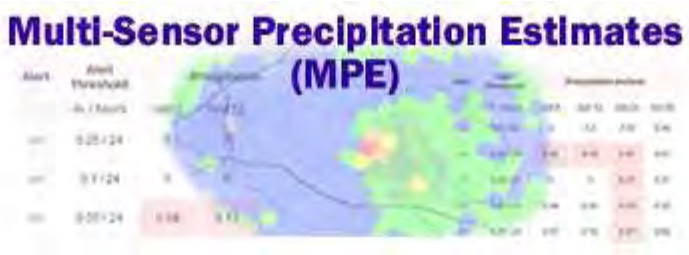
NPDES Requirements



National Pollutant Discharge Elimination System

- EPA's NPDES program controls the discharges of pollutants from point sources including stormwater from construction sites
- NC's Division of Water Quality (DWQ) administers our state's NPDES program
- DOT has an individual permit to discharge stormwater from roadway drainage systems, construction activities, borrow pits, and industrial sites; NCG250.
- DOT's stormwater discharges from construction activities are additionally governed by applicable requirements in NCG01

National Pollutant Discharge Elimination System

- 2006 NCG01 was enacted
- 2007 DOT initiated NPDES reporting for construction sites
- 2008 DWQ issued guidance on compliance with NCG01 and DOT & DWQ began discussions to refine applicable requirements
- 2009 DOT & DWQ begin training to ensure NPDES compliance on construction activities

Definitions

- Stormwater Discharge Outfall (SDO)
  - Defined as a point of stormwater discharge to waters of the State (streams, wetlands, open water). An outfall is not restricted to pipes and includes any type of outlet or any discharge from a BMP that discharges to waters of the State.

Definitions

- 303(d) listed stream
  - Streams listed on the 303(d) impaired waters list are required to be inspected twice a week. This requirement applies only to streams whose impairment is listed for turbidity. Unnamed tributaries draining to the impaired stream reach are assumed to carry the 303(d) listing as well.

Link to the construction list of impaired streams.

http://h2o.enr.state.nc.us/su/construction303d/

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

June 24, 2010

MEMORANDUM TO: Division Engineers
Anthony Roper, PE, Deputy Secretary
Patrick Simmons, Rail Division Director
Steve DeWitt, PE, Turnpike Authority Chief Engineer

FROM: J. G. Nance, PE
Chief Engineer – Operations

SUBJECT: NPDES Stormwater Inspections

Earlier this year, the Division of Water Quality (DWQ) reissued the NCG010000 NPDES General Permit that regulates stormwater discharges from NCDOT's construction activities and is attached for your reference. DWQ has recently revised the attached guidance for complying with the applicable requirements of this permit. Revisions in the permit that impact our operations are minimal.

The department has updated its Inspection Record, see attached, that includes minor edits to comply with the revised permit. The record was modified to streamline the documentation process. A weekly cover sheet has been developed to record rainfall and grading activities. The responsible individual can then utilize the balance of the inspection record to document stormwater discharge outfall information and erosion and sedimentation control corrective actions. Contracted jobs may utilize the Substitute Form 1675 to document NPDES related pay items. The NPDES Inspection Record should be completed and signed by a certified Erosion and Sediment Control/Stormwater Level II individual.

Please begin implementation of the revised NPDES permit requirements and Inspection Record on July 1, 2010, for all projects with land disturbance exceeding one acre regardless of the let date or date construction commenced.

in the Roadside Environmental Unit at (919) 733-2920.

I appreciate the effort made by you and your staff to ensure compliance with the many components of our NPDES Stormwater Permits.

JGN:tms

Attachments

cc: Terry Gibson, PE, State Highway Administrator
Ricky Greene, Jr., PE, Director of Field Support
Ron Hancock, PE, State Construction Engineer
Don Lee, CPESC, State Roadside Environmental
Division Construction Engineers
Division Maintenance Engineers
Division Operations Engineers

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
CHIEF ENGINEER'S OFFICE
1537 MAIL SERVICE CENTER
RALEIGH NC 27699-1537

TELEPHONE: 919-733-7621
FAX: 919-733-4141

WEBSITE: WWW.NCDOT.GOV

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Construction Stormwater Monitoring

- All projects with 1 acre or greater of exposed erodible area must follow the NPDES requirements/form (Exceptions noted next slide)

- Waste/borrow sites not associated with a project that are 1 acre or greater of exposed erodible area must follow the NPDES requirements/form

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

September 10, 2010

MEMORANDUM TO: Division Engineers

FROM: J. G. Nance, PE
Chief Engineer – Operations

SUBJECT: Erosion and Sediment Control Plans/NPDES Stormwater Inspections for Contract Bridge and Bridge Management Projects

The Department's construction and maintenance activities at bridge and culvert sites require a high level of protection for the adjacent natural resources. With our accelerated bridge replacement efforts, detailed emphasis will be needed to plan and minimize impacts from sediment pollution at these jurisdictional sites.

The Department always develops erosion and sediment control for contracted bridge and culvert projects even though requirements for these plans are not triggered until one acre of land [illegible] and culvert projects and for bridge management projects as noted above, regardless of disturbed acreage.

Please begin implementation of this initiative on November 1, 2010.

Brief refresher training sessions are being scheduled for construction, maintenance and bridge management personnel for completion by the above date.

JGN/tms

cc: Terry Gibson, PE, State Highway Administrator
Ricky Greene, Jr., PE, Director of Field Support
Lacy Love, PE, Director of Asset Management
Ron Hancock, PE, State Construction Engineer
Don Lee, CPESC, State Roadside Environmental
Dan Holderman, PE, State Bridge Management Engineer

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
CHIEF ENGINEER'S OFFICE
1537 MAIL SERVICE CENTER
RALEIGH NC 27699-1537

TELEPHONE: 919-733-7621
FAX: 919-733-4141
WEBSITE: WWW.NCDOT.GOV

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

New Construction Stormwater Monitoring Initiatives for High Risk Sites

- All contracted bridge or culvert projects at jurisdictional waters that have an erosion control plan, regardless of size of disturbance, must fill out the NPDES form

- All bridge management projects at jurisdictional waters that have an erosion control plan, regardless of size of disturbance, must fill out the NPDES form

- DOT requires erosion control plans on each of the above type projects

Construction Stormwater Monitoring

- **All SDO's** and **all E&SC devices** shall be inspected once every seven calendar days
- Twice every seven calendar days for 303(d) turbidity listed streams
- Within 24 hrs. after a 0.5" rainfall **per 24 hr. period**
- **The worst will be assumed if there are blank spaces on the form!**

NPDES Inspection Form

- Cover Page
- Stormwater Discharge Outfalls (SDOs)
- Erosion & Sedimentation Control Devices
- Response for Erosion Control

Cover Page

- Project Information
- Record rainfall data daily
- Place a check for the current project phases
- Contractor and NCDOT personnel signatures

INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000
SELF-INSPECTION RECORD FOR LAND DISTURBING ACTIVITIES PER § 113A-54.1
RESPONSE FOR EROSION CONTROL FORM 1675

PROJECT LOCATION _____ **TIP #** _____
LEVEL II SUPERVISOR _____ **COUNTY** _____
CONTRACTOR _____

All erosion and sedimentation control measures and stormwater discharge outfalls must be inspected at least once (twice, if on 303(d) listed stream impaired by turbidity, see *http://portal.ncdenr.org/c/document_library/get_file?uuid=d8cf0cc2-6d8d-47e8-96e6-f769fca0cca4&groupId=38364* **) per seven calendar days and within 24 hours of a rainfall of 0.5 inch per 24 hour period. Permittee must keep a record of inspections. Attach Multi Precipitation Estimator (MPE) rainfall data for weekly period. If using on site rain gage, complete daily rainfall measurement.**

Day	Date	Rain Amt (in)	Notes
M			
T			
W			
Th			
F			
Sat			
Sun			

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	
Clearing and grubbing of existing ground cover	
Completion of any phase of grading of slopes or fills	
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

Has all land disturbing activity been completed? (Y/N) _____
Has the final permanent ground cover been completed and established? (Y/N) _____

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:

Cert. Level II Supervisor	**Cert. #**
NCDOT Cert. Level II Representative	**Cert. #**

Rainfall Data

- Use MPE Website to print out weekly rainfall totals.

Get More MPE Data for Site 1

Date Range: 2009-07-05 thru 2009-07-11

Site: Site 1

Latitude: 35.910395 **Longitude:** -78.42598

Alert Threshold ≥ 0.5 within 24 hours

Project: SR 1000

Other Associated Sites:

Site 2

Site 1

Weekly Rainfall Log

Observation Date & Time (EST)	Precipitation (inches)
2009-07-05 07:00:00	0
2009-07-06 07:00:00	0.709
2009-07-07 07:00:00	0
2009-07-08 07:00:00	0
2009-07-09 07:00:00	0
2009-07-10 07:00:00	0
2009-07-11 07:00:00	0
TOTAL:	0.709

Inspection would be required within 24 hours

If a 0.5” or greater rain event falls on Saturday or Sunday, an inspection must be made on the next business day.

Onsite Rain Gauge

- On site rain gauge is required if MPE website is not utilized.
- Record weekly rainfall on NPDES form

Day	Date	Rain Amt (in)	Notes
M			
T			
W			
Th			
F			
Sat			
Sun			

Rain Gauge or MPE

- May use either option
- Must use one or the other but not both to record rainfall data.

Phase of Grading

- Place a check in the box of the current project phase.
- Project may be in more than one phase

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	✓
Clearing and grubbing of existing ground cover	
Completion of any phase of grading of slopes or fills	✓
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion.	

Signatures

- A certified Level II Supervisor and certified Level II NCDOT representative must sign and provide certification number.

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:	
Cert. Level II Supervisor	Cert. #
NCDOT Cert. Level II Representative	Cert. #

Stormwater Discharge Outfalls

- Required to list all SDOs during each inspection
- Complete Inspection Date, Sta Number, and Corrective Actions

Stormwater Discharge Outfalls (SDO) (Required to list during each inspection)			**Sheet ____ of ____**			**Visible Sedimentation and Stream Turbidity**	
Inspection Date	**Station Number**	**Corrective Actions Taken**	**Priority ***	**Date Corrected**	****Other Pollutants**	*****Sediment Deposited**	******Stream Clarity**

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.

**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N)
**If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.

***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N)
*** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.

****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

SDO Inspection Form

- Priority of corrective actions
  - Record an R for Routine – Attention needed within 5 days
  - Record a U for Urgent – Attention needed within 24 hrs.
  - Record date items were corrected.

- Sediment Deposited
  - Has **any** visible sediment deposited in a stream, wetland, buffer, or adjacent property? Yes or No
  - Notify DWQ/DLR within 24 hours if deposited in surface waters or wetlands. **5 Gallon Bucket Rule**

- Stream Clarity
  - Has turbidity increased due to discharge? Yes or No

Other Pollutants

- Refers to the shiny or colored luster that results from petrochemicals in the discharge.
- Is oil sheen present?
  - The sheen layer will break apart and stay apart if it is organic.
  - If the sheen is a pollutant, the sheen will break apart and then flow back together.
- Other Obvious Indicators of Stormwater Pollution – This could be anything not listed above such a de-icing material, industrial pollutants, etc.
  (Describe extent of pollutant – ½ gal. hydraulic fluid spilled (minor sheen)

Stormwater Discharge Outfalls (SDO) (Required to list during each inspection)			Sheet ____ of ____			Visible Sedimentation and Stream Turbidity	
Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected	**Other Pollutants	***Sediment Deposited	****Stream Clarity

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.	**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N) **If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.	***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N) *** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.	****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

Erosion & Sedimentation Control Devices

- Record Inspection Date, Station Number, and corrective actions taken
- Priority of corrective actions
  - Record an R for Routine – Attention needed within 5 days
  - Record a U for Urgent – Attention needed within 24 hrs.
  - Record date items were corrected.

Erosion & Sedimentation Control Devices

(Required to list all devices that need maintenance)

Sheet ____ of ____

Inspection Date	Station Number	Corrective Action Taken	Priority *	Date Corrected

*R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hours.

