



344 West Main Street
Marshall, MN 56258-1313
Phone: 507-537-6773
Fax: 507-537-6830

RESIDENTIAL EROSION & SEDIMENT CONTROL STANDARDS

PUBLIC WORKS DEPARTMENT

MARCH 23, 2015

INTRODUCTION

This booklet contains standard plans and procedures sufficient for typical residential building construction. It is not intended to address all circumstances.

Since our streets and storm sewers are conduits for draining stormwater it is important to keep sediment and debris on the lots rather than tracked or eroded onto streets.

Our primary objective is to eliminate or reduce the amount of sediments and other pollutants leaving a residential home construction site. To accomplish this goal, steps and procedures called Best Management Practices (BMPs) are undertaken. When properly implemented, these erosion and sediment controls are very effective.

The subdivision in which you are building may already have an overall Stormwater Pollution Prevention Plan (SWPPP) and Minnesota Pollution Control Agency (MPCA) permit. That permit remains in effect until all the lots are developed. BMPs related to that permit and plan are in place and should not be removed or compromised. You will need to submit a Notice of Termination/Permit Modification form to the MPCA if you are not the subdivision developer, or working for the subdivision developer.

The grading/erosion control permit holder and the building permit holder are responsible for ensuring that adequate BMPs are in place on the individual lot, catch basins and functioning until the project is completed. A project is defined as completed only when 70 percent of the lot has been re-vegetated. When terminating your MPCA permit you must supply the new property owner with the MPCA New Homeowner Fact Sheet. The MPCA New Homeowner Fact Sheet is available at City's Public Works Department at 344 West Main Street Marshall, MN 56258.

There will be situations where side or rear lot line protection may not be required. For example two houses under construction on adjacent lots where the surface drainage runs away from the other lot. Given this scenario, it is not the intention to require perimeter protection between the two lots.

When reviewing the standards presented in this publication and considering implementation on your construction project, keep in mind the intent of the standard is "to prevent erosion and to minimize sediments from leaving the lot." Failure to do so can result in damage to adjacent property, damage to the City's storm sewer system, as well as contributing to the pollution of stormwater ponds and the Redwood River.

If any questions or concerns arise, please feel free to contact the Assistant City Engineer at 507-537-6773. We are committed to helping all of those involved with the implementation of these construction procedures.

8. **Maintenance** — The grading/erosion control permit holder (also the building permit holder) is responsible for ensuring that adequate BMPs are in place and functioning until the project is completed.
9. **Final Grading** — BMP's may be removed to complete final lot grading. However, if the lot is to remain without vegetation for fourteen (7) days, per MPCA general construction permit, the

BEST MANAGEMENT PRACTICES continued

BMP's must remain in place and final grading should be delayed to coincide with seeding or sodding. During final grading, back dragging soil onto the street must be avoided. Any soil placed on the street must be removed and the street swept immediately.

10. **Seeding or Sodding** — The right-of-way (boulevard) along the curb line must receive one of the following within 7 days after final grading has been completed:
 - Sod
 - Seed with erosion mat
 - Seed with sprayed fiber mulch
 - Seed with anchored straw mulch

CONTRACTOR RESPONSIBILITIES

1. The grading/erosion control permit holder (also the building permit holder) is responsible for ensuring that adequate BMPs are in place and functioning until the project is completed.
2. Periodic inspection shall be at least once a week or more frequently following rainfalls to ensure that erosion and sediment control measures are functioning as designed. In addition to standard periodic inspections, city ordinance requires inspections that comply with Minnesota Pollution Control Agency (MPCA) permits. MPCA currently requires that an inspection be conducted after every rain event of 0.5 inches or more within a 24 hour period. Any problems noted during these inspections should be corrected immediately. A log of the inspections and remedial measures undertaken must be kept for three (3) years after the project is terminated.

Construction Site Storm Water Inspection Log - Inspect EVERY 7 Days or after Every 0.5 in or greater rain event.	Type of Inspection		Date of Inspection			Inspection Interval (Record All Events Greater Than 0.5 in)	Time of Inspection			Areas Inspected								Project: (All areas not actively being worked MUST be stabilized within 7 days) Findings, Corrective Actions and Comments:
	Inspection Initials	Inspection Weekly	Within 7 Days After A Rain Event	Month	Day		Year	Time	AM	PM	All Erosion & Sediment Control BMPs	Silt Fence	Temporary Sedimentation Basins	Drainage Ditches & Other Waters of the State	Construction Site Emissions	Pollution Prevention Measures (Spill Kits, etc.)		

