DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WATER QUALITY

FACT SHEET

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT TO DISCHARGE STORMWATER

Permit Nos. NCG060000 Date: September 4, 2012

1. TYPES OF DISCHARGES COVERED

a. ***Industrial Activities Covered by this General Permit***

Coverage under this general permit is applicable to all owners or operators of stormwater point source discharges associated with activities classified as establishments primarily engaged in activities classified as **Food and Kindred Products** [standard industrial classification (SIC) 20], **Tobacco Products** (SIC 21), **Soaps, Detergents and Cleaning Preparations; Perfumes, Cosmetics and Other Toilet Preparations** (SIC 284), **Drugs** (SIC 283), and **Public Warehousing and Storage** (SIC 4221-4225).

b. ***Types of Operations Covered***

Major Group 20: Food and Kindred
This major group includes establishments manufacturing or processing foods and beverages for human consumption, and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls. Products described as dietetic are classified in the same manner as non-dietetic products (e.g., as candy, canned fruits, cookies). Chemical sweeteners are classified in Major Group 28.

Major Group 21: Tobacco Products
This major group includes establishments engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, snuff, and reconstituted tobacco and in stemming and redrying tobacco. Also included in this major group is the manufacture of non-tobacco cigarettes. The manufacture of insecticides from tobacco by-products is included in Major Group 28.

2841 Soap and Other Detergents, Except Specialty Cleaners
Establishments primarily engaged in manufacturing soap, synthetic organic detergents, inorganic alkaline detergents, or any combination thereof, and establishments producing crude and refined glycerin from vegetable and animal fats and oils. Establishments primarily engaged in manufacturing shampoos or shaving products, whether from soap or synthetic detergents, are classified in Industry 2844; and those manufacturing synthetic glycerin are classified in Industry 2869.

2842 Specialty Cleaning, Polishing, and Sanitation Preparations
Establishments primarily engaged in manufacturing furniture, metal, and other polishes; waxes and dressings for fabricated leather and other materials; household, institutional, and industrial plant disinfectants; nonpersonal deodorants; drycleaning preparations; household bleaches; and other sanitation preparations. Establishments primarily engaged in manufacturing industrial bleaches are classified in Industry 2819, and those manufacturing household pesticidal preparations are classified in Industry 2879.

2843 Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants
Establishments primarily engaged in producing surface active preparations for use as wetting agents, emulsifiers, and penetrants. Establishments engaged in producing sulfonated oils and fats and related products are also included.

2844 Perfumes, Cosmetics, and Other Toilet Preparations
Establishments primarily engaged in manufacturing perfumes (natural and synthetic), cosmetics, and other toilet preparations. This industry also includes establishments primarily engaged in blending and compounding perfume bases; and those manufacturing shampoos and shaving products, whether from soap or synthetic detergents. Establishments primarily engaged in manufacturing synthetic perfume and flavoring materials are classified in Industry 2869, and those manufacturing essential oils are classified in Industry 2899.

2833 Medicinal Chemicals and Botanical Products
Establishments primarily engaged in: (1) manufacturing bulk organic and inorganic medicinal chemicals and their derivatives and (2) processing (grading, grinding, and milling) bulk botanical drugs and herbs. Included in this industry are establishments primarily engaged in manufacturing agar-agar and similar products of natural origin, endocrine products, manufacturing or isolating basic vitamins, and isolating active medicinal principals such as alkaloids from botanical drugs and herbs.

2834 Pharmaceutical Preparations
Establishments primarily engaged in manufacturing, fabricating, or processing drugs in pharmaceutical preparations for human or veterinary use. The greater part of the products of these establishments are finished in the form intended for final consumption, such as ampoules, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions. Products of this industry consist of two important lines, namely: (1) pharmaceutical preparations promoted primarily to the dental, medical, or veterinary professions, and (2) pharmaceutical preparations promoted primarily to the public.

2835 In Vitro and In Vivo Diagnostic Substances
Establishments primarily engaged in manufacturing in vitro and in vivo diagnostic substances, whether or not packaged for retail sale. These materials are chemical, biological, or radioactive substances used in diagnosing or monitoring the state of human or veterinary health by identifying and measuring normal or abnormal constituents of body fluids or tissues.

