CITY OF STOCKTON

COMMUNITY DEVELOPMENT DEPARTMENT – BUILDING DIVISION
345 N. El Dorado Street • Stockton, CA 95202 • 209-937-8561 • Fax 209-937-8893 •
www.stocktongov.com

EROSION CONTROL REQUIREMENTS

PROJECT INFORMATION:

Permit No. _____ APN: _____

Address: _____ City & Zip Code:_____

Scope of Work: _____

RESPONSIBLE PARTY:

☐ Property Owner ☐ Licensed Contractor ☐ Other_____

Name: _____ Phone No. _____

Address: _____ City & Zip Code:_____

Email:_____

PROPERTY OWNER (If Different Than Responsible Party):

Name: _____ Phone No. _____

Address: _____ City & Zip Code:_____

Email:_____

Acknowledgement:

We/I,_____, declare and acknowledge that We/I are about to obtain a building permit for the project described above, located on the real property described above.

We/I understand and acknowledge that storm water erosion control requirements apply to this construction activity which includes but is not limited to: clearing, grading, excavation and any other land disturbing activity.

We/I understand that there are a variety of approved Erosion Control Plans that may be utilized on construction projects and declare that We/I will utilize the details attached hereto.

We/I will apply all appropriate applications and industry standard materials in connection with the Erosion Control Plan, which include: prefabricated fiber rolls, rolled tubes and erosion control blankets.

We/I will also install slope inclination placement that meets industry standard specifications, including: property staking, maintenance, and removal.

We/I will ensure that the Erosion Control Plan shall be utilized and remain in place and made accessible to the City for inspections and approvals at all appropriate times.

We/I understand that if We/I are allowed to proceed with obtaining a building permit for this construction project, inspections and visual observations of the project's erosion control methods and materials shall be made at all reasonable times deemed appropriate by the City and that if the City determines that the Erosion Control Plan is inappropriate and/or are not effective, such Erosion Control Plan shall be subject to corrections as deemed appropriate by the City.

We/I understand that if any Erosion Control Plan being used on this project is determined as inappropriate and/or ineffective, construction on the project shall be suspended pending appropriate changes and further inspection and approval.

We/I shall bear all costs for the repair, replacement, removal and construction of any Erosion control requirement, the circumstances of which might prevent final building approval.

We/I accept full responsibility for all potential liability, monetary or otherwise, arising from and/or in connection with any erosion control violations and agree to defend a, indemnify and hold harmless the City of Stockton, its officers, directors, agents, and employees from and against any and all claims, suits, liens, judgments, damages, costs, losses, and expenses, including reasonable legal fees and costs, brought by any person or entity, arising from or in connection with, in whole or in part, and in any manner whatsoever, from acts, omissions, breach or default, in connection with the erosion control violations.

(Storm Drainage Design Standards – Caltrans Storm Water Quality Handbooks.)
http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm - SMC-Stockton Municipal Title15 Building and Construction Chapter 15.48 Grading and Erosion Control.

Responsible Party (Property Owner/Contractor):

Print Name: _____ License No: _____

Signature: _____ Date: _____

Address_____ Bldg. Permit No._____

Fiber Rolls

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.

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

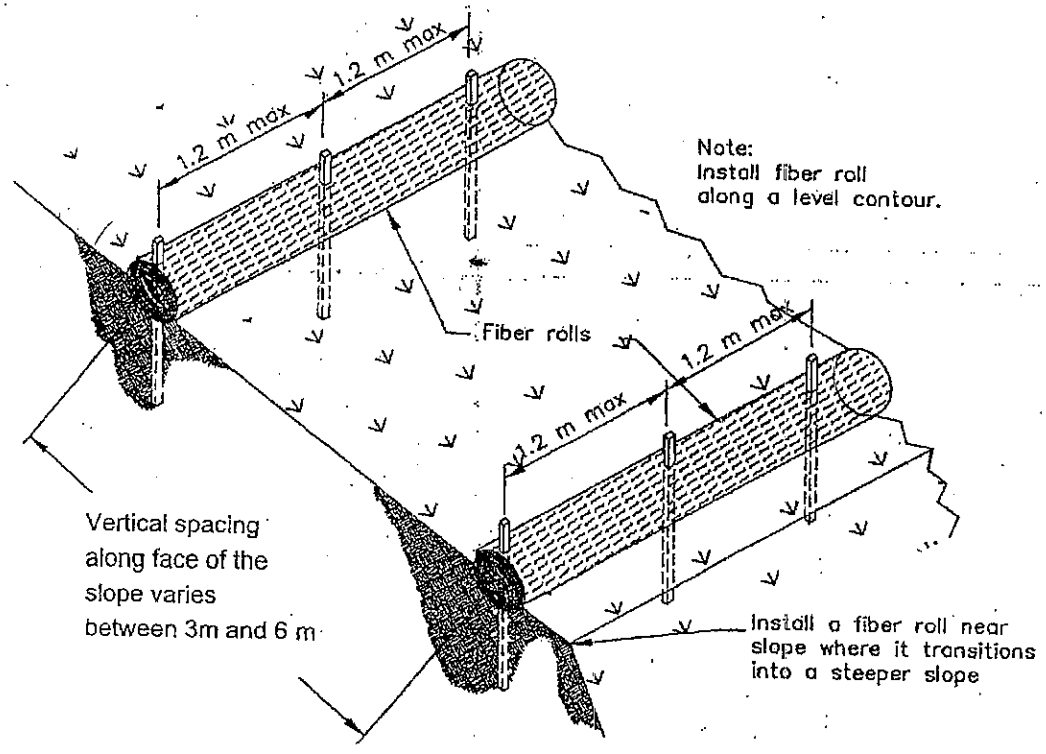
- Slope inclination of 1:4 or flatter: fiber rolls shall be placed on slopes 6.0 m apart.
- Slope inclination of 1:4 to 1:2: fiber rolls shall be placed on slopes 4.5 m apart.
- Slope inclination 1:2 or greater: fiber rolls shall be placed on slopes 3.0 m apart.
- Stake fiber rolls into a 50 to 100 mm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