INSPECTIONS — CITY

1. The City inspector will inspect erosion and sediment control measures. Inspections will ensure that appropriate erosion and sediment control measures are in place and properly installed.
2. As noted in the previous section on BMP's Installation Sequencing, there are a number of items to check. This inspection will concentrate on the following:
 - Perimeter Controls
 - Inlet Protection
 - Construction Entrance
 - Tracking
 - Debris/trash Control
 - Concrete Washout Area
 - Dewatering
 - Hazardous Material Storage

If BMP's are not installed, or are improperly installed, a Notice of Violation/Order to Comply will be given to the permit holder. If the violations are not repaired within the allowed time the inspector may issue a stop work order until the sediments have been removed and proper BMP's are established.

CITY OF HUTCHINSON STORMWATER INSPECTION NOTICE

Project Name: _____

Location: _____

Owner: _____ Ph: _____

Contractor: _____ Ph: _____

Date & Time of Insp: _____

Permit No.: _____ Weather: _____

Violations: (check all that apply)

<input type="checkbox"/> Pond side slopes missing cover	<input type="checkbox"/> Normal wetted perimeter of ditch not stable
<input type="checkbox"/> Exposed positive slopes not stable	<input type="checkbox"/> Energy dissipation missing at outlets
<input type="checkbox"/> Inlet protection missing	<input type="checkbox"/> Failure to control sediment discharges
<input type="checkbox"/> Inlet protection not functional	<input type="checkbox"/> Perimeter controls missing downgradient
<input type="checkbox"/> Silt fence missing or needs repair	<input type="checkbox"/> Sediment tracking on paved surfaces at exits
<input type="checkbox"/> Rock entrance missing	<input type="checkbox"/> SWPPP not on site
<input type="checkbox"/> Site inspection incomplete	<input type="checkbox"/> Sediment deposits not removed
<input type="checkbox"/> Other: _____	

Comments: _____

☐ Work satisfactory: Proceed ☐ Photos Taken

☐ Correct work & proceed

☐ Correct work, call for reinspection

☐ Correct violations within _____ hours. Inspector will return.

☐ STOP WORK posted. Call inspector.

☐ Inspection required. Call to arrange access.

