEAM LEADER	E LEROY BRADY	9-2007

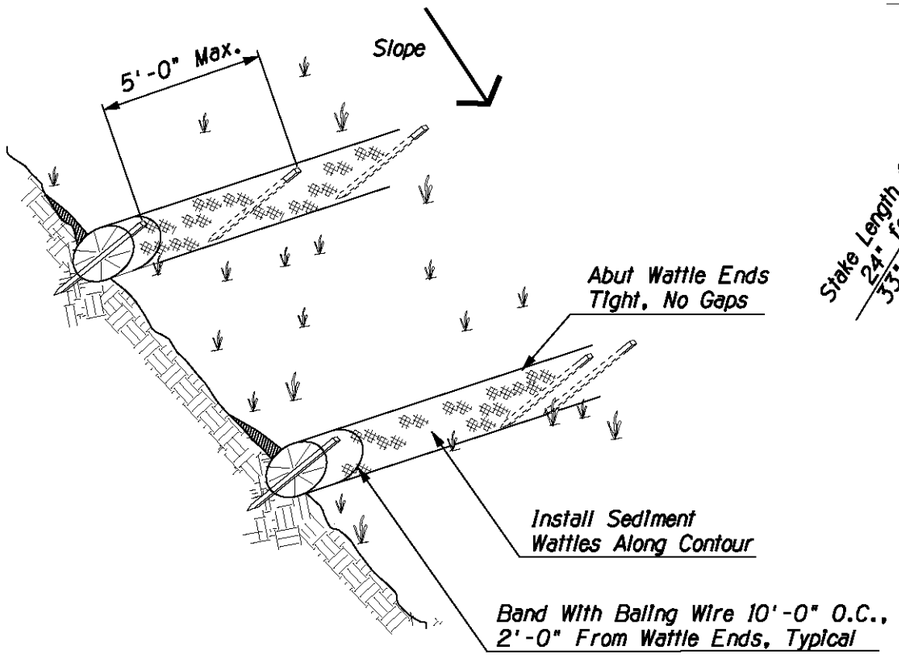
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

EROSION/SEDIMENT CONTROL AND
WATER QUALITY PROTECTION DETAILS

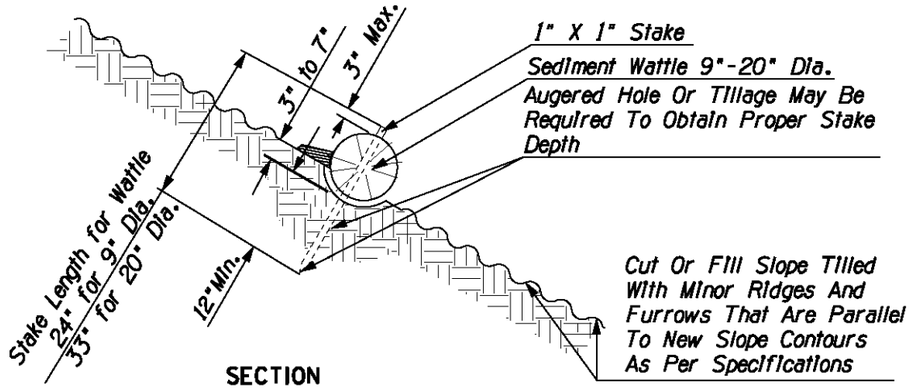
ROUTE	MP	LOCATION	SHEET	OF
TRACS NO.				___ OF ___

NO. | DESCRIPTION OF REVISION | MADE BY | DATE

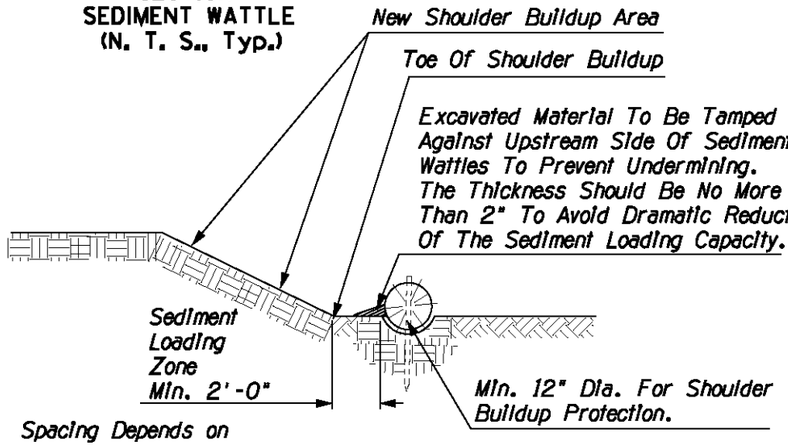
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



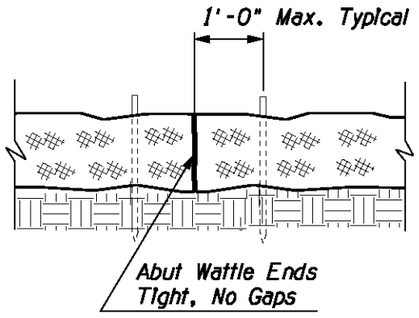
SEDIMENT WATTLE LAYOUT
(N. T. S., Typ.)



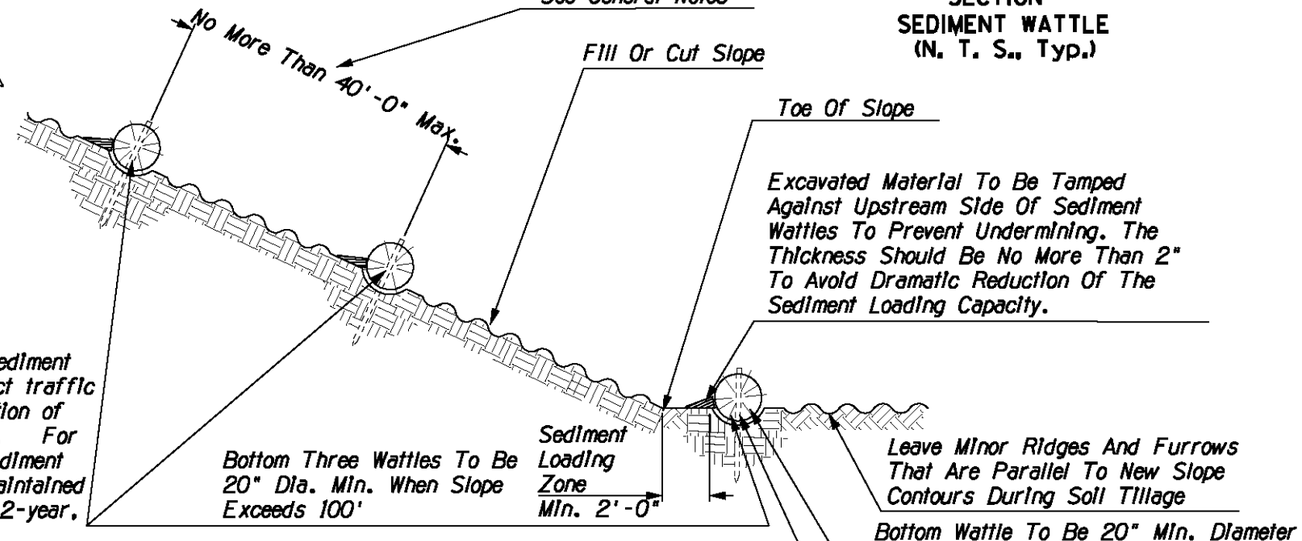
SECTION
SEDIMENT WATTLE
(N. T. S., Typ.)



SECTION
SEDIMENT WATTLE
(N. T. S., Typ.)



SEDIMENT WATTLE CONNECTION
(N. T. S., Typ.)



SECTION
SEDIMENT WATTLE
(N. T. S., Typ.)

DETAIL E4
SEDIMENT WATTLE

GENERAL NOTE
The installation and maintenance of Sediment Wattle BMPs shall not negatively impact traffic safety, as well as the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Sediment Wattle BMPs shall be installed and maintained to carry the storm water of at least 2-year, 24-hour events.

The Sediment Wattle BMP's pay/bid item shall include all materials used for this BMP, all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.

NOTES
Sediment wattles to be installed as slopes are constructed to grade or as directed by the engineer. They shall be selected, installed, and maintained in conformance with manufacturers' specifications to meet site conditions for slope protection and in accordance with good engineering practices. No Sediment Wattles shall be installed in the urban freeway medians, as well as where cable barrier systems are employed.

Trenches to be constructed along and parallel to the contours. Trench depth to be 1/3 the thickness of the sediment wattle. Place excavated material on uphill side of trench.

Locate sediment wattles as indicated on plans or as directed by the engineer. Space wattle trenches according to the following schedule:

Slope Ratio	Maximum Spacing Intervals
1:1 and Steeper, Apply Minibenching or Other Suitable BMPs.	
2:1	10'-0"
3:1	20'-0"
4:1	30'-0"
5:1	40'-0"
6:1	40'-0"

Sediment wattles to be in continuous contact with trench bottom and sides. No daylight should be seen under the wattle. Do not overlap the ends on top of each other.

Stakes to penetrate soil of trench bottom 12" minimum. Stake to be exposed 3" maximum above top of wattle. Space stakes 5'-0" o.c. Max., 1'-0"max. At wattle ends, typical. A 20" dia. wattle may be made from 2 - 3 rolled excelsior or straw blankets.

Repair any rills or gullies promptly.

Construction of cut slopes 2:1 and steeper in soil and rock materials that can be ripped shall whenever possible be constructed using minibenching best management practice (BMP).

Where minibenches are used, loosening the surface soil is not required. For the seeded areas, tillage is to be performed to form minor ridges and furrows that are parallel to new slope contours and as specified in Section 805.

	NAME	DATE
DESIGN	E LEROY BRADY	10-2007
DESIGN	ZITAO FANG	10-2007
DRAWN	ZITAO FANG	10-2007
CHECKED	E LEROY BRADY	10-2007
TEAM LEADER	E LEROY BRADY	10-2007

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

EROSION/SEDIMENT CONTROL AND WATER QUALITY PROTECTION DETAILS

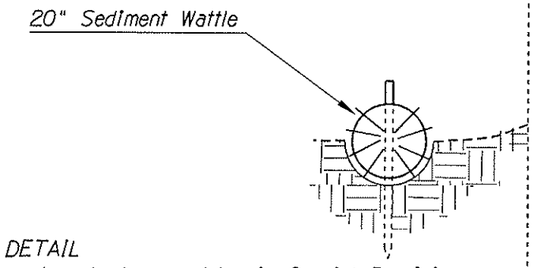
ROUTE | MP | LOCATION | SHEET OF

TRACS NO. | ___ OF ___

NO.1 NO.2 DESCRIPTION OF REVISION | MADE BY | DATE

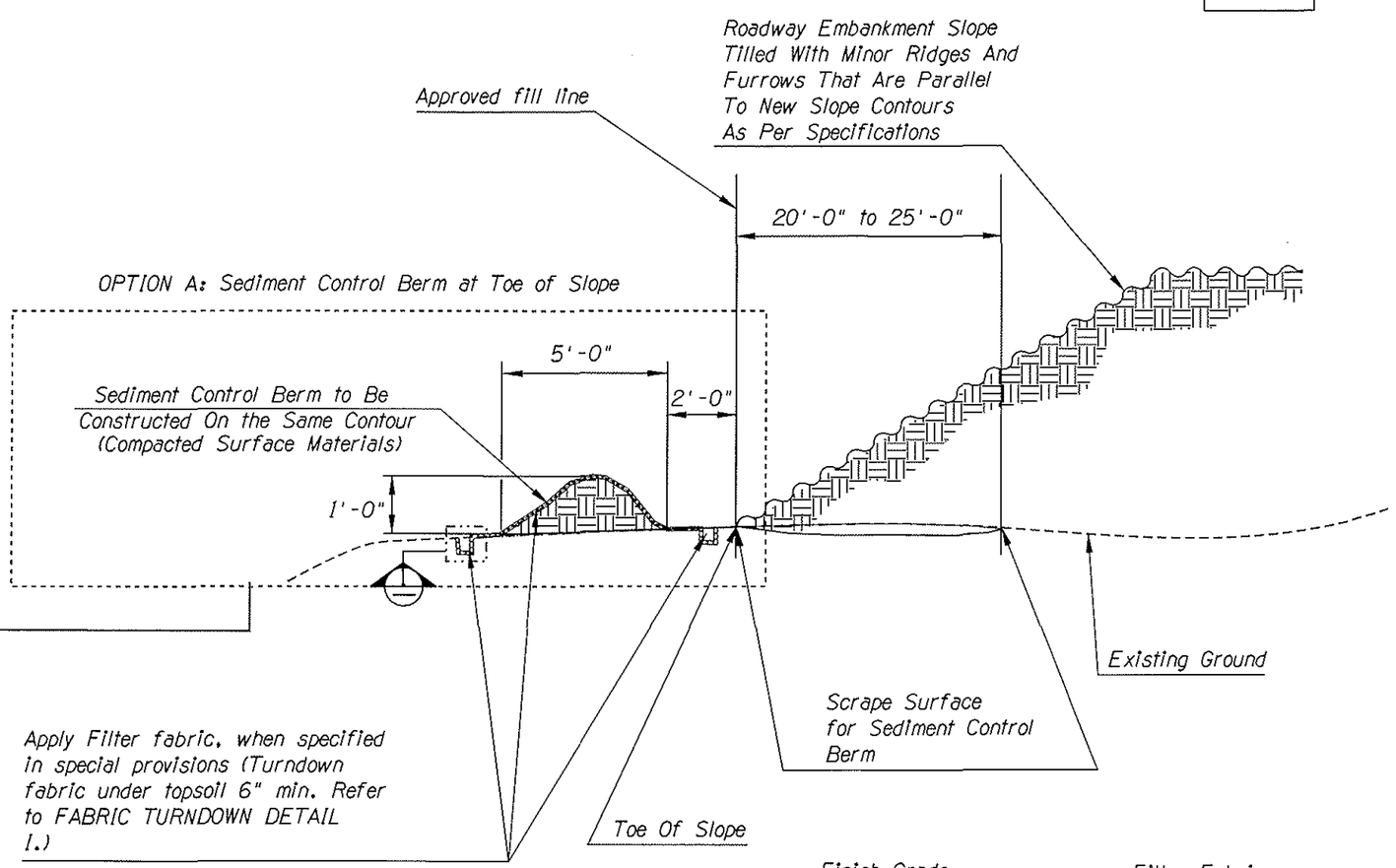
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				

OPTION B: Sediment Wattle at Toe of Slope
(Only As Called Out In Layout Plans And/Or In Special Provisions)



NOTE TO THIS DETAIL
When called out on layout plans and/or in Special Provisions, for urban situations, or where surface materials are not available, use wattles. Wattles shall be selected, installed, and maintained in accordance with manufacturers' specifications and good engineering practices. Refer to Sediment Wattle Detail.

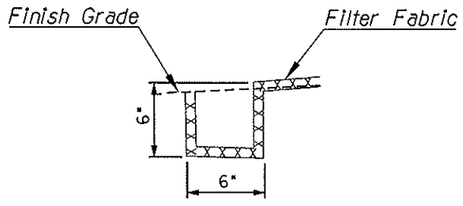
OPTION A: Sediment Control Berm at Toe of Slope



Notes:
Locate Sediment Control Berms as indicated on plans or as directed by the Engineer. Surface materials i.e. soil, rock, branches, leaves, slash and chips shall be scraped from the existing grade as needed to construct the erosion berm prior to placement of roadway embankment. After scraping material into berm, compact berm as shown. Rock and slash shall extend no more than 4" above the surface. Sediment Control Berm shall be constructed on the same contour and beyond the toe of new slope. For the seeded areas, tillage is to be performed to form minor ridges and furrows that are parallel to new slope contours and as specified in Section 805.

The installation and maintenance of Sediment Control Berm BMPs shall not negatively impact traffic safety, as well as the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Sediment Control Berm BMPs shall be installed and maintained to carry the storm water of at least 2-year, 24-hour events.

The Sediment Control Berm BMP's pay/bid item shall include all materials used for this BMP, all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.



FABRIC TURNDOWN DETAIL I

Detail E5

SEDIMENT CONTROL BERM
(N. T. S., TYP.)

	NAME	DATE
DESIGN	E LEROY BRADY	9-2007
DESIGN	ZITAO FANG	9-2007
DRAWN	ZITAO FANG	9-2007
CHECKED	E LEROY BRADY	9-2007
TEAM LEADER	E LEROY BRADY	9-2007

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

EROSION/SEDIMENT CONTROL AND WATER QUALITY PROTECTION DETAILS

ROUTE	MP	LOCATION

SHEET OF

TRACS NO.

___ OF ___

NO. | DESCRIPTION OF REVISION | MADE BY | DATE

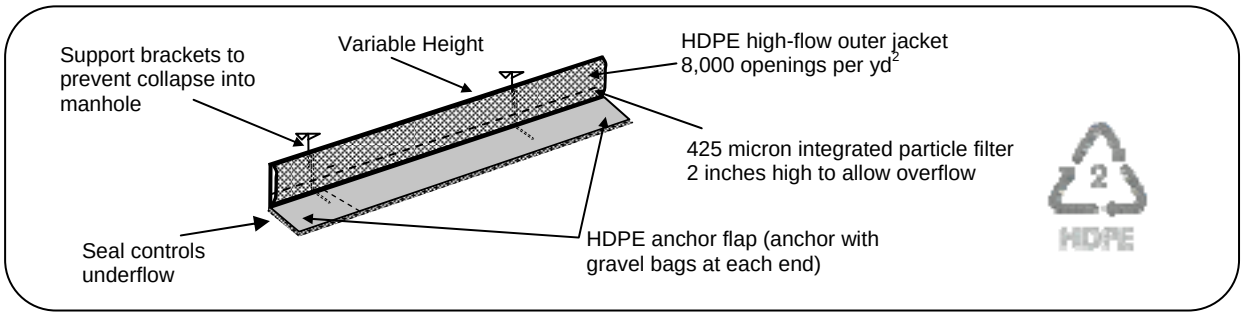
ERTEC Environmental Systems

Protecting the Integrity of Global Lands and Waterways™

Curb Inlet Guard ™

Curb Inlet Protection

Curb Inlet Guard (CIG) is a patented, low cost system which reduces sedimentation into curb drain inlets. CIG is engineered to balance the critical tradeoff between allowing water to flow off the street for safety and capturing sediment. CIG is an important part of a comprehensive best management practice approach for site sediment control. The integrated filter has a vertical height of 2 inches to allow water to bypass during high flow events. The units are made from durable and recyclable HDPE with built-in brackets to keep it from collapsing into the storm drain. One size fits all - segments can be overlapped and adjusted as needed to fit all size openings. The system reduces costs significantly because it is easy to install, easy to clean, has a long life and can be reused.



Product Characteristics

Module weight (lbs)	3.5	Stands up to Construction Site abuse	YES
Functional life (min years)	4	Filter– min AOS (microns)	425
Module Height (inches) (min)	8.0	Tensile Yield ASTM D-638 (lb/in^2)	1800 - 2800
Module Length / Opening size protected (ft)	6.25 / 5	Ultimate Tensile Strength: ASTM D-638 (lb/in^2)	2000 - 2800
Filter freeboard height (inches)	2.0	Service temperature deg F	-30 to 160
Recyclable Post consumer #2	YES	Filter Flow Rate ASTM D-4491 gpm/ft^2 (min)	145
Reusable	YES	Bypass for high flow conditions	YES
Easy to clean	YES	Seals to pavement to control underflow	YES

Application information

Modular 6.25' lengths fit 5' openings and can fit together for longer curb inlet openings. Heights vary to fit vertical opening height and curb height. Dimensions are typically standard in geographical regions.

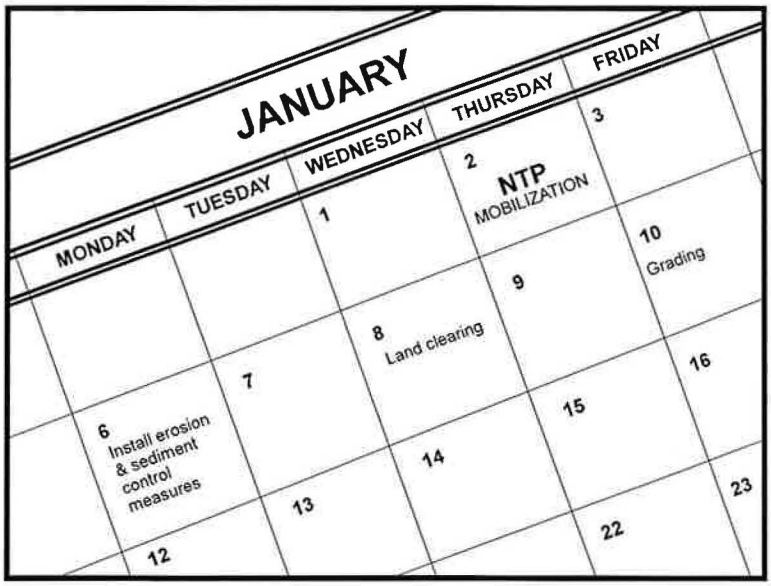
Product Benefits

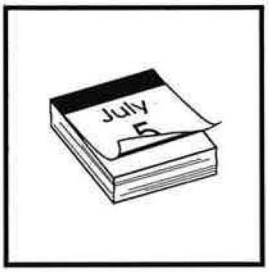
- Fast installation
- Long life, UV stable
- Stands up to construction site abuse
- Lower total costs
- Modules overlap to fit any length
- One installation per project
- Lightweight, easy to transport
- One size to order and stock
- Above street, easy to clean

ERTEC Environmental Systems.
(866) 521-0724
www.ertecsystems.com

Scheduling

SS-1





Standard Symbol

BMP Objectives

- Soil Stabilization
- Sediment Control
- Tracking Control
- Wind Erosion Control
- Non-Storm Water Management
- Materials and Waste Management

Definition and Purpose

This best management practice (BMP) involves developing, for every project, a schedule that includes sequencing of construction activities with the implementation of construction site BMPs such as temporary soil stabilization (erosion control) and temporary sediment controls measures. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Appropriate Applications

Construction sequencing shall be scheduled to minimize land disturbance for all projects during the rainy and non-rainy season. Appropriate BMPs shall be implemented during both rainy and non-rainy seasons.

Limitations

None identified.

Standards and Specifications

- Developing a schedule and planning the project are the very first steps in an effective storm water program. The schedule shall clearly show how the rainy season relates to soil-disturbing and re-stabilization activities. The construction schedule shall be incorporated into the SWPPP or WPCP.
- The schedule shall include detail on the rainy season implementation and deployment of:
  - Temporary soil stabilization BMPs.
  - Temporary sediment control BMPs.
  - Tracking control BMPs.
  - Wind erosion control BMPs.

  - Non-storm water BMPs.
  - Waste management and materials pollution control BMPs.

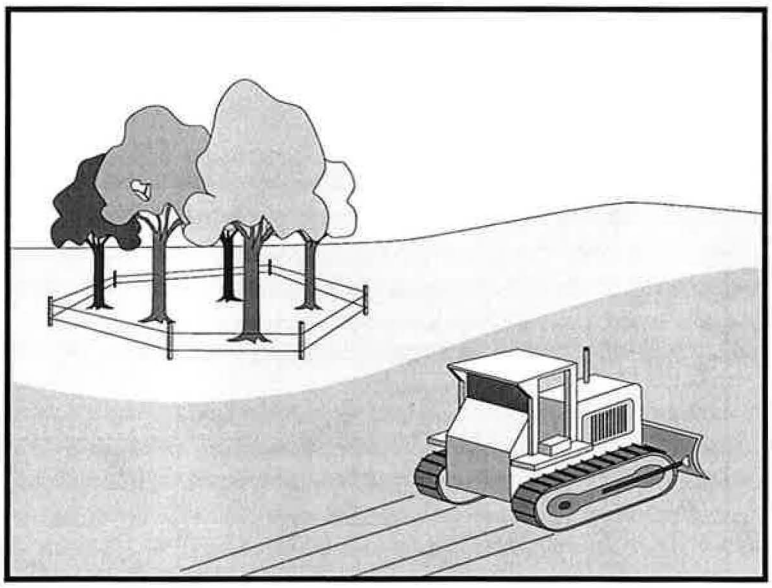
- Schedule shall also include dates for significant long-term operations or activities that may have planned non-storm water discharges such as dewatering, sawcutting, grinding, drilling, boring, crushing, blasting, painting, hydro-demolition, mortar mixing, bridge cleaning, etc.
- Schedule work to minimize soil disturbing activities during the rainy season.
- Develop the sequencing and timetable for the start and completion of each item such as site clearing and grubbing, grading, excavation, paving, pouring foundations, installing utilities, etc., to minimize the active construction area during the rainy season.
- Schedule major grading operations for the non-rainy season when practical.
- Stabilize non-active areas within 14 days from the cessation of soil-disturbing activities or one day prior to the onset of precipitation, whichever occurs first.
- Monitor the weather forecast for rainfall.
- When rainfall is predicted, adjust the construction schedule to allow the implementation of soil stabilization and sediment controls and sediment treatment controls on all disturbed areas prior to the onset of rain.
- Be prepared year-round to deploy soil stabilization and sediment control practices as required by Section 2 of this Manual. Erosion may be caused during dry seasons by unseasonal rainfall, wind, and vehicle tracking. Keep the site stabilized year-round, and retain and maintain rainy season sediment trapping devices in operational condition.
- Sequence trenching activities so that most open portions are closed before new trenching begins.
- Incorporate staged seeding and re-vegetation of graded slopes as work progresses.
- Consider scheduling when establishing permanent vegetation (appropriate planting time for specified vegetation).
- Apply permanent erosion control to areas deemed substantially complete during the project's defined seeding window.

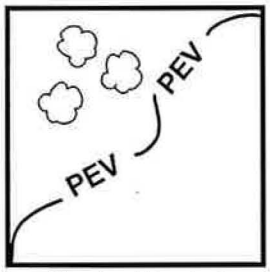
Maintenance and Inspection

- Verify that work is progressing in accordance with the schedule. If progress deviates, take corrective actions.
- Amend the schedule when changes are warranted or when directed by the Resident Engineer (RE).
- The Special Provisions require annual submittal of a rainy season implementation schedule. Amend the schedule prior to the rainy season to show updated information on the deployment and implementation of construction site BMPs.

Preservation of Existing Vegetation

SS-2





Standard Symbol

BMP Objectives

Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Preservation of existing vegetation is the identification and protection of desirable vegetation that provides erosion and sediment control benefits.

Appropriate Applications

- Preserve existing vegetation at areas on a site where no construction activity is planned or will occur at a later date. Specifications for preservation of existing vegetation can be found in Standard Specifications, Section 7-1.11.
- On a year-round basis, temporary fencing shall be provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas.
- Clearing and grubbing operations should be staged to preserve existing vegetation.

Limitations

Protection of existing vegetation requires planning, and may limit the area available for construction activities.

Standards and Specifications

Timing

- Preservation of existing vegetation shall be provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas identified on the plans to be preserved, especially on areas designated as Environmentally Sensitive Areas (ESAs).
- Preservation of existing vegetation shall conform to scheduling requirements set forth in the special provisions.

Design and Layout

- Mark areas to be preserved with temporary fencing made of orange polypropylene that is stabilized against ultraviolet light. The temporary fencing shall be at least 1 meter (3.2. ft) tall and shall have openings not larger than 50 mm by 50 mm (2 in by 2 in).

- Fence posts shall be either wood or metal, at the Contractor's discretion, as appropriate for the intended purpose. The post spacing and depth shall be adequate to completely support the fence in an upright position.

- Minimize the disturbed areas by locating temporary roadways to avoid stands of trees and shrubs and to follow existing contours to reduce cutting and filling.

- Consider the impact of grade changes to existing vegetation and the root zone.

Installation

- Construction materials, equipment storage, and parking areas shall be located where they will not cause root compaction.

- Keep equipment away from trees to prevent trunk and root damage.

- Maintain existing irrigation systems.

- Employees and subcontractors shall be instructed to honor protective devices. No heavy equipment, vehicular traffic, or storage piles of any construction materials shall be permitted within the drip line of any tree to be retained. Removed trees shall not be felled, pushed, or pulled into any retained trees. Fires shall not be permitted within 30 m (100 ft) of the drip line of any retained trees. Any fires shall be of limited size, and shall be kept under continual surveillance. No toxic or construction materials (including paint, acid, nails, gypsum board, chemicals, fuels, and lubricants) shall be stored within 15 m (50 ft) of the drip line of any retained trees, nor disposed of in any way which would injure vegetation.

Trenching and Tunneling

- Trenching shall be as far away from tree trunks as possible, usually outside of the tree drip line or canopy. Curve trenches around trees to avoid large roots or root concentrations. If roots are encountered, consider tunneling under them. When trenching and/or tunneling near or under trees to be retained, tunnels shall be at least 450 mm (18 in) below the ground surface, and not below the tree center to minimize impact on the roots.

- Tree roots shall not be left exposed to air; they shall be covered with soil as soon as possible, protected, and kept moistened with wet burlap or peat moss until the tunnel and/or trench can be completed.

- The ends of damaged or cut roots shall be cut off smoothly.

- Trenches and tunnels shall be filled as soon as possible. Careful filling and tamping will eliminate air spaces in the soil which can damage roots.

- Remove any trees intended for retention if those trees are damaged seriously enough to affect their survival. If replacement is desired or required, the new tree shall be of similar species, and at least 50 mm (2 in) caliper, unless

otherwise required by the contract documents.

- After all other work is complete, fences and barriers shall be removed last. This is because protected trees may be destroyed by carelessness during the final cleanup and landscaping.

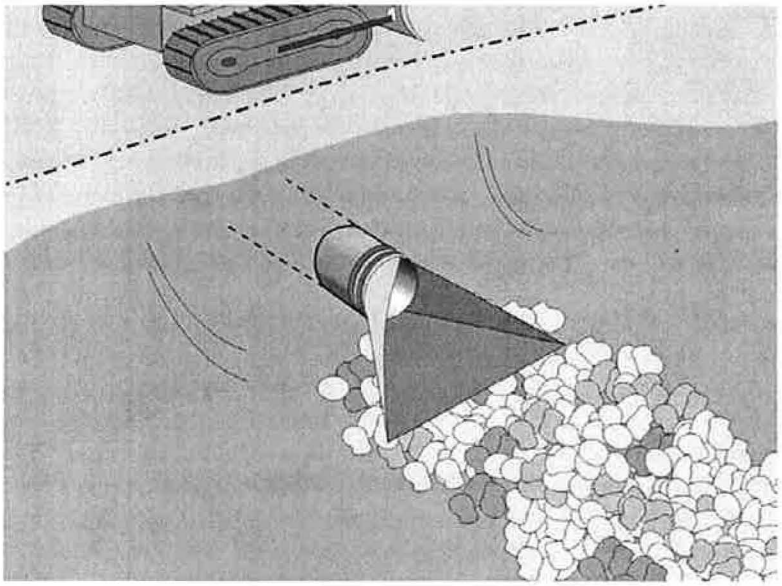
Maintenance and Inspection

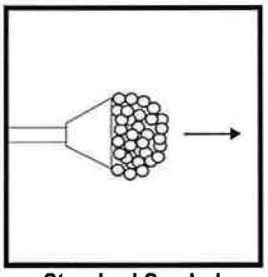
During construction, the limits of disturbance shall remain clearly marked at all times. Irrigation or maintenance of existing vegetation shall conform to the requirements in the landscaping plan. If damage to protected trees still occurs, maintenance guidelines described below shall be followed:

- Serious tree injuries shall be attended to by an arborist.
- During construction, District Environmental shall be contacted to ensure that ESAs are protected.

Outlet Protection/Velocity Dissipation Devices

SS-10





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

These devices are placed at pipe outlets to prevent scour and reduce the velocity and/or energy of storm water flows.

Appropriate Applications

- These devices may be used at the following locations:
  - Outlets of pipes, drains, culverts, slope drains, diversion ditches, swales, conduits or channels.
  - Outlets located at the bottom of mild to steep slopes.
  - Discharge outlets that carry continuous flows of water.
  - Outlets subject to short, intense flows of water, such as flash floods.
  - Points where lined conveyances discharge to unlined conveyances.
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the Resident Engineer (RE).

Limitations

- Loose rock may have stones washed away during high flows.
- Grouted riprap may break up in areas of freeze and thaw.
- If there is not adequate drainage, and water builds up behind grouted riprap, it may cause the grouted riprap to break up due to the resulting hydrostatic pressure.

Outlet Protection/Velocity Dissipation Devices

SS-10

Standards and Specifications

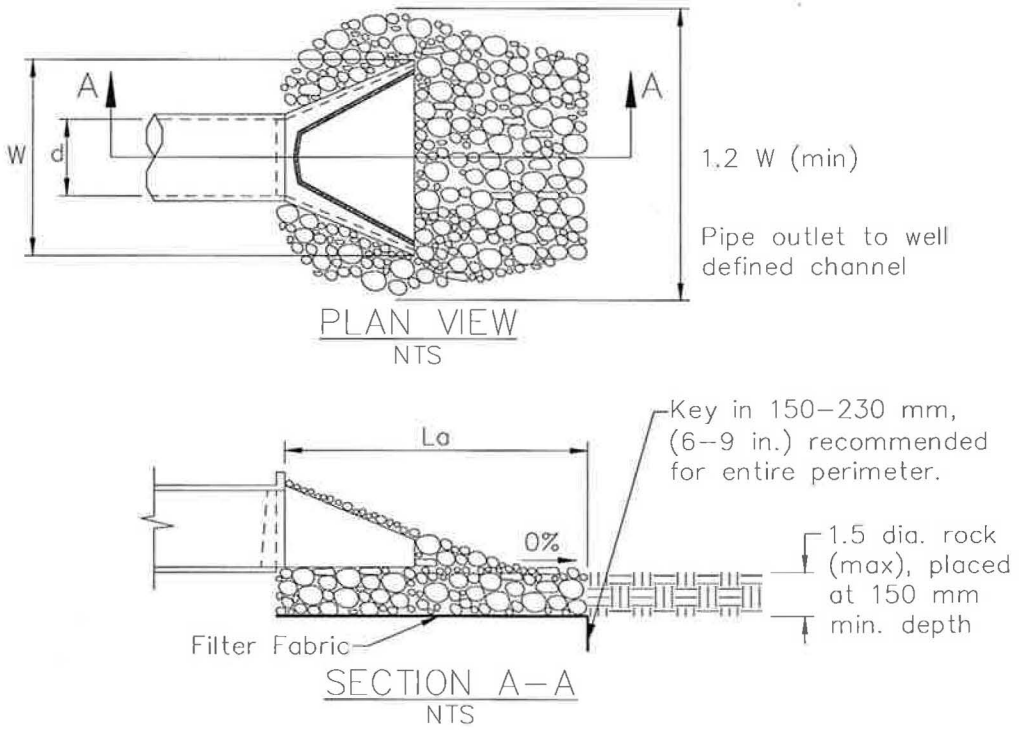
- There are many types of energy dissipaters, with rock being the one that is represented in the figure on Page 3. Please note that this is only one example and the RE may approve other types of devices proposed by the contractor.
- Install riprap, grouted riprap, or concrete apron at selected outlet. Riprap aprons are best suited for temporary use during construction.
- Carefully place riprap to avoid damaging the filter fabric.
- For proper operation of apron:
  - Align apron with receiving stream and keep straight throughout its length. If a curve is needed to fit site conditions, place it in upper section of apron.
  - If size of apron riprap is large, protect underlying filter fabric with a gravel blanket.
- Outlets on slopes steeper than 10% shall have additional protection.

Maintenance and Inspection

- Inspect temporary measures prior to the rainy season, after rainfall events, and regularly (approximately once per week) during the rainy season.
- Inspect apron for displacement of the riprap and/or damage to the underlying fabric. Repair fabric and replace riprap that has washed away.
- Inspect for scour beneath the riprap and around the outlet. Repair damage to slopes or underlying filter fabric immediately.
- Temporary devices shall be completely removed as soon as the surrounding drainage area has been stabilized, or at the completion of construction.

Outlet Protection/Velocity Dissipation Devices

SS-10

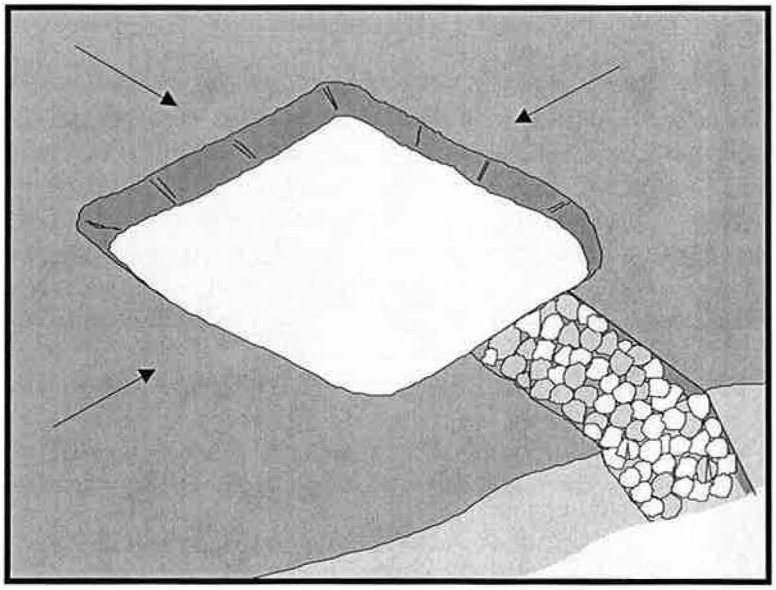


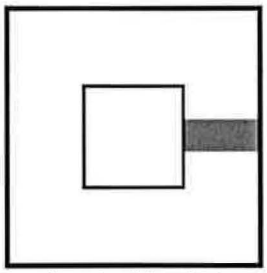
Pipe Diameter mm	Discharge m^3/s	Apron Length, La m	Rip Rap D_{50} Diameter Min mm
300	0.14	3	100
	0.28	4	150
450	0.28	3	150
	0.57	5	200
	0.85	7	300
	1.13	8	400
600	0.85	5	200
	1.13	8	200
	1.42	8	300
	1.70	9	400
For larger or higher flows, consult a Registered Civil Engineer			

Source: USDA – SCS

Sediment Trap

SC-3





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A sediment trap is a temporary containment area that allows sediment in collected storm water to settle out during infiltration or before the runoff is discharged through a stabilized spillway. Sediment traps are formed by excavating or constructing an earthen embankment across a waterway or low drainage area.

Appropriate Applications

- Sediment traps may be used on construction projects where the drainage area is less than 2 ha (5 ac). Traps should be placed where sediment-laden storm water enters a storm drain or watercourse.
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the Resident Engineer (RE).
- As a supplemental control, sediment traps provide additional protection for a water body or for reducing sediment before it enters a drainage system.

Limitations

- Requires large surface areas to permit infiltration and settling of sediment.
- Not appropriate for drainage areas greater than 2 ha (5 ac).
- Only removes large and medium sized particles and requires upstream erosion control.
- Attractive and dangerous to children, requiring protective fencing.
- Not to be located in live streams.
- Size may be limited by availability of right-of-way.

Sediment Trap

SC-3

Standards and Specifications

- Construct sediment traps prior to rainy season and construction activities.
- Trap shall be situated according to the following criteria: (1) by excavating a suitable area or where a low embankment can be constructed across a swale, (2) where failure would not cause loss of life or property damage, and (3) to provide access for maintenance, including sediment removal and sediment stockpiling in a protected area.
- Trap shall be sized to accommodate a settling zone and sediment storage zone with recommended minimum volumes of 130 m3/ha (67 yd3/ac) and 65 m3/ha (33 yd3/ac) of contributing drainage area, respectively, based on 12.7 mm (0.5 in) of runoff volume over a 24-hr period. Multiple traps and/or additional volume may be required to accommodate site specific rainfall and soil conditions.
- Traps with an impounding levee greater than 1.5 m (5 ft) tall, measured from the lowest point to the impounding area to the highest point of the levee, and traps capable of impounding more than 1000 cubic meters (35,300 cubic feet), shall be designed by a professional Civil Engineer registered with the state of California. The design must be submitted to the Resident Engineer (RE) for approval at least 7 days prior to the basin construction. The design shall include maintenance requirements, including sediment and vegetation removal, to ensure continuous function of the trap outlet and bypass structures.
- Earthwork shall be in accordance with Standard Specifications Section 19 – "Earthwork". Contractor is specifically directed to Standard Specifications Sections 19-5 and 19-6 entitled, "Compaction" and "Embankment Construction," respectively.
- Areas under embankments, structural works, and sediment traps shall be cleared and stripped of vegetation in accordance with Standard Specifications Section 16 – "Clearing and Grubbing."
- Use rock or vegetation to protect the trap outlets against erosion.
- Fencing, in accordance with Standard Specifications Section 80 – "Fencing," shall be provided to prevent unauthorized entry.

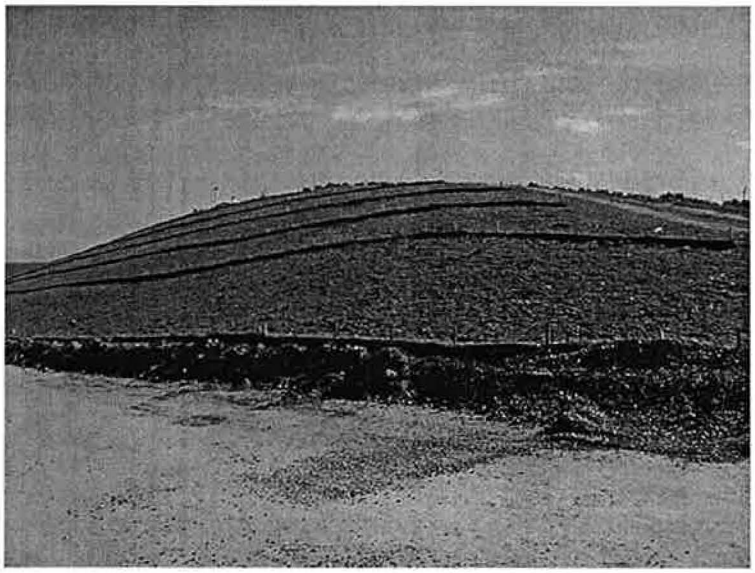
Maintenance and Inspection

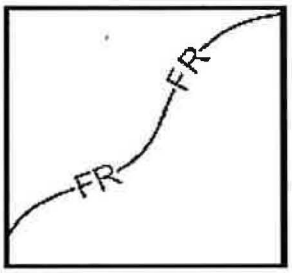
- Inspect sediment traps before and after rainfall events and weekly during the rest of the rainy season. During extended rainfall events, inspect sediment traps at least every 24 hours.
- If captured runoff has not completely infiltrated within 72 hours then the sediment trap must be dewatered.
- Inspect trap banks for embankment seepage and structural soundness.

- Inspect outlet structure and rock spillway for any damage or obstructions. Repair damage and remove obstructions as needed or as directed by the RE.
- Inspect outlet area for erosion and stabilize if required, or as directed by the RE.
- Remove accumulated sediment when the volume has reached one-third the original trap volume.
- Properly disposed of sediment and debris removed from the trap.
- Inspect fencing for damage and repair as needed or as directed by the RE.

Fiber Rolls

SC-5





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A fiber roll consists of wood excelsior, rice or wheat straw, or coconut fibers that is rolled or bound into a tight tubular roll and placed on the toe and face of slopes to intercept runoff, reduce its flow velocity, release the runoff as sheet flow and provide removal of sediment from the runoff. Fiber rolls may also be used for inlet protection and as check dams under certain situations.

Appropriate Applications

- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
- Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- Below the toe of exposed and erodible slopes.
- Fiber rolls may be used as check dams in unlined ditches if approved by the Resident Engineer (RE) or the District Construction Storm Water Coordinator (refer to SC-4 "Check Dams").
- Fiber rolls may be used for drain inlet protection if approved by the RE or the District Construction Storm Water Coordinator (refer to SC-10 "Storm Drain Inlet Protection").
- Down-slope of exposed soil areas.
- Around temporary stockpiles.
- Along the perimeter of a project.

Fiber Rolls

SC-5

Limitations

- Runoff and erosion may occur if fiber roll is not adequately trenched in.
- Fiber rolls at the toe of slopes greater than 1:5 may require the use of 500 mm (20" diameter) or installations achieving the same protection (i.e., stacked smaller diameter fiber rolls, etc.).
- Fiber rolls may be used for drainage inlet protection if they can be properly anchored.
- Difficult to move once saturated.
- Fiber rolls could be transported by high flows if not properly staked and trenched in.
- Fiber rolls have limited sediment capture zone.
- Do not use fiber rolls on slopes subject to creep, slumping, or landslide.

Standards and Specifications

Fiber Roll Materials

- Fiber rolls shall be either:

  (1) Prefabricated rolls.

  (2) Rolled tubes of erosion control blanket.

Assembly of Field Rolled Fiber Roll

- Roll length of erosion control blanket into a tube of minimum 200 mm (8 in) diameter.
- Bind roll at each end and every 1.2 m (4 ft) along length of roll with jute-type twine.

Installation

- Slope inclination of 1:4 or flatter: fiber rolls shall be placed on slopes 6.0 m apart.
- Slope inclination of 1:4 to 1:2: fiber rolls shall be placed on slopes 4.5 m apart.
- Slope inclination 1:2 or greater: fiber rolls shall be placed on slopes 3.0 m apart.
- Stake fiber rolls into a 50 to 100 mm (2 to 4 in) trench.

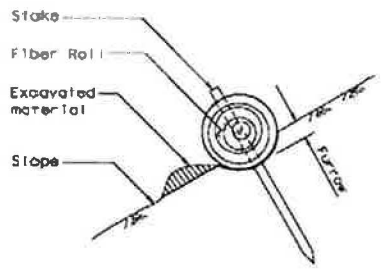
- Drive stakes at the end of each fiber roll and spaced 600 mm (2 ft) apart if Type 2 installation is used (refer to Page 4). Otherwise, space stakes 1.2 m (4 ft) maximum on center if installed as shown on Pages 5 and 6.
- Use wood stakes with a nominal classification of 19 by 19 mm (3/4 by 3/4 in), and minimum length of 600 mm (24 in).
- If more than one fiber roll is placed in a row, the rolls shall be overlapped; not abutted.

Removal

- Fiber rolls are typically left in place.
- If fiber rolls are removed, collect and dispose of sediment accumulation, and fill and compact holes, trenches, depressions or any other ground disturbance to blend with adjacent ground.

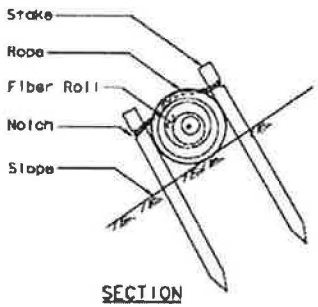
Maintenance and Inspection

- Repair or replace split, torn, unraveling, or slumping fiber rolls.
- Inspect fiber rolls when rain is forecast. Perform maintenance as needed or as required by the RE.
- Inspect fiber rolls following rainfall events and a least daily during prolonged rainfall. Perform maintenance as needed or as required by the RE.
- Maintain fiber rolls to provide an adequate sediment holding capacity. Sediment shall be removed when the sediment accumulation reaches three quarters (3/4) of the barrier height. Removed sediment shall be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.

