
APPENDIX F
SCDOT SEEDING SPECIFICATION

SEEDING

SCDOT Designation: SC-M-810 (11/08)

1.0 Seeding

This Supplemental Specification replaces section 810, *Seeding*, in the *South Carolina Department of Transportation Standard Specifications for Highway Construction*, 2007 Edition.

1.1 Description

This work consists of permanent cover, temporary cover, liming and fertilizing (when specified), and applying mulch on all areas shown on the Plans or where directed by the Resident Construction Engineer (RCE) in accordance with these Specifications. The Contractor coordinates seeding with the construction of fill and cut slopes. In order to limit the area of erodible material, the RCE may require that partially completed slopes be brought to the required slope and the Contractor perform permanent or temporary cover operations at that time.

1.2 Materials

1.2.1 General

The Contractor will, at the time of delivery, furnish the RCE invoices and or documentation of all materials received in order to determine the application rate of materials.

1.2.2 Seed

Use seed that conforms to all state laws and all requirements and regulations of the South Carolina Department of Agriculture (SCDA). Seeds containing species designated by the State Crop Pest Commission as a plant pest (i.e., noxious weeds) are not permitted. Use seed that is individually packaged or bagged and tagged. Each tag must clearly state:

- Net weight
- Botanical name
- Common name
- Variety
- Grower name
- Grower lot number
- Percent purity
- Percent germination
- Percent other crop seed
- Percent inert matter
- Percent weed seed (if weed seed is present, provide a list of species by botanical name)
- Origin

The Department reserves the right to test, reject, or approve all seed before seeding. Mixtures of different types of seed called for in the seeding schedule will be weighed and mixed in the proper proportions on-site in the presence of the RCE or a member of the RCE's staff.

1.2.2.1 Seeding Schedule

Unless otherwise provided, select seed from Table 1 (Permanent Cover (Perennials)), Table 2 (Permanent Cover Nurse Crops (Annuals)) and/or Table 3 (Temporary Cover (Annuals)) for the Upper State and the Lower State as applicable to the project. The Lower State consists of all counties east of and including Aiken, Lexington, Richland, Kershaw, and Chesterfield Counties. The Upper State consists of all counties west of the Lower State, i.e. all the remaining counties (see Figure 1).

If the seed listed in the tables is not available, the Contractor may select the most practicable alternative seed available as a substitute. The Contractor must submit data to the RCE showing that the substitute seed is appropriate for the specific application.

Select a minimum of two (2) seed types from Table 1 for all permanent cover based on the specific application and the availability of the seed. A minimum of one (1) of the seed types selected must be a turf-type species. The Contractor may add an acceptable permanent cover nurse crop from Table 2.

The exceptions for selecting a minimum of two (2) permanent cover species from Table 1 are:

- Medians in the Upper State and Lower State will utilize a minimum of one (1) turf-type species from Table 1 and one (1) acceptable permanent cover nurse crop from Table 2.
- Shoulder work in the Lower State will utilize a minimum of one (1) turf-type species from Table 1 and the Contractor may add an acceptable permanent cover nurse crop from Table 2.

Select a minimum of one (1) seed type from Table 3 for all temporary cover based on the specific application and the availability of the seed.

If the Common Name of the seed listed in Table 1, Table 2 or Table 3 is not available, use seed with the listed Botanical Name.

1.2.2.2 Seeding Plan

Prepare and submit a seeding plan utilizing the seeding schedule to the RCE for all temporary cover by seeding and permanent cover applications. The RCE will approve all seeding plans before temporary cover by seeding and permanent cover applications are initiated.

FIGURE 1: UPPER AND LOWER STATE MAP

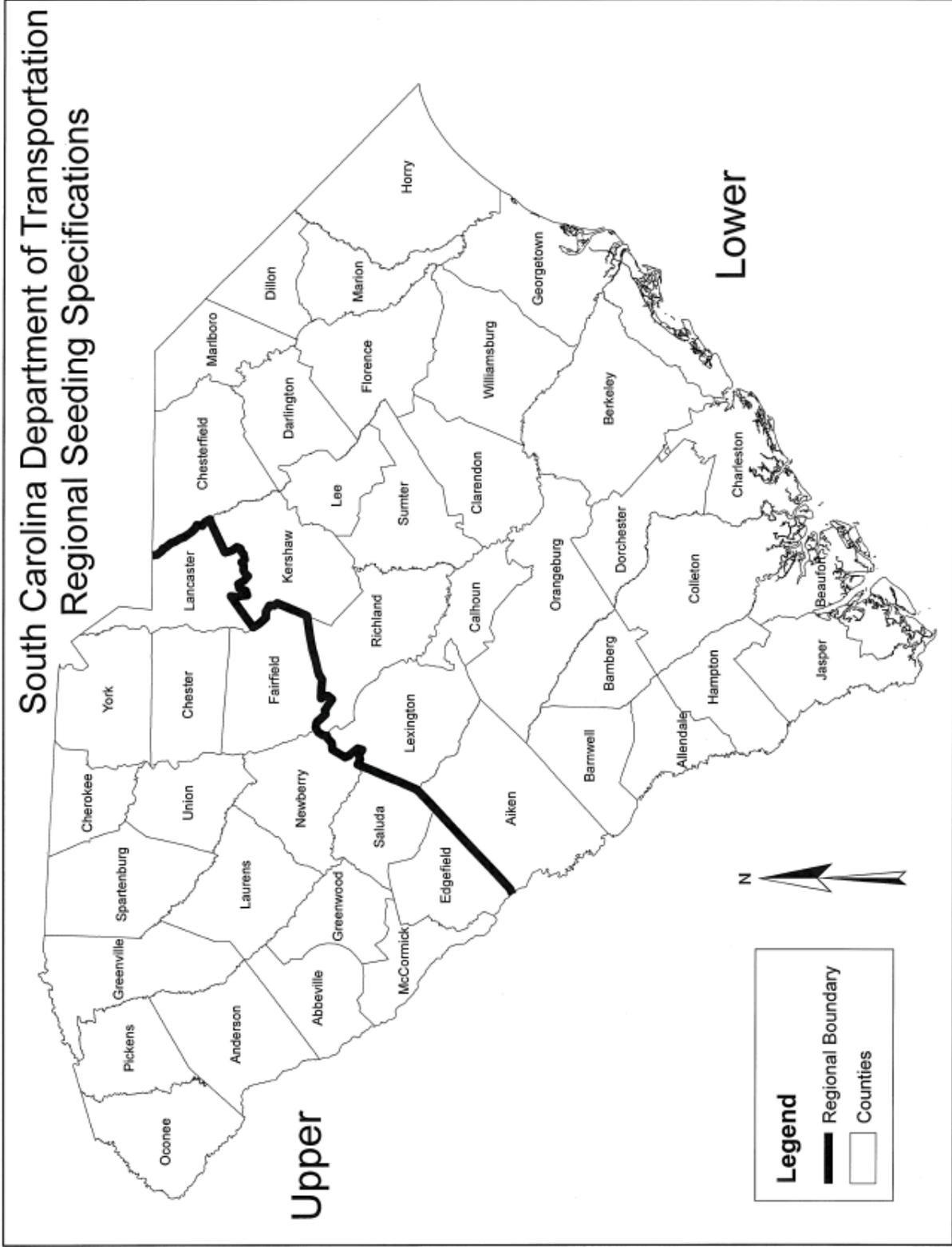


TABLE 1: PERMANENT COVER (PERENNIALS)

COMMON NAME ⁵	BOTANICAL NAME	APPROVED SITE(S)	PLANTING RATE (lbs/acre)	PLANTING LOCATION	Planting Dates*														
					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
TURF-TYPE GRASSES (SELECT ONE)																			
Bahiagrass ¹	Paspalum notatum	Slopes	30	Upper State Lower State															
Common Bermudagrass ² (hulled = hull absent)	Cynodon dactylon	Shoulders, Slopes, or Medians	25	Upper State Lower State															
Common Bermudagrass ² (unhulled = hull present)	Cynodon dactylon	Shoulders, Slopes, or Medians	30	Upper State Lower State															
Carpet Grass	Axonopus affinis	Shoulders, Slopes or Medians	15	Upper State Lower State															
Tall Fescue	Festuca aruninacea	Shoulders, Slopes, or Medians	50	Upper State Lower State															
Centipedegrass	Eremochloa ophiuroides	Shoulders, Medians	10	Upper State Lower State															
GRASSES																			
Weeping Lovegrass	Erograstis curvula	Slopes	5	Upper State Lower State															
Indiangrass	Sorghastrum nutans	Slopes	10	Upper State Lower State															
Little Bluestem	Andropogon scoparius	Slopes	10	Upper State Lower State															
Coastal Panicgrass	Panicum amarum	Slopes	20	Upper State Lower State															
Switchgrass	Panicum virgatum	Slopes	9	Upper State Lower State															
Perennial Rye Grass ³	Lolium perenne	Shoulders, Slopes, or Medians	15	Upper State Lower State															
Virginia Wild Rye	Elymus virginicus	Shoulders, Slopes, or Medians	6	Upper State Lower State															
LEGUMES⁴																			
White Clover	Trifolium repens	Shoulders, Slopes	5	Upper State Lower State															
Sericea Lespedeza (Scarified seed)	Lespedeza cuneta	Slopes	50	Upper State Lower State															
Sericea Lespedeza (Unscarified seed)	Lespedeza cuneta	Slopes	80	Upper State Lower State															

¹Bahiagrass may be used as an optional turf-type permanent cover at the discretion of the RCE.

²Common Bermudagrass: Do not use Giant Bermudagrass (NK-37).

³Perennial Rye Grass: Do not use Annual Italian Rye grass (*Lolium multiflorum*).

⁴Only use pre-inoculated legumes or use an appropriate inoculant with the seed at planting.

⁵If the Common Name of the seed listed in Table 1, Table 2 or Table 3 is not available, use seed with the listed Botanical Name.

* Months shaded in gray represent applicable planting dates.

1.2.3 Lime

1.2.3.1 Agricultural Granular Lime

Use solid agricultural granular lime for all permanent cover applications that is agricultural grade, standard ground limestone conforming to the current *Rules, Regulations, and Standards of the Fertilizer Board of Control*. These rules, regulations, and standards are promulgated and issued by the Fertilizer Board of Control at Clemson University in accordance with Section 16 of the *South Carolina Liming Materials Act*. Ensure that each bag has affixed in a conspicuous manner a tag or label, or in the case of bulk sales, a delivery slip showing brand or trade name, calcium carbonate equivalent, percent by weight passing prescribed U. S. Standard Sieves, and other pertinent information to identify lime as being agricultural grade, standard ground limestone.

1.2.3.2 Fast Acting Lime

Use fast acting liquid forms and/or dry forms of lime for all temporary cover by seeding and permanent cover applications that meet all of the requirements of agricultural grade granular lime specified herein, except percent by weight passing U.S. Standard Sieves.