Form 1675
Response for Erosion Control

RESPONSE FOR EROSION CONTROL - INSPECTOR'S DAILY REPORT
SUBSTITUE FORM 1675

Pay Item	Standard/Metric Unit		Quantity	Comments
Temporary Silt Fence	LF	M		
Special Sediment Control Fence	TN/MTN	LF/M		
Temporary Mulching	AC	HA		
Seed - Temporary Seeding	LB	KG		
Fertilizer - Temporary Seeding	TN	MTN		
Matting for Erosion Control	SY	M^2		
Coir Fiber Mat	SY	M^2		
Coir Fiber Baffles	LF	M		
Perm. Soil Reinforcement Mat	SY	M^2		
Seeding and Mulching	AC	HA		
Seed - Repair Seeding	LB	KG		
Fertilizer - Repair Seeding	TN	MTN		
Seed for Supplemental Seeding	LB	KG		
Fertilizer Topdressing	TN	MTN		
Response for Erosion Control	EA	EA		
Safety/Highly Visible Fencing	LF	M		

We agree that this is the work to be performed.	We agree that this work was performed.
NCDOT Representative:	NCDOT Representative:
Prime Representative:	Prime Representative:
Date	Date

Form 1675
Response for Erosion Control

- Only required for contracted bid/build jobs
- Include quantity of pay item for work that needs to be performed from inspection
- May have multiple forms

Additional Monitoring

- Idle projects
  - Projects that have not been completed but where no construction activity occurs for 21 calendar days or more and have been adequately stabilized with temporary vegetation.

Monitoring Idle Projects

- SDO’s may be inspected once every 14 calendar days.
- Once every seven calendar days for 303(d) turbidity listed streams.
- Inspections still required within 24 hrs after a 0.5” rainfall per 24 hr period.

Level II Certification

- http://www.bae.ncsu.edu/workshops/dot/index.html

TIP Bridge Example

INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000
SELF-INSPECTION RECORD FOR LAND DISTURBING ACTIVITIES PER § 113A-54.1
RESPONSE FOR EROSION CONTROL FORM 1675

PROJECT LOCATION	Bridge # 100 over Swift Creek on NC 50	**TIP #**	B-1000
LEVEL II SUPERVISOR	John Doe	**COUNTY**	Wake
CONTRACTOR	XYZ Contracting		

All erosion and sedimentation control measures and stormwater discharge outfalls must be inspected at least once (twice, if on 303(d) listed stream impaired by turbidity, see *http://portal.ncdenr.org/c/document_library/get_file?uuid=d8cf0cc2-6d8d-47e8-96e6-f769fca0cca4&groupId=38364* **) per seven calendar days and within 24 hours of a rainfall of 0.5 inch per 24 hour period. Permittee must keep a record of inspections. Attach Multi Precipitation Estimator (MPE) rainfall data for weekly period. If using on site rain gage, complete daily rainfall measurement.**

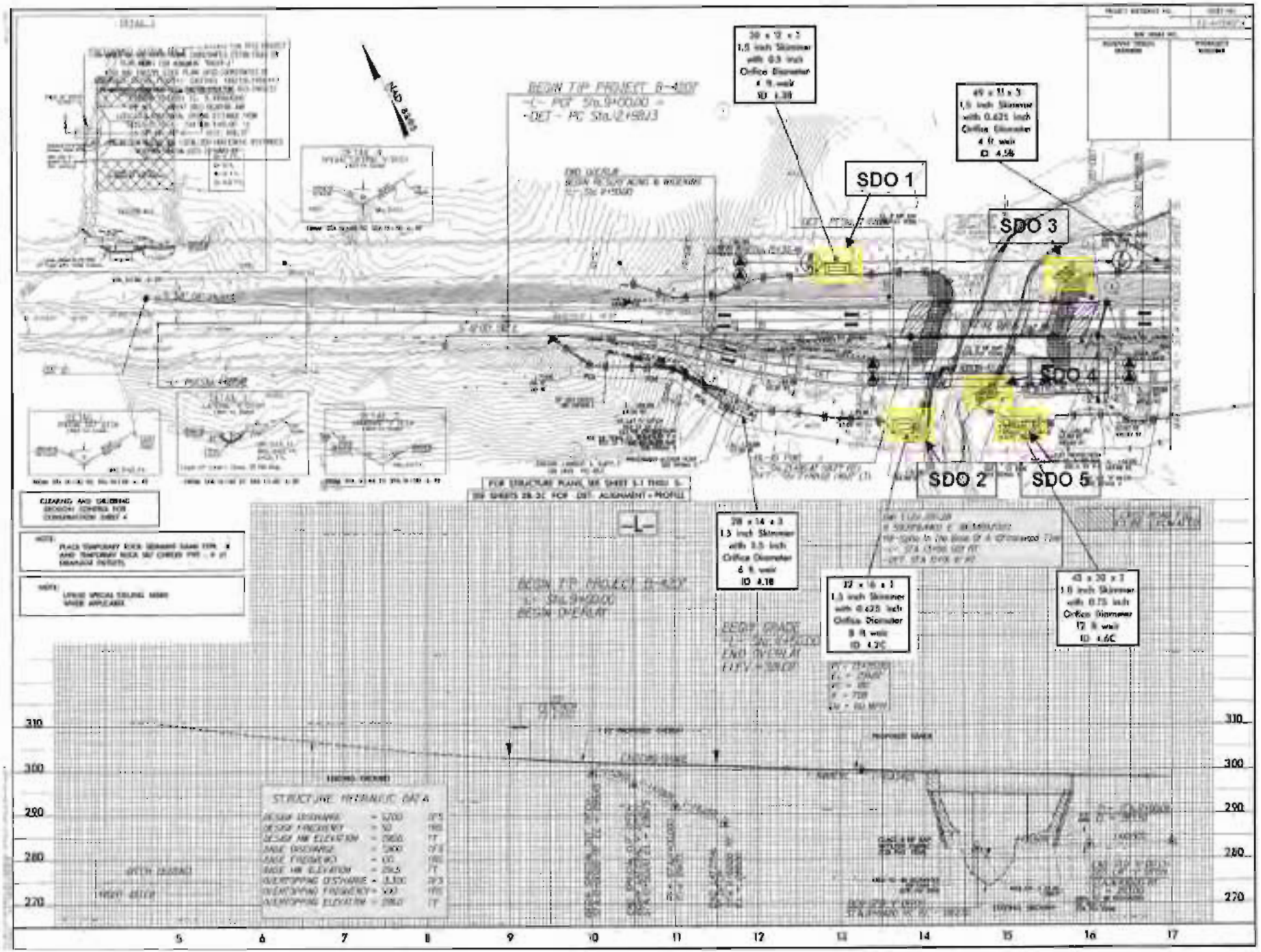
Day	Date	Rain Amt (in)	Notes
M	8/9/10	0.35	
T	8/10/10	0.00	
W	8/11/10	0.00	
Th	8/12/10	1.20	Rainfall occurred over a two hour period
F	8/13/10	0.00	
Sat	8/14/10	0.00	
Sun	8/15/10	0.00	

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	x
Clearing and grubbing of existing ground cover	x
Completion of any phase of grading of slopes or fills	x
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

Has all land disturbing activity been completed? (Y/N) __N__
Has the final permanent ground cover been completed and established? (Y/N) __N__

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:

John Doe (XYZ Contracting)	100
Cert. Level II Supervisor	**Cert. #**
John Smith Jr.	101
NCDOT Cert. Level II Representative	**Cert. #**


SDO 1
SDO 2
SDO 3
SDO 4
SDO 5
30 x 12 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft weir
ID 4.38
49 x 11 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft weir
ID 4.56
28 x 14 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
6 ft weir
ID 4.18
22 x 16 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
8 ft weir
ID 4.20
43 x 20 x 3
1.0 inch Skimmer
with 0.75 inch
Orifice Diameter
17 ft weir
ID 4.60
NAD 83/93
STRUCTURE HYDRAULIC DATA
310
300
290
280
270
5
6
7
8
9
10
11
12
13
14
15
16
17

SDOs

Stormwater Discharge Outfalls (SDO) (Required to list during each inspection)			Sheet 1 of 2			Visible Sedimentation and Stream Turbidity	
Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected	**Other Pollutants	***Sediment Deposited	****Stream Clarity
8/9/10	-L- 13+00 Lt.	SDO 1: No corrective actions noted			No	No	No
8/9/10	-DET- 17+70 Rt.	SDO 2: Hydraulic fluid from equipment leak contained in basin;	U	8/9/10	Yes	No	No
		Remove fluid with boom and properly dispose;					
		Extent: Minimal sheen less than 16 oz lost					
8/9/10	-L- 16+00 Lt.	SDO 3: No corrective actions noted			No	No	No
8/9/10	-DET- 19+00 Rt.	SDO 4: Remove sediment in front of measure; Replace sediment	U	8/9/10	No	Yes	Yes
		control stone; Minor sediment loss less than 5 gallons,					
		Not required to contact DWQ/DLR					
8/9/10	-DET- 19+25 Rt.	SDO 5: Remove debris from skimmer orifice	R	8/9/10	No	No	No
8/13/10	-L-13+00 Lt.	SDO 1: Repair wash at basin inlet	R	8/13/10	No	No	No
8/13/10	-DET- 17+70 Rt.	SDO 2: Repair 1st baffle; Cleanout silt in basin	R	8/16/10	No	No	Yes
8/13/10	-L- 16+00 Lt.	SDO 3: Sediment bypassed Type A Check; Recover sediment and install	U	8/13/10	No	Yes	Yes
		additional Class B and sediment control stone to tie into silt fence					
		Greater than 5 gallons of sediment was lost (approximately three					
		5 gallon buckets)					
		Notify DWQ and DLR within 24 hrs					
8/13/10	-DET- 19+00 Rt.	SDO 4: Device appears to function properly; Remove sediment in	R	8/13/10	No	No	No
		front of measure					
8/13/10	-DET- 19+25 Rt.	SDO 5: Repair wash at weir	R	8/13/10	No	No	No

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.	**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N) **If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.	***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N) *** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.	****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

Erosion & Sedimentation Control Devices

(Required to list all devices that need maintenance)

Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected
8/9/10	-L- 10+50 Lt.	Install Type B Check per plans	R	8/9/10
8/9/10	-L- 13+75 - 14+00 Lt.	Remove silt from silt fence and repair torn sections	R	8/10/10
8/9/10	-DET- 16+00 Rt.	Cleanout skimmer basin	R	8/10/10
8/9/10	-L- 11+50 - 14+00 Lt.	Temporary seed and mulch fill slope	R	8/11/10
8/13/10	-DET- 15+00 - 15+30 Rt.	Repair washing in ditchline	R	8/16/10
8/13/10	-DET- 19+00 Rt.	Repair section of silt fence between Type A Check and Skimmer Basin	R	8/13/10
8/13/10	-L- 16+50 Lt.	Sediment bypassed silt fence and skimmer basin; Recover offsite sediment;	U	8/13/10
		Reinstall damaged silt fence section		

*R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hours.

RESPONSE FOR EROSION CONTROL - INSPECTOR'S DAILY REPORT
SUBSTITUE FORM 1675

Pay Item	Standard/Metric Unit		Quantity	Comments
Temporary Silt Fence	LF	M	100 LF	
Special Sediment Control Fence	TN/MTN	LF/M		
Temporary Mulching	AC	HA	1 AC	
Seed - Temporary Seeding	LB	KG	50 lb	
Fertilizer - Temporary Seeding	TN	MTN	0.25 TN	
Matting for Erosion Control	SY	M^2		
Coir Fiber Mat	SY	M^2		
Coir Fiber Baffles	LF	M		
Perm. Soil Reinforcement Mat	SY	M^2		
Seeding and Mulching	AC	HA		
Seed - Repair Seeding	LB	KG		
Fertilizer - Repair Seeding	TN	MTN		
Seed for Supplemental Seeding	LB	KG		
Fertilizer Topdressing	TN	MTN		
Response for Erosion Control	EA	EA	1	
Safety/Highly Visible Fencing	LF	M		

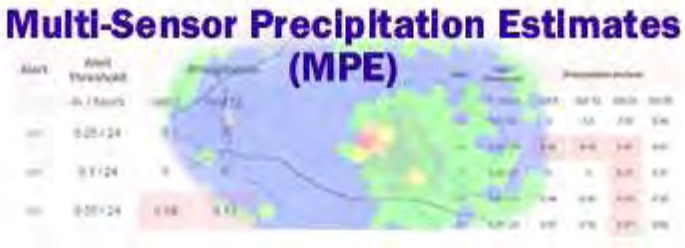
We agree that this is the work to be performed.	We agree that this work was performed.
NCDOT Representative: John Smith Jr.	NCDOT Representative: John Smith Jr.
Prime Representative: John Doe	Prime Representative: John Doe
Date: 8/9/10	Date: 8/11/10