2836 Biological Products, Except Diagnostic Substances
Establishments primarily engaged in the production of bacterial and virus vaccines, toxoids, and analogous products (such as allergenic extracts), serums, plasmas, and other blood derivatives for human or veterinary use, other than in vitro and in vivo diagnostic substances. Included in this industry are establishments primarily engaged in the production of microbiological products for other uses. Establishments primarily engaged in manufacturing in vitro and in vivo diagnostic substances are classified in Industry 2835.

4221 Farm Product Warehousing and Storage
Establishments primarily engaged in the warehousing and storage of farm products. Establishments primarily engaged in refrigerated warehousing are classified in Industry 4222.

4222 Refrigerated Warehousing and Storage
Establishments primarily engaged in the warehousing and storage of perishable goods under refrigeration. The establishments may also rent locker space for the storage of food products for individual households and provide incidental services for processing, preparing, or packaging such food for storage. Establishments primarily selling frozen foods for home freezers (freezer and locker meat provisioners) are classified in Retail Trade, Industry 5421.

4225 General Warehousing and Storage
Establishments primarily engaged in the warehousing and storage of a general line of goods. The warehousing of goods at foreign trade zones is classified in Industry 4226. Field warehousing is classified in Services, Industry 7389.

(From http://www.osha.gov/)

c. ***Characteristics of Discharged Stormwater***

Typical Food and Kindred products processing facilities do not conduct many processing operations outdoors. The nature of the business, and the required sanitary conditions, require that the raw materials through final product be protected from stormwater. As such, the contamination of stormwater from this sector is primarily from the loading and unloading of products and raw materials, spillage and leaks from tanks and containers stored outdoors, waste management practices, pest control, and improper connections to the storm sewer. Such facilities generally do not have emissions from stacks. Storage of raw materials, intermediate products, or chemicals does not typically occur outside. Production of significant emissions from stacks or air exhaust systems are not a part of the manufacturing process at these facilities. The use of un-housed manufacturing and heavy industrial equipment is minimal. Because of the processes and materials used at these plants, significant amounts of fugitive dust or particulate are not generated. In addition, most facilities in these categories do not use hazardous materials or chemicals. Some food processing facilities use solvents such as hexane, methyl ethyl ketone, and methylene chloride for extraction and leaching operations. However, extraction and leaching operations are expected to be performed indoors.

Those industries involved in the manufacture of soap, detergents, cleaning preparations, perfumes, cosmetics and other toilet preparations may conduct some portion of their operations outdoors. They may be expected to have process and manufacturing equipment that is exposed to the environment. Other common sources of stormwater contamination are outside storage facilities such as tanks and chemical and material conveyance systems which release pollutants as a result of leaking pump seals or piping and spills. However, their activity is closely related to the activities involved in the food, tobacco, and drugs industries.

Establishments that are involved in public warehousing and storage are most often conducting their activities in indoor locations. These activities include such operations as farm product warehousing and storage (bean elevators, grain elevators, potato cellars and tobacco warehousing, etc.) and refrigerated warehousing and storage (cheese warehouses, cod storage locker rental, storage or warehousing of frozen or refrigerated goods, self-storage warehousing, etc.). Storage of raw materials, intermediate products, final products, by-products, waste products, and chemicals generally does not occur outside. Production of significant emissions from stacks or air exhaust systems will not be a part of the warehousing and storage activities. The use of un-housed manufacturing and heavy industrial equipment will not typically occur at these facilities. Significant amounts of dust or particulate are not generated at these facilities.

This General Permit renewal proposes the same parameters be monitored in stormwater discharges as in the previous permit, except enterococci has been added for salt waters to mirror N.C. water quality standards. Data submitted in response to the previous NCG060000 permit term covered: Fecal Coliform (meat processors only), pH, Oil and Grease (O&G), Total Suspended Solids (TSS), and Chemical Oxygen Demand (COD) with the vehicle maintenance areas (VMA) monitored for pH, O&G, and TSS. Analysis of data submitted by permittees indicated that all parameters had averages or maximum reported values that exceeded current benchmark concentrations. The decision to retain parameters from the previous permit was based in part on this assessment, but also on their continued usefulness as stormwater pollution indicators for these industry types—especially within the monitoring scheme

and tiered responses continued by this renewal permit. A tabular explanation of the data analysis is presented in the **Appendix A**.