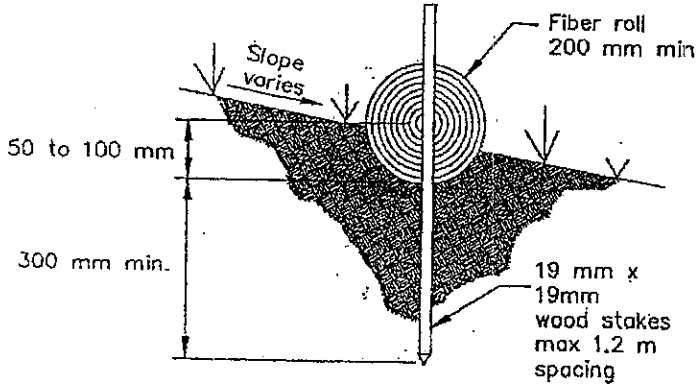
Maintenance and Inspection

- 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.



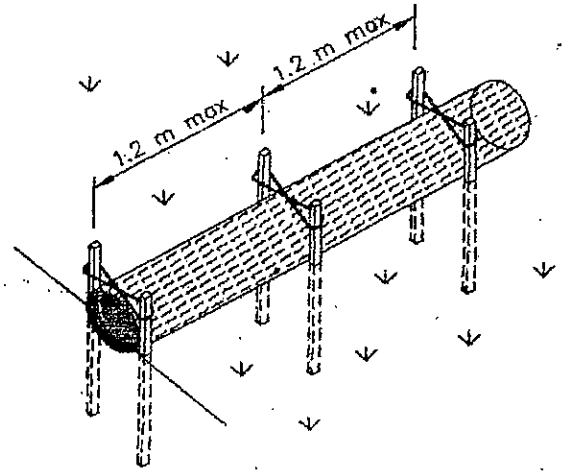
TYPICAL FIBER ROLL INSTALLATION

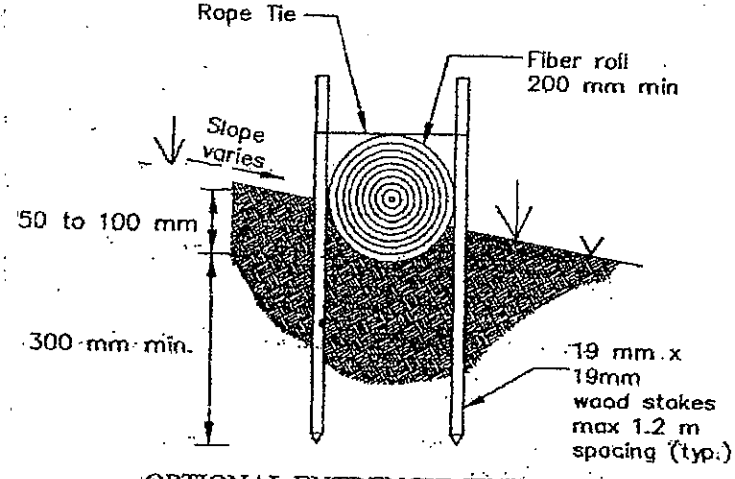
N.T.S.



ENTRENCHMENT DETAIL

N.T.S.

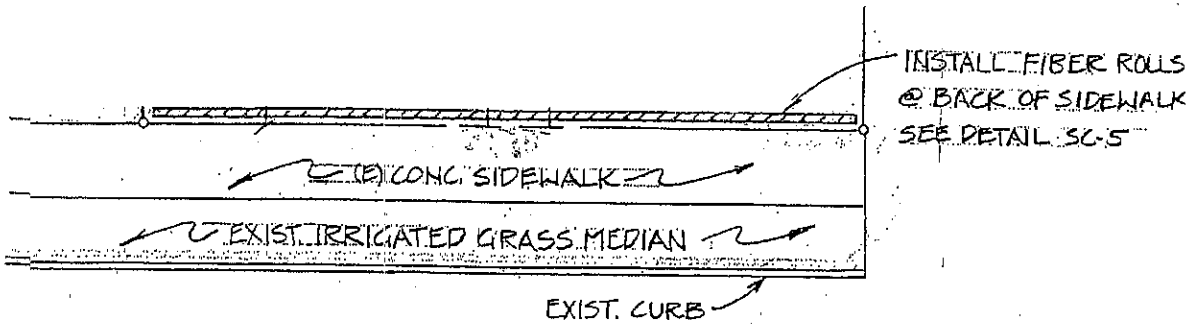


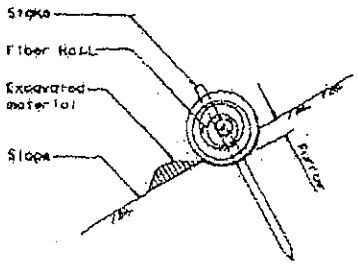


OPTIONAL ENTRENCHMENT DETAIL

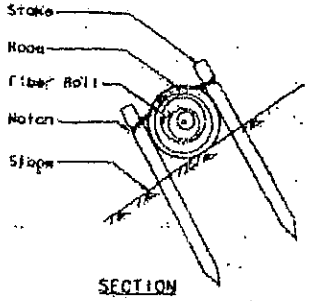
N.T.S.