RESPONSE FOR EROSION CONTROL - INSPECTOR'S DAILY REPORT
SUBSTITUE FORM 1675

Pay Item	Standard/Metric Unit		Quantity	Comments
Temporary Silt Fence	LF	M	100 LF	
Special Sediment Control Fence	TN/MTN	LF/M		
Temporary Mulching	AC	HA		
Seed - Temporary Seeding	LB	KG		
Fertilizer - Temporary Seeding	TN	MTN		
Matting for Erosion Control	SY	M^2		
Coir Fiber Mat	SY	M^2		
Coir Fiber Baffles	LF	M	50 LF	
Perm. Soil Reinforcement Mat	SY	M^2		
Seeding and Mulching	AC	HA		
Seed - Repair Seeding	LB	KG		
Fertilizer - Repair Seeding	TN	MTN		
Seed for Supplemental Seeding	LB	KG		
Fertilizer Topdressing	TN	MTN		
Response for Erosion Control	EA	EA	1	
Safety/Highly Visible Fencing	LF	M		

We agree that this is the work to be performed.	We agree that this work was performed.
NCDOT Representative: John Doe Jr.	NCDOT Representative: John Doe Jr.
Prime Representative: John Doe	Prime Representative: John Doe
Date 8/13/10	Date 8/16/10

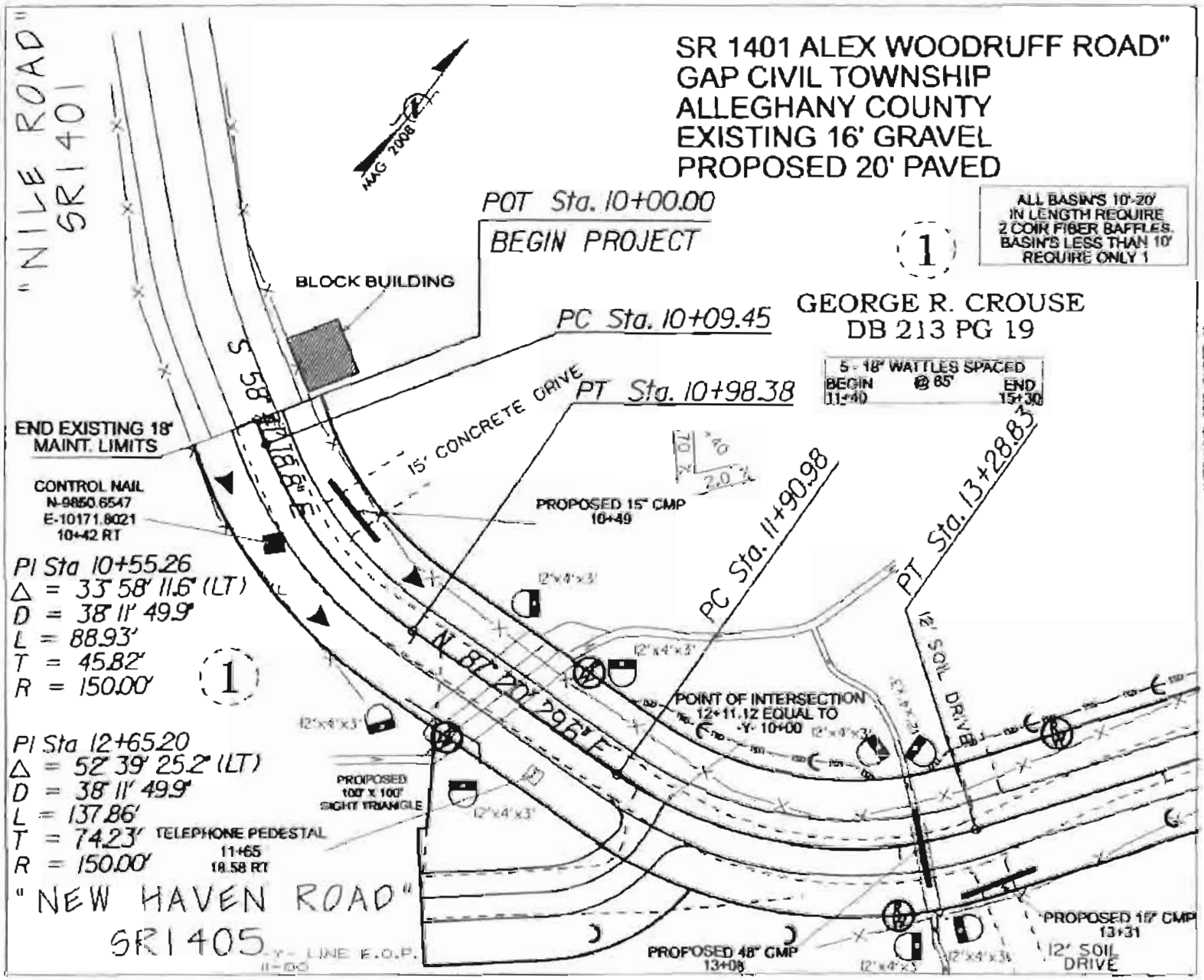
Questions



SR Example 1

- Week of Aug. 16-22 (Assume routine inspection held on Aug. 16)
- Project is in the grading phase however ditchline at Sta 10+00 to 11+20 Rt. is at final grade. E&SC measures are installed per plans
- HQW
- Two creek crossings on project
- No seeding and mulching has been done
- Project received 0.17 inches of rainfall on Aug. 17 and 0.6 inches on Aug. 18.
- No sediment was lost during rain events.
- SDO Maintenance first rain event
  - 11+75 Lt. Sediment deposited in basin
  - 13+20 Lt. Runoff from TSD is not going into basin
  - 13+20 Rt. Wash at the weir
- SDO Maintenance second rain event on Aug. 18
  - 11+20 Lt. Sediment deposited in basin
  - 11+20 Rt. Sediment deposited in basin; baffle damaged
  - 13+00 Lt. Sediment deposited in basin; Sediment control stone needs refurbishing
- Washing occurred at Sta 10+75 Rt. around Type B check during the routine inspection on Aug. 16
- Wattles undermined during second rain event at Sta 12+20 and 12+50
- Sediment basins released turbid water into streams

PROJECT REFERENCE NO.	SHEET NO.
TIC.003013	2



INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000
SELF-INSPECTION RECORD FOR LAND DISTURBING ACTIVITIES PER § 113A-54.1
RESPONSE FOR EROSION CONTROL FORM 1675

PROJECT LOCATION	SR 1401 Alex Woodruff Road	**TIP #**	
LEVEL II SUPERVISOR	Your Name Here	**COUNTY**	Alleghany
CONTRACTOR			

All erosion and sedimentation control measures and stormwater discharge outfalls must be inspected at least once (twice, if on 303(d) listed stream impaired by turbidity, see *http://portal.ncdenr.org/c/document_library/get_file?uuid=d8cf0cc2-6d8d-47e8-96e6-f769fca0cca4&groupId=38364* **) per seven calendar days and within 24 hours of a rainfall of 0.5 inch per 24 hour period. Permittee must keep a record of inspections. Attach Multi Precipitation Estimator (MPE) rainfall data for weekly period. If using on site rain gage, complete daily rainfall measurement.**

Day	Date	Rain Amt (in)	Notes
M	8/16/10	0.00	
T	8/17/10	0.17	
W	8/18/10	0.60	
Th	8/19/10	0.00	
F	8/20/10	0.00	
Sat	8/21/10	0.00	
Sun	8/22/10	0.00	

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	
Clearing and grubbing of existing ground cover	
Completion of any phase of grading of slopes or fills	x
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

Has all land disturbing activity been completed? (Y/N) __n__
Has the final permanent ground cover been completed and established? (Y/N) __n___

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:	
Cert. Level II Supervisor	**Cert. #**
YOUR NAME HERE	0
NCDOT Cert. Level II Representative	**Cert. #**

07/2010 SPPPFORM30

Stormwater Discharge Outfalls (SDO) (Required to list during each inspection)			Sheet 1 of 2			Visible Sedimentation and Stream Turbidity	
Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected	**Other Pollutants	***Sediment Deposited	****Stream Clarity
8/16/10	11+20 Lt.	No corrective actions needed			N	N	N
8/16/10	11+20 Rt.	No corrective actions needed			N	N	N
8/16/10	11+75 Lt.	Remove Sediment in basin	R	8/16/10	N	N	N
8/16/10	11+60 Rt.	No corrective actions needed			N	N	N
8/16/10	13+00 Lt	No corrective actions needed			N	N	N
8/16/10	13+00 Rt.	No corrective actions needed			N	N	N
8/16/10	13+20 Lt	Runoff from TSD needs to be routed into basin	U	8/17/10	N	N	Y
8/16/10	13+20 Rt.	Repair washing at weir	R	8/16/10	N	N	N
					N	N	N
8/19/10	11+20 Lt.	Remove sediment in basin	R	8/19/10	N	N	N
8/19/10	11+20 Rt.	Remove sediment in basin; repair first baffle	R	8/19/10	N	N	Y
8/19/10	11+75 Lt.	No corrective actions needed			N	N	N
8/19/10	11+60 Rt.	No corrective actions needed			N	N	N
8/19/10	13+00 Lt	Refurbish sediment control stone and remove sediment in basin	U	8/20/10	N	N	Y
8/19/10	13+00 Rt.	No corrective actions needed			N	N	N
8/19/10	13+20 Lt	No corrective actions needed			N	N	N
8/19/10	13+20 Rt.	No corrective actions needed			N	N	N

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.	**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N) **If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.	***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N) *** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.	****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

07/2010 SPPPFORM30

Erosion & Sedimentation Control Devices

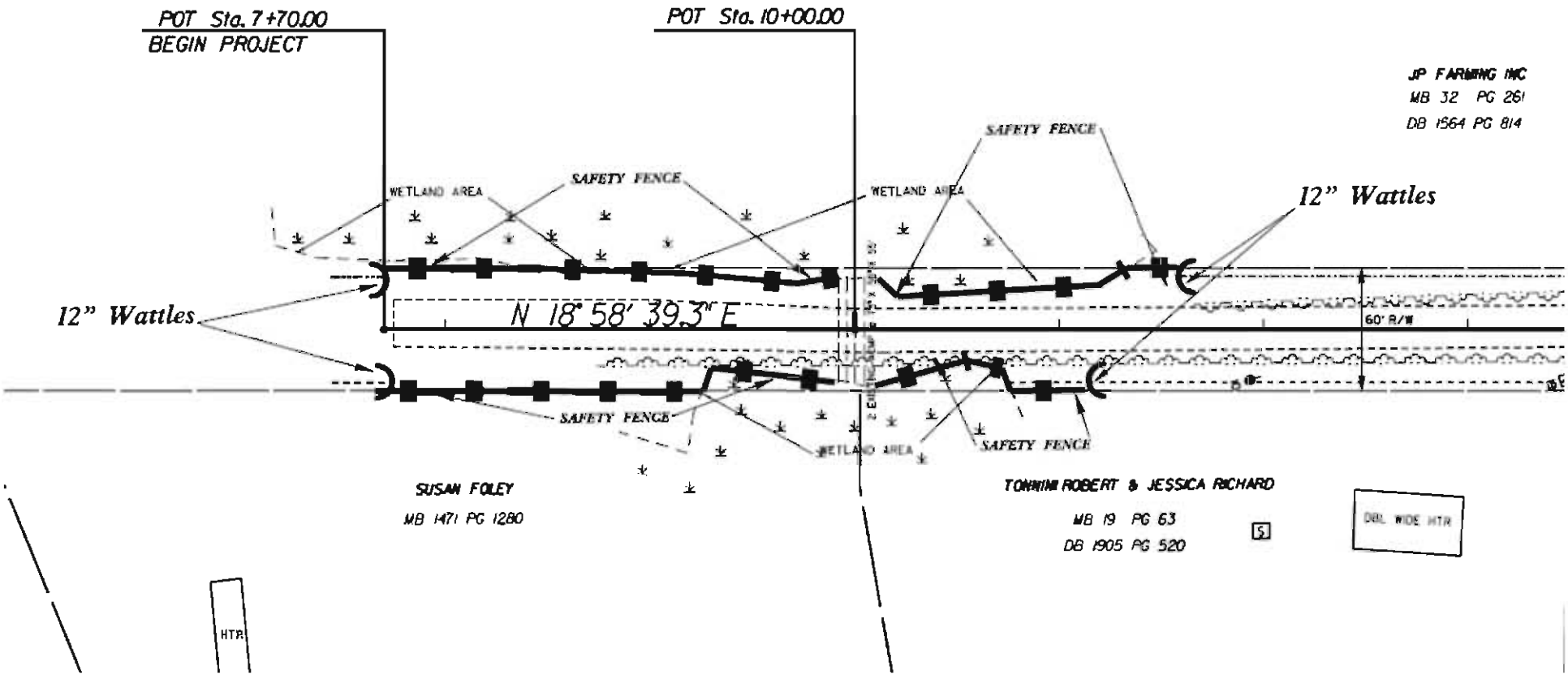
(Required to list all devices that need maintenance)

Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected
8/16/10	10+00 to 11+20 Rt	Permanent seed and mulch	R	8/19/10
8/16/10	10+75 Rt	Repair washes and refurbish TRSC B stone	R	8/17/10
8/19/10	12+20 Rt	Replace wattle	U	8/20/10
8/19/10	12+50 Rt	Replace wattle	U	8/20/10

*R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hours.