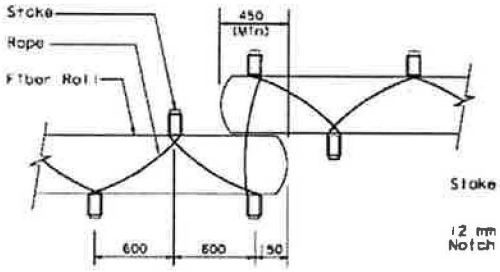


SECTION

TEMPORARY FIBER ROLL
(TYPE 1)

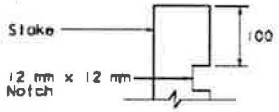


SECTION



PLAN

TEMPORARY FIBER ROLL
(TYPE 2)

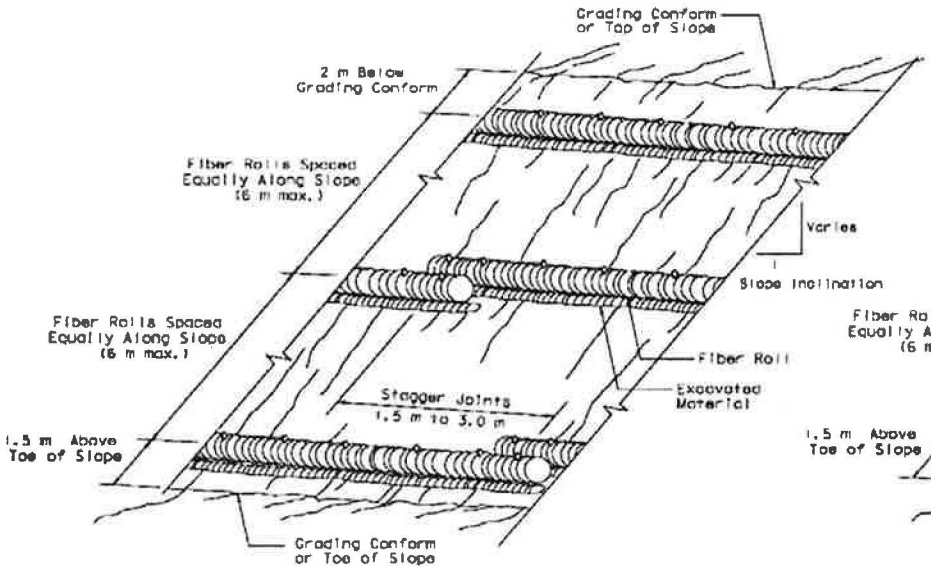


ELEVATION

NOTCH DETAIL

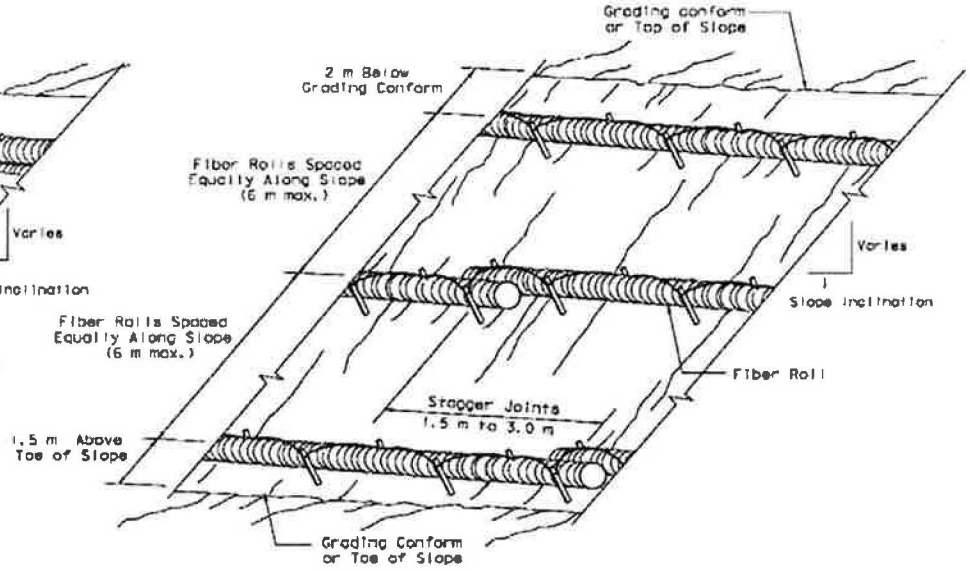
NOTE

1. Temporary fiber roll spacing varies depending upon slope inclination.



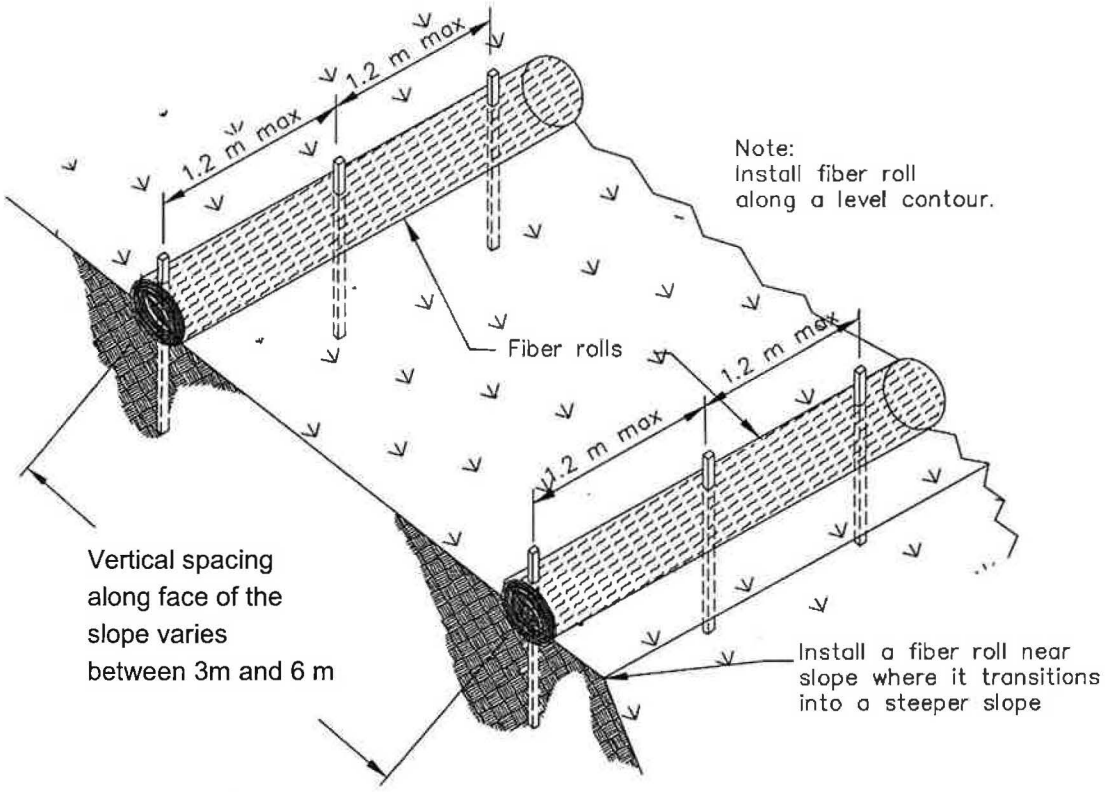
PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 1)



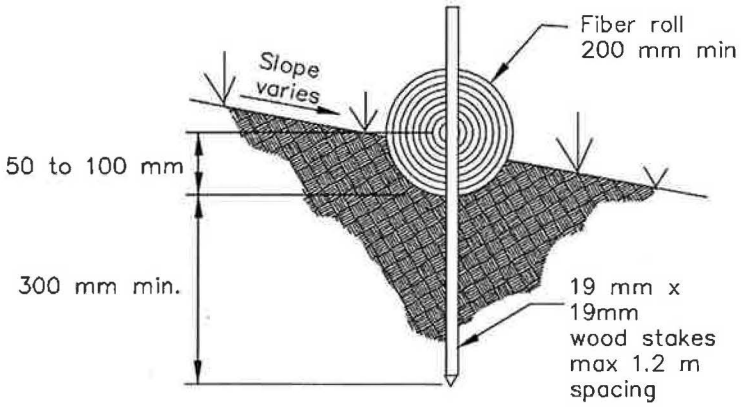
PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 2)



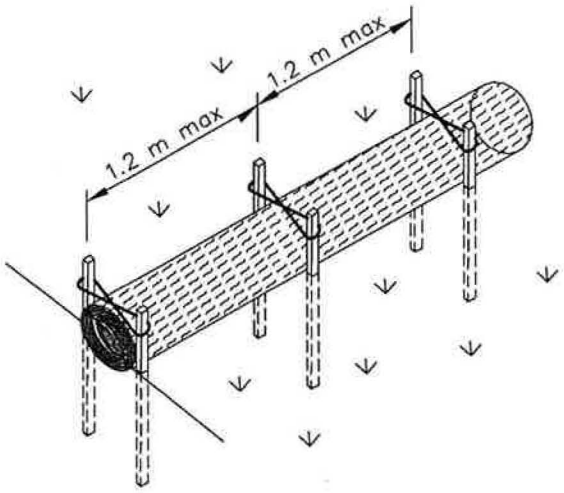
TYPICAL FIBER ROLL INSTALLATION

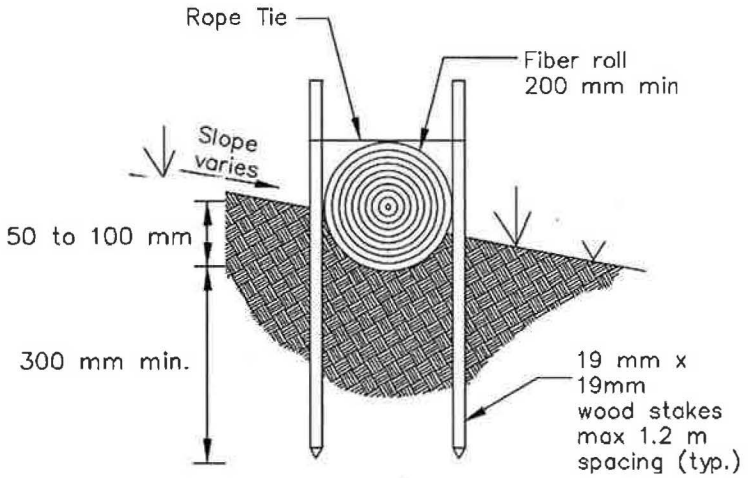
N.T.S.



ENTRENCHMENT DETAIL

N.T.S.



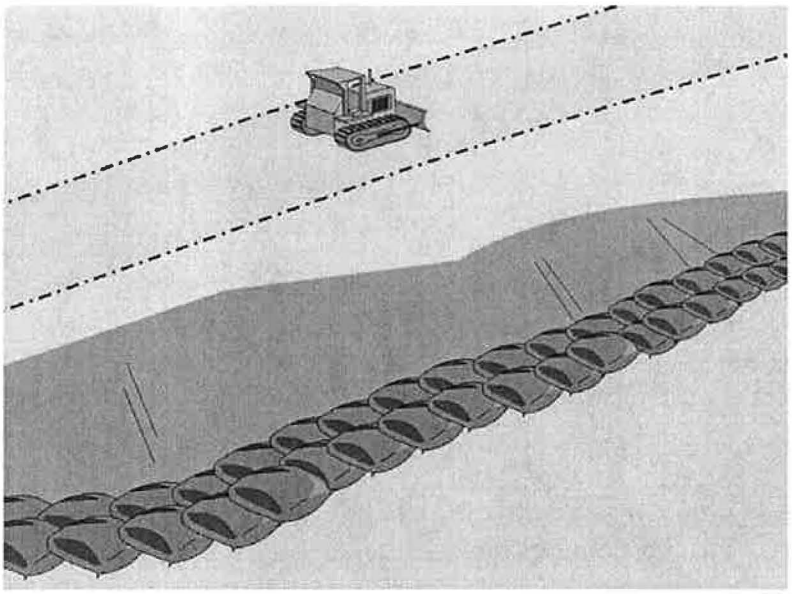


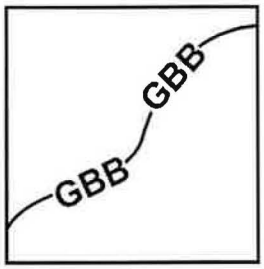
OPTIONAL ENTRENCHMENT DETAIL

N.T.S.

Gravel Bag Berm

SC-6





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A gravel bag berm consists of a single row of gravel bags that are installed end to end to form a barrier across a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow and provide some sediment removal. Gravel bags can be used where flows are moderately concentrated, such as ditches, swales, and storm drain inlets (see BMP SC-10, Storm Drain Inlet Protection) to divert and/or detain flows.

Appropriate Applications

- BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
- Along streams and channels.
- Below the toe of exposed and erodible slopes.
- Down slope of exposed soil areas.
- Around stockpiles.
- Across channels to serve as a barrier for utility trenches or provide a temporary channel crossing for construction equipment, to reduce stream impacts.
- Parallel to a roadway to keep sediment off paved areas.
- At the top of slopes to divert roadway runoff away from disturbed slopes.
- Along the perimeter of a site.
- To divert or direct flow or create a temporary sediment basin.
- During construction activities in stream beds when the contributing drainage

area is less than 2 ha (5 ac).

- When extended construction period limits the use of either silt fences or straw bale barriers.
- When site conditions or construction sequencing require adjustments or relocation of the barrier to meet changing field conditions and needs during construction.
- At grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.

Limitations

- Degraded gravel bags may rupture when removed, spilling contents.
- Installation can be labor intensive.
- Limited durability for long term projects.
- When used to detain concentrated flows, maintenance requirements increase.

Standards and Specifications

Materials

- Bag Material: Bags shall be woven polypropylene, polyethylene or polyamide fabric, minimum unit weight 135 g/m2 (four ounces per square yard), mullen burst strength exceeding 2,070 kPa (300 psi) in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355.
- Bag Size: Each gravel-filled bag shall have a length of 450 mm (18 in), width of 300 mm (12 in), thickness of 75 mm (3 in), and mass of approximately 15 kg (33 lb). Bag dimensions are nominal, and may vary based on locally available materials. Alternative bag sizes shall be submitted to the RE for approval prior to deployment.
- Fill Material: Gravel shall be between 10 mm and 20 mm (0.4 and 0.8 inch) in diameter, and shall be clean and free from clay balls, organic matter, and other deleterious materials. The opening of gravel-filled bags shall be between 13 kg and 22 kg (28 and 48 lb) in mass. Fill material is subject to approval by the RE.

Installation

- When used as a linear control for sediment removal:
  - Install along a level contour.
  - Turn ends of gravel bag row up slope to prevent flow around the ends.
  - Generally, gravel bag barriers shall be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment

control.

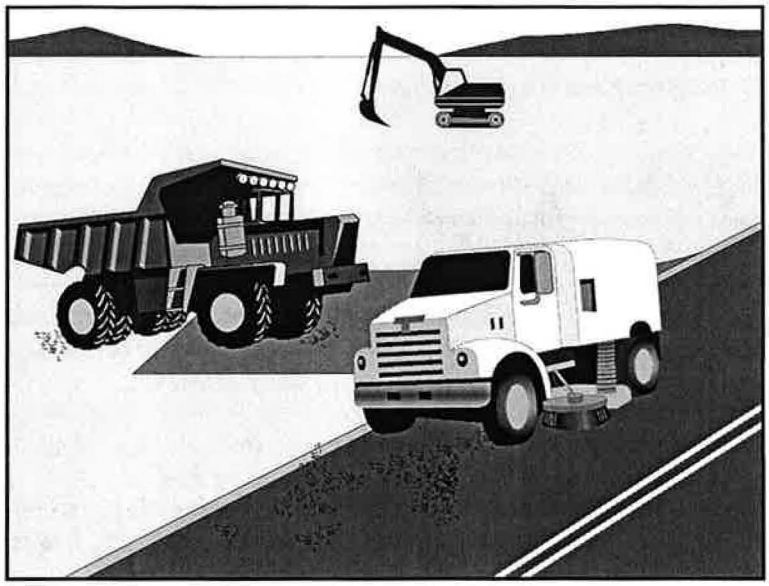
- When used for concentrated flows:
  - Stack gravel bags to required height using a pyramid approach.
  - Upper rows of gravel bags shall overlap joints in lower rows.
- Construct gravel bag barriers with a set-back of at least 1m from the toe of a slope. Where it is determined to be not practicable due to specific site conditions, the gravel bag barrier may be constructed at the toe of the slope, but shall be constructed as far from the toe of the slope as practicable.
- Requires Certificate of Compliance per Standard Specifications 6-1.07.

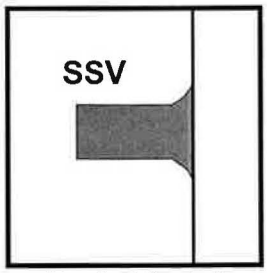
Maintenance and Inspection

- Inspect gravel bag berms before and after each rainfall event, and weekly throughout the rainy season.
- Reshape or replace gravel bags as needed, or as directed by the RE.
- Repair washouts or other damages as needed, or as directed by the RE.
- Inspect gravel bag berms for sediment accumulations and remove sediments when accumulation reaches one-third of the berm height. Removed sediment shall be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.
- Remove gravel bag berms when no longer needed. Remove sediment accumulations and clean, re-grade, and stabilize the area.

Street Sweeping and Vacuuming

SC-7





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ● Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Practices to remove tracked sediment to prevent the sediment from entering a storm drain or watercourse.

Appropriate Applications

These practices are implemented anywhere sediment is tracked from the project site onto public or private paved roads, typically at points of ingress/egress.

Limitations

Sweeping and vacuuming may not be effective when soil is wet or muddy.

Standards and Specifications

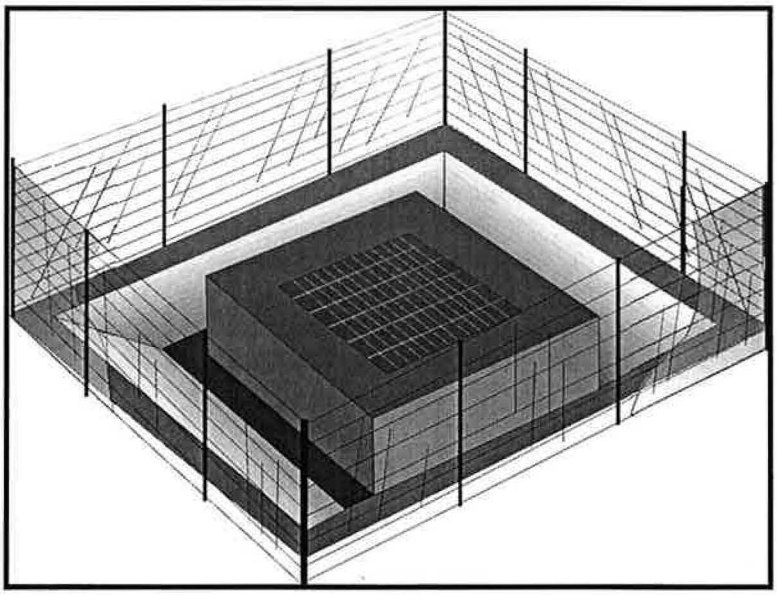
- Kick brooms or sweeper attachments shall not be used.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking shall be swept and/or vacuumed daily.
- If not mixed with debris or trash, consider incorporating the removed sediment back into the project.

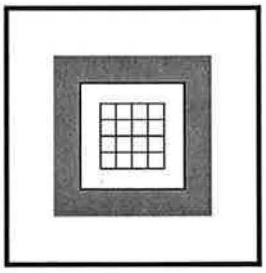
Maintenance and Inspection

- Inspect ingress/egress access points daily and sweep tracked sediment as needed, or as required by the Resident Engineer (RE).
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite in conformance with the provisions in Standard Specifications Section 7-1.13 .

Storm Drain Inlet Protection

SC-10





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Devices used at storm drain inlets that are subject to runoff from construction activities to detain and/or to filter sediment-laden runoff to allow sediment to settle and/or to filter sediment prior to discharge into storm drainage systems or watercourses.

Appropriate Applications

- Where ponding will not encroach into highway traffic.
- Where sediment laden surface runoff may enter an inlet.
- Where disturbed drainage areas have not yet been permanently stabilized.
- Where the drainage area is 0.4 ha (1 ac) or less.
- Appropriate during wet and snow-melt seasons.

Limitations

- Requires an adequate area for water to pond without encroaching upon traveled way and should not present itself to be an obstacle to oncoming traffic.
- May require other methods of temporary protection to prevent sediment-laden storm water and non-storm water discharges from entering the storm drain system.
- Sediment removal may be difficult in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use other on-site sediment trapping techniques (e.g. check dams) in conjunction with inlet protection.
- Frequent maintenance is required.
- For drainage areas larger than 0.4 ha (1 ac), runoff shall be routed to a sediment trapping device designed for larger flows. See BMPs SC-2, "Sediment/Desilting Basin," and SC-3 "Sediment Trap."

- Filter fabric fence inlet protection is appropriate in open areas that are subject to sheet flow and for flows not exceeding 0.014 m3/s (0.5 cfs).
- Gravel bag barriers for inlet protection are applicable when sheet flows or concentrated flows exceed 0.014 m3/s (0.5 cfs), and it is necessary to allow for overtopping to prevent flooding.
- Fiber rolls and foam barriers are not appropriate for locations where they cannot be properly anchored to the surface.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected and overflow capability is needed.

Standards and Specifications

Identify existing and/or planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed, and which method to use.

Methods and Installation

- ***DI Protection Type 1 - Filter Fabric Fence*** - The filter fabric fence (Type 1) protection is illustrated on Page 5. Similar to constructing a silt fence. See BMP SC-1, "Silt Fence." Do not place filter fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced.
- ***DI Protection Type 2 - Excavated Drop Inlet Sediment Trap*** - The excavated drop inlet sediment trap (Type 2) is illustrated in Page 6. Similar to constructing a temporary silt fence, See BMP SC-1, "Silt Fence." Size excavated trap to provide a minimum storage capacity calculated at the rate of 130 m3/ha (67 yd3/ac) of drainage area.
- ***DI Protection Type 3 – Gravel bag*** - The gravel bag barrier (Type 3) is illustrated in Page 7. Flow from a severe storm shall not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with BMP SC-6, "Gravel Bag Berm." Gravel bags shall be used due to their high permeability.
- ***DI Protection Type 4 – Foam Barriers and Fiber Rolls*** – Foam barrier or fiber roll (Type 4) is placed around the inlet and keyed and anchored to the surface. Foam barriers and fiber rolls are intended for use as inlet protection where the area around the inlet is unpaved and the foam barrier or fiber roll can be secured to the surface. RE or Construction Storm Water Coordinator approval is required.

Maintenance and Inspection

General

- Inspect all inlet protection devices before and after every rainfall event, and weekly during the rest of the rainy season. During extended rainfall events, inspect inlet protection devices at least once every 24 hours.

- Inspect the storm drain inlet after severe storms in the rainy season to check for bypassed material.
- Remove all inlet protection devices within thirty days after the site is stabilized, or when the inlet protection is no longer needed.
  - Bring the disturbed area to final grade and smooth and compact it. Appropriately stabilize all bare areas around the inlet.
  - Clean and re-grade area around the inlet and clean the inside of the storm drain inlet as it must be free of sediment and debris at the time of final inspection.

Requirements by Method

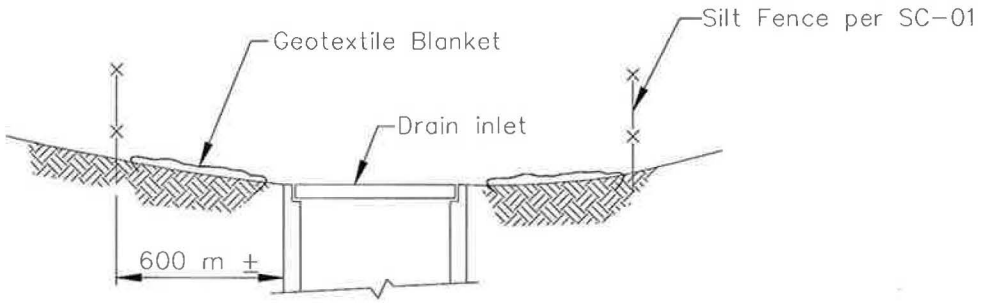
- ***Type 1 - Filter Fabric Fence***
  - This method shall be used for drain inlets requiring protection in areas where finished grade is established and erosion control seeding has been applied or is pending.
  - Make sure the stakes are securely driven in the ground and are structurally sound (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes.
  - Replace or clean the fabric when the fabric becomes clogged with sediment. Make sure the fabric does not have any holes or tears. Repair or replace fabric as needed or as directed by the RE.
  - At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height. Removed sediment shall be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications Section 7-1.13.
- ***Type 2 – Excavated Drop Inlet Sediment Trap***
  - This method may be used for drain inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas are subject to grading.
  - Remove sediment from basin when the volume of the basin has been reduced by one-half.
- ***Type 3 - Gravel Bag Barrier***
  - This method may be used for drain inlets surrounded by AC or paved surfaces.
  - Inspect bags for holes, gashes, and snags.

- Check gravel bags for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier. Removed sediment shall be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications Section 7-1.13.

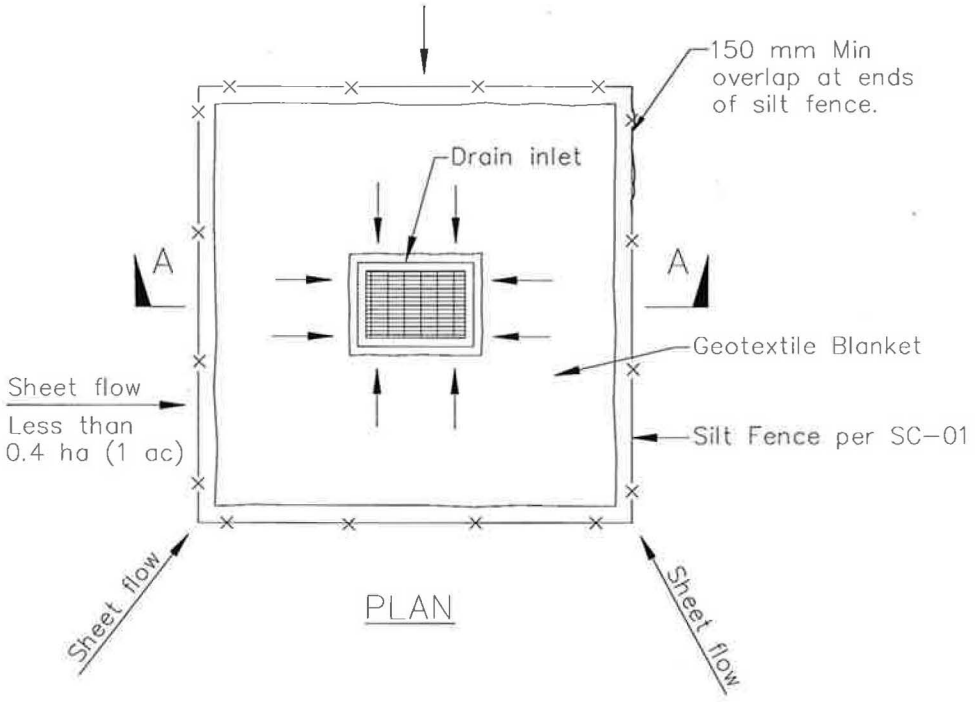
- ***Type 4 Foam Barriers and Fiber Rolls***

  - This method may be used for drain inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas subject to grading. RE or Construction Storm Coordinator approval is required.

  - Check foam barrier or fiber roll for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier. Removed sediment shall be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.



SECTION A–A



PLAN

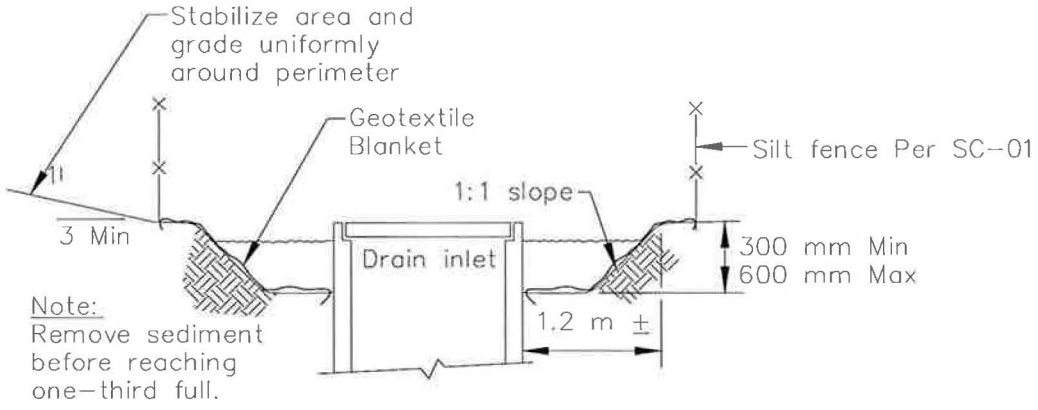
DI PROTECTION TYPE 1
NOT TO SCALE

NOTES:

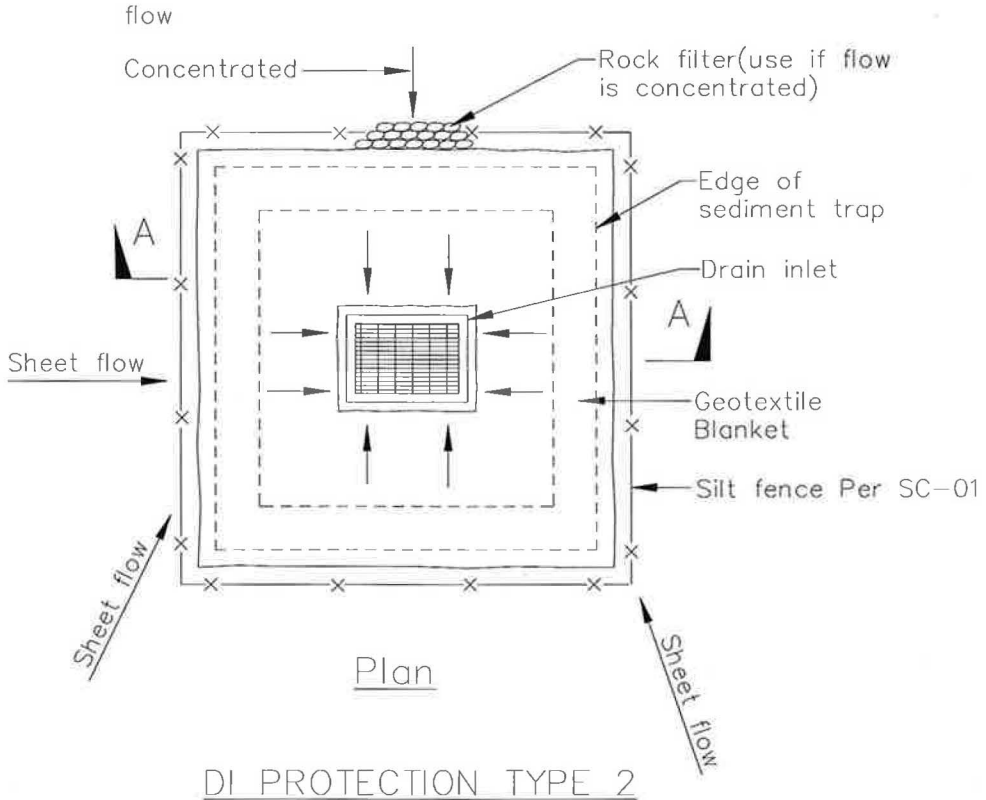
1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.

Storm Drain Inlet Protection

SC-10



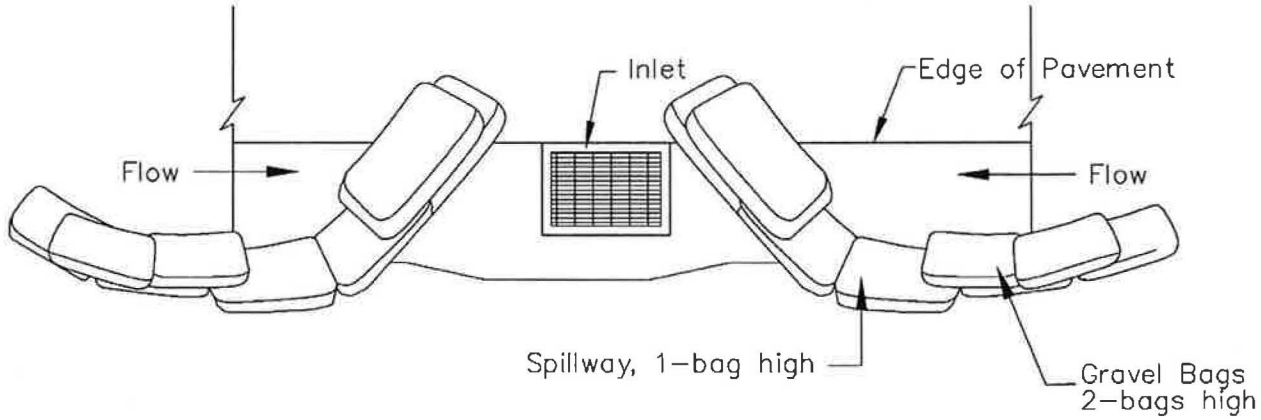
Section A–A



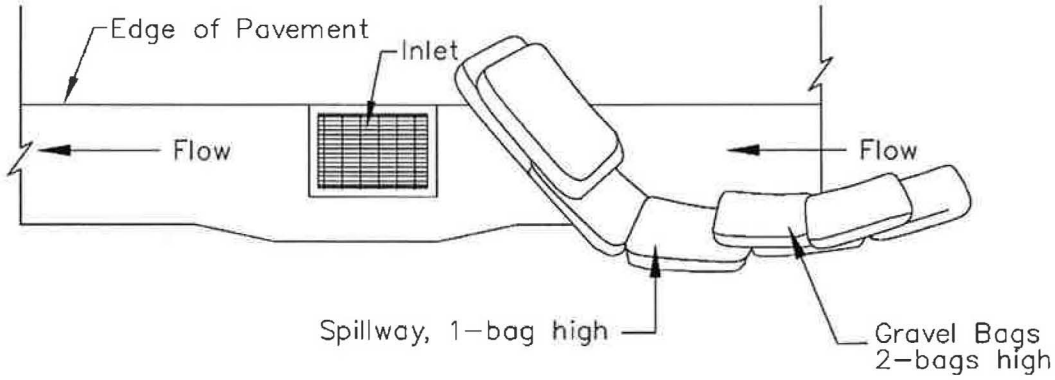
Plan

DI PROTECTION TYPE 2
NOT TO SCALE

Notes
1. For use in cleared and grubbed and in graded areas.
2. Shape basin so that longest inflow area faces longest length of trap.
3. For concentrated flows, shape basin in 2:1 ratio with length oriented towards direction of flow.



TYPICAL PROTECTION FOR INLET WITH OPPOSING FLOW DIRECTIONS



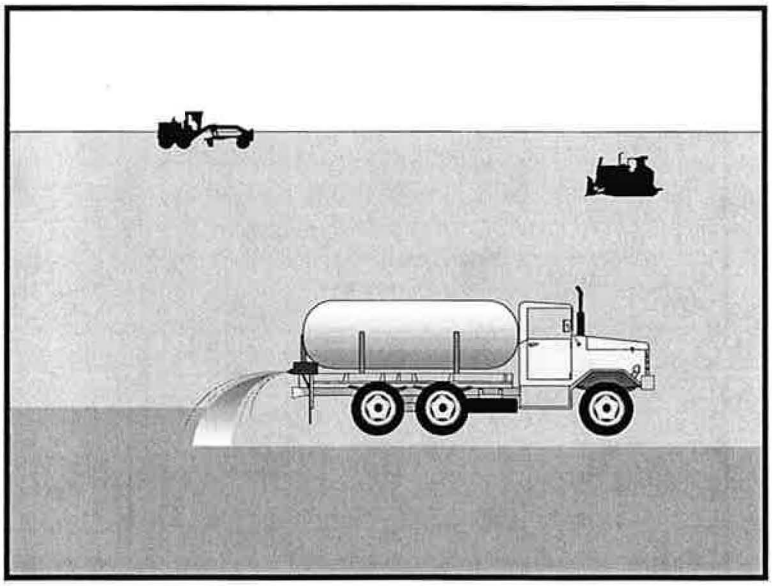
TYPICAL PROTECTION FOR INLET WITH SINGLE FLOW DIRECTION

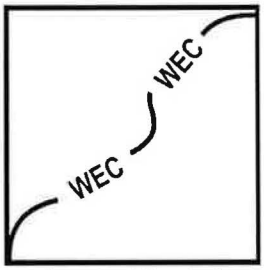
NOTES:

1. Intended for short–term use.
2. Use to inhibit non–storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed
5. Not applicable in areas with high silts and clays without filter fabric.

Wind Erosion Control

WE-1





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Wind erosion control consists of applying water and/or other dust palliatives as necessary to prevent or alleviate erosion by the forces of wind. Dust control shall be applied in accordance with Caltrans standard practices. Covering of small stockpiles or areas is an alternative to applying water or other dust palliatives.

Appropriate Applications

- This practice is implemented on all exposed soils subject to wind erosion.

Limitations

- Effectiveness depends on soil, temperature, humidity and wind velocity.

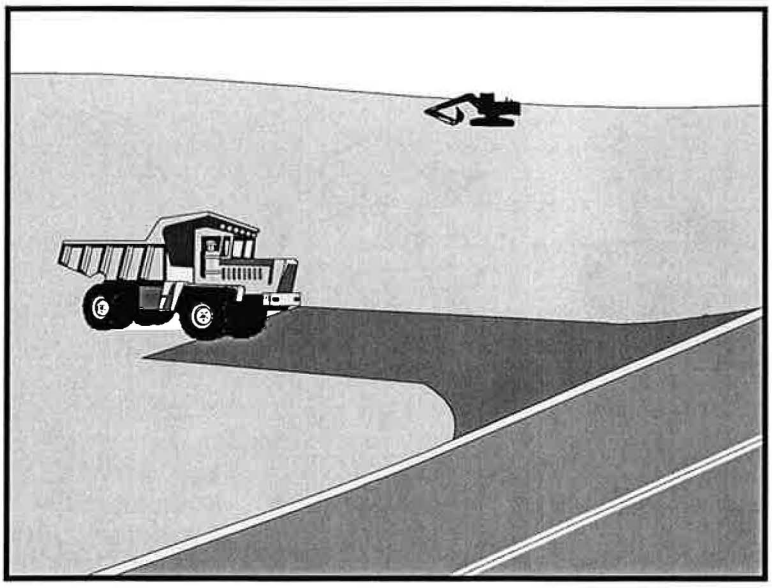
Standards and Specifications

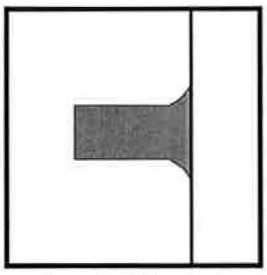
- Water shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment shall be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit shall be available at all times to apply water or dust palliative to the project.
- If reclaimed water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality Control Board requirements. Non-potable water shall not be conveyed in tanks or drain pipes that will be used to convey potable water and there shall be no connection between potable and non-potable supplies. Non-potable tanks, pipes and other conveyances shall be marked "NON-POTABLE WATER - DO NOT DRINK."
- Materials applied as temporary soil stabilizers and soil binders will also provide wind erosion control benefits.

Maintenance and Inspection

- Check areas that have been protected to ensure coverage.

Stabilized Construction Entrance/Exit TC-1





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ○ Sediment Control
- ● Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Appropriate Applications

- Use at construction sites:
  - Where dirt or mud can be tracked onto public roads.
  - Adjacent to water bodies.
  - Where poor soils are encountered.
  - Where dust is a problem during dry weather conditions.
- This BMP may be implemented on a project-by-project basis in addition to other BMPs when determined necessary and feasible by the Resident Engineer (RE).

Limitations

- Site conditions will dictate design and need.

Standards and Specifications

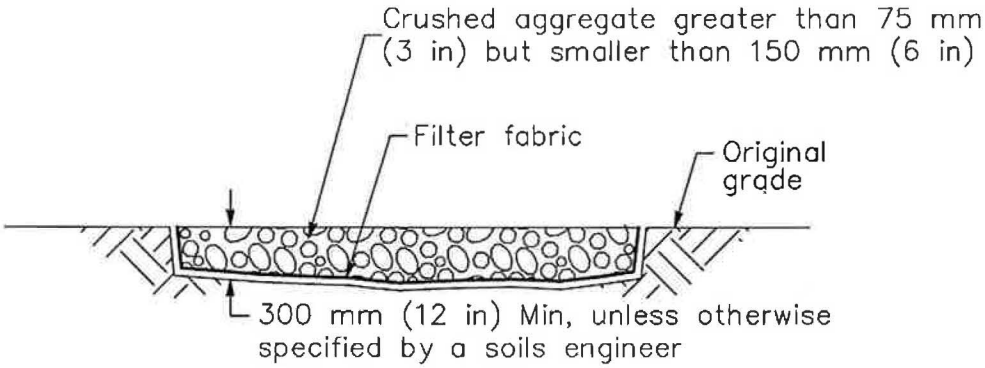
- Limit the points of entrance/exit to the construction site.
- Limit speed of vehicles to control dust.
- Properly grade each construction entrance/exit to prevent runoff from leaving the construction site.
- Route runoff from stabilized entrances/exits through a sediment-trapping device before discharge.
- Design stabilized entrance/exit to support the heaviest vehicles and equipment that will use it.

- Select construction access stabilization (aggregate, asphaltic concrete, concrete) based on longevity, required performance, and site conditions. The use of asphalt concrete (AC) grindings for stabilized construction access/roadway is not allowed.
- Use of constructed/manufactured steel plates with ribs for entrance/exit access is allowed with written approval from the RE.
- If aggregate is selected, place crushed aggregate over geotextile fabric to at least 300 mm (12 in) depth, or place aggregate to a depth recommended by the RE. Crushed aggregate greater than 75 mm (3 inches) and smaller than 150 mm (6 inches) shall be used.
- Designate combination or single purpose entrances and exits to the construction site.
- Implement BMP SC-7, "Street Sweeping and Vacuuming" as needed and as required.
- Require all employees, subcontractors, and suppliers to utilize the stabilized construction access.
- All exit locations intended to be used continuously and for a period of time shall have stabilized construction entrance/exit BMPs (TC-1 "Stabilized Construction Entrance/Exit" or TC-3 "Entrance/Outlet Tire Wash").

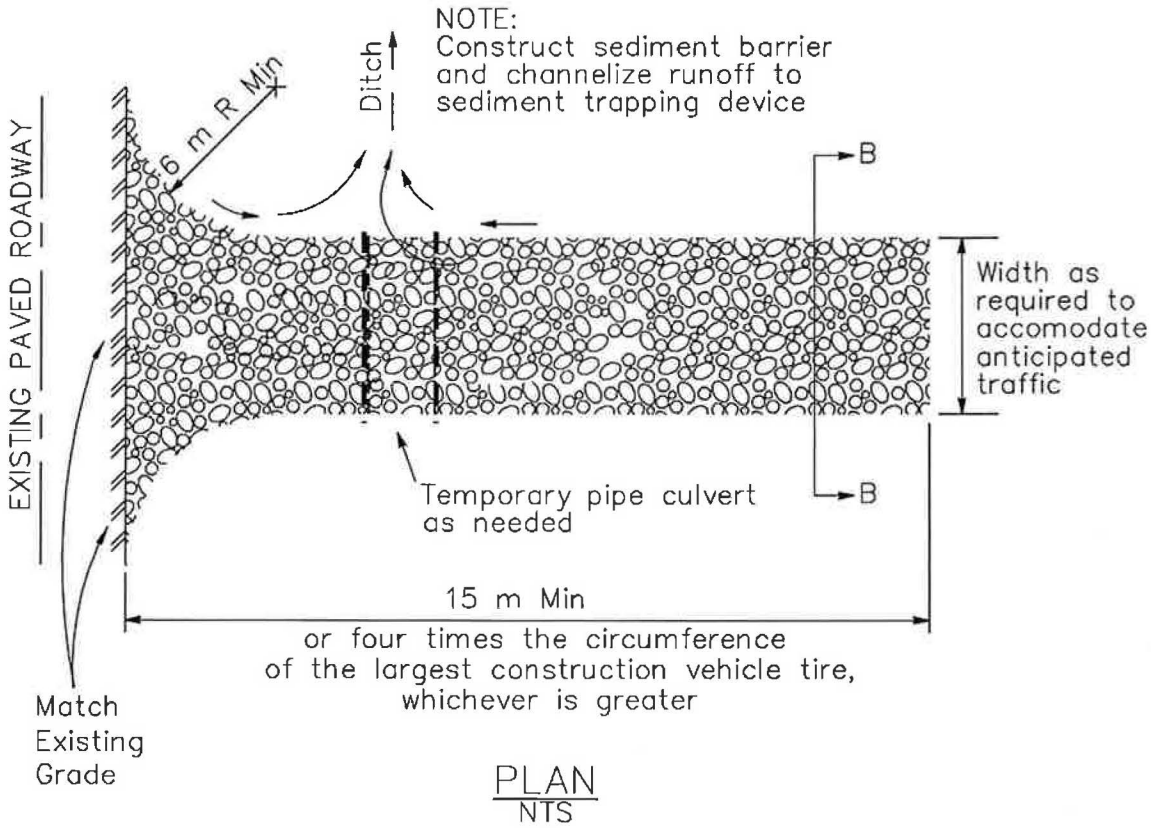
Maintenance and Inspection

- Inspect routinely for damage and assess effectiveness of the BMP. Remove aggregate, separate and dispose of sediment if construction entrance/exit is clogged with sediment or as directed by the RE.
- Keep all temporary roadway ditches clear.
- Inspect for damage and repair as needed.