Owner/Contractor on site _____

Date inspection completed: _____

City of Hutchinson Inspector: _____

For information or to schedule an inspection call: 320-234-5682

Gold Copy/ Site Notice *White Copy/ Inspector's File*

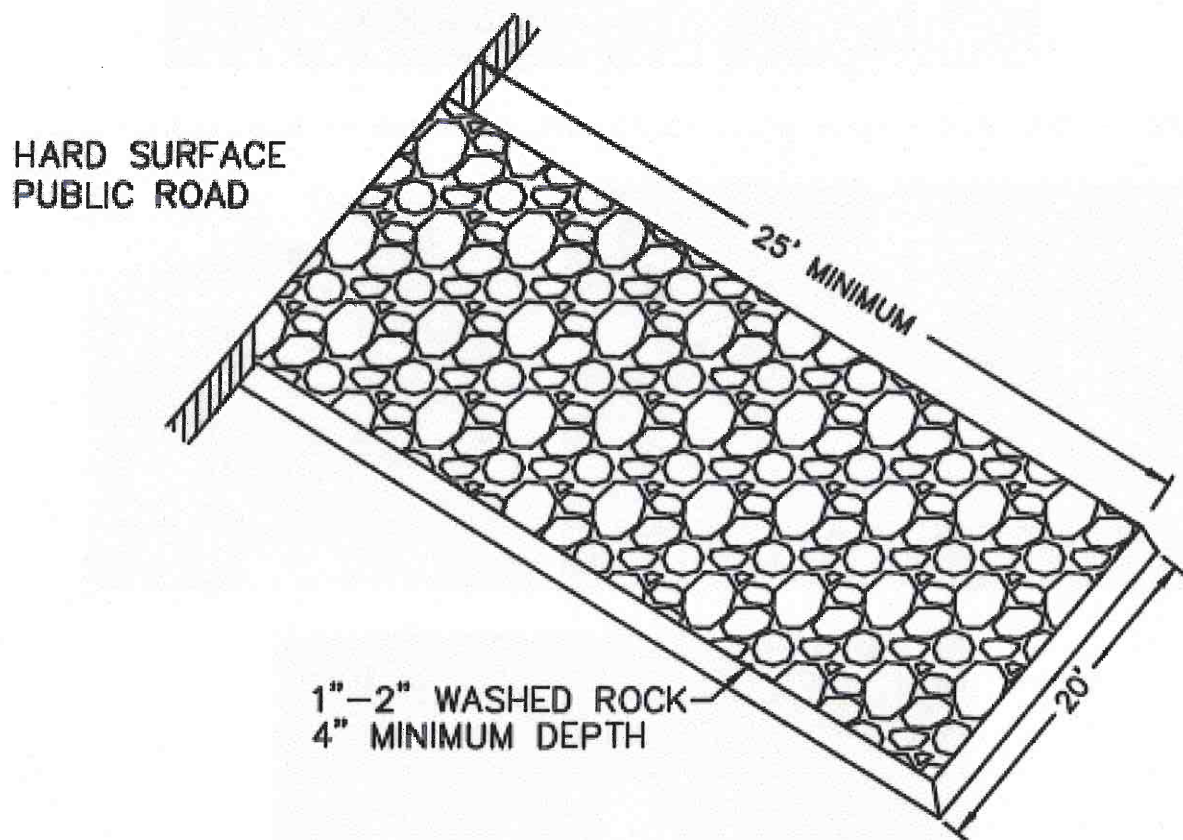
3. Site inspections shall be done weekly by the permittee (general contractor, developer or the developer's designates representative), and within twenty four (24) hours after every storm event of 0.5 inches or greater.
4. There will be instances that fall outside the norms. City staff will be available to discuss erosion and sediment control measures for any lot and the sequencing for installation. If you have questions or concerns call (507)537-6773 to speak with the Assistant City Engineer.

TEMPORARY CONSTRUCTION ENTRANCE

Each building site must have a designated construction entrance. The future driveway is a good place for the construction entrance. Insist that all trades, delivery and supply companies only use the approved entrance.

- Construction entrances must have a minimum depth of four (4) inches.
- The construction entrance should consist of gravel, wood chips, crushed concrete, crushed rock, class 5 or a tracking mat.
- Should access block drainage from the road, a pipe must be installed along the curb to allow water to pass to the storm drain.
- Any sediment tracked on a paved surface from the construction site must be removed by the end of the day.
- Vehicles should stay off the construction site during wet conditions.

ROCK CONSTRUCTION ENTRANCE



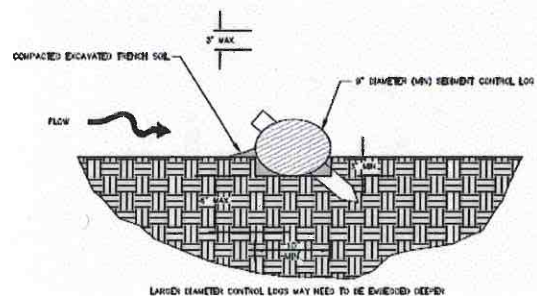
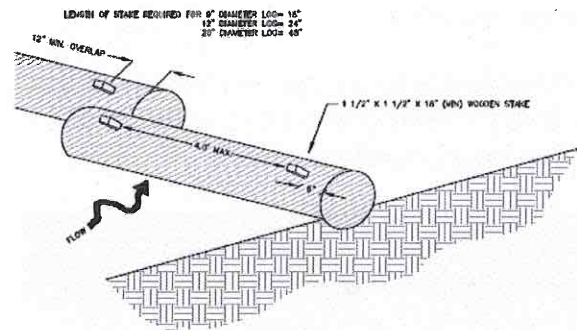
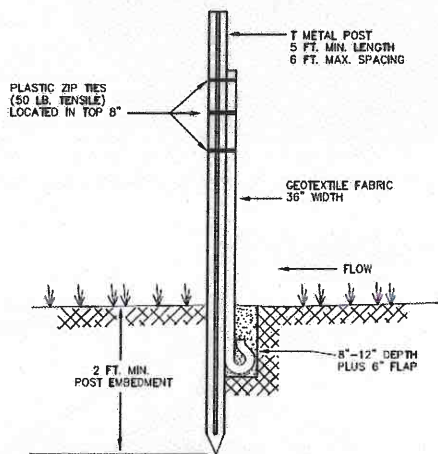
SILT FENCE AND SEDIMENT LOGS



Silt fence, as shown in the detail drawings, must be installed properly to be effective. That means the bottom of the fence must be installed in a 6 inch deep trench and anchored with soil.