SR Example 2

- Week of Aug 23-29 (Assume routine inspection on Aug. 23)
- Project has almost completed grubbing and is in the initial grading phase. E&SC measures are installed
- Wetland areas on project at 7+70 to 11+50 Lt. and Rt.
- Special Sediment Control Fence breaks in sections of silt fence discharging to wetlands at Sta 8+00 Lt. and at the four corners of the pipe at Sta 10+00
- Project received 2.1 inches of rainfall on Aug. 26.
  - Sediment was lost into wetland at 10+10 Lt. from silt fence undermining and at 8+00 Lt. from not enough stone on SSCF.
  - PAM needs replacing on wattles


POT Sta. 7+70.00
BEGIN PROJECT
POT Sta. 10+00.00
JP FARMING INC
MB 32 PG 261
DB 1564 PG 814
SAFETY FENCE
WETLAND AREA
SAFETY FENCE
WETLAND AREA
12" Wattles
12" Wattles
N 18° 58' 39.3" E
60' R/W
SAFETY FENCE
WETLAND AREA
SAFETY FENCE
SUSAN FOLEY
MB 1471 PG 1280
TONNIM ROBERT & JESSICA RICHARD
MB 19 PG 63
DB 1905 PG 520
DBL WIDE HTR
HTR

INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000
SELF-INSPECTION RECORD FOR LAND DISTURBING ACTIVITIES PER § 113A-54.1
RESPONSE FOR EROSION CONTROL FORM 1675

PROJECT LOCATION	SR 1422 Blue Banks Road	TIP #	
LEVEL II SUPERVISOR	Your Name Here	COUNTY	Brunswick
CONTRACTOR			

All erosion and sedimentation control measures and stormwater discharge outfalls must be inspected at least once (twice, if on 303(d) listed stream impaired by turbidity, see *http://portal.ncdenr.org/c/document_library/get_file?uuid=d8cf0cc2-6d8d-47e8-96e6-f769fca0cca4&groupId=38364* **) per seven calendar days and within 24 hours of a rainfall of 0.5 inch per 24 hour period. Permittee must keep a record of inspections. Attach Multi Precipitation Estimator (MPE) rainfall data for weekly period. If using on site rain gage, complete daily rainfall measurement.**

Day	Date	Rain Amt (in)	Notes
M	8/23/10	0.00	
T	8/24/10	0.00	
W	8/25/10	0.00	
Th	8/26/10	2.10	
F	8/27/10	0.00	
Sat	8/28/10	0.00	
Sun	8/29/10	0.00	

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	
Clearing and grubbing of existing ground cover	x
Completion of any phase of grading of slopes or fills	x
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

Has all land disturbing activity been completed? (Y/N) __n__
Has the final permanent ground cover been completed and established? (Y/N) __n__

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:	
Cert. Level II Supervisor	Cert. #
YOUR NAME HERE	0
NCDOT Cert. Level II Representative	Cert. #

07/2010 SPPPFORM30

Stormwater Discharge Outfalls (SDO) (Required to list during each inspection)			Sheet 1 of 2			Visible Sedimentation and Stream Turbidity	
Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected	**Other Pollutants	***Sediment Deposited	****Stream Clarity
8/23/10	8+00 Lt.	No corrective actions needed			N	N	N
8/23/10	9+90 Lt.	No corrective actions needed			N	N	N
8/23/10	9+90 Rt.	No corrective actions needed			N	N	N
8/23/10	10+10 Lt.	No corrective actions needed			N	N	N
8/23/10	10+10 Rt.	No corrective actions needed			N	N	N
8/27/10	8+00 Lt.	Recover sediment in wetlands; Refurbish sediment control stone	U	8/27/10	N	Y	N
		Sediment loss approx. 2 5 gallon buckets; Notify DWQ/DLR					
8/27/10	9+90 Lt.	No corrective actions needed			N	N	N
8/27/10	9+90 Rt.	No corrective actions needed			N	N	N
8/27/10	10+10 Lt.	Recover sediment in wetlands; Repair undermined silt fence and tie	U	8/27/10	N	Y	N
		into SSCF; Sediment loss approx. 3 5 gallon buckets; Notify DWQ/DLR					
8/27/10	10+10 Rt.	No corrective actions needed			N	N	N

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.	**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N) **If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.	***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N) *** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.	****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

07/2010 SPPPFORM30

Erosion & Sedimentation Control Devices

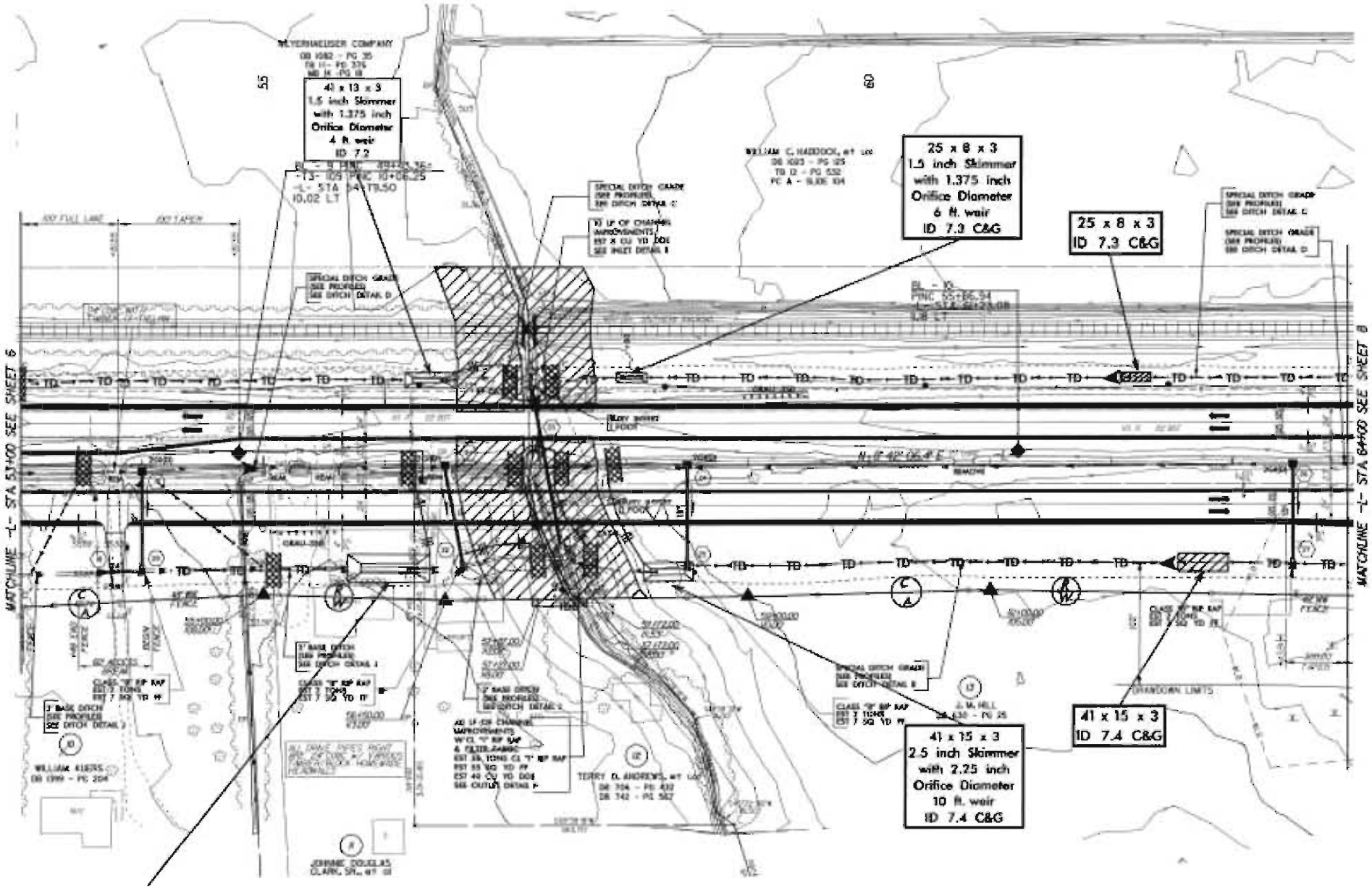
(Required to list all devices that need maintenance)

Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected
8/23/10		No corrective actions needed throughout project		
8/27/10	15+75 Lt and Rt	Replace PAM on wattles	R	8/16/10

*R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hours.

TIP Example 1

- Week of July19-25 (Assume routine inspection on July 19)
- All EC measures have been installed per plans. Project is in the grading phase.
- ESA at Sta 57+00
- Median has been temporary seeded and mulched.
- Hydraulic fluid equipment leak on July 19. Fluid was noticed in skimmer basin and TRSC-A at Sta 57+00 Lt.
- Project received 1.25 inches of rainfall on July 21
  - Turbid discharge from TRSC-A's at Sta 57+00 Lt. & 57+30 Lt.
  - 55+50 to 56+00 Lt. TD washed from recent rain.
  - Basin ID 7.2 sediment needs to be removed.
  - Silt fence undermined at Sta 58+00 from slope washes.


41 x 13 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
4 ft. weir
ID 7.2
25 x 8 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
6 ft. weir
ID 7.3 C&G
25 x 8 x 3
ID 7.3 C&G
41 x 15 x 3
2.5 inch Skimmer
with 2.25 inch
Orifice Diameter
10 ft. weir
ID 7.4 C&G
41 x 15 x 3
ID 7.4 C&G
MATCHLINE -L- STA 53+00 SEE SHEET 6
MATCHLINE -L- STA 64+00 SEE SHEET 8

INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000
SELF-INSPECTION RECORD FOR LAND DISTURBING ACTIVITIES PER § 113A-54.1
RESPONSE FOR EROSION CONTROL FORM 1675

PROJECT LOCATION	US 17	TIP #	R-2510A
LEVEL II SUPERVISOR	Your Name Here	COUNTY	Beaufort
CONTRACTOR	ABC Contracting		

All erosion and sedimentation control measures and stormwater discharge outfalls must be inspected at least once (twice, if on 303(d) listed stream impaired by turbidity, see *http://portal.ncdenr.org/c/document_library/get_file?uuid=d8cf0cc2-6d8d-47e8-96e6-f769fca0cca4&groupId=38364* **) per seven calendar days and within 24 hours of a rainfall of 0.5 inch per 24 hour period. Permittee must keep a record of inspections. Attach Multi Precipitation Estimator (MPE) rainfall data for weekly period. If using on site rain gage, complete daily rainfall measurement.**

Day	Date	Rain Amt (in)	Notes
M	7/19/10	0.00	
T	7/20/10	0.00	
W	7/21/10	1.25	
Th	7/22/10	0.00	
F	7/23/10	0.00	
Sat	7/24/10	0.00	
Sun	7/25/10	0.00	

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	
Clearing and grubbing of existing ground cover	
Completion of any phase of grading of slopes or fills	x
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

Has all land disturbing activity been completed? (Y/N) __n__
Has the final permanent ground cover been completed and established? (Y/N) __n__

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:

Contractor's Name Here
Cert. Level II Supervisor **Cert. #**

NCDOT Inspector Name Here
NCDOT Cert. Level II Representative **Cert. #**

07/2010_SPPPFORM30

Stormwater Discharge Outfalls (SDO) (Required to list during each inspection)			Sheet 1 of 2			Visible Sedimentation and Stream Turbidity	
Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected	**Other Pollutants	***Sediment Deposited	****Stream Clarity
7/19/10	57+00 Lt.	Properly remove and dispose hydraulic fluid	U	7/19/10	Y	N	N
7/19/10	57+00 Med.	No corrective actions needed			N	N	N
7/19/10	57+00 Rt.	No corrective actions needed			N	N	N
7/19/10	57+30 Lt.	No corrective actions needed			N	N	N
7/19/10	57+30 Med.	No corrective actions needed			N	N	N
7/19/10	57+30 Rt.	No corrective actions needed			N	N	N
7/21/10	57+00 Lt.	Turbid discharge from rain event; Recommend applying PAM	R	7/21/10	N	N	Y
7/21/10	57+00 Med.	No corrective actions needed			N	N	N
7/21/10	57+00 Rt.	No corrective actions needed			N	N	N
7/21/10	57+30 Lt.	No corrective actions needed			N	N	N
7/21/10	57+30 Med.	Turbid discharge from rain event; Recommend applying PAM	R	7/21/10	N	N	Y
7/21/10	57+30 Rt.	No corrective actions needed			N	N	N

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.	**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N) **If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.	***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N) *** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.	****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

07/2010 SPPPFORM30

Erosion & Sedimentation Control Devices

(Required to list all devices that need maintenance)

Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected
7/19/10		Project was reviewed with no corrective items found		
7/21/10	Basin ID 7.2	Remove sediment in skimmer basin	R	7/21/10
7/21/10	55+50 to 56+00 Lt	Repair washes in Temp. Diversion	R	7/22/10
7/21/10	58+00	Repair undermined silt fence	R	7/22/10

*R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hours.