Stabilized Construction Entrance/Exit TC-1



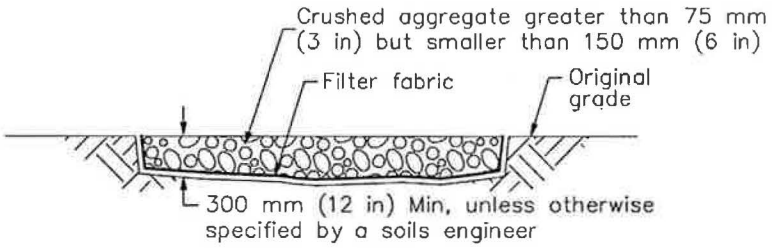
SECTION B–B
NTS



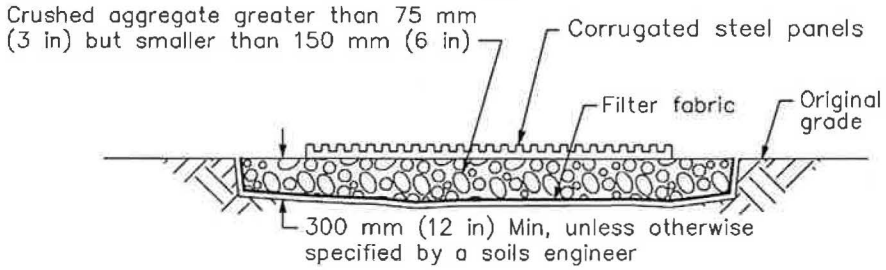
PLAN
NTS

Stabilized Contraction Entrance/Exit (Type 1)

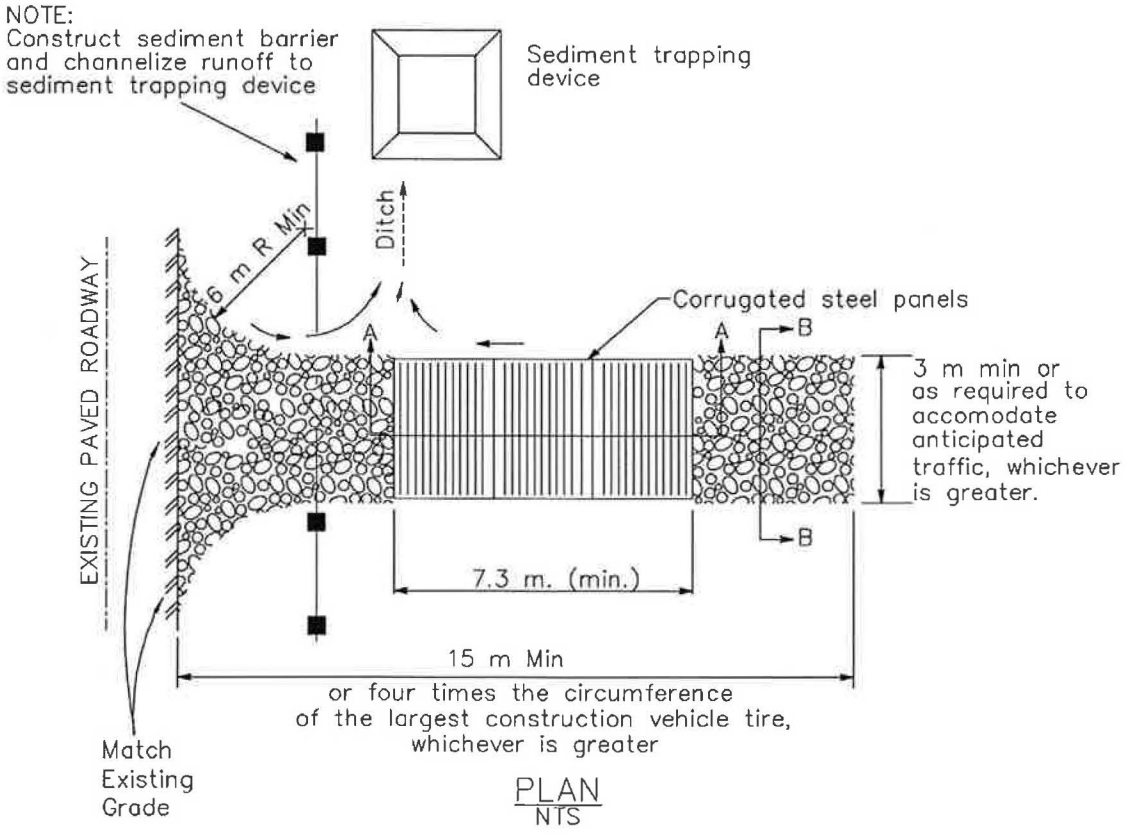
Stabilized Construction Entrance/Exit TC-1



SECTION B–B
NTS



SECTION A–A
NOT TO SCALE

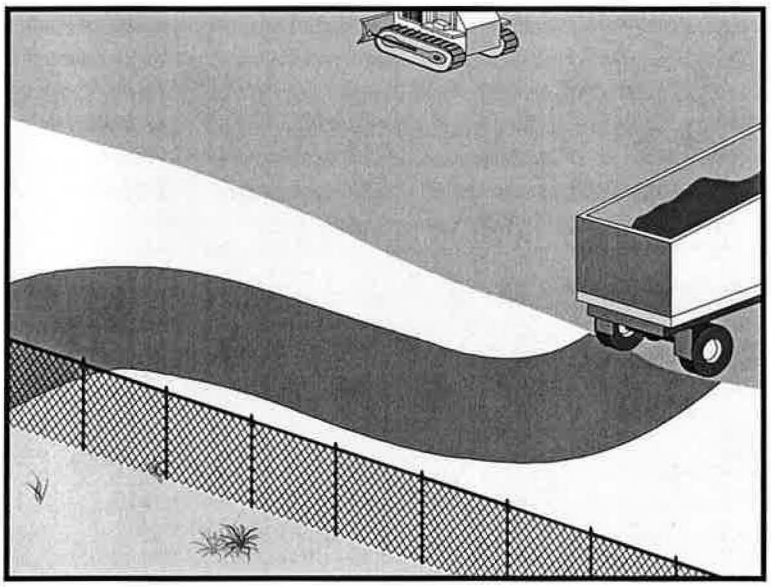


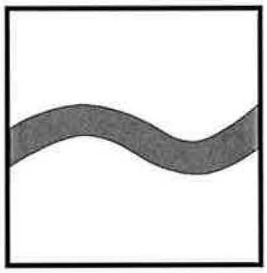
PLAN
NTS

Stabilized Construction Entrance/Exit (Type 2)

Stabilized Construction Roadway

TC-2





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ○ Sediment Control
- ● Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A stabilized construction roadway is a temporary access road. It is designed for the control of dust and erosion created by vehicular tracking.

Appropriate Applications

- Construction roadways and short-term detour roads:
  - Where mud tracking is a problem during wet weather.
  - Where dust is a problem during dry weather.
  - Adjacent to water bodies.
  - Where poor soils are encountered.
  - Where there are steep grades and additional traction is needed.
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the Resident Engineer (RE).

Limitations

- Materials will likely need to be removed prior to final project grading and stabilization.
- Site conditions will dictate design and need.
- May not be applicable to very short duration projects.
- Limit speed of vehicles to control dust.

Stabilized Construction Roadway

TC-2

Standards and Specifications

- Properly grade roadway to prevent runoff from leaving the construction site.
- Design stabilized access to support the heaviest vehicles and equipment that will use it.
- Stabilize roadway using aggregate, asphalt concrete, or concrete based on longevity, required performance, and site conditions. The use of cold mix asphalt or asphalt concrete (AC) grindings for stabilized construction roadway is not allowed.
- Coordinate materials with those used for stabilized construction entrance/exit points.
- If aggregate is selected, place crushed aggregate over geotextile fabric to at least 300 mm (12 in) depth, or place aggregate to a depth recommended by the RE or Construction Storm Water Coordinator. Crushed aggregate greater than 75 mm (3 inches) and smaller than 150 mm (6 inches) shall be used.

Maintenance and Inspection

- Inspect routinely for damage and repair as needed, or as directed by the RE.
- Keep all temporary roadway ditches clear.
- When no longer required, remove stabilized construction roadway and re-grade and repair slopes.

Water Conservation Practices

NS-1

Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Water conservation practices are activities that use water during the construction of a project in a manner that avoids causing erosion and/or the transport of pollutants off site.

Appropriate Applications

- Water conservation practices are implemented on all construction sites and wherever water is used.
- Applies to all construction projects.

Limitations

- None identified.

Standards and Specifications

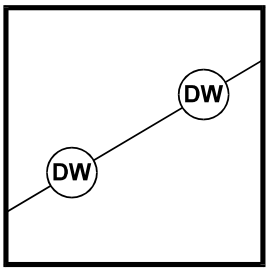
- Keep water equipment in good working condition.
- Stabilize water truck filling area.
- Repair water leaks promptly.
- Vehicles and equipment washing on the construction site is discouraged.
- Avoid using water to clean construction areas. Do not use water to clean pavement. Paved areas shall be swept and vacuumed.
- Direct construction water runoff to areas where it can infiltrate into the ground.
- Apply water for dust control in accordance with the Standard Specifications Section 10, and WE-1, "Wind Erosion Control."
- Report discharges to RE immediately.

Maintenance and Inspection

- Inspect water equipment at least weekly.
- Repair water equipment as needed.

Dewatering Operations

NS-2



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Dewatering Operations are practices that manage the discharge of pollutants when non-storm water and accumulated precipitation (storm water) must be removed from a work location so that construction work may be accomplished.

Appropriate Applications

- These practices are implemented for discharges of non-storm water and storm water (accumulated rain water) from construction sites. Non-storm water includes, but is not limited to, groundwater, dewatering of piles, water from cofferdams, water diversions, and water used during construction activities that must be removed from a work area.
- Practices identified in this section are also appropriate for implementation when managing the removal of accumulated precipitation (storm water) from depressed areas at a construction site.
- Storm water mixed with non-storm water should be managed as non-storm water.

Limitations

- Dewatering operations for non-storm water will require, and must comply with, applicable local permits, project-specific permits, and regulations.
- Site conditions will dictate design and use of dewatering operations.
- A dewatering plan shall be submitted as part of the SWPPP/WPCP detailing the location of dewatering activities, equipment, and discharge point.
- The controls discussed in this best management practice (BMP) address sediment only. If the presence of polluted water with hazardous substances is identified in the contract, the contractor shall implement dewatering pollution controls as required by the contract documents. If the quality of water to be removed by dewatering is not identified as polluted in the contract documents, but is later determined by observation or testing to be polluted, the contractor shall notify the Resident Engineer (RE) and comply with Standard Specifications Section 5-1.116, "Differing Site Conditions."

- Avoid dewatering discharges where possible by using the water for dust control, by infiltration, etc.

Standards and Specifications

- Dewatering shall be conducted in accordance with the Field Guide to Construction Site Dewatering, October 2001, CTSW-RT-01-010.
- Dewatering for accumulated precipitation (storm water) shall follow this BMP and use treatment measures specified herein.
- The RWQCB may require a separate NPDES permit prior to the dewatering discharge of non-storm water. These permits will have specific testing, monitoring, and discharge requirements and can take significant time to obtain.
- Except in RWQCB Regions 1 and 2, the discharge of accumulated precipitation (storm water) to a water body or storm drain is subject to the requirements of Caltrans NPDES permit. Sediment control and other appropriate BMPs (e.g., outlet protection/energy dissipation) must be employed when this water is discharged.
- RWQCB Regions 1 and 2 require notification and approval prior to any discharge of water from construction sites.
- In RWQCB Regions 3, 5, 7, and 9 non-storm water dewatering for discharges meeting certain conditions are allowed under an RWQCB general dewatering NPDES Permit. Notification and approval from the RWQCB is required prior to conducting these operations. This includes storm water that is mixed with groundwater or other non-storm water sources. Once the discharge is allowed, appropriate BMPs must be implemented to ensure that the discharge complies with all permit requirements. Conditions for potential discharge under an RWQCB general dewatering NPDES Permit include:
  - Regions 3, 5, 7: Non-storm water discharges, free of pollutants other than sediment, <0.25 MGD, with a duration of 4 or fewer months.
  - Region 9: Groundwater, free of pollutants other than sediment, <0.10 MGD, to surface waters other than San Diego Bay.
- The flow chart shown on Page 4 shall be utilized to guide dewatering operations.
- The RE will coordinate monitoring and permit compliance.
- Discharges must comply with regional and watershed-specific discharge requirements.
- Additional permits or permissions from other agencies may be required for dewatering cofferdams or diversions.
- Dewatering discharges must not cause erosion at the discharge point.

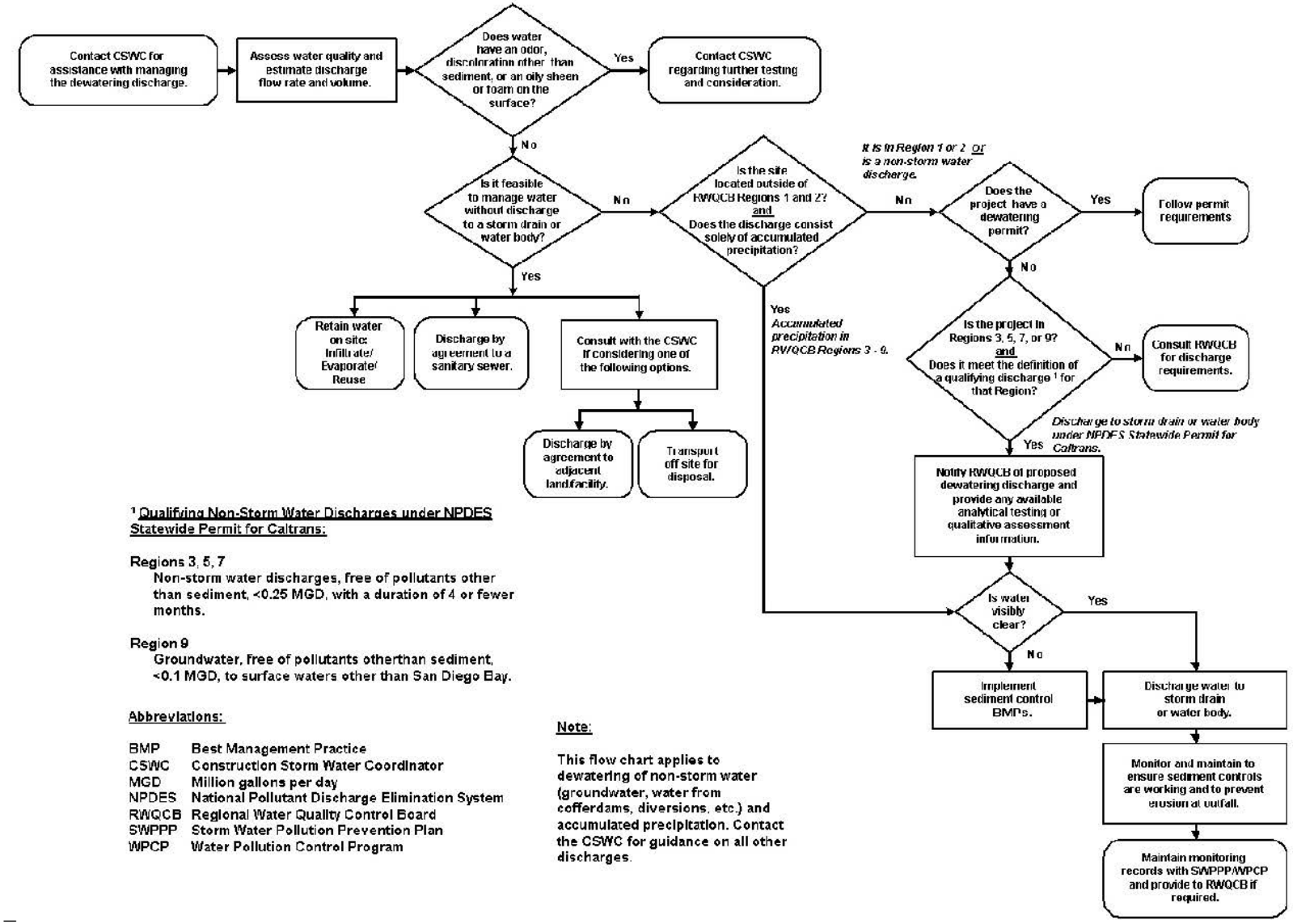
- Dewatering records shall be maintained for a period of 3 years.

Maintenance and Inspection

- Inspect all BMPs implemented to comply with permit requirements frequently and repair or replace to ensure the BMPs function as designed.
- Conduct water quality monitoring pursuant to the "Storm Water Dewatering Operations BMP Discharge Monitoring Forms".
- Accumulated sediment removed during the maintenance of a dewatering device may be incorporated in the project at locations designated by the RE or disposed of outside the right-of-way in conformance with the Standard Specifications.
- Accumulated sediment that is commingled with other pollutants must be disposed of in accordance with all applicable laws and regulations and as approved by the RE.

Dewatering Operations

NS-2



[1] Qualifying Non-Storm Water Discharges under NPDES Statewide Permit for Caltrans:

Regions 3, 5, 7
Non-storm water discharges, free of pollutants other than sediment, <0.25 MGD, with a duration of 4 or fewer months.

Region 9
Groundwater, free of pollutants otherthan sediment, <0.1 MGD, to surface waters other than San Diego Bay.

Abbreviations:

BMP	Best Management Practice
CSWC	Construction Storm Water Coordinator
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
WPCP	Water Pollution Control Program

Note:

This flow chart applies to dewatering of non-storm water (groundwater, water from cofferdams, diversions, etc.) and accumulated precipitation. Contact the CSWC for guidance on all other discharges.

=

Sediment Treatment

A variety of methods can be used to treat water during dewatering operations from the construction site. Several devices are presented in this section that provide options to achieve sediment removal. The size of particles present in the sediment and Permit or receiving water limitations on sediment are key considerations for selecting sediment treatment option(s); in some cases, the use of multiple devices may be appropriate.

Category 1: Constructed Settling Technologies

The devices discussed in this category are to be used exclusively for dewatering operations only.

Sediment/Desilting Basin (SC-2)

Description:

A desilting basin is a temporary basin with a controlled release structure that is formed by excavation and/or construction of an embankment to detain sediment-laden runoff and allow sediment to settle out before discharging.

Appropriate Applications:

- Effective for the removal of trash, gravel, sand, and silt and some metals that settle out with the sediment.

Implementation:

- Excavation and construction of related facilities is required.
- Temporary desilting basins must be fenced if safety is a concern.
- Outlet protection is required to prevent erosion at the outfall location.

Maintenance:

- Maintenance is required for safety fencing, vegetation, embankment, inlet and outfall structures, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

Sediment Trap (SC-3)

Description:

A sediment trap is a temporary basin formed by excavation and/or construction of an earthen embankment across a waterway or low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging.

Appropriate Applications:

- Effective for the removal of large and medium sized particles (sand and gravel) and some metals that settle out with the sediment.

Implementation:

- Excavation and construction of related facilities is required.
- Trap inlets shall be located to maximize the travel distance to the trap outlet.
- Use rock or vegetation to protect the trap outlets against erosion.

Maintenance:

- Maintenance is required for vegetation, embankment, inlet and outfall structures, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

Category 2: Mobile Settling Technologies

The devices discussed in this category are typical of tanks that can be used for sediment treatment of dewatering operations. A variety of vendors are available who supply these tanks.

Weir Tank

Description:

A weir tank separates water and waste by using weirs. The configuration of the weirs (over and under weirs) maximizes the residence time in the tank and determines the waste to be removed from the water, such as oil, grease, and sediments.

Appropriate Applications:

- The tank removes trash, some settleable solids (gravel, sand, and silt), some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

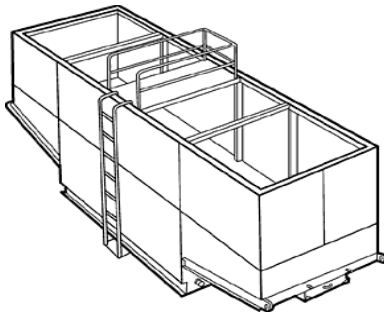
Implementation:

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors shall be consulted to appropriately size tank.

Maintenance:

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal must be by licensed waste disposal company.

Schematic Diagrams:



Weir Tanks

Dewatering Tank

Description:

A dewatering tank removes debris and sediment. Flow enters the tank through the top, passes through a fabric filter, and is discharged through the bottom of the tank. The filter separates the solids from the liquids.

Appropriate Applications:

- The tank removes trash, gravel, sand, and silt, some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

Implementation:

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors shall be consulted to appropriately size tank.

Maintenance:

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal must be by licensed waste disposal company.

Schematic Diagrams:

Dewatering Tanks

Category 3: Basic Filtration Technologies

Gravity Bag Filter

Description:

A gravity bag filter, also referred to as a dewatering bag, is a square or rectangular bag made of non-woven geotextile fabric that collects sand, silt, and fines.

Appropriate Applications:

- Effective for the removal of sediments (gravel, sand, and silt). Some metals are removed with the sediment.

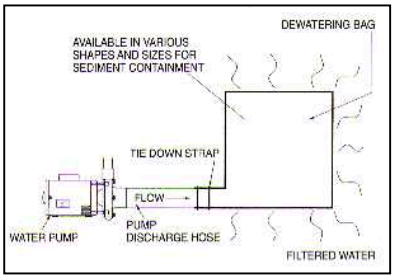
Implementation:

- Water is pumped into one side of the bag and seeps through the bottom and sides of the bag.
- A secondary barrier, such as a rock filter bed or straw/hay bale barrier, is placed beneath and beyond the edges of the bag to capture sediments that escape the bag.

Maintenance:

- Inspection of the flow conditions, bag condition, bag capacity, and the secondary barrier is required.
- Replace the bag when it no longer filters sediment or passes water at a reasonable rate.
- The bag is disposed off-site, or on-site as directed by the RE.

Schematic Diagrams:



Gravity Bag Filter

Category 4: Advanced Filtration Technologies

Sand Media Particulate Filter

Description:

Water is treated by passing it through canisters filled with sand media. Generally, sand filters provide a final level of treatment. They are often used as a secondary or higher level of treatment after a significant amount of sediment and other pollutants have been removed.

Appropriate Applications:

- Effective for the removal of trash, gravel, sand, and silt and some metals, as well as the reduction of biochemical oxygen demand (BOD) and turbidity.
- Sand filters can be used for standalone treatment or in conjunction with bag and cartridge filtration if further treatment is required.
- Sand filters can also be used to provide additional treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

Maintenance:

- The filters require monthly service to monitor and maintain the sand media.

Schematic Diagrams:

Sand Media Particulate Filters

Pressurized Bag Filter

Description:

A pressurized bag filter is a unit composed of single filter bags made from polyester felt material. The water filters through the unit and is discharged through a header, allowing for the discharge of flow in series to an additional treatment unit. Vendors provide pressurized bag filters in a variety of configurations. Some units include a combination of bag filters and cartridge filters for enhanced contaminant removal.

Appropriate Applications:

- Effective for the removal of sediment (sand and silt) and some metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Oil absorbent bags are available for hydrocarbon removal.
- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

Maintenance:

- The filter bags require replacement when the pressure differential exceeds the manufacturer's recommendation.

Schematic Diagrams:

Pressurized Bag Filter

Cartridge Filter

Description:

Cartridge filters provide a high degree of pollutant removal by utilizing a number of individual cartridges as part of a larger filtering unit. They are often used as a secondary or higher (polishing) level of treatment after a significant amount of sediment and other pollutants are removed. Units come with various cartridge configurations (for use in series with pressurized bag filters) or with a larger single cartridge filtration unit (with multiple filters within).

Appropriate Applications:

- Effective for the removal of sediment (sand, silt, and some clays) and metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Hydrocarbons can effectively be removed with special resin cartridges.
- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance.

Maintenance:

- The cartridges require replacement when the pressure differential exceeds the manufacturer's recommendation.

Schematic Designs:

Cartridge Filter

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM [a]

Central Coast Region (RWQCB 3)
For Inland Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]

Constituents	Units	Results		
		Effluent	Receiving Water [f]	
			Upstream (R-1)	Downstream (R-2)
Dissolved Oxygen	mg/L			
pH	unitless			
Turbidity	JTUs			

DISCHARGE LIMITATIONS [g, h, i]

Constituent	Units	EFFLUENT	RECEIVING WATER
		Daily Maximum	Daily Maximum
Dissolved Oxygen	mg/L	--	5.0 [j]
pH	unitless	--	Between 7.0 - 8.5 [j]
Turbidity	JTUs	--	20% (Where Ambient is 0 - 50 JTUs)
			10 (Where Ambient is 50 - 100 JTUs)
			10% (Where Ambient is > 100 JTUs)

NOTES:

Ambient - Upstream sample result (i.e., R-1)
BMP - Best Management Practice
JTUs - Jackson turbidity units
mg/L - Milligrams per liter
RWQCB - Regional Water Quality Control Board
SAR - Sodium absorption ratio
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDE permit or Waste Discharge Requirements.

b All inland surface waters, enclosed bays, and estuaries. **Based on the 1994 RWQCB 3 Basin Plan.** [http://www.swrcb.ca.gov/rwqcb3/BasinPlan/Index.htm]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e Dissolved oxygen, pH, and turbidity are required to be analyzed throughout the basin.
The following constituents shall be sampled if suspected to present in the discharge: ammonia for toxicity, MBAS, PCBs, phenols, and phthalate esters are required to be analyzed throughout the basin, however, bacteria, boron, chemical color, temperature, and total dissolved solids shall be analyzed if the project lies in an area designated for a specific beneficial use, as noted in the Basin Plan.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface waters.

h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan.

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Biostimulatory substances, floating material, oil and grease, pesticides, sediment, settleable materials, suspended materials, and tastes and odors.

j In addition, dissolved oxygen and pH have specific beneficial uses discharge limitations. See basin plan for specific limitations.

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM [a]

Los Angeles Region (RWQCB 4)
Los Angeles and Ventura Counties
For Inland Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]

Constituents	Units	Results		
		Effluent	Receiving Water [f]	
			Upstream (R-1)	Downstream (R-2)
pH	unitless			
Turbidity	NTUs			
TDS [j]	mg/L			

DISCHARGE LIMITATIONS [g, h, k, i]

Constituent	Units	EFFLUENT	RECEIVING WATER
		Daily Maximum	Daily Maximum
pH	unitless	--	Between 6.5 - 8.5 [j]
Turbidity	NTUs	--	20% (Where Ambient is 0 - 50 NTUs)
			10% (Where Ambient is > 50 NTUs)
TDS	mg/L	--	See Table 3-8 in Basin Plan

NOTES:

Ambient - Upstream sample result (ie. R-1)
BMP - Best Management Practice
mg/L - Milligrams per liter
NTUs - Nephelometric turbidity units
RWQCB - Regional Water Quality Control Board
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDES permit or Waste Discharge Requirements.

b All inland surface waters, enclosed bays, and estuaries, including wetlands. **Based on the 1995 RWQCB 4 Basin Plan.** [http://www.swrcb.ca.gov/rwqcb4/html/meetings/tmdl/Basin_plan/basin_plan_doc.html]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e pH, and turbidity are required to be analyzed throughout the basin, however, ammonia, bacteria/coliform, boron, chemical constituents, chloride, dissolved oxygen, methylene blue activated substances, nitrogen, pesticides, polychlorinated biphenyls, radioactive substances, sodium absorption ratio, sulfate, temperature, and total dissolved solids shall be analyzed if the project lies in an area designated for a specific beneficial use, as noted in the Basin Plan.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface waters

h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan.

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Bioaccumulation, biochemical oxygen demand, biostimulatory substances, color, exotic vegetation, floating material, oil and grease, solid/suspended/settleable materials, tastes and odors, and toxicity.

j In addition, ambient pH levels shall not be changed more than 0.2 units for inland surface waters, and 0.5 for bays or estuaries from natural conditions.

k See Table 3-8 in Basin Plan for applicable watershed

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM [a]

Central Valley Region (RWQCB 5)
Sacramento River Basin and The San Joaquin River Basin
For Inland Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No.	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]				
		Results		
		Effluent	Receiving Water [f]	
Constituents	Units		Upstream (R-1)	Downstream (R-2)
pH	unitless			
Turbidity	NTUs			

DISCHARGE LIMITATIONS [g, h, i]			
		EFFLUENT	RECEIVING WATER
		Daily	Daily
Constituent	Units	Maximum	Maximum
pH	unitless	--	Between 6.5 - 8.5
Turbidity	NTUs	--	1 NTU increase (Where Ambient is 0 - 5 NTUs)
			20% increase (Where Ambient is 5 - 50 NTUs)
			10 NTU increase (Where Ambient is 50 - 100 NTUs)
			10% increase (Where Ambient is > 100 NTUs)

NOTES:

Ambient - Upstream sample result (i.e., R-1)
BMP - Best Management Practice
NTUs - Nephelometric turbidity units
RWQCB - Regional Water Quality Control Board
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDES permit or Waste Discharge Requirements.

b All surface waters in the Sacramento and San Joaquin River Basins, including the Delta. **Based on the 1998 RWQCB 5a/5b Basin Plan.** [http://www.swrcb.ca.gov/rwqcb5/available_documents/index.html#anchor616381]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e Turbidity and pH are required to be analyzed throughout the basin, however, bacteria, chemical constituents, dissolved oxygen, pesticides, radioactivity, salinity, and temperature shall be analyzed if the project lies in an area designated for a specific beneficial use or along a specific waterbody, as noted in the Basin Plan.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface water

h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plar

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Biostimulatory substances, color, floating material, oil and grease, sediment, settleable material, suspended material, tastes and odors, and toxicity.

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM[a]

Central Valley Region (RWQCB 5)
Tulare Lake Basin
For Inland Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]				
		Results		
		Effluent	Receiving Water [f]	
Constituents	Units		Upstream (R-1)	Downstream (R-2)
pH	unitless			
Turbidity	NTUs			
Dissolved Oxygen	mg/L			
Electrical Conductivity	umho/cm			

DISCHARGE LIMITATIONS [g, h, i]			
		EFFLUENT	RECEIVING WATER
Constituent	Units	Daily Maximum	Daily Maximum
pH	unitless	--	Between 6.5 - 8.3 0.3 unit change for background
Turbidity	NTUs	--	1 (Where Ambient is 0 - 5 NTUs) 20% (Where Ambient is 5 - 50 NTUs) 10 (Where Ambient is 50 - 100 NTUs) 10% (Where Ambient is > 100 NTUs)
Dissolved Oxygen	mg/L		See Table III-1 in Basin Plan
Electrical Conductivity	umho/cm		See Table III-2 in Basin Plan

NOTES:

Ambient - Upstream sample result (i.e.. R-1)
BMP - Best Management Practice
cm - Centimeter
mg/L - Milligrams per liter
NTUs - Nephelometric turbidity units
RWQCB - Regional Water Quality Control Board
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDES permit or Waste Discharge Requirements.

b **Based on the 1995 RWQCB 5c Basin Plan.** [http://www.swrcb.ca.gov/rwqcb5/available_documents/index.html#anchor616381]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e Bacteria, chemical constituents, pesticides, radioactivity, salinity, and temperature shall be analyzed for a specific beneficial use as noted in the Basin Plan. Ammonia is suspected at elevated levels.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface water

h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Biostimulatory substances, color, floating material, oil and grease, sediment, settleable material, suspended material, tastes and odors, and toxicity.

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM [a]

Lahontan Region (RWQCB 6)
For Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]

Constituents	Units	Results		
		Effluent	Receiving Water [f]	
			Upstream (R-1)	Downstream (R-2)
pH	unitless			
Turbidity	NTUs			

DISCHARGE LIMITATIONS [g, h, i]

Constituent	Units	EFFLUENT	RECEIVING WATER
		Daily Maximum	Daily Maximum
pH	unitless	--	Between 6.5 - 8.5 [i]
Turbidity	NTUs	--	10% of Ambient [j]

NOTES:

Ambient - Upstream sample result (i.e., R-1)
BMP - Best Management Practice
NTUs - Nephelometric turbidity units
mg/L - Milligrams per liter
RWQCB - Regional Water Quality Control Board
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDES permit or Waste Discharge Requirements.

b All surface waters including wetlands. **Based on the 1994 RWQCB 6 Basin Plan.** [http://www.swrcb.ca.gov/rwqcb6/BPlan/BPlan_Index.htm]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e pH and turbidity are required to be analyzed throughout the basin, however, adjusted sodium adsorption ration, algal growth potential, biological indicators, biostimulatory substances, boron, chemical constituents, chlorophyll-a, clarity, color, dissolved inorganic nitrogen, dissolved orthophosphate, dissolved oxygen, electrical conductivity, fluoride, iron, nitrogen as nitrate, pesticides, plankton counts, radioactivity, sodium adsorption ratio, soluble reactive iron, soluble reactive phosphorous, species composition, sulfate, suspended sediment, tastes & odors, temperatures, total dissolved solids, total alkalinity as carbonate, total kjeldahl nitrogen, total nitrogen, total phosphorous, total reactive iron, toxicity, transparency, un-ionized ammonia shall be analyzed if the project lies in an area designated for a specific beneficial use, as noted in the Basin Plan. Bacteria/Coliform if high levels are suspected. Residual chlorine if suspected to be present.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface waters

h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan.

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Floating material, nondegradation of aquatic communities and populations, oil and grease, sediment, settleable materials, and suspended materials.

j In addition, bacteria/coliform, pH, total residual chlorine, and turbidity have specific beneficial uses and/or location specific discharge limitations. See basin plan for specific limitations.

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM[a]

Colorado River Basin Region (RWQCB 7)
For Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No.	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]				
		Results		
		Effluent	Receiving Water [f]	
Constituents	Units		Upstream (R-1)	Downstream (R-2)
pH	unitless			
TDS [f]	mg/L			

DISCHARGE LIMITATIONS [g, h, i]			
		EFFLUENT	RECEIVING WATER
Constituent	Units	Daily Maximum	Daily Maximum
pH	unitless	--	Between 6.0 - 9.0
TDS [g]	mg/L	--	See Basin Plan

NOTES:

BMP - Best Management Practice

RWQCB - Regional Water Quality Control Board

-- - Not required

> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDES permit or Waste Discharge Requirements.

b **Based on the 2002 RWQCB 7 Water Quality Plan.**
[http://www.swrcb.ca.gov/rwqcb7/documents/RB7Plan.pdf]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e Bacteria, biochemical oxygen demand, chemical constituents, chemical oxygen demand, dissolved oxygen, radioactivity, and selenium shall be analyzed for specific beneficial uses as noted in the Basin Plan.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g Total Dissolved Solids (TDS) has specific location discharge limitations. See basin plan for specific limitations.

h If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface waters

i All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan.

j Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Biostimulatory substances, color, floating material, herbicides, oil and grease, pesticides, sediment, settleable and suspended solids, tainting substances, tastes and odors, temperature, toxicity, and turbidity.

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM [a]

Santa Ana Region (RWQCB 8)
For Inland Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]				
		Results		
		Effluent	Receiving Water [f]	
Constituents	Units		Upstream (R-1)	Downstream (R-2)
pH	unitless			
Turbidity	NTUs			
TDS	mg/L			

DISCHARGE LIMITATIONS [g, h, i, j]			
		EFFLUENT	RECEIVING WATER
Constituent	Units	Daily Maximum	Daily Maximum
pH	unitless	--	Between 7.0 - 8.6 (bays and estuaries)
		--	Between 6.5 - 8.5 (inland surface waters)
Turbidity	NTUs	--	20% (Where Ambient is 0 - 50 NTUs)
			10 NTUs (Where Ambient is 50 - 100 NTUs)
			10% (Where Ambient is > 100 NTUs)
TDS	mg/L	--	See Table 4-1 in Basin Plan

NOTES:

Ambient - Upstream sample result (i.e.. R-1)
BMP - Best Management Practice
NTUs - Nephelometric turbidity units
mg/L - Milligrams per liter
RWQCB - Regional Water Quality Control Board
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDE permit or Waste Discharge Requirements.

b All inland surface waters including streams, rivers, lakes, and wetlands. **Based on the 1995 RWQCB 8 Basin Plan.** [http://www.swrcb.ca.gov/rwqcb8/pdf/R8BPlan.pdf]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e Bacteria/coliform, dissolved oxygen, fluoride, methylene blue-activated substances (MBAS), metals, nitrate, radioactivity, temperature, and un-ionized ammonia shall be analyzed for a specific beneficial use, as noted in the Basin Plan. Boron, Residual Chlorine, Hardness, sodium, chloride, total inorganic nitrogen, sulfate, and chemical oxygen demand if present at elevated levels.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface waters.

h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan.

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses of the following: Algae, color, floatables, oil and grease, suspended & settleable solids, sulfides, sulfides, surfactants, tastes and odors, and toxic substances.

j Total dissolved solids (TDS), hardness, sodium (Na), chloride (Cl), total inorganic nitrogen (TIN), sulfate (SO_4) and chemical oxygen demand (COD) shall be analyzed for specific waterbodies as identified in the Basin Plan.

STORM WATER DEWATERING OPERATIONS BMP DISCHARGE MONITORING FORM [a]

San Diego Region (RWQCB 9)
For Inland Surface Waters [b]

GENERAL INFORMATION	
Project Name	
Contract No	
Contractor	
Sampler's Name	
Sampler's Signature	
Date Discharge Began	
Date of Sampling	

WATER SAMPLE LOG [c, d, e]

Constituents	Units	Results		
		Effluent	Receiving Water [f]	
			Upstream (R-1)	Downstream (R-2)
pH	unitless			
Turbidity	NTUs			
TDS	mg/L			
Dissolved Oxygen	mg/L			
Color				

DISCHARGE LIMITATIONS [g, h, i]

Constituent	Units	EFFLUENT Daily Maximum	RECEIVING WATER Daily Maximum
pH	unitless	--	Between 6.5 - 8.5
Turbidity	NTUs	--	20% (Where Ambient is 0 - 50 NTUs) 10 NTUs (Where Ambient is 50 - 100 NTUs) 10% (Where Ambient is > 100 NTUs) 0.2 NTUs (ocean waters)
TDS	mg/L		See Table 3-2 in Basin Plan
Dissolved Oxygen	mg/L		5.0 mg/l in inland surface waters 6.0 mg/l in waters with designated COLD beneficial uses
Color		--	See Table 3-2 in Basin Plan

NOTES:

Ambient - Upstream sample result (i.e.. R-1)
BMP - Best Management Practice
NTUs - Nephelometric turbidity units
mg/L - Milligrams per liter
RWQCB - Regional Water Quality Control Board
-- - Not required
> - Greater Than

a This form shall be used only for dewatering of storm water/accumulated precipitation. Dewatering non-storm water shall monitor constituents required in the applicable NPDES permit or Waste Discharge Requirements.

b All inland surface waters, enclosed bays, and estuaries and coastal lagoons. **Based on the 1994 RWQCB 9 Basin Plan.** [http://www.swrcb.ca.gov/rwqcb9/programs/basinplan.html]

c Collect monthly samples. The first sample shall be collected at the start of the discharge and the last sample shall be collected at the completion of the discharge. Use the same sample collection criteria for discharges less than one month in duration for a total of two samples per discharge event.

d Each constituent will be analyzed in the effluent and the two receiving water samples.

e Bacteria, E. Coli & enterococci, biostimulatory substances, dissolved oxygen, inorganic chemicals, organic chemicals, pesticides, phenolic compounds, radioactivity, tastes & odors, temperatures, and trihalomethanes shall be analyzed for specific beneficial use, as noted in the Basin Plan.
Un-ionized Ammonia, chloride, sulfate, sodium, iron, manganese, MBAS, boron, and fluoride if suspected at elevated levels.

f R-1 shall be collected 100 feet upstream from the closest point of discharge. R-2 shall be collected 100 feet downstream from the closest point of discharge.

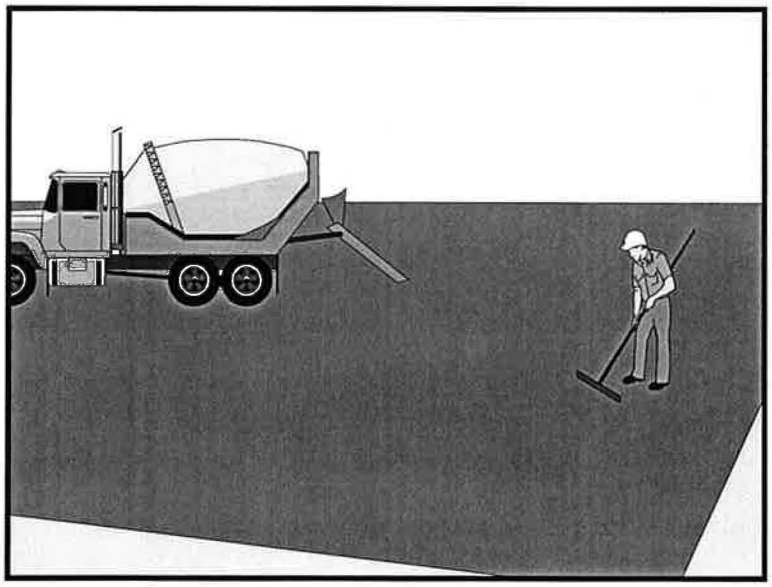
g If the results from receiving water sample exceed any of the discharge limits then discontinue dewatering activities to surface waters.

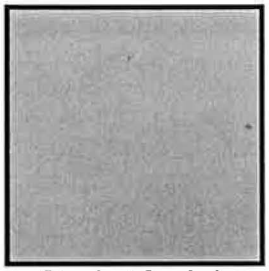
h All discharge limitations are listed in the Water Quality Objectives Section of the Basin Plan.

i Water shall not contain concentrations that cause nuisance or adversely affect beneficial uses as required in the Basin Plan.

Paving and Grinding Operations

NS-3





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Procedures and practices for conducting paving, saw cutting, and grinding operations to minimize the transport of pollutants to the storm drain system or receiving water body.

Appropriate Applications

These procedures are implemented where paving, surfacing, resurfacing, grinding or sawcutting, may pollute storm water runoff or discharge to the storm drain system or watercourses.

Limitations

- Finer solids are not effectively removed by filtration systems.
- Paving opportunities may be limited during wet weather.

Standards and Specifications

- Substances used to coat asphalt transport trucks, asphalt trucks, and asphalt spreading equipment shall not contain soap and shall be non-foaming and non-toxic.
- Place plastic materials under asphaltic concrete (AC) paving equipment while not in use, to catch and/or contain drips and leaks. See also BMP WM-4, "Spill Prevention and Control."
- When paving involves AC, the following steps shall be implemented to prevent the discharge of uncompacted or loose AC, tack coats, equipment cleaners, or other paving materials:
  - Minimize sand and gravel from new asphalt from getting into storm drains, streets, and creeks by sweeping.
  - Old or spilled asphalt must be recycled or disposed as approved by the Resident Engineer (RE).

- AC grindings, pieces, or chunks used in embankments or shoulder backing must not be allowed to enter any storm drain or watercourses. Install silt fence until structure is stabilized or permanent controls are in place.
- Collect and remove all broken asphalt and recycle when practical; otherwise, dispose in accordance with Standard Specification 7-1.13.
- Any AC chunks and pieces used in embankments must be placed above the water table and covered by at least 0.3 m (1 ft) of material.
- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate must not be allowed to enter any storm drain or water courses. Use silt fence until installation is complete.
- Use only non-toxic substances to coat asphalt transport trucks and asphalt spreading equipment.

- Drainage inlet structures and manholes shall be covered with filter fabric during application of seal coat, tack coat, slurry seal, and/or fog seal.
- Seal coat, tack coat, slurry seal, or fog seal shall not be applied if rainfall is predicted to occur during the application or curing period.
- Paving equipment parked onsite shall be parked over plastic to prevent soil contamination.
- Clean asphalt-coated equipment off-site whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in BMP WM-5, "Solid Waste Management." Any cleaning onsite shall follow BMP NS-8, "Vehicle and Equipment Cleaning."
- Do not wash sweepings from exposed aggregate concrete into a storm drain system. Collect and return to aggregate base stockpile, or dispose of properly.
- Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in BMP WM-8, "Concrete Waste Management," or dispose in accordance with Standard Specifications Section 7-1.13.
- Do not allow saw-cut Portland Concrete Cement (PCC) slurry to enter storm drains or watercourses.

Pavement Grinding or Removal

- Residue from PCC grinding operations shall be picked up by means of a vacuum attachment to the grinding machine, shall not be allowed to flow across the pavement, and shall not be left on the surface of the pavement. See also BMP WM-8, "Concrete Waste Management;" and BMP WM-10, "Liquid Waste Management," and Standard Specifications Section 42-2

"Grindings."

- Collect pavement digout material by mechanical or manual methods. This material may be recycled if approved by the RE for use as shoulder backing or base material at locations approved by the RE.
- If digout material cannot be recycled, transport the material back to a maintenance facility or approved storage site.
- Digout activities shall not be conducted in the rain.
- When approved by the RE, stockpile material removed from roadways away from drain inlets, drainage ditches, and watercourses and stored consistent with BMP WM-3, "Stockpile Management."
- Disposal or use of AC grindings shall be approved by the RE. See also BMP WM-8, "Concrete Waste Management."

Thermoplastic Striping

- All thermoplastic striper and pre-heater equipment shutoff valves shall be inspected to ensure that they are working properly to prevent leaking thermoplastic from entering drain inlets, the storm water drainage system, or watercourses.
- The pre-heater shall be filled carefully to prevent splashing or spilling of hot thermoplastic. Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move when the vehicle is deadheaded.
- Contractor shall not pre-heat, transfer, or load thermoplastic near drain inlets or watercourses.
- Clean truck beds daily of loose debris and melted thermoplastic. When possible recycle thermoplastic material. Thermoplastic waste shall be disposed of in accordance with Standard Specification 7-1.13.

Raised/Recessed Pavement Marker Application and Removal

- Do not transfer or load bituminous material near drain inlets, the storm water drainage system or watercourses.
- Melting tanks shall be loaded with care and not filled to beyond six inches from the top to leave room for splashing when vehicle is deadheaded.
- When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
- On large scale projects, use mechanical or manual methods to collect excess

bituminous material from the roadway after removal of markers.

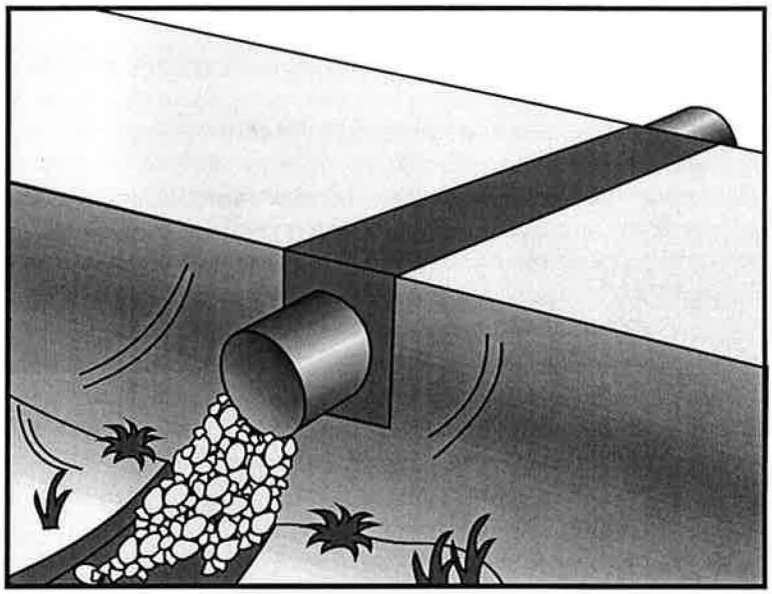
- Waste shall be disposed of in accordance with Standard Specification 7-1.13.

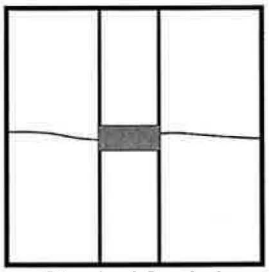
Maintenance and Inspection

- Inspect and maintain machinery regularly to minimize leaks and drips.
- Ensure that employees and subcontractors are implementing appropriate measures during paving operations.

Temporary Stream Crossing

NS-4





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

A temporary stream crossing is a structure placed across a waterway that allows vehicles to cross the waterway during construction, minimizing, reducing, or managing erosion and downstream sedimentation caused by the vehicles.

Appropriate Applications

Temporary stream crossings are installed at sites:

- Where appropriate permits have been secured (1601 Agreements, 404 Permits, and 401 Certification).
- Where construction equipment or vehicles need to frequently cross a waterway.
- When alternate access routes impose significant constraints.
- When crossing perennial streams or waterways causes significant erosion.
- Where construction activities will not last longer than one year.

Limitations

- Will usually disturb the waterway during installation and removal.
- May require Regional Water Quality Control Board (RWQCB) 401 Certification, U.S. Army Corps of Engineers 404 permit and approval by California Department of Fish and Game. If numerical-based water quality standards are mentioned in any of these and other related permits, testing and sampling may be required. If monitoring related to these numerical-based water quality standards is not addressed in the contract documents, contact the Resident Engineer (RE).
- Installation may require dewatering or temporary diversion of the stream. See BMP NS-2, "Dewatering Operations" and NS-5, "Clear Water Diversion."
- May become a constriction in the waterway, which can obstruct flood flow and cause flow backups or washouts. If improperly designed, flow backups can increase the pollutant load through washouts and scouring.

- Use of natural or other gravel in the stream for construction of Cellular Confinement System (CCS) (refer to figure at the end of the section) ford crossing will be contingent upon approval by fisheries agencies.
- Ford crossings may degrade water quality due to contact with vehicles and equipment.
- CCS should not be used in excessively high or fast flows.
- Upon completion of construction activities, CCS blocks must be removed from stream.