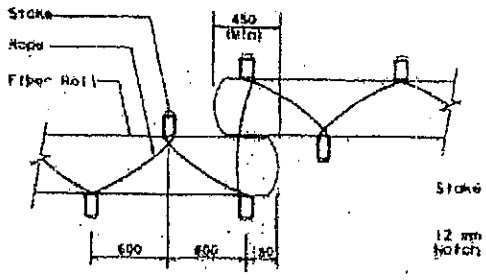
Fiber Rolls



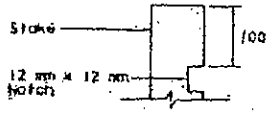


TEMPORARY FIBER ROLL (TYPE 1)





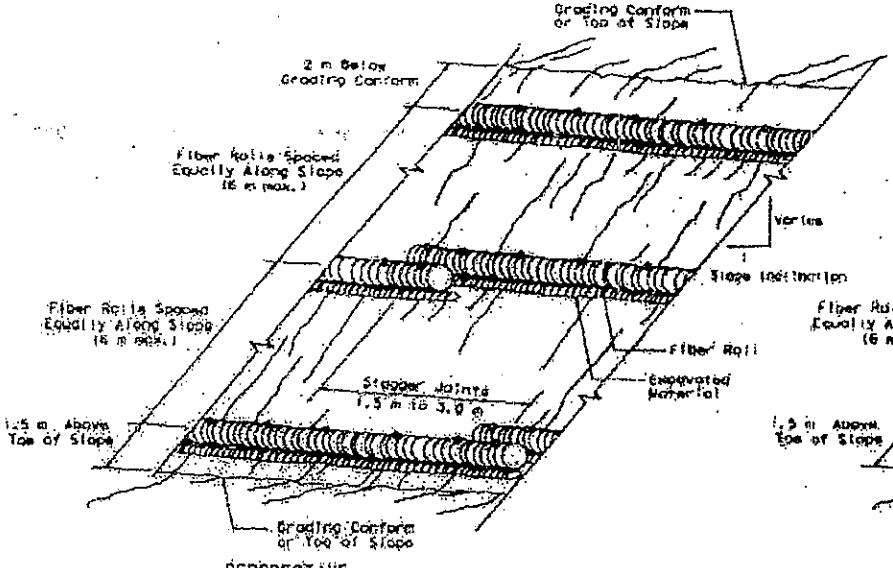
TEMPORARY FIBER ROLL (TYPE 2)



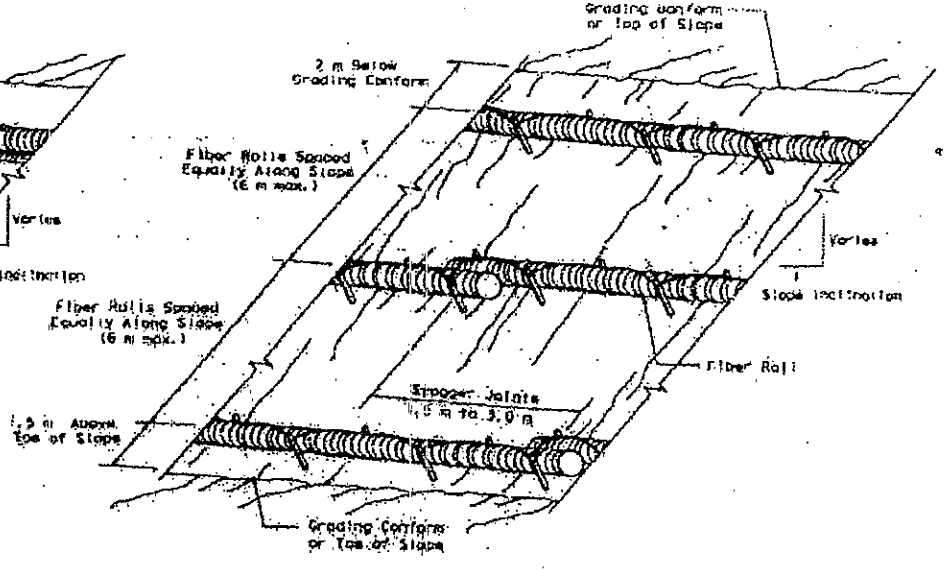
NOTCH DETAIL

NOTE

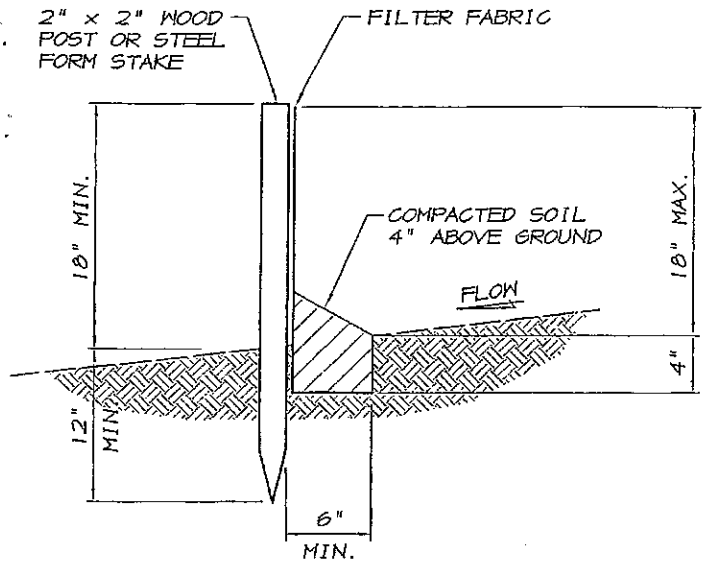
1. Temporary fiber roll spacing varies depending upon slope inclination.