07/2010 SPPFORM30

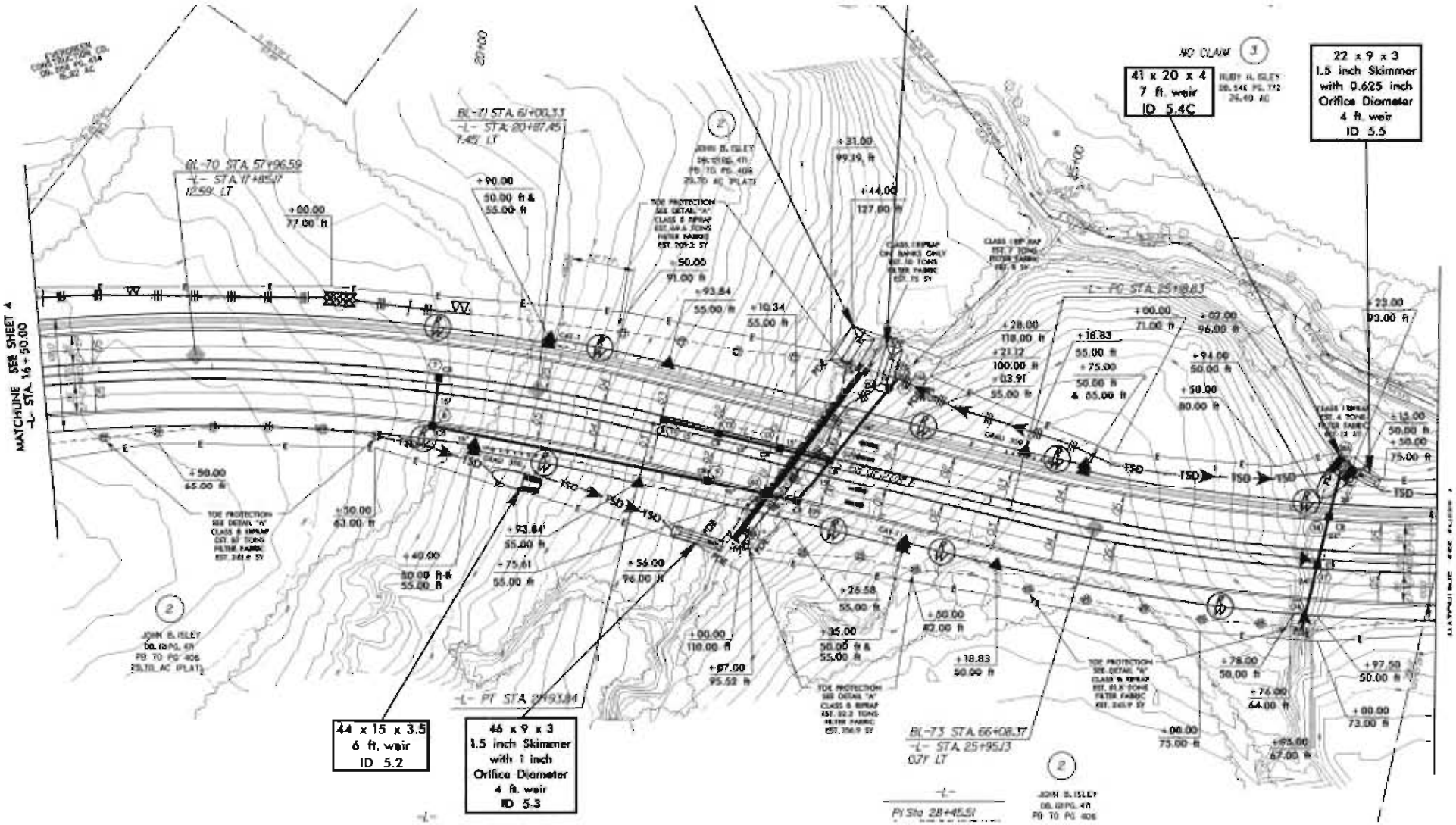
RESPONSE FOR EROSION CONTROL - INSPECTOR'S DAILY REPORT
SUBSTITUE FORM 1675

Pay Item	Standard/Metric Unit		Quantity	Comments
Temporary Silt Fence	LF	M	50LF	
Special Sediment Control Fence	TN/MTN	LF/M		
Temporary Mulching	AC	HA		
Seed - Temporary Seeding	LB	KG		
Fertilizer - Temporary Seeding	TN	MTN		
Matting for Erosion Control	SY	M^2		
Coir Fiber Mat	SY	M^2		
Coir Fiber Baffles	LF	M		
Perm. Soil Reinforcement Mat	SY	M^2		
Seeding and Mulching	AC	HA		
Seed - Repair Seeding	LB	KG	50 lb	
Fertilizer - Repair Seeding	TN	MTN	0.1 TN	
Seed for Supplemental Seeding	LB	KG		
Fertilizer Topdressing	TN	MTN		
Response for Erosion Control	EA	EA	1	
Safety/Highly Visible Fencing	LF	M		

We agree that this is the work to be performed.	We agree that this work was performed.
NCDOT Representative:	NCDOT Representative:
Prime Representative:	Prime Representative:
Date:	Date:

TIP Example 2

- Week of Aug. 2-8 (Assume routine inspection on Aug 2)
- Grubbing is almost complete with grading underway. Most EC devices are installed per plans.
- Project received 0.75 inches of rainfall on Aug. 2 (late Sunday/early Monday) and 0.4 inches of rainfall on Aug. 7.
- Occurred on Aug 2 rainfall event:
  - Runoff bypassed silt fence and Basin ID 5.2C. Sediment was deposited into waters of the state.
  - Baffles need repairing at Basin ID 5.3
  - Sta 19+50 to Sta 23+00 Rt. TSD installed without Type B checks.


41 x 20 x 4
7 ft. weir
ID 5.4C
22 x 9 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 5.5
44 x 15 x 3.5
6 ft. weir
ID 5.2
46 x 9 x 3
1.5 inch Skimmer
with 1 inch
Orifice Diameter
4 ft. weir
ID 5.3
NO CLAIM
MATCHLINE SEE SHEET 4
-L- STA. 16+50.00
BL-70 STA. 57+96.59
BL-71 STA. 61+00.33
BL-73 STA. 66+08.37
-L- PI STA. 29+93.84
-L- PC STA. 25+18.83
-L- STA. 25+95.73
PI Sta 28+45.51
JOHN B. ISLEY
RUBY H. ISLEY

INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000
SELF-INSPECTION RECORD FOR LAND DISTURBING ACTIVITIES PER § 113A-54.1
RESPONSE FOR EROSION CONTROL FORM 1675

PROJECT LOCATION	US 1	TIP #	U-3304
LEVEL II SUPERVISOR	Your Name Here	COUNTY	Wake
CONTRACTOR	ABC Contracting		

All erosion and sedimentation control measures and stormwater discharge outfalls must be inspected at least once (twice, if on 303(d) listed stream impaired by turbidity, see *http://portal.ncdenr.org/c/document_library/get_file?uuid=d8cf0cc2-6d8d-47e8-96e6-f769fca0cca4&groupId=38364*) per seven calendar days and within 24 hours of a rainfall of 0.5 inch per 24 hour period. Permittee must keep a record of inspections. Attach Multi Precipitation Estimator (MPE) rainfall data for weekly period. If using on site rain gage, complete daily rainfall measurement.

Day	Date	Rain Amt (in)	Notes
M	8/2/10	0.75	
T	8/3/10	0.00	
W	8/4/10	0.00	
Th	8/5/10	0.00	
F	8/6/10	0.00	
Sat	8/7/10	0.40	
Sun	8/8/10	0.00	

Phase of Grading (Place a check in the box of the current project phase)	
Installation of perimeter erosion and sediment control measures	x
Clearing and grubbing of existing ground cover	x
Completion of any phase of grading of slopes or fills	x
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

Has all land disturbing activity been completed? (Y/N) __n__
Has the final permanent ground cover been completed and established? (Y/N) __n___

By this signature, I certify (in accordance with Part II Section B, 10 of the NCG010000 permit) that this report is accurate and complete to the best of my knowledge:

Contractor's Name Here _____ _____
Cert. Level II Supervisor Cert. #

NCDOT Inspector's Name Here _____ _____
NCDOT Cert. Level II Representative Cert. #

07/2010 SPPPFORM30

Stormwater Discharge Outfalls (SDO)

(Required to list during each inspection)

Sheet 1 of 2

Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected	**Other Pollutants	Visible Sedimentation and Stream Turbidity ***Sediment Deposited	****Stream Clarity
8/2/10	23+10 Lt.	No corrective action needed			N	N	N
8/2/10	23+00 Rt.	Repair baffles	R	8/3/10	N	N	N
8/2/10	23+50 Lt.	Sediment bypassed silt fence and skimmer; remove sediment from creek	U	8/2/10	N	Y	Y
		Sediment loss approx. 6-5 gal buckets.Notify DWQ/DLR within 24 hours					

* R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hrs.	**Is there evidence of other pollutants discharging from site such as oil sheen, discoloration, cement wastes, sanitary waste, fertilizers, or fuel or storage leakage? (Y/N) **If Other Pollutants is marked Yes, describe extent of discharge and list the corrective actions taken.	***Is there any visible sediment deposited in a stream, wetland, buffer or adjacent property? (Y/N) *** Contact DWQ/DLR-LQ within 24 hours if visible sediment is deposited in surface waters or wetlands.	****Is there any visible decrease in stream clarity (increase turbidity-cloudy) because of a discharge? (Y/N)

07/2010 SPPFORM30

Erosion & Sedimentation Control Devices

(Required to list all devices that need maintenance)

Inspection Date	Station Number	Corrective Actions Taken	Priority *	Date Corrected
8/2/10	19+50 to 23+00 Rt.	Install Type B checks in TSD	R	8/3/10

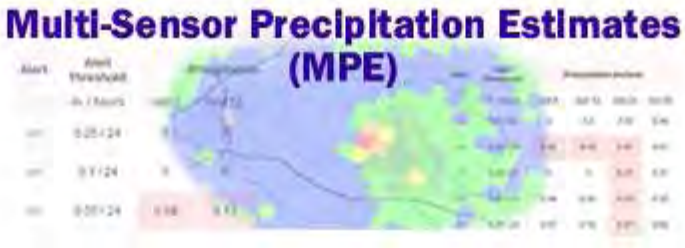
*R=Routine, needs attention within 5 days; U=Urgent, needs attention within 24 hours.