SILT FENCE — MACHINE SLICED

NOTE: PRE-ASSEMBLED SILT FENCE MAY BE SUBSTITUTED WITH ENGINEER'S APPROVAL



Sediment logs (also called bio-rolls or wattles) are made of straw or wood fiber bound within a net to form a tube.

CURB AND INLET PROTECTION continued

The photos on this page show things that are not allowed. The purpose of the grass filter strip has been compromised in each instance.

If the grass filter strip becomes damaged or is removed by such activity, then silt fence or sediment logs must be installed to serve the purpose of filtering sediments before they reach the curb line.

Park vehicles on the street or on the private lot. Do not park trailers, cars and trucks on the grass filter strips.

Building materials including sand, clay, black dirt and gravel should never be stored on the grass filter strips or in the city street. Building material storage belongs on the private lot, not in the right-of-way.

When unloading and loading equipment use the construction

entrance.



CONCRETE WASHOUT AREA

The grading/erosion control permit holder is responsible for keeping sediments from leaving the construction site. This includes the actions of sub-contractors, suppliers and delivery firms visiting the site.

- If a regional washout area is not provided, than the site **MUST** have a constructed washout.
- The washout material and water must be contained, meaning that none of the water can leave the washout area.
- Do not use boulevards as washout areas.
- Washout areas must be lined or compacted per MPCA NPDES construction permit.
- The washout area should be properly marked.
- The permit holder is responsible for making sure that the suppliers know where the washout area is located.
- The washout area must be a minimum fifteen (15) feet away from any storm inlet.
- Washout area must be inspected once a week, and within 24 hours after a rain event of 0.5 inches or more.
- Washout must be emptied when 80% of it's capacity is used.



In the instance of a mechanical breakdown, where a truck must be cleaned on the street, all spilled material shall be shoveled off the street. Simply spraying the spill with water will send the pollutants into the storm inlet.

To prevent the potential need for cleanout on the street, whenever possible, the truck should setup on the lot rather than the street.

The photos below show an illegal discharge of concrete in the right of way.

THIS IS NOT ACCEPTABLE.



WINTER STABILIZATION

The permit holder is responsible for erosion control devices year round until the permit is closed. To prevent sediment and other pollutants from leaving the construction site during the winter season it is recommended that the following are considered.

- Halt land disturbing activities, until warm weather returns. Sequence work such that all land disturbing activities take place prior to freeze up.
- Stabilize all exposed soil surfaces with vegetation, mulch, or erosion control blankets before the ground freezes. Seeding should occur prior to October 1st to provide time for germination and plant growth. Sod can be placed at any time and provides final stabilization.
- Provide a construction entrance that can be accessed throughout the winter. Stockpile gravel on the construction site to maintain the construction entrance.
- If new land disturbing activities occur, then stabilization methods must be put into place immediately.



Inlet Protection

Although inlet protection devices are an effective form of sediment control, they can pose problems in the winter time. Inlet protection must be removed by November 1st of each year. These devices may need to be reinstalled before work commences in the spring or no later than April 1st.

Perimeter Control Devices

If perimeter control devices are left in during the winter there is a chance of them getting destroyed by a snow plow. Moving the perimeter control device back two (2) feet, before winter and marking them with a four (4) foot orange stake will help prevent City plows from catching and destroying the BMP.

NOTE:

Spring snowmelt is considered stormwater runoff and is required to be treated.