Standards and Specifications

General Considerations

Location of the temporary stream crossing shall address:

- Site selection where erosion potential is low.
- Areas where the side slopes from highway runoff will not spill into the side slopes of the crossing.

The following types of temporary stream crossings shall be considered:

- Culverts - Used on perennial and intermittent streams.
- Fords - Appropriate during the dry season in arid areas. Used on dry washes and ephemeral streams, and low flow perennial streams. CCS, a type of ford crossing is also appropriate for use in streams.
- Bridges - Appropriate for streams with high flow velocities, steep gradients and/or where temporary restrictions in the channel are not allowed.

Design and installation requires knowledge of stream flows and soil strength. Designs shall be prepared under direction of, and approved by, a registered civil and/or structural engineer. Both hydraulic and construction loading requirements shall be considered with the following:

- Comply with the requirements for culvert and bridge crossings, as contained in the Caltrans Highway Design Manual, particularly if the temporary stream crossing will remain through the rainy season.
- Provide stability in the crossing and adjacent areas to withstand the design flow. The design flow and safety factor shall be selected based on careful evaluation of the risks due to over topping, flow backups, or washout.
- Avoid oil or other potentially hazardous waste materials for surface treatment.

Construction Considerations:

- Stabilize construction roadways, adjacent work area and stream bottom against erosion.

- Construct during dry periods to minimize stream disturbance and reduce costs.
- Construct at or near the natural elevation of the stream bed to prevent potential flooding upstream of the crossing.
- Install temporary sediment control BMPs in accordance with sediment control BMPs presented in Section 4 to minimize erosion of embankment into flow lines.
- Vehicles and equipment shall not be driven, operated, fueled, cleaned, maintained, or stored in the wet or dry portions of a water body where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as authorized by the RE, as necessary to complete the work.
- Temporary water body crossings and encroachments shall be constructed to minimize scour. Cobbles used for temporary water body crossings or encroachments shall be clean, rounded river cobble.
- The exterior of vehicles and equipment that will encroach on the water body within the project shall be maintained free of grease, oil, fuel, and residues.
- Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. Precautions shall be taken to avoid damage to vegetation by people or equipment. Disturbed vegetation shall be replaced with the appropriate soil stabilization measures.
- Riparian vegetation, when removed pursuant to the provisions of the work, shall be cut off no lower than ground level to promote rapid re-growth. Access roads and work areas built over riparian vegetation shall be covered by a sufficient layer of clean river run cobble to prevent damage to the underlying soil and root structure. The cobble shall be removed upon completion of project activities.
- Any temporary artificial obstruction placed within flowing water shall only be built from material, such as clean gravel, that will cause little or no siltation.
- Drip pans shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Conceptual temporary stream crossings are shown in figures at the end of this section.

Specific Considerations:

- Culverts are relatively easy to construct and able to support heavy equipment loads.
- Fords are the least expensive of the crossings, with maximum load limits.
- Temporary fords are not appropriate if construction will continue through the rainy season, if thunderstorms are likely, or if the stream is perennial.

- CCS crossing structures consist of clean, washed gravel and cellular confinement system blocks. CCS are appropriate for streams that would benefit from an influx of gravel; for example, salmonid streams, streams or rivers below reservoirs, and urban, channelized streams. Many urban stream systems are gravel-deprived due to human influences, such as dams, gravel mines, and concrete channels.
- CCS allow designers to use either angular or naturally-occurring, rounded gravel, because the cells provide the necessary structure and stability. In fact, natural gravel is optimal for this technique, because of the habitat improvement it will provide after removal of the CCS.
- A gravel depth of 152 to 305 mm (6 to 12 inches) for a CCS structure is sufficient to support most construction equipment.
- An advantage of a CCS crossing structure is that relatively little rock or gravel is needed, because the CCS provides the stability.
- Bridges are generally more expensive to design and construct, but provides the least disturbance of the stream bed and constriction of the waterway flows.

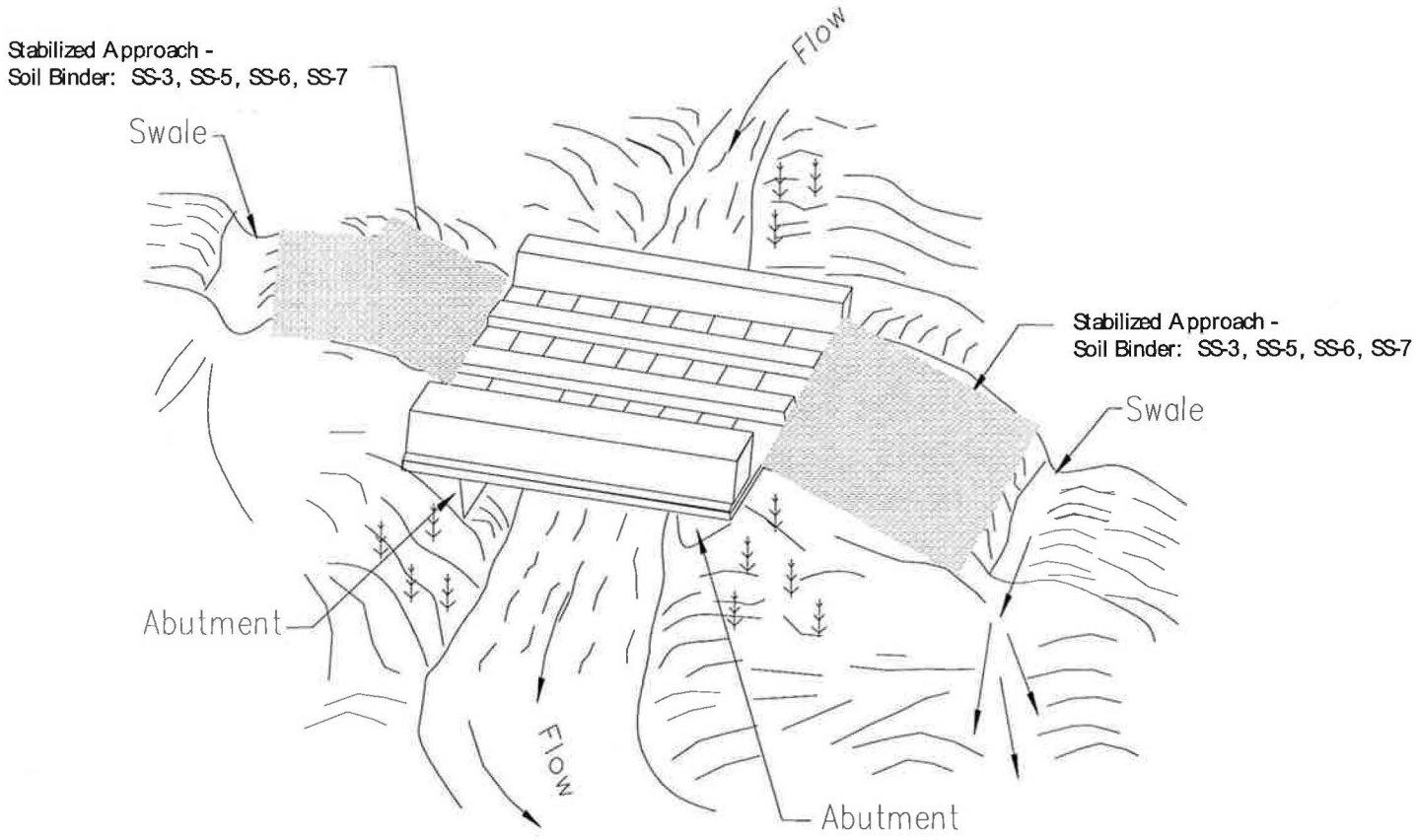
Maintenance and Inspection

Maintenance provisions shall include:

- Periodic removal of debris behind fords, in culverts, and under bridges.
- Replacement of lost protective aggregate from inlets and outlets of culverts.
- Removal of temporary crossing promptly when it is no longer needed.
- Inspection shall, at a minimum, occur weekly and after each significant rainfall, and include:
  - Checking for blockage in the channel, debris buildup in culverts or behind fords, and under bridges.
  - Checking for erosion of abutments, channel scour, riprap displacement, or piping in the soil.
  - Checking for structural weakening of the temporary crossing, such as cracks, and undermining of foundations and abutments.

Temporary Stream Crossing

NS-4

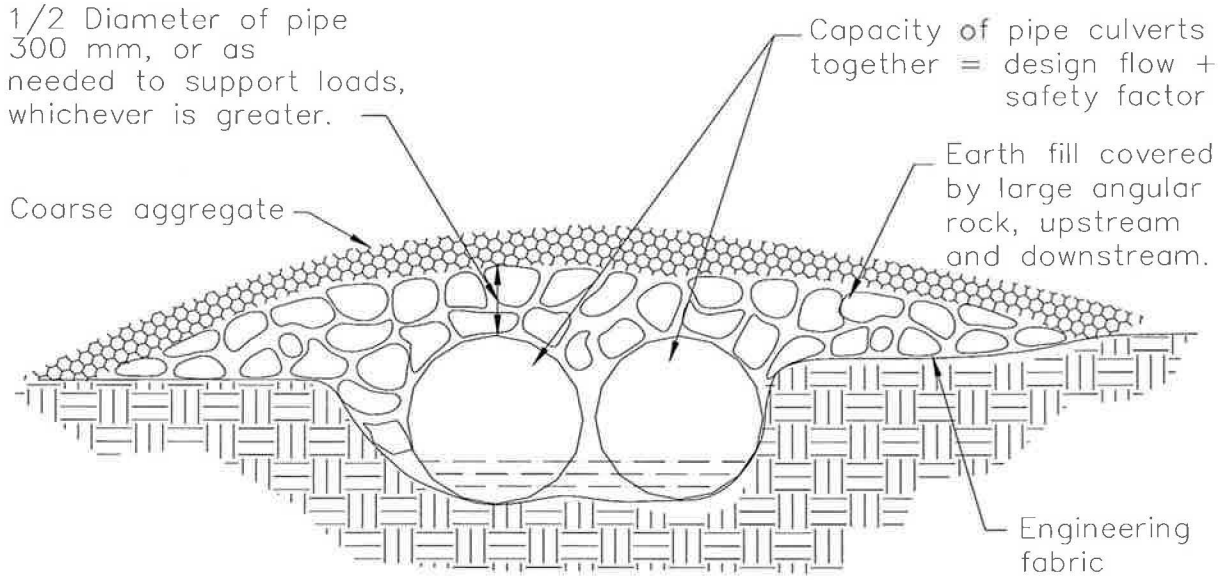


NOTE:
Surface flow of road diverted by swale and/or dike.

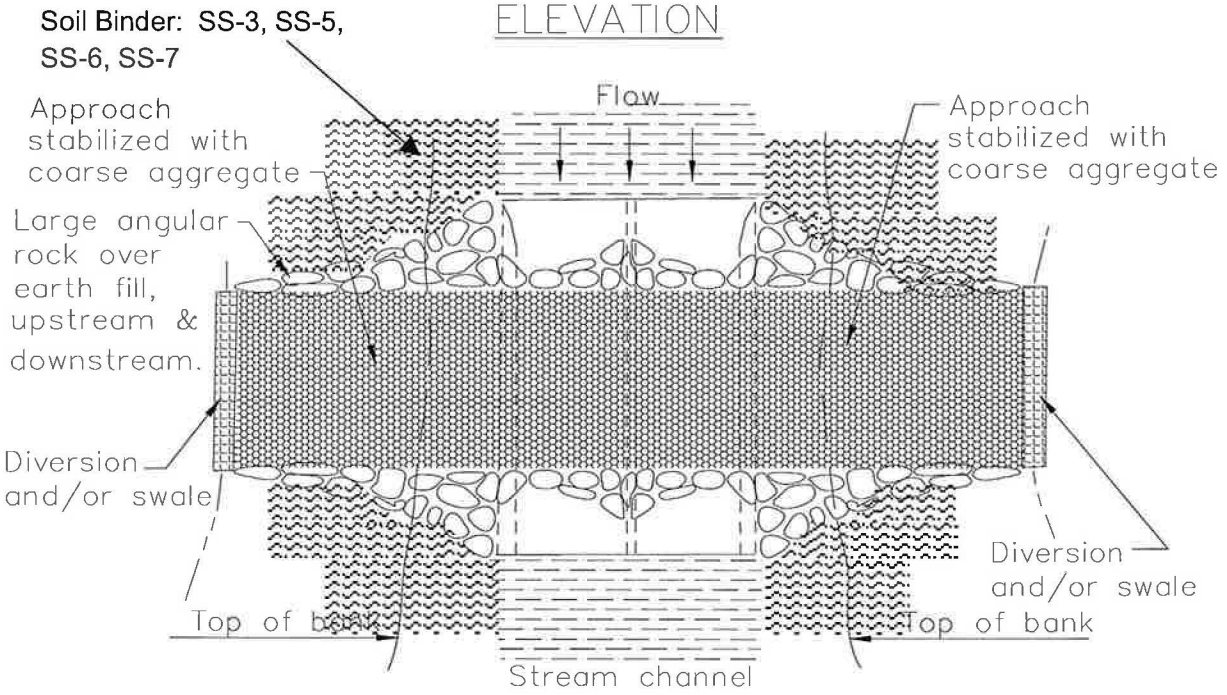
TYPICAL BRIDGE CROSSING
NOT TO SCALE

Temporary Stream Crossing

NS-4



ELEVATION

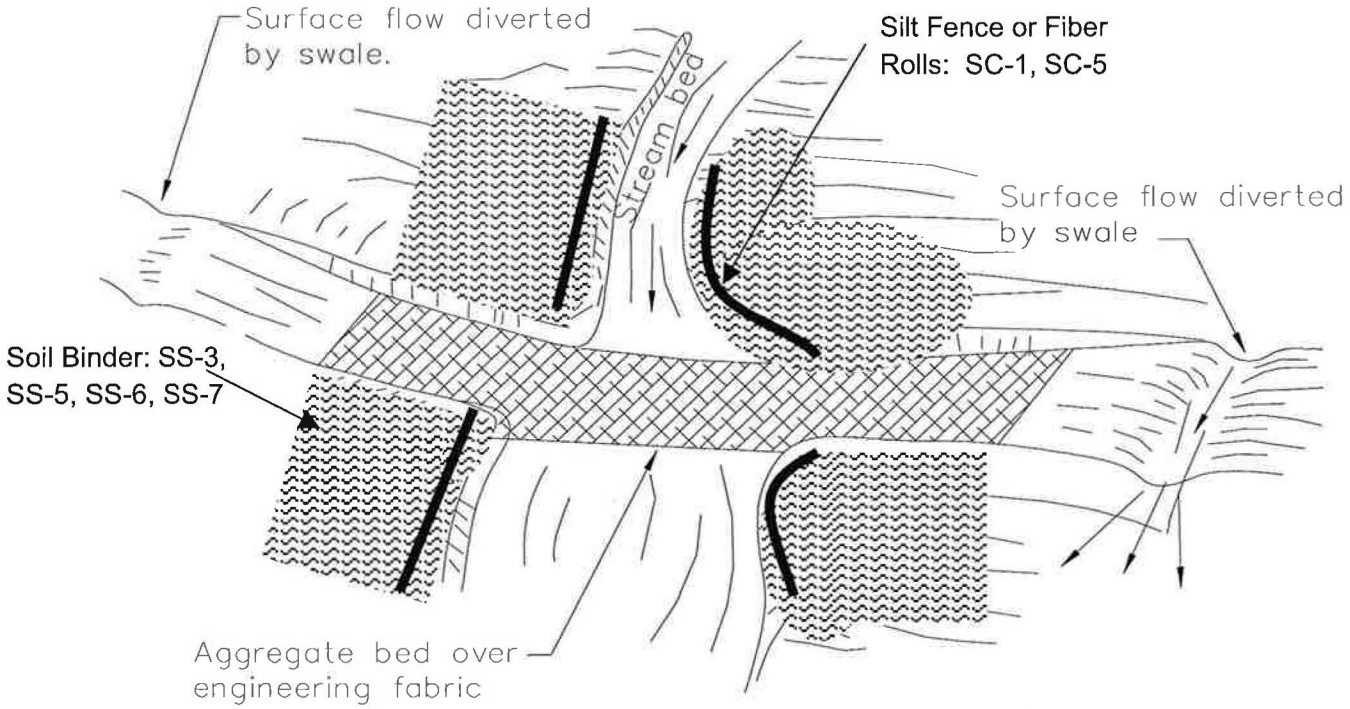


PLAN VIEW

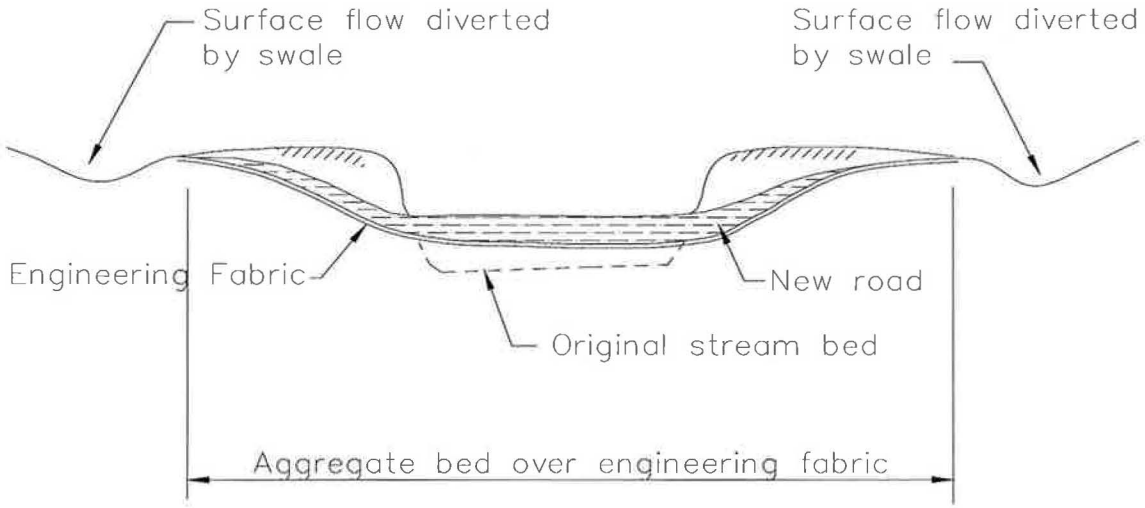
TYPICAL CULVERT CROSSING
NOT TO SCALE

Temporary Stream Crossing

NS-4



Aggregate approch
1:5 (V:H) Maximum slope on road

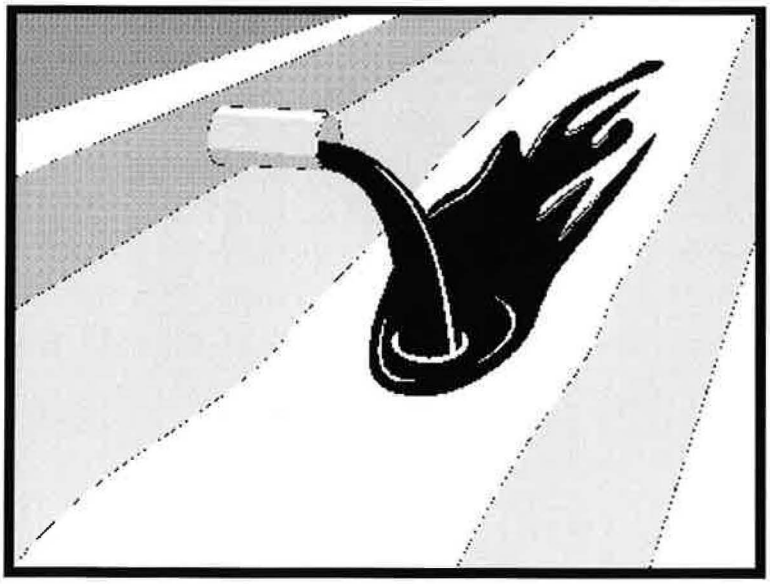


TYPICAL FORD CROSSING
NOT TO SCALE

CELLULAR CONFINEMENT SYSTEM

Illicit Connection/Illegal Discharge Detection and Reporting

NS-6



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Procedures and practices designed for construction contractors to recognize illicit connections or illegally dumped or discharged materials on a construction site and report incidents to the Resident Engineer (RE).

Appropriate Applications

- Illicit connection/illegal discharge detection and reporting is applicable anytime an illicit connection or discharge is discovered or illegally dumped material is found on the construction site.
- This best management practice (BMP) applies to all construction projects.

Limitations

- Unlabeled or non-identifiable material shall be assumed to be hazardous.
- Illicit connections and illegal discharges or dumping, for the purposes of this BMP, refer to discharges and dumping caused by parties other than the contractor.
- Procedures and practices presented in this BMP are general. Contractor shall use extreme caution, immediately notify the RE when illicit connections or illegal dumping or discharges are discovered, and take no further action unless directed by the RE.
- If pre-existing hazardous materials or wastes are known to exist onsite, the contractor's responsibility will be detailed in separate special provisions.

Illicit Connection/Illegal Discharge Detection and Reporting

NS-6

Standards and Specifications

Planning

- Inspect site before beginning the job for evidence of illicit connections or illegal dumping or discharges.
- Inspect site regularly during project execution for evidence of illicit connections or illegal dumping or discharges.
- Observe site perimeter for evidence or potential of illicitly discharged or illegally dumped material, which may enter the job site.

Identification of illicit connections and illegal dumping or discharges.

- Solids - Look for debris, or rubbish piles. Solid waste dumping often occurs on roadways with light traffic loads or in areas not easily visible from the traveled way.
- Liquids – signs of illegal liquid dumping or discharge can include:
  - Visible signs of staining or unusual colors to the pavement or surrounding adjacent soils.
  - Pungent odors coming from the drainage systems.
  - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes.
  - Abnormal water flow during the dry weather season.
- Urban Areas - Evidence of illicit connections or illegal discharges is typically detected at storm drain outfall locations or at manholes. Signs of an illicit connection or illegal discharge can include:
  - Abnormal water flow during the dry weather season.
  - Unusual flows in subdrain systems used for dewatering.
  - Pungent odors coming from the drainage systems.
  - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes.
  - Excessive sediment deposits, particularly adjacent to or near active off-site construction projects.

- Rural Areas - Illicit connections or illegal discharges involving irrigation drainage ditches are detected by visual inspections. Signs of an illicit discharge can include:
  - Abnormal water flow during the dry weather season.
  - Non-standard junction structures.
  - Broken concrete or other disturbances at or near junction structures.

Reporting

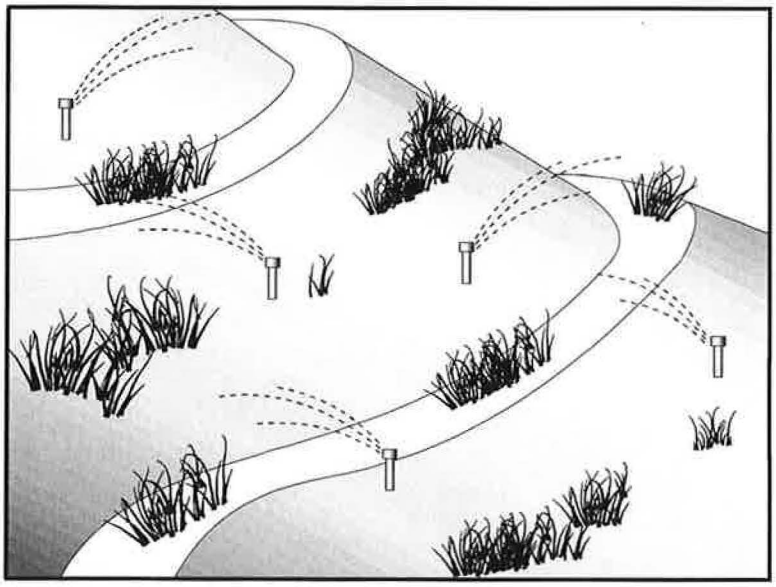
- Notify the RE of any illicit connections and illegal dumping or discharge incidents at the time of discovery. The RE will notify the District Construction Storm Water Coordinator and the Construction Hazmat Coordinator for reporting.

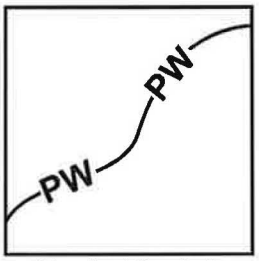
Cleanup and Removal

The contractor is not responsible for investigation and clean up of illicit or illegal dumping or discharges not generated by the contractor. Caltrans may direct contractor to clean up non-hazardous dumped or discharged material on the construction site.

Potable Water/Irrigation

NS-7





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Potable Water/Irrigation management consists of practices and procedures to manage the discharge of potential pollutants generated during discharges from irrigation water lines, landscape irrigation, lawn or garden watering, planned and unplanned discharges from potable water sources, water line flushing, and hydrant flushing.

Appropriate Applications

Implement this BMP whenever the above activities or discharges occur at or enter a construction site.

Limitations

- None identified.

Standards and Specifications

- Inspect irrigated areas within the construction limits for excess watering. Adjust watering times and schedules to ensure that the appropriate amount of water is being used and to minimize runoff. Consider factors such as soil structure, grade, time of year, and type of plant material in determining the proper amounts of water for a specific area.
- RE approval is required prior to commencing any washing activities that could discharge to the storm drain or receiving waterbody.
- Where possible, direct water from off-site sources around or through a construction site in a way that minimizes contact with the construction site.
- When possible, discharges from water line flushing shall be reused for landscaping purposes.
- Shut off the water source to broken lines, sprinklers, or valves as soon as possible to prevent excess water flow.

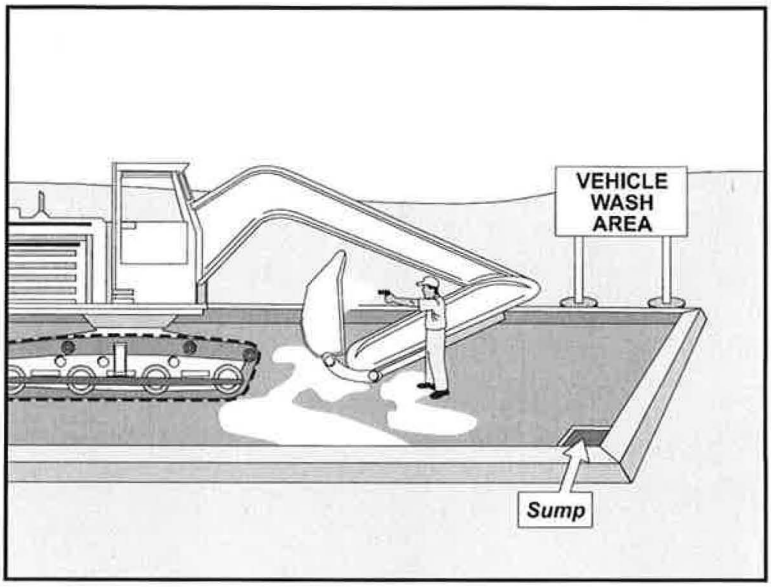
- Protect downstream storm water drainage systems and watercourses from water pumped or bailed from trenches excavated to repair water lines.

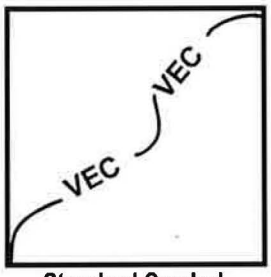
Maintenance and Inspection

- Repair broken water lines as soon as possible or as directed by the RE.
- Inspect irrigated areas regularly for signs of erosion and/or discharge.

Vehicle and Equipment Cleaning

NS-8





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Vehicle and equipment cleaning procedures and practices are used to minimize or eliminate the discharge of pollutants from vehicle and equipment cleaning operations to storm drain system or to watercourses.

Appropriate Applications

These procedures are applied on all construction sites where vehicle and equipment cleaning is performed.

Limitations

- None.

Standards and Specifications

- On-site vehicle and equipment washing is discouraged.
- Cleaning of vehicles and equipment with soap, solvents or steam shall not occur on the project site unless the Resident Engineer (RE) has been notified in advance and the resulting wastes are fully contained and disposed of outside the highway right-of-way in conformance with the provisions in the Standard Specifications Section 7-1.13. Resulting wastes and by-products shall not be discharged or buried within the highway right-of-way, and must be captured and recycled or disposed according to the requirements of WM-10, "Liquid Waste Management" or WM-6, "Hazardous Waste Management," depending on the waste characteristics. Minimize use of solvents. The use of diesel for vehicle and equipment cleaning is prohibited.
- Vehicle and equipment wash water shall be contained for percolation or evaporative drying away from storm drain inlets or watercourses and shall not be discharged within the highway right-of-way. Apply sediment control BMPs if applicable.
- All vehicles/equipment that regularly enter and leave the construction site must be cleaned off-site.
- When vehicle/equipment washing/cleaning must occur onsite, and the

operation cannot be located within a structure or building equipped with appropriate disposal facilities, the outside cleaning area shall have the following characteristics, and shall be arranged with the construction storm water coordinator:

- Located away from storm drain inlets, drainage facilities, or watercourses.
- Paved with concrete or asphalt and bermed to contain wash waters and to prevent run-on and runoff.
- Configured with a sump to allow collection and disposal of wash water.
- Wash waters shall not be discharged to storm drains or watercourses.
- Used only when necessary.

■ When cleaning vehicles/equipment with water:

- Use as little water as possible. High pressure sprayers may use less water than a hose, and shall be considered.
- Use positive shutoff valve to minimize water usage.
- Facility wash racks shall discharge to a sanitary sewer, recycle system or other approved discharge system and shall not discharge to the storm drainage system or watercourses.

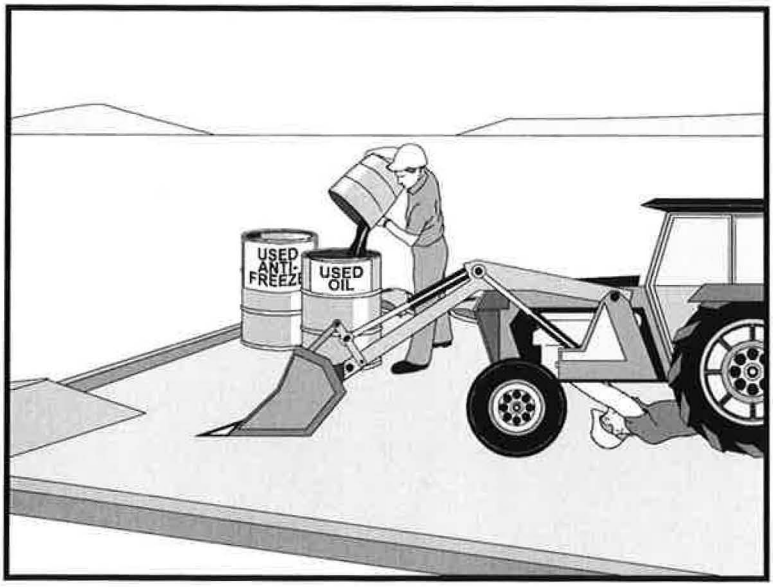
Maintenance and Inspection

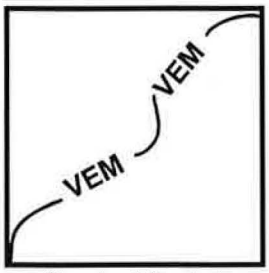
■ The control measure shall be inspected at a minimum of once a week.

■ Monitor employees and subcontractors throughout the duration of the construction project to ensure appropriate practices are being implemented.

■ Inspect sump regularly and remove liquids and sediment as needed or as directed by the RE.

Vehicle and Equipment Maintenance NS-10





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Procedures and practices to minimize or eliminate the discharge of pollutants to the storm drain systems or to watercourses from vehicle and equipment maintenance procedures.

Appropriate Applications

These procedures are applied on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

- None identified.

Standards and Specifications

- Drip pans or absorbent pads shall be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- All maintenance areas are required to have spill kits and/or use other spill protection devices.
- Dedicated maintenance areas shall be protected from storm water run-on and runoff, and shall be located at least 15 m (50 ft) from downstream drainage facilities and watercourses.
- Drip Pans or plastic sheeting shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Absorbent spill clean-up materials shall be available in maintenance areas and shall be disposed of properly after use. Substances used to coat asphalt transport trucks and asphalt-spreading equipment shall be non-toxic.
- Use off-site maintenance facilities whenever practical.

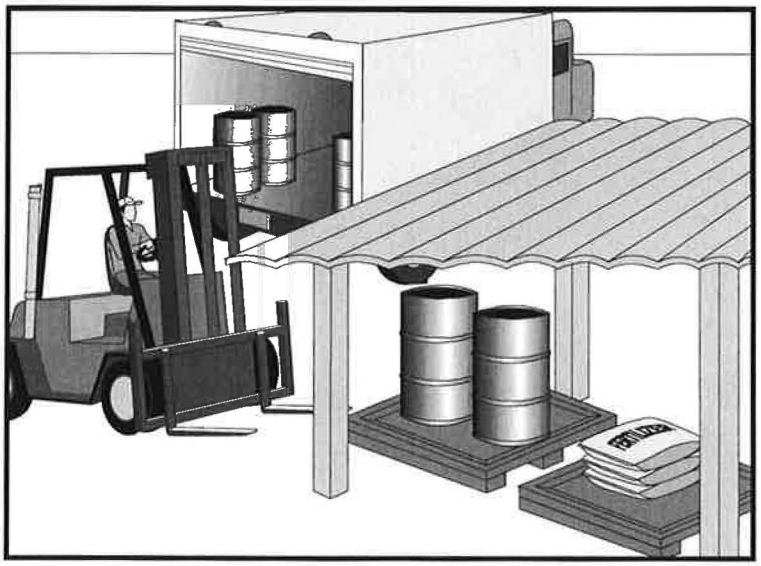
- For long-term projects, consider constructing roofs or using portable tents over maintenance areas.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not dump fuels and lubricants onto the ground.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Properly dispose or recycle used batteries.
- Do not bury used tires.
- Repair of fluid and oil leaks immediately.
- Provide spill containment dikes or secondary containment around stored oil and chemical drums.

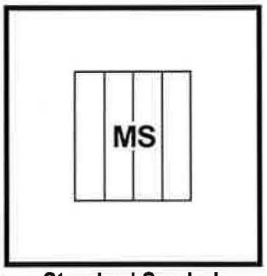
Maintenance and Inspection

- Maintain waste fluid containers in leak proof condition.
- Vehicle and equipment maintenance areas shall be inspected regularly.
- Vehicles and equipment shall be inspected on each day of use. Leaks shall be repaired immediately or the problem vehicle(s) or equipment shall be removed from the project site.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

Material Delivery and Storage

WM-1





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

Procedures and practices for the proper handling and storage of materials in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to watercourses.

Appropriate Applications

These procedures are implemented at all construction sites with delivery and storage of the following:

- Hazardous chemicals such as:
  - Acids,
  - lime,
  - glues,
  - adhesives,
  - paints,
  - solvents, and
  - curing compounds.
- Soil stabilizers and binders.
- Fertilizers.
- Detergents.
- Plaster.
- Petroleum products such as fuel, oil, and grease.
- Asphalt and concrete components.
- Pesticides and herbicides.

- Other materials that may be detrimental if released to the environment.

Limitations

- Space limitation may preclude indoor storage.
- Storage sheds must meet building & fire code requirements.

Standards and Specifications

General

- Train employees and subcontractors on the proper material delivery and storage practices.
- Temporary storage area shall be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) shall be supplied to the Resident Engineer (RE) for all materials stored.

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall be placed in temporary containment facilities for storage.
- Throughout the rainy season, each temporary containment facility shall have a permanent cover and side wind protection or be covered during non-working days and prior to and during rain events.
- A temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 24-hour, 25-year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids shall be sent to an approved disposal site.
- Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.

-
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain, throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Stockpiles shall be protected in accordance with BMP WM-3, "Stockpile Management."
- Minimize the material inventory stored on-site (e.g., only a few days supply).
- Have proper storage instructions posted at all times in an open and conspicuous location.
- Do not store hazardous chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and when possible, under cover in secondary containment.
- Keep hazardous chemicals well labeled and in their original containers.
- Keep ample supply of appropriate spill clean up material near storage areas.
- Also see BMP WM-6, "Hazardous Waste Management", for storing of hazardous materials.

Material Delivery Practices

- Keep an accurate, up-to-date inventory of material delivered and stored on-site.
- Employees trained in emergency spill clean-up procedures shall be present when dangerous materials or liquid chemicals are unloaded.

Spill Clean-up

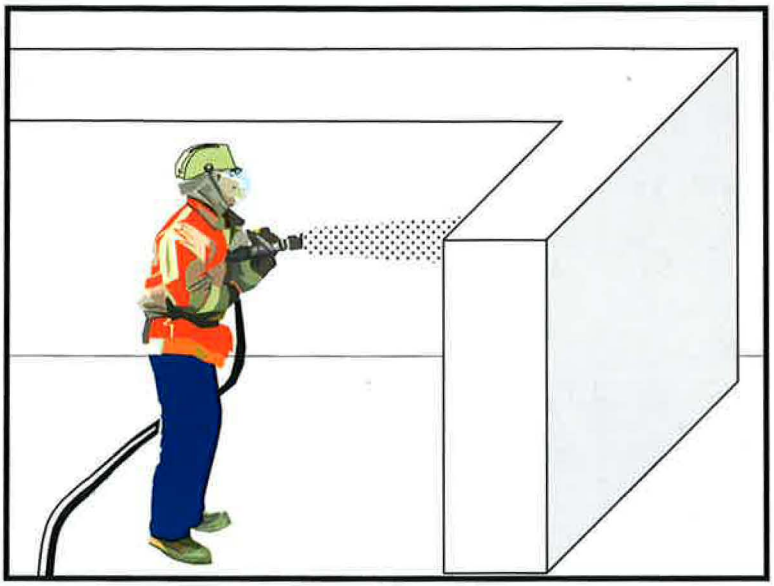
- Contain and clean up any spill immediately.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose any hazardous materials or contaminated soil.
- See BMP WM-4, "Spill Prevention and Control", for spills of chemicals and/or hazardous materials.

Maintenance and Inspection

- Storage areas shall be kept clean, well organized, and equipped with ample clean-up supplies as appropriate for the materials being stored.
- Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.
- Inspect storage areas before and after rainfall events, and at least weekly during other times. Collect and place into drums any spills or accumulated rainwater.

Material Use

WM-2



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

These are procedures and practices for use of construction material in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to watercourses.

Appropriate Applications

This BMP applies to all construction projects. These procedures apply when the following materials are used or prepared on site:

- Hazardous chemicals such as:

  Acids,
  lime,
  glues,
  adhesives,
  paints,
  solvents, and
  curing compounds.

- Soil stabilizers and binders.
- Fertilizers.
- Detergents.
- Plaster.
- Petroleum products such as fuel, oil, and grease.
- Asphalt and concrete components.
- Pesticides and herbicides.
- Other materials that may be detrimental if released to the environment.

Limitations

- Safer alternative building and construction products may not be available or suitable in every instance.

Standards and Specifications

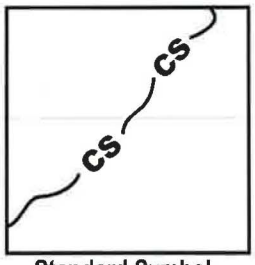
- Material Safety Data Sheets (MSDS) shall be supplied to the Resident Engineer (RE) for all materials.
- Latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, may be disposed of with other construction debris.
- Do not remove the original product label, it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors, or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain or watercourse. Dispose of any paint thinners, residue and sludge(s), that cannot be recycled, as hazardous waste.
- For water-based paint, clean brushes to the extent practical, and rinse to a drain leading to a sanitary sewer where permitted, or into a concrete washout pit. For oil-based paints, clean brushes to the extent practical and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
- Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials on-site when practical.
- Do not over-apply fertilizers and pesticides. Prepare only the amount needed. Strictly follow the recommended usage instructions. Apply surface dressings in smaller applications, as opposed to large applications, to allow time for it to work in and to avoid excess materials being carried off-site by runoff.
- Application of herbicides and pesticides shall be performed by a licensed applicator.
- Contractors are required to complete the "Report of Chemical Spray Forms" when spraying herbicides and pesticides.
- Keep an ample supply of spill clean up material near use areas. Train employees in spill clean up procedures.
- Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.

Maintenance and Inspections

- Spot check employees and subcontractors monthly throughout the job to ensure appropriate practices are being employed.

Stockpile Management

WM-3



Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and storm water pollution from stockpiles of soil, and paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate subbase or pre-mixed aggregate, asphalt binder (so called "cold mix" asphalt) and pressure treated wood.

Appropriate Applications

Implemented in all projects that stockpile soil and other materials.

Limitations

- None identified

Standards and Specifications

- Protection of stockpiles is a year-round requirement.
- Locate stockpiles a minimum of 15 m (50 ft)away from concentrated flows of storm water, drainage courses, and inlets.
- Implement wind erosion control practices as appropriate on all stockpiled material. For specific information see BMP WE-1, "Wind Erosion Control."
- Stockpiles of contaminated soil shall be managed in accordance with BMP WM-7, "Contaminated Soil Management."
- Bagged materials should be placed on pallets and under cover.

Protection of Non-Active Stockpiles

Non-active stockpiles of the identified materials shall be protected further as follows:

- ***Soil stockpiles:***
  - During the rainy seasons, soil stockpiles shall be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.
  - During the non-rainy season, soil stockpiles shall be covered and protected with a temporary perimeter sediment barrier prior to the onset of precipitation.
- ***Stockpiles of portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate subbase:***
  - During the rainy season, the stockpiles shall be covered or protected with a temporary perimeter sediment barrier at all times.
  - During the non-rainy season, the stockpiles shall be covered or protected with a temporary perimeter sediment barrier prior to the onset of precipitation.
- ***Stockpiles of "cold mix":***
  - During the rainy season, cold mix stockpiles shall be placed on and covered with plastic or comparable material at all times.
  - During the non-rainy season, cold mix stockpiles shall be placed on and covered with plastic or comparable material prior to the onset of precipitation.
- ***Stockpiles/Storage of pressure treated wood with copper, chromium, and arsenic or ammonical, copper, zinc, and arsenate:***
  - During the rainy season, treated wood shall be covered with plastic or comparable material at all times.
  - During the non-rainy season, treated wood shall be covered with plastic or comparable material and shall be placed on pallets prior to the onset of precipitation.

Protection of Active Stockpiles

Active stockpiles of the identified materials shall be protected further as follows:

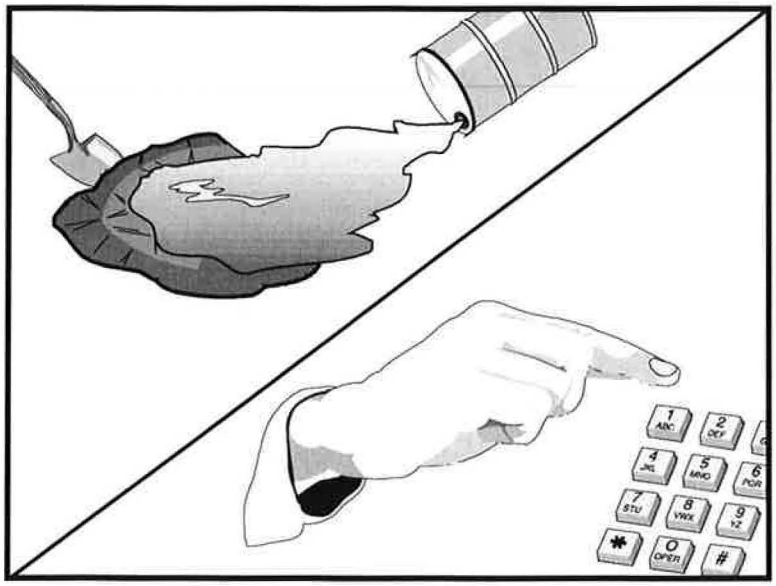
- All stockpiles shall be covered, stabilized, or protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix" shall be placed on and covered with plastic or comparable material prior to the onset of precipitation.

Maintenance and Inspections

- Repair and/or replace perimeter controls and covers as needed, or as directed by the RE, to keep them functioning properly. Sediment shall be removed when sediment accumulation reaches one-third (1/3) of the barrier height.

Spill Prevention and Control

WM-4



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

These procedures and practices are implemented to prevent and control spills in a manner that minimizes or prevents the discharge of spilled material to the drainage system or watercourses.

Appropriate Application

This best management practice (BMP) applies to all construction projects. Spill control procedures are implemented anytime chemicals and/or hazardous substances are stored. Substances may include, but are not limited to:

- Soil stabilizers/binders.
- Dust Palliatives.
- Herbicides.
- Growth inhibitors.
- Fertilizers.
- Deicing/anti-icing chemicals.
- Fuels.
- Lubricants.
- Other petroleum distillates.

To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes shall be contained and cleaned up immediately.

Limitations

- This BMP only applies to spills caused by the contractor.
- Procedures and practices presented in this BMP are general. Contractor shall identify appropriate practices for the specific materials used or stored on-site.

Standards and Specifications

- To the extent that it doesn't compromise clean up activities, spills shall be covered and protected from storm water run-on during rainfall.
- Spills shall not be buried or washed with water.
- Used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose shall be stored and disposed of in conformance with the special provisions.
- Water used for cleaning and decontamination shall not be allowed to enter storm drains or watercourses and shall be collected and disposed of in accordance with BMP WM-10, "Liquid Waste Management."
- Water overflow or minor water spillage shall be contained and shall not be allowed to discharge into drainage facilities or watercourses.
- Proper storage, clean-up and spill reporting instruction for hazardous materials stored or used on the project site shall be posted at all times in an open, conspicuous and accessible location.
- Waste storage areas shall be kept clean, well organized and equipped with ample clean-up supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers and liners shall be repaired or replaced as needed to maintain proper function.

Education

- Educate employees and subcontractors on what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce proper spill prevention and control measures.

Cleanup and Storage Procedures

- Minor Spills
  - Minor spills typically involve small quantities of oil, gasoline, paint, etc., which can be controlled by the first responder at the discovery of the spill.
  - Use absorbent materials on small spills rather than hosing down or burying the spill.
  - Remove the absorbent materials promptly and dispose of properly.
  - The practice commonly followed for a minor spill is:
    - Contain the spread of the spill.
    - Recover spilled materials.
    - Clean the contaminated area and/or properly dispose of contaminated materials.
- Semi-Significant Spills
  - Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.
  - Clean up spills immediately:
    - Notify the project foreman immediately. The foreman shall notify the Resident Engineer (RE).
    - Contain spread of the spill.
    - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
    - If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
    - If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

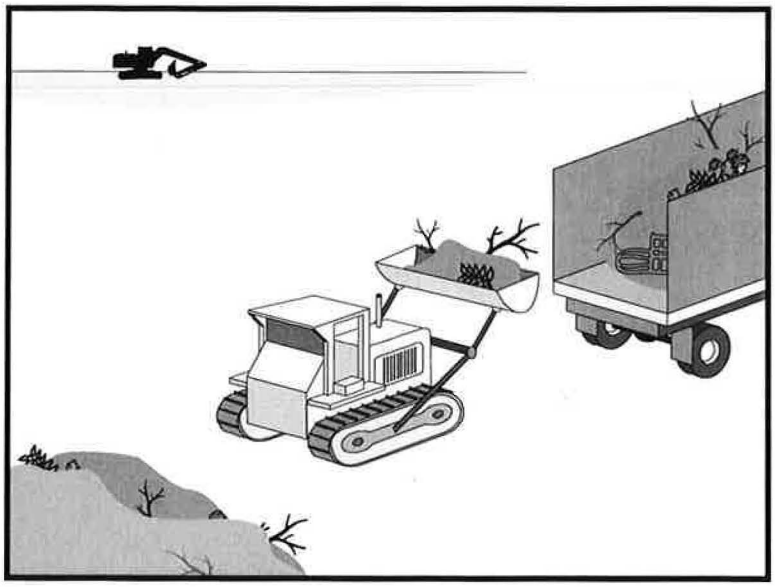
- Significant/Hazardous Spills
  - For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps shall be taken:
    - Notify the RE immediately and follow up with a written report.
    - Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper county officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
    - Notify the Governor's Office of Emergency Services Warning Center, (805) 852-7550.
    - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor shall notify the National Response Center at (800) 424-8802.
    - Notification shall first be made by telephone and followed up with a written report.
    - The services of a spills contractor or a Haz-Mat team shall be obtained immediately. Construction personnel shall not attempt to clean up the spill until the appropriate and qualified staff have arrived at the job site.
    - Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, RWQCB, etc.