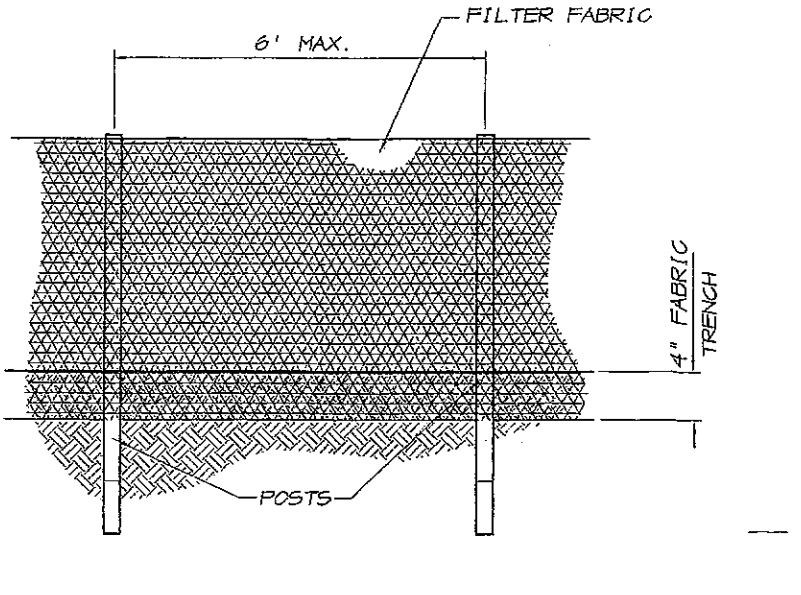
TEMPORARY FIBER ROLL (TYPE 1)



TEMPORARY FIBER ROLL (TYPE 2)



SECTION A-A



FRONT VIEW

NOTES

SILT FENCE SHALL BE CONSTRUCTED LONG ENOUGH TO EXTEND ACROSS THE EXPECTED FLOW PATH AND AS APPROVED BY THE ADMINISTRATOR.

FILTER FABRIC SHALL BE PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN WITH A MINIMUM TENSILE STRENGTH OF 50 LBS. PER LINEAR FOOT AT 20 PERCENT MAXIMUM ELONGATION AND CONTAINING ULTRAVIOLET INHIBITORS. FILTER FABRIC SHALL RETAIN A MINIMUM OF 85% OF THE SOIL, BY WEIGHT, BASED ON SIEVE ANALYSIS, BUT IS NOT FINER THAN AN EQUIVALENT OPENING SIZE OF 70.

SUPPORT POSTS SHALL BE A MINIMUM 30 INCHES LONG 2" x 2" WOOD POSTS OR STEEL FORM STAKES DRIVEN A MINIMUM OF 12 INCHES INTO THE GROUND. POSTS SHALL BE SPACED A MAXIMUM 6 FEET APART.

A 4 INCH FABRIC TRENCH SHALL BE EXCAVATED ALONG THE UPHILL SIDE OF FILTER BARRIER POSTS. THE BOTTOM EDGE OF THE FABRIC SHALL EXTEND TO AND ACROSS THE BOTTOM OF THE TRENCH. THE TRENCH SHALL BE BACK FILLED TO 4 INCHES ABOVE GROUND AND COMPACTED TO BURY AND SECURE THE BOTTOM OF THE FILTER FABRIC.

CONTRACTOR SHALL MAKE INSPECTIONS WEEKLY DURING THE WET SEASON, MONTHLY DURING THE DRY SEASON AND IMMEDIATELY AFTER EACH RAINFALL TO DETERMINE IF REPAIRS AND SEDIMENT REMOVAL IS REQUIRED. SEDIMENT SHALL BE REMOVED BEFORE IT HAS REACHED ONE THIRD THE HEIGHT OF THE FILTER FABRIC.

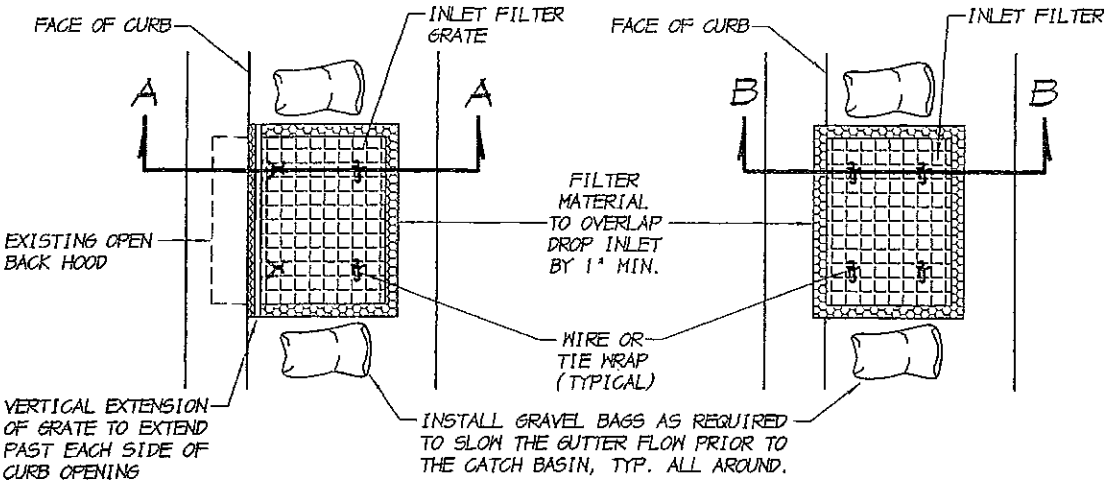
THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE SILT FENCE AS PER THE REQUIREMENTS IN THE CALIFORNIA STORMWATER BMP HANDBOOK (CASQA) CONSTRUCTION FACT SHEET SE-1.