GOOD HOUSEKEEPING continued

SIGNIFICANT MATERIALS INVENTORY				
Material/Chemical	Physical Description	Stormwater Pollutants	Location	Process For Containment
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquids, powders, pellets or grains	Chlorinated hydrocarbons, organophosphates, carbamates and arsenic	Herbicides used for noxious weed control	Certified applicator
Permanent Seeding Fertilizer	Liquid or solid grains, nitrogen and phosphorus	Nitrogen, phosphorus, organic substrate	Permanent cover - newly seeded areas	Organic base, slow release forms only, tied up in compost
Cleaning Solvents	Colorless, blue or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No equipment cleaning allowed in project limits	Tarps, monitor weather for rain and wind
Wastewater from construction	Equipment washing rinse water	Water soil, oil, grease and solids	Equipment washing not allowed in project limits	N/A
Asphalt	Black solid	Oil, petroleum distillates	Streets, roofing	Excess material to be removed for project limits
Concrete	White solid	Limestone, sand	Railroad tracks, culverts, curb and gutter, driveways, home foundations, masonry	Designated wash areas or complete haul removal
Glue, adhesives	White or yellow liquid	Polymers, epoxies	Expansion joints, home construction	Empty container management
Gypsum board	White solid or powder	Calcium carbonate	Home construction	Good housekeeping during construction
Joint compound, wall and ceiling texture	White-grey paste or powder	Silica, calcium carbonate	Home construction	Good housekeeping during construction
Paints	Various colored liquids	Metal oxides, Stoddard solvent, talc calcium carbonate, arsenic	Roadway striping, home construction	Empty container management
Curing compounds	Creamy white liquid	Naphtha	Curb and gutter	Follow manufacturers recommendations
Wood preservatives	Clear amber or dark brown liquids	Stoddard solvent, petroleum distillates, arsenic, copper, chromium	Timber pads, railroad tracks, home construction	Oil absorbing diapers, trained personnel
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil	Random leaks broken hoses	Oil absorbing diapers, trained personnel
Gasoline	Colorless pale brown or pink liquids	Petroleum hydrocarbon, benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment	Oil absorbing diapers, trained personnel
Diesel fuel	Clear blue-green to yellow liquids	Petroleum distillates, oil & grease, naphthalene, xylene	Secondary containment	Oil absorbing diapers, trained personnel
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates	Secondary containment	Oil absorbing diapers, trained personnel
Anti-freeze/coolant	Clear green/yellow liquids	Ethylene glycol, propylene glycol	Random leaks and broken hoses	Trained personnel
Soil erosion	Solid particles	Soil, sediment	Project limits	Prevention and Stabilization measures within prescribed periods

DRAINAGE/LAND DISTURBANCE PERMIT APPLICATION Permit No. _____

Date: _____

City of Marshall
Public Works Department
344 West Main Street
Marshall, MN 56258
Phone: 507-537-6773
Fax: 507-537-6830

Office Use Only

City PID: _____ Lot: _____ Block: _____
Addition: _____ Zone D. _____

Inspections Required

Drainage Connection ☐

BMP Installation ☐

Final ☐

Census No. _____ **Total Fees** \$ _____

Check appropriate box: ☐ City Utility/Drainage Connection - Varies ☐ Greater than 2,000 sq. ft. and Less than 5,000 sq. ft. - \$35.00
☐ 5,000 sq. ft. to one (1) acre - \$100.00 ☐ One (1) to five (5) acres - \$200.00 ☐ Greater than five (5) acres - \$300.00

Project Street Address: _____ Work Phone: _____

Owner: _____ Cell Phone: _____

Address: _____ Email: _____

Contractor: _____ Business Ph: _____

Address: _____ Cell Phone: _____

Erosion Control Site Plan attached ☐ Yes ☐ No NPDES CSW Permit Number: _____

Is site exempt from NPDES permit ☐ Yes ☐ No if yes, why: _____

Comments: _____

Site Plan: Attach a site plan showing location of disturbed areas, drainage arrows indicating flow direction and best management practices used to prevent contaminated runoff from leaving site. Also include narrative descriptions of any site specific considerations including type of final stabilization, inlet protection, perimeter protection, concrete washout, etc.

Important: If any gas utility, electric utility, telecommunications, water or sewer service utilities are impacted by your proposed construction activities please contact the appropriate utility company for assistance.

*Minnesota Statute Chapter 216D requires that the EXCAVATOR must call **GOPHER STATE ONE-CALL** at 1-800-252-1166 at least 48 hours before beginning excavation. Hand digging is required when excavating within two feet of the markings.*

The undersigned acknowledges that he/she has read this application and the above information is correct and accurate. Applicant also understands by signing this application that he/she could be held responsible as representative of this project for any violation of compliance with all applicable laws and ordinances of the City of Marshall including survey/plan review notes pertaining to setbacks, easements and property lines.