Maintenance and Inspection

- Verify weekly that spill control clean up materials are located near material storage, unloading, and use areas.
- Update spill prevention and control plans and stock appropriate clean-up materials whenever changes occur in the types of chemicals used or stored onsite.

Solid Waste Management

WM-5



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

Solid waste management procedures and practices are designed to minimize or eliminate the discharge of pollutants to the drainage system or to watercourses as a result of the creation, stockpiling, or removal of construction site wastes.

Appropriate Applications

Solid waste management procedures and practices are implemented on all construction projects that generate solid wastes.

Solid wastes include but are not limited to:

- Construction wastes including brick, mortar, timber, steel and metal scraps, sawdust, pipe and electrical cuttings, non-hazardous equipment parts, styrofoam and other materials used to transport and package construction materials.
- Highway planting wastes, including vegetative material, plant containers, and packaging materials.
- Litter, including food containers, beverage cans, coffee cups, paper bags, plastic wrappers, and smoking materials, including litter generated by the public.

Limitations

- Temporary stockpiling of certain construction wastes may not necessitate stringent drainage related controls during the non-rainy season or in desert areas with low rainfall.

Standards and Specifications

Education

- The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce proper solid waste procedures and practices.
- Instruct employees and subcontractors on identification of solid waste and hazardous waste.
- Educate employees and subcontractors on solid waste storage and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Wherever possible, minimize production of solid waste materials.

Collection, Storage, and Disposal

- Dumpsters of sufficient size and number shall be provided to contain the solid waste generated by the project and properly serviced.
- Littering on the project site shall be prohibited.
- To prevent clogging of the storm drainage system litter and debris removal from drainage grates, trash racks, and ditch lines shall be a priority.
- Trash receptacles shall be provided in the Contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Construction debris and litter from work areas within the construction limits of the project site shall be collected and placed in watertight dumpsters at least weekly regardless of whether the litter was generated by the Contractor, the public, or others. Collected litter and debris shall not be placed in or next to drain inlets, storm water drainage systems or watercourses.
- Full dumpsters shall be removed from the project site and the contents shall be disposed of outside the highway right-of-way in conformance with the provisions in the Standard Specifications Section 7-1.13.
- Litter stored in collection areas and containers shall be handled and disposed of by trash hauling contractors.
- Construction debris and waste shall be removed from the site every two weeks or as directed by the RE.

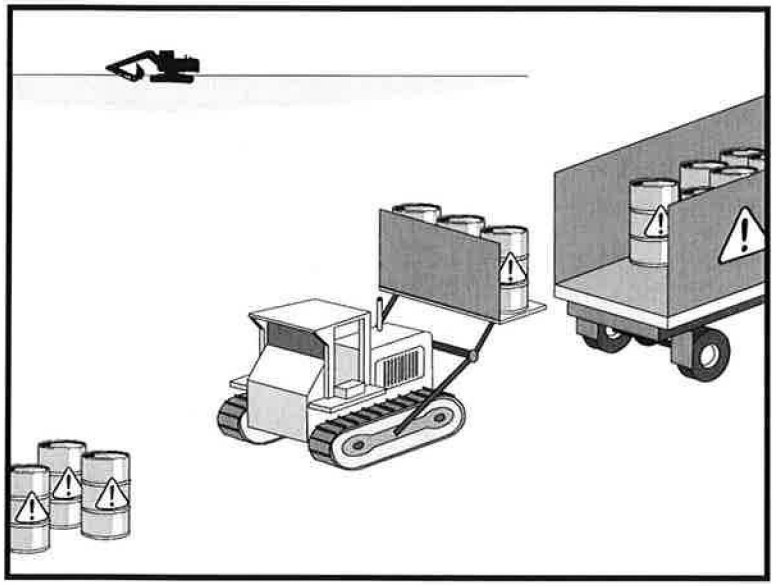
- Construction material visible to the public shall be stored or stacked in an orderly manner to the satisfaction of the RE.
- Storm water run-on shall be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
- Solid waste storage areas shall be located at least 15 m (50 ft) from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
- Except during fair weather, construction and highway planting waste not stored in watertight dumpsters shall be securely covered from wind and rain by covering the waste with tarps or plastic sheeting or protected in conformance with the applicable Disturbed Soil Area protection section.
- Dumpster washout on the project site is not allowed.
- Notify trash hauling contractors that only watertight dumpsters are acceptable for use on-site.
- Plan for additional containers during the demolition phase of construction.
- Plan for more frequent pickup during the demolition phase of construction.
- Construction waste shall be stored in a designated area approved by the RE.
- Segregate potentially hazardous waste from non-hazardous construction site waste.
- Keep the site clean of litter debris.
- Make sure that toxic liquid wastes (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Dispose of non-hazardous waste in accordance with Standard Specification 7-1.13, Disposal of Material Outside the Highway Right of Way.
- For disposal of hazardous waste, see BMP WM-6, "Hazardous Waste Management." Have hazardous waste hauled to an appropriate disposal and/or recycling facility.
- Salvage or recycle useful vegetation debris, packaging and/or surplus building materials when practical. For example, trees and shrubs from land clearing can be converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

Maintenance and Inspection

- The WPCM shall monitor onsite solid waste storage and disposal procedures.
- Police site for litter and debris.

Hazardous Waste Management

WM-6



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

These are procedures and practices to minimize or eliminate the discharge of pollutants from construction site hazardous waste to the storm drain systems or to watercourses.

Appropriate Applications

- This best management practice (BMP) applies to all construction projects.
- Hazardous waste management practices are implemented on construction projects that generate waste from the use of:
  - Petroleum Products,
  - Asphalt Products,
  - Concrete Curing Compounds,
  - Pesticides,
  - Acids,
  - Paints,
  - Stains,
  - Solvents,
  - Wood Preservatives,
  - Roofing Tar, or
  - Any materials deemed a hazardous waste in California, Title 22 Division 4.5, or listed in 40 CFR Parts 110, 117, 261, or 302.

Limitations

- Nothing in this BMP relieves the Contractor from responsibility for compliance with federal, state, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.
- This BMP does not cover aerially deposited lead (ADL) soils. For ADL soils refer to BMP WM-7, "Contaminated Soil Management," and the project special provisions.

Standards and Specifications

Education

- Educate employees and subcontractors on hazardous waste storage and disposal procedures.
- Educate employees and subcontractors on potential dangers to humans and the environment from hazardous wastes.
- Instruct employees and subcontractors on safety procedures for common construction site hazardous wastes.
- Instruct employees and subcontractors in identification of hazardous and solid waste.
- Hold regular meetings to discuss and reinforce hazardous waste management procedures (incorporate into regular safety meetings).
- The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce proper hazardous waste management procedures and practices.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.

Storage Procedures

- Wastes shall be stored in sealed containers constructed of a suitable material and shall be labeled as required by Title 22 CCR, Division 4.5 and 49 CFR Parts 172,173, 178, and 179.
- All hazardous waste shall be stored, transported, and disposed as required in Title 22 CCR, Division 4.5 and 49 CFR 261-263.
- Waste containers shall be stored in temporary containment facilities that shall comply with the following requirements:
  - Temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 24-hour, 25 year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest tank within its boundary, whichever is greater.

- Temporary containment facility shall be impervious to the materials stored there for a minimum contact time of 72 hours.
- Temporary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks accumulated rainwater and spills shall be placed into drums after each rainfall. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. Non-hazardous liquids shall be sent to an approved disposal site.
- Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Throughout the rainy season, temporary containment facilities shall be covered during non-working days, and prior to rain events. Covered facilities may include use of plastic tarps for small facilities or constructed roofs with overhangs. A storage facility having a solid cover and sides is preferred to a temporary tarp. Storage facilities shall be equipped with adequate ventilation.

- Drums shall not be overfilled and wastes shall not be mixed.
- Unless watertight, containers of dry waste shall be stored on pallets.
- Paint brushes and equipment for water and oil based paints shall be cleaned within a contained area and shall not be allowed to contaminate site soils, watercourses or drainage systems. Waste paints, thinners, solvents, residues, and sludges that cannot be recycled or reused shall be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths shall be disposed of as solid waste.
- Ensure that adequate hazardous waste storage volume is available.
- Ensure that hazardous waste collection containers are conveniently located.
- Designate hazardous waste storage areas on site away from storm drains or watercourses and away from moving vehicles and equipment to prevent accidental spills.
- Minimize production or generation of hazardous materials and hazardous waste on the job site.
- Use containment berms in fueling and maintenance areas and where the potential for spills is high.

- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.
- Clearly label all hazardous waste containers with the waste being stored and the date of accumulation.
- Place hazardous waste containers in secondary containment.
- Do not allow potentially hazardous waste materials to accumulate on the ground.
- Do not mix wastes.

Disposal Procedures

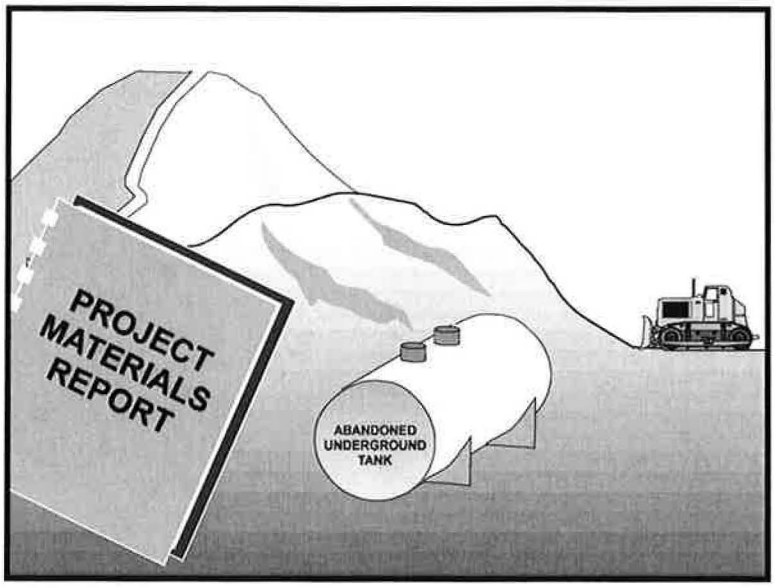
- Waste shall be disposed of outside the highway right-of-way within 90 days of being generated, or as directed by the Resident Engineer (RE). In no case shall hazardous waste storage exceed requirements in Title 22 CCR, Section 66262.34.
- Waste shall be disposed of by a licensed hazardous waste transporter at an authorized and licensed disposal facility or recycling facility utilizing properly completed Uniform Hazardous Waste Manifest forms.
- A Department of Health Services (DHS) certified laboratory shall sample waste and classify it to determine the appropriate disposal facility.
- Make sure that toxic liquid wastes (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for solid waste construction debris.
- Properly dispose of rainwater in secondary containment that may have mixed with hazardous waste.
- Recycle any useful material such as used oil or water-based paint when practical.
- Attention is directed to "Hazardous Material", "Contaminated Material", and "Aerially Deposited Lead" of the contract documents regarding the handling and disposal of hazardous materials.

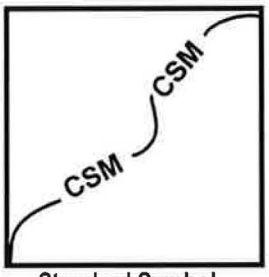
Maintenance and Inspection

- A foreman and/or construction supervisor shall monitor on-site hazardous waste storage and disposal procedures.
- Waste storage areas shall be kept clean, well organized, and equipped with ample clean-up supplies as appropriate for the materials being stored.
- Storage areas shall be inspected in conformance with the provisions in the contract documents.
- Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.
- Hazardous spills shall be cleaned up and reported in conformance with the applicable Material Safety Data Sheet (MSDS) and the instructions posted at the project site.
- The National Response Center, at (800) 424-8802, shall be notified of spills of Federal reportable quantities in conformance with the requirements in 40 CFR parts 110, 117, and 302.
- Copy of the hazardous waste manifests shall be provided to the RE.

Contaminated Soil Management

WM-7





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

These are procedures and practices to minimize or eliminate the discharges of pollutants to the drainage system or to watercourses from contaminated soil.

Appropriate Applications

- Contaminated soil management is implemented on construction projects in highly urbanized or industrial areas where soil contamination may have occurred due to spills, illicit discharges, and leaks from underground storage tanks.
- It may also apply to highway widening projects in older areas where median and shoulder soils may have been contaminated by aerially deposited lead (ADL).

Limitations

- The procedures and practices presented in this best management practice (BMP) are general. The contractor shall identify appropriate practices and procedures for the specific contaminants known to exist or discovered on site.

Standards and Specifications

Identifying Contaminated Areas

- Contaminated soils are often identified during project planning and development with known locations identified in the plans and specifications. The contractor shall review applicable reports and investigate appropriate call-outs in the plans and specifications.
- The contractor may further identify contaminated soils by investigating:
  - Past site uses and activities.
  - Detected or undetected spills and leaks.
  - Acid or alkaline solutions from exposed soil or rock formations high in acid or alkaline forming elements.

- Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris. Test suspected soils at a certified laboratory.

Education

- Prior to performing any excavation work at the locations containing material classified as hazardous, employees and subcontractors shall complete a safety training program which meets 29 CFR 1910.120 and 8 CCR 5192 covering the potential hazards as identified.
- Educate employees and subcontractors in identification of contaminated soil and on contaminated soil handling and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).

Handling Procedures for Material with Aerially Deposited Lead (ADL)

- Materials from areas designated as containing (ADL) may, if allowed by the contract special provisions, be excavated, transported, and used in the construction of embankments and/or backfill.
- Excavation, transportation, and placement operations shall result in no visible dust.
- Use caution to prevent spillage of lead containing material during transport.
- Monitor the air quality during excavation of soils contaminated with lead.

Handling Procedures for Contaminated Soils

- To minimize on-site storage, contaminated soil shall be disposed of properly in accordance with all applicable regulations. All hazardous waste storage will comply with the requirements in Title 22, CCR, Sections 6626.250 to 66265.260.
- Test suspected soils at a DHS approved certified laboratory.
- If the soil is contaminated, work with the local regulatory agencies to develop options for treatment and/or disposal.
- Avoid temporary stockpiling of contaminated soils or hazardous material.
- If temporary stockpiling is necessary:

  (1) Cover the stockpile with plastic sheeting or tarps.

  (2) Install a berm around the stockpile to prevent runoff from leaving the area.

  (3) Do not stockpile in or near storm drains or watercourses.

- Contaminated material and hazardous material on exteriors of transport vehicles shall be removed and placed either into the current transport vehicle or the excavation prior to the vehicle leaving the exclusion zone.
- Monitor the air quality continuously during excavation operations at all locations containing hazardous material.
- Procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work, including registration for transporting vehicles carrying the contaminated material and the hazardous material.
- Collect water from decontamination procedures and treat and/or dispose of it at an appropriate disposal site.
- Collect non-reusable protective equipment, once used by any personnel, and dispose of at an appropriate disposal site.
- Install temporary security fence to surround and secure the exclusion zone. Remove fencing when no longer needed.
- Excavation, transport, and disposal of contaminated material and hazardous material shall be in accordance with the rules and regulations of the following agencies (the specifications of these agencies supersede the procedures outlined in this BMP):
  - United States Department of Transportation (USDOT).
  - United States Environmental Protection Agency (USEPA).
  - California Environmental Protection Agency (CAL-EPA).
  - California Division of Occupation Safety and Health Administration (CAL-OSHA).
  - Local regulatory agencies.

Procedures for Underground Storage Tank Removals

- Prior to commencing tank removal operations, obtain the required underground storage tank removal permits and approval from the federal, state, and local agencies, which have jurisdiction over such work.
- Arrange to have tested, as directed by the Resident Engineer (RE), any liquid or sludge found in the underground tank prior to its removal to determine if it contains hazardous substances.
- Following the tank removal, take soil samples beneath the excavated tank and perform analysis as required by the local agency representative(s).

- The underground storage tank, any liquid and/or sludge found within the tank, and all contaminated substances and hazardous substances removed during the tank removal shall be transported to disposal facilities permitted to accept such waste.

Water Control

- Take all necessary precautions and preventive measures to prevent the flow of water, including ground water, from mixing with hazardous substances or underground storage tank excavations. Such preventative measures may consist of, but are not limited to: berms, cofferdams, grout curtains, freeze walls, and seal course concrete or any combination thereof.

- If water does enter an excavation and becomes contaminated, such water, when necessary to proceed with the work, shall be dewatered consistent with BMP NS-2, "Dewatering Operations."

Maintenance and Inspection

- The Contractor's Water Pollution Control Manager, foreman, and/or construction supervisor shall monitor on-site contaminated soil storage and disposal procedures.

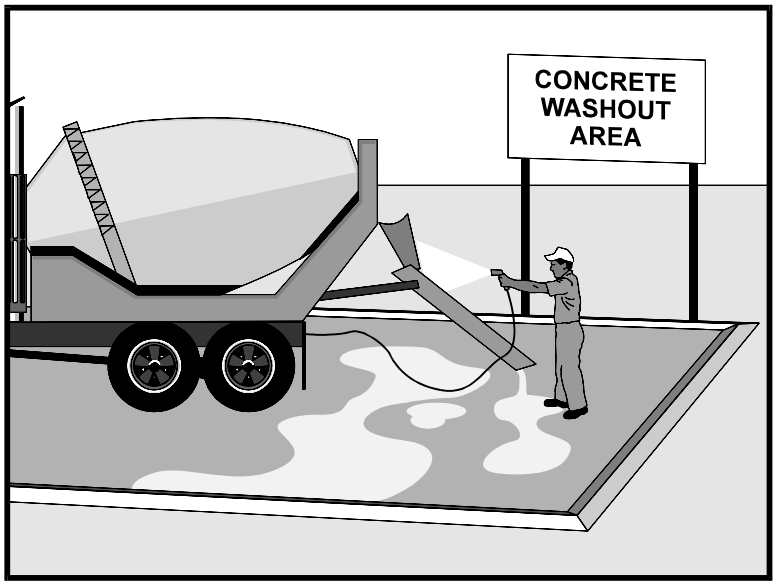
- Monitor air quality continuously during excavation operations at all locations containing hazardous material.

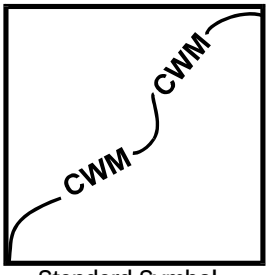
- Coordinate contaminated soils and hazardous substances/waste management with the appropriate federal, state, and local agencies.

- Inspect hazardous waste receptacles and areas regularly.

Concrete Waste Management

WM-8





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

These are procedures and practices that are designed to minimize or eliminate the discharge of concrete waste materials to the storm drain systems or watercourses.

Appropriate Applications

- Concrete waste management procedures and practices are implemented on construction projects where concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Where slurries containing portland cement concrete (PCC) or asphalt concrete (AC) are generated, such as from sawcutting, coring, grinding, grooving, and hydro-concrete demolition.
- Where concrete trucks and other concrete-coated equipment are washed on site, when approved by the Resident Engineer (RE). See also NS-8, "Vehicle and Equipment Cleaning."
- Where mortar-mixing stations exist.

Limitations

- None identified.

Standards and Specifications

Education

- Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.
- The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce concrete waste management procedures.

Concrete Demolition Wastes

- Stockpile concrete demolition wastes in accordance with BMP WM-3, "Stockpile Management."
- Disposal of hardened PCC and AC waste shall be in conformance with

Standard Specifications Section 7-1.13 or 15-3.02.

Concrete Slurry Waste Management and Disposal

- PCC and AC waste shall not be allowed to enter storm drainage systems or watercourses.
- A sign shall be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities as shown on Page 7.
- A foreman and/or construction supervisor shall monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Residue from saw cutting, coring and grinding operations shall be picked up by means of a vacuum device. Residue shall not be allowed to flow across the pavement and shall not be left on the surface of the pavement. See also BMP NS-3, "Paving and Grinding Operations."
- Vacuumed slurry residue shall be disposed in accordance with BMP WM-5, "Solid Waste Management" and Standard Specifications Section 7-1.13. Slurry residue shall be temporarily stored in a facility as described in "Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures" below), or within an impermeable containment vessel or bin approved by the Engineer.
- Collect and dispose of all residues from grooving and grinding operations in accordance with Standard Specifications Section 7-1.13, 42-1.02 and 42-2.02.

Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures

- Temporary concrete washout facilities shall be located a minimum of 15 m (50 ft) from storm drain inlets, open drainage facilities, and watercourses, unless determined infeasible by the RE. Each facility shall be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign shall be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities. The sign shall be installed as shown on the plans and in conformance with the provisions in Standard Specifications Section 56-2, Roadside Signs.
- Temporary concrete washout facilities shall be constructed above grade or below grade at the option of the Contractor. 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.
- Temporary washout facilities shall have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete

materials generated during washout procedures.

- Perform washout of concrete mixers, delivery trucks, and other delivery systems in designated areas only.
- Wash concrete only from mixer chutes into approved concrete washout facility. Washout may be collected in an impermeable bag or other impermeable containment devices for disposal.
- Pump excess concrete in concrete pump bin back into concrete mixer truck.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete shall be broken up, removed, and disposed of in conformance with the provisions in Standard Specifications Section 7-1.13 or 15-3.02.

Temporary Concrete Washout Facility Type "Above Grade"

- Temporary concrete washout facility Type "Above Grade" shall be constructed as shown on Page 6 or 7, with a recommended minimum length and minimum width of 3 m (10 ft), but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. The length and width of a facility may be increased, at the Contractor's expense, upon approval from the RE.
- Straw bales, wood stakes, and sandbag materials shall conform to the provisions in BMP SC-9, "Straw Bale Barrier."
- Plastic lining material shall be a minimum of 10-mil polyethylene sheeting and shall be free of holes, tears or other defects that compromise the impermeability of the material. Liner seams shall be installed in accordance with manufacturers' recommendations.
- Portable delineators shall conform to the provisions in Standard Specifications Section 12-3.04, "Portable Delineators." The delineator bases shall be cemented to the pavement in the same manner as provided for cementing pavement markers to pavement in Standard Specifications Section 85-1.06, "Placement." Portable delineators shall be applied only to a clean, dry surface.

Temporary Concrete Washout Facility (Type Below Grade)

- Temporary concrete washout facility Type "Below Grade" shall be constructed as shown on page 6, with a recommended minimum length and minimum width of 3m (10 ft). The quantity and volume shall be sufficient to contain all liquid and concrete waste generated by washout operations. The length and width of a facility may be increased, at the Contractor's expense,

upon approval of the RE. Lath and flagging shall be commercial type.

- Plastic lining material shall be a minimum of 10-mil polyethylene sheeting and shall be free of holes, tears or other defects that compromise the impermeability of the material. Liner seams shall be installed in accordance with manufacturers' recommendations.

- The soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.

Removal of Temporary Concrete Washout Facilities

- When temporary concrete washout facilities are no longer required for the work, as determined by the RE, the hardened concrete shall be removed and disposed of in conformance with the provisions in Standard Specifications Section 7-1.13 or 15-3.02. Disposal of PCC dried residues, slurries or liquid waste shall be disposed of outside the highway right-of-way in conformance with provisions of Standard Specifications Section 7-1-13. Materials used to construct temporary concrete washout facilities shall become the property of the Contractor, shall be removed from the site of the work, and shall be disposed of outside the highway right-of-way in conformance with the provisions of the Standard Specifications, Section 7-1.13.

- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and repaired in conformance with the provisions in Standard Specifications Section 15-1.02, "Preservation of Property."

Maintenance and Inspection

- The Contractor's Water Pollution Control Manager (WPCM) shall monitor on site concrete waste storage and disposal procedures at least weekly or as directed by the RE.

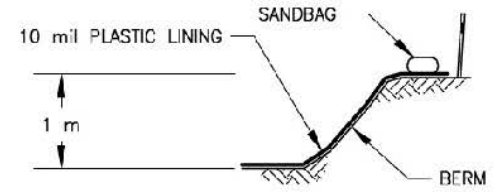
- The WPCM shall monitor concrete working tasks, such as saw cutting, coring, grinding and grooving daily to ensure proper methods are employed or as directed by the RE.

- Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 100 mm (4 inches) for above grade facilities and 300 mm (12 inches) for below grade facilities. Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials shall be removed and disposed of in conformance with the provisions in Standard Specifications Section 7-1.13 or 15-3.02.

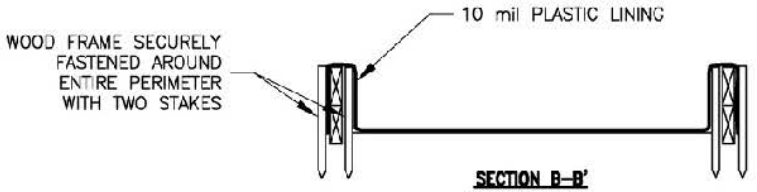
- Existing facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

- Temporary concrete washout facilities shall be inspected for damage (i.e.

tears in polyethylene liner, missing sandbags, etc.). Damaged facilities shall be repaired.



SECTION A–A'
NOT TO SCALE



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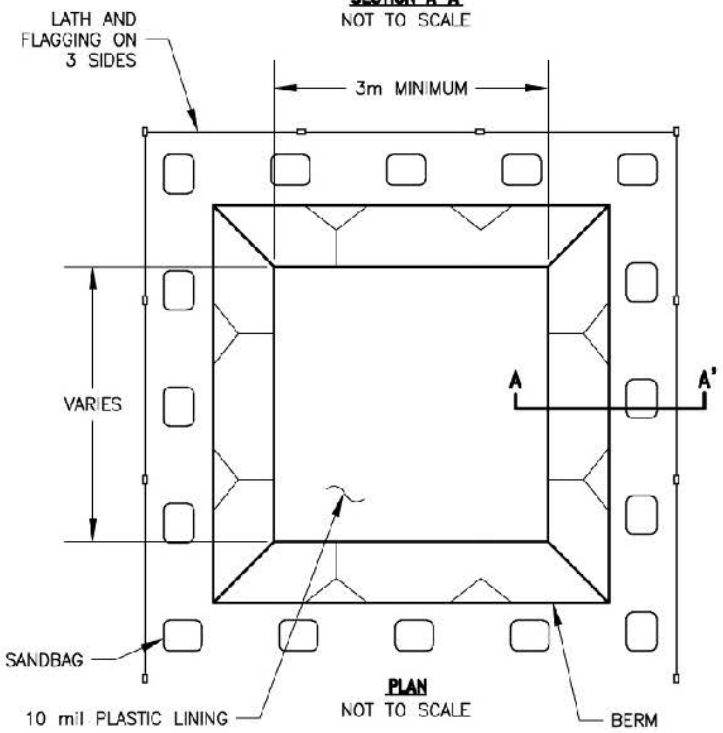
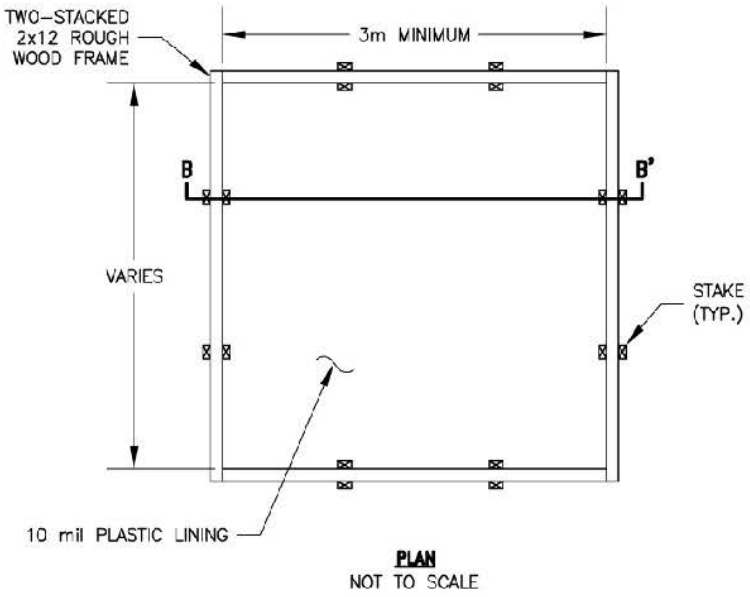


PLAN
NOT TO SCALE

TYPE "BELOW GRADE"

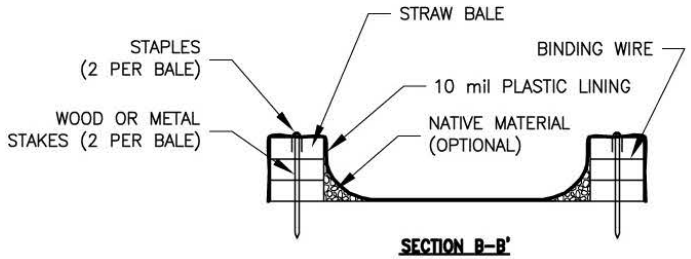


PLAN
NOT TO SCALE

TYPE "ABOVE GRADE" WITH WOOD PLANKS

NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE PAGE 6) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



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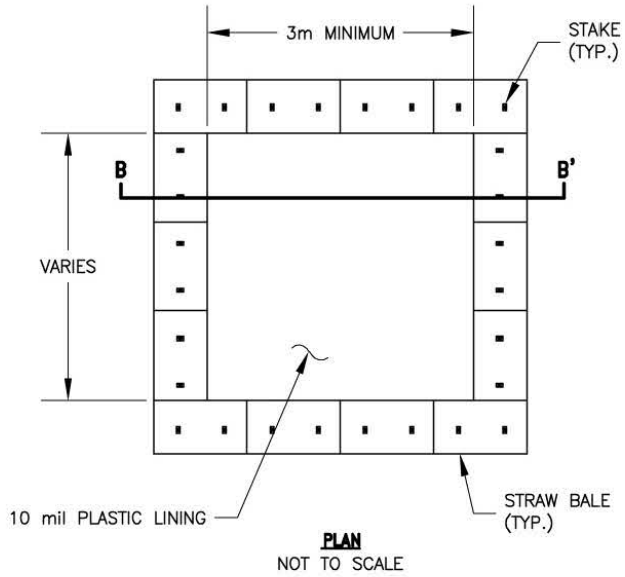
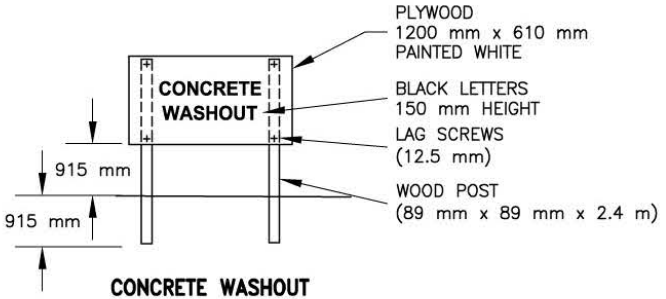
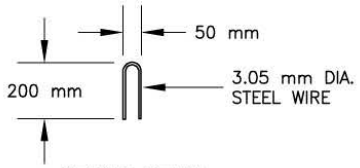


PLAN
NOT TO SCALE

TYPE "ABOVE GRADE" WITH STRAW BALES



CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



STAPLE DETAIL

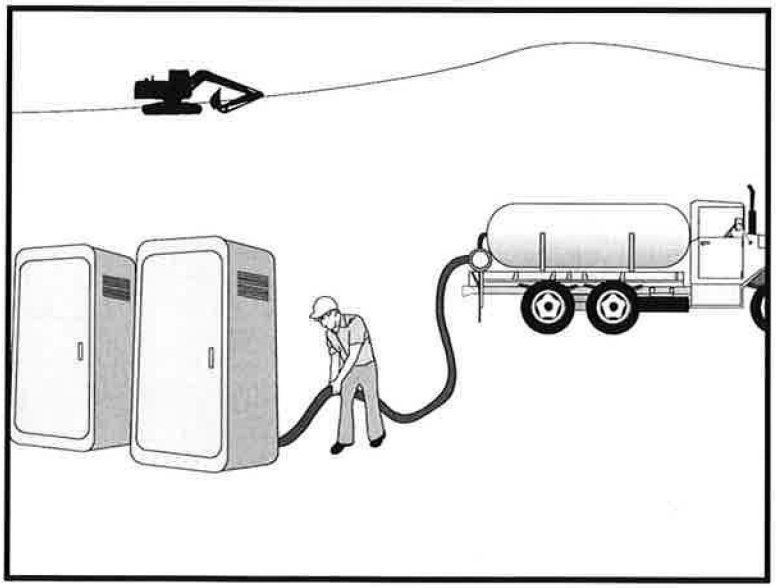
NOTES:

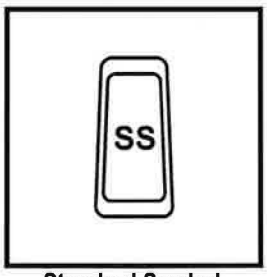
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE FIG. 4–15) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITIY.

CALTRANS/FIG4–14.DWG SAC 8–14–02

Sanitary/Septic Waste Management

WM-9





Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

Procedures and practices to minimize or eliminate the discharge of construction site sanitary/septic waste materials to the storm drain system or to watercourses.

Appropriate Applications

Sanitary/septic waste management practices are implemented on all construction sites that use temporary or portable sanitary/septic waste systems.

Limitations

- None identified.

Standards and Specifications

Education

- Educate employees, subcontractors, and suppliers on sanitary/septic waste storage and disposal procedures.
- Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary/septic wastes.
- Instruct employees, subcontractors, and suppliers in identification of sanitary/septic waste.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.

Storage and Disposal Procedures

- Temporary sanitary facilities shall be located away from drainage facilities, watercourses, and from traffic circulation. When subjected to high winds or risk.

- Wastewater shall not be discharged or buried within the highway right-of-way.
- Sanitary and septic systems that discharge directly into sanitary sewer systems, where permissible, shall comply with the local health agency, city, county, and sewer district requirements.
- If using an on site disposal system, such as a septic system, comply with local health agency requirements.
- Properly connect temporary sanitary facilities that discharge to the sanitary sewer system to avoid illicit discharges.
- Ensure that sanitary/septic facilities are maintained in good working order by a licensed service.
- Use only reputable, licensed sanitary/septic waste haulers.

Maintenance and Inspection

- The Contractor's Water Pollution Control Manager (WPCM) shall monitor onsite sanitary/septic waste storage and disposal procedures at least weekly.

Appendix C – Construction General Permit

STATE OF ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
PHOENIX, ARIZONA 85007

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGE FROM CONSTRUCTION ACTIVITIES TO WATERS OF THE UNITED STATES

This permit provides authorization to discharge under the Arizona Pollutant Discharge Elimination System (AZPDES) program, in compliance with the provisions of the Arizona Revised Statutes, Title 49, Chapter 2, Article 3.1, the Arizona Administrative Code (A.C.C.), Title 18, Chapter 9, Articles 9 and 10, and the Clean Water Act as amended (33 U.S.C. 1251 et seq.).

This general permit specifically authorizes only discharges from construction activities in Arizona by those owners and operators who meet the eligibility requirements of this permit, who submit a complete Notice of Intent (NOI) in accordance with Part II of this general permit and who comply with the general permit requirements and conditions. All discharges authorized by this general permit shall be consistent with the terms and conditions of this general permit. Permit coverage is required from the "commencement of construction activities" until "final stabilization", as these terms are defined in this permit.

This general permit becomes effective on February 29, 2008.

This general permit and the authorization to discharge expire at midnight, February 28, 2013.

Issued this 28th day of February 2008.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Joan Card, Director
Water Quality Division

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APPENDIX A - Example Inspection Report Form

PART I. COVERAGE UNDER THIS GENERAL PERMIT

A. Permit Area. This general permit covers the state of Arizona, except for Indian Country.[1]

B. Eligibility. This general permit authorizes stormwater discharges from construction activity as defined in Part X and stormwater discharges associated with support activities from temporary plants or operations set up to produce concrete, asphalt, or other materials for the permitted construction project. These discharges are eligible for permit coverage provided the operator complies with all the requirements of this general permit and submits a Notice of Intent (NOI) in accordance with Part II of this general permit.

Any discharges that are not consistent with the eligibility conditions of this permit are not authorized by this permit. A person shall either apply for a separate Arizona Pollutant Discharge Elimination System (AZPDES) permit to cover such ineligible discharge(s), cease the discharge(s), or take necessary steps to make the discharge(s) eligible for coverage under this permit.

Individual Permit Requirements. If an operator desires, or is required by ADEQ, to obtain an individual stormwater permit, the operator cannot use an NOI for this purpose. Instead, the operator shall contact the ADEQ for the proper application procedure.

C. Authorized Discharges.

1. Allowable Stormwater Discharges. An operator may discharge pollutants in:
   a. Stormwater runoff associated with construction activities provided the discharge is conducted in compliance with this permit;
   b. Discharges designated by ADEQ as requiring a stormwater permit under 40 CFR 122.26(a)(1)(v); 40 CFR 122.26(b)(15)(ii); or under 40 CFR 122.26(a)(9);
   c. Stormwater discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:
      i. The support activity is directly related to a construction site that is required to have AZPDES permit coverage for discharges of stormwater associated with construction activity;
      ii. The support activity is not a commercial operation (serving multiple unrelated construction projects by different operators) and does not operate beyond the completion of the construction activity for which the support activity is directly associated.
      iii. The support activity is not otherwise covered by a separate AZPDES permit; and
      iv. Appropriate best management practices (BMPs) for the discharges from the support activity areas are identified in the Stormwater Pollution Prevention Plan (SWPPP) and implemented.

2. Allowable Non-Stormwater Discharges.
   a. The operator shall reduce or eliminate discharge of non-stormwaters from construction sites to the extent practicable. The following are the only non-stormwater discharges allowed under this permit, provided appropriate BMPs are in place to assure compliance with (d) below:

[1]The state of Arizona, Department of Environmental Quality, Water Quality Division, does not have permit authority for Indian Country. Construction discharge permits for Indian country within the state shall be acquired through the Environmental Protection Agency (EPA) Region IX or other appropriate permitting authority.

i. Discharges from emergency fire-fighting activities;
ii. Water used to control dust, provided reclaimed water or other wastewaters are not used;
iii. Routine external building wash down where detergents are not used;
iv. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
v. Uncontaminated air conditioning or compressor condensate;
vi. Uncontaminated groundwater or spring water;
vii. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
viii. Fire hydrant flushing, potable water line or well flushing where the receiving waters are ephemeral;
ix. Water used for compacting soil, provided reclaimed water or other wastewaters are not used;
x. Water used for drilling and coring such as for evaluation of foundation materials, where flows are not contaminated with additives; and
xi. Uncontaminated waters obtained from dewatering operations/foundations in preparation for and during excavation and construction.

Note: This permit does not prohibit the use of reuse/reclaimed or potable waters on-site for dust control or for landscape irrigation. However, such activities are to be managed in a way that they are not discharged off site or applied during rain events consistent with the reuse rules. Therefore, they are not permissible 'discharges.'

b. The operator shall identify on the NOI all non-stormwater discharges listed above that are expected to be associated with the project's construction activities.
c. The operator shall address in the SWPPP all non-stormwater discharges listed above that are expected to be associated with the project's construction activities as required in Part IV.E.
d. When an allowable non-stormwater discharge listed above is unavoidable, the operator shall specify BMPs in the SWPPP and implement practices to minimize the frequency and duration of flow, and the concentration of pollutants (including sediments) in such discharges.
e. All other non-stormwater discharges (not listed above) shall be eliminated or authorized under a separate AZPDES permit, as those discharges are not authorized under this permit.
f. The operator may not discharge any non-stormwaters, except for emergency fire-fighting activities required to preserve human health or property, to impaired or unique waters under this permit.

D. Limitations of Coverage.

1. Post-Construction Discharges. This general permit does not authorize stormwater discharges that originate from the site after construction activities have been completed and the site, including any temporary support activity site, has achieved final stabilization and a Notice of Termination (NOT) has been filed. Post-construction stormwater discharges from industrial sites may need to be covered by a separate AZPDES permit.

2. Discharges Mixed with Non-Stormwater. This general permit does not authorize discharges that are mixed with sources of non-stormwater except as allowed in Part I.C.2.

3. Discharges Covered by Another AZPDES Permit. This general permit does not authorize stormwater discharges associated with construction activity that are covered under an individual permit or are required to obtain coverage under an alternative general permit.

4. Discharges to Impaired Waters. An operator is not automatically eligible to discharge under this permit if any portion of the site is within ¼ mile of receiving waters listed as impaired under 303(d) of the Clean Water Act.
   a. To receive authorization, the operator shall submit the NOI and SWPPP to ADEQ. The SWPPP shall specifically identify BMPs that will minimize the discharge of pollutants from the site which would contribute to or aggravate the receiving water's impairment. The operator shall include in the SWPPP a monitoring plan that meets the requirements of Part V of this permit.
   b. If a discharge contains pollutants for which a Total Maximum Daily Load (TMDL) has been established, the SWPPP shall specifically identify BMPs necessary to ensure the discharges will be consistent with the provisions of the TMDL.
   c. If the operator receives a notification from ADEQ that the SWPPP is incomplete or otherwise found to be deficient, the operator shall revise it to address the Department's comments. Prior to authorization, ADEQ may require specific BMPs or monitoring be implemented or specific BMP design criteria be followed.
   d. Within 32 business days of receipt of the SWPPP and a complete and accurate NOI, ADEQ will notify the operator whether: 1) it is acceptable to proceed under this general permit; 2) the SWPPP requires revisions; or 3) there is cause for eligibility denial. If notification is not received in this time-frame, the operator may assume coverage under this permit.
   e. Where the existing water quality does not meet applicable water quality standards (i.e., Tier I Waters), further degradation is not allowed under this permit. If an operator's discharge causes or contributes to non-attainment of standards, more effective and/or additional BMPs shall be added. If after the implementation of additional and/or more effective BMPs the discharge continues to contribute to nonattainment, the operator shall cease all discharges under this permit and apply for coverage under an individual permit.

5. Discharges to Unique Waters. An operator is not automatically eligible to discharge under this permit if any portion of the site is within ¼ mile of receiving a water listed as unique (a.k.a. an Outstanding Arizona Water, or OWA) in A.A.C. R18-11-112.
   a. To receive authorization, the operator shall submit the NOI and SWPPP to ADEQ. The SWPPP shall specifically identify BMPs that ensure the discharges will minimize discharge of pollutants from the site and that no degradation of the receiving water will occur. The operator shall include a monitoring plan in the SWPPP that meets the requirements of Part V of this permit.
   b. Non-stormwater discharges (except for emergency firefighting activities required to preserve human health or property) are prohibited from discharging to unique waters.
   c. If the operator receives a notification from ADEQ that the SWPPP is incomplete or otherwise determined to be deficient, the operator shall revise it addressing the Department's comments. Prior to authorization, ADEQ may require that specific BMPs or monitoring be implemented or specific BMP

design criteria be followed.

d. Within 32 business days of receipt of the SWPPP and a complete and accurate NOI, ADEQ will notify the operator whether: 1) it is acceptable to proceed under the general permit; 2) the SWPPP requires revisions; or 3) there is cause for an eligibility denial. If notification is not received in this time-frame, the operator may assume coverage under this permit.

6. Exempt Discharges. Persons performing the following activities are not required to seek coverage under this permit, unless specifically required under subsection (e) below:

a. Construction projects that disturb less than one acre, unless part of a larger common plan of development or sale;

b. Routine maintenance that disturbs less than five acres that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility or structure.

c. Construction activities associated with the oil and gas exploration, production, processing, or treatment operations or transmission facilities (e.g., drilling site preparation, crude oil pipelines, etc). This exemption does not include construction associated with distribution lines that deliver natural gas to homes, businesses, or between substations, etc., and operate at relatively low pressures, or those pipelines that transport refined petroleum product and chemicals from refineries and chemical plants.[2]

d. Construction activities covered under an Erosivity Waiver (Part I.E).

e. Additional Condition for Exemption. Persons that are not required to file for permit coverage under this section shall operate exempt construction sites in a manner that minimizes pollutants in the discharges, including effectively stabilizing the site after completion of construction. In the event discharges from the site may cause or contribute to non-attainment of water quality standards, ADEQ may require the operator to obtain permit coverage.

E. Erosivity Waivers for Small Construction Activities. A person performing construction activity which disturbs between one and five acres may be exempt from obtaining coverage under this permit based on a low potential for soil erosion for the duration of the project. However, if any discharge point from the construction site is within ¼ mile of animpaired or unique water, the site is not eligible for this waiver. This exemption is predicated on certain criteria being met and proper application procedures being followed:

1. Calculating Erosivity. Low potential for erosion is defined as a rainfall erosivity (R) factor of less than five as calculated using ADEQ's Smart NOI Web site.

The small construction project's rainfall erosivity factor calculation shall be less than five during the **entire** period of construction activity. The period of construction activity begins at initial earth disturbance (commencement of construction activities) and ends with final site stabilization.

The applicant shall certify to ADEQ that construction activity will occur only when the rainfall erosivity factor is less than five.

Note: Construction activities that disturb five acres or greater, or less than five acres but

2 On June 12, 2006, USEPA published a rule that exempts construction activities at oil and gas sites from the requirement to obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges except in very limited instances. These amendments are consistent with the Energy Policy Act of 2005 signed by the President of the United States on August 8, 2005. This action also encourages voluntary application of best management practices (BMPs) for construction activities associated with oil and gas field activities and operations to minimize erosion and control sediment to protect surface water quality. The final rule became effective June 12, 2006.

are part of a common plan of development or sale, are not eligible for this waiver.

2. Permit Waiver Certification. The operator shall submit an AZPDES Permit Waiver Certification Form using the Smart NOI Web site to ADEQ before commencing construction activities.

   An operator of a construction activity that is eligible for a waiver based on low potential for erosion shall provide the following information on the Permit Waiver Certification Form:
   a. The name, address, and telephone number of the construction site operator(s);
   b. The name (or other identifier), address, county, and parcel or lot number as recorded by the county, of the construction project or site;
   c. An accurate (within 15 seconds) latitude and longitude (in degrees/minutes/seconds format) of the construction project or site at the point of discharge nearest to the receiving water;
   d. The project start and completion (final stabilization) dates;
   e. The total project acreage and the acreage to be disturbed by the operator submitting the NOI, to the nearest 1/2 acre;
   f. If there is potential for discharge to a municipal separate storm sewer system (including municipal streets and other improvements that can convey stormwater), the name of the municipal operator of the storm sewer;
   g. Verification that the rainfall erosivity factor calculation that applies to the active construction phase at the project site is less than five calculated using ADEQ's Smart NOI Web site; and
   h. The certification statement, signed by a qualified signatory as defined in Part VIII.J.

3. Deadline for Notification. Operator(s) of a project which qualifies for the Permit Waiver shall ensure that ADEQ receives a signed Permit Waiver Certification Form at least two business days prior to the commencement of construction activities. In the absence of a Permit Waiver Certification submittal, ADEQ will assume that the operator was required to apply for coverage under the construction general permit.