SILT FENCE

NO SCALE

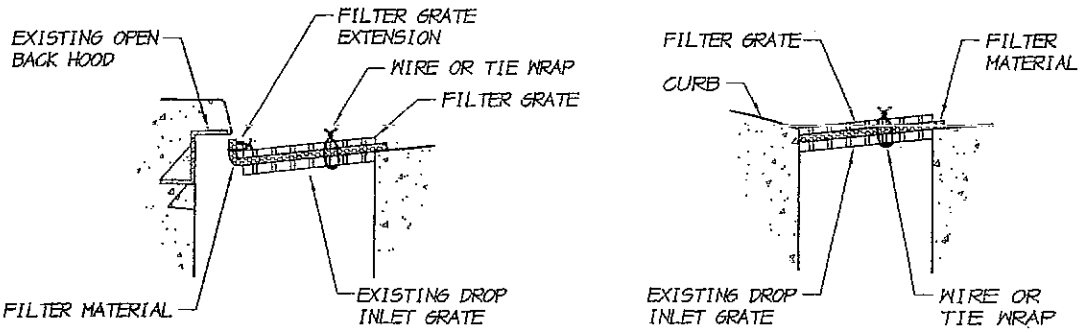
PLACEMENT AT OPEN THROAT DROP INLETS

PLACEMENT AT STD. DROP INLETS AND PARKING LOTS



PLAN VIEW

PLAN VIEW



SECTION "A-A"

SECTION "B-B"

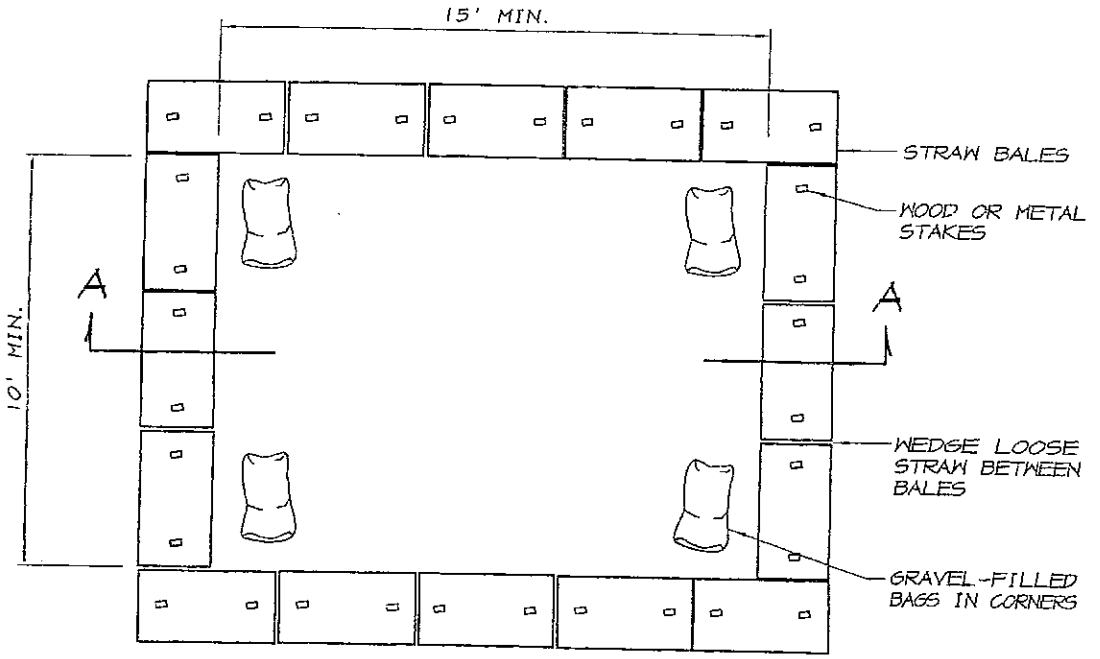
NOTES

1. THE MAXIMUM DRAINAGE AREA PER FILTER SHALL BE NO MORE THAN 1 ACRE.
2. THE FILTER PAD SHALL BE CLEANABLE POLYESTER FIBER AND ACRYLIC LATEX RESIN OR APPROVED EQUAL. THE FILTER PAD SHALL OVERLAP DROP INLET ON ALL SIDES BY A MINIMUM OF 1 INCH.
3. THE FILTER GRATE SHALL BE MADE OF EXPANDED METAL OF REBAR AND BE OF SUFFICIENT STRENGTH TO PREVENT BENDING WHEN DRIVEN OVER. GRATE MATERIAL SHALL NOT EXCEED 0.5" THICK. THE GRATE SHALL HAVE A MINIMUM 60% OPEN AREA. GRATES USED AT TYPE B AND E INLETS SHALL HAVE A VERTICAL EXTENSION TO COVER THE CURB OPENING. THE FILTER GRATE SHALL BE THE SAME SIZE AS THE DROP INLET GRATE.
4. THE FILTER PAD AND GRATE SHALL BE SECURELY ATTACHED TO THE DROP INLET BY WIRE OR TIE-WRAPS.
5. INLET FILTERS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL. REPAIRS AND SEDIMENT AND DEBRIS REMOVAL SHALL BE MADE AS NECESSARY.
6. THE CONTRACTOR SHALL IMPLEMENT INLET PROTECTION AS PER THE REQUIREMENTS IN THE CALIFORNIA STORMWATER BMP HANDBOOK (CASQA) CONSTRUCTION FACT SHEET SE-10.

STORM DRAIN

INLET PROTECTION

NO SCALE



PLAN

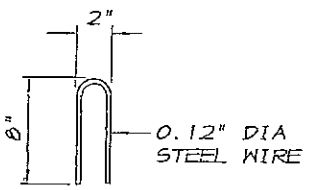
NOTE

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE CONCRETE WASHOUT AS PER THE REQUIREMENTS IN THE CALIFORNIA STORMWATER BMP HANDBOOK (CASQA) CONSTRUCTION FACT SHEET WM-8.

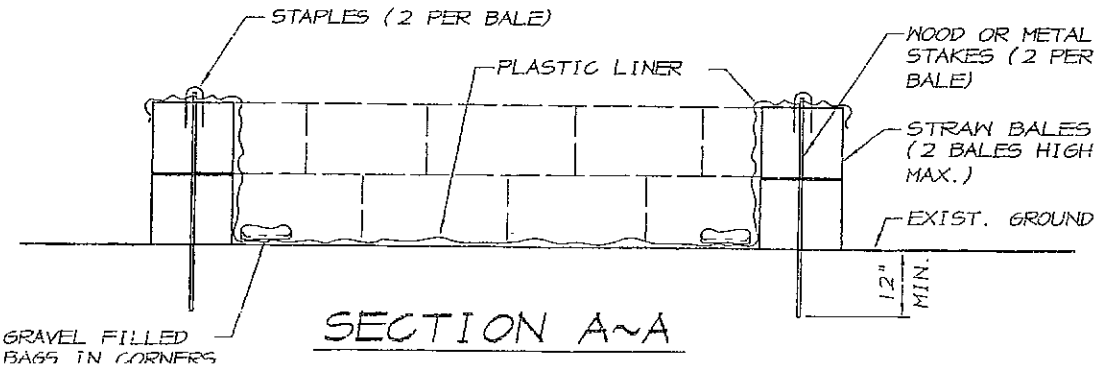
CONCRETE WASTE MANAGEMENT

CONCRETE WASHOUT

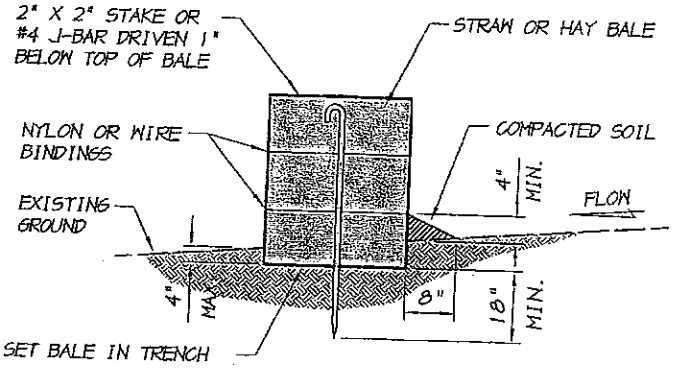
NO SCALE



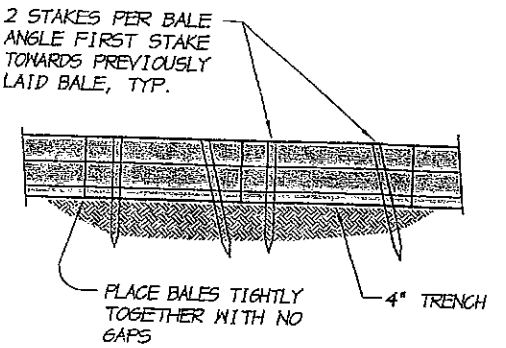
STAPLE DETAIL



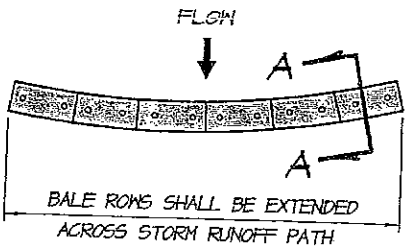
SECTION A~A



SECTION A-A



FRONT VIEW



STRAW BALE ALIGNMENT

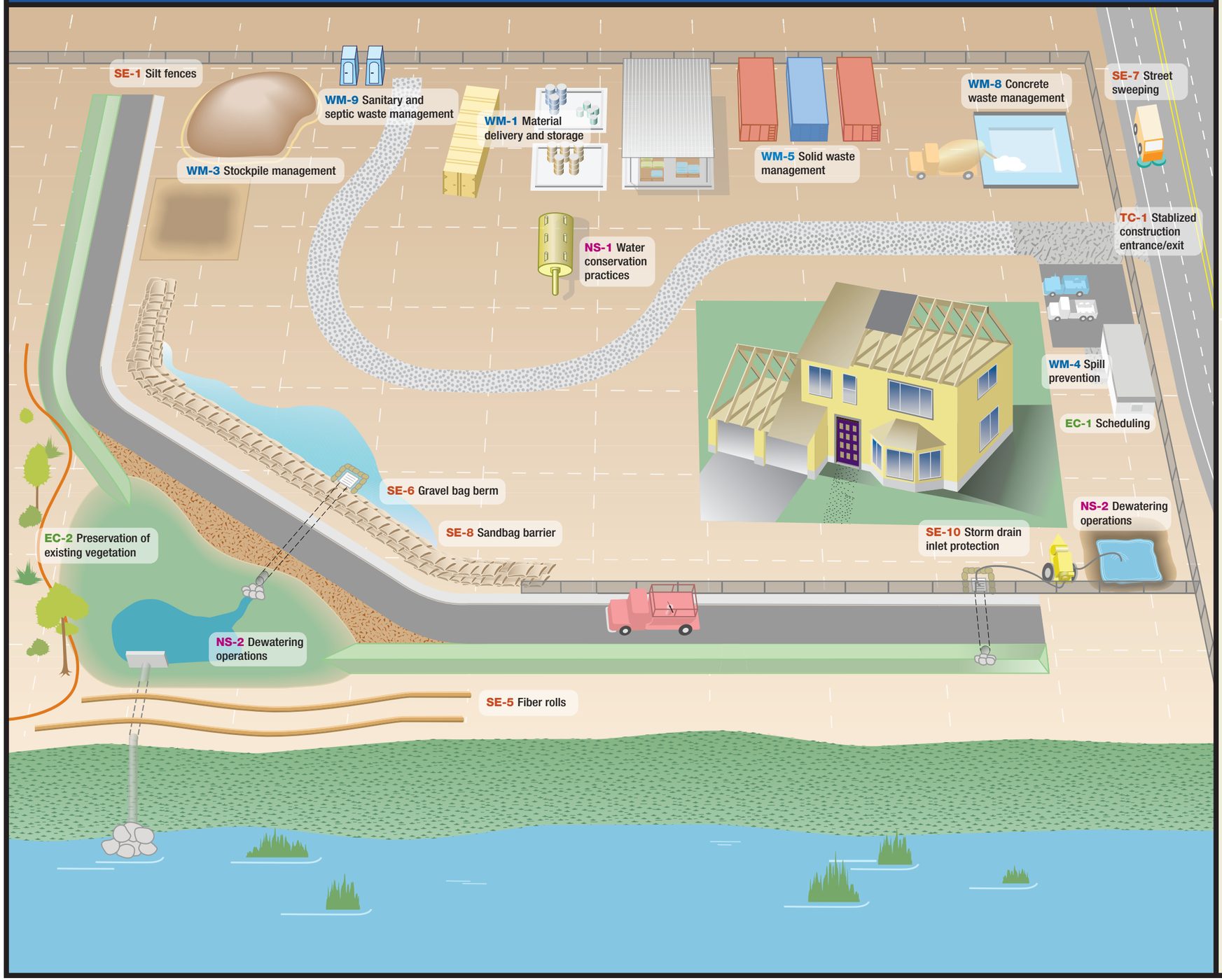
NOTES

1. PLACE BALES IN 4 INCH DEEP TRENCH ALONG THE CONTOUR OF THE SLOPE IN THE SHAPE OF AN ARC WITH THE ENDS UPHILL OF THE ARC'S CENTER. BALES SHALL BE PLACED SO THAT BINDINGS ARE HORIZONTAL.
2. BALES SHALL BE ANCHORED BY TWO 2"X 2" STAKES OR #4 J-BAR DRIVEN THROUGH THE BALE AND IN TO THE GROUND A MINIMUM DEPTH OF 18 INCHES. STAKES OR J-BARS SHALL BE DRIVEN 1 INCH OR MORE BELOW THE TOP OF THE BALE. THE FIRST STAKE OR J-BAR IN EACH BALE SHALL BE DRIVEN AT AN ANGLE TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TIGHTLY ABUTTED TOGETHER.
3. AFTER BALES ARE STAKED IN PLACE, EXCAVATED SOIL SHALL BE BACKFILLED AGAINST THE UPHILL SIDE TO A MINIMUM HEIGHT OF 4 INCHES.
4. CONTRACTOR SHALL INSPECT BALES WEEKLY AND AFTER EACH RAINFALL. REPAIRS SHALL BE MADE AS NECESSARY AND SEDIMENT SHALL BE REMOVED WHEN IT HAS ACCUMULATED TO A DEPTH OF 6 INCHES. BALES SHALL BE REPLACED WHEN THEY HAVE BEEN DAMAGED, COLLAPSED OR DECOMPOSED.
6. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE STRAW BALE BARRIER AS PER THE REQUIREMENTS IN THE CALIFORNIA STORMWATER BMP HANDBOOK (CASQA) CONSTRUCTION FACT SHEET SE-9.

STRAW BALE BARRIER

NO SCALE

Stormwater Program Best Management Practices for all Construction Sites



STOCKTON MUNICIPAL STORM WATER PROGRAM

CITY OF STOCKTON

Clean Water. Clean Delta. Clean Community. Do your part.

Stormwater runoff in the City drains directly into local streams, creeks, and rivers to the Delta. Implementing Best Management Practices (BMPs) to keep construction site runoff clean is an important part of the City's program. This flyer describes BMPs that must be implemented at all construction projects within the City. Additional BMPs may be necessary if a discharge of any material other than clean stormwater leaves the site. Projects subject to the State Construction General Stormwater permit must additionally implement the BMPs required by that permit.

Note that the BMP references used herein (*e.g., EC-1, NS-1*) are from the CASQA Construction Stormwater BMP Handbook (www.casqa.org).

Erosion Control
- **EC-1** Scheduling