1.2.4 Fertilizer

1.2.4.1 Granular Fertilizer

Use granular fertilizer that complies with state fertilizer laws. In a mixed fertilizer such as 10-10-10, the first number represents the minimum percent of nitrogen required, the second number represents the minimum percent of available phosphoric acid required, and the third number represents the minimum percent of water soluble potash required in the fertilizer. Use fertilizer that has a package slip clearly stating the percentage of nitrogen, percentage of phosphoric acid, and percentage of potash along with the weight (pounds) of nitrogen, weight (pounds) of phosphoric acid, and weight (pounds) of potash. Animal by-product or municipal waste fertilizers are not acceptable under this Specification.

1.2.4.2 Liquid Fertilizer

Use liquid forms of fertilizer for all temporary cover by seeding and permanent cover applications. Provide certified equivalency/ratio tables from the manufacturer for each of the three components. Animal by-product or municipal waste fertilizers are not acceptable under this Specification.

1.2.5 Mulch

Mulch is required for all seeding applications except for permanent seeding for shoulder work and resurfacing projects that have a disturbed width less than six (6) feet. Only use mulch that is certified weed free. Mulch may also be used for temporary stabilization applications. Note that 100% wood chip mulch is not acceptable for seeding applications.

1.2.5.1 Straw or Hay Mulch with Tackifier

Use straw or hay mulch material that consists of certified weed free straw or hay. Use straw that consists of stalks of wheat, rye, barley, oats, or other approved straw. Use hay that consists of Timothy, Peavine, Alfalfa, Coastal Bermuda, or other grasses from approved sources. Use materials that are reasonably dry and reasonably free from mature seed-bearing stalks, roots, or bulblets of Johnson grass, Nutgrass, Sandburg, Wild Garlic, Wild Onion, Wild Mustard, Crotolaria, Pigweed, Witchweed, and Cocklebur. Comply with all state and federal domestic plant quarantine regulations. Straw mulch is not to be used in urban areas or in areas adjacent to sidewalks, guardrails, curbs, curb and gutters, or concrete medians.

Anchor straw mulch material using one of the following tacking agents:

1.2.5.1.1 Organic or Chemical Tackifier

Use an organic or chemical tackifier that consists of guar gum, plantago, polysaccharides, polymer synthetic resin, polypectate, liquid latex, or other material that will give similar adhesive properties as asphalt emulsion when sprayed on straw mulches. Organic or chemical tackifiers require approval by the RCE.

1.2.5.1.2 Hydraulic Straw Tackifiers

Use hydraulic straw tackifiers that meet the requirements of this Specification. Apply hydro mulch at the manufacturer's recommended rate for straw binding.

1.2.5.1.3 Emulsified Asphalt

Use Emulsified Asphalt that meets the requirements of Subsection **407.2.4**. Dilute Emulsified Asphalt at the manufacturing plant with water, if necessary, to provide a homogenous and satisfactory material for spraying.

1.2.5.2 Hydraulic Mulch (HM)

Refer to the current *SCDOT HM Specification* (SC-M-815-7) for HM description, materials, and construction requirements.

1.2.5.3 Stabilized Mulch Matrix (SMM)

Refer to the current *SCDOT SMM Specification* (SC-M-815-6) for SMM description, materials, and construction requirements.

1.2.5.4 Bonded Fiber Matrix (BFM)

Refer to the current *SCDOT BFM Specification* (SC-M-815-5) for BFM description, materials, and construction requirements.

1.2.5.5 Fiber Reinforced Matrix (FRM)

Refer to the current *SCDOT FRM Specification* (SC-M-815-4) for FRM description, materials, and construction requirements.

1.2.5.6 Erosion Control Blankets (ECBs)

Refer to the current *SCDOT Rolled Erosion Control Products (RECP) Specification* for Erosion Control Blanket (ECB) description, materials, and construction requirements.

1.2.5.7 Turf Reinforcement Matting (TRMs)

Refer to the current *SCDOT Rolled Erosion Control Products (RECP) Specification* for Turf Reinforcement Matting (TRM) description, materials, and construction requirements.

1.3 Construction Requirements

1.3.1 Seeding Dates and Rates of Application

Perform seeding work during the periods and at the rates specified in the seeding tables of this Specification. Do not conduct seeding work when the ground is frozen or excessively wet. Do not conduct seeding work when the ground is excessively dry (periods of drought) unless watering is specified in the Contract. During periods of adverse conditions, temporary stabilization by mulch may be used according to this Specification.

1.3.2 Seedbed Preparation

Ensure that the areas to be seeded are uniform and conform to the finished grade and cross-section shown on the Plans or as otherwise directed by the RCE. Perform minor shaping and evening of uneven and rough areas outside of graded sections as directed by the RCE in order to provide for more effective erosion control and for ease of subsequent mowing operations.

Loosen the seedbed (including cut slopes) to a minimum depth of three (3) inches before compost, agricultural lime, fertilizer, or seed is applied. An acceptable method of preparing the seedbed on slopes is vertically tracking the seedbed up and down the slope with proper equipment.

Remove stones larger than two and one-half (2½) inches in any dimension, large clods, roots, or other debris brought to the surface.

Use compost as directed by the RCE for shoulders and slopes if good seedbed material is not located on site.

1.3.3 Compost

For seedbeds that have little or no topsoil, the Contractor may furnish and place certified weed free compost on the seedbed or mix compost with the seedbed in order to ensure a good stand of grass. Refer to the current *SCDOT Compost Specification* (SC-M-815-3) for description, materials, and construction requirements.

As directed by the RCE, provide compost when seedbeds are excessively nutrient deficient to the extent of requiring costly fertilizer additions and or have excessively low pH values (5.0 or lower) to the extent of requiring costly lime additions.

1.3.4 Soil Analysis

A soil analysis is not required for permanent cover of shoulder work and resurfacing projects. A soil analysis is required prior to all other permanent cover operations. A soil analysis is required on all representative soil types for the specified vegetation species prior to agricultural granular lime and granular fertilizer applications.

The soil analysis determines the need and rate of lime and fertilizer applications. At a minimum, a standard soil test includes pH, buffer pH, extractable phosphorus, potassium, lime requirements and recommendations, calculations for CEC (cation exchange capacity), and fertilizer requirements and recommendations.

Collect one (1) soil sample per one (1) acre surface area of representative soil type. One (1) sample consists of mixing ten (10) sub-samples taken uniformly over the one acre. Representative soil types include existing predominate soils on the project site, cut slopes, fill material, and areas of exposed subsoil. The RCE will determine where distinguishable representative soil types are located on the project site. Soil

samples should be taken from stockpiles or borrow pits where the material will be the top six (6) inches of the seedbed. Take each sub-sample within the top four (4) to six (6) inches of the soil surface.

Submit a separate soil sample from each representative soil type to a SCDOT certified soil testing laboratory.

1.3.5 Applying Lime

1.3.5.1 Agricultural Granular Lime

A soil analysis is required prior to agricultural granular lime applications. The soil analysis determines the need and rate of granular lime application for a given application area. Based on the results of the soil analysis, furnish granular lime to provide a long term pH adjustment. Following advance preparation and placing selected material for shoulders and slopes when called for in the Contract, uniformly spread lime over the designated areas and thoroughly mix with the soil to a depth of approximately two (2) inches. Mixing is not required when spreading lime with hydraulic methods.

Adequately scarify all slopes subject to slides and inaccessible to power equipment. Lime may be applied by approved mechanical spreaders or by hydraulic methods as a mixture of lime and seed.

Apply all agricultural granular lime at a rate that is within $\pm 10\%$ of the weight recommendation of the soil analysis.

Agricultural granular lime is not required for temporary cover by seeding applications unless a soil analysis is requested by the RCE and indicates a pH below 5.0. However, it may be desirable to apply lime during temporary cover by seeding applications for the benefit of permanent cover applications that follow the temporary cover.

1.3.5.2 Fast Acting Lime

Fast acting liquid and dry lime provides an immediate pH adjustment. Use fast acting liquid and dry forms of lime for all temporary cover by seeding and permanent cover by seeding applications. Apply fast acting liquid lime at a rate of 5 gallons per acre or per the manufacturer's recommendations. Apply fast acting dry lime at a rate of 100 pounds per acre or per the manufacturer's recommendations.

1.3.6 Applying Fertilizer

1.3.6.1 Agricultural Granular Fertilizer

A soil analysis is required prior to agricultural granular fertilizer applications. The soil analysis determines the need and rate of fertilizer applications for the specific vegetation species. Following advance preparation and placing selected material for shoulders and slopes when called for in the Contract, uniformly spread fertilizer over the designated areas.

Adequately scarify all slopes subject to slides and inaccessible to power equipment. Fertilizer may be applied by approved mechanical spreaders or by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drills, no further incorporation is necessary. Apply the fertilizer and seed together when hydraulic methods of seeding are used.

Apply all fertilizer at a rate that is within $\pm 10\%$ of the weight recommendation of the soil analysis. Apply fertilizer that is within ± 2 percentage points of the percentage recommendation of nitrogen, percentage of phosphoric acid, and percentage of potash from the soil analysis.

The Contractor may combine fertilizers of different compositions to meet the composition requirements of the soil analysis. If a different fertilizer is used, apply the fertilizer at a rate per acre to achieve, but not

exceed, the amount of nitrogen, phosphoric acid, and potash that would have been accomplished by utilizing the fertilizer specified by the soil analysis.

Payment is made for the number of pounds of fertilizer applied as required by the soil analysis. Use a separate payment for each of the three fertilizer components (nitrogen, phosphoric acid, and potash).

1.3.6.2 Liquid Fertilizer

Liquid fertilizer provides an immediate seedbed adjustment. Use liquid fertilizer for all temporary cover by seeding and permanent cover by seeding applications. Apply liquid fertilizer at a rate of 5 gallons per acre or per the manufacturer's recommendations.

1.3.7 Temporary Cover

Perform temporary cover by mulch or temporary cover by seeding within seven (7) days when a site will not be worked for 21 days up to a maximum of 60 days. If the site will not be worked for a period longer than 60 days, then temporary cover by seeding is required.

Scarify all temporary cover areas before fill is placed on top of the temporary cover area.

1.3.7.1 Temporary Cover by Mulch

Use an appropriate mulch as listed in this Specification. Apply the mulch with a minimum continuous soil coverage of 95% that is maintained across the entire application area.

Temporary cover by mulch may be used on isolated problem areas or where it is not feasible or practicable to bring an area to final slope and grade. Finish the surface so that permanent cover can be performed without subsequent serious disturbance by additional grading.

1.3.7.2 Temporary Cover by Seeding

Sow seed within 24 hours following the preparation of the seedbed according to this Specification. Uniformly sow seed at the rate specified by the use of approved mechanical seed drills, rotary hand seeders, hydraulic equipment, or any other type of equipment that produces a uniform seed application.

Apply an appropriate mulch as listed in this Specification within 24 hours of sowing temporary seed. On small areas inaccessible to machinery, the seed may be covered by hand rakes or other methods satisfactory to the RCE. When required by the RCE, add fertilizer and lime as directed by a soil analysis.

Temporary cover by seeding may be used in isolated problem areas or where it is not feasible or practicable to bring an area to final slope and grade. Finish the surface so that permanent cover can be performed without subsequent serious disturbance by additional grading.

1.3.8 Acceptance of Temporary Cover

Before acceptance of temporary cover, the Contractor will be required to produce temporary cover sufficient to control erosion for a given area and length of time before the next phase of construction or the establishment of permanent cover is to commence.

If the temporary cover is disturbed by the prime, grading, or other contractor before acceptable temporary cover is established, the temporary cover will be re-established at no cost to the SCDOT.

Using the seed specified in the seeding tables, the Contractor will determine all rates of application necessary to produce the required results and follow the application procedures as specified herein. The Contractor will be required to produce a satisfactory stand of temporary cover meeting the requirements of this Specification regardless of the time of the year the work is performed.

1.3.9 Permanent Cover

Perform permanent cover with seeding within 21 days of when the site was last worked. Perform permanent cover within 24 hours following the application of fertilizer and preparation of seedbed according to this Specification. Uniformly sow seed at the rate specified by the use of approved mechanical seed drills, rotary hand seeders, hydraulic equipment, or any other type of equipment that produces a uniform seed application.

Apply an appropriate mulch as listed in this Specification within 24 hours of sowing permanent seed. On small areas inaccessible to machinery, the seed may be covered by hand rakes or other methods satisfactory to the RCE. Add fertilizer and lime as directed by a soil analysis.

1.3.10 Mulch

Apply mulch according to Table 4 or in accordance with the manufacturer's recommended application rates.

Table 4: Mulch

Mulch*	Max Slope	Max Continuous Slope Length (ft)	Temporary Cover by Mulch (no seed) Application Rate (lbs/acre)	Temporary Cover by Seeding Application Rate (lbs/acre)	Permanent Cover Application Rate (lbs/acre)	Min Slope Height (ft)
Straw or Hay with Tackifier	5:1	30	2,000	2,000	2,000	N/A
	4:1	25	2,000	2,000	2,000	
Hydraulic Mulch (HM)	5:1	30	NA	1,500	1,500	N/A
	4:1	25	NA	1,500	2,000	
	3:1	20	NA	1,500	2,500	
Stabilized Mulch Matrix (SMM)	5:1	70	1,800	1,200	1,800	N/A
	4:1	60	2,000	1,500	2,000	
	3:1	50	2,500	1,800	2,500	
	2:1	25	3,000	2,000	NA	
Bonded Fiber Matrix (BFM)	4:1	70	2,500	1,500	2,500	N/A
	3:1	60	3,000	1,800	3,000	
	2:1	50	3,500	2,000	3,500	
	1:1	35	4,000	2,500	N/A	
Fiber Reinforced Matrix (FRM)	4:1	100	2,500	1,500	2,500	N/A
	3:1	85	3,000	1,800	3,000	
	2:1	75	3,500	2,000	3,500	
	1:1	50	4,000	2,500	N/A**	
When site constraints exceed the acceptable application for mulch, use erosion control blankets (ECBs) and turf reinforcement matting (TRMs).						
Type A Erosion Control Blanket (ECB)	2:1	Per RECP Specification	N/A	N/A	N/A	5
Type 3 Turf Reinforcement Mat (TRM)	1:1	Per RECP Specification	N/A	N/A	N/A	5

*A higher level of mulch may be applied than that specified on the Plans, Specifications, and other terms of the Contract. In this situation, payment is for the mulch specified.

** FRM may be used for permanent cover applications on slopes 1:1 or greater at a rate of 4,500 pounds per acre as directed by the RCE when the proper TRM installation is not practicable due to site constraints.

1.3.10.1 Straw or Hay Mulch with Tackifier

Uniformly apply straw or hay mulch material at the rate of 2000 pounds per acre. Straw mulch may be spread either by hand, by appropriate mechanical spreaders, or by blowers. Apply straw mulch to allow sunlight penetration, air circulation, partial shading of the ground, and conservation of soil moisture. Secure newly laid straw mulch with an approved tackifier. Replace all straw mulch displaced during the tackifier application process.

1.3.10.1.1 Organic or Chemical Tackifier

These tackifiers consist of guar gum, plantago, polysaccharides, polymer synthetic resin, polypectate, liquid latex, or other material that will give adhesive properties when sprayed on straw mulches. Applications should be heavier at edges, in valleys, and at crests of banks and other areas where the straw mulch may be moved by wind or water. All other areas must have a uniform application of the tackifier. Use tacking agents approved by the RCE, and apply them at the manufacturer's recommended rate.

1.3.10.1.2 Hydraulic Straw Tackifiers

Apply hydro mulch at the manufacturer's recommended rate for straw binding.

1.3.10.1.3 Emulsified Asphalt

Dilute Emulsified Asphalt at the manufacturing plant with an equal amount of water and uniformly apply it over the straw mulch material as a film. Apply the film at approximately 0.20 gallons of dilution per square yard to sufficiently bond together the straw mulch and prevent wind erosion without creating a heavy coating of asphalt material.

Emulsified Asphalt is not applicable for use in urban areas or along sidewalks, curb and gutters, bridges, and water bodies.

1.3.10.2 Hydraulic Mulch (HM)

Refer to the current *SCDOT HM Specification* (SC-M-815-7) for HM construction requirements.

1.3.10.3 Stabilized Mulch Matrix (SMM)

Refer to the current *SCDOT SMM Specification* (SC-M-815-6) for SMM construction requirements.

1.3.10.4 Bonded Fiber Matrix (BFM)

Refer to the current *SCDOT BFM Specification* (SC-M-815-5) for BFM construction requirements.

1.3.10.5 Fiber Reinforced Matrix (FRM)

Refer to the current *SCDOT FRM Specification* (SC-M-815-4) for FRM construction requirements.

1.3.10.6 Compost

Refer to the current *SCDOT Compost Specification* (SC-M-815-3) for construction requirements.

1.3.10.7 Erosion Control Blankets (ECBs)

Refer to the current *SCDOT Rolled Erosion Control Products (RECP) Specification* for Erosion Control Blanket (ECB) construction requirements.

1.3.10.8 Turf Reinforcement Matting (TRMs)

Refer to the current *SCDOT Rolled Erosion Control Products (RECP) Specification* for Turf Reinforcement Matting (TRM) construction requirements.

1.3.11 Permanent Cover for Shoulder Work and Resurfacing Projects

These projects consist only of the tasks of improving shoulders either due to backfill from resurfacing or upgrading deficient shoulders. Sow seed within 24 hours following the application of lime and fertilizer and preparation of the seedbed as specified in this Specification. Uniformly sow seed at the rate specified by the use of approved mechanical seed drills, rotary hand seeders, hydraulic equipment, or any other type of equipment that produces a uniform seed application.

Permanent cover for shoulder work and resurfacing does not require the application of mulch when the width of the seeding application is less than six (6) feet. When site conditions allow, lightly compact all seeded areas by means of a cultipacker or light roller. Compaction will not be necessary if seeds are planted by mechanical seed drills that perform a compaction procedure. Slopes inaccessible to compaction equipment should be tracked by the Contractor prior to seeding. Stabilize slopes that cannot be tracked with the appropriate mulch.

1.3.12 Acceptance of Permanent Cover

Before acceptance of permanent cover, the Contractor will be required to produce a uniform perennial vegetative cover with a density of 70% of each square yard of the seeded area. A well developed root system must be established to sufficiently survive dry periods and winter weather and be capable of reestablishment in the spring. Using the seed specified in the seeding tables, the Contractor will create a seeding plan and determine all rates of application necessary to produce the required stand of grass and follow the application procedures as specified herein.

1.3.13 Protection of Structures

Cover any parts of bridges, culverts, guardrails, signs, sidewalks, curb and gutters, catch basins, pipe ends, and other structures as necessary to prevent discoloration before spraying organic or chemical tackifiers.

1.3.14 Watering for Vegetation

Watering for vegetation consists of applying water to seeded areas to enhance germination and applying water to germinated areas to enhance root growth. When directed by the DCE, use watering for vegetation to establish a stand of cover. When watering, follow the following guidelines:

Immediately after seeding:

- Keep the soil moist but not excessively wet until the seed has germinated.
- Water a minimum of three (3) days a week for two (2) weeks preferably watering two (2) or three (3) times a day in small quantities.
- Use fine spray and low pressure to avoid soil wash and to prevent uncovering buried seeds.

After emergence:

- Apply one (1) inch of water per irrigation event. (Note: 1-acre-inch = 27,154 gallons. This is the volume of water necessary to cover one (1) acre one (1) inch deep.)
- During summer, water two (2) to three (3) days per week.
- During winter, water once every ten (10) to fourteen (14) days.
- If rainfall occurs, suspend watering according to rainfall amount.
- Never apply at a rate faster than can be absorbed by the soil.
- When applicable, water during early morning hours or early evening hours.
- Do not water when rain is forecasted for the area.

1.3.15 Mowing

Mowing consists of mowing areas seeded or sodded under the Contract or other areas as necessary to provide adequate sight areas and to maintain the project in a satisfactory manner. Mowing will be performed by the Contractor where directed by the RCE and such mowing will commence within three (3) business days following verbal notification by the RCE. Failure of the Contractor to comply with the above may be grounds for stopping work on the project or withholding payment of the monthly construction estimate.

Use mowing equipment equipped with safety devices designed to prevent injury or property damage caused by flying debris propelled from under the mowing equipment. Keep all mowing equipment in good operating condition and keep the equipment maintained to provide a clean, sharp cut of vegetation at all times. If the RCE determines the equipment is defective to the point that the quality of work or safety is affected, immediately repair or replace the equipment.

Ensure that mowing results in a uniform vegetation height of four (4) to six (6) inches, unless otherwise directed by the RCE. Mow as closely as possible to all fixed objects exercising care not to damage trees, plants, shrubs, signs, delineators, or other appurtenances which are a part of the facility. Hand trimming around such objects may be required of the Contractor.

Remove litter and debris prior to beginning mowing operations. Immediately remove and properly dispose of all litter and debris resulting from mowing operations. Mowed grass is not normally removed unless it becomes a hazard as determined by the RCE.

Do not perform mowing when, in the opinion of the RCE, soil and weather conditions are such that rutting or other damage to the project may occur. The three-business-day period may be extended by the RCE until the soil and weather conditions become suitable for mowing on the project.

1.3.16 Inspection and Maintenance

Perform all maintenance necessary to keep seeded areas in a satisfactory condition until the work is finally accepted. This includes mowing, repairing areas of erosion and washes, and applying additional seed, fertilizer, and mulch to areas where a satisfactory stand of grass has not been achieved. Water seeded areas as directed by the DCE. The Contractor is not responsible for seeded areas damaged by insects, animals, or extreme rainfall events. An extreme rainfall event is defined as being a 25-year storm event or greater based on the inches of rain per hour received for the particular location as determined from the current NOAA precipitation tables.

1.4 Measurement

Temporary Cover and Permanent Cover - The quantity of temporary and permanent cover is the ground surface area with acceptable vegetation or stand of cover and is measured by the one-acre (acre) unit, complete and accepted.