4. Projects Which Extend Past Certified Period. If the small construction project continues beyond the calculated "end date" as shown on the Permit Waiver Certification, the operator is in violation of this permit. If this occurs, the operator shall prepare a SWPPP and submit an NOI as required under Parts II and III before the end of the certified waiver period.

PART II. AUTHORIZATION UNDER THIS GENERAL PERMIT

Important: The operator shall read and understand all the conditions and requirements of this permit before submitting any of the forms described in Part II.

A. Prerequisites for Submitting a Notice of Intent (NOI). A person may be authorized to discharge under this permit only if the stormwater discharge is associated with construction activities from the project site. Prior to submission of a NOI, an applicant seeking authorization to discharge under this general permit shall:

1. Meet the eligibility requirements under Part I.B; and

2. Develop and implement a SWPPP that meets Part III of this permit and that covers either the entire site or all portions of the site for which the person is an operator.
   a. The SWPPP shall be prepared prior to submission of the NOI and shall be implemented prior to the start of construction.

b. The SWPPP is not required to be submitted to ADEQ (unless the project will discharge to an impaired or unique water as described in Part I.D.5 and I.D.6) but shall be retained and made available in accordance with Part III.G.

B. Submitting a NOI.

1. Application Required.

a. The operator shall submit separate, accurate and complete NOIs to ADEQ for each project that disturbs one or more acres of land. The operator of a common plan of development or sale that will ultimately disturb one or more acres must submit completed NOIs to the ADEQ.

b. Submission of the NOI demonstrates the operator's intent to be covered by this permit; it is not a determination by ADEQ that the operator has met the eligibility requirements for the permit. Discharges are not authorized if ADEQ notifies the operator that further evaluation is necessary, or the discharges are not eligible for coverage under this permit.

c. Whenever the operator changes or another is added during the construction project, the new operator shall also submit an NOI to be authorized under this permit before taking over operational control or commencing construction activities at the site.

2. NOI Requirements. Construction site owners or operators seeking authorization for stormwater discharges under this general permit shall submit (by photocopy/fax/email/electronically) a complete and accurate AZPDES NOI form to ADEQ. The NOI form contains, at a minimum, the following information:

a. The name, address, and telephone number of the construction site operator;
b. Whether the operator is a federal, state, tribal, private, or other public entity;
c. The type of project (including construction projects conducted by contractors on behalf of ADOT and projects requiring ADOT permits) shall be specifically identified on the NOI;
d. Whether the project is part of a greater plan of development;
e. Estimates of the total project acreage and the acreage to be disturbed by the operator submitting the NOI, to the nearest 1/2 acre;
f. The printed name (or other identifier), address, county, lot number or parcel or lot number as recorded by the county, of the construction project or site;
g. An accurate (within 15 seconds) latitude and longitude (in degrees/minutes/seconds format) of the construction project or site at the point nearest the closest receiving water. For sites which are part of a larger common plan of development, the operator shall provide the latitude and longitude of the discharge point for the portion of the site covered by that NOI;
h. Whether any part of the site is located on Indian Country;
i. Confirmation that a SWPPP meeting the requirements in Part III of this permit has been developed and will be implemented prior to commencement of construction activities. If the NOI is a late application, the operator shall certify that a SWPPP has been developed and implemented prior to submittal of the NOI;
j. The onsite location where the SWPPP may be viewed and the name and telephone number of a contact person;
k. Unless all discharges from the site go to a municipal separate storm sewer system (MS4), provide the name(s) of the closest receiving water(s) which may include unnamed washes;
l. The name of the MS4 into which there is a potential to discharge, if applicable;
m. The project's estimated start and completion dates;

n. Any non-stormwater discharges expected to be associated with construction activities at the site;

o. Whether the project has or will need any other environmental permits or approvals, including, but not limited to, subdivision approvals, air quality 404 permits (etc.), and the permit number(s), if applicable;

p. Whether any portion is within 1/4 mile of an impaired or unique water; and

q The following certification statement, signed and dated by a qualified signatory, as defined in Part VIII.J, and the name and title of the person who signs:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision, as applicable, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, I believe the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition as an owner or operator, I certify that I have reviewed and intend to comply with all terms and conditions stipulated in 2008 Construction General Permit No. AZG2008-001 issued by the Director."

3. Where to Submit. The applicant shall submit the NOI electronically via the Smart NOI Web site or submit a paper copy to:

Arizona Department of Environmental Quality
Surface Water Section/Permits Unit/Stormwater NOIs (5415A-1)
1110 W. Washington Street
Phoenix, Arizona 85007
or fax to (602) 771-4528

*Note: The operator shall receive an Authorization Certificate (by mail, faxed, or electronically via the Smart NOI system for electronic submittals with e-signatures) assigning a permit authorization number and stating the approval date. This Authorization Certificate is **not** the permit - it merely acknowledges that the NOI has been received by the Department and the operator is authorized to discharge subject to the terms and conditions of this general permit.*

4. Notification to Municipal Separate Storm Sewer Systems/Local Authorities. If the construction site is located within municipal boundary or within Pima or Maricopa Counties for new or revised NOIs, the operator shall send a copy of the certificate authorizing permit coverage to the local authority(s).

5. Effective Date of Permit Coverage.

a. Incomplete NOI Submitted.

i. If ADEQ notifies the operator that an NOI is incomplete or incorrect, the operator shall resubmit an amended NOI if the operator still intends to obtain coverage under this permit; and

ii. Whether or not ADEQ notifies the operator of a deficiency in the NOI, discharges are not authorized under this permit if the operator submits an incomplete or incorrect NOI.

b. Discharges to Impaired or Unique Waters. Applicants proposing a site that has the potential for discharge to reach impaired or unique waters are not

authorized under this permit for a minimum of 32 business days following receipt of the signed NOI and SWPPP. ADEQ may notify operators within this time-frame that there is cause for SWPPP amendment or denial of coverage as specified in Parts I.D.5 and I.D.6 of this permit. If notification is not received in the 32 business day time period, the operator must verify with the Department that the Surface Water Section received the NOI and SWPPP prior to commencement of construction activities.

c. NOIs Requiring Additional Evaluation. ADEQ may notify an operator that authorization to discharge shall not occur for up to 32 business days in the event that review of the NOI identifies information requiring further evaluation. This notification may be made either in writing, email, by fax or phone contact. Operators receiving notice of a delay in coverage may discharge 32 business days after the date the signed NOI is received unless further notice is received from ADEQ during this time period. Such further notice may confirm authorization to discharge or deny permit coverage and require an application for an individual permit.

d. Routine Coverage. Except as provided in 5.a. through.5.c. above, an eligible operator is authorized to discharge stormwater from a construction project 7 calendar days after a signed NOI is received by ADEQ's Surface Water Section or when an authorization certificate is issued, whichever is earlier. However, in order to rely on the 7 calendar day "default" provision, the operator must submit the NOI in a manner that documents the date of ADEQ's receipt (i.e., certified mail, hand delivery, etc.).

Alternatively, applicants that submit a SMART NOI using the electronic signature feature will typically obtain immediate authorization unless the site is located near unique or impaired waters or in areas designated for review due to potential endangered species concerns.

e. Existing Construction Projects. Parts II.B.5.(b),(c), and (d) do not apply to operators of on-going construction projects that were authorized to discharge under Arizona's 2003 Construction General Permit (AZG2003-001), and that comply with the conditions of Part II.B.6.b of this permit.

f. Change in Operators. For construction projects where the operator changes, including instances where an operator is added after an NOI has been submitted, the new operator shall receive an authorization certificate before assuming operational control or commencing work on-site.

6. Deadlines for Notification.

a. New Projects. An operator of a construction project shall receive an NOI authorization or waiver certification prior to taking over operational control or the commencement of construction activities (i.e., the initial disturbance of soils associated with clearing, grading, excavation activities, or other construction activities).

b. Ongoing Construction Projects.

Operators of construction projects ongoing as of the effective date of this permit that received authorization to discharge for these projects under the expired Construction General Permit (AZG2003-001) shall:

i) For the first 120 days from the effective date of this permit, continue to comply with the terms and conditions of the expired Construction General Permit (AZG2003-001);

ii) Update the SWPPP as necessary to comply with the requirements

of Part III of this permit within 90 days of the effective date of this permit (and before submitting a new NOI as described in Part II.B.6.b.iii below); **and**

iii) Submit a complete and accurate NOI according to Part II within 120 days of the effective date of this permit. The previously issued Authorization Number (AZCON-XXXXX) must be included on the NOI for identification purposes.

Note: this is not considered a revision to the original NOI.

Note: If the operator is eligible to submit a Notice of Termination (NOT) (e.g., construction is finished and final stabilization has been achieved) before the 120th day, a new NOI is not required to be submitted, provided a NOT is submitted before the 120th day of the effective date of this permit.

7. Late Applications. The operator is only permitted for discharges that occur after a complete and accurate NOI is received by ADEQ and authorization is granted. ADEQ reserves the right to take enforcement action for any un-permitted discharges or permit noncompliance that occur between the time construction commenced and either permit authorization is granted, denied, or a complete and accurate Permit Waiver Certification for is submitted and the wavier is approved.

C. Submitting a Notice of Termination.

1. Notice Required. The operator shall submit a complete and accurate Notice of Termination (NOT) to ADEQ within 30 days after any of the following conditions have been met:
   a. Final stabilization has been achieved on all portions of the site for which the operator is responsible, unless otherwise required in the following parts. Final stabilization means that one of the following conditions (i, ii, or iii) is met:
      i. All soil disturbing activities at the site have been completed; all construction materials, waste, and temporary erosion and sediment control BMPs (including any sediment that was being retained by the temporary erosion and sediment control BMPs) have been removed and properly disposed; and either A or B below is met:
         A) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area is in place on all unpaved areas and areas not covered by permanent structures.

            When preconstruction native background vegetation covered less than 100% of the ground (e.g., arid areas, beaches), the 70% coverage criteria is adjusted as follows: if the native vegetation covered 50% of the ground, 70% of 50% (.70 X .50 = .35) or 35% cover density would be required, or
         B) Equivalent permanent stabilization measures (such as the use of riprap, decomposed granite, gabions, or geotextiles) have been employed.
      ii. For individual lots in residential construction, final stabilization means that the homebuilder:
         A) Has completed final stabilization as specified in Part II C.1.a.i. above, or
         B) Has established temporary stabilization, including

perimeter controls, for an individual lot prior to occupation of the home by the homeowner and has informed the homeowner of the need for, and benefits of, final stabilization.

iii. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to water of the U.S., and areas that are not being returned to their preconstruction agricultural use shall meet the final stabilization criteria above.

b. Another operator who has a valid authorization number under this general permit or an appropriate AZPDES permit has assumed control over all areas of the site that have not been finally stabilized;

c. For residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner (or a homeowner's association) in accordance with Part II.C.1.a.ii above;

d. The planned construction activity identified on the original NOI was never initiated (i.e, no grading or earthwork was ever started) and plans for construction have been permanently abandoned or indefinitely postponed.

e. The operator has obtained coverage for the site area under another AZPDES permit.

Note: NOTs can only be filed for those sites which obtained timely permit authorization by submitting a complete and accurate NOI. Sites which did not receive permit authorization have no permit coverage to terminate.

2. NOT Requirements. The operator shall submit to ADEQ a complete and accurate AZPDES NOT form (photocopy/fax/email/ electronic). The NOT form at a minimum shall include:

a. The AZPDES authorization number for the stormwater discharge;

b. The basis for submission of the NOT;

c. The name, address, and telephone number of the operator submitting the NOT;

d. The name of the project and street address (or a description of location if no street address is available) of the construction site for which the notification is submitted;

e. An accurate latitude and longitude (in degrees/minutes/seconds format) of the construction project or site at the point nearest to the receiving water; and

f. The following certification, signed by a qualified signatory as defined in Part VIII.K.2 of this permit, the printed name and title of the person who signs, and including the date of signature. For construction projects with more than one operator, the operator shall only make this certification for those portions of the construction site where he was authorized under this permit and not for areas where he was not an operator:

"I certify under penalty of law that all stormwater discharges associated with construction activity from the identified facility that are authorized by a general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is

unlawful under the Clean Water Act where the discharge is not authorized by a NPDES or AZPDES permit. I also understand that the submittal of this Notice of Termination does not release me from liability for any violations of this permit or the Clean Water Act."

3. Where to Submit. The operator shall submit the complete and accurate NOT form electronically via the Smart NOI Web site or submit a paper copy to:

   Arizona Department of Environmental Quality
   Surface Water Section / Stormwater & General Permits
   1110 W. Washington Street, 5415A-1
   Phoenix, Arizona 85007
   or fax to (602) 771-4528

   Note: The permittee shall receive an acknowledgement letter upon ADEQ's receipt of the permittee's completed NOT form.

4. Notification to Municipal Separate Storm Sewer Systems/Local Authorities. If the construction site was located within any municipal boundary or in Pima or Maricopa Counties, the operator shall send a copy of the NOT acknowledgement letter to the local authority.

5. Effective Date of Permit Termination. Authorization to discharge terminates under this permit at midnight on the date the NOT is received by the Department.

PART III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARATION

A. General Information.

1. The operator shall prepare a SWPPP before submitting the NOI for permit coverage and prior to conducting any construction activity

   (*For projects that did not prepare a SWPPP and file an NOI before commencement of construction activity, see late filing in Part II.B.2.i*)

   At least one SWPPP must be developed for each construction project or site covered by this permit. A joint SWPPP may be developed and implemented as a cooperative effort where there is more than one operator at a site. All operators shall either implement their portion of a common SWPPP or develop and implement their own SWPPP.

2. The SWPPP shall be prepared and implemented in accordance with good engineering practices and shall:
   a. Identify all potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the construction site;
   b. Identify, describe, and ensure implementation of BMPs that will be used to reduce pollutants in stormwater discharges from the construction site;
   c. Assure compliance with the terms and conditions of this permit; and
   d. Identify the responsible party for on-site SWPPP implementation.

3. All operator(s) shall sign and certify the SWPPP they will implement in accordance with Part VIII.J.

4. The operator shall implement the SWPPP from initial commencement of construction activity until final stabilization is complete and an NOT is filed, or an NOT transferring the site to a new operator is received by ADEQ.

5. SWPPPs that do not meet all provisions of this permit are considered incomplete. Operating under an incomplete or inadequate SWPPP is a violation of the permit.

B. Types of Operators

1. Definition of Operator. Operator means any person associated with a construction project that meets one or both of the following two criteria:
   a. The person has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
   b. The person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

2. Operator Requirements. Either Part III.B.2.a or B.2.b, or both, will apply depending on the type of operational control a person exerts over the site. Part III.B.2.c applies to all operators who have control over only a portion of a construction site.

   a. Operators with Operational Control over Construction Plans and Specifications shall ensure that:
      i. The SWPPP indicates the areas of the project where the operator has operational control over project specifications, including the ability to make modifications in specifications;
      ii. All other operators implementing portions of the SWPPP impacted by any changes made to the SWPPP are notified of such modifications in a timely manner; and
      iii. The SWPPP indicates the name(s) of the party(ies) with day-to-day operational control of those activities necessary to ensure compliance with the SWPPP or other permit conditions.

   b. Operators with Control over Day-to-Day Activities shall ensure that:
      i. The SWPPP identifies the parties responsible for implementation of BMPs identified in the SWPPP;
      ii. The SWPPP indicates areas of the project where each operator has operational control over day-to-day activities; and
      iii. The SWPPP indicates the name(s) of the party(ies) with operational control over project specifications (including the ability to make modifications in specifications).

   c. Operators with Control over Only a Portion of a Larger Project (e.g., one of four homebuilders in a subdivision), are responsible for compliance with the terms and conditions of this permit as it relates to the activities on his/her portion of the construction site (including implementation of BMPs required by the SWPPP). Operators shall ensure either directly or through coordination with other operators, that activities do not render another party's BMP(s) ineffective.

C. Site and Activity Description

1. Identification of Operators. The SWPPP shall identify all operators, including contact information, for the project site and the areas over which each operator has control.

2. Site Description. The SWPPP shall describe the nature of the construction activity, including:
   a. A description of the project and its intended use after the NOT is filed (e.g. low density residential, shopping mall, highway, etc.);

b. A description of the intended sequence of activities that disturb soils at the site (e.g., grubbing, excavation, grading, utilities, infrastructure installation, etc.);
c. The total area of the site, and an estimate of the total area of the site expected to be disturbed by construction activities including off-site supporting activities, borrow and fill areas, staging and equipment storage areas;
d. The percentage of the site that is impervious (e.g., paved, roofed, etc.) before and after construction;
e. A description of the site's soils including potential for erosion; and
f. A general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) with enough detail to identify:
    i. The location of the construction site and one mile radius; and
    ii. The waters of the U.S. including tributaries within one mile radius of the site.

3. Site Map. The SWPPP shall contain legible site map(s) completed to scale, showing the entire site that identifies:
    a. Drainage divides and direction of stormwater flow for all drainage areas located within the project limits (i.e., use arrows to show which way stormwater will flow);
    b. Areas of soil disturbance and areas that will not be disturbed;
    c. Locations of temporary and permanent BMPs identified in the SWPPP;
    d. Locations where stabilization BMPs are expected to occur;
    e. Locations of on-site material, waste, borrow areas, or equipment storage areas, and other supporting activities (per Part I.C.1.c);
    f. Locations of all surface water bodies (including dry/ephemeral washes and wetlands). If none exist on site, the SWPPP shall indicate so;
    g. Locations where stormwater discharges to a surface water (including wetlands, ephemeral waters and dry washes) and to a municipal separate storm sewer system (MS4) (i.e., use arrows to indicate discharge location). Where surface waters and/or MS4s receiving stormwater will not fit on the plan sheet, they shall be identified with an arrow indicating the direction and distance to the surface water and/or MS4;
    h. Locations and registration numbers of all on-site dry wells and dry wells on adjacent properties that have the potential to receive stormwater from the site (If none exist the SWPPP shall indicate so);
    i. Areas where final stabilization has been accomplished and no further construction permit requirements apply (if none, the SWPPP shall indicate so); and
    j. Location of trees and boundaries of environmentally sensitive areas and buffer zones to be preserved shall be identified.

    Note: If a marked-up site map is too full to be easily read the operator should date and fold it, put it in the SWPPP for documentation, and start a new one.

4. Receiving Waters. The SWPPP shall identify the nearest receiving water(s), including ephemeral and intermittent streams, dry washes, and arroyos. If applicable, the SWPPP shall also identify the areal extent and describe any wetlands near the site that could be disturbed or that could potentially receive discharges from disturbed areas of the project.

5. Best Management Practices.
    a. The SWPPP shall describe all BMPs as required in Part IV and that will be implemented as part of the construction project to control pollutants in stormwater discharges.

b. For each major activity identified at Part III.C.2.b in the project sequence of activities description, the SWPPP shall clearly describe:
   i. Appropriate BMPs;
   ii. The general sequence during the construction process or schedule that the BMPs will be implemented; and
   iii. Which operator is responsible for the implementation of the BMPs.

c. Standard detail drawings and/or specifications for the structural BMPs, including design or installation details, used on the project shall be included in the SWPPP.

6. Summary of Potential Pollutant Sources. The SWPPP shall identify the location and describe any pollutant sources from areas other than construction (i.e., support activities including stormwater discharges from dedicated asphalt or concrete plants and any other non-construction pollutant sources such as fueling and maintenance operations, materials stored on-site, waste piles, equipment staging yards, etc.). The operator shall implement BMPs in these areas to minimize pollutant discharges and shall detail these BMPs in the SWPPP.

   If any discharge point from the construction site is within ¼ mile of an impaired water, the SWPPP shall identify sources of the pollutants of concern listed on the 303(d) list that may potentially be discharged from the construction site and describe additional or enhanced BMPs to minimize discharges of these pollutants.

D. Permit Related Records

The operator shall include in the SWPPP:

1. A copy of this permit;
2. A copy of the NOI application that was submitted to ADEQ;
3. A copy of the authorization certificate received from ADEQ;
4. Identification of any municipality that received a copy of the authorization certificate; and
5. Copies of any other agreements (such as 404 permits, local grading permits, etc) with any state, local, or federal agencies that would affect the provisions or implementation of the SWPPP, if applicable.

E. Maintaining an Updated SWPPP

The SWPPP shall be revised as necessary during permit coverage to reflect current conditions and to maintain accuracy if there are changes in design or construction of the project, or if the SWPPP is found to be deficient. The operator shall amend the SWPPP within 15 business days whenever:

1. There is a change in design, construction, operation, or maintenance at the construction site that may have a significant effect on the discharge of pollutants to the waters of the U.S. that has not been previously addressed in the SWPPP; or

2. During inspections, monitoring if required, or investigations by the operator or by local, state, municipal separate storm sewer system, or federal officials, it is determined the discharges are causing or contributing to water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site.

Changes in the revised SWPPP shall be implemented before the next rain event whenever practicable. If this is impracticable, then reason(s) shall be documented in the SWPPP and revisions implemented as soon as possible.

F. Deficiencies in the SWPPP

ADEQ may notify the operator at any time that the SWPPP does not meet one or more of the requirements of this permit. The notification shall identify the parts of this permit that are not being met and parts of the SWPPP that require modification to comply with permit. Within 15 calendar days of receipt of the notification from ADEQ (or as otherwise provided by ADEQ), the operator shall make the required changes to the SWPPP and submit to ADEQ a written certification that the changes have been made. ADEQ may require re-submittal of the SWPPP to confirm all deficiencies have been adequately addressed.

ADEQ also is not precluded from taking enforcement action for any period of time the operator was operating under a SWPPP that did not meet the minimum requirements of this permit.

G. Posting, SWPPP Review and Making SWPPPs Available

1. The operator must post the authorization number(s) in a conspicuous location near the main entrance of the construction site and retain a copy of the authorization certificate in the SWPPP. For linear projects, the authorization number(s) must be posted near the entrance where most of the construction activity is occurring.

2. A copy of the site specific SWPPP shall be made available from commencement of construction activities to the date of final stabilization and NOT submittal as follows:

   a) The SWPPP shall be on-site whenever construction or support activities are actively underway, and

   b) The SWPPP shall be locally available to the Department or any other federal, state or local authority having jurisdiction over the project at any reasonable time (generally Monday through Friday, 8:00 am to 5:00 pm).

3. The SWPPP shall be made available to the Department or any other federal, state, tribal, or local authority having jurisdiction over stormwater discharges from the project at the time of an on-site inspection.

4. Any person, including, tribal authority, state, federal or local agency may view the SWPPP or make a written request to ADEQ for access to a copy of the SWPPP. ADEQ may request, and within 7 calendar days the operator shall provide, a copy for ADEQ to make available for public review.

PART IV. BMP REQUIREMENTS FOR CONSTRUCTION ACTIVITIES

A. General Requirements. The operator shall:

1. Identify and describe all BMPs to be implemented at the construction site in the SWPPP.

2. Properly select, install, and maintain all structural BMPs per the manufacturers' specifications and good engineering practices so BMPs remain functional and effective.

3. Design and implement a combination of erosion and sediment control BMPs to keep sediment in place and to capture sediment to the extent practicable before it leaves the site.

   Note: Soil crusting from water application, a practice commonly used for dust control is not an effective or acceptable erosion control/stabilization BMP for compliance with this permit.

4. Install sediment control/perimeter control BMPs before upgradient land is disturbed. Temporary BMPs shall not be removed until final stabilization is achieved except when temporary control structures must be moved in order to allow construction activities to continue. In this instance, the operator shall implement equivalent measures to ensure the same level of protection in minimizing potential pollutant discharges.

5. Phase or sequence construction activities, as practicable, to minimize the area of disturbance at any one time.

B. Erosion Control/Stabilization BMPs

1. Description. The operator shall implement interim and permanent erosion control and stabilization BMPs on-site and shall comply with the following:

   a. Preserving Natural Vegetation. Where practicable, existing vegetationshould be preserved. If natural vegetation can be preserved, the operator shall clearly mark vegetation before clearing activities begin. Locations of trees and boundaries of environmentally sensitive areas and buffer zones to be preserved shall be identified on the SWPPP site map;

   b. Seeding/Vegetation. If revegetation plans include seeding, the SWPPP shall include seed mix and application specifications that will be used for vegetative stabilization. If the operator uses fertilizers or tackifiers on-site to establish vegetation, BMPs shall be established to minimize the presence of these chemicals in the discharge.

   c. Culvert Stabilization. If culverts are present on the site, the SWPPP shall include measures to sufficiently minimize the threat of erosion at culvert locations to prevent the formation of rills and gullies during construction; and

   d. Run-on Management. If off site areas direct flow onto the construction site, the SWPPP shall include plans to either divert run-on flows, or otherwise provide engineering controls and BMPs to account for off site contributions of stormwater and non-stormwater flow.

2. Schedule and Deadlines for Stabilization.
   The operator must provide temporary stabilization, or initiate permanent stabilization, of disturbed areas within 14 calendar days of the most recent land disturbance in areas where construction or support activities have temporarily been suspended or have permanently ceased, except as follows:

   a. Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable;
   b. When the site is using vegetative stabilization but is located in an arid area during dry or drought-type conditions, vegetative stabilization measures shall be initiated as soon as practicable, when growing conditions are best for planting or seeding;
   c. When the site is using vegetative stabilization and is located in an area of the state experiencing drought conditions (see definitions), vegetative stabilization measures shall be initiated as soon as practicable;
   d. Stabilization shall be initiated within 7 calendar days, for areas within 50 feet of an impaired or unique water.
   e. Where disturbed areas are awaiting vegetative stabilization for periods greater than 14 calendar days after the most recent disturbance, non-vegetative

methods of stabilization shall be employed. These methods shall be described in the SWPPP.

3. Records of Stabilization. The operator shall maintain the following records as part of the SWPPP:

   a. Dates when major grading activities occur;
   b. Dates when construction activities temporarily or permanently cease on any portion of the site; and
   c. Dates when stabilization measures are initiated and completed and reasons for delay, if applicable.

C. Sediment Control BMPs

The operator shall implement structural BMPs to divert flows from exposed soils, store flows, or otherwise limit run-off and the discharge of pollutants from exposed areas of the site to the degree attainable. Placement of structural BMPs within the floodplain shall be avoided to the extent practicable.

1. Perimeter Control. The operator shall use silt fences, vegetative buffer strips, sediment traps, or equivalent sediment control BMPs at all times for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin that will store either a calculated volume of runoff from a 2 year, 24 hour storm, or 3,600 cubic feet per acre drained, is provided.

2. Soil Stockpiles. The operator shall use silt fences or other effective sediment control BMPs around soil stockpiles except when stockpiles are being actively worked (i.e., controls must be in place evenings, weekends, and other down times). The operator shall not place stockpiles in washes or other surface waters, or in stormwater conveyances such as curb and gutter systems, or in streets leading to such conveyances.

3. Sediment Basins and Traps.
   a. Where attainable, the operator shall provide temporary (or permanent) sediment basins at sites with common drainage locations that serve an area with 10 or more acres disturbed at one time. The operator shall design and construct basins as follows:
      i. The basin shall provide storage for a calculated volume of runoff from a 2 year, 24 hour rain event from each disturbed acre drained; or
      ii. Where no calculation is performed, a sediment basin providing 3,600 cubic feet of storage per acre drained shall be provided.

   When computing the number of acres draining into a common location it is not necessary to include flows from offsite areas, if such flows are diverted around both the disturbed areas and the sediment basin. It is, however, necessary to include all sources of on-site flow that will reach the basin, including areas that are undisturbed and areas that have undergone final stabilization.

   In determining whether installing a sediment basin is attainable, the operator shall consider physical limitations at the site such as soils, slope, and available on-site area. If non-attainability is claimed, the operator shall explain in the SWPPP why a sediment basin is non-attainable. The operator shall also consider public safety, especially as it relates to children, as a design factor for sediment basin attainability and shall implement alternative

sediment control BMPs if site limitations preclude a safe design.

The SWPPP shall provide sizing and calculation requirements for sediment basin(s) and shall indicate whether the basin(s) will be temporary or permanent.

b. The operator shall use smaller sediment basins and/or sediment traps for linear projects and for drainage locations that serve 10 or more disturbed acres at one time if a sediment basin meeting the provision of Part IV C.3.a is not attainable.

c. The operator shall maintain sediment basin, ponds, and traps, and remove accumulated sediment when design capacity has been reduced by 50%. Sediment basin, ponds, and traps must be maintained until final stabilization of the site is obtained.

d. For linear projects and drainage locations serving less than 10 acres, smaller sediment basins and/or traps shall be used.

4. Discharge of Sediments During Dry Weather. The operator shall implement effective BMPs that ensure there is no discharge of sediments from construction activities to any water body including dry washes during dry weather.

Note: This is not intended to apply to blowing dust, or to track-out that is otherwise managed as required in this permit.

5. Velocity Dissipation Devices. The operator shall place velocity dissipation BMPs along the length of any outfall channel on-site, and at locations where discharges leave the construction site as necessary to provide a non-erosive flow velocity.

6. Storm Drain Inlet Protection. The operator shall at all times during construction provide effective sediment control BMPs at storm drain inlets that discharge, or could discharge, to waters of the U.S. or to a local MS4 until all sources with potential for discharging to the inlet are stabilized.

7. Construction Site Entrance and Egress. The operator shall implement effective BMPs to minimize tracking of sediments, debris and other pollutants from vehicles and equipment entering and leaving the site (e.g., stone pads, concrete or steel wash racks, or equivalent systems).

D. Non-Structural BMPs

1. Good Housekeeping BMPs. The operator shall implement good housekeeping procedures to prevent litter, construction debris, and construction chemicals exposed to stormwater from becoming a pollutant source for stormwater discharges. These procedures shall include storage practices to minimize exposure of the materials to stormwater, and spill prevention and response practices.

2. Fueling and Maintenance Areas. The operator shall implement BMPs to minimize discharges from construction equipment fueling operations and maintenance areas.

3. On-site and Offsite Material Storage. The operator shall identify and describe all material storage areas (including overburden and stockpiles of dirt, borrow areas, etc.) used for the permitted project in the SWPPP unless those areas are covered by another AZPDES permit.

4. Concrete Washout. Where possible, concrete suppliers should conduct washout

activities at their own plants or dispatch facilities.

E. Non-Stormwater Discharge BMPs

1. The operator shall not allow any non-stormwater discharges from the site unless they are specifically authorized in Part I.C.2.
2. The operator shall eliminate or reduce all non-stormwater discharges to the extent practicable. If discharges cannot be eliminated, the operator shall include the following information in the SWPPP for all non-stormwater discharge (except for flows from emergency fire fighting activities),
   i. Identification of each non-stormwater discharge expected to be associated with the project;
   ii. The location(s) where each discharge is likely to occur; and
   iii. Appropriate BMPs that the operator will use to minimize the discharge of pollutants.
3. The operator shall ensure all water from dewatering or basin draining activities is discharged in a manner that does not cause nuisance conditions, including erosion in receiving channels or on surrounding properties.
4. The operator shall retain superchlorinated wastewaters (i.e., containing chlorine above residual levels acceptable in drinking water systems) on-site until the chlorine dissipates, or shall otherwise effectively dechlorinate the water prior to discharge.

   Note. As with any non-stormwater, if acceptable to the local sanitary sewer authority, this wastewater may be discharged to the sanitary sewer. In this case, dechlorination is not required by this permit.

F. Post-Construction Stormwater Management

1. The SWPPP shall include a description of post-construction stormwater management BMPs that will be installed during the construction process to control pollutants in stormwater discharges after construction has been completed.
2. If 'temporary' sediment basins are to be used as/converted to retention or detention basins in the post-construction phase, the operator shall remove and properly dispose of all sediments accumulated in the basin during construction activities prior to filing an NOT.
3. Post-construction structural BMPs shall be placed on upland soils to the degree attainable.
4. New discharge connections or permanent stormwater outfalls to unique waters are prohibited under this permit

.

Note: The installation of these devices may also require a separate permit under section 404 of the Clean Water Act.

Note: This permit only authorizes and requires the operator to install and maintain stormwater management measures up to and including final stabilization of the site, and does not required continued maintenance after stormwater discharges associated with the construction activity have been eliminated form the site and a NOT has been filed. However, post-construction stormwater BMPs that discharge pollutants from point sources once construction is complete, may in themselves, need authorization under separate AZPDES permit.

G. Other BMPs

The SWPPP shall describe:

1. Measures to prevent the discharge of solid materials, including building materials, to waters of the US, except as authorized by a permit issued under section 404 of the Clean Water Act;
2. Specific locations of concrete and vehicle washout activities that will occur at the

construction site. The operator shall employ measures to contain and manage on-site vehicle and equipment washwater and concrete wash-out to prevent discharge (see Part IV.D.3) and consistent with applicable Aquifer Protection Program (APP) permits.

H. Inspections

The operator shall provide "qualified personnel" to perform inspections according to the selected inspection schedule identified in the SWPPP.

1. Inspection Schedule.

   a. Routine Inspection Schedule. The operator shall ensure inspections are performed at the site as indicated below to ensure BMPs are functional and that the SWPPP is being properly implemented.

      i. The site will be inspected a minimum of once every 7 calendar days, OR

      ii. The site will be inspected a minimum of once every 14 calendar days, and also within 24 hours of the end of each rain event of 0.5-inches or greater.

      *Note: The Department encourages adding inspections **before** and/or **during** predicted rain events and "spot" inspections to ensure BMPs will be effective in managing stormwater runoff and associated pollutants.*

   b. Reduced Inspection Schedule. The operator may reduce inspection If the entire site has been temporarily stabilized; or runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or frozen ground exists). In this case, the site shall be inspected at least once every 28 calendar days, and before an anticipated rain event and within 24 hours of the end of each rain event of 0.5 inches or greater in 24 hours.

   c. Inspection Schedule for Sites within ¼ mile of Impaired or Unique Waters. If any discharge point from the construction site is within ¼ mile of a unique or impaired water, the operator shall inspect the site at least once every 7 calendar days. In addition, the operator shall visually observe stormwater discharges at all discharge locations within one business day after each rain event of 0.5 inches or greater in 24 hours.

   Note: If an inspection day (except those required relative to a rainfall event) falls on a Saturday or holiday, the inspection may be conducted on the preceding workday. If the inspection day falls on a Sunday, the inspection may be conducted on the following Monday.

2. Inspector Qualifications. All Inspections shall be done by qualified personnel. "Qualified personnel" means a person (or personnel) knowledgeable in the principles and practice of erosion and sediment control BMPs, and who possesses the skills and abilities to assess conditions at the site that could impact stormwater quality and the effectiveness of the BMPs selected to control the quality of the stormwater discharges. The inspector(s) name, title and a description of his/her qualifications and a copy of his/her training certificate, if any, shall be included in the SWPPP before construction begins. Inspector information shall be updated whenever a new inspector is brought onto the project.

3. Scope of Inspections.
   a. At a minimum, the inspector shall examine each of the following during each inspection:
      i. Good housekeeping BMPS;
      ii. All erosion and sediment control BMPs identified in the SWPPP to ensure they are in place and functioning as intended;
      iii. All areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation;
      iv. Locations where vehicles and equipment enter or exit the site for evidence of tracking sediment, debris, and other pollutants onto and off the site;
      v. Site conditions for evidence of, or the potential for, pollutants entering the municipal separate storm sewer;
      vi. Accessible discharge locations or discharge points to ascertain whether erosion and sediment control BMPs are effective in preventing significant impacts to receiving waters; and
      vii. Where discharge locations are inaccessible, nearby downstream locations to the extent that the inspections are practicable.
   b. The inspector shall document all areas inspected, the presence and effectiveness of BMPs, and the conditions found at the time of inspection.
   c. All nonfunctional and underperforming BMPs shall be repaired, replaced or supplemented with functional BMPs, as specified in Part IV.I.2.

4. Inspection Report. For each inspection, the operator shall complete an inspection report which provides information that is equivalent to the sample form provided in Appendix A. Within 24 hours of completing the inspection, the corresponding inspection report shall be placed with previous reports (in chronological order) and kept with the SWPPP. At a minimum, the report shall include:
   a. The inspection date;
   b. Name(s) and title(s) of qualified person(s) making the inspection;
   c. Weather information for the period since the last inspection (or since commencement of construction activity for the first inspection) including:
      i. Best estimate of the beginning of each rain event;
      ii. Duration of each event;
      iii. Time elapsed since last rain event; and
      iv. Approximate amount of rainfall for each event (in inches).
   d. Location(s) of discharges of sediment or other pollutants from the site;
   e. For inspections occurring during or after a rain event, a description of stormwater that is discharging from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen, as applicable), when present;
   f. Location(s) and identification of BMPs that need to be maintained, failed to operate as designed, or proved inadequate;
   g. Location(s) where additional BMPs are needed that did not exist at the time of inspection are needed;
   h. Identification of all sources of non-stormwater discharges occurring at the site and associated BMPs inplace;
   i. Identification of material storage areas and, evidence of or potential for, pollutant discharge from such areas;
   j. Corrective actions required, including any changes to SWPPP necessary, and implementation dates (of corrective actions/maintenance, and SWPPP changes);
   k. Identification of any non-compliance with the conditions of this permit, or where the inspector does not identify any incidents of non-compliance, the inspection report shall contain a certification that the construction project or site is being operated in compliance with the SWPPP and this permit; and

l. Certification statement and signature in accordance with Part VIII.J.

5. Revising the SWPPP. Based on the results of the inspection, the operator shall revise the SWPPP as needed to include additional or modified BMPs designed to correct problems identified. The operator shall complete revisions to the SWPPP within 15 business days following the inspection. The revised SWPPP shall be implemented as specified in Part III.E.

I. Maintenance of BMPs.

1. The operator shall maintain all erosion and sediment control measures (BMPs) and other protective measures identified in the SWPPP in effective operating condition.

2. If existing BMPs need to be repaired or modified or if additional BMPs are necessary, implementation shall be completed within 7 calendar days or before the next rain event (whichever is sooner), unless otherwise prescribed in a. through d. below. If implementation before the next rain event is impracticable, the reason(s) for delay shall be documented in the SWPPP and alternative BMPs shall be implemented as soon as possible. Additionally, the following maintenance activities shall be implemented as follows:

   a. Remove accumulated sediment when it reaches a maximum of one-third the height of the silt fence or one-half the height of a fiber roll.

   b. Sediment shall be removed from temporary and permanent sedimentation basins, ponds and traps when the depth of sediment collected in the basin reaches 50% of the storage capacity.

   c. Construction site egress location(s) shall be inspected for evidence of off-site tracking of sediment, debris, and other pollutants onto paved surfaces. Removal of sediment, debris, and other pollutants from all off-site paved areas shall be completed as soon as practicable, or as otherwise required by Federal, State, and local requirements.

   d . Accumulations of sediment, debris, and other pollutants observed in offsite surface waters, drainage ways, catch basins, and other drainage features shall be removed in a manner and at a frequency sufficient to minimize impacts and to ensure no adverse effects on water quality.

PART V. MONITORING REQUIREMENTS FOR DISCHARGES TO UNIQUE OR IMPAIRED WATERS

The provisions of Part V. apply only to operators with projects located within ¼ mile of an impaired or unique water. If any portion of the project area extends within this distance, the operator is subject to the requirements of this Part.

A. Monitoring Program. Operators of projects that are located within ¼ mile of impaired or unique waters shall prepare and implement a monitoring program that meets the requirements of this Part. Operators of sites that are down-gradient of these waterbodies can be exempted from monitoring if the operator provides a demonstration acceptable to ADEQ that there is no potential for discharge to reach the unique or impaired receiving water.

B. General Requirements. The operator shall develop a written site-specific monitoring program including both visual and analytical monitoring. The monitoring program shall be a part of the SWPPP as either an appendix or separate SWPPP section. The monitoring program shall include:

1. Locations of monitoring sites;
2. The name(s) and title of the person(s) who will perform the monitoring;
3. A map showing the segments or portions of the receiving water that are most likely to be impacted by the discharge of pollutant(s);
4. Water quality parameters/pollutants to be sampled;
5. The citation and description of the sampling protocols to be used;
6. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures; and
7. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required. MDLs shall be below applicable surface water quality standards when possible.
8. Additionally, for sites within ¼ mile of an impaired water, the monitoring program shall include:
   a. An identification of the pollutant(s) of concern based on the most recent 305(b)/303(d) listing or other information available; and
   b. A description of potential source(s) of this pollutant(s) from the project, if any.

C. Visual Monitoring Requirements.

1. Visual Monitoring Schedule. At a minimum, visual monitoring activities for projects near impaired or unique waters shall consist of weekly site inspections. In addition, the operator shall visually observe stormwater discharges at all discharge locations within one business day after each 0.5 inch of precipitation from a rain event. Visual observations are only required during daylight hours (sunrise to sunset).
2. Visual Monitoring Locations. The inspector shall visually observe each drainage area for the presence of current (and indications of prior) discharges and their sources.
3. Visual Monitoring Parameters. Visual observations shall document the presence or evidence of any discharge, pollutant characteristics (floating and suspended material - clarity and solids, sheen, color, turbidity, odor, foam etc.), and source.
4. Visual Monitoring. The operator shall document conditions noted during visual monitoring. Documentation shall include photographs of site conditions including sediment loads, erosion and waste control BMPs and any discharges.

D. Analytical Monitoring Requirements.

1. Analytical Monitoring Schedule. Analytical monitoring shall be performed anytime a pollutant (including sediment) is known or suspected to discharge from the construction site. Monitoring shall continue until final stabilization for the project site is established and an NOT is filed.

2. Adverse Conditions Exception. The operator is not required to physically collect samples during dangerous weather conditions such as flooding and electrical storms; or during nighttime hours (sunset to sunrise). Information on any adverse conditions that prevented sampling shall be documented in the SWPPP.

3. Analytical Monitoring Locations.
   a. The operator shall conduct discharge sampling at locations observed or suspected to contain the greatest pollutant load resulting from the construction activities.

   b. Where the construction site is adjacent to or otherwise discharges directly to an unique or impaired stream, the operator shall sample

both immediately upstream and downstream of each discharge point. If there are two or more discharge locations from the site to the same unique or impaired stream, the operator may sample at one upstream and one downstream location in the stream. Additional monitoring points shall be located at the discharge points of the construction site. If the impaired or unique water is a lake, a site specific proposal for sampling the impact area shall be submitted.

c. If the unique or impaired water is a lake, a site-specific proposal for sampling the impact area shall be submitted. Documentation of ADEQ approval of the sampling plan shall be included in the SWPPP.

d. If the construction site is within ¼ mile of an unique or impaired water, but is not located adjacent to or does not otherwise discharge directly to the water, analytical monitoring shall be conducted at each discharge location (unless a discharge point representative of worst case discharge quality can be established as an alternative) at the construction site.

4. Analytical Monitoring Parameters.

a. The operator shall monitor for turbidity. The operator shall compare turbidity values from the sample locations referenced in Part V.D.3.b. If there is a 25% or more increase at the downstream monitoring location, the operator shall evaluate and replace, maintain, or install additional BMPs as necessary to reduce sediment transport.

b. The operator shall sample discharges to unique waters for any pollutants known, or which should be known to be present at the site.

c. The operator shall also sample discharges to impaired waters for any additional pollutants for which the water is impaired. However, if the operator can demonstrate that there is no reasonable expectation that construction activities could be an additional source of a specific pollutant, analytical monitoring for that parameter will not be required. As part of this demonstration, the operator must consider all on-site activities, as well as the potential for any pollutants (metals, nutrients, etc.) to be present in the on-site soils which will be disturbed.

5. Sample Collection, Preservation, Tracking, Handling and Analyses. The operator shall establish written procedures for sample collection, preservation, tracking, analyses, and handling, including the following:

a. Identify sample analyses and associated analytical methods (fixed base laboratory and field analyses);
b. Use of only preserved (as necessary), pre-cleaned sample containers provided by the laboratory;
c. Labeling each sample container with indelible ink noting sampler's name(s), sample identification, date and time of sample collection, sample location (discharge location), requested analyses, project name or number, and preservation (as appropriate);

d. Tracking samples using chain-of-custody (COC) forms. The COC shall include, at a minimum, sampler's name(s), phone number, date and time of sample collection, sample identification, requested analyses, and project name or number. The COC forms shall be included as part of the SWPPP;

e. Transporting and shipping samples for laboratory analyses in a manner that minimizes destruction of the sample or otherwise compromises sample integrity. Samples shall be provided to the analytical laboratory in a timeframe not exceeding analytical method hold times;

f. Designating and training personnel to collect, maintain, and ship samples in accordance with the above sample protocols and good laboratory practices.

E. Monitoring Methods. All monitoring instruments and equipment (including operators' own field instruments for measuring pH and turbidity) shall be calibrated and maintained in accordance with manufacturers' recommendations. All laboratory analyses shall be conducted according to test procedures specified in 40 CFR 136, unless other test procedures have been specified in this general permit.

All samples collected for monitoring shall be analyzed by a laboratory that is licensed by the Arizona Department of Health Service (ADHS) Office of Laboratory Licensure and Certification. This requirement does not apply to parameters that require analysis at the time of sample collection as long as the testing methods used are approved by ADHS or ADEQ. These parameters may include flow, dissolved oxygen, pH, temperature, and total residual chlorine. The operator may conduct field analysis of turbidity if the operator has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to properly perform the field analysis.

F. Records.

1. Analytical Record Submittal. The operator shall submit monitoring records twice a year. Monitoring records for the period between June 1 and October 31 shall be submitted to ADEQ by November 30th of each year or at the time of final stabilization and NOT submittal, whichever is sooner. Monitoring records for the period between November 1 and May 31 shall be submitted to ADEQ by June 30th of each year or at the time of final stabilization and NOT submittal, whichever is sooner.

   Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or other format specified by the Director, and submitted to:

   Arizona Department of Environmental Quality
   Surface Water Section
   Stormwater and General Permits Unit/NOI (5415A-1)
   1110 W. Washington Street
   Phoenix, Arizona 85007

2. Record Retention. The operator shall retain records of all stormwater monitoring information and reports as part of the SWPPP for a period of at least three years from the date the NOT was submitted to ADEQ. In addition to the requirements in Part VIII.I of this permit. These records shall include:
   a. The date, exact place and time of sampling or measurements;
   b. The name and title of the qualified person performing the visual and analytical monitoring and any related measurements;
   c. The date(s) the analyses were performed;

d. The analytical techniques or methods used;
e. The results of such analyses; and
f. The response(s) taken to reduce or prevent pollutants in discharge.

PART VI. SPECIAL CONDITIONS

A. Hazardous Substances or Oil. The operator shall prevent or otherwise minimize the discharge of hazardous substances or oil in the discharge(s) from the construction activities in accordance with the SWPPP. This permit does not relieve the operator of the reporting requirements under 40 CFR 110, 40 CFR 117 and 40 CFR 302 relating to spills or other releases of oils or hazardous substances.

B. Releases in Excess of Reportable Quantities. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302 occurs, the operator shall:

1. Modify the SWPPP within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, SWPPPs shall identify measures to prevent the reoccurrence of the releases and to respond to such releases; and

2. Provide notice to the National Response Center in accordance with 40 CFR 110, 40 CFR 117, and 40 CFR 302 within a 24 hour period, or as soon as site staff have knowledge of the discharge.

C. Spills. This general permit does not authorize the discharge of any hazardous substances or oil resulting from on-site releases.

D. Compliance with surface water quality standards. The operator must select, install, implement and maintain BMPs at the construction site that minimize pollutants in the discharge as necessary to meet applicable water quality standards. At any time after authorization, ADEQ may determine that stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, ADEQ may require you to:

1. Develop a supplemental BMP action plan describing SWPPP modifications to address adequately the identified water quality concerns;
2. Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or
3. Cease discharges of pollutants from construction activity and submit an individual permit application.