- **EC-2** Preservation of existing vegetation

Sediment Control
- **SE-1** Silt fences
- **SE-5** Fiber rolls
- **SE-6** Gravel bags
- **SE-7** Street sweeping
- **SE-8** Sandbag barrier
- **SE-10** Storm drain inlet protection
- **TC-1** Stabilized construction entrance/exit

Non-Stormwater Management
- **NS-1** Water conservation practices
- **NS-2** Dewatering operations

Waste Management
- **WM-1** Material delivery and storage
- **WM-3** Stockpile management
- **WM-4** Spill prevention
- **WM-5** Solid waste management
- **WM-8** Concrete waste management
- **WM-9** Sanitary and septic waste management

BMPs as defined by the EPA describe a type of water pollution control. Stormwater BMPs are techniques, measures, or structural controls used to manage the quantity and improve the quality of stormwater runoff. The goal is to reduce or eliminate the contaminants collected by stormwater before it moves into streams, creeks, and rivers into the Delta. Construction sites inherently have various pollutants of concern, such as sediment, that can damage and impair our local waterways.

City of Stockton Municipal Utilities Department Stormwater Program
2500 Navy Dr., Stockton, CA 95206; (209) 937-8791; www.stocktongov.com

Stormwater Program Best Management Practices for all Construction Sites

BMPs for all Construction Sites Definitions

Erosion Control

EC-1 Scheduling is the development of a written plan that includes sequencing of activities and BMPs taking local climate (e.g., rainfall, wind) and site topography into consideration. A primary objective of effective scheduling is to reduce the area and duration of soil exposed to erosion.

EC-2 Preservation of existing vegetation identifies and protects desirable existing vegetation to provide erosion and sediment control benefits.

Sediment Control

SE-1 Silt fences are woven geotextiles that are trenched, attached to support stakes, and sometimes backed by a strengthening mesh. A silt fence ponds sediment-laden runoff allowing sediment to settle out behind the fence.

SE-5 Fiber rolls are biodegradable material wrapped by netting. Some fiber rolls are weighted with gravel cores. Fiber rolls are typically installed along contours in a trench and staked into place. Fiber rolls perform a variety of erosion control and sediment control functions including slowing flow, reducing slope length, ponding runoff, and releasing the runoff as sheet flow.