07/2010 SPPPFORM30

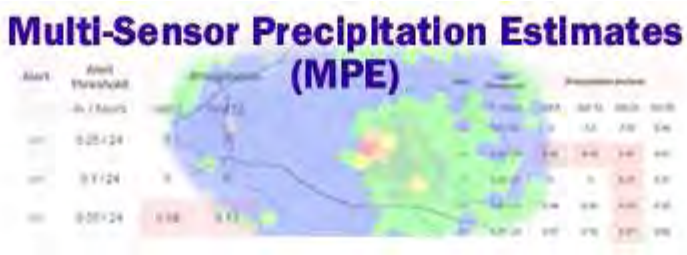
RESPONSE FOR EROSION CONTROL - INSPECTOR'S DAILY REPORT
SUBSTITUE FORM 1675

Pay Item	Standard/Metric Unit		Quantity	Comments
Temporary Silt Fence	LF	M		
Special Sediment Control Fence	TN/MTN	LF/M		
Temporary Mulching	AC	HA		
Seed - Temporary Seeding	LB	KG		
Fertilizer - Temporary Seeding	TN	MTN		
Matting for Erosion Control	SY	M^2		
Coir Fiber Mat	SY	M^2		
Coir Fiber Baffles	LF	M	40 LF	
Perm. Soil Reinforcement Mat	SY	M^2		
Seeding and Mulching	AC	HA		
Seed - Repair Seeding	LB	KG		
Fertilizer - Repair Seeding	TN	MTN		
Seed for Supplemental Seeding	LB	KG		
Fertilizer Topdressing	TN	MTN		
Response for Erosion Control	EA	EA		
Safety/Highly Visible Fencing	LF	M		
We agree that this is the work to be performed.			We agree that this work was performed.	
NCDOT Representative:			NCDOT Representative:	
Prime Representative:			Prime Representative:	
Date:			Date:	

Questions



Resurfacing/Widening
Shoulder Construction/Reconstruction



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

July 22, 2010

ROADSIDE ENVIRONMENTAL UNIT
Unit Head
Envir. Operations
EC & Veg Mgt
Field Oper. Eng

JUL 26 2010

Design
S & W Engineering
Rest Area
Vegetation Mgt.
Beautification

MEMORANDUM TO: Divisson Engineers

FROM: J. G. Nance, PE
Chief Engineer – Operations

SUBJECT: NPDES Stormwater Guidance for Resurfacing or Widening and Shoulder Construction/Reconstruction

The Department and the Division of Water Quality (DWQ) have been in discussion as to the applicability of the NCG010000 NPDES General Permit for construction activities associated with resurfacing and shoulder widening projects. This work generally involves shoulder reconstruction of a narrow swath of land disturbance to safe up the edge of pavement and commonly exceeds one acre. In some cases, shoulder construction is needed that extends beyond the shoulder point and may involve reshaping of the typical section.

Please begin implementation with your resurfacing/widening/shoulder construction/reconstruction projects let to contract beginning November 2010. Be reminded to include appropriate erosion control quantities and pay items. A site that may require lengthy sections of silt fence can be substituted with provisions requiring rapid permanent seeding and mulching. I have included an erosion control detail that serves as the erosion control plan for BMP installations. NPDES documentation and Erosion and Sediment Control/Stormwater Level II provisions will be included as a contract provision. AGC and CAPA committees have been apprised of these discussions over the past several months.

Your Roadside Environmental Field Operations Engineer will be assisting your staff with this process and can provide associated training upon request. If you need additional information, please contact Don Lee in the Roadside Environmental Unit at (919) 733-2920.

I appreciate the effort made by you and your staff to ensure compliance with the many components of our NPDES Stormwater Permits.

Resurfacing/Shoulder Work

- Shoulder work includes disturbance beyond shoulder point (grading to the toe, relocates ditch line or backslope and/or removes vegetation from the conveyance)

- Includes widening and major maintenance (shldr cutting/ditch pulling)

  - Inspect and monitor (NPDES log) every 14 calendar days; log rainfall

  - Install erosion control measures where vegetated buffer between the disturbed area and surface waters (streams, wetlands, or open waters) is less than 5’-10’ wide.

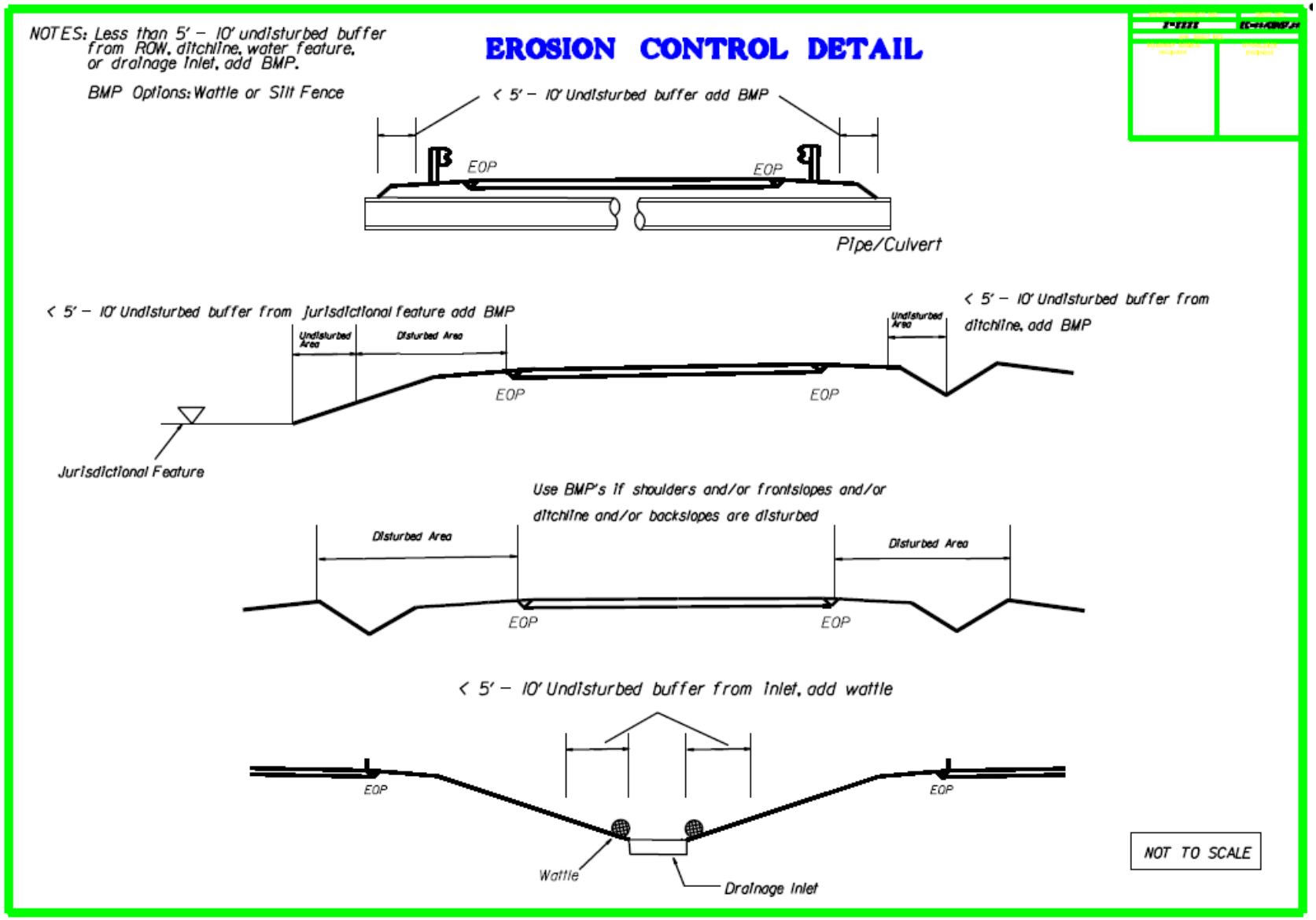
Resurfacing/Shoulder Work

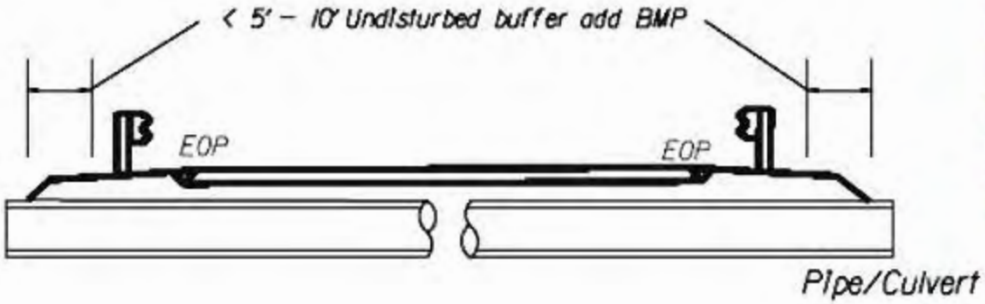
- Shoulder work includes rebuilding shoulders to safe up the edge of pavement resulting in a narrow ribbon of disturbance (2’-5’ wide)
  - No inspection or monitoring required.
- If any area where the vegetated buffer is less than 5’-10’ wide between the disturbed area and surface waters
  - Install erosion control devices
  - Spot check once every 14 calendar days for mnt/repair (No NPDES log)

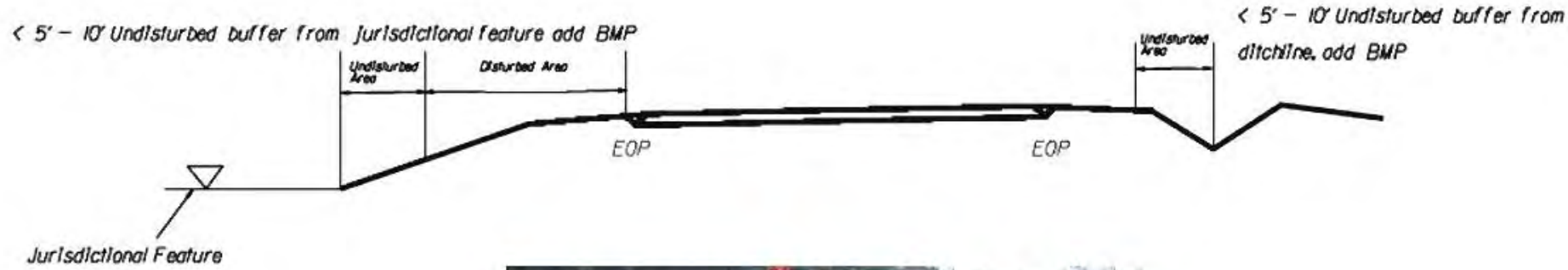
Resurfacing/Shoulder Work

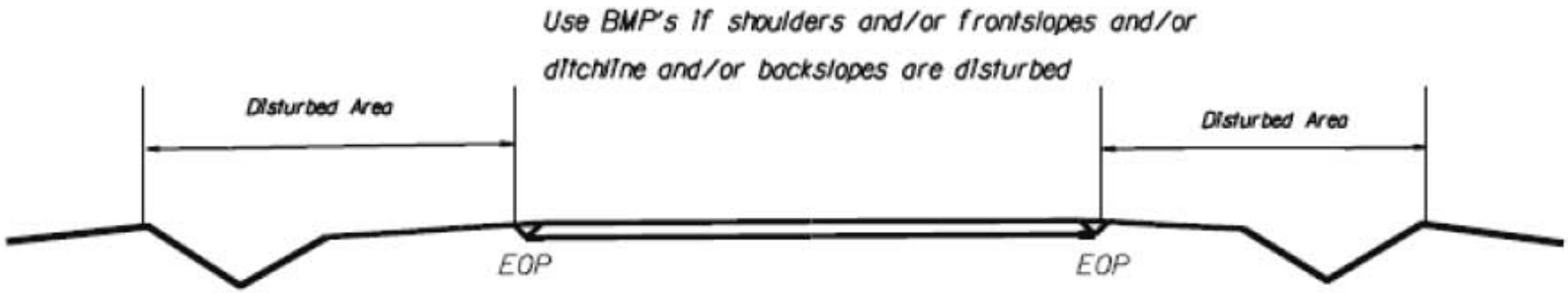
- In any areas where the vegetated buffer is less than 5’-10’ wide between the disturbed area and surface waters classified as HQW, ORW, Critical Areas, or Unique Wetlands
  - Inspect and monitor (NPDES log) every 14 calendar days; log rainfall
  - Install erosion control devices

EC Plan Detail

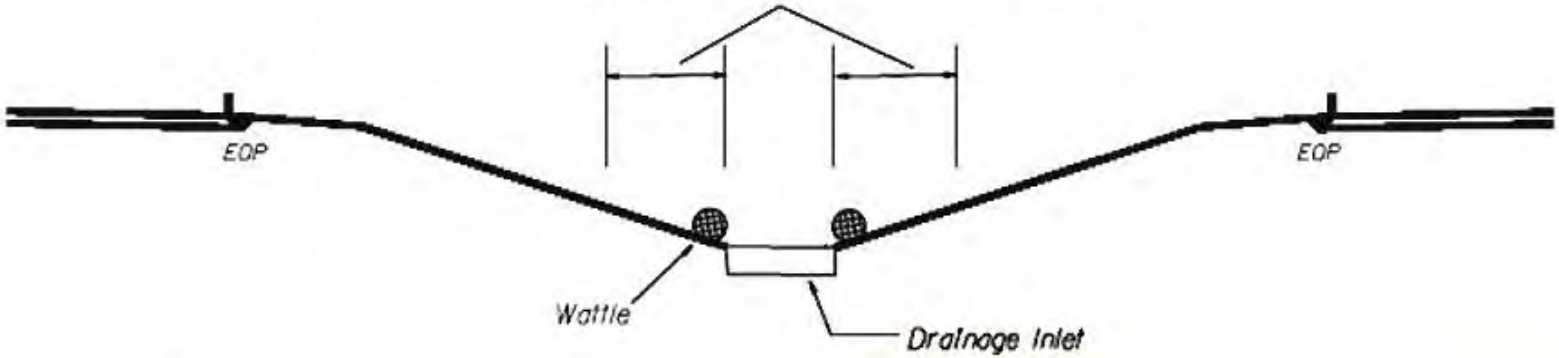



< 5' – 10' Undisturbed buffer add BMP
EOP
EOP
Pipe/Culvert

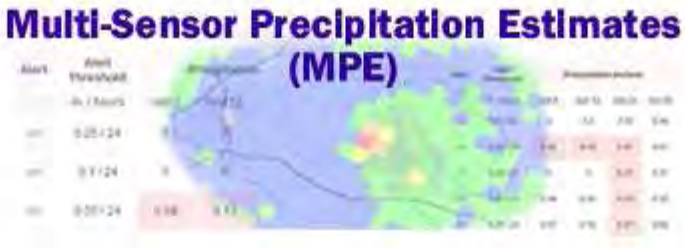

< 5' – 10' Undisturbed buffer from jurisdictional feature add BMP
Undisturbed Area
Disturbed Area
EOP
EOP
Undisturbed Area
< 5' – 10' Undisturbed buffer from ditchline, add BMP
Jurisdictional Feature


Use BMP's if shoulders and/or frontslopes and/or
ditchline and/or backslopes are disturbed
Disturbed Area
Disturbed Area
EOP
EOP

< 5' – 10' Undisturbed buffer from Inlet, add wattle



Questions



Management of Hydrodemolition Runoff Water

Introduction

- Hydrodemolition allows bridge resurfacing without bridge replacement, saving NCDOT and NC taxpayers millions of dollars.
- Bridge surface is pulverized using high pressure water (17,000 psi) in a controlled manner, removing existing concrete surface down to rebar.
- Depending on the size of the bridge, thousands of gallons of wastewater can be generated.
- **100% containment and collection of the Hydrodemolition run-off water is critical to avoid compliance violations.**
- Preconstruction meetings, traffic management,and good planning can help to avoid problems during Hydrodemolition.

Environmental Considerations

- Hydrodemolition run-off water (HRW) is considered **“industrial process wastewater”** by DENR, with no discharge allowed to ground surface or surface waters without permit.
- **If pH exceeds 12.5, considered a hazardous material.** Generally the pH is less than 12 and can be lowered by adding muriatic acid.
- **No HRW is allowed to escape from the bridge during the Hydrodemolition process.**

Environmental Guidelines

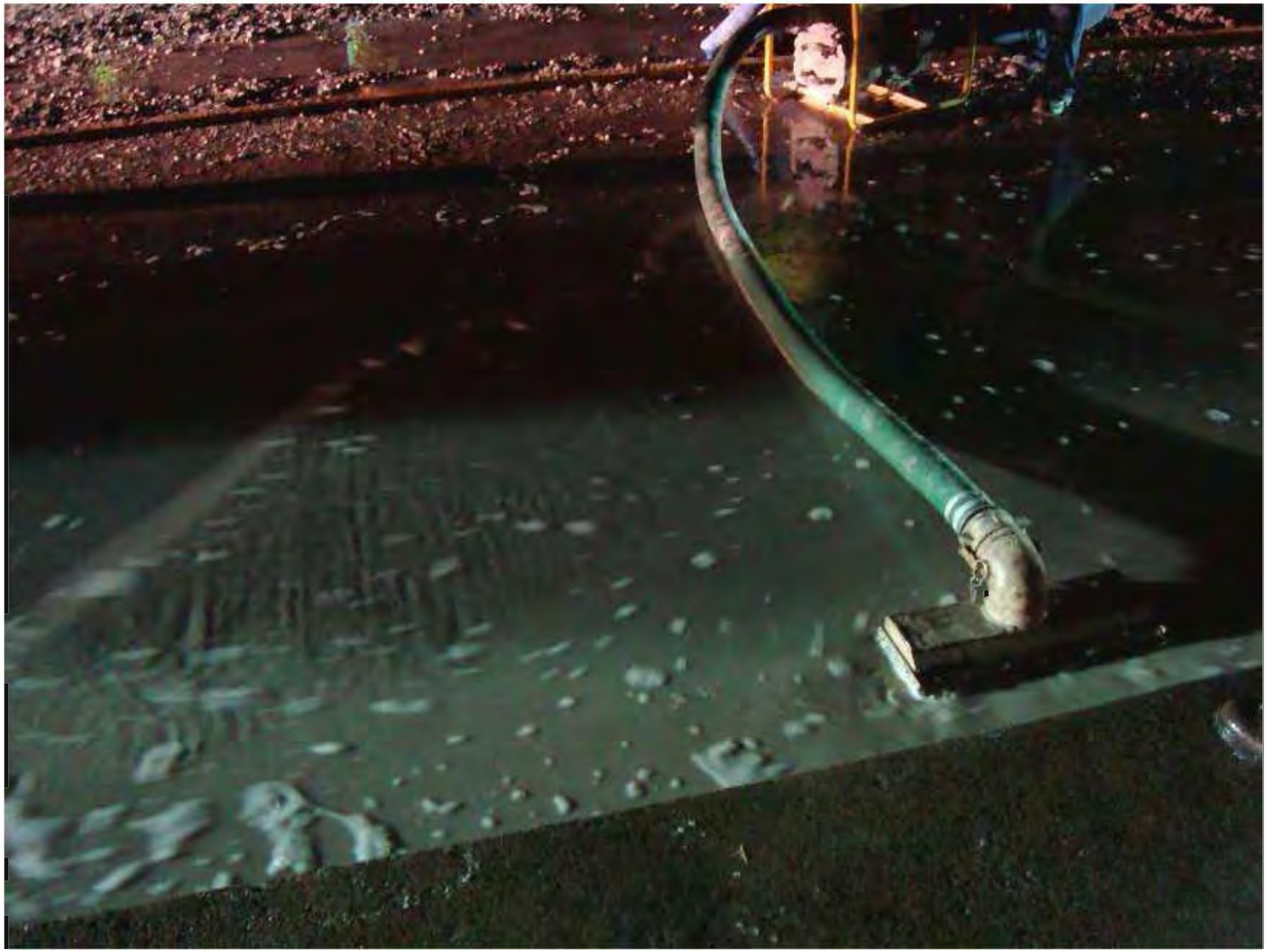
- **NCDOT includes environmental guidelines in pre-bid packages for contractors.**
- The guidelines include pH control plan and disposal plan as well as sampling guidelines and environmental compliance statements. Future revisions will include traffic management plan and bridge preparation plan.
- Preconstruction meeting needs to cover traffic management plan and operation plan detailing bridge preparation and HRW collection and containment.
- Most of the contractors from out of state and unfamiliar with NC regulations. This is a relatively new process in most states that have had compliance issues in dealing with disposal of HRW.

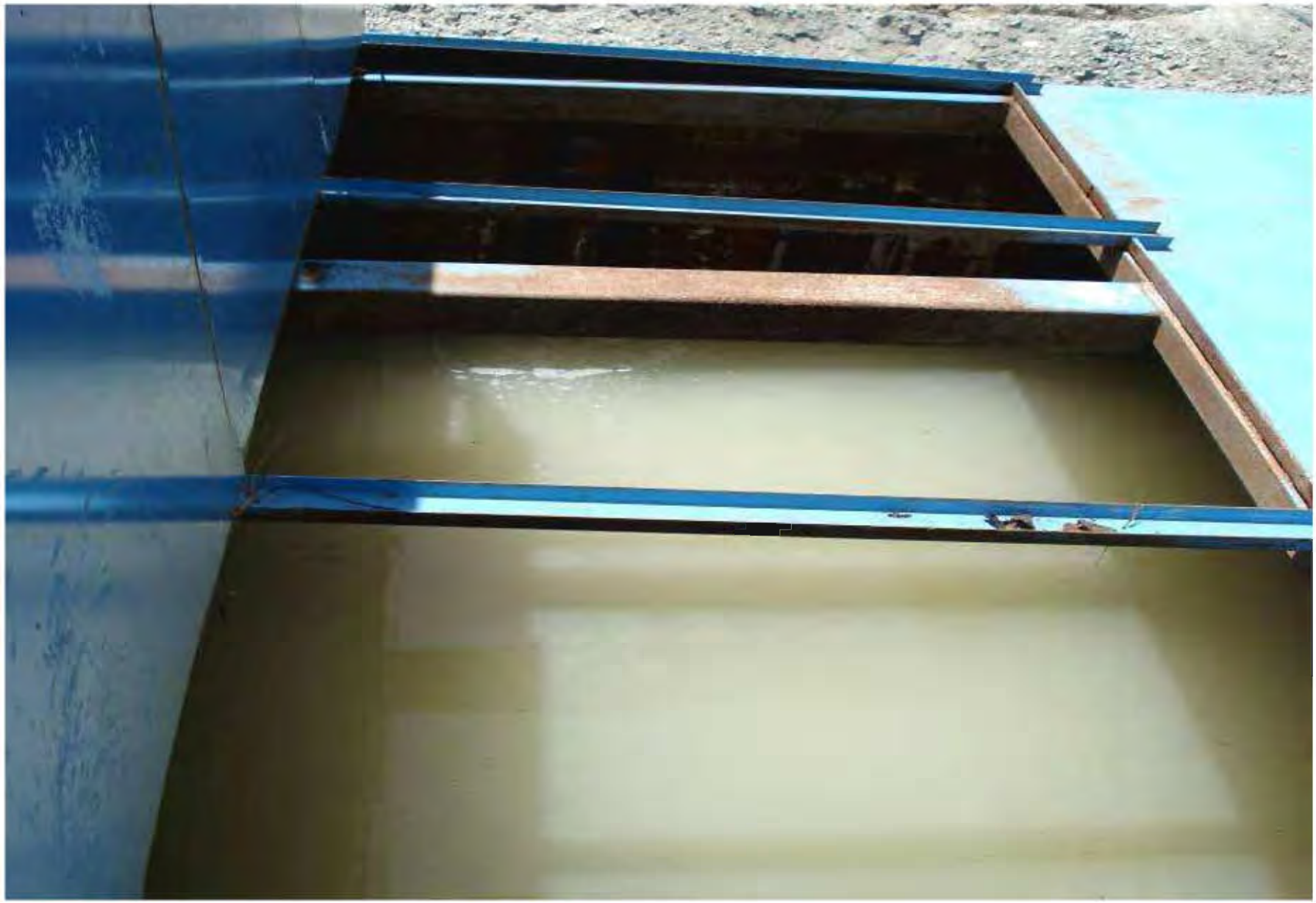
Traffic Management Plan

- Contractor usually responsible, but preconstruction meeting needs to review plan.
- Detour preferred as it is safer and leaves more room for HRW staging/collection.
- If traffic is not detoured, maintain maximum area for HRW staging.
- Maintain maximum distance from HRW sheet flow and cars.

Bridge Preparation

- Review type of drainage features on bridge: Bridge drains, drop inlets, curbs, cracks and seams.
- Contractor must **plug or seal** all of above prior to start of work. Foam sealant, rubber seals, bridge drain plugs, and plastic sheeting have been used.
- Effective removal of HRW by vacuum as close to hydrodemo machine as possible, with back up pump. Multiple pumps can be used if necessary.

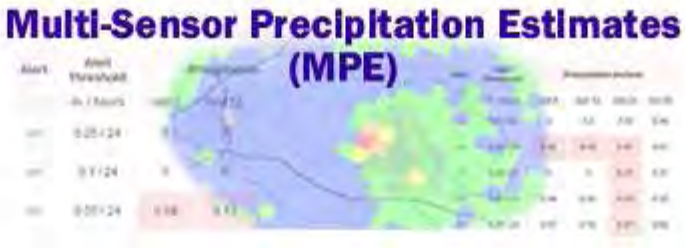




Final Considerations

- Safety first. Traffic can create dangerous conditions.
- Hydrodemo usually done at night to minimize traffic issues. Visibility on or under bridge can be difficult.
- Hydrodemo can take several nights or several weeks, depending on the size and condition of the bridge.
- Hydrodemo and milling machines are very loud, so verbal communication can be difficult. Use Hearing protection. Flying debris from hydrodemo unit can occur, so wear safety glasses.
- Pay attention and stop work if you see a problem.
- **If discharge to ground surface or surface waters occurs, contact Division Environmental Officer and/or DWQ Regional Office within 24 hours of compliance violation. The violation will be issued to both NCDOT and the contractor.**

Questions



Concepts of Vegetation Establishment for the NCDOT

The Goal is to Improve

Erosion Control

Briefly we do not need major changes on contract projects

Our Challenge is to improve maintenance projects!!!!!!!!!!!!!!

What determines success?
Why are maintenance projects more difficult?

- Limited ROW, Can’t walk cuts and fills = Poor seed beds
- Poor seed beds = Poor seed soil contact, Poor Moisture Retention and Root Development, Seed Washes Off
- Difficult to hold mulch or mat
- Maintenance projects are short term, time is limited to topdress, repair.

Seedbed prep on contract 2:1 cut and fill slopes

Sericea lespedeza

Crown Vetch

An innovative approach to seedbed prep is needed

Careful work with trackhoe can be effective, problem is bucket is not articulated, increased slope becomes much more difficult, requires skilled operator

What happens during the winter?

Matting and mulch help reduce frost heaving, holds moisture, reduces energy of falling rain drops

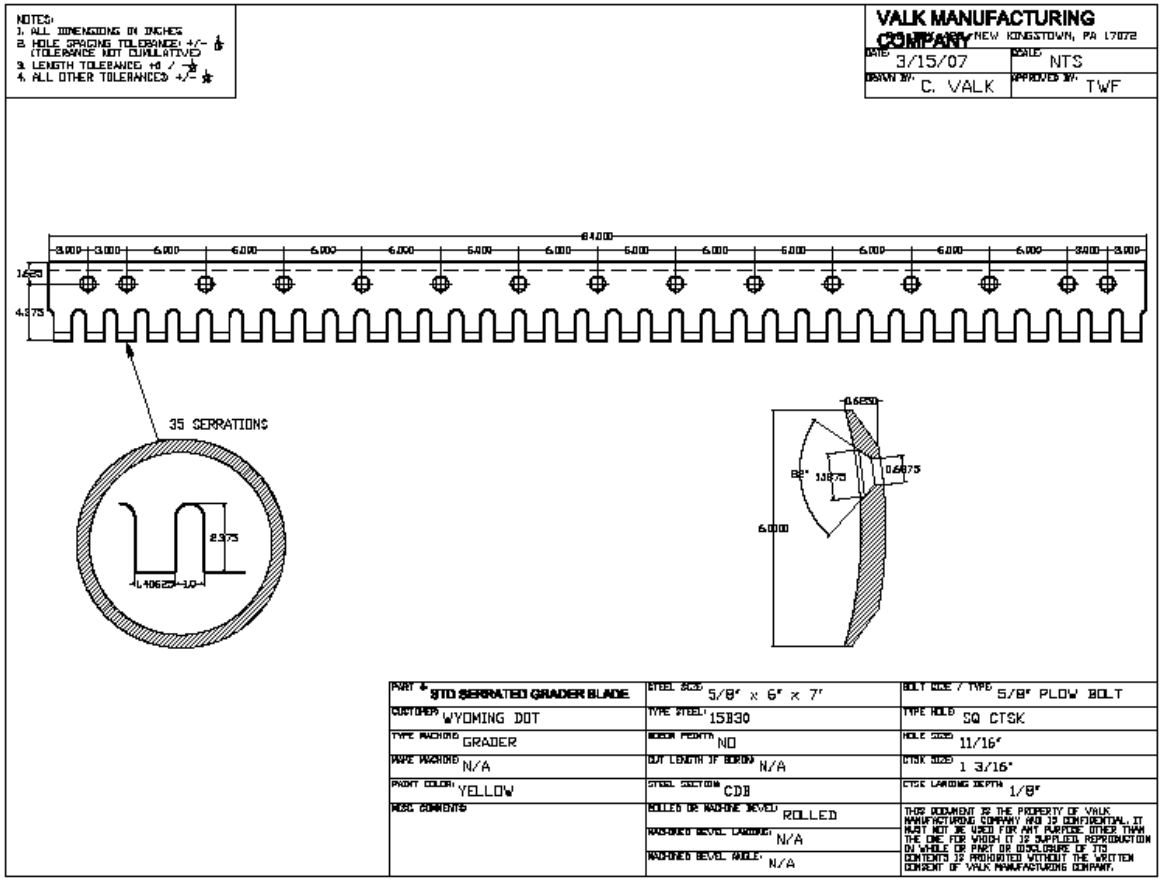
BFM’s offer more options

Mulch, matting, BFM’s, etc., and increasing seed quantities, have all been tried but none will replace seedbed preparation

So how do we improve seedbed prep?

Many of our problems are in reach of a motor grader

We have used serrated blades in the past



Think of all of the applications that a cost effective serrated blade could do.
For example: Fix slopes that are too steep for a farm tractor with the power or a motor grader.

The state owns some nice
equipment but……

Gentlemen: Lets face it, we have gotten a little behind on our soil prep equipment

We need to consider some alternatives, Ditch Witch has a couple

Ditch Witch rototiller attachment

These also can have a seedbox and cultipacker attachment

HARLEY RAKE

Uses: Landscaping and preparing seedbeds; available in rigid, manual, or hydraulic frame swing configurations.

Works with: Zahn 4WD R230, Zahn 4WD R300, SK350, SK500, SK650, XT850

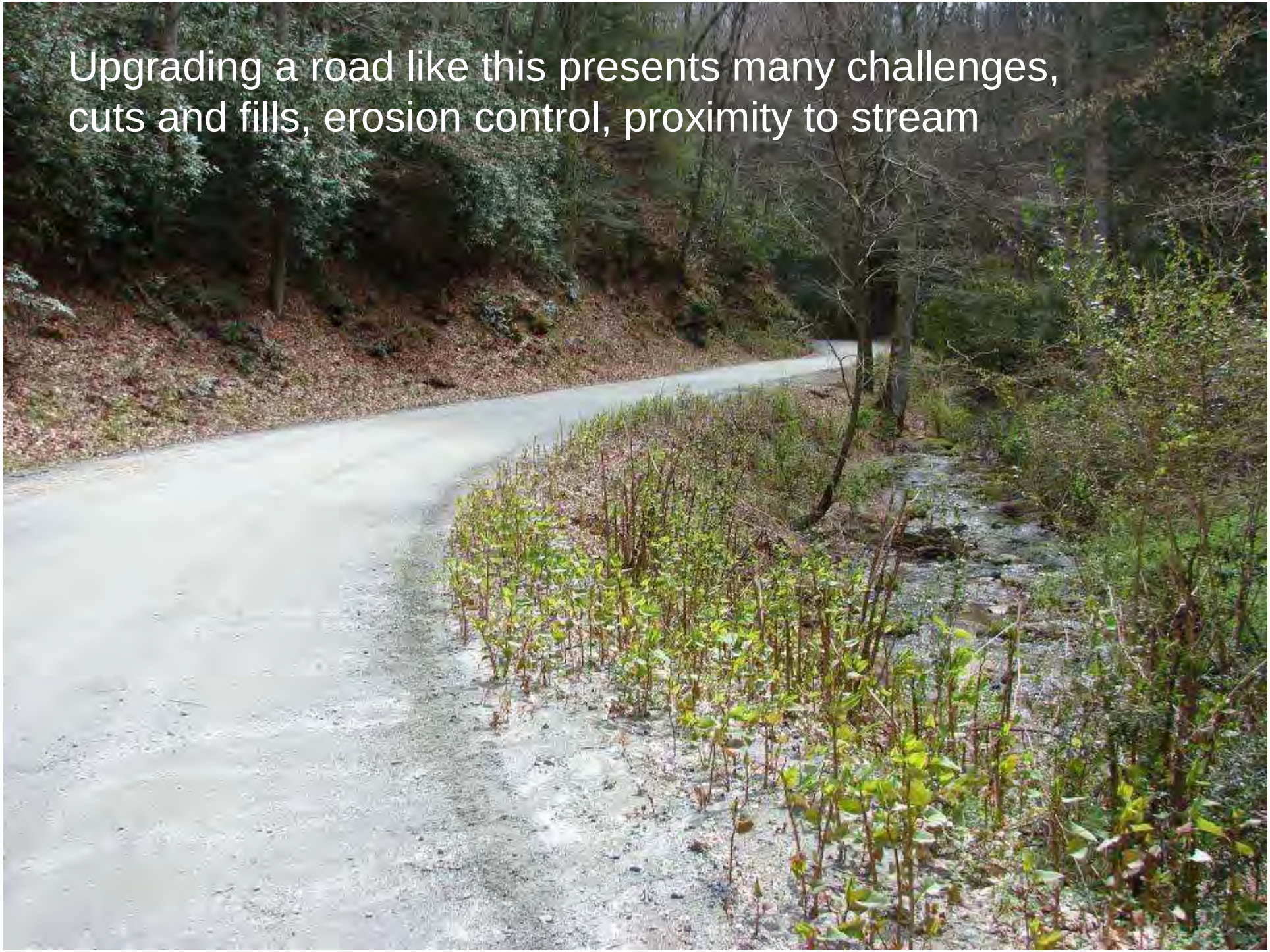
HARLEY® RAKE

DOT owns Drotts
why not “Gradalls”

The articulated boom makes it much more than a hoe

Slope Packer

Heavy duty cleats for cut/fill seedbed prep


Upgrading a road like this presents many challenges,
cuts and fills, erosion control, proximity to stream

Compaction

- Projects built without proper drainage or slope stabilization

- Compact fill slopes

CAT

DOT Specs - Section 235-4 (C)

Embankment Compaction

(1) Compact each layer for its full width to a density equal to at least 95 percent of that obtained by compacting a sample of the material in accordance AASHTO T99 as modified by the Department. Copies of these modified procedures are available upon request from the Department's Materials and Tests Unit.

(2) Uniformly bond all layers to preceding layers.

(3) Compact all surfaces on embankment slopes, principally constructed of soil, that are flatter than 1.5:1 using tracked equipment or other approved methods.

(4) Increase or decrease moisture content of the material before compacting to produce the maximum density that will provide a stable grade.

(5) Exempt portions of rock embankments, that cannot be tested by approved methods, from density requirements.

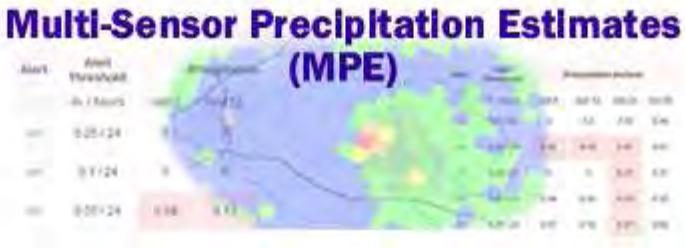
IN SUMMARY

- NCDOT needs more emphasis on erosion control for all maintenance operations.
- No one size (method) will fit all,

  We need to be flexible.
- Use all of the technology available.
- Raleigh needs to assess equipment alternatives.
- We need a plan for improvement.

Furnish the guys and gals with “guns and bullets” and I can promise you that they will get the job done!
“NO BULL”

Questions



Avoiding Land Disturbance During Safety Clearing Operations

Top of ridge reels from erosion due to mowing by DOT maintenance.

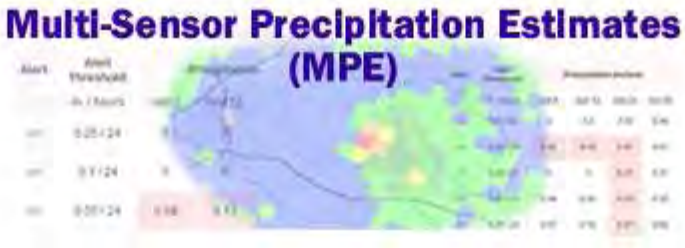
Looking East

Same site
Looking West

Close up of damage
This is the drive way
for a home

NO PARKING
ANY
TIME

Summary

- Avoid land disturbance if at all possible
- If not, develop erosion control plans and/or implement temporary erosion control measures
- Seed and stabilize any exposed erodible slopes

Questions