E. Continuation of the Expired General Permit. If ADEQ does not reissue this general permit before the expiration date, it will be administratively continued and remain in force and effect. Operators granted general permit coverage before the expiration date will automatically remain covered by the continued general permit until the earlier of:

1. Reissuance or replacement of the general permit, at which time the operator shall comply with the NOI conditions of the new general permit to maintain authorization to discharge; or

2. The date ADEQ receives the operator's NOT; or

3. The date ADEQ issues an individual permit for the project's discharge; or

4. The date ADEQ issues a formal permit decision not to reissue this general permit, at which time operators shall seek coverage under an alternative general permit or an individual permit.

PART VII. RETENTION OF RECORDS

A. Documents. The operator shall retain copies of SWPPPs and all documentation required by this permit, including records of all data used to complete the NOI to be covered by this permit, for at least three years from the date of submittal of an NOT. ADEQ may extend this retention period upon request by notifying the operator in writing at any time prior to the end of the standard three year retention period.

B. Maintaining Inspection Records. The operator shall ensure the inspection report and record of any follow-up actions taken is retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated.

PART VIII. STANDARD PERMIT CONDITIONS

A. Duty to Comply. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(a)(1) and A.R.S. § 49-261, 262, 263.01, and 263.02.]

1. The operator shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act; A.R.S. Title 49, Chapter 2, Article 3.1; and A.A.C. Title 18, Chapter 9, Articles 9 and 10, and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or denial of a permit renewal application.

2. The issuance of this permit does not waive any federal, state, county, or local regulations or permit requirements with which a person discharging under this permit is required to comply.

3. The operator shall comply with any effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

B. Need to Halt or Reduce Activity Not a Defense. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(c)]. It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

C. Duty to Mitigate. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(d)] The operator shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

D. Proper Operation and Maintenance. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(e)] The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.

E. Permit Actions. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(f)] This permit may be modified, revoked and reissued, or terminated for cause. The filing of a

request by the operator for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

F. **Property Rights.** [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(g)] This permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, nor any infringement of federal, state, Indian tribe, or local laws or regulations.

G. **Duty to Provide Information**. [A.A.C.R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(h)] The operator shall furnish to ADEQ, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The operator shall also furnish to ADEQ upon request, copies of records required to be kept by this permit.

H. **Inspection and Entry.** [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(i)] The operator shall allow the Director, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to:

1. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that shall be kept under the terms of the permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring equipment or control equipment), practices or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by A.R.S. Title 49, Chapter 2, Article 3.1, and A.A.C. Title 18, Chapter 9, Articles 9 and 10, any substances or parameters at any location.

I. **Monitoring and Records**. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(j)]

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. The operator shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

3. Monitoring shall be conducted according to test procedures approved under 9 A.A.C. Chapter 14, Article 6 as incorporated by reference in R18-9-A905(B); unless specific test procedures have been otherwise specified in this permit.

4. Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which includes the possibility of fines and/or imprisonment.

J. **Signatory Requirements.** [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(k) and (l); A.A.C. R18-9-A905(A)(1)(c) which incorporates 40 CFR 122.22]

1. NOIs. All NOIs shall be signed and certified as follows:

a. For a corporation: By a responsible corporate officer. For the purpose of this Part, a responsible corporate officer means:

i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

ii. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency is the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).

2. Reports and Other Information: All NOTs, SWPPPs, reports, certifications, or information required by this permit and other information requested by ADEQ shall be signed by a person described in Part VIII.J.1 or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VIII.J.1;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the operator. (A “duly authorized representative” may be either a named individual or any individual occupying a named position); and

c. The signed and dated written authorization is included in the SWPPP and submitted to ADEQ upon request.

3. Changes to Authorization. If the information on the NOI filed for general permit coverage is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a revised NOI shall be submitted to ADEQ prior to or together with any reports, information, or applications to be signed by the signatory or an authorized representative.

4. Certification. Any person signing documents, including inspection reports under the terms of this permit shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

K. Reporting Requirements. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(l)]

1. Planned Changes. The operator shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b) (incorporated by reference at R18-9-A905(A)(1)(e)); or

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1) (incorporated by reference at R18-9-A905(A)(3)(b)).

2. Anticipated Noncompliance. The operator shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Monitoring Reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit. If the operator monitors any pollutant more frequently than required by the permit, using test procedures approved under 9 A.A.C. Chapter 14, Article 6 or as specified in the permit, then the results of this monitoring shall be included in the calculation and reporting of the data to ADEQ.

4. Twenty-four hour Reporting.
   a. The operator shall report to ADEQ any permit noncompliance which may endanger human health or the environment. The operator shall orally notify the office listed below within 24 hours:

      Arizona Department of Environmental Quality
      1110 W. Washington, 5515B-1
      Phoenix, Arizona 85007
      Office: 602-771-2330; Fax 602-771-4505

      Note: Additional Federal, State, or Local release reporting may also be required.

   b. A written submission shall also be provided to the office identified above within five days of the time the operator becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the

anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

5. Other Noncompliance. The operator shall report all instances of noncompliance (not otherwise required to be reported as prescribed in Part VIII.K.4) in accordance with Part VIII.K.3.

6. Other Information. When the operator becomes aware that he or she failed to submit any relevant facts in the NOI or in any other report to ADEQ, the operator shall promptly submit the facts or information to the Surface Water Section of ADEQ.

L. Reopener Clause. [A.A.C. R18-9-A905(A)(3)(d), which incorporates 40 CFR 122.44(c)]. ADEQ may elect to modify the permit prior to its expiration (rather than waiting for the new permit cycle) to comply with any new statutory or regulatory requirements, such as for effluent limitation guidelines that may be promulgated in the course of the current permit cycle.

M. Other Environmental Laws. No condition of this general permit releases the operator from any responsibility or requirements under other environmental statutes or regulations. For example, this permit does not authorize the "take" of endangered or threatened species as prohibited by section 9 of the Endangered Species Act, 16 U.S.C. 1538. Information regarding the location of endangered and threatened species and guidance on what activities constitute a "take" are available from the U.S. Fish and Wildlife Service at www.fws.gov.

N. State or Tribal Law. [Pursuant to A.A.C. R18-9-A904(C)] Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

O. Severability. The provisions of this general permit are severable, and if any provision of this general permit, or the application of any provision of this general permit to any circumstance, is held invalid, the application of the provision to other circumstances, and the remainder of this general permit shall not be affected.

P. Upset. [A.R.S. §§ 49-255(8) and 255.01(E), A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41(n)]

1. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the operator. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

2. Effect of an Upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

3. Conditions Necessary for a Demonstration of Upset. An operator who wishes to establish the affirmative defenses of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that operator can identify the cause(s) of the upset;
   b. The permitted facility was at the time being properly operated; and

c. The operator submitted notice of the upset as required in paragraph (K)(2)(4)(24-hour notice).

d. The operator has taken appropriate measure including all reasonable steps to minimize or prevent any discharge or sewage sludge use or disposal that is in violation of the permit and that has a reasonable likelihood of adversely affecting human health or the environment per A.R.S. § 49-255.01(E)(1)(d).

4. Burden of Proof. In any enforcement proceeding the operator seeking to establish the occurrence of an upset has the burden of proof.

Q. Bypass. [A.A.C. R18-9-A905(A)(3)(a), which incorporates 40 CFR 122.41 (m)]

1. Definitions.
   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production,

2. Bypass not Exceeding Limitations. The operator may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (3) and (4) of this section.

3. Notice.
   a. Anticipated bypass. If the operator knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of bypass.
   b. Unanticipated bypass. The operator shall submit notice of an unanticipated bypass as required in paragraqph (f)(2) of section 13 (24-hour notice).

4. Prohibition of Bypass. Bypass is prohibited, and the Director may take enforcement action against an operator for bypass, unless:
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
   c. The operator submitted notices as required under paragraph (3) of this section.

   The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above.

PART IX. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

Any permit noncompliance constitutes a violation and is grounds for an enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

A. **Civil Penalties.** A.R.S. § 49-262(C) provides that any person who violates any provision of A.R.S. Title 49, Chapter 2, Article 2, 3 or 3.1 or a rule, permit, discharge limitation or order issued or adopted under A.R.S. Title 49, Chapter 2, Article 3.1 is subject to a civil penalty not to exceed $25,000 per day per violation.

B. **Criminal Penalties.** Any a person who violates a condition of this general permit, or violates a provision under A.R.S. Title 49, Chapter 2, Article 3.1, or A.A.C. Title 18, Chapter 2, Articles 9 and 10 is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4, which may include the possibility of fines and/or imprisonment.

PART X. DEFINITIONS

"24 hour period" means any consecutive 24-hour period.

"Anticipated rain event" for the purpose of this permit, means any storm event with at least a 30% chance of precipitation as predicted by the National Weather Service for the area local to the construction site.

"Arid areas" for purposes of this permit, means the parts of the state that receive an annual rainfall of less than 20 inches.

"Best management practices" (BMPs) means those methods, measures or practices to prevent or reduce discharges and includes structural and nonstructural BMPs and operation and maintenance procedures. Best management practices may be applied before, during and after discharges to reduce or eliminate the introduction of pollutants into receiving waters. In addition, the term shall include erosion and sediment control BMPs, stormwater conveyance, stormwater diversion, and treatment structures, and any procedure or facility used to minimize the exposure of pollutants to stormwater or to remove pollutants from stormwater.

"Business day" means Monday through Friday, except legal holidays observed by the state of Arizona.

"Commencement of construction activities" means the initial disturbance of soils associated with clearing, grading, excavating, or stockpiling of fill material activities or other construction-related activities.

"Common plan of development" means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. A 'plan' is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

"Construction activity" includes clearing, grading, excavating, stockpiling of fill material and other similar activities resulting in a land disturbance of at least one acre. Construction activity also includes clearing, grading, stockpiling, etc. that occurs in smaller areas if part of a larger common plan of development or sale that will ultimately disturb one or more acres,. This definition encompasses both large construction activities defined in 40 CFR 122.26 (b)(14)(x) and small constructions activities in 40 CFR 122.26 (b)(15)(i).

"Day" means a calendar day or any 24-hour period that reasonably represents the calendar day.

"Department" means the Arizona Department of Environmental Quality.

"Discharge" means any addition of any pollutant to waters of the United States or to a MS4 from any point source.

"Drought" means for purposes of this permit, weather conditions considered "severely" or "extremely" dry (i.e., has a value of -1.50 or less) as evaluated by the 3-month Standardized Precipitation Index (SPI) which compares current cumulative precipitation to average conditions.

"Eligible" means authorization to discharge stormwater under this general permit.

"Ephemeral" means a surface water that has a channel that is at all times above the water table, and that flows only in direct response to precipitation. [A.A.C. R18-11-101(22)]

"Erosion control" means temporary or permanent measures to prevent soil particles from detaching and being transported in stormwater.

"Impaired water" means waters that have been assessed by ADEQ, under the Clean Water Act, Section 303(d), as not attaining a water quality standard for at least one designated use, and are listed in Arizona's 2004 303(d) List and Other Impaired Waters.

"Municipal separate storm sewer" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

i. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
ii. Designed or used for collecting or conveying stormwater;
iii. Which is not a combined sewer; and
iv. Which is not part of a Publicly Owned Treatment Works.

"Municipal separate storm sewer system" (MS4) means all separate storm sewers defined as "large," "medium," or "small" municipal separate storm sewer systems or any municipal separate storm sewers on a system-wide or jurisdiction-wide basis as determined by the Director under A.A.C. R18-9-C902(A)(1)(g)(i) through (iv). [A.A.C. R18-9-A901(23)]. This also includes similar systems owned or operated by separate storm sewer municipal jurisdictions not required to obtain stormwater discharge authorization.

"Notice of Intent" (NOI) means the application to operate under this general permit.

"Notice of Termination" (NOT) means the application to terminate coverage under this general permit.

"Person" means an individual, employee, officer, managing body, trust, firm, joint stock company, consortium, public or private corporation, including a government corporation, partnership, association or state, a political subdivision of this state, a commission, the United States government or any federal facility, interstate body or other entity. [A.R.S. § 49-201(27)]

"Pollutant" means sediment, fluids, contaminants, toxic wastes, toxic pollutants, dredged spoil, solid waste, substances and chemicals, pesticides, herbicides, fertilizers and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt (e.g., overburden material), and mining, industrial, municipal and agricultural wastes or any other liquid, solid, gaseous or hazardous substances. [A.R.S. § 49-201(29)]

"Rain event" as used in this permit is defined as when rain drops (ultimately resulting in 0.5 inch accumulation) reach the ground surface of the construction site. Separate rain events are distinguished by a 24 hour period of no rain reaching the ground surface of the construction site.

"Received," for the purposes of this permit and in reference to NOIs or NOTs or Permit Waiver Certificate forms means:

1. The day the information was signed electronically via the Smart NOI system and submitted to ADEQ,

2. The day the signed form was faxed to and received by ADEQ,
3. The date of hand-delivery of the signed form to ADEQ, or
4. The date ADEQ signs for certified mail containing the signed form.

“Receiving Water” as used in this permit includes Waters of the U.S. and conveyances thereto (including MS4s).

"Reclaimed water" means water that has been treated or processed by a wastewater treatment plant or an on-site wastewater treatment facility. A.R.S. § 49-201(31).

“Sediment control” means measures designed to intercept and settle out soil particles that have become detached and transported by water. Sediment control measures complement soil stabilization measures (erosion control).

“Stabilization” refers to covering or maintaining an existing cover over soil that reduces and minimizes erosion.

“Stormwater” means stormwater runoff, snow melt runoff, and surface runoff and drainage.

“Stormwater Pollution Prevention Plan” (SWPPP) means a plan which includes narrative information describing how requirements in Permit Parts III through VIII, are met, site map(s), an identification of construction/contractor activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants.

“Total Maximum Daily Load” (TMDL) means an estimation of the total amount of a pollutant from all sources that may be added to a water while still allowing the water to achieve and maintain applicable surface water quality standards. Each total maximum daily load shall include allocations for sources that contribute the pollutant to the water, as required by section 303(d) of the clean water act (33 United States Code, Section 1313(d)) and regulations implementing that statute to achieve applicable surface water quality standards. [A.R.S. § 49-231(4)]

“Turbidity” means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

“Unique water” means a surface water that has been designated by ADEQ as an outstanding state resource under A.A.C. R18-11-112. ADEQ anticipates that the term ‘unique water’ will be replaced with ‘outstanding Arizona water’ within the permit term.

“Waters of the United States” (U.S.) is defined in 40 CFR 122.2.

“Wetland” means an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. A wetland includes a swamp, marsh, bog, cienega, tinaja, and similar areas. [A.A.C. R18-11-101(49)]

PART XI. ACRONYMS

AAC- Arizona Administrative Code

ADEQ - Arizona Department of Environmental Quality

ARS - Arizona Revised Statute

AZPDES - Arizona Pollutant Discharge Elimination System

BMP - Best Management Practice

CFR - Code of Federal Regulations

CWA - Clean Water Act

DMR - Discharge Monitoring Report

EPA - Environmental Protection Agency

MS4 - Municipal Separate Storm Sewer System

NOI - Notice of Intent

NOT - Notice of Termination

NPDES - National Pollutant Discharge Elimination System

SWPPP - Stormwater Pollution Prevention Plan

TMDL - Total Maximum Daily Load

USGS - United States Geological Survey

Appendix A
Example Inspection Form

Example Sample Inspection Report

Instructions

This sample inspection report has been developed as a helpful tool to aid you in completing your site inspections. It is provided in Microsoft Word format to allow you to easily customize it for your use and the conditions at your site. You should also customize this form to help you meet the requirements in the AZPDES Construction General Permit related to inspections.

Refer to Permit Part IV.H for inspection requirements. Remember to include all areas of the site disturbed by construction activity. If a BMP has been used inappropriately or installed incorrectly, replace or modify the BMP for site situations as soon as practicable and before the next anticipated storm event. When sediment escapes the construction site, offsite accumulations of sediment must be removed at a frequency sufficient to ensure no adverse effects on water quality.

Using the Inspection Report
This inspection report is designed to be customized according to the BMPs and conditions at your site. For ease of use, you should take a copy of your site plan and number all of the stormwater BMPs and areas of your site that will be inspected. A brief description of the BMP and its location should then be listed in the site-specific section of the inspection report. For example, specific structural BMPs such as construction site entrances, sediment ponds, or specific areas with silt fence (e.g., silt fence along Main Street; silt fence along slope in NW corner, etc.) should be numbered and listed on the inspection form. You should also number specific non-structural BMPs or areas that will be inspected (such as trash areas, material storage areas, temporary sanitary waste areas, etc).

You can complete the items in the “General Information” section that will remain constant, such as the project name, AZCON authorization number, and inspector’s name and qualifications. Print out multiple copies of this customized inspection report to use during your inspections.

When conducting the inspection, walk the site by following your site map and numbered BMPs/areas for inspection. Note any required corrective actions and the date and responsible person for the correction. Also note whether any previously identified site issues have been addressed.

AZCON- _____ Inspection Date: _____

Stormwater Construction Site Inspection Report

General Information			
Project Name			
Location			
AZCON number			
Date of Inspection		**Start Time:**	**End time:**
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Qualifications	**(must attach to this report or indicate the portion of the SWPPP that documents the qualifications of the inspector by name)**		
Describe present phase of construction			
Type of Inspection **❑ Weekly ❑ Bi-weekly ❑ Monthly** **❑ Pre-storm event ❑ During storm event ❑ Post-storm event**			
Weather Information			
Has it rained since the last inspection? ❑Yes ❑No **Weather information/Time Elapsed since last inspection:** **Storm Start Date & Time: Storm Duration (hrs): Approximate Rainfall (in):**			
Weather at time of this inspection?			
Do you suspect that discharges may have occurred since the last inspection? ❑Yes ❑No			
Are there any discharges at the time of inspection? ❑Yes ❑No **If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen**			
Non-Stormwater Discharges			
Identify all non-stormwater discharges (i.e. water, other than stormwater, directed to a watercourse, storm drain, or off of the construction site):			

AZCON- _____ Inspection Date: _____

Site-specific BMPs

Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below. ***Include all BMPs implemented to manage erosion, sediment transport, waste disposal, material and equipment storage areas, and non-stormwater discharges.*** *Carry a copy of this numbered site map with you during your inspections. This list will help ensure that you are inspecting all BMPs at your site. Customize this section as needed.*

	BMP Description and Location (indicate if associated with non-stormwater)	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person	Corrective Action Implementation Date
1		❑Yes ❑No			
2		❑Yes ❑No			
3		❑Yes ❑No			
4		❑Yes ❑No			
5		❑Yes ❑No			
6		❑Yes ❑No			
7		❑Yes ❑No			
8		❑Yes ❑No			
9		❑Yes ❑No			
10		❑Yes ❑No			
11		❑Yes ❑No			
12		❑Yes ❑No			
13		❑Yes ❑No			
14		❑Yes ❑No			
15		❑Yes ❑No			
16		❑Yes ❑No			
17		❑Yes ❑No			
18		❑Yes ❑No			
19		❑Yes ❑No			
20		❑Yes ❑No			

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

Overall Site Issues

	BMP/Activity	Implemented?	Maintained?	Location/Corrective Action	Date for corrective action/responsible person	Corrective Action Implementation Date
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No			
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No			
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No			
4	Are discharge points and receiving waters free of sediment deposits? **If no, provide locations**	❑Yes ❑No	❑Yes ❑No			

AZCON- _____ **Inspection Date:** _____

5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No			
6	Is there evidence of sediment being tracked into the street?	❑Yes ❑No	❑Yes ❑No			
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No			
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No			
9	Are vehicle and equipment fueling, cleaning, material storage, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No			
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No			
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No			
12	Are there locations where additional BMPs are necessary?	❑Yes ❑No	❑Yes ❑No			
13	Are changes to the SWPPP necessary?	❑Yes ❑No	❑Yes ❑No			
14	(Other)		❑Yes ❑No			

❑ If there were no incidents of noncompliance noted during the inspection the inspector certifies that the construction project or site is being operated in compliance with the SWPPP and Permit No. AZG2008-001.

Certification statement:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print Inspector's Name: _____

Signature: _____

Date: _____

Appendix D – NOI Application Form (Authorization Letter)

ADEQ Arizona Department of Environmental Quality

AZPDES Permit: AZG-2008-001

NOTICE OF INTENT (NOI)

for *Construction Activity Discharges to Waters of the United States*

FOR COVERAGE, A COMPLETE AND ACCURATE NOI MUST BE SUBMITTED TO:
Arizona Department of Environmental Quality; Surface Water Section / Stormwater & General Permits Unit
1110 West Washington, 5415A-1; Phoenix, Arizona 85007
FAX: (602) 771-4528

- Is this NOI a revision to a project previously filed under the 2008 AZPDES Construction General Permit? ____ YES ____ NO If yes:
  - Provide your current authorization #: AZCON-_____
  - Provide the name of the project/site in Part II and only the specific information being revised.
  - Complete Part V and sign the certification statement.

Is the Site Located on Indian Country Lands?

____ YES ____ NO

I. OWNER/OPERATOR (Applicant) INFORMATION

Phone: _____

- Contact Name:_____ Fax: _____
- Operator's Business Name: _____
- Operator's Mailing Address: _____
- City: _____ State: |___|___| Zip: _____

BUSINESS STATUS: Federal ____ State ____ Other Public ____ Private ____ Tribal ____

II. CONSTRUCTION SITE INFORMATION

- Project/Site Name:_____
- County Parcel No. (at main entrance):_____ Phone: _____
- Type of Project (subdivision, commercial, road, pipeline, utility, ADOT project, etc.): _____
  If a subdivision, has state or local subdivision approval been obtained? ____ YES ____ NO
  If yes, provide the Subdivision Certificate of Approval number: _____
- Is the project part of a larger plan of development? ____ YES ____ NO **(See Item II in the Instructions)**
- Does the project have/need other environmental permits or approvals? If so, list and provide the permit/approval number (attached sheet, if necessary): _____
- Site physical location (include address, if applicable, or directions from nearest municipality):

City: _____ State: |___|___| Zip: _____County: _____

- Estimated Project Start Date: _____ Estimated Termination Date: _____ (Final Stabilization)
- Estimate of total acres (to the nearest 1/2 acre) to be disturbed with the entire construction project: _____
- Estimate of total acres (to the nearest 1/2 acre) to be disturbed by your operations: _____

- Select the non-stormwater discharges expected to be associated with your construction-related activities (according to attached instructions):

___ None
___ Discharges from emergency fire-fighting activities
___ Fire hydrant flushing – ephemeral receiving waters
___ Waters used to control dust – no reclaimed or other wastewaters
___ Potable water line flushing – ephemeral receiving waters
___ Routine external building wash-down – no detergents
___ Pavement wash waters – no spills or leaks of toxic or hazardous materials and no detergents
___ Uncontaminated air conditioning or compressor condensate
___ Uncontaminated groundwater
___ Foundation or footing drains – uncontaminated
___ Potable water well flushing – ephemeral receiving waters
___ Water used for compacting soil – no reclaimed or other wastewaters
___ Water used for drilling and coring (e.g., for evaluation of foundation materials) – uncontaminated
___ Uncontaminated water from dewatering operations/ foundations
___ Other, specify _____
_____
_____

III. DISCHARGE LOCATION

- Provide the latitude/longitude of the construction site at the point nearest the receiving water (natural water course):

Latitude: |__ı__|° |__ı__|' |__ı__| . |_____|" (Degrees, minutes, seconds) Longitude: |__ı__ı__|° |__ı__|' |__ı__| . |_____|" (Degrees, minutes, seconds)

- Identify the closest receiving water to construction site (dry washes, named waterbodies, and unnamed tributaries) **(See Item III in the Instructions)**: _____
- Is there a potential for any discharges from the site to enter a municipal storm sewer system (MS4), canal, or a privately-owned conveyance? _____ YES _____ NO
  - If yes, enter name of MS4, canal, or conveyance owner: _____

IV. PERMIT AUTHORIZATION CANNOT OCCUR UNTIL A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED AND IMPLEMENTED ACCORDING TO THE TERMS OF THE GENERAL PERMIT

- _____ I confirm that a SWPPP meeting the requirements of the general permit has been developed and will be implemented prior to commencing construction activities at this site and will be located at the site during construction activities. If this is a late application, a SWPPP has been developed and implemented prior to this submittal. (ADEQ reserves the right to take enforcement action for any unpermitted discharge or permit noncompliance that occurs between the time construction commenced and discharge authorization is granted.)
- When construction activities are not actively underway, the SWPPP will be available at the following location: **(See Part III.G.2 in the general permit.)** _____
_____
- Name of person to contact for SWPPP access: _____
- Telephone number of SWPPP contact: _____
- This project may discharge within 1/4 mile of an impaired or unique waterbody: _____ YES _____ NO

_____ If yes, a copy of my SWPPP is enclosed with this application.

V. CERTIFICATION BY AUTHORIZED SIGNATORY (See Part VIII.J.1 in the general permit)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision, as applicable, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, I believe the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, as the operator, I certify that I have reviewed and intend to comply with all terms and conditions stipulated in General Permit No. AZG-2008-001 issued by the Director."

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Business Name: _____

Address: _____

City: _____ State: |___|___| Zip: _____ Phone: _____

Appendix E – Inspection Report Form

Inspection Report

Instructions

Using the Inspection Report
This inspection report is designed to be customized according to the BMPs and conditions at your site. For ease of use, you should take a copy of your site plan and number all of the stormwater BMPs and areas of your site that will be inspected. A brief description of the BMP or area should then be listed in the site-specific section of the inspection report. For example, specific structural BMPs such as construction site entrances, sediment ponds, or specific areas with silt fence (e.g., silt fence along Main Street; silt fence along slope in NW corner, etc.) should be numbered and listed. You should also number specific non-structural BMPs or areas that will be inspected (such as trash areas, material storage areas, temporary sanitary waste areas, etc).

You can complete the items in the "General Information" section that will remain constant, such as the project name, AZPDES tracking number, and inspector (if you only use one inspector). Print out multiple copies of this customized inspection report to use during your inspections.

When conducting the inspection, walk the site by following your site map and numbered BMPs/areas for inspection. Also note whether the overall site issues have been addressed (customize this list according to the conditions at your site). Note any required corrective actions and the date and responsible person for the correction.

Stormwater Construction Site Inspection Report

General Information			
Project Name			
Location			
AZCON number			
Date of Inspection		**Start Time:**	**End Time:**
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Qualifications	**See Appendix _____**		
Describe present phase of construction			
Type of Inspection ❑ **Weekly** ❑ **Bi-weekly** ❑ **Monthly** ❑ **Pre-storm event** ❑ **During storm event** ❑ **Post-storm event**			
Weather Information			
Has it rained since the last inspection? ❑Yes ❑No **If yes, provide:** **Storm Start Date & Time:** **Storm Duration (hrs):** **Approximate Rainfall (in):**			
Weather at time of this inspection?			
Do you suspect that discharges may have occurred since the last inspection? ❑Yes ❑No			
Are there any discharges at the time of inspection? ❑Yes ❑No If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen.			
Non-Stormwater Discharges			
Identify all non-stormwater discharges (i.e. water, other than stormwater, directed to a watercourse, storm drain, or off of the construction site):			

Site-specific BMPs

Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below. ***Include all BMPs implemented to mange erosion, sediment transport, waste disposal, material and equipment storage areas, and non-stormwater discharges.*** *Carry a copy of this numbered site map with you during your inspections. This list will help ensure that you are inspecting all required BMPs at your site. Customize this section as needed.*

	BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
1		❑Yes ❑No		
2		❑Yes ❑No		
3		❑Yes ❑No		
4		❑Yes ❑No		
5		❑Yes ❑No		
6		❑Yes ❑No		
7		❑Yes ❑No		
8		❑Yes ❑No		
9		❑Yes ❑No		
10		❑Yes ❑No		
11		❑Yes ❑No		
12		❑Yes ❑No		
13		❑Yes ❑No		
14		❑Yes ❑No		
15		❑Yes ❑No		
16		❑Yes ❑No		
17		❑Yes ❑No		
18		❑Yes ❑No		
19		❑Yes ❑No		
20		❑Yes ❑No		

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

Overall Site Issues

	BMP/activity	Implemented?	Maintained?	Corrective Action	Date for corrective action/responsible person
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No		
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No		
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No		
4	Are discharge points and receiving waters free of sediment deposits?	❑Yes ❑No	❑Yes ❑No		

	BMP/activity	Implemented?	Maintained?	Corrective Action	Date for corrective action/responsible person
5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No		
6	Is there evidence of sediment being tracked into the street?	❑Yes ❑No	❑Yes ❑No		
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No		
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No		
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No		
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No		
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No		
12	Are changes to the SWPPP necessary?	❑Yes ❑No	❑Yes ❑No		
13		❑Yes ❑No	❑Yes ❑No		
14		❑Yes ❑No	❑Yes ❑No		

Certification statement:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name: _____

Signature: _____

Date: _____

Appendix F –Corrective Action Log

Project Name:
SWPPP Contact:

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

Appendix G –SWPPP Amendment Log

Project Name:
SWPPP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Appendix H –Contractor/Subcontractor Certifications/Agreements

CONTRACTOR/SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Based on EPA SWPPP Template, Version 1.1, January 7, 2008

Appendix I –Grading and Stabilization Activities Log

Project Name:
SWPPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

Appendix J –SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Erosion Control BMPs**
- ❑ **Emergency Procedures**
- ❑ **Sediment Control BMPs**
- ❑ **Good Housekeeping BMPs**
- ❑ **Non-Stormwater BMPs**

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Appendix K –Delegation of Authority Form

Delegation of Authority

I, **Priscilla S. Cornelio, P.E.**, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

Thomas Kilargis (name of person or position)
Pima County Field Engineering Div. (company)
1313 S. Mission Road (address)
Tucson, Arizona 85713 (city, state, zip)
520-740-2635 (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in **CGP AZG2008-001**, and that the designee above meets the definition of a "duly authorized representative" as set forth in **CGP AZG2008-001**.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: **Priscilla S. Cornelio, P.E.**

Company: **Pima County Dept. of Transportation**

Title: **Director**

Signature: _____

Date: _____

Delegation of Authority Form

Delegation of Authority

I, **Priscilla S. Cornelio**, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____Contractor_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in **CGP AZG2008-001**, and that the designee above meets the definition of a "duly authorized representative" as set forth in **CGP AZG2008-01**.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: **Priscilla S. Cornelio, P.E.**

Company: **Pima County Department of Transportation**

Title: **Director**

Signature: _____

Date: _____

Appendix L – Additional Information

Copy of Final BE – cover page only
USFWS response to technical assistance letter
ADEQ APP Type 1 General Permit Conditions for Concrete Wash Out
404/401 Clean Water Act Conditions
Copy of Final Cultural - cover page only
SHPO concurrence letter to corps
NESHAPS permit for asbestos removal/demolition.
Air Quality Activity Permit from PDEQ
Notice of Intent for Type 3 General Permits

La Cholla Boulevard
Ruthrauff Road to River Road

Biological Review

July 2008

Pima County Department of Transportation

Work Order No. 4LCITR

HDR

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In Reply Refer to:
AESO/SE
22410-2008-TA-0004

October 1, 2007

Ms. Karla Reeve-Wise
Pima County Department of Transportation
201 North Stone Avenue, Third Floor
Tucson, Arizona 85701-1207

Dear Ms. Reeve-Wise:

Thank you for your September 25, 2007 request for technical assistance related to two road projects: 1) La Cholla Boulevard – River Road to Ruthrauff Road and 2) Shannon Road – south of Curtis Road to south of the Rillito River. Specifically, you requested our input on the need to continue to conduct cactus ferruginous pygmy-owl (pygmy-owl) surveys for these projects. We have reviewed the information you provided and have the following comments regarding your request.

A final rule to remove the pygmy-owl from the Endangered Species list was published April 14, 2006, and became effective May 15, 2006. Therefore, the protective regulations of the Endangered Species Act no longer apply to the pygmy-owl. However, upon request, we continue to provide technical assistance related to the conservation of the pygmy-owl.

We agree with the conclusion in your September 25, 2007 correspondence that no suitable pygmy-owl habitat occurs in proximity to the two proposed road projects. Pygmy-owl habitat elements are lacking in these areas due to the extent and intensity of the surrounding land uses. Because of the lack of suitable pygmy-owl habitat, we do not recommend the continuation of pygmy-owl surveys in relation to these projects.

Thank you for the opportunity to provide input on these projects. If you have any questions regarding our comments, or need any additional information, please contact Scott Richardson at 520-670-6150 (x 242) or Sherry Barrett (x 223).

Sincerely,

Steven L. Spangle
Field Supervisor

APP TYPE 1 PERMIT

FOR CONCRETE WASHOUT

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

A. A 1.01 General Permit allows any discharge of wash water from a sand and gravel operation, placer mining operation, or other similar activity, including construction, foundation, and underground dewatering, if only physical processes are employed and only hazardous substances at naturally occurring concentrations in the sand, gravel, or other rock material are present in the discharge.

B. A 1.02 General Permit allows any discharge from hydrostatic tests of a drinking water distribution system and pipelines not previously used, if all the following conditions are met:
   1. The quality of the water used for the test does not exceed an Aquifer Water Quality Standard or for non-drinking water pipelines, if reclaimed water is used, the reclaimed water meets Class A+ Reclaimed Water Quality Standards under A.A.C. R18-11-303 or Class B+ Reclaimed Water Quality Standards under A.A.C. R18-11-305;
   2. The discharge is not to a water of the United States, unless the discharge is under an AZPDES permit; and
   3. The test site is restored to its natural grade.

C. A 1.03 General Permit allows any discharge from hydrostatic tests of a pipeline, tank, or appurtenance previously used for transmission of fluid, other than those previously used for drinking water distribution systems, if all the following conditions are met:
   1. All liquid discharge is contained in an impoundment lined with flexible geomembrane. The liquid is evaporated or removed from the impoundment and taken to a treatment works or landfill authorized to accept the material within:
      a. 60 days of the hydrostatic test if the liner is 10 mils, or
      b. 180 days of the hydrostatic test if the liner is 30 mils or greater;
   2. The liner is placed over a layer, at least 3 inches thick, of well-sorted sand or finer grained material, or over an underliner that provides protection equal to or better than sand or finer grained material and the calculated seepage is less than 550 gallons per acre per day;
   3. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity;
   4. The test site is restored to its natural grade; and
   5. If the test waters are removed using a method not specified in subsection (C)(1), including a discharge under an AZPDES permit, the test waters meet Aquifer Water Quality Standards and the specific method is approved by the Department before the discharge.

D. A 1.04 General Permit allows any discharge from a facility that, for water quality sampling, hydrologic parameter testing, well development, redevelopment, or potable water system maintenance and repair purposes, receives water, drilling fluids, or drill cuttings from a well if the discharge is to the same aquifer in approximately the same location from which the water supply was originally withdrawn, or the discharge is under an AZPDES permit.

E. A 1.05 General Permit allows a discharge to an injection well, surface impoundment, and leach line only if the discharge is filter backwash from a potable water treatment system, condensate from a refrigeration unit, overflows from an evaporative cooler, heat exchange system return water, or swimming pool filter backwash and the discharge is less than 1000 gallons per day. The 1.05 General Permit allows a discharge of those sources to a navigable water if the discharge is authorized by an AZPDES permit.

F. A 1.06 General Permit allows the burial of mining industry off-road motor vehicle waste tires at the mine site in a manner consistent with the cover requirements in R18-13-1203.

G. A 1.07 General Permit allows the operation of dockside facilities and watercraft if the following conditions are met:
   1. Docks that service watercraft equipped with toilets provide sanitary facilities at dockside for the disposal of sewage from watercraft toilets. No wastewater from sinks, showers, laundries, baths, or other plumbing fixtures at a dockside facility is discharged into waters of the state;
   2. Docks that service watercraft have conveniently located toilet facilities for men and women;
   3. No boat, houseboat, or other type of watercraft is equipped with a marine toilet constructed and operated to discharge sewage directly or indirectly into a water of the state, nor is any container of sewage placed, left, discharged, or caused to be placed, left, or discharged in or near any waters of the state by a person;
   4. Watercraft with marine toilets constructed to allow sewage to be discharged directly into waters of the state are locked and sealed to prevent usage. Chemical or other type marine toilets with approved storage containers are permitted if dockside disposal facilities are provided; and
   5. No bilge water or wastewater from sinks, showers, laundries, baths, or other plumbing fixtures on houseboats or other watercraft is discharged into waters of the state.

H. A 1.08 General Permit allows for any earth pit privy, fixed or transportable chemical toilet, incinerator toilet or privy, or pail or can-type privy if allowed by a county health or environmental department under A.R.S. Title 36 or a delegation agreement under A.R.S. § 49-107.

I. A 1.09 General Permit allows:
   1. The operation of:
      a. A sewage treatment facility with flows less than 20,000 gallons per day and approved by the Department before January 1, 2001, and

b. An on-site wastewater treatment facility with flows less than 20,000 gallons per day operating before January 1, 2001;

2. The person who owns or operates a facility under subsections (I)(1)(a) or (b) to operate the facility if the following conditions are met:
   a. The discharge from the facility does not cause or contribute to a violation of a water quality standard;
   b. The owner or operator does not expand the facility to accommodate flows above the design flow or 20,000 gallons per day, whichever is less;
   c. The facility only treats typical sewage;
   d. The facility does not treat flows from commercial operations using hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5);
   e. The discharge from the facility does not create any environmental nuisance condition listed in A.R.S. § 49-141; or
   f. The owner or operator does not alter the treatment or disposal characteristics of the original facility, except as allowed under R18-9-A309(A)(9)(a).

J. A 1.10 General Permit allows the operation of a sewage collection system installed before January 1, 2001 that serves downstream from the point where the daily design flow is 3000 gallons per day or that includes a manhole, force main, or lift station serving more than one dwelling regardless of flow, if:
1. The system complies with the performance standards in R18-9-E301(B),
2. No sewage is released from the sewage collection system to the land surface, and
3. The system is not operating under the 2.05 General Permit.

K. A 1.11 General Permit allows the operation of a sewage collection system that serves upstream from the point where the daily design flow is 3000 gallons per day to the building drains, or a single gravity sewer line conveying sewage from a building drain directly to an interceptor, lateral, or manhole, regardless of daily design flow, if all of the following are met:
1. The system does not cause or contribute to an exceedance of a water quality standard established in 18 A.A.C. 11, Articles 1 and 4;
2. No sewage is released from the sewage collection system to the land surface;
3. No environmental nuisance condition listed in A.R.S. § 49-141 is created;
4. The system does not include a manhole, force main, or lift station serving more than one dwelling;
5. Applicable local administrative requirements for review and approval of design and construction are followed;
6. The performance standards specified in R18-9-E301(B) are met using:
   a. Local building and construction codes,
   b. Relevant design and construction standards specified in R18-9-E301, and
   c. Appropriate operation and maintenance;
7. The system flows directly into one of the following downstream facilities:
   a. An on-site wastewater treatment facility;
   b. A sewage treatment facility operating under an individual permit; or
   c. A sewage collection system operating under a 1.10, 2.05, or 4.01 General Permit; and
8. The system is not operating under a 2.05 General Permit.

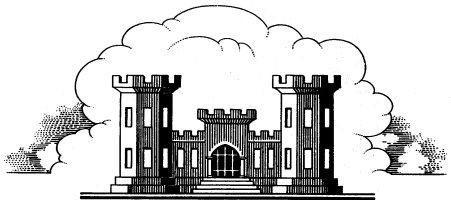
L. A 1.12 General Permit allows the discharge of wastewater resulting from washing concrete from trucks, pumps, and ancillary equipment to an impoundment if the following conditions are met:
1. The person holds an AZPDES Construction General Permit authorizing the concrete washout activities;
2. The Stormwater Pollution Prevention Plan required by the Construction General Permit issued according to 18 A.A.C. 9, Article 9, Part C, for the construction activity addresses the concrete washout activities;
3. The vegetation at the soil base of the impoundment is cleared, grubbed, and compacted to uniform density not less than 95 percent. If the impoundment is located above grade, the berms or dikes are compacted to a uniform density not less than 95 percent;
4. If groundwater is less than 20 feet below land surface, the impoundment is lined with a synthetic liner at least 30 mils thick;
5. The impoundment is located at least 50 feet from any storm drain inlet, open drainage facility, or watercourse and 100 feet from any water supply well;
6. The impoundment is designed and operated to maintain adequate freeboard to prevent overflow or discharge of wastewater;
7. The concrete washout wastewater from any wash pad is routed to the impoundment;
8. The impoundment receives only concrete washout wastewater;
9. The annual average daily flow of wastewater to the impoundment is less than 3000 gallons per day; and
10. The following closure requirements are met.
    a. The facility is closed by removing and appropriately disposing of any liquids remaining in the impoundment,
    b. The area is graded to prevent ponding of water, and
    c. Closure activities are completed before filing of the Notice of Termination under the AZPDES Construction General Permit.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended by final rulemaking at 11 A.A.R. 4544, effective November 12, 2005 (05-3).

NATIONWIDE PERMIT NUMBER 14

LINEAR TRANSPORTATION PROJECTS



US Army Corps of Engineers
Los Angeles District
Regulatory Division/Arizona Branch

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 401 et seq) the U.S. Army Corps of Engineers published the "Reissuance of Nationwide Permits" in the Federal Register (72 FR 11092) on March 12, 2007. This Nationwide Permit is effective from March 19, 2007 to March 18, 2012 unless modified, reissued or revoked before that time. It is incumbent upon the permittee to remain informed of changes to the nationwide permits.

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than ½ acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3 acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

401 Certification

303[d]-impaired waters (see Water Quality Definitions): For projects on a waterbody with an impaired reach, if the project impacts the listed waterbody within 800 meters (or ½ mile) downstream of an impaired reach to within 1600 meters (or 1 mile) upstream of an impaired reach: Individual 401 Certification.

Tributaries to 303[d]-impaired waters: For projects on a tributary to a waterbody listed as impaired, if the tributary mouth is on an impaired reach and the project impacts the tributary within 1600 meters (or 1 mile) of its mouth: Individual 401 Certification.

Outstanding Arizona Waters (a.k.a. "unique Waters") (see Water Quality Definitions): For projects on a designated Outstanding Arizona Water, if the project impacts the designated waterbody within 800 meters (or ½ mile) downstream of a designated reach to within 1600 meters (or 1 mile) upstream of a designated reach: Individual 401 Certification.

Tributaries to Outstanding Arizona Waters: For projects on a tributary to a designated Outstanding Arizona Water, if the tributary mouth is on a designated reach and the project impacts the tributary within 1600 meters (or 1 mile) of its mouth: Individual 401 Certification.

Lake (see Water Quality Definitions): Individual 401 Certification required.

Other waters: Conditionally certified (all applicable general 401 conditions, below). *Note: Conditional certification only applies when none of the other 401 certification categories apply.*

Tribal Waters: Hualapai Tribe – Individual Certification required

Navajo Nation – Individual Certification required
White Mountain Apache Tribe – Individual Certification required
All other reservations – Contact EPA Region IX

State of Arizona 401 Water Quality Conditions

Except as noted, the following 401 General Conditions apply to all waters of the U.S. (WUS) and all applicable NWP:

1. Any discharge (including runoff or seepage) occurring as a result of activities certified for the subject project shall not cause a violation of surface water quality standards for any WUS. Applicability of this condition is as defined in A.A.C. R18-11-102.
2. This certification does not authorize the discharge of process water, material processing residues, wastewater or other residual material to any WUS.
3. Activities herein certified shall be performed during periods of low flow (baseflow or less) in any watercourse or other WUS, or no flow in the case of ephemeral and intermittent waterbodies.
4. If activities are likely to create an erosion or sedimentation problem, operations shall cease until the problem is resolved or until reasonable control measures have been undertaken.
5. Erosion control, sediment control and/or bank protection measures shall be installed before construction and pre-operation activities, and shall be maintained as necessary during construction and post-construction periods to minimize channel or bank erosion, soil loss and sedimentation. Control measures shall not be constructed of uncemented or unconfined soil, or other easily transportable (by flow) materials.
6. The applicant is responsible for ensuring construction material and/or fill including, but not limited to: rock, gabion fill or other uncemented channel-lining materials, placed within the Ordinary High Water Mark (OHWM) of any WUS, shall not include materials that can cause or contribute to an exceedence of Arizona Water Quality Standards for Surface Waters (18, A.A.C., 11, Article 1). Any fill material washing must occur outside of the floodplain of any WUS prior to placement and the rinseate from such washing shall be contained and settled or otherwise prevented from contributing sediment or causing erosion to any WUS. Fill placed in locations subject to scour shall contain not more than ten percent (10%) on a dry weight basis of particles finer than 0.25 mm diameter (passing a No. 60 sieve).
7. Any dredged material is to be placed and retained in areas outside the OHWM of any WUS. Runoff from materials deposited outside the OHWM is to be settled, filtered or otherwise treated to prevent escape of pollutants (including sediment) to any WUS.
8. Except as otherwise allowed herein, upon completion of construction the applicant shall ensure no adverse change due to the subject project has occurred in the stability (with respect to stream geometry, erosion and sedimentation) of any WUS, including upstream and downstream from the project. If such change has occurred, the applicant shall take steps to restore the pre-project stability of any impacted segments.
9. Except where the activities certified herein are intended to permanently alter any WUS, all disturbed areas between the OHWM shall be restored to preconstruction conditions. Denuded areas shall be revegetated as soon as possible with native and/or salvaged plants and seed. Vegetation should be maintained on unarmored banks and slopes to stabilize soil and prevent erosion.
10. Where needed to prevent erosion/sedimentation, flows unimpacted by the subject project shall be diverted around work operations, and material and equipment storage areas. Permanent and temporary access roadways, staging areas and material stockpiles shall be designed or located to allow storm flows to pass unimpeded. Except as otherwise allowed herein, when flow is present in any wash or other WUS within the project area, the applicant and any contractor will not impede, restrict, or stop the flow by any means.
11. Permanent and temporary pipes and culverted crossings and pads shall be adequately sized to handle expected flow and properly set with end section, splash pads, or headwalls that dissipate water energy to control erosion. Culverted and unculverted crossings and pads shall be constructed so as to accommodate the overtopping of the fill by streamflow and armored to prevent erosion of the fill.
12. Acceptable construction materials that will or may contact water in any WUS are: crushed stone, native fill (meeting the requirements in 401 General Condition 6) concrete, steel, plastic, or aluminum and other materials specifically approved in writing by ADEQ.
13. Silt laden or turbid water resulting from project activity shall be settled, filtered or otherwise treated prior to discharge to ensure no violation of Arizona Surface Water Quality Standards in any WUS.
14. When flow greater than described in 401 General Condition 3 above is present within the project area, all activities certified herein shall cease and construction equipment and materials easily transported by flow will be moved outside the flow area and the OHWM of any WUS. If such movement cannot be accomplished rapidly enough to prevent pollution of a WUS, measures shall be taken to prevent transport of sediment or other pollutants out of the construction area or into any WUS.