Lime - The quantity of agricultural granular lime is the weight applied and is measured by the pound (lb), complete and accepted. Weights are determined by approved scales or by guaranteed weight of sacks shown on the manufacturer's tag. Furnish invoices or documentation of the materials received on the project to the RCE.

Fertilizer - The quantity of fertilizer is the weight applied and is measured by the pound (lb), complete and accepted. Quantities are measured for each of the three fertilizer components (nitrogen, phosphoric acid, and potash). Weights are determined by approved scales or by guaranteed weight of sacks shown on the manufacturer's tag. Furnish invoices or documentation of the materials received on the project to the RCE.

Mulch - The quantity of mulch is the ground surface area covered and is measured by the one-acre (acre) unit, complete and accepted. Furnish invoices of the materials received on the project to the RCE.

Watering for Vegetation - The quantity of watering for vegetation is the amount of water applied as directed by the DCE and is measured in gallons (gal). This is measured by actual gallons utilized from a water tank or the number of gallons applied by a pump based on the pump rating and the actual time the pump is operated.

Mowing - The quantity of mowing is the area of ground surface area mowed at the direction of the RCE and is measured by the one-acre (acre) unit, complete and accepted. Separate measurements will be made and added to the quantity for payment each time the area is mowed.

Compost - The quantity of compost is the volume of compost placed on the site and is measured by the cubic yard (CY), complete and accepted. The quantity of compost is the actual number of cubic yards measured and placed on site.

1.5 Payment

Payment for the accepted quantity for each pay item, measured in accordance with this Specification, is determined using the Contract unit bid price for the applicable pay item. The payment includes all direct and indirect costs and expenses necessary to complete the work. If the RCE determines that the Contractor implements all of the requirements of this Specification and a satisfactory stand of permanent cover or temporary cover meeting the requirements of the Specification is not established, the Contractor will receive payment for all direct and indirect costs and expenses required for re-application.

Temporary Cover and Permanent Cover - Payment for temporary and permanent cover is full compensation for furnishing all materials (excluding agricultural granular lime, granular fertilizer, mulch, compost, selected material for shoulders and slopes, and watering for vegetation) and includes all other materials, fast acting lime, liquid fertilizer, labor, soil samples and analysis, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract. Payment is 90% of the Contract unit price for temporary cover and permanent cover items until a satisfactory stand of grass meeting the requirements of this Specification is established.

Agricultural Lime - Payment for agricultural granular lime is full compensation for furnishing and applying lime as specified or directed and includes all other materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract.

Granular Fertilizer - Payment for granular fertilizer is full compensation for furnishing and applying fertilizer as specified or directed and includes all other materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract.

Mulch - Payment for mulch is full compensation for furnishing and applying mulch, as specified or directed, and includes all other materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract. If applicable, the installation must be accepted and certified by the manufacturer's representative or RCE prior to payment. When a higher level of mulch is applied than that specified on the Plans, Specifications, and other terms of the Contract, payment is for the mulch specified.

Watering for Vegetation - Payment for watering for vegetation is full compensation for furnishing and applying water as specified or directed and includes all other materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract.

Mowing - Payment for mowing is full compensation for mowing vegetation to an acceptable height in areas specified or directed and includes all other materials, labor, equipment, tools, supplies, transportation, and

incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract. No adjustments in unit price will be made in case of overruns or underruns of this item.

Compost - Payment for compost is full compensation for furnishing and placing compost as specified or directed and includes all other materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, Specifications, and other terms of the Contract.

Payment for each item includes all direct and indirect costs and expenses required to complete the work. Payment will be made under a bid item number per Table 5.

Table 5: Bid Item Number

Bid Item Number	Description	Units
8100100	PERMANENT COVER	ACRE
8100200	TEMPORARY COVER	ACRE
8101105	COMPOST	CY
8101110	STRAW OR HAY MULCH WITH TACKIFIER	ACRE
8101115	HYDRAULIC MULCH (HM)	ACRE
8101120	STABILIZED MULCH MATRIX (SMM)	ACRE
8104005	FERTILIZER (NITROGEN)	LB
8104010	FERTILIZER (PHOSPHORIC ACID)	LB
8104015	FERTILIZER (POTASH)	LB
8105005	AGRICULTURAL GRANULAR LIME	LB
8109050	WATERING	GAL
8109901	MOWING	ACRE
8151011	BONDED FIBER MATRIX (BFM)	ACRE
8151021	FIBER REINFORCED MATRIX (FRM)	ACRE
8151111	TEMPORAR.EROS.CONTRL.BLANKET(CL-A)	MSY
8151103	TURF REINF.MATTING (TRM)-TYPE 3	MSY

*MSY= One Thousand Square Yards

Establishment of Permanent Vegetation (Bermuda and Bahia)

The establishment of permanent vegetation is essential in most erosion control applications. To be successful in establishing vegetation on the sandy soils at Fort Jackson, always apply lime and fertilizer. Lime raises the pH of the acidic sandy soils; fertilizer adds nutrients to the soil for adequate plant growth. Without lime to adjust the pH, fertilizer has little effect. (A supplemental application of fertilizer should be applied during the second growing season to provide adequate nutrition and to sustain plant growth.) Once lime and fertilizer are incorporated, seed should be planted using conventional, broadcast, or hydroseeding methods. Conventional or broadcast methods are preferred because seed is placed into and in contact with the soil thus providing a better opportunity for seed germination. Straw mulch is important to protect the bare soil from raindrop impact and help to hold in moisture for seed germination.

a. Planting Specifications

Prepare seedbed

1.5 tons of agricultural lime per acre (70 #/1000 square feet)

if hydroseeding, 2 gallons liquid lime per acre in addition to agricultural lime

700 # 10-10-10 fertilizer, or equivalent, per acre (16# per 1000 square feet)

Incorporate lime and fertilizer

Plant seed using conventional planting, broadcast, or hydroseeding methods

Mulch with 1 ½ tons per acre wheat straw

Crimp straw into soil or use a tackifier to hold straw in place

Apply supplemental fertilizer during second growing season at an approximate rate of 300 – 500 pounds per acre of 10-10-10 or equivalent (7-11 #/1000 sf).

Turf Mixture for Spring/Summer Seeding in Mowed and Maintained Areas (Optimum Date to Plant is 1 March to 15 July)

Seed	Pounds per Acre	Ounces per 1000 Sq Ft	Minimum % Purity	Minimum % Germination	Foot-notes
Browntop Millet	10#	4 oz	98	85	
Hulled Common Bermudagrass (without hull)	45 #	17 oz	97	85	
Bahiagrass	30	11 oz			

Turf Mixture for Fall Seeding in Mowed/Maintained Areas (Optimum Date to Plant is 1 September to 15 November) *

Seed	Pounds per Acre	Ounces per 1000 Sq Ft	Minimum % Purity	Minimum % Germination	Foot-notes
Rye (Grain)	10	4 oz	97	85	
Unhulled Common Bermudagrass (with hulls)	130#	48	97	85	

*Common bermudagrass with hulls can also be planted from 10 January - 20 March

**Turf Mixture for Fall Seeding in Mowed/Maintained Areas
(Optimum Date to Plant is 1 September to 15 November) ***

Seed	Pounds per Acre	Ounces per 1000 Sq Ft	Minimum % Purity	Minimum % Germination	Foot-notes
Rye (Grain)	10	4 oz	97	85	
Bahia	40	16			

**Turf Mixture for Winter Seeding in Mowed/Maintained Areas
(Optimum Date to Plant is 1 January to 1 March) ***

Seed	Pounds per Acre	Ounces per 1000 Sq Ft	Minimum % Purity	Minimum % Germination	Foot-notes
Rye (Grain)	10	4 oz	97	85	
Bahia	40	16			

**Turf Mixture for Winter Seeding in Mowed/Maintained Areas
(Optimum Date to Plant is 1 January to 1 March) ***

Seed	Pounds per Acre	Ounces per 1000 Sq Ft	Minimum % Purity	Minimum % Germination	Foot-notes
Rye (Grain)	10	4 oz	97	85	
Bahia	30	11			
Unhulled Bermuda	65	24	97	85	

APPENDIX G
BMP USAGE GUIDANCE

EROSION PREVENTION BMP SUGGESTED USES

BMP	Design Manual Section	Slope Protection	Waterway Protection	Surface Protection	Enclosed Drainage	Large Flat Areas	Borrow Areas	Adjacent Properties
Erosion Prevention Measures	8.4	X	X	X	X	X	X	X
Surface Roughening	8.4.1	X		X				
Bench Terracing	8.4.2	X		X				
Temporary Seeding	8.4.3	X		X		X	X	X
Mulching	8.4.4	X				X	X	
Erosion Control Blankets and Turf Reinforcement Mats	8.4.5	X	X	X			X	
Final Stabilization	8.4.6	X		X		X		X
Topsoiling	8.4.6.1			X		X		
Permanent Seeding and Planting of Grasses	8.4.6.2	X		X		X		X
Permanent Ground Cover Plants	8.4.6.3	X		X				X
Sodding	8.4.6.4	X		X		X		X
Riprap or Aggregate	8.4.7	X	X	X				
Outlet Protection	8.4.8		X		X			X
Dust Control	8.4.9					X	X	X
Polyacrylamide (PAMs)	8.4.10	X		X	X	X	X	X

TEMPORARY SEDIMENT CONTROL BMP SUGGESTED USES

BMP	Design Manual Section	Slope Protection	Waterway Protection	Surface Protection	Enclosed Drainage	Large Flat Areas	Borrow Areas	Adjacent Properties
Temporary Sediment Control Structures	8.5	X	X	X	X	X	X	X
Storage Volumes and Maintenance Schedules	8.5.1		X		X			X
Temporary Sediment Basin	8.5.2		X	X	X			X
Multipurpose Basin	8.5.3		X	X	.X			X
Temporary Sediment Trap	8.5.4		X	X				X
Silt Fence	8.5.5	X	X					X
Rock Ditch Check	8.5.6			X				X
Stabilized Construction Entrance	8.5.7					X		X
Storm Drain Inlet Protection	8.5.8		X		X			X
Vegetated Filter Strips	8.5.9		X					X
Rock Sediment Dike	8.5.10		X	X				X

RUNOFF CONTROL AND CONVEYANCE BMP SUGGESTED USES

BMP	Design Manual Section	Slope Protection	Waterway Protection	Surface Protection	Enclosed Drainage	Large Flat Areas	Borrow Areas	Adjacent Properties
Pipe Slope Drains	8.6.1	X		X				
Temporary Stream Crossing	8.6.2		X	X				X
Runoff Conveyance Measures	8.6.3	X					X	X
Construction De-watering	8.6.4		X		X	X	X	
Level Spreader	8.6.5			X		X		X
Subsurface Drains	8.6.6			X		X		

STRUCTURAL STORMWATER QUALITY BMP SUGGESTED USES

BMP	Design Manual Section	Land Requirement	Single Family	Multi Family	Low Density Commercial	High Density Commercial	Low Density Industrial	High Density Industrial
Wet Storm Water Ponds	9.8.1.2	MODERATE - HIGH	X	X	X	X	X	X
Wet Extended Pond	9.8.1.2	MODERATE - HIGH	X	X	X	X	X	X
Micropool Extended Pond	9.8.1.2	MODERATE - HIGH	X	X	X		X	
Shallow Wetland	9.8.1.3	MODERATE - HIGH	X	X	X		X	
Extended Detention Shallow Wetland	9.8.1.3	MODERATE - HIGH	X	X	X		X	
Pond/Wetland System	9.8.1.3	MODERATE - HIGH	X	X	X		X	
Pocket Wetland	9.8.1.3	MODERATE	X	X		X		X
Bioretention Areas	9.8.1.4	MODERATE	X	X	X	X	X	X
Sand Filtration Facilities	9.8.1.5	LOW			X	X	X	X
Infiltration Trenches	9.8.1.6	MODERATE	X	X	X	X	X	X
Enhanced Dry Swales	9.8.1.7	HIGH	X	X	X		X	
Pre-Fabricated Control Devices	9.8.1.8	LOW		X	X	X	X	X

STRUCTURAL STORMWATER QUALITY BMP CHARACTERISTICS

BMP	Design Manual		Maintenance Burden	Costs	Aesthetically Pleasing	Provide Habitat	Drainage Area (Acres)	Soils
	Section							
Wet Storm Water Pond	9.8.1.2		LOW	LOW	X	X	10 MIN 25 PREFERRED	HSG A SOILS MAY REQUIRE POND LINER
Wet Extended Pond with Aquatic Bench	9.8.1.2		LOW	LOW	X	X	10 MIN 25 PREFERRED	HSG B SOILS MAY REQUIRE INFILTRATION TESTING
Micropool Extended Pond	9.8.1.2		MODERATE	LOW	X	X	10 MIN	
Shallow Wetland	9.8.1.3		MODERATE	MODERATE	X	X	20 MIN	
Extended Detention Shallow Wetland	9.8.1.3		MODERATE	MODERATE	X	X	20 MIN	HSG A AND B SOILS MAY REQUIRE LINER
Pond/Wetland System	9.8.1.3		MODERATE	MODERATE	X	X	20 MIN	
Pocket Wetland	9.8.1.3		HIGH	MODERATE	X	X	5 MIN	
Bioretention Areas	9.8.1.4		LOW	MODERATE	X	X	5 MAX	CLAY OR SILTY SOILS MAY REQUIRE PRETREATMENT
Sand Filtration Facilities	9.8.1.5		HIGH	HIGH			5 MAX 2 PREFERRED	
Infiltration Trenches	9.8.1.6		HIGH	HIGH			5 MAX	INFILTRATION RATE > 0.5 IN/HR
Enhanced Dry Swales	9.8.1.7		LOW	MODERATE			5 MAX	PERMEABLE SOIL
Pre-Fabricated Control Devices	9.8.1.8		HIGH	HIGH	X (HIDDEN)		VARIES	NO REQUIREMENT

STRUCTURAL STORMWATER QUALITY BMP SUGGESTED USES

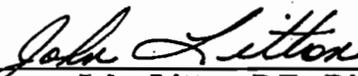
BMP	Design Manual Section	Water Quality	Channel Protection	Flood Protection	TSS Removal	Nutrient Removal	Metal Removal	Bacterial Removal
Wet Stormwater Pond	9.8.1.2	X	X	X	HIGH	MODERATE	MODERATE	MODERATE
Wet Extended Pond with Aquatic Bench	9.8.1.2	X	X	X	HIGH	HIGH	MODERATE	MODERATE
Micropool Extended Pond	9.8.1.2	X	X	X	HIGH	MODERATE	MODERATE	NO DATA
Shallow Wetland	9.8.1.3	X	X	X	HIGH	HIGH	MODERATE	HIGH
Extended Detention Shallow Wetland	9.8.1.3	X	X	X	HIGH	HIGH	MODERATE	HIGH
Pond/Wetland System	9.8.1.3	X	X	X	HIGH	HIGH	MODERATE	HIGH
Pocket Wetland	9.8.1.3	X	X		HIGH	HIGH	MODERATE	HIGH
Bioretention Areas	9.8.1.4	X			HIGH	MODERATE	MODERATE	NO DATA
Sand Filtration Facilities	9.8.1.5	X			HIGH	MODERATE	MODERATE	MODERATE
Infiltration Trenches	9.8.1.6	X			HIGH	MODERATE	HIGH	HIGH
Enhanced Dry Swales	9.8.1.7	X			HIGH	MODERATE	MODERATE	LOW
Pre-Fabricated Control Devices	9.8.1.8	X			HIGH	LOW-HIGH	LOW-HIGH	LOW-HIGH

APPENDIX H
NPDES Phase II Permit



**STATE OF SOUTH CAROLINA
NPDES GENERAL PERMIT
FOR
STORM WATER DISCHARGES
FROM
REGULATED SMALL MUNICIPAL
SEPARATE STORM SEWER SYSTEMS (MS4s)**

The Permit is issued in compliance with the provisions of the SC Pollution Control Act (S.C. Code Sections 48-1-10 *et seq.*, 1976) and with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et. seq.*, (hereafter CWA or the Act), as amended by the Water Quality Act of 1987, P.L. 100-4. Upon being granted coverage under this general permit, operators of Regulated Small Municipal Separate Storm Sewer Systems that are described in Subpart 1.2 of this National Pollutant Discharge Elimination System (NPDES) general permit, except for those activities excluded from authorization of discharge in Subpart 1.3 of this permit, are authorized to discharge storm water to waters of the state of South Carolina in accordance with the conditions and requirements set forth herein.



John Litton, P.E., Director
Storm Water, Construction and Agricultural Permitting Division
Bureau of Water

Permit No.: SCS0000000

Issued: January 30, 2006

Effective: March 1, 2006

Expires: February 28, 2011

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1 Coverage Under this Permit

1.1 Permit Area

This permit covers all areas of the State of South Carolina including the Catawba Indian Reservation.

1.2 Eligibility

1.2.1 This permit authorizes discharges of storm water from SMS4s as defined in South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(16). You are eligible to be authorized to discharge under the terms and conditions of this general permit if you:

1.2.1.1 Own or operate an SMS4 within the permit area described in Section 1.1,

1.2.1.2 Are not a "large" or "medium" MS4 as defined in South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(4) or (7), and

1.2.1.3 Submit either a Notice of Intent (NOI) in accordance with Part 2 of this permit or an individual application in accordance with Section 122.33(b)(2) or (3) of SC Regulation 61-9, and

1.2.1.3.1 Are located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census, or

1.2.1.3.2 Are designated for permit authorization by SCDHEC or EPA pursuant to South Carolina Water Pollution Control Permits Regulation 61-9 122.32 and 40 CFR §123.35.

1.2.2 The following are types of authorized discharges:

1.2.2.1 *Storm water discharges.* This permit authorizes storm water discharges to waters of the State or waters of the United States from the SMS4s identified in Section 1.2.1, except as excluded in Section 1.3.

1.2.2.2 *Non-storm water discharges.* You are authorized to discharge the following non-storm water sources provided that the Department has not determined these sources to be substantial contributors of pollutants to your SMS4:

- a) Water line flushing
- b) Landscape irrigation
- c) Diverted stream flows
- d) Rising ground waters
- e) Uncontaminated ground water infiltration (infiltration is defined as water other than wastewater that enters a sewer system, including foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)
- f) Uncontaminated pumped ground water

- g) Discharges from potable water sources
- h) Foundation drains
- i) Air conditioning condensate
- j) Irrigation water (not consisting of treated, or untreated, waste water)
- k) Springs
- l) Water from crawl space pumps
- m) Footing drains
- n) Lawn watering
- o) Individual residential car washing
- p) Natural flows from riparian habitats and wetlands
- q) Dechlorinated swimming pool discharges
- r) Street wash water
- s) Discharges or flows from fire fighting activities

1.3 Limitations on Coverage

This permit does not authorize:

- 1.3.1 Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:
 - a) In compliance with a separate NPDES permit, or
 - b) Determined not to be a substantial contributor of pollutants to waters of the State.
- 1.3.2 Storm water discharges associated with industrial activity as defined in South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(14)(i)-(ix) and (xi).
- 1.3.3 Storm water discharges associated with construction activity as defined in South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(14)(x) or 122.26(b)(15).
- 1.3.4 Storm water discharges currently covered under another NPDES permit.
- 1.3.5 Discharges to territorial seas, the contiguous zone, and the oceans unless such discharges are in compliance with the ocean discharge criteria of 40 CFR Part 125, Subpart M.
- 1.3.6 New or expanding point source discharges that would cause or contribute to violations of water quality standards unless your SWMP includes a description of the BMPs and implementation procedures that you will be using to reduce the discharge of pollutants from your MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Provisions of 1.5.1 specifically apply to this Subsection as well as the remainder of this permit.

1.3.7 Existing discharges that are causing or contributing to a violation of water quality standards are not excluded from coverage under this general permit provided your SWMP includes a description of the BMPs and implementation procedures that you will be using to work towards compliance with water quality standards in accordance with Parts 3 and 4 and Subpart 5.3 of this permit. Provisions of 1.5.1 specifically apply to this Subsection as well as the remainder of this permit.

1.3.8 Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been established unless your SWMP includes a description of the BMPs and implementation procedures that you will be using to work towards compliance with a TMDL. You must incorporate any limitations, conditions and requirements contained in the TMDL applicable to your discharges if any, including monitoring frequency and reporting required, in order to be eligible for permit coverage. Applicable limitations, conditions and requirements contained in the TMDL are those limitations, conditions and requirements set forth in the TMDL implementation plan and attributed specifically to your MS4. Provisions of 1.5.1 specifically apply to this Subsection as well as the remainder of this permit.

1.4 Obtaining Authorization

1.4.1 To be authorized to discharge storm water from SMS4s, you must submit a notice of intent (NOI), as required in South Carolina Water Pollution Control Permits Regulation 61-9 122.33(b)(1) and 122.34 and a description of your SWMP in accordance with the deadlines presented in section 2.1 of this permit.

1.4.2 You must submit the information required in section 2.2 of this permit. Your NOI must be signed and dated in accordance with Section 122.22 of SC Regulation 61-9 (see Appendix B of this permit).

Note: If SCDHEC notifies dischargers (either directly, by public notice, or by making information available on the Internet) of other NOI form options that become available at a later date (e.g., electronic submission of forms), you may take advantage of those options to satisfy the NOI use and submittal requirements of part 2.

1.4.3 Dischargers who submit an NOI in accordance with the requirements of this permit are authorized to discharge storm water from SMS4s under the terms and conditions of this permit from the effective date indicated in the written certificate of coverage issued by the Department. The Department may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information at any time (see Section 122.28 of SC Regulation 61-9).

1.4.4 For areas annexed into your MS4 area after you received coverage under this general permit, the first annual report submitted after the annexation must include the updates to your SWMP, as appropriate.

- 1.4.5 Small MS4s that submitted or submit an individual permit application may also be granted coverage under this general permit in lieu of SCDHEC issuing an individual MS4 NPDES permit. Provided, however, that if any Small MS4 demonstrates a basis for declining coverage under the general permit, then SCDHEC shall provide individual permit coverage.

1.5 Implementation, Interpretation, and Enforcement

1.5.1 Implementation

- 1.5.1.1 This permit requires implementation of the MS4 Program under the State and Federal NPDES Regulations as explained by the EPA in the December 8, 1999 Federal Register. On page 68753 of the Federal Register, the EPA states, "Absent evidence to the contrary, EPA presumes that a small MS4 Program that implements the six minimum measures as outlined in today's rule does not require more stringent limitations to meet water quality standards." The EPA further states that "MS4s should modify their programs if and when water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program."

- 1.5.1.2 The EPA also states "If a small MS4 operator implements the six minimum measures in Section 122.34(b) and the discharges are determined to cause or contribute to non-attainment of an applicable water quality standard, the operator needs to tailor its BMPs within the scope of the six minimum control measures. EPA envisions that this process will occur during the first two or three permit terms." The EPA has called this the "Iterative Process." Parts 3 and 4 and Subpart 5.3 of this permit are part of this "Iterative Process." This Permit is the first of the "two or three permit terms" EPA refers to in the Federal Register.

- 1.5.1.3 Further, in the Section entitled "Total Maximum Daily Loads and Analysis To Determine the Need for Water Quality-Based Limitations," the EPA states on page 68790 of the Federal Register that "NPDES permit must include any more stringent limitations when necessary to meet water quality standards. However, even if a regulated small MS4 is subject to water quality based limits, such limits may be in the form of narrative limitations that require implementation of BMPs." Part 3 of this permit is designed to implement EPA's expressed intention.

1.5.2 Interpretation and Enforcement

- 1.5.2.1 Interpretation and enforcement of the conditions of this permit will be based on:

- a) the Federal Clean Water Act;
- b) the SC Pollution Control Act;
- c) SC Regulation 61-9;
- d) the Preamble to the Federal Phase II Storm water NPDES Regulations contained in the December 8, 1999 Federal Register; and
- e) all applicable Federal and State court rulings.

2 Notice of Intent Requirements

2.1 Deadlines for Notification

- 2.1.1 If you are an operator of a regulated SMS4, as defined under South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(16), designated under 122.32(a)(1), located in the Urbanized Areas (UAs) listed in the Appendix A of this permit, you must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit by March 10, 2003, unless your SMS4 has been specifically exempted by a waiver granted under SC DHEC Water Pollution Control Permits Regulation 61-9 122.32(d) or (e).
- 2.1.2 *Additional designations after the date of permit issuance.* If you are designated by the Department after the date of permit issuance, then you are required to submit an NOI and a description of your SWMP to the Department within 180 days of notice.
- 2.1.3 *Submitting a Late NOI.* You are not prohibited from submitting an NOI after the dates provided in this section. If a late NOI is submitted, your authorization is only for discharges that occur after the written certificate of coverage is granted. The Department reserves the right to take appropriate enforcement actions for any unpermitted discharges.

2.2 Contents of the Notice of Intent

The Notice(s) of Intent must be signed in accordance with Section 122.22 of SC Regulation 61-9 (see Appendix B of this permit) and must include the following information:

2.2.1 *Information on the Permittee:*

- 2.2.1.1 The name of your municipal entity/tribe/state agency/federal agency, mailing address, and telephone number;
- 2.2.1.2 An indication of whether you are a Federal, State, Tribal, or other public entity;

2.2.2 *Information on the SMS4:*

- 2.2.2.1 The Urbanized Area or Core Municipality (if you are not located in an Urbanized Area) where your system is located; the name of your organization, county(ies), city(ies), town(s) or parish(es) where your SMS4 is located, and the latitude and longitude of an approximate center of your SMS4. Maps submitted to the Department should not exceed a "D" size, 24 in. by 36 in. and the scale of the maps should be at least 1 inch equals 1,000 feet but not more than 1 inch equals 2,000 feet. Electronic maps, in a format suitable to the Department, may be submitted in lieu of the size D maps.

- 2.2.2.2 The name of the waters of the State and an indication of whether any of your receiving waters are on the latest CWA §303(d) list of impaired waters: If you have discharges to 303(d) waters, a certification that your SWMP procedures are in compliance with Part 3 of this permit must be included.
- 2.2.2.3 An indication of whether all or a portion of the SMS4 is located on Indian Country lands.
- 2.2.2.4 If you are relying on another entity to satisfy one or more of your permit obligations (see Section 4.4), the identity of that entity(ies) and the element(s) they will be implementing.
- 2.2.2.5 Information on your chosen best management practices (BMPs) and the measurable goals for each of the storm water minimum control measures in Section 4.2 of this permit, your time frame for implementing each of the BMPs, and the person or persons responsible for implementing or coordinating your SWMP.
- 2.2.2.6 A list of entities such as military bases, large hospitals, prison complexes, universities, sewer districts, highway departments and others that operate a small separate storm sewer system and are located within your SMS4 area. Indicate whether they are an integral part of your SMS4.

2.3 Where to Submit

You are to submit your NOI, signed in accordance with the signatory requirements of Section 122.22 of SC Regulation 61-9 (see Appendix B of this permit), to the Department at the following address:

SCDHEC Bureau of Water
NPDES Storm Water SMS4 Notice of Intent
2600 Bull Street
Columbia, SC 29201

2.4 Co-Permittees Under a Single NOI

You may partner with other MS4s to develop and implement your SWMP. You may also jointly submit an NOI with one or more SMS4s. Each SMS4 must obtain authorization under this permit by filling out the NOI form required in part 1.4.1 of this permit. The description in the SWMP must clearly indicate which permittees are responsible for implementing each of the control measures.

2.5 Renotification

Upon reissuance of this general permit, permittees already covered by the existing NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems will be granted coverage under the new general permit upon approval of a new NOI submitted to the Department not later than 180 days prior to the expiration date of this permit unless otherwise indicated by the Department. The new NOI must consist of a letter signed in accordance with Section 122.22 of SC Regulation 61-9 and a copy of the most recent "Annual Report" required under Subpart 5.3 including any updates of this Annual Report that are necessary to address new information on your program that is generated between the date of the most recent Annual Report and the date that the NOI is due.

3 Special Conditions

3.1 Discharges to Impaired Water Bodies

3.1.1 *Applicability:* You must:

3.1.1.1 Determine whether storm water discharges from any part of the SMS4 that is covered under this permit contribute directly or indirectly to an impaired water body that is listed in accordance with Section 303(d) of the CWA. If you have discharges meeting this criterion, you must comply with Section 3.1.2; if you do not, Section 3.1 does not apply to you.

3.1.1.2 If you have "303(d)" discharges described above, you must also determine whether a TMDL has been developed by SCDHEC and approved by EPA for the listed water body. If there is no TMDL assigned, you must comply with section 3.1.2. If a TMDL is in effect, or one is assigned after submitting the NOI, you must comply with sections 3.1.2 and 3.1.3.

3.1.2 *Water Quality Controls for Discharges to Impaired Water Bodies.* Your SWMP must include a section describing how implementation of your SWMP will provide Reasonable Assurance that discharges will not cause or contribute to violations of water quality standards in Impaired Water Bodies. This discussion must specifically identify measures and BMPs that are designed to collectively control the discharge of the pollutants of concern. Provisions of 1.5.1 specifically apply to this Subsection as well as the remainder of this permit.

For purposes of this Subsection 3.1.2, the following definitions shall apply:

"Impaired Water Bodies" means those water bodies identified by the State of South Carolina under Section 303(d) of the Federal Clean Water Act or under 40 CFR § 130.7.

"Reasonable Assurance" means something that is reasonably likely to occur, given uncertainties; it is not a guarantee that it will occur. It requires an assessment that water quality standards can be met, while acknowledging uncertainty, and includes measures to remove or reduce the uncertainty. In the present context, the iterative process inherent in the MS4 program addresses that uncertainty.

- 3.1.3 *Consistency with Total Maximum Daily Load (TMDL) Allocations.* If a TMDL has been established for any watershed into which you discharge, you must incorporate any limitations, conditions and requirements contained in the TMDL applicable to your discharges, if any, including monitoring frequency and reporting required, in order to be eligible for permit coverage. Applicable limitations, conditions and requirements contained in the TMDL are those limitations, conditions and requirements set forth in the TMDL implementation plan and attributed specifically to your MS4.

4 Storm Water Management Programs (SWMPs)

4.1 Requirements

- 4.1.1 You must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from your SMS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. The SWMP should include management practices; control techniques and system, design, and engineering methods; and such other provisions as the Department determines appropriate for the control of such pollutants. Your SWMP must include the following information for each of the six minimum control measures described in Section 4.2 of this permit:
- 4.1.1.1 The best management practices (BMPs) that you or another entity will implement for each of the storm water minimum control measures;
 - 4.1.1.2 The measurable goals for each of the BMPs including, as appropriate, the months and years in which you will undertake required actions, including interim milestones and the frequency of the action; and
 - 4.1.1.3 The person or persons responsible for implementing or coordinating the BMPs for your SWMP.
- 4.1.2 In addition to the requirements listed above, you must provide a rationale for how and why you selected each of the BMPs and measurable goals for your SWMP. The information required for such a rationale is given in Section 4.2 for each minimum measure.
- 4.1.3 You must have fully developed your SWMP one year from the effective date of your written certificate of coverage.
- 4.1.4 Except for SMS4s that submit an NOI or individual application after the effective date of this permit, you must have the SWMP fully implemented by the expiration date of this permit. However, the construction and post construction runoff control programs must be implemented in your entire regulated MS4 area within eighteen months of the Effective Date of this permit. (see Sections 4.2.4.3 and 4.2.5.3 of this general permit). For SMS4s that submit an NOI application after the effective date of this general permit, you must include an implementation schedule in your NOI application. The schedule may extend past the expiration date of this general permit such that the implementation of the SWMP will be completed during the next term of this general permit but the schedule cannot exceed five years.

4.2 Minimum Control Measures

The six minimum control measures that must be included in your SWMP are:

4.2.1 Public Education and Outreach on Storm Water Impacts

- 4.2.1.1 *Permit requirement.* You must implement a public education program to distribute educational materials or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. Additional information can be obtained from the SCDHEC Storm Water Education Clearinghouse Web Site, <http://www.scdhec.net/water/ms4/index.html>.
- 4.2.1.2 *Decision process.* You must document your decision process for the development of a storm water public education and outreach program. Such documentation may be included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit. If this information is not included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit, you must provide a rationale statement that addresses both your overall public education program and the individual BMPs, establishes measurable goals, and identifies responsible persons for your program. The rationale statement must include the following information, at a minimum:
- 4.2.1.2.1 How you plan to inform individuals and households about the steps they can take to reduce storm water pollution.
- 4.2.1.2.2 How you plan to inform individuals and groups on how to become involved in the storm water program (with activities such as local stream and beach restoration activities).
- 4.2.1.2.3 Who are the target audiences for your education program who are likely to have significant storm water impacts (including commercial, industrial and institutional entities) and why those target audiences were selected.
- 4.2.1.2.4 What are the target pollutant sources your public education program is designed to address.
- 4.2.1.2.5 What is your outreach strategy, including how you plan to inform the target audiences, the mechanisms and activities (e.g., printed brochures, newspapers, media, workshops, etc.) you will use to reach your target audiences, and how many people do you expect to reach by your outreach strategy over the permit term.
- 4.2.1.2.6 Who is responsible for overall management and implementation of your storm water public education and outreach program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.1.2.7 How you will evaluate the success of this minimum measure.

4.2.2 Public Involvement/Participation

- 4.2.2.1 *Permit requirement.* You must at a minimum, comply with State, Tribal, and local public notice requirements when implementing a public involvement/participation program.
- 4.2.2.2 *Decision process.* You must document the program development process and the implementation of a storm water public education and outreach program. Such documentation may be included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit. If this information is not included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit, you must submit a rationale statement that addresses both your overall public involvement/participation program and the individual BMPs, selection of the measurable goals for each of the BMPs, evaluation of the success of this minimum measure, and responsible persons for your program. The rationale statement must include the following information, at a minimum:
- 4.2.2.2.1 How you have involved the public in the development and submittal of your storm water management program.
- 4.2.2.2.2 What is your plan to actively involve the public in the development and implementation of your program.
- 4.2.2.2.3 The target audiences for your public involvement program, including a description of the audiences' demographic characteristics. You are encouraged to actively involve all potentially affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowners associations, and educational organizations, among others.
- 4.2.2.2.4 What are the types of public involvement activities included in your program. Where appropriate, consider the following types of public involvement activities:
- 4.2.2.2.4.1 Citizen representatives on a storm water management panel;
- 4.2.2.2.4.2 Public hearings;
- 4.2.2.2.4.3 Working with citizen volunteers willing to educate others about the program; and
- 4.2.2.2.4.4 Storm drain marking stenciling and tagging, volunteer monitoring or stream/beach clean-up activities.
- 4.2.2.2.5 Who is responsible for the overall management and implementation of your storm water public involvement/participation program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.2.2.6 How you will evaluate the success of this minimum measure, including how you selected the measurable goal for each minimum measure.

4.2.3 Illicit Discharge Detection and Elimination

4.2.3.1 *Permit requirement.* You must:

- 4.2.3.1.1 Develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(2)) into your SMS4;
- 4.2.3.1.2 Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls. Unless your SWMP addresses implementation on a watershed basis, this map must be completed no later than three years after your written certificate of coverage is granted. If your SWMP is implemented on a watershed basis, the outfall map for each watershed area identified in your SWMP must be completed during the implementation period for that watershed. Maps submitted to the Department should not exceed a "D" size, 24 inches by 36 inches, and the scale of the maps should be at least 1 inch equals 1,000 feet but not more than 1 inch equals 2,000 feet. Electronic maps, in a format suitable to the Department, may be submitted in lieu of the size D maps.
- 4.2.3.1.3 To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
- 4.2.3.1.4 Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system;
- 4.2.3.1.5 Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and
- 4.2.3.1.6 Address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your SMS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the State).
- 4.2.3.1.7 You may also develop a list of other similar occasional incidental non-storm water discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on information available to the permittees) to be significant sources of pollutants to the SMS4,

because of either the nature of the discharges or conditions you have established for allowing these discharges to your SMS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs on the wash water, etc.). You must document in your SWMP any local controls or conditions placed on the discharges. You must include a provision prohibiting any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to your SMS4.

- 4.2.3.2 *Decision process.* You must document your decision process for the development of a storm water illicit discharge detection and elimination program. Such documentation may be included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit. If this information is not included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit, you must develop a rationale statement that addresses your overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for your program. The rationale statement must include the following information, at a minimum:
- 4.2.3.2.1 How you will develop a storm sewer map showing the location of all outfalls and the names and location of all receiving waters. Describe the sources of information you used for the maps, and how you plan to verify the outfall locations with field surveys. If already completed, describe how you developed this map. Also, you must submit an updated map with each annual report unless there are no changes to the map that was previously submitted. When there have been no changes to the map, your annual report must state this. Maps submitted to the Department should not exceed a "D" size, 24 inches by 36 inches and the scale of the maps should be at least 1 inch equals 1,000 feet but not more than 1 inch equals 2,000 feet. Electronic maps, in a format suitable to the Department, may be submitted in lieu of the size D maps.
- 4.2.3.2.2 The mechanism (ordinance or other regulatory mechanism) you will use to effectively prohibit illicit discharges into the SMS4 and why you chose that mechanism. If you need to develop this mechanism, describe your plan and a schedule to do so. If your ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with your program.
- 4.2.3.2.3 Your plan to ensure through appropriate enforcement procedures and actions that your illicit discharge ordinance (or other regulatory mechanism) is implemented.
- 4.2.3.2.4 Your plan to detect and address illicit discharges to your system, including discharges from illegal dumping and spills. Your plan must include, to the extent practicable, dry weather field screening for non-storm water flows and field tests of chemical parameters you selected as indicators of discharge sources. Your plan must also address on-site sewage disposal systems that flow into your storm drainage system. Your description must address the following, at a minimum:

- 4.2.3.2.4.1 Procedures for locating priority areas which includes areas with higher likelihood of illicit connections (e.g., areas with older sanitary sewer lines, for example) or ambient sampling to locate impacted reaches.
- 4.2.3.2.4.2 Procedures for tracing the source of an illicit discharge, including the specific techniques you will use to detect the location of the source.
- 4.2.3.2.4.3 Procedures for removing the source of the illicit discharge.
- 4.2.3.2.4.4 Procedures for program evaluation and assessment.
- 4.2.3.2.5 How you plan to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Include in your description how this plan will coordinate with your public education minimum measure and your pollution prevention/good housekeeping minimum measure programs.
- 4.2.3.2.6 Who is responsible for overall management and implementation of your storm water illicit discharge detection and elimination program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.3.2.7 How you will evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.

4.2.4 Construction Site Storm Water Runoff Control

- 4.2.4.1 *Permit requirement.* Within eighteen months from the effective date of this permit, you must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your regulated SMS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollutants in storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Your program must include the development and implementation of, at a minimum:
 - 4.2.4.1.1 An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;
 - 4.2.4.1.2 Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
 - 4.2.4.1.3 Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
 - 4.2.4.1.4 Procedures for site plan review, which incorporate consideration of potential water quality impacts;

4.2.4.1.5 Procedures for receipt and consideration of information submitted by the public; and

4.2.4.1.6 Procedures for site inspection and enforcement of control measures.

4.2.4.2 *Decision process.* You must document your decision process for the development of a construction site storm water control program. Such documentation may be included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit. If this information is not included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit, you must develop a rationale statement that addresses your overall construction site storm water control program and the individual BMPs, measurable goals, and responsible persons for your program. The rationale statement must include the following information, at a minimum:

4.2.4.2.1 The mechanism (ordinance or other regulatory mechanism) you will use to require erosion and sediment controls at construction sites and why you chose that mechanism. If you need to develop this mechanism, describe your plan and a schedule to do so. If your ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with your SWMP description.

4.2.4.2.2 Your plan to ensure compliance with your erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms you will use to ensure compliance. Describe your procedures for when you will use certain sanctions. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.

4.2.4.2.3 Your requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites that may cause adverse impacts to water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.

4.2.4.2.4 Your procedures for plan review, including the review of pre-construction site plans, which incorporate consideration of potential water quality impacts. For construction projects that disturb 25 acres or more and discharge the pollutant or pollutants of concern to a water on the South Carolina 303(d) List of Impaired Waters, the Stormwater Pollution Prevention Plans prepared by applicants for construction sites that you review must contain a written quantitative and qualitative assessment showing that the BMPs selected will control the construction and post construction stormwater discharges so that the stormwater discharges will not cause or contribute to a violation of water quality standards.

A copy of the most current 303(d) List of Impaired Waters can be obtained from:

Water Quality Division
Bureau of Water
SC DHEC
2600 Bull Street
Columbia, SC 29201

or, it can be downloaded at the following DHEC WEB site:

www.scdhec.gov/water/html/tmdl.html

- 4.2.4.2.5 Your procedures for receipt and consideration of information submitted by the public. Consider coordinating this requirement with your public education program.
- 4.2.4.2.6 Your procedures for site inspection and enforcement of control measures, including how you will prioritize sites for inspection.
- 4.2.4.2.7 Who is responsible for overall management and implementation of your construction site storm water control program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.4.2.8 Describe how you will evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.
- 4.2.4.3 For SMS4 which submitted an application before the effective date of this general permit, you must implement your local construction site storm water runoff control program in your entire regulated SMS4 area within eighteen months of the effective date of this permit.
- 4.2.5 Post-Construction Storm Water Management in New Development and Redevelopment**
- 4.2.5.1 *Permit requirement.* You must:
 - 4.2.5.1.1 Within eighteen months from the effective date of this permit, develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your regulated SMS4. Your program must ensure that controls that would prevent or minimize water quality impacts are in place;
 - 4.2.5.1.2 Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for your community; and
 - 4.2.5.1.3 Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law (see also Section 4.2.4.2.4); and
 - 4.2.5.1.4 Ensure adequate long-term operation and maintenance of BMPs.
- 4.2.5.2 *Decision process.* You must document your decision process for the development of a post-construction SWMP. Such documentation may be included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit. If this information

is not included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit, you must develop a rationale statement that addresses both your overall post-construction SWMP and the individual BMPs, measurable goals, and responsible persons for your program. The rationale statement must include the following information, at a minimum:

- 4.2.5.2.1 Your program to address storm water runoff from new development and redevelopment projects. Include in this description any specific priority areas for this program.
- 4.2.5.2.2 How your program will be specifically tailored for your local community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions.
- 4.2.5.2.3 Any non-structural BMPs in your program, including, as appropriate:
 - 4.2.5.2.3.1 Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation.
 - 4.2.5.2.3.2 Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure;
 - 4.2.5.2.3.3 Education programs for developers and the public about project designs that minimize water quality impacts; and
 - 4.2.5.2.3.4 Other measures such as: minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought as good housekeeping, preventive maintenance and spill prevention.
- 4.2.5.2.4 Any structural BMPs in your program, including, as appropriate:
 - 4.2.5.2.4.1 Storage practices such as wet ponds, and extended-detention outlet structures;
 - 4.2.5.2.4.2 Filtration practices such as grassed swales, bioretention cells, sand filters and filter strips; and,
 - 4.2.5.2.4.3 Infiltration practices such as infiltration basins and infiltration trenches.
- 4.2.5.2.5 What are the mechanisms (ordinance or other regulatory mechanisms) you will use to address post-construction runoff from new developments and redevelopments and why did you choose that mechanism. If you need to develop a mechanism, describe your plan and a schedule to do so. If your ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with your program.