For facilities discharging to saltwaters, Enterococci is more appropriate for use instead of Fecal Coliform. In addition to meat processors, sampling for Fecal Coliform or Enterococci is being expanded for this renewal to facilities that use or process animal fats or animal byproducts. This decision is based on observations by DWQ inspectors at facilities with other products, and on their value as stormwater pollution indicators for these facility types.

DWQ believes that the monitoring and control of stormwater discharges from vehicle maintenance areas continues to benefit and improve water quality in North Carolina. In this permit renewal cycle, permittees discharging VMA stormwater are required to monitor total petroleum hydrocarbons (TPH) instead of oil and grease (O&G). This is consistent with other recently renewed permits, such as those from 2009 and 2011. DWQ believes TPH is an improved and more precise monitoring parameter for VMA activities for several reasons: first, TPH is a more targeted parameter, testing only for the family of chemical compounds that originally come from crude oil such as gasoline, diesel, and kerosene; second, discharges associated with significant oil contamination would only be expected from vehicle maintenance areas; and finally, a lower benchmark also applies (15 mg/L instead of the 30 mg/L), all reasons that make this a more targeted and thorough parameter. North Carolina's new TPH benchmark is consistent with other states' benchmarks and/or limits. Lab costs are comparable to the previous O&G analysis (see **Appendix C**). This does not change the analytical monitoring for O&G in the facility areas outside any VMA.

d. ***Geographic Area(s) Covered by General Permit***

Discharges covered are located at any place within the political boundary of the State of North Carolina. Discharges located on the Cherokee Indian Tribal Reservation are subject to permitting by the U.S. Environmental Protection Agency and are not covered by this general permit.

e. ***Receiving Waters***

Receiving waters include all surface waters of North Carolina or municipal separate storm sewer systems conveying stormwater to surface waters.

2. DISCHARGE CONTROLS AND LIMITATIONS

Rationale: DWQ's permitting program strategy addresses the pollution potential of industrial stormwater. Permittees must be able to demonstrate that on-site industrial materials are not reaching receiving waters or becoming water pollutants. DWQ's methodology for achieving this is through scheduled self-monitoring by each permittee.

The renewal permit continues to incorporate **benchmark concentrations** for analytical monitoring to provide facilities a tool with which to assess the effectiveness of best management practices (BMPs). These benchmark concentrations are not effluent limits but provide guidelines for the facility's Stormwater Pollution Prevention Plan (SPPP or Plan). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater BMPs in a tiered program.

This General Permit renewal requires increased monitoring if permittees fail to monitor stormwater per the permit terms. After six months of monthly monitoring, the permittee may make a request to DWQ to return to a semi-annual monitoring schedule. If sites exceed benchmark standards, the tiered structure will require the permittee to increase or modify the monitoring schedule.

Stormwater must be controlled by the development and implementation of a Stormwater Pollution Prevention Plan (SPPP or Plan). The Plan requirements received some minor updates in this renewal. Refer to Part II, Section A of the draft permit for detailed requirements.

3. MONITORING AND REPORTING REQUIREMENTS

This general permit specifies monitoring and reporting requirements for both quantitative and qualitative assessment of the stormwater discharge and operational inspections of the entire facility. Specific pollutant parameters for which sampling must be performed and the frequency of the sampling are based upon the types of materials used and produced in the manufacturing processes and the potential for contamination of the stormwater runoff at these facilities. This permit renewal has specific monitoring requirements for the following parameters: Total Rainfall, Fecal Coliform [freshwater] or Enterococci [saltwater] (only facilities that use or process meat or animal fats/byproducts), pH, Oil and Grease (O&G), Total Suspended Solids (TSS), Chemical Oxygen Demand (COD), and total rainfall. The rationale for retaining these parameters, and expanding sampling for Fecal Coliform or Enterococci, in this renewal permit was based on their continued usefulness as stormwater pollution indicators for activities at these industries within the monitoring scheme. Vehicle maintenance areas (VMA) include monitored for pH, TPH, TSS, and total rainfall.

The draft permit incorporates a modified definition of a storm event that is to be sampled. Previous permits and most other stormwater General Permits define the stormwater event to be sampled as the "representative storm event". The proposed NCG060000 General Permit now requires permittees to sample the "Measurable Storm Event", a new term for North Carolina stormwater permits. The "Measurable Storm Event" is an event that results in an actual discharge, rather than an event with a rainfall measuring 0.1 inches or more. To qualify as a Measurable Storm Event, the previous storm event must have been at least 72 hours prior.

The Division updated its monitoring strategy and benchmark for fecal coliform and enterococci for individual permits in 2007. Please refer to **Appendix B** for further background and rationale for the fecal coliform and enterococci benchmarks proposed in the renewal permit.

In addition to analytical monitoring, this renewal permit specifies qualitative (visual) monitoring of each stormwater outfall for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan and assessing new sources of stormwater pollution. Qualitative monitoring parameters include color, odor, clarity, floating and suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. Qualitative monitoring must be performed during a measureable storm event and at the same time as the analytical monitoring. The permittee must also use a standard form provided by DWQ to record results.

There is a revised "response action" commitment based on qualitative monitoring. If the permittee identifies that BMPs are ineffective or there is evidence of stormwater contamination problems, the permittee must document the potential causes and corrective actions, and include this information in the SPPP. If the permittee repeatedly fails to respond to problems, or stormwater discharges cause or contribute to a water quality standard violation, DWQ may require more frequent qualitative monitoring, increased stormwater management actions, or application for coverage under an individual permit.

The General Permit requires reporting the monitoring results on Discharge Monitoring Forms (DMR) within 30 days of the permittee receiving lab reports. The permit text provides that the permittee may be excused from stormwater monitoring during periods of adverse weather or discharge / no flow, upon submittal of a DMR with a notation of "Adverse Weather," "No Flow This Period,", or like explanation. In the past, DWQ's practice under other stormwater General Permits has been to advise permittees that failure to monitor due to extended drought; or due to discharges only from dangerous thunderstorms,

hurricanes, or tropical storms; or due to discharges only available from night-time storms have all been excused. On the other hand, DWQ does not consider that rainfall occurring only on weekends is a sufficient impediment to excuse failure to monitor.

Additional monitoring and reporting requirements include:

a. The Stormwater Pollution Prevention Plan shall be reviewed and updated on an annual basis. Implementation of the plan shall include documentation of all sampling, measurements, Tier 1, Tier 2, and Tier 3 actions, inspections and maintenance activities and training provided to employees. Such documentation shall be kept on-site for a period of five years and made available to DWQ immediately upon request. If DWQ determines that a Plan does not meet requirements of the permit, the permittee must give DWQ a time schedule for modifying the Plan and certify that the Plan has been so modified.

b. Self-inspections of the facility and all stormwater systems shall occur at a minimum on a semi-annual schedule. The inspections and any subsequent maintenance activities performed shall be documented, recording date and time of inspection, individual(s) making the inspection and a narrative description of the facility's stormwater control system, plant equipment and systems. Records of these inspections shall be incorporated into the Plan.

c. A log of the sampling results and activities taken to implement BMPs associated with the industriatl activities shall be maintained and incorporated into the Plan.

d. Sample collection and qualitative monitoring shall be performed at all stormwater discharge outfall locations. A facility with multiple discharge locations which are substantially identical may petition DWQ to allow sampling of a reduced number of outfalls. Visual observations shall be recorded for all outfall locations..

e. For purposes of stormwater sampling, all samples shall be collected from a discharge resulting from a measurable storm event. If the stormwater runoff is controlled by a detention pond, a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge.

f. The renewal permit outlines a tiered response to exceedences of benchmark values. These tiers require increased monitoring, increased management actions, increased record keeping, and/or installation of stormwater BMPs.

4. COMPLIANCE SCHEDULE

Permittees covered by this general permit shall comply with the monitoring, controls, and limitations specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the **Certificate of Coverage** and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this general permit, shall be accomplished within 12 months of the effective date of the issuance of the **Certificate of Coverage**.

New Facilities applying for coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this general permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

Existing facilities previously permitted and applying for renewal under this General Permit: All requirements, conditions, limitations, and controls contained in this permit (except new SPPP elements in this permit renewal) shall become effective immediately upon issuance of the **Certificate of Coverage**. New elements of the Stormwater Pollution Prevention Plan for this permit renewal shall be developed and implemented within 6 months of the effective date of this general permit and updated thereafter on an annual basis. Secondary containment, as specified in Part III, Paragraph 2(b) of this general permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

5. SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

There are no proposed special conditions.

6. BASIS FOR CONTROLS AND LIMITATIONS

The conditions of this general permit has been designed using best professional judgment to achieve water quality protection through compliance with the technology-based standards of the Clean Water Act (Best Available Technology [BAT] and Best Conventional Pollutant Control Technology [BCT]). Where the Director determines that a water quality violation is occurring and water quality-based controls or effluent limitations are required to protect the receiving waters, coverage under the general permit shall be terminated and an individual permit will be required. Based on a consideration of the appropriate factors for BAT and BCT requirements, and a consideration of the factors discussed below in this fact sheet for controlling pollutants in stormwater discharges associated with the activities as described in Item 1 (Types of Discharge Covered), this permit retains a set of requirements for developing and implementing stormwater pollution prevention plans, and specific requirements for monitoring and reporting on stormwater discharges.

The permit conditions reflect the Environmental Protection Agency's (EPA) and North Carolina's pollution prevention approach to stormwater permitting. The quality of the stormwater discharge associated with an industrial activity will depend on the availability of pollutant sources. This renewal permit still reflect the Division's position that implementation of Best Management Practices (BMPs) and traditional stormwater management practices which control the source of pollutants meets the definition of BAT and BCT. The permit conditions are not numeric effluent limitations, but rather are designed to be flexible requirements for developing and implementing site specific plans to minimize and control pollutants in the stormwater discharges associated with the industrial activity.

Title 40 Code of Federal Regulations (CFR) Part 122.44(k)(2) authorizes the use of BMPs in lieu of numeric effluent limitations in NPDES permits when the agency finds numeric effluent limitations to be infeasible. The agency may also impose BMP requirements which are "reasonably necessary" to carry out the purposes of the Act under the authority of 40 CFR 122.44(k)(3). The conditions of the renewal permit is retained under the authority of both of these regulatory provisions. The pollution prevention requirements (BMP requirements) in this permit operate as limitations on effluent discharges that reflect the application of BAT/BCT. The basis is that the BMPs identified require the use of source control technologies which, in the context of this permit, are the best available of the technologies economically achievable (or the equivalent BCT finding).

All facilities covered by this stormwater general permit must prepare, retain, implement, and (at a minimum of annually) update a stormwater pollution prevention plan. The term "pollution prevention" distinguishes this source reduction approach from traditional pollution control measures that typically rely on end-of-pipe treatment to remove pollutants in the discharges. The plan requirements are based primarily on traditional stormwater management, pollution prevention and BMP concepts, providing a

flexible basis for developing site-specific measures to minimize and control the amounts of pollutants that would otherwise contaminate the stormwater runoff.

The pollution prevention approach adopted in the stormwater pollution prevention plans in this renewal permit still focuses on two major objectives: 1) to identify sources of pollution potentially affecting the quality of stormwater discharges associated with industrial activity from the facility; and 2) to describe and ensure that practices are implemented to minimize and control pollutants in stormwater discharges associated with industrial activity from the facility and to ensure compliance with the terms and conditions of the permit.

The Division believes that it is not appropriate, at this time, to require a single set of effluent limitations or a single design or operational standard for all facilities which discharge stormwater associated with industrial activity. The permit instead establishes a framework for the development and implementation of site-specific stormwater pollution prevention plans. This framework provides the necessary flexibility to address the variable risk for pollutants in stormwater discharges associated with the industrial activities that are addressed in this permit, while ensuring procedures to prevent stormwater pollution at a given facility are appropriate given the processes employed, engineering aspects, functions, costs of controls, location, and age of facility (as discussed in 40 CFR 125.3). This approach allows flexibility to establish controls which can appropriately address different sources of pollutants at different facilities.

In 1979, EPA completed a technical survey of industry best management practices (BMPs) which was based on a review of practices used by industry to control the non-routine discharge of pollutants from non-continuous sources including runoff, drainage from raw material storage areas, spills, leaks, and sludge or waste disposal. This review included analysis and assessment of published articles and reports, technical bulletins, and discussions with industry representatives through telephone contacts, written questionnaires and site visits. The technical survey identified two classes of pollution control measures.

The first class of controls are those management practices which are generally considered to be essential to the development of an effective and efficient BMP program, low in cost, and applicable to broad categories of industries and substances. These controls include the following: developing a Spill Control Committee and implementing spill reporting, material inventorying and compatibility reviews, employee training, visual inspections, preventative maintenance programs, good housekeeping, and addressing security issues. These practices are broadly applicable to all industries and can be implemented by each facility independent of the category of industry, ancillary sources, specific chemicals used at different sites, and/or plant site locations. The survey concluded that these controls should be minimum requirements for any effective BMP program.

The second class of controls includes management practices which provide for a second line of defense against the release of pollutants. These controls include prevention measures, containment measures, mitigation and cleanup measures and treatment methods. The types of chemicals, industrial operations and various ancillary sources specify the controls applicable to an individual facility.

The EPA and NPDES States have, on a case-by-case basis, imposed BMP requirements in NPDES permits. The EPA has also continued to review and evaluate case studies involving the use of BMPs and the use of pollution prevention measures associated with spill prevention and containment measures for oil. The development of the NPDES permit application requirements for stormwater discharges associated with industrial activity resulted from the evaluation and identification of the potential contaminants and the resultant water quality impacts of stormwater discharges from industrial sites. Public comments received during the rule making provided additional insight regarding stormwater risk assessment, as well as appropriate pollution prevention and control measures and strategies. During that time EPA again reviewed stormwater control practices and measures. These experiences have shown the Division that pollution prevention measures such as BMPs can be appropriately used and that permits containing BMP

requirements can effectively reduce pollutant discharges in a cost-effective manner. BMP requirements are being appropriately imposed in general permits in lieu of numeric effluent limitations pursuant to 40 CFR 122.44(k)(2).

There has been no change to this rationale since the previous general permit.

Benchmarks

The proposed pH benchmark range is based on N.C. Water Quality Standards contained in 15A NCAC 02B .0211 and is consistent with other renewed general stormwater permits.

The standard TSS benchmark of 100 mg/L is based on the median concentration derived from the National Urban Runoff Program (NURP) study in 1983 and serves as a benchmark in most other industrial stormwater permits with TSS monitoring. The lower TSS benchmark for ORW, HQW, Trout, and Primary Nursery Area (PNA) waters of 50 mg/L reflects half that standard value and was set to flag potential problems in discharges to waters with much lower water quality standards for TSS concentrations (20 mg/L for HQW and ORW; 10 mg/L for Trout and PNA waters).

The benchmark for Chemical Oxygen Demand (COD), 120 mg/L was set using best professional judgment (BPJ). Generally, COD is found at levels four times the BOD_5 levels in domestic wastewaters.

Fecal Coliform - 1000 col/100 ml. This value is based on BPJ and was consistent with the maximum (one-sample) threshold specified in Virginia's older Water Quality Standards. The N.C. Water Quality Standard (for all Class C waters, based on human health) says that fecal coliforms shall not exceed a geometric mean of 200/100ml (MF count) based upon at least five consecutive samples examined during any 30-day period, nor exceed 400/100ml in more than 20 percent of the samples examined during such period. The SPU does not consider these values practical for a stormwater benchmark. In addition, the N.C. Standard, 2B .0211, specifies that violations of that standard "are expected during rainfall events." The most recent N.C. Water Quality Standard maintains the fecal coliform indicator for freshwaters. If sampling is necessary, monthly sampling is recommended in order to yield statistically significant results. Consider comparing the Benchmark Guidance Value to a geometric mean of at least 10 samples.

Enterococci - 500 enterococcus/100 ml. This was set using EPA's 1986 Ambient Water Quality Criteria for Bacteria. However, the data supporting this value was collected through non-traditional means. Many people who had been exposed to waters with varying enterococcus levels were interviewed several days after exposure. Though this method was an attempt to determine an appropriate value, North Carolina still considers this value to be BPJ. However, this value represents a single-sample maximum for saltwaters, and therefore if enterococcus sampling is necessary, compliance can be determined by a single sample (or by two annual samples as is typical for stormwater permitting), rather than by multiple samples to ensure statistical significance. (Note, Rules 15A NCAC 02B .0220 and .0222 were amended on May 1, 2007 to reflect the new standard of 35 enterococci per 100 ml, based on a minimum of five samples within any consecutive 30 days.)

The TPH benchmark (for vehicle maintenance areas only) of 15 mg/L is consistent with other states' benchmarks and/or limits and reflects a value we would associate only with significant oil contamination.

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

There are no requested variances or alternatives to required standards. Facilities requesting variances to required standards will not be covered under this General Permit but will instead be required to seek coverage under an individual permit.

8. THE ADMINISTRATIVE RECORD

The administrative record, including application, draft permit, fact sheet, public notice, comments received, and additional information is available by writing to:

Stormwater Permitting Unit
Division of Water Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

The above documents are available for review and copying at:

Archdale Building
9th Floor
Surface Water Protection Section
Stormwater Permitting Unit
512 N. Salisbury Street
Raleigh, North Carolina

between the hours of 8:00 AM and 5:00 PM Monday through Friday. Copies will be provided at a charge of 2.5 cents per page.

9. STATE CONTACT

Additional information about the draft and final permit may be obtained at the above address between the hours of 8:00 AM and 5:00 PM Monday through Friday by contacting: **Robert Patterson** at 919-807-6375, or at robert.patterson@ncdenr.gov.

10. SCHEDULE OF PERMIT ISSUANCE

Draft Permit to Public Notice – **Notice September 4, 2012;**
Draft available on-line September 4, 2012

Permit Issue Date – **October 19, 2012** *(Scheduled)***;**
Effective November 1, 2012 *(Scheduled)*

11. PROCEDURE FOR THE FORMULATION OF FINAL DETERMINATIONS

a. ***Comment Period***

The Division of Water Quality proposed to issue the NPDES General Permit for the above described stormwater discharges subject to the outlined effluent limitations, management practices, and special conditions. These determinations were open to comment from the public.

Interested persons were invited to submit written comments on the permit applications or on the Division of Water Quality's proposed determinations to the following address:

Stormwater Permitting Unit
Division of Water Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617
Attn: **Robert Patterson**

All comments received within 30 days following the date of public notice were considered in the formulation of final determinations.

b. ***Public Meeting***

The Director of the Division of Water Quality may hold a public meeting if there is a significant degree of public interest in a proposed permit. Public notice of such a meeting would be circulated in newspapers in the geographical area of the discharge and to those on the Division of Water Quality mailing list at least 30 days prior to the meeting.

c. ***Appeal Hearing***

An applicant whose permit is denied, or is granted subject to conditions he deems unacceptable, shall have the right to a hearing before the Commission upon making written demand to the Office of Administrative Hearing within 30 days following issuance or denial of the permit.

d. ***Issuance of a Permit When No Hearing is Held***

If no public meeting or appeal hearing is held, after review of the comments received, and if the Division of Water Quality determinations are substantially unchanged, the permit will be issued and become effective on the first day of the month following the issuance date. This will be the final action of the Division of Water Quality.

If a public meeting or appeal hearing is not held, but there have been substantial changes, public notice of the Division of Water Quality revised determinations will be made. Following a 30-day comment period, the permit will be issued and will become effective on the first day of the month following the issuance date. This will be the final action of the Division of Water Quality unless a public meeting or appeal hearing is granted.

APPENDIX A

Data Analysis Summary

Summary of NCG060000 DMR data from DMR database.

All monitoring data sumitted as BDL or equivalent was deleted.

Summary of NCG06 DMRs (2007-2012)

	TSS	pH	COD	Oil & Grease	Fecal Coliform
No. of Samples submitted	2179	2285	2068	992	689
Average sample value	109	9	136	4	17442
Benchmark	100	6-9	120	30	1000
No. of samples above benchmark	491	112	563	37	472
% of samples above benchmark	23%	5%	27%	4%	69%

This data represents monitoring received from permittees during the previous permit term, 2007-2012.
There were 161 NCG060000 COC's active as of 8/28/12.

APPENDIX B

NPDES stormwater General Permit NCG060000
Fecal Coliform & Enterococci (Bacteria Indicator) Benchmark Background and Rationale

Historical perspective: The fecal coliform standards that had been in N.C.'s Water Quality Standards until May 2007 were based on guidance found in Virginia's standard, which has since changed. The N.C. Water Quality Standards referencing fecal coliform for saltwaters were amended on May 1, 2007. This change considers enterococcus rather than fecal coliform as the indicator bacteria for saline waters. There was no change to the N.C. freshwater bacteria or shellfish fecal coliform standards in May 2007.

Sampling Frequency: Data for this type of indicator ideally should represent a statistically significant geometric mean. The renewal General Permit NCG060000 is consistent with the DWQ Stormwater Permitting Unit's current standard practice to require permittees to sample twice per year, but DWQ recognizes this number and frequency of samples does not yield a statistically significant mean. A single high analytical test may represent an anomaly on-site, rather than a problem with the facility's stormwater. DWQ also recognizes that the number of samples required for statistically significant results would introduce a burden to permittees when there is no problem with bacteria contamination. Therefore, the proposed permit keeps semi-annual sampling as the baseline and relies on coordination between the permittee and DWQ in the tiered response requirements to address persistent problems, as well as provide monitoring relief when appropriate.

Rationale for Including Fecal Coliform Sampling in NCG06: After reviewing data submitted by NCG060000 permittees during the previous term of this permit (Appendix A), and finding no better alternative to fecal coliform as a pathogen indicator, DWQ has determined that analytical sampling for fecal coliform still serves an important role as a corrective tool for BMP implementation at meat processing facilities covered by this permit. The Tier 2 response in this general permit kicks in a monthly monitoring requirement after two consecutive samples exceed the benchmark value. That action provides more data with which to evaluate a statistically significant mean. Just as importantly, in situations where there are continued fecal coliform benchmark exceedences, but the facility demonstrates either (1) that bacteriological contamination is not a problem or (2) that there are other mitigating circumstances, the NCG060000 general permit allows DWQ the latitude to decrease the sampling frequency requirement at its discretion. With this flexibility, the permit provides the ability to address significant threats to water quality or to decrease the sampling burden at facilities without a compliance issue.

Benchmark Value: Without any other value at hand, the Benchmark "Guidance Value" for fecal coliform in freshwater is still 1,000 col/100 ml. This value is based on Best Professional Judgment (BPJ) and is consistent with what was the maximum (one-sample) threshold specified in Virginia's older Water Quality Standards. The N.C. Water Quality Standard (for all Class C waters, based on human health) says that fecal coliforms shall not exceed a geometric mean of 200/100ml (MF count) based upon at least five consecutive samples examined during any 30-day period, nor exceed 400/100ml in more than 20 percent of the samples examined during such period. The SPU does not consider these values practical for a stormwater benchmark.

Saline Waters. Because North Carolina's water quality standard for saline waters changed to enterococcus, any dischargers to SB or SC waters may be considered for an individual permit if there are concerns about bacteriological pollution and/or the NOI application reviewer determines fecal coliform or enterococcus monitoring will not suffice as an SPPP or BMP assessment tool.

APPENDIX C

Comparison of Other States' TPH Stormwater Benchmarks and/or Limits:

Agency	Media	Benchmark, Limit, Criteria, etc	Value (mg/L)	Notes
CT	groundwater	protection criteria	0.5	EPA Method 418.1
NV	groundwater	discharge limit	1.0	Technology-based limit
VA	groundwater	reporting limit	1.0	Virginia Petroleum Storage Tank Program
KS	groundwater	cleanup standard	0.5	Risk-based standard
TX	groundwater	MCL	1.1	Maximum Contaminant Level
OK	groundwater	MCL	3.0	May require cleanup down to 0.1 mg/L if near well
Tacoma, WA	stormwater	performance goal	10.0	24-hr average
Tacoma, WA	stormwater	performance goal	15.0	Grab sample
WA	stormwater	max daily limit	5.0	Port of Seattle NPDES permit technology-based limit for construction areas; 5.0 mg/L typically used for all construction sites in state; plus no visible sheen non-numerical limit.
WA	stormwater	max daily limit	8.0	Port of Seattle NPDES permit for deicing areas
WA	stormwater	max daily limit	15.0	Port of Seattle NPDES permit for roadways
NJ	stormwater	mo. Ave. limit	10.0	24-hr average, EPA Method 1664A, NJPDES NJ0132721 (hot-mix asphalt plants)
NJ	stormwater	max daily limit	15.0	Grab sample, EPA Method 1664A, NJPDES NJ0132721 (hot-mix asphalt plants)
TX	stormwater	max daily limit	15.0	Grab sample, TPDES permit TXG340000 (petroleum bulk stations and terminals)