SE-6 Gravel bag berms consist of a series of gravel-filled bags placed on a level contour to intercept sheet flows. Gravel bags pond runoff, allowing sediment to settle out, and slowly release runoff as sheet flow.

SE-7 Street sweeping and vacuuming includes using self-propelled and walk-behind equipment to remove sediment from streets, roads, and paved surfaces. Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved surfaces and within the project site on paved surfaces.

SE-8 A **sandbag barrier** is a series of sand-filled bags placed on a level contour to intercept or to divert sheet flows. Sandbag barriers can be used to pond runoff allowing sediment to settle out. Note that sandbags cannot be used near storm drain inlets or in waterways.

SE-10 Storm drain inlet protection consists of a sediment filter or ponding area around or upstream of a storm drain, drop inlet or curb inlet.

TC-1 A **stabilized construction entrance/exit** is a defined access point that is stabilized to reduce the tracking of mud and dirt onto public roads. The access point can be stabilized with a rumble strip or a layer of appropriately sized rock underlain with a geotextile fabric.

Non-Stormwater Management

NS-1 Water conservation practices use water during the construction in a manner that prevents erosion and the transport of pollutants offsite. BMPs include: limiting water use; repairing water leaks; limiting the contact of water with construction materials; and containing and reusing water or soaking water into the ground.

NS-2 Dewatering operations manage the discharge of pollutants (primarily sediment) when contained stormwater must be removed from the site. These practices employ BMPs that trap sediment or cause it to settle out before discharge. Dewatering may require a separate NPDES permit from the Regional Board.

Waste Management

WM-1 Material delivery and storage practices include: minimizing the storage of materials onsite; storing materials in watertight containers; enclosed areas (e.g., sheds); or installing secondary containment (e.g., double-lined tank); and conducting regular inspections of stored materials.

WM-3 Stockpile management practices prevent air and stormwater pollution from stockpiles (e.g., soil, sand, paving materials, and pressure treated wood) by properly locating stockpiles, using perimeter barriers, and covering stockpiles.

WM-4 Spill prevention reduces the discharge of pollutants from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, and properly disposing of spill materials.

WM-5 Solid waste management prevents the discharge of pollutants by providing appropriate, designated waste collection areas and containers, arranging for regular waste collection, and proper disposal. Note: All solid waste must be contained and covered daily.

WM-8 Concrete waste management is conducting washout in a designated, contained area and properly disposing of wastes. Containment areas need to be lined or otherwise designed not to release liquids onto or into the ground. Workers need be informed about proper washout, and the washout must be regularly inspected.

WM-9 Sanitary and septic waste management is achieved by providing convenient, appropriately placed, well-maintained facilities, and arranging for regular service and disposal.

Special Provisions

Asbestos Removal / Work: Work with asbestos related materials requires special handling and containment practices under Title 8 of California Code of Regulations.

Lead-Based Paint Renovation, Removal and Painting Program Rule: The RRP Rule requires that contractors that work on pre-1978 dwellings and child-occupied facilities be trained and certified to use lead-safe work practices.

Documentation: In order to ensure compliance be sure to document all routine BMP site inspections, BMP maintenance and cleaning activities in a log that must be available at all times on site for review by agency staff.

Minimize Grading: If grading/removal of vegetation exceed that detailed in the Permit, then the Permit must be updated.

Authority

The City's authority to require the implementation of the control measures/BMPs covered herein is derived from federal, state, and local regulations that include:

- **Clean Water Act:** www2.epa.gov/laws-regulations/summary-clean-water-act
- **NPDES Programs:** http://www.waterboards.ca.gov/water_issues/programs/npdes/
- **CA Fish and Wildlife Code:** http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=fgc
- **City of Stockton Municipal Code:** http://qcode.us/codes/stockton/
- **CalGreen Building Codes:** www.bsc.ca.gov/Home/CALGreen.aspx

Useful Links

For construction site stormwater BMPs:

- **EPA NPDES Storm Water Program:** www.epa.gov/region09/water/npdes/stormwater.html
- **EPA National Menu of Stormwater BMPs:** http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm
- **CASQA Stormwater BMP Handbooks:** www.casqa.org
- **Caltrans Water Pollution Control Manuals:** www.dot.ca.gov/hq/construc/stormwater
- **Stormwater Manager's Resource Center:** www.stormwatercenter.net

Questions or to Report

- **Spills on Construction Sites:** For spills or illicit discharges at a construction site, the superintendent/site owner is required to take immediate action to contain the spill, and stop the flow into the City's storm drain system.
- **Spills in the Community (non-hazardous, non-sewage related):** For spills of any amount that enter the storm drain system (e.g. the gutter, street, storm drain) and/or any surface water, notification must be made as soon as possible after the discharge and within 24 hours to the City's Stormwater hotline at (209) 937-8341.
- **Sewage (known or suspected):** To report a discharge or spill of sewage immediately call the City of Stockton's Wastewater Collection Department at (209) 937-8341, 24 hours a day, 7 days a week.
- **Solid Waste:** For issues related to garbage call the County of San Joaquin County Solid Waste Division at 1-800-449-4840.
- **Hazardous Waste:** To report a spill or other significant discharge of hazardous materials, immediately dial 9-1-1.

For more information contact:

- Call the City of Stockton's Stormwater Program at (209) 937-8791 or visit: www.stocktongov.com
- For inspection related information please call the Stormwater Inspector at (209) 937-8282 or (209) 993-1449

The information provided herein is simply a general overview intended to help guide builders and contractors in meeting stormwater regulatory compliance. It is recommended that prior to starting any construction project that a qualified professional be consulted. If you have suggestions contact us at (209) 937-8791.

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STOCKTON MUNICIPAL STORM WATER PROGRAM
CITY OF STOCKTON
Clean Water. Clean Delta. Clean Community. Do your part.