This permit becomes null and void if work or construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced.

Date: _____

Signature of Applicant

This is an application only. Permit will be issued after City approval and payment of fees.

Date: _____

Authorized Approval Signature

Approval Date



Drainage and Stormwater Plan Review Checklist

Engineering - Stormwater

Phone # 507-537-6773

Date of Last Revision: March 3, 2015

Site Plan Review

The purpose of this checklist is to provide for uniform, consistent review of plans submitted to the Engineering Division for approval. In order to expedite review; owners, consultants, and/or contractors are encouraged to use this checklist as a guide in preparing plans. Incomplete plans will be returned for revision.

The City reviews, comments upon, and approves plans for the limited administrative purpose of determining whether there is reasonable assurance that site drainage is directed to appropriate stormwater facilities and does not adversely impact these facilities. This approval does not in any way relieve owners of responsibility, nor shall it make the City responsible, for any technical inadequacy in the proposed plan or improvements made. Although City staff attempts to ensure that site drainage does not adversely impact the proposed development site and/or adjacent sites, approval of a drainage plan does not guarantee that negative impacts will not occur.

I. Site Description

A. Project:					
B. Location (address):					
C. Project Contact:					
Check one:	Owner:		Consultant:		Contractor:
Phone:					
Fax:					
e-mail:					

Total site area, acres:			
Site area disturbed by construction, acres:			See Note 1
Existing impervious area, acres:			
Proposed impervious area, acres:			See Note 2
MPCA permit required (check one):	Yes		No
Applicant notified that they need and MPCA Permit.	Yes		Date

Note 1: MPCA General Permit No. MN R100001 (stormwater associated with construction activity) is required if construction involves:

- clearing, grading, and/or excavation that disturbs one (1) acre or more, or
- clearing grading and/or excavation that disturbs less than one (1) acre but is part of a common plan of development which disturbs one (1) acre or more.

Note 2: Permanent BMPs are required by MPCA General Permit No. MN R100001 (stormwater associated with construction activity) if construction involves replacement of vegetation and/or pervious area with a total of one (1) or more acres of cumulative new impervious area. A water quality volume of 1" of runoff from the new impervious surfaces must be treated.

II. Drainage Plan Requirements - All Sites

Site elevations, as indicated below, must be provided. Elevations may be relative to an existing datum or may be relative to an arbitrary datum (e.g. low point in the system set to zero elevation). Elevations of existing stormwater system components (e.g. CBs) can be obtained from the Engineering Division. Site drainage shall not be directed onto adjacent property without written consent of the owner and/or an agreement between property owners. Sufficient information must be provided to demonstrate no adverse impact to adjacent property.

IV. Erosion/Sediment Control Plan Review

Erosion/Sediment Control Plan Review Stormwater Pollution Prevention Plan	Approved	Approved per Additional Comments (see below)	Provide Additional Information
A. Construction Entrance			
B. Inlet Protection			
C. Bio-rolls or Rock Logs			
D. Silt Fence			
E. Concrete Washout Area			
F. Temporary Sediment Basin			
G. Haul Routes			
H. Construction Notes on Sweeping			
I. Tracking Notes			
J. Dewatering Note			
K. Other			
Stormwater Permits			
A. City of Marshall Erosion/Sediment Control Permit			
B. MPCA General Stormwater Permit			

Comments:

Construction Stormwater Inspection Checklist

Date:	Time:	Inspector:
Site Address:		

Sediment Control	Yes	No	N/A
Perimeter control installed on all down gradient perimeters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perimeter control trenched in where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perimeter control maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Min 10 ft. grass buffer strip maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inlet protection installed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inlet protection maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction entrance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle tracking? Must be removed by end of day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do stockpiles have controls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Erosion Control	Yes	No	N/A
Has soil been stabilized within 14 days? (7 days were applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ditches stabilized within 200' back from point of discharge within 24 hours? (Not mulch)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are appropriated BMPs onsite to protect inlets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do pipe outlets have energy dissipation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other	Yes	No	N/A
Is concrete washout area completely contained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous materials properly sealed and stored?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction debris (trash) properly disposed of?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does on-site fueling only occur in contained area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using appropriate dewatering methods?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inspections logs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments/Observations: