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**MEMORANDUM**

To: Johnie Marion, Roadside Environmental Unit, NCDOT 

From: Jeff Poupert, Water Quality Permitting Section, NCDWR 

Subject: NCDOT Applicable Requirements from NPDES General Permit No. NCG010000 for Construction Activities and Guidance for Complying with Those Applicable Requirements

Pursuant to NCDOT's NPDES Permit No. NCS000250, Part II, Section D, paragraph (1)(b)(ii) Sediment and Erosion Control Program, NCDOT shall incorporate the applicable requirements of NCG010000, the North Carolina General Permit to Discharge Stormwater under the National Pollutant Discharge Elimination System associated with construction activities disturbing one or more acres of land. To enable NCDOT to incorporate these "applicable requirements", NCDWR has provided below the "applicable requirements" from the NCG010000 as well as guidance for complying with those requirements and frequently asked questions (FAQs) related to the requirements and the guidance. The guidance and FAQs are applicable only to the current NCG010000 NPDES General Permit, effective August 3, 2011. Should changes be made to the NCG010000 NPDES General Permit during its renewal, the guidance and FAQs are subject to change.

***Guidance for Complying with the Requirements from NCG010000***

The purpose of this section is to provide guidance for complying with the requirements of the NCG010000. This section will provide definitions of terms, specific details on monitoring and recordkeeping, and recommendations to maintain compliance with the NCG010000. It is important to note that although all requirements of the NCG010000 permit are applicable to NCDOT projects, this guidance only addresses requirements where there may be some question on implementation. Should questions arise regarding requirements not currently addressed in this guidance, the guidance will be modified to address these questions. **Please read the NCG010000 permit to ensure that you are aware of the requirements.**

**Definitions**

**303(d) listed stream** – Stormwater discharge outfalls (SDOs) to streams listed on the 303(d) impaired waters list may be required to perform additional monitoring at the discretion of NCDWR if the receiving stream is 303(d) listed for turbidity and the project has had documented problems managing turbidity. **Unnamed tributaries draining to the impaired stream reach are assumed to carry the 303(d) listing as well unless otherwise determined by NCDWR.**

**Idle projects** – Idle projects are 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 pursuant to Division of Energy, Mineral and Land Resources

(DEMLR) guidelines. Typically, these projects are two-part projects (grading and paving) with significant gaps between activities or where the project has been stabilized with temporary ground cover and construction has been halted due to weather, funding, or other constraints.

*Permanent Stabilization* -When all soil disturbing activity is completed and exposed soils have been stabilized with a **vegetative cover** with a density of at least **80%** or covered with a **structural stabilization** method. Permanent perennial vegetation may include the use of sod, shrubs and ground cover plants mixed with mulching, aggregate or other landscaping techniques. Structural methods include concrete, asphalt, retaining wall or other stabilization techniques.

#### *Pollutants for visual inspection*

**Clarity** – Clarity refers to the clarity of the stormwater discharge and can range from clear to opaque or very cloudy.

**Oil Sheen** – Oil sheen refers to the shiny or colored luster that result from petrochemicals in the discharge.

**Floating Solids** -Floating solids are any solids, foams, or debris observed floating on the surface of the stormwater discharge.

**Suspended Solids** – Suspended solids is the type of pollution most often associated with construction activities. This term refers to suspended sediment or other particles in the discharge. This also includes sediment that was once suspended and has been deposited outside the limits of the work site.

**Other Obvious Indicators of Stormwater Pollution** -This could be anything not listed above such as de-icing material, slag, industrial pollutants, etc.

*Stormwater Discharge Outfall (SDO)* -An SDO is 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 conveyance or any discharge from a BMP that discharges to waters of the State.

*Temporary Stabilization* -When the establishment of temporary ground cover over all disturbed areas (such as **mulching, rolled erosion control products, temporary/seasonal vegetation, or other material**) renders the surface stable against accelerated erosion. Stabilization shall be achieved with the establishment of a uniform and evenly-distributed (i.e., without large bare areas) ground cover with a cover density of at least **80%**.

#### Construction Site Pollutants

- Construction site pollutants shall be handled in accordance with the NCGO 10000 permit effective August 3, 2011.
- In situations where land clearing and demolition debris, construction and domestic waste, hazardous and toxic wastes, and earthen material stock piles cannot be located at least 50 feet away from storm drain inlets, NCDOT shall contact an appropriate NCDWR representative for assistance in selecting a proper location. Storm drain inlets can include but are not limited to drop inlets, drainage ditches, and settling basins.

#### Ground Stabilization

- Ground stabilization shall be conducted in accordance with the NCG010000 permit

effective August 3, 2011.

- Areas that meet the 7- and 14-day ground stabilization requirements and that are not expected to discharge during construction shall be identified on the approved erosion control plan.
- Any requests for extensions to the 7- and 14-day ground stabilization requirements due to weather or other site-specific conditions that make compliance impracticable must be approved by NCDOT's Roadside Environmental Field Operations Unit personnel. (Our delegated agreement with DEQ places that responsibility on the REU ) It is important to understand the difference between temporary stabilization and permanent stabilization. Temporary stabilization can be mulching, rolled erosion control products, seasonal/ temporary vegetation, or other material with a density of 80% where permanent stabilization is permanent vegetative cover with a density of 80%. See the Definitions section for more details.

### Self-Inspection and Reporting Requirements

All erosion control measures and SDOs shall be inspected during construction once every seven calendar days and within 24 hours after a 0.5" rainfall per 24 hour period. Once construction has been completed, and erodible slopes have been sufficiently stabilized to restrain erosion by application of permanent ground cover varieties and installation of temporary ground cover to include appropriate erosion control matting and/or other approved mulch materials, all remaining erosion control measures and SDOs shall be inspected once every 30 calendar days and within 24 hours after a 0.5" rainfall per 24 hour period. Once permanent stabilization (see definitions section) including vegetation and/or structural stabilization requirements are met, the site is accepted and the inspection cycle is discontinued. SDOs on idle projects (See definition above) may be inspected less frequently. The inspection frequency shall not be less than once every 14 calendar days. However, SDOs on inactive projects must be inspected within 24 hours after a 0.5" rainfall per 24 hour period.

- Inspections of SDOs shall include observing the discharge from the outfall if there is discharge present and making a qualitative assessment of the discharge for clarity, other pollutants (oil sheen, floating or suspended solids, or discoloration). Qualitative assessment of the discharge includes visually observing the outfall at a point just prior to discharging to waters of the State for the parameters listed above. The qualitative assessment shall be made before the discharge joins or is diluted by any other waste stream, body of water, or substance. Samples of the discharge at the SDO are not required. The stream or wetland to which the SDO is discharging shall be inspected for sediment deposition from the discharge. Results of the stream or wetland inspection shall be recorded on the inspection form, SPPPF0RM30, effective July 2010, under the "Sediment Deposited" column. Results of the inspections shall be recorded for each SDO.
- If visible sedimentation is leaving NCDOT property, regardless of whether it is from a SDO or not, corrective actions shall be taken to control the discharge of sediments outside of NCDOT's property. Events where sediment leaves the NCDOT property limits shall be documented in the records along with the corrective actions taken and when the situation was resolved. Any event where sediment leaves the NCDOT property limits (greater than a 5 gal bucket) shall be reported to NCDEMLR within 24 hours or

first knowledge of the occurrence. Any event where sediment (greater than a 5 gallon bucket) or other pollutants are discharged to waters of the State shall be reported to the appropriate offices of NCDWR within 24 hours of first knowledge of the occurrence. NCDWR shall be consulted regarding appropriate clean-up techniques for any loss of pollutants to waters of the State or protected buffer areas.

- Rainfall shall be monitored and recorded every day. To monitor the daily rainfall amounts and to trigger inspections due to a 0.5" or greater rainfall event, NCDOT may use rain gauges or the State Climate Office of North Carolina Multi-sensor Precipitation Estimate (MPE) or other approved remote sensing precipitation tools. If rain gauges are to be used for monitoring rainfall amounts, it is recommended that at least one rain gauge per 3 miles of roadway be maintained on each site unless topographical conditions (e.g., mountains) necessitate more gauges.
- At a minimum, inspection records shall include the following:
  - Control Measure Inspections - Daily rainfall amounts (record "zero" if no rain fell), identification of each measure inspected, date and time of the inspection, name of the person performing the inspection, indication of whether the measures were operating properly, description of maintenance needs for the measure, and corrective actions taken. If using the MPE site, a print out from the website can be attached to the end of the week's report.
  - SDO Inspections - Identification of each SDO inspected, date and time of the inspection, name of the person performing the inspection, evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids, or discoloration, indication of visible sediment leaving the NCDOT property limits or entering waters of the State, actions taken to correct/prevent sedimentation outside the NCDOT property limits or in waters of the State, and when the action was completed.
  - Visible Sedimentation Found Outside the NCDOT Property Limits - Inspection records must include an explanation as to the actions taken to control future releases, actions taken to clean up the sediment that has left the NCDOT property limits, and when the action was completed.
  - Visible Sedimentation Found in Streams or Wetlands - All inspections should include evaluation of streams or wetlands onsite or offsite (where accessible) to determine if visible sedimentation has occurred. The offsite component of this can be very subjective. Best professional judgment should be used in determining whether an offsite stream or wetland has the potential to be impacted by a sediment loss. Factors used to make this determination should include distance from the SDO or other discharge point, slope, soil type, general topography, etc. NCDWR will provide assistance in making these determinations.
- If maintenance, modifications, additions, or corrective actions are needed on any control measures to prevent the discharge of pollutants to waters of the State or beyond the NCDOT property limits, these actions must be performed within 24 hours for urgent items and within 5 days of discovery for routine items (see FAQ section for differentiation of routine and urgent items). Any maintenance, modifications, additions, or corrective actions shall be recorded on the inspection form, SPPPF0RMB0, effective July 2010.

### Sediment Basins

- Sediment basins shall be designed, installed, and operated in accordance with the NCGO 10000 permit effective August 3, 2011.
- For basins or traps with 1.0 acre of drainage or more that require the withdrawal of water from the surface, basin designs such as skimmer basins, riser basins, and infiltration basins as shown on Attachments 1 and 2 are acceptable.
- Basins that receive drainage of 1.0 acre or more shall be identified on the approved erosion control plan.

### Discharges to Special or Threatened Waters

- Disturbed areas within one mile of and draining to waters where federally-listed threatened or endangered aquatic species are present shall be limited at any time to a maximum total area within the boundaries of the tract of 20 acres. These projects shall also use control measures that are designed, installed and maintained in accordance with criteria set forth in 15A NCAC 04B.0124, "Design Standards in Sensitive Watersheds". Other management practices may be acceptable if these designs are shown by the applicant, to the satisfaction of the Director of the Division of Water Resources, to provide equivalent protection.
- Construction activities in High Quality Waters Zones require quicker ground stabilization provision as specified in Section II.B.2.b. of the permit.

### ***Frequently Asked Questions (FAQs)***

This guidance takes effect on NCDOT projects with an erosion control plan approved after August 2, 2011.

#### **When should NCDOT begin using the new combined Stormwater Inspection - Land Disturbing Self-Inspection Report (combined form)?**

The August 3, 2011 NCG010000 permit did not require changes in the reporting form. NCDOT should continue to use form SPPPF0000#, effective July 2010.

#### **If a portion of a NCDOT project has been permanently stabilized to 80% areal coverage, can monitoring of SDOs in this portion be discontinued?**

No. Monitoring and documentation must continue until the entire project has been permanently stabilized to meet the 80% areal coverage standard. The only exceptions to this would be 1) Secondary road projects where small sections of the project are graded, stabilized, and paved before moving to the next section of the project, or 2) TIP projects with multiple sections (e.g., R-XXXXA, B, and C) where construction is begun on each section at different times. In this scenario, the project limits would be the limits of the individual sections, A, B, and C. Therefore, if section A is graded, drained, and permanently stabilized to meet the 80% coverage standard, no further NCG010000 monitoring would be required on the A section regardless of the construction stage of sections B and C.

**When projects are completed and if vegetation has not established to 80% at final, who will be responsible for record keeping? Who should sign the combined form during those times?**

It is recommended that the Resident Engineer's office follow the project until permanent vegetation is adequately established. A signature by a NCDOT Certified Level II supervisor is satisfactory.

**Are the contractors responsible for completing the combined form, SPPPF30, effective July 2010?**

Yes. The E&SC/SW provisions in the contract require the contractor to complete the combined form, SPPPF30, effective July 2010.

**Do measures needing repair need to be noted on the combined form, SPPPF30, effective July 2010 if they were repaired immediately?**

Yes. Any measure needing repair must be documented on the combined form, SPPPF30, effective July 2010.

**How much off-site sediment warrants a call to the agencies?**

If the amount of sediment that left the site or entered waters of the State is less than what would fit in a 5-gallon bucket, then NCDOT does not have to contact NCDEMLR and/or NCDWR within 24 hours of discovery. However, the sediment loss must be documented on the combined form along with any corrective actions taken to clean up the sediment. If the amount of sediment that left the site is equal to or greater than the amount that would fit in a 5-gallon bucket, then NCDOT must contact NCDEMLR. If the amount of sediment that entered waters of the State is equal to or greater than the amount that would fit in a 5-gallon bucket, then NCDOT must contact NCDWR within 24 hours of discovery. All sediment losses, corrective actions, and the date that NCDEMLR and/or NCDWR were contacted shall be included on the combined form. For any loss of pollutants equal to or greater than the amount that would fit in a 5-gallon bucket to waters of the State or protected buffer areas, NCDOT must contact NCDWR for consultation regarding clean-up techniques.

**Will someone be training the contractor? Resident Offices see a problem with contractors understanding this combined form, SPPPF30, effective July 2010 and being able to complete it with any accuracy.**

All contractors were given the opportunity to attend webinar training sessions conducted by Raleigh REU. The resident offices will provide re-emphasis on the details of the combined form, SPPPF30, effective July 2010. For further assistance, contact your local NCDWR representative.

**Why are we being trained on this when contractor is responsible for it? Also, why am I forced to sign SPPPF30, effective July 2010, agreeing it is accurate and completed in accordance with NCG010000 permit when I didn't perform the inspection?**

Although a contractor may be conducting the work on an NCDOT construction site, NCDOT is issued the permit and is ultimately responsible for the activities conducted on the construction site. By signing the form, you verify that the contractor has fulfilled the inspection requirements completely.

**Is the signature block on the combined form, SPPPF30, effective July 2010, to be signed at the end of the week or after the routine weekly inspection?**

The combined form, SPPPF30, effective July 2010, should be signed at the end of each week or once all corrective actions have been completed. In the event that corrective actions are not completed prior to the end of the week, and those corrective actions are within the 24 hour or 5 day time frame, the corrective actions can be carried over to the next week's report. Under no circumstances should the same corrective actions be carried over more than one week. The report should be signed when the corrective actions have been completed.

**How does the NCDOT inspector know a contractor actually acknowledged and met the "Urgent" repair time frame if it is not signed off on every day it's conducted?**

Any items listed "Urgent" by the contractor should be reported to the NCDOT inspector. Inspectors will have to document that contractors are meeting the "Urgent" corrective action timeframes by inspecting the site and initialing the correction date. The NCDOT inspector should sign off on the sheet at the end of the week if everything is correct and completed.

**How does the inspector know the difference between an "Urgent" and a "Routine" corrective action items?**

Any erosion control device that is damaged that has the potential to lose sediment and/or pollutants off-site and/or into surface waters should be treated as an "Urgent" item. "Routine items" include corrective actions on-site that don't have the potential to lose sediment and/or pollutants off-site or into surface water.

**How far does the outlet of an erosion control device have to be from waters of the State to be considered an SDO?**

No specific distance from the outlet of an erosion control device to waters of the State has been prescribed. To determine what qualifies as an SDO, the inspector should consider the distance, the topography, and the vegetative conditions between the outlet and waters of the State. For example, an outlet that is 30' from waters of the State on a flat slope with heavy vegetation may not be considered an SDO whereas an outlet located 30' from waters of the State on a steep grade with sparse vegetation may be considered an SDO. The inspector should also consider the potential volume of the discharge from the outlet. High potential discharge volumes may make a discharge outlet an SDO that would not qualify as an SDO under low potential discharge volume conditions. Certain conditions may not qualify a discharge outlet to be an SDO, but the discharge outlet may have a high potential to impact waters of the State or other resources. Discharge outlets upstream and in close proximity to sensitive resources such as High Quality Waters, Water Supply watersheds, etc. or sensitive property owners may necessitate regular inspections similar to those required for an SDO. For further assistance in determining whether a discharge outlet is an SDO, contact your local NCDWR representative.

**What is the difference between temporary stabilization and temporary vegetation?**

Temporary stabilization is defined in the definitions section and can include mulching, rolled erosion control products, vegetation, or other materials. Temporary stabilization is applicable to active projects. Temporary vegetation is required on idle projects and is defined as actual growing vegetation with a cover density of at least 80%.

**How many years must the NPDES records be kept?**

The NCGO 10000 monitoring records must be kept for 3 years after completion of the project.

**Do the check marks for phase of grading transfer cumulatively so that eventually it is filled up or is the current phase grading checked for that week's report?**

The phases of grading do not transfer week to week. Check only the current phase(s) of grading for the project on the weekly report.

**Can I use white-out on my inspection records?**

It is not recommended that white-out be used on inspection records. If a mistake is made, simply mark through the mistake, initial it, and rewrite the record correctly.

**Can I use computer print outs for my records?**

Yes. Computer print outs can be used for records. However, pre-printed results are highly discouraged as they appear misleading to field inspectors.

**Can you provide an example of good recordkeeping?**

Examples of good NPDES recordkeeping can be found at the website below. Under NPDES Documentation, see "NPDES TIP Examples" and "NPDES SR Examples".

[http://www.ncdot.gov/doh/operations/dp\\_chief\\_eng/roadside/fieldops/downloads/](http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/)

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