15. Work shall be conducted and monitored to ensure that pollution from the activities certified herein including, but not limited to: earthwork, concrete mixing and placement, detention ponds, and equipment maintenance and washing does not drain into any WUS.
16. If water is used for dust suppression, it shall not contain contaminants that could violate Arizona Surface Water Quality Standards of any WUS.
17. The applicant will erect any barriers, covers, shields and other protective devices as necessary to prevent any construction materials, equipment or contaminants/pollutants from falling, being thrown or otherwise entering any flowing WUS.
18. Upon completion of the activities certified herein, areas within the OHWM of all WUS at the project site shall be promptly cleared of all false work, piling, construction residues, equipment, debris or other obstructions. Any debris including, but not limited to: soil, silt, sand, rubbish, cement, bituminous material, oil or petroleum products, organic materials, tires or batteries, derived from the activities certified herein shall not be stored at any site where it may be washed into a WUS and shall be properly disposed of after completion of the work.
19. The applicant must designate area(s) for equipment staging and storage located where runoff from these activities cannot enter any WUS. Any equipment maintenance, washing or fueling that cannot be done offsite will be done here. Material specifically manufactured and sold as spill adsorbent/absorbent will be on hand to control small spills. All equipment and workboats shall be inspected for leaks daily and prior to use. All leaks shall be repaired immediately. All equipment and workboats will be steam cleaned prior to use in any WUS with flow.
20. The applicant shall have a spill containment plan onsite to ensure that pollutants are contained, removed and properly disposed of. In addition, the applicant must designate areas, located where runoff from these activities cannot enter any WUS, for chemical and petroleum storage, and solid waste containment. All materials stored onsite will be stored in appropriate containers or packaging. Any pollutant produced by activities certified herein shall be properly disposed of in accordance with applicable regulations. A spill response kit will be maintained in this (these) area(s) to mitigate a potential spill. The kit will include material specifically manufactured and sold as spill adsorbent/absorbent including booms. The applicant will ensure that whenever there is activity on the site, that there are personnel on site trained in the proper response to spills and the use of spill response equipment.
21. If fully, partially or occasionally submerged structures are constructed of cast-in-place concrete instead of pre-cast concrete planks or slabs, applicant will take steps; e.g., sheet piling or temporary dams (except for NWP 33 & 15, filled cofferdams are not allowed), to prevent contact between water (instream and runoff) and the concrete until it cures and until any curing agents have evaporated or otherwise cease to be available; i.e., are no longer a pollutant threat. Where possible, construction work will be during extreme low water conditions or at a time and season that ensures all work is done in the dry.
22. For portions of the project utilizing potable water or groundwater for irrigation, direct runoff of irrigation water and overflows from runoff detention and/or retention areas into washes shall be limited to the extent practicable and shall not cause downstream erosion or flooding.
23. For portions of the project utilizing reclaimed wastewater for irrigation, direct runoff of irrigation water and overflow from retention/detention structures or storage impoundments into WUS is prohibited without the proper permits including, but not limited to, Arizona's Reclaimed Wastewater Permit and, if within the wetted area of a 25-year flood event (or within the floodplain in some cases), a AZPDES permit.
24. Fertilizer, herbicide and insecticide chemicals used for development of vegetated areas shall be selected based on minimum environmental impacts and approved for the intended use. Application rates printed on the product labels shall be strictly followed. Excess chemicals shall not be applied on recently treated areas and must either be stored, used elsewhere or disposed of (in any case, in accordance with all applicable regulations).

Water Quality Definitions

303[d]-listed Impaired Waters: These are waterbodies that as a result of the CWA 305[b] process are listed under CWA 303[d] as impaired; i.e., consistently not meeting water quality standards, and as a result merit special attention. The complete current 303[d] list of Impaired Waters is available on ADEQ's website:
http://www.azdeq.gov/environ/water/assessment/assess.html
(401 conditions herein are meant to apply to waterbodies on the current, not draft, list)

Lake: The following are lakes which require an individual 401 certification for activities undertaken via a NWP:

Apache County

• Becker Lake	Lat.: 34° 9' 14.4"	Long.: 109° 18' 18.0"
• Carnero Lake	Lat.: 34° 6' 57.6"	Long.: 109° 31' 40.8"
• Lyman Lake	Lat.: 34° 21' 28.8"	Long.: 109° 21' 28.8"

Cochise County

- Parker Canyon Lake Lat.: 31° 25’ 33.6” Long.: 110° 27’ 14.4”

Coconino County

- Ashurst Lake Lat.: 35° 1’ 08.4” Long.: 111° 24’ 10.8”
- Bear Canyon Lake Lat.: 34° 24’ 10.8” Long.: 111° 0’ 10.8”
- Blue Ridge Reservoir Lat.: 34° 33’ 14.4” Long.: 111° 11’ 02.4”
- Boot Lake Lat.: 34° 58’ 51.6” Long.: 111° 19’ 58.8”
- Chevelon Canyon Lake Lat.: 34° 30’ 39.6” Long.: 110° 49’ 26.4”
- Kinnikinick Lake Lat.: 34° 53’ 52.8” Long.: 111° 18’ 21.6”
- Lake Mary, Lower Lat.: 35° 6’ 21.6” Long.: 111° 34’ 19.2”
- Lake Mary, Upper Lat.: 35° 4’ 44.4” Long.: 111° 31’ 55.2”
- Long Lake Lat.: 34° 46’ 44.4” Long.: 111° 12’ 0.0”
- Long Lake Lat.: 35° 0’ 0.0” Long.: 111° 20’ 60.0”
- Mormon Lake Lat.: 34° 56’ 38.4” Long.: 111° 27’ 10.8”
- Odell Lake Lat.: 34° 56’ 02.4” Long.: 111° 37’ 51.6”
- Soldier Annex Lake Lat.: 34° 47’ 13.2” Long.: 111° 13’ 48.0”
- Soldier Lake Lat.: 34° 47’ 13.96” Long.: 111° 13’ 48.0”
- Steel Dam Lake Lat.: 35° 13’ 37.2” Long.: 112° 24’ 50.4”
- Stone Dam Lake Lat.: 35° 13’ 37.2” Long.: 112° 24’ 14.4”
- Stoneman Lake Lat.: 34° 46’ 44.4” Long.: 111° 31’ 04.8”
- Whitehorse Lake Lat.: 35° 7’ 01.2” Long.: 112° 0’ 46.8”
- Woods Canyon Lake Lat.: 34° 20’ 06.0” Long.: 110° 56’ 34.8”

Gila County

- Roosevelt Lake Lat.: 33° 40’ 44.4” Long.: 111° 9’ 14.4”

La Paz County

- Alamo Lake Lat.: 34° 14’ 45.6” Long.: 113° 34’ 58.8”

Maricopa County

- Apache Lake Lat.: 33° 35’ 31.2” Long.: 111° 20’ 31.2”
- Bartlett Lake Lat.: 33° 49’ 01.2” Long.: 111° 37’ 44.4”
- Canyon Lake Lat.: 33° 32’ 38.2” Long.: 111° 26’ 06.1”
- Lake Pleasant Lat.: 33° 51’ 14.4” Long.: 112° 16’ 15.6”
- Painted Rock Borrow Pit Lat.: 33° 4’ 58.8” Long.: 113° 1’ 19.2”
- Painted Rock Reservoir Lat.: 33° 4’ 15.6” Long.: 113° 0’ 28.8”
- Roosevelt Lake Lat.: 33° 40’ 44.4” Long.: 111° 9’ 14.4”
- Saguaro Lake Lat.: 33° 34’ 01.2” Long.: 111° 32’ 06.0”

Mojave County

- Alamo Lake Lat.: 34° 14’ 45.6” Long.: 113° 34’ 58.8”

Navajo County

- Rainbow Lake Lat.: 34° 9’ 03.6” Long.: 109° 59’ 02.4”
- Show Low Lake Lat.: 34° 11’ 24.0” Long.: 109° 59’ 56.4”

Pima County

- Arivaca Lake Lat.: 31° 31’ 51.6” Long.: 111° 15’ 03.6”

Santa Cruz County

- Arivaca Lake Lat.: 31° 31’ 51.6” Long.: 111° 15’ 03.6”
- Patagonia Lake Lat.: 31° 29’ 31.2” Long.: 110° 52’ 01.2”
- Peña Blanca Lake Lat.: 31° 24’ 10.8” Long.: 111° 5’ 02.4”

Yavapai County

- Granite Basin Lake Lat.: 34° 37’ 02.1” Long.: 112° 32’ 56.5”
- Horseshoe Reservoir Lat.: 33° 58’ 58.8” Long.: 111° 42’ 28.8”

- Horsethief Lake Lat.: 34° 9’ 43.2” Long.: 112° 17’ 56.4”
- Lake Pleasant Lat.: 33° 51’ 14.4” Long.: 112° 16’ 15.6”
- Lynx Lake Lat.: 34° 31’ 08.4” Long.: 112° 23’ 06.0”
- Peck's Lake Lat.: 34° 47’ 06.0” Long.: 112° 2’ 31.2”
- Watson Lake Lat.: 34° 35’ 16.8” Long.: 112° 25’ 04.8”

Other Waters: Any waters of the United States, occurring on non-tribal land, that does not fall within one of the other definitions listed here.

Outstanding Arizona Waters: ADEQ is in the process of the triennial review of surface water quality standards (18 Arizona Administrative Code 11, Art 1) and among other things, this entails an updating of the Unique Waters of the state. A definite change is the name: instead of “Unique Waters”, these bodies of water shall be referred to as “Outstanding Arizona Waters”. Current Water Quality Standards For Surface Waters are available on the Arizona Secretary of State website (http://azsos.gov/public_services/Title_18/18-11.pdf).
The following are currently classified as Unique Waters (from R18-11-112(E), Arizona Administrative Code):

Apache County
- The West Fork of the Little Colorado River, from its headwaters to Government Springs at Latitude 33º 59' 33" / Longitude 109º 27' 54".
- Lee Valley Creek, from its headwaters to confluence with Lee Valley Reservoir.
- Hay Creek, from its headwaters to its confluence with the West Fork of the Black River.
- Stinky Creek, from the White Mountain Apache Indian Reservation boundary to its confluence with the West Fork of the Black River.

Cochise County
- Cave Creek from the headwaters to the Coronado National Forest boundary.
- South Fork of Cave Creek from its headwaters to its confluence with Cave Creek.

Coconino County
- Oak Creek from its headwaters to confluence with the Verde River.
- West Fork of Oak Creek from its headwaters to confluence with Oak Creek.

Gila County
- (Proposed) Fossil Creek, from its headwaters at the confluence of Sandrock and Calf Pen Canyons above Fossil Springs to its confluence with the Verde River.

Graham County
- Bonita Creek, from the boundary of the San Carlos Indian Reservation to its confluence with the Gila River.
- Aravaipa Creek, from its confluence with Stowe Gulch at Latitude 32º 52' 10" / Longitude 110º 22' 03" to the downstream boundary of Aravaipa Canyon Wilderness Area at Latitude 32º 54' 23" / Longitude 110º 33' 42".

Greenlee County
- Bear Wallow Creek, from its headwaters to the boundary of the San Carlos Indian Reservation.
- North Fork of Bear Wallow Creek, from its headwaters to confluence with Bear Wallow Creek.
- South Fork of Bear Wallow Creek, from its headwaters to confluence with Bear Wallow Creek.
- Snake Creek, from its headwaters to its confluence with the Black River.
- KP Creek, from its headwaters to its confluence with the Blue River.

Mohave County
- Francis Creek, from its headwaters to its confluence with Burro Creek.

Pima County
- Cienega Creek, from confluence with Gardner Canyon and Spring Water Canyon to USGS gaging station at Latitude 32º 02 ' 09" / Longitude 110º 40' 36".
- Buehman Canyon Creek, from its headwaters to confluence with unnamed tributary at Latitude 32º 24' 31.5"/ Longitude 110º 32' 08".
- Aravaipa Creek, from its confluence with Stowe Gulch at Latitude 32º 52' 10" / Longitude 110º 22' 03" to the downstream boundary of Aravaipa Canyon Wilderness Area at Latitude 32º 54' 23" / Longitude 110º 33' 42".

Yavapai County

- Oak Creek from its headwaters to confluence with the Verde River.
- Peoples Canyon Creek from its headwaters to confluence with the Santa Maria River.
- Burro Creek, from its headwaters to confluence with Boulder Creek.
- Francis Creek, from its headwaters to its confluence with Burro Creek.

Tribal Waters: All waters of the United States occurring on tribal lands.

Unique Waters: Now known as "Outstanding Arizona Waters"

Regional Conditions

Of the ten regional conditions effective within the Los Angeles District of the Corps of Engineers, three apply to projects within Arizona (2, 3, and 4). The remaining conditions apply to specific geographic areas, resources or species in California.

The following regional conditions must be followed in order for any authorization by an NWP to be valid in the State of Arizona:

Regional Condition 2: For the State of Arizona and the Mojave and Sonoran (Colorado) desert regions of California in Los Angeles District (generally north and east of the San Gabriel, San Bernardino, San Jacinto, and Santa Rosa mountain ranges, and south of Little Lake, Inyo County), no nationwide permit, except Nationwide Permits 1 (Aids to Navigation), 2 (Structures in Artificial Canals), 3 (Maintenance), 4 (Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities), 5 (Scientific Measurement Devices), 6 (Survey Activities), 9 (Structures in Fleeting and Anchorage Areas), 10 (Mooring Buoys), 11 (Temporary Recreational Structures), 20 (Oil Spill Cleanup), 22 (Removal of Vessels), 27 (Stream and Wetland Restoration Activities), 30 (Moist Soil Management for Wildlife), 31 (Maintenance of Existing Flood Control Projects), 32 (Completed Enforcement Actions), 35 (Maintenance Dredging of Existing Basins), 37 (Emergency Watershed Protection and Rehabilitation), and 38 (Cleanup of Hazardous and Toxic Waste), or other nationwide or regional general permits that specifically authorize maintenance of previously authorized structures or fill, can be used to authorize the discharge of dredged or fill material into a jurisdictional special aquatic site as defined at 40 CFR Part 230.40-45 (sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle-and-pool complexes).
Regional Condition 3: For all projects proposed for authorization by nationwide or regional general permits where prior notification to the District Engineer is required, applicants must provide color photographs or color photocopies of the project area taken from representative points documented on a site map. Pre-project photographs and the site map would be provided with the permit application. Photographs should represent conditions typical or indicative of the resources before impacts.
Regional Condition 4: Notification pursuant to general condition 13 shall be required for projects in all special aquatic sites as defined at 40 CFR Part 230.40-45 (sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle-and-pool complexes), and in all perennial watercourses or waterbodies in the State of Arizona and the Mojave and Sonoran (Colorado) desert regions of California in Los Angeles District (generally north and east of the San Gabriel, San Bernardino, San Jacinto, and Santa Rosa mountain ranges, and south of Little Lake, Inyo County), excluding the Colorado River from Davis Dam downstream to the north end of Topock and downstream of Imperial Dam.

General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/ or Coastal Zone Management Act consistency for an NWP.

1. Navigation
(a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements
No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
3. Spawning Areas
Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas

Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds

No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. Suitable Material

No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes.

No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments.

If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows

To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains.

The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment

Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls

Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills

Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance

Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers

No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a ''study river'' for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights

No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which ''may affect'' a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity ''may affect'' or will have ''no effect'' to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have ''no effect'' on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the ''take'' of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with ''incidental take'' provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal ''takes'' of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

18. Historic Properties

(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h–2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters

Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation

The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of ½ acre, it cannot be used to authorize any project resulting in the loss of greater than ½ acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian

area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.
(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.
(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21.Water Quality

Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management

In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions

The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits

The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications

If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
‘‘When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.’’

_____

(Transferee)

_____

(Date)

26. Compliance Certification

Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:
(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
(b) A statement that any required mitigation was completed in accordance with the permit conditions; and
(c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification

(a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:
(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
(2) Forty-five calendar days have passed from the district engineer’s receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is ‘‘no effect’’ on listed species or ‘‘no potential to cause effects’’ on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity

until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).
(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:
(1) Name, address and telephone numbers of the prospective permittee;
(2) Location of the proposed project;
(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);
(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;
(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and
(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.
(c) *Form of Pre-Construction Notification:* The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.
(d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.
(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than ½-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.
(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.
(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.
(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.
(e) *District Engineer's Decision:* In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either:
(1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project

The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

Definitions

Best management practices (BMPs)*:* Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation*:* The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable*:* Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge*:* The term ''discharge'' means any discharge of dredged or fill material.

Enhancement*:* The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream*:* An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation)*:* The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property*:* Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility*:* A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream*:* An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States*:* Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland*:* A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water*:* For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of ''open waters'' include rivers, streams, lakes, and ponds.

Ordinary High Water Mark*:* An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream*:* A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for

stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: Re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term ''single and complete project'' is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a ''single and complete project'' is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent—meaning bordering, contiguous, or neighboring— to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of ''waterbodies'' include streams, rivers, lakes, ponds, and wetlands.

Cultural Resources Assessment of the La Cholla Boulevard—Ruthrauff Road to River Road Project, Pima County, Arizona

Patricia Cook

Reviewed by

Patricia Castalia
Desert Archaeology, Inc.
3975 N. Tucson Boulevard
Tucson, Arizona 85716

Submitted to

HDR Engineering, Inc.
5210 E. Williams Circle, Suite 530
Tucson, AZ 85711-4459

Project Report No. 07-133
Desert Archaeology, Inc.
Project No. 07-124
3975 N. Tucson Blvd., Tucson, AZ 85716 ● 11 November 2008

ABSTRACT

DATE: 11 November 2008

AGENCY: Pima County

REPORT TITLE: Cultural Resources Assessment of the La Cholla Boulevard—Ruthrauff Road to River Road Project, Pima County, Arizona

CLIENT PROJECT NAME: La Cholla Boulevard—Ruthrauff Road to River Road project

FUNDING LEVEL: Pima County Regional Transportation Authority, Arizona Highways Users Revenue Fund (HURF), impact fees

PROJECT DESCRIPTION: Assessment prior to road expansion

PERMIT NUMBERS: Arizona Antiquities Act Project Specific Permit No. 2008-069ps; Arizona State Museum Accession No. 2007-0670

LOCATION:

County: Pima

Description: Sections 15, 16, 21, and 22, Township 13 South, Range 13 East, on USGS 7.5-minute topographic quad Jaynes, Ariz., AZ AA:12 [SE]

Land Ownership: Pima County right-of-way

NUMBER OF SURVEYED ACRES: 1.5

NUMBER OF SITES: 2

LIST OF REGISTER-ELIGIBLE PROPERTIES: AZ AA:12:18 (ASM)

LIST OF OTHER PROPERTIES: AZ AA:12:29 (ASM) (Site not found within project area)

RECOMMENDATIONS: Two previously recorded archaeological sites, AZ AA:12:18 (ASM), Hodges Ruin, and AZ AA:12:29 (ASM), are intersected by the proposed project. Their boundaries were not well documented historically, and surface survey associated with this project indicates the sites currently have few visible surface components. Archaeological trenching in accessible portions of the right-of-way, including the area of the two sites, was undertaken to locate site boundaries and identify subsurface features that will be affected by the proposed road-widening project. Four features were identified at the Hodges Ruin and the boundary relocated with greater accuracy in the eastern part of the site. Subsurface features at AA:12:29 were not identified. Desert Archaeology recommends that the roadway improvement project proceed as planned, with archaeological monitoring of any work within 30 m of the Hodges Ruin boundary. A monitoring and discovery plan is included in this report. Should the proposed plans change, or previously undiscovered cultural materials be encountered during the undertaking, work should be halted immediately and a qualified archaeologist contacted to evaluate the materials.

Project N 59914
Section 7.3

PIMA COUNTY ADMINISTRATION

CULTURAL RESOURCES & HISTORIC PRESERVATION OFFICE
201 NORTH STONE AVENUE, 6TH FLOOR
TUCSON, ARIZONA 85701-1207
(520) 740-6598 FAX (520) 243-1610

November 21, 2008

JoAnne Medley
State Historic Preservation Office
1300 W. Washington
Phoenix, AZ 85007

Re: Cultural Resources Assessment of the La Cholla Boulevard - Ruthrauff to River Road Project, Pima County, Arizona.

Dear JoAnne:

For your review and action, I enclose a copy of *Cultural Resources Assessment of the La Cholla Boulevard - Ruthrauff to River Road Project, Pima County, Arizona,* by Patricia Cook, Desert Archaeology Project Report No. 07-133, dated 11 November 2008. The project will entail road improvements to be constructed for the Pima County Department of Transportation.

A surface inventory survey of the 1.5 acre project area failed to locate the previously recorded site AZ AA:12:29(ASM), but did locate the eastern edge of site AZ AA:12:18(ASM), the Hodges Ruin. Subsurface trenching also failed to locate any evidence of site AZ AA:12:29(ASM), and consequently the site is determined not to be located within the project area. Based on our conversation of April 10, 2007, subsurface trenching was also conducted to determine the actual location of the eastern boundary of the Hodges Ruin. The eastern site boundary of the Hodges Ruin has been revised based on the results of this project coupled with the results of previous projects on adjacent parcels of land. Based on the redefined boundary of the Hodges Ruin, the road improvement project has been redesigned to avoid impact to the Hodges Ruin.

I request your concurrence with the following recommendations.

1) Site AZ AA:12:29(ASM) was not located within the project area and consequently no assessment of its eligibility to the National Register of Historic Places can be made at this time. The project will have no effect on site AZ AA:12:29(ASM).

2) Based on the newly defined eastern edge of site AZ AA:12:18(ASM), the Hodges Ruin that has previously been determined eligible to the National Register of Historic Places, and based on the redesign of the project, the proposed project will avoid and have no effect on the Hodges Ruin.
3) Even so, there will be archaeological monitoring of any construction activities within 30 meters of the newly defined Hodges Ruin boundary. I seek your concurrence with this recommendation for monitoring, and with the monitoring and discovery plan as presented in the report.

Concurrent with your review and action on this document, I am requesting review and comment from the Tribes. Please contact me at 520-740-6405 if you have any questions.

Sincerely,

Roger Anyon
Cultural Resources Program Manager.

cc. Peter Steere, Tohono O'odham Nation
Barnaby Lewis, Gila River Indian Community
Duane Antone, Ak-Chin Indian Community
Dezbah Hatathli, Salt River Indian Community
Leigh Kuwanwisiwma, Hopi Tribe
Vernelda Grant, San Carlos Apache Tribe
Amalia Reyes, Pascua Yaqui Tribe

SHPO-2008-1905(38398)

NOV 25 2008
JM 11/28/08

PIMA COUNTY ADMINISTRATION

CULTURAL RESOURCES & HISTORIC PRESERVATION OFFICE
201 NORTH STONE AVENUE, 6TH FLOOR
TUCSON, ARIZONA 85701-1207
(520) 740-6598 FAX (520) 243-1610

November 21, 2008

JoAnne Medley
State Historic Preservation Office
1300 W. Washington
Phoenix, AZ 85007

Re: Cultural Resources Assessment of the La Cholla Boulevard - Ruthrauff to River Road Project, Pima County, Arizona.

Dear JoAnne:

For your review and action, I enclose a copy of *Cultural Resources Assessment of the La Cholla Boulevard - Ruthrauff to River Road Project, Pima County, Arizona,* by Patricia Cook, Desert Archaeology Project Report No. 07-133, dated 11 November 2008. The project will entail road improvements to be constructed for the Pima County Department of Transportation.

A surface inventory survey of the 1.5 acre project area failed to locate the previously recorded site AZ AA:12:29(ASM), but did locate the eastern edge of site AZ AA:12:18(ASM), the Hodges Ruin. Subsurface trenching also failed to locate any evidence of site AZ AA:12:29(ASM), and consequently the site is determined not to be located within the project area. Based on our conversation of April 10, 2007, subsurface trenching was also conducted to determine the actual location of the eastern boundary of the Hodges Ruin. The eastern site boundary of the Hodges Ruin has been revised based on the results of this project coupled with the results of previous projects on adjacent parcels of land. Based on the redefined boundary of the Hodges Ruin, the road improvement project has been redesigned to avoid impact to the Hodges Ruin.

I request your concurrence with the following recommendations.

√ 1) Site AZ AA:12:29(ASM) was not located within the project area and consequently no assessment of its eligibility to the National Register of Historic Places can be made at this time. The project will have no effect on site AZ AA:12:29(ASM).

✓ 2) Based on the newly defined eastern edge of site AZ AA:12:18(ASM), the Hodges Ruin that has previously been determined eligible to the National Register of Historic Places, and based on the redesign of the project, the proposed project will avoid and have no effect on the Hodges Ruin.

✓ 3) Even so, there will be archaeological monitoring of any construction activities within 30 meters of the newly defined Hodges Ruin boundary. I seek your concurrence with this recommendation for monitoring, and with the monitoring and discovery plan as presented in the report.

Concurrent with your review and action on this document, I am requesting review and comment from the Tribes. Please contact me at 520-740-6405 if you have any questions.

Concur.
for SHPO
Dec. 8, 2008

Sincerely,

Roger Anyon
Cultural Resources Program Manager.

cc. Peter Steere, Tohono O'odham Nation
Barnaby Lewis, Gila River Indian Community
Duane Antone, Ak-Chin Indian Community
Dezbah Hatathli, Salt River Indian Community
Leigh Kuwanwisiwma, Hopi Tribe
Vernelda Grant, San Carlos Apache Tribe
Amalia Reyes, Pascua Yaqui Tribe

PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY
33 N. STONE AVE, SUITE 730, TUCSON, AZ 85701
ASBESTOS NESHAP NOTIFICATION & PERMIT ACTIVITY APPLICATION
FOR RENOVATION & DEMOLITION ACTIVITIES

Please note: there is a $420.00 fee for EACH permit. Please fill out separate permits for renovation and demolition activities

REGULATORY AGENCY USE ONLY	CHECK #:	AMOUNT PAID:	POSTMARK DATE :	HAND DELIVER DATE:	**PERMIT#**:

1. **TYPE OF NOTIFICATION**: ( ) Original; ( ) Revision 1; ( ) Revision 2; ( ) Revision 3; ( ) Revision 4; ( ) Revision 5; ( ) Cancel

2a. FACILITY OWNER INFORMATION

Name of Company or Individual:			
Address:			
City/Community:		State:	Zip:
Contact Person:	Telephone:	Fax:	

2b. ASBESTOS REMOVAL CONTRACTOR/OPERATOR:

Address:			
City:		State:	Zip:
Contact Person:	Telephone:	Fax:	

2c. DEMOLITION CONTRACTOR/OPERATOR:

Address:			
City:		State:	Zip:
Contact Person:	Telephone:	Fax:	

3. **TYPE OF OPERATION:** ( ) RENOVATION, ( ) EMERGENCY RENOVATION, ( ) DEMOLITION, ( ) ORDERED DEMOLITION, ( ) ANNUAL NON-SCHEDULED OPS

4 . ***PROVIDE DATE OF THOROUGH INSPECTION OF FACILITY, OR AFFECTED PART BY AN ASBESTOS HAZARD EMERGENCY RESPONSE ACT (AHERA) CERTIFIED BUILDING INSPECTOR*** — ***DATE:***

5. FACILITY DESCRIPTION (Attach site location map for multiple structures at one street address or installation)

Building Name:	Visible Signage:		
Street Address:	Identifying Features:		
City:	County: PIMA	State: AZ	Zip:
Building Size in Floor Area (Sq. Ft.)	Number of Floors Affected:	Age of Facility:	
If Residential, Number of Dwelling Units:	Present Use:	Prior Use:	

6. PROCEDURE, INCLUDING ANALYTICAL METHOD, EMPLOYED TO DETECT THE PRESENCE OF RACM AND CATEGORY I AND CATEGORY II NONFRIABLE ACM.
( ) Polarized Light Microscopy [PLM]; ( ) Point Counting; ( ) Assumed; ( ) Other _____

NVLAP Laboratory Name _____ Number of Samples _____ Date Analyzed _____/_____/_____

7. **APPROXIMATE AMOUNT OF ASBESTOS**, INCLUDING: (RACM = Regulated Asbestos-Containing Material as defined in 40 CFR 61, Subpart M, Asbestos NESHAP §61.141.	**AMOUNT OF RACM TO BE REMOVED OR GENERATED** NOTE: Update notice when amount of RACM changes at least 20%	Amount of Nonfriable ACM To Be Removed		Amount of Nonfriable ACM Not To Be Removed during Demo	
		CAT I	CAT II	CAT I	CAT II
On Facility Components; PIPES (LINEAR FEET)					
On Facility Components; SURFACE AREA (SQUARE FEET)					
Off Facility Components; VOLUME (CUBIC FEET)					

8. **DATES FOR ASBESTOS REMOVAL** : START DATE: COMPLETION DATE*: Days of Operations: M T W TH F SA SU

9. **DATES FOR DEMOLITION:** START DATE: COMPLETION DATE*: Hours of Operations:

MAIL/DELIVER TO:

This permit is valid for not more than one year from date of issue.

Pima County Dept. of Environmental Quality
Attn: Air Program
33 N Stone Ave, Suite 730
Tucson, AZ 85701
520-740-3340

_____
ASBESTOS NESHAP COORDINATOR OR REPRESENTATIVE

_____ _____
DATE OF ISSUE PERMIT EFFECTIVE DATE

10. DESCRIPTION OF PLANNED DEMOLITION/RENOVATION WORK:
( ) Thermal System Insulation ( ) Ceiling Texture/Tiles ( ) Duct/Seam Tape ( ) Regulated Drywall System ( ) Asbestos-Containing Roof Removal
( ) Asbestos Cement Pipe ( ) Asbestos Cement Shingles ( ) VAT/Mastic ( ) Asbestos Cement Siding ≥5580 sq ft w/rotating blade cut
Other, please specify:_____
REMOVAL METHODS: ( ) Hand/Non-Mechanical Tools ( ) Mechanical/Power Tools ( ) Mastic Solvents ( ) Blast Trac™ Machine
Other, please specify:_____

11. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT ASBESTOS EMISSIONS:
( ) Adequately Wet ( ) Full Containment ( ) Critical Barriers ( ) Negative Air Machines, No. ____ of units to be used
( ) Glove-Bag ( ) Leak-Tight Wrap ( ) 6-mil Bags ( ) Mini-containment
( ) Decontamination Unit with Hot/Cold Water and Soap for OSHA Class I work ( ) Other, Describe_____

12a. ASBESTOS WASTE TRANSPORTER #1:

Company Name:		
Address:		
City:	State:	Zip:
Contact Person:	Telephone:	Fax:

12b. ASBESTOS WASTE TRANSPORTER #2:

Company Name:		
Address:		
City:	State:	Zip:
Contact Person:	Telephone:	Fax:

13. ASBESTOS WASTE DISPOSAL SITE:

Company Name:		
Address:		
City:	State:	Zip:
Contact Person:	Telephone:	Fax:

14. FOR ORDERED DEMOLITIONS (40 CFR 61, §61.145(A)(3), ATTACH A COPY OF THE AGENCY'S ORDERED DEMOLITION LETTER

Name:	Title:
State or Local Government Agency:	Authority:
Date of Order (MM/DD/YY):	Date Demolition Ordered to Begin (MM/DD/YY):

15. FOR EMERGENCY RENOVATIONS (40 CFR 61, §61.145(a)(4)(iv))

Date and Hour of Emergency (MM/DD/YY - HH:MM):

Description of the Sudden, Unexpected Event:

Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:

16. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED RACM IS FOUND OR CATEGORY II NONFRIABLE ACM BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER:

( ) Stop Work ( ) Notify Owner ( ) Revise Notification ( ) Follow 40 CFR 61, §61.145(c) Procedures ( ) AHERA Certified Contractor/Supervisor on-site

17. I CERTIFY THAT AT LEAST ONE AHERA CERTIFIED CONTRACTOR/SUPERVISOR WILL SUPERVISE THE STRIPPING AND REMOVAL OF RACM DESCRIBED IN THIS NOTIFICATION AND THAT THE TRAINING CERTIFICATE WILL BE POSTED OR READILY AVAILABLE **ON-SITE**.

(Print Name: Owner/Operator)	(Title)	(Signature of Owner/Operator)	(Date)

18. **CERTIFICATION OF INSPECTION BY AN AHERA CERTIFIED ASBESTOS BUILDING INSPECTOR (All areas of Arizona):**

(Print Name of Inspector	(Training Provider)	(AHERA Certificate Number	(Expiration Date)

19. **I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT**: Company Name:_____ Rev. Date _____

(Print Name: Owner/Operator)	(Title)	(Signature of Owner/Operator)	(Date)

PDEQ DEMOLITION/RENOVATION ASBESTOS NESHAP EXEMPTION

JOB SITE ADDR: _____

The purpose of this form is to determine **EXEMPTION** from the requirements of the Asbestos National Emission Standards for Hazardous Air Pollutants (Asbestos NESHAP). **Part A** is for a RESIDENTIAL home exemption. **Part B** is for a commercial exemption.

PART A: If your project involves renovation/demolition of a residential home only, please answer the following questions to determine exemption:

Does this renovation/demolition project involve more than **ONE** residential building at the same site with the same owner/operator?	Y ~	N ~
Is this building currently being used, or has it **EVER** been used, as a commercial, government, daycare, office, church, charitable or other non-profit place of business?	Y ~	N ~
Has this one residential building been divided into five or more dwelling units or leased/rental units?	Y ~	N ~
Is this building to be demolished as part of a highway or road-widening project?	Y ~	N ~
Is this building part of a building cooperative, apartment or condo building?	Y ~	N ~
Is this building used for military housing?	Y ~	N ~
Have other residences or non-residential buildings at this site been scheduled to be demolished now, or in the future, as part of a larger project?	Y ~	N ~
Is more than **ONE** building to be lifted from its foundation and relocated?	Y ~	N ~
Will this building be intentionally burned for the purpose of demolition or fire department training?	Y ~	N ~

PART B: If your project involves RENOVATION or REMODELING of a commercial building, answer the following questions to determine exemption from the NESHAP notification requirement.

Does the thorough asbestos survey of the area to be renovated identify 160 square feet, 260 linear feet of thermal system insulation (TSI), or 35 cubic feet or more of friable asbestos containing material? **Note: During renovation activities, some asbestos building materials may become friable during removal.**	Y ~	N ~
Does the renovation include demolition of load supporting structural members? **Note: If the commercial structure is to be DEMOLISHED, the demolition requires a PDEQ NESHAP notification, a demolition activity permit and a $420 fee, even if all the asbestos has been removed or the building has no asbestos.**	Y ~	N ~

ANY "YES" ANSWERS TO THE ABOVE QUESTIONS in A or B above MAY REQUIRE:

An asbestos survey of the building(s) or facilities involved,
A NESHAP Notification, submitted TEN working days prior to Renovation/Demolition,
A Pima County Asbestos Removal/Demolition Activity Permit Application with $420.00 fee.

If a permit is needed for your project or you have any questions, please contact PDEQ at 520-740-3340.

NOTE: This NESHAP exemption, based on information you have certified as correct, applies to the above facility. The owner, contractor, or subcontractors are not relieved from compliance with city, county, state and federal laws, statutes and codes or from obtaining permits for other activities. Enforcement action may be taken if the project is found to be subject to the Asbestos NESHAP, which may include monetary penalties. In the event the activity listed above should become subject to the Asbestos NESHAP during the course of the project, the owner or operator shall stop work and follow 40 CFR 61, 61.145(b) procedures. 40 CFR 61.19 forbids owners and operators from attempting to circumvent any NESHAP by carrying out an operation in a piecemeal fashion to avoid coverage by a standard that applies only to larger than a specified size.

Facilities **subject** to the regulation must be inspected for asbestos prior to renovation/demolition. Identified regulated asbestos-containing materials (RACM) **MUST BE REMOVED** if RACM is above threshold amounts prior to disturbance.

I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT

_____ _____ _____ _____
PRINT NAME: OWNER/OPERATOR TITLE SIGNATURE DATE
TELEPHONE #_____ FAX # _____

References: Asbestos NESHAP Regulations: 40 CFR 61, Subpart M, 61.145 and Title 17 of the Pima County Code, Air Quality Control 17.16.530, Residential Building Exemption: Federal Register, Vol. 60 No. 145, Friday, July 28, 1995, pages 38725-38726. (Revised 6/15/03)

Deferred Account #:

Department Use Only	
Permit Number	

Air Quality Activity Permit Application

Pima County Department of Environmental Quality – Air Program
33 North Stone Ave., Suite 730 Tucson, Arizona 85701
Telephone: (520) 740-3340; Fax (520) 243-7340

1 Permitee/Applicant Information - (Activity Permit Holder)

Permittee _____ Phone _____

Mailing Address _____ Fax _____

City _____ State _____ ZIP _____

2 Applicant's Representative or Agent – (Complete Only If Different From Above)

Name _____ Title _____

Firm Name _____ Phone _____

Mailing Address _____ Fax _____

City _____ State _____ ZIP _____

3 Site Information

Site Address _____ Subdivision _____

Cross Streets _____ Township _____ Range _____ Section _____

Directions to Site _____

Site Contact _____ Phone _____

Start Date _____ End Date _____

Start and Finish dates do not reflect the effective dates of the permit

Intended Use of Site After Project Completion _____

4 Permit Specifications

SINGLE ACTIVITY PERMIT -or-

☐ Road Construction _____ Linear Feet

☐ Trenching _____ Linear Feet

☐ Land Stripping _____ Total Acres

☐ Blasting

MULTIPLE ACTIVITY PERMIT

☐ _____ Total Acres

A multiple activity permit may be obtained by persons conducting more than one dust producing activity at a single project site

If the project includes the Demolition or Renovation of an Existing Structure, Permitee may need to apply for an Asbestos NESHAP Permit.

5 Please read and sign the following

This certifies that I am familiar with Pima County rules and regulations that apply to the activity(s) specified above and that I accept full responsibility for complying with all applicable requirements of those rules and regulations as well as any permit conditions specified by the Control Officer for this permit.

X _____

Signature of Permitee or Permitee's Agent or Representative Date

Instructions for Completing the Permit Application

1 Permitee/Applicant Information - (Activity Permit Holder)

This area is to be filled out with the information pertaining to the company or individual whose name will be on the permit as the actual Permitee. Subcontractors hired by the Permitee to conduct the activities prescribed under this permit may be covered under the permit at the discretion of the Permitee. Both the subcontractor conducting work on behalf of the Permitee and the Permitee are responsible for compliance with applicable fugitive dust regulations in Pima County Code Title 17, Air Quality.

2 Applicant's Representative or Agent – (Party Submitting Application)

This area is to be filled out by the person submitting the application, if different from section 1. If the applicant is not the person or the owner/operator of the company performing the activities, the applicant must provide written verification that he/she is an authorized agent of the Permitee or has been delegated the responsibility to act as a representative for the company. If the Applicant and the Permitee are the same, the applicant may designate this by writing the word "same" on the Name line of this area and forgo completing the rest of the section.

3 Site Information

This information will assist PDEQ inspectors in identifying the exact location of the jobsite. PDEQ understands that a site address has not always been issued to a property prior to submitting an application and is therefore not available to the Permitee. In lieu of an address, a clear description of the project location must be given. If an official project name has not been established, then a unique project description is required. The "Intended Use of the Site after Project Completion" offers PDEQ an understanding of the work to be completed. The "Site Contact" should be a person familiar with the job site who is capable of answering questions regarding the site.

4 Permit Specifications

This area must contain a checkmark by each activity that will be covered under a permit and the exact amount of work to be completed. Any changes to the size and scope of the activities, that exceed the amount permitted, will require the Permitee to obtain an additional activity permit to include the added acreage, footage, linear feet or days prior to exceeding the limits of the permit. Be advised that trenching footage conducted within the footprint of a road covered by an active activity permit does not need to be accounted for in the application.

Table 17.12.540 ACTIVITY PERMIT FEES SCHEDULE

Single Activity Permit

ACTIVITY	RATE COMPONENTS
Landstripping and/or Earthmoving	1-2 Acres $100.00 >2-10 Acres $500.00 >10-40 Acres $1,500.00 >40+ Acres $3,000.00
Trenching	300-500 Ft. $75.00 501-1500 Ft. $200.00 1501-5000 Ft. $400.00 5001+ Ft. $800.00
Road Construction	50-1000 Ft. $50.00 1001-3000 Ft. $250.00 3001-6000 Ft. $500.00 6001+ Ft. $1000.00
Blasting	$25.00
Multiple Activity Permit	1-10 Acres $625.00 >10-40 Acres $2,000.00 >40+ Acres $4,000.00

Cash or Check only

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Water Permits Section
1110 West Washington Street, MC 5415–B3 • Phoenix, Arizona 85007
(602) 771-4428 • www.azdeq.gov

NOTICE OF INTENT TO DISCHARGE FOR A TYPE 3 GENERAL PERMIT

Instructions: Every person who applies for a Type 3 general permit, as provided by Arizona Administrative Code (A.A.C.) Title18, Chapter 9, Article 3, must file a Notice of Intent to Discharge (NOI) required by A.A.C. R18-9-A301(B). In addition to this form, applicants must complete the appropriate **NOI Supplemental Form**. A separate NOI form and NOI Supplemental form must be completed for each discharging facility (i.e., unit, discharge point) intended to be covered under a General Permit. A person intending to operate under a General Permit must comply with all the provisions of the general permit and other applicable requirements of statute and rule.

1. **Type 3 General Permits**: Requires notification to the agency of activities to be conducted. Persons must: 1) Meet the requirements of Article 3, Part A and the specific terms of the applicable Type 3 General Permit; 2) File the appropriate NOI forms and supplemental information; 3) Pay applicable general permit review fees. Review fees, which are flat rate fees specified in A.A.C.R18-14-102(C), are NON-REFUNDABLE; 4) Satisfy any deficiency requests from the Department; and 5) Receive **a written Verification of General Permit Conformance** from the Department.

2. **Type 3 General Permit notification** (check the applicable box):

- ” 3.01 Lined Impoundments [A.A.C. R18-9-D301]
- ” 3.02 Process Water Discharges from Water Treatment Facilities [A.A.C. R18-9-D302]
- ” 3.03 Vehicle and Equipment Washes [A.A.C. R18-9-D303]
- ” 3.04 Non-storm Water Impoundments at Mining Sites [A.A.C. R18-9-D304]
- ” 3.05 Disposal Wetlands [A.A.C. R18-9-D305]
- ” 3.06 Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites [A.A.C. R18-9-D306]
- ” 3.07 Tertiary Treatment Wetlands [A.A.C. R18-9-D307]

3. **Applicant:** _____

Address: _____

_____ Phone No.: _____

_____ Fax No.: _____

_____

4. **Contact Person for Facility Operations:** _____

Address: _____

_____ Phone No.: _____

_____ Fax No.: _____

_____

5. **Name of Owner/Operator responsible for ensuring compliance with this permit if different from No. 3 above:** _____

Position held by party identified above: _____

Address: _____

_____ Phone No.: _____

_____ Fax No.: _____

_____

6. Specify a **name, number or other identifier** that can be used as a permanent reference to the discharging facility proposed to be covered under this General Permit [e.g.: Vehicle wash A; Wetlands # 4; or SE impoundment]:

7. **Location** of the discharging facility proposed to be covered under this General Permit:

a. County: _____

b. Nearest Community: _____

c. Legal Description (please reference the property deed. May be by Township, Range, Section; parcel numbers; metes and bounds; subdivision identifiers, etc. Attach separate page if lengthy):

_____

_____

_____

_____

d. Latitude/ Longitude: _____**E**_____' _____" **N** _____**E**_____' _____" **W**

8. **Expected dates of discharge**:

Date discharges began or are expected to begin _____

Date discharges began or are anticipated to cease _____

9. **Existing Environmental Permits**: List all types of state or federal environmental permits already held by the applicant or owner at this location or that are needed for the location: (Attach additional pages if necessary)

10. Certification of Compliance. To be completed by the applicant.

I, _____ , certify that this document and all attachments were prepared under my direction or supervision and all information is, to the best of my knowledge, true, accurate and complete. I also certify that the facility described in this form is or will be constructed, designed, and operated in accordance with the provisions of Article 3 of the Aquifer Protection Permit rules as they pertain to this General Permit. I am aware that there are significant penalties for submitting false information, including permit revocation as well as the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature Date

Appendix M– Contractor's Spill Prevention Plan Spill Form

SPILL REPORT

Date of spill:	Time:
Spill location and direction of flow:	
Material(s) spilled:	Amount (pounds, gallons):

Material released to:

☐ Pavement ☐ Sewer ☐ Storm drain
☐ Secondary containment ☐ Soil ☐ Wash

Size of contaminated area (square feet):

Cause: ☐ Operator error ☐ Procedural failure ☐ Equipment failure

Describe cause and party responsible for spill:

Describe actions taken to contain and clean-up materials, and dispose waste:

People involved in clean-up:

1. Name_____ Employer_____ Title_____
2. Name_____ Employer_____ Title_____
3. Name_____ Employer_____ Title_____
4. Name_____ Employer_____ Title_____

Is spill terminated? ☐ Yes ☐ No	If spill continues, what is the rate?

Comments:

Reported to:

1. Name_____ Employer_____ Date_____
2. Name_____ Employer_____ Date_____
3. Name_____ Employer_____ Date_____

Submitted by:

Name_____ Employer_____ Phone #: _____ Date_____

Appendix N – Construction Schedule and Implementation

Appendix O – Field Contact List/Subcontractor List

FIELD CONTACT PERSON(S)

Contact Person & Position	Phone Number	Alternate Phone Number	Alternate Contact Person	Phone Number

LIST OF CONTRACTORS AND SUBCONTRACTORS

Contractor:_____

Responsibility:_____

Address:_____

City:_____ State:_____

Telephone:_____ Fax:_____

Contact:_____

Date Started:_____ Date Completed_____

Contractor:_____

Responsibility:_____

Address:_____

City:_____ State:_____

Telephone:_____ Fax:_____

Contact:_____

Date Started:_____ Date Completed_____

Contractor:_____

Responsibility:_____

Address:_____

City:_____ State:_____

Telephone:_____ Fax:_____

Contact:_____

Date Started:_____ Date Completed_____

Appendix P– Inspector Qualifications

Appendix Q– NOT and Acknowledgement from ADEQ

NOTICE OF TERMINATION (NOT)

for Construction Activity Discharges to Waters of the United States

Submission of this NOT constitutes notice that the party identified on this form is terminating coverage under the AZPDES general permit. Authorization to construction activity discharges to waters of the United States terminates at midnight on the day the NOT is received by ADEQ. To terminate your project, fax or submit a complete and accurate NOT to:

Arizona Department of Environmental Quality
Water Permits Section — Stormwater & General Permits Unit
1110 West Washington, 5415A-1; Phoenix, Arizona 85007
FAX: (602) 771-4528

I. PERMITTEE INFORMATION

AZPDES Stormwater Construction NOI Authorization Number: AZCON — _____.

Name of Operator submitted on Notice of Intent (NOI): _____

Operator Business: _____ Address: _____

City: _____ State: _____ Zip: _____ Phone: _____

II. CONSTRUCTION SITE INFORMATION

Project/Site Name: _____

Site address or physical location: _____

_____

City: _____ State: _____ Zip: _____ County: _____

Provide the latitude/longitude of the specified on the NOI:

Latitude: |__ı__|° |__ı__|' |__ı__|" . |_____| Longitude: |__ı__ı__|° |__ı__|' |__ı__|" . |_____|

(Degrees, minutes, seconds) (Degrees, minutes, seconds)

III. REASON FOR TERMINATING COVERAGE: (Check as applicable)

____ Final stabilization has been achieved on all portions of the site for which the operator is responsible.

____ Another operator has assumed control over all areas of the site that have not been finally stabilized. (To qualify for this condition, ADEQ must receive the new operator's NOI application or the new AZCON # with this NOT submittal.) (AZCON-_____)

____ For residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner.

____ The operator has obtained coverage under another AZPDES permit.
List new permit #(s).____

____ Construction activity was never initiated and plans for construction have been permanently abandoned or indefinitely postponed.

IV. CERTIFICATION BY AUTHORIZED SIGNATORY

"I certify under penalty of law that all stormwater discharges associated with construction activity from the identified facility that are authorized by a general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an AZPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act."

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Business Name (if different from above): _____

Address (if different from above): _____

City: _____ State: _____ Zip: _____ Phone: _____