- 4.2.5.2.6 How you will ensure the long-term operation and maintenance (O&M) of your selected BMPs. Options to help ensure that future O&M responsibilities are clearly identified include an agreement between you and another party such as the post-development landowners or regional authorities.
- 4.2.5.2.7 Who is responsible for overall management and implementation of your post-construction SWMP and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.5.2.8 How you will evaluate the success of this minimum measure.
- 4.2.5.3 For SMS4s who submitted an application before the effective date of this general permit, you must implement your local post construction storm water management program in your entire regulated SMS4 area within eighteen months of the effective date of this permit.

4.2.6 Pollution Prevention/Good Housekeeping for Municipal Operations

4.2.6.1 *Permit requirement.* You must.

- 4.2.6.1.1 Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations as an integral part of the SWMP; and
- 4.2.6.1.2 Using training materials that are available from SCDHEC, EPA, or other organizations, include in your program employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

4.2.6.2 *Decision process.* You must document your decision process for the development of a pollution prevention/good housekeeping program for municipal operations. Such documentation may be included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit. If this information is not included in your permit application, your SWMP, or your annual report submitted pursuant to Section 5 of this permit, you must develop a rationale statement that addresses your overall pollution prevention/good housekeeping program and the individual BMPs, measurable goals, and responsible persons for your program. The rationale statement must include the following information, at a minimum:

- 4.2.6.2.1 Your operation and maintenance program to prevent or reduce pollutant runoff from your municipal operations. Your program must specifically list the municipal operations that are impacted by this operation and maintenance program. You must also include a list of industrial facilities you own or operate that are subject to SCDHEC NPDES General Permit for Storm Water Discharges Associated with Industrial Activity (SCR000000) or individual NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to your SMS4. Include the SCDHEC permit number or a copy of the Industrial NOI form for each facility.

- 4.2.6.2.2 Any government employee training program you will use to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. Describe any existing, available materials you plan to use. Describe how this training program will be coordinated with the outreach programs developed for the public information minimum measure and the illicit discharge minimum measure.
- 4.2.6.2.3 Your program description must specifically address the following areas:
- 4.2.6.2.3.1 Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to your SMS4.
- 4.2.6.2.3.2 Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, recycling collection centers, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, and snow disposal areas you operate.
- 4.2.6.2.3.3 Procedures for the proper disposal of waste removed from your SMS4 and your municipal operations, including materials such as dredge spoil, accumulated sediments, floatables, and other debris.
- 4.2.6.2.3.4 Procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices.
- 4.2.6.2.4 Who is responsible for overall management and implementation of your pollution prevention/good housekeeping program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.6.2.5 How you will evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.

4.3 Reserved

4.4 Sharing Responsibility.

Implementation of one or more of the minimum measures may be shared with another entity, or the entity may fully take over the measure. You may rely on another entity only if:

- 4.4.1 The other entity in fact, implements the control measure.
- 4.4.2 The particular control measure, or component of that measure, is at least as stringent as the corresponding permit requirement.

4.4.3 The other entity agrees to implement the control measure on your behalf. Written acceptance of this obligation is expected. This obligation must be maintained as part of the description of your SWMP. If the other entity agrees to report on the minimum measure, you must supply the other entity with the reporting requirements contained in Section 5.3 of this permit. If the other entity fails to implement the control measure on your behalf, then you remain liable for any discharges due to that failure to implement.

4.5 Reviewing and Updating Storm Water Management Programs (SWMPs)

4.5.1 *SWMP Review:* You must do an annual review of your SWMP in conjunction with preparation of the annual report required under Section 5.3

4.5.2 *SWMP Update:* You may change your SWMP during the life of the permit in accordance with the following procedures:

4.5.2.1 Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP may be made at any time upon written notification to the Department.

4.5.2.2 Changes replacing an ineffective or unfeasible BMP specifically identified in the SWMP with an alternate BMP may be requested at any time. Unless denied by the Department, changes proposed in accordance with the criteria below shall be deemed approved and may be implemented 60 days from submittal of the request. If request is denied, the Department will send you a written response giving a reason for the decision. Your modification requests must include the following:

4.5.2.2.1 An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),

4.5.2.2.2 Expectations on the effectiveness of the replacement BMP, and

4.5.2.2.3 An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

4.5.2.3 Change requests or notifications must be made in writing and signed in accordance with Section 122.22 of SC Regulation 61-9 (see Appendix B of this permit).

4.5.3 *SWMP Updates Required by the Department:* The Department may require changes to the SWMP as needed to:

4.5.3.1 Address documented impacts on receiving water quality caused, or contributed to, by discharges from the SMS4;

4.5.3.2 Include more stringent requirements necessary to comply with new Federal statutory or regulatory requirements; or

- 4.5.3.3 Include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Clean Water Act.
- 4.5.3.4 Changes requested by the Department must be made in writing, set forth the time schedule for you to develop the changes, and offer you the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by the Department will be made in accordance with South Carolina Water Pollution Control Permits Regulation 61-9 124.5, 122.62, or as appropriate 122.63.
- 4.5.4 *Transfer of Operational Authority, or Responsibility for SWMP Implementation:* You must implement the SWMP on all new areas added to your portion of the SMS4 (or for which you become responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.
- 4.5.4.1 Within 90 days of a transfer of operational authority, or responsibility for SWMP implementation, you must have a plan for implementing your SWMP on all affected areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP must be included in the annual report.
- 4.5.4.2 Only those portions of the SWMP specifically required as permit conditions shall be subject to the modification requirements of South Carolina Water Pollution Control Permits Regulation 61-9.124.5. Addition of components, controls, or requirements by the permittee(s) and replacement of an ineffective or infeasible BMP implementing a required component of the SWMP with an alternate BMP expected to achieve the goals of the original BMP shall be considered minor changes to the SWMP and not modifications to the permit.

5 Monitoring, Record keeping, and Reporting

5.1 Monitoring

- 5.1.1 You must evaluate program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals. If you discharge to a water body for which a TMDL has been established, you may have additional monitoring requirements under Section 3.1.3.6.
- 5.1.2 When you conduct monitoring at your permitted SMS4, you are required to comply with the following:
- 5.1.2.1 *Representative monitoring.* Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- 5.1.2.2 *Test Procedures.* Monitoring results must be conducted according to test procedures approved under 40 CFR part 136.
- 5.1.3 Records of monitoring information shall include:

- 5.1.3.1 The date, exact place, and time of sampling or measurements;
 - 5.1.3.2 The names(s) of the individual(s) who performed the sampling or measurements;
 - 5.1.3.3 The date(s) analyses were performed;
 - 5.1.3.4 The names of the individuals who performed the analyses;
 - 5.1.3.5 The analytical techniques or methods used; and
 - 5.1.3.6 The results of such analyses.
- 5.1.4 *Discharge Monitoring Report.* Monitoring results must be reported on a Discharge Monitoring Report (DMR)

5.2 Record Keeping

- 5.2.1 You must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, and records of all data used to complete the application (NOI) for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the Department at any time.
- 5.2.2 You must submit your records to the Department when specifically asked to do so. You must retain a description of the SWMP required by this permit (including a copy of the permit language) at a location accessible to the Department. You must make your records, including the notice of intent (NOI) or application and the description of the SWMP, available to the public if requested to do so in writing.

5.3 Reporting

You must submit your first annual report to the Department fourteen months after the effective date of the written certificate of coverage. The following annual reports shall be submitted every twelve months from the scheduled date of the first submittal. All annual reports shall be sent to:

SCDHEC Bureau of Water
 Storm Water Compliance Manager
 2600 Bull Street
 Columbia, SC 29201-1708

The report must include:

- 5.3.1 The status of your compliance with permit conditions, an assessment of the appropriateness of the identified best management practices (this may be satisfied by updating your Decision Process under Subsections 4.2.1.2, 4.2.2.2, 4.2.3.2, 4.2.4.2, 4.2.5.2, and 4.2.6.2), progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and the measurable goals for each of the minimum control measures;
- 5.3.2 Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP;
- 5.3.3 A summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule);
- 5.3.4 Proposed changes to your SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements; and
- 5.3.5 Notice that you are relying on another entity to satisfy some of your permit obligations (if applicable).

6 Standard Permit Conditions

South Carolina regulations require that the Standard Conditions provisioned at §122.41 of SC Regulation 61-9 be applied to all NPDES permits. You are required to comply with those Standard Conditions, details of which are provided in Appendix B, that are applicable to SMS4 storm water discharges.

7 Definitions

All definitions contained in Section 502 of the Act and South Carolina Water Pollution Control Permits Regulation 61-9 122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the Statute or Regulation takes precedence.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Control Measure, as used in this permit, refers to any BMP or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

CWA or The Act means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.

Department means the South Carolina Department of Health and Environmental Control.

Discharge, when used without a qualifier, refers to "discharge of a pollutant" as defined at South Carolina Water Pollution Control Permits Regulation 61-9 122.2.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a small municipal separate storm sewer.

Illicit Discharge is defined at South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(2) and refers to any discharge to a small municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the SMS4) and discharges resulting from fire fighting activities.

Indian Country, as defined in 18 USC 1151, means:

- (a) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation;
- (b) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state; and,
- (c) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.

MEP is an abbreviation for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA §402(p).

MS4 is an abbreviation for "Municipal Separate Storm Sewer System" and is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System (e.g. "the Columbia MS4"). The term is used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities (e.g., the Greenville County MS4 includes MS4s operated by the city of Greenville, the South Carolina Department of Transportation, Greenville County, and others).

Municipal Separate Storm Sewer is defined at South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii)

Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at South Carolina Water Pollution Control Permits Regulation 61-9 122.2.

NOI is an abbreviation for “Notice of Intent” to be covered by this permit and is the mechanism used to request coverage under a general permit.

Outfall means a point source as defined by section 122.2 of SC Regulation 61-9 at the point where a municipal separate storm sewer discharges to waters of the State and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the State and are used to convey waters of the State.

Regulated Small Municipal Separate Storm Sewer System is defined by Section 122.32 South Carolina Regulation 61-9 and means: (1) a small municipal storm sewer system that is located in an urbanized area as determined by the latest Decennial Census by the Bureau of Census (If your small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated.); or (2) you are designated by the Department, including where the designation is pursuant to Sections 122.35(b)(3) or (b)(4) of SC Regulation 61-9, or is based upon a petition under Section 122.26(f) of the SC Regulation 61-9. In accordance with Section 122.32(c) of SC Regulation 61-9, the Department may waive the requirements otherwise applicable to you if you meet the criteria of Sections 122.32(d) or (e) of SC Regulation 61-9.

Small Municipal Separate Storm Sewer System (SMS4) is defined at South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(16) and refers to all small separate storm sewer systems that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States, but is not defined as “large” or “medium” municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Storm Water is defined at South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(13) and means storm water runoff, snowmelt runoff, and surface runoff and drainage.

Storm Water Management Program (SWMP) refers to a comprehensive storm water management program to manage the quality of storm water discharged from the small municipal separate storm sewer system.

Waters of South Carolina, or Waters of the State means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits of the State, and all other bodies of surface or underground water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially within or bordering the State or within its jurisdiction and all waters of the United States within the political boundaries of the State of South Carolina. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the South Carolina. This exclusion applies only to manmade bodies of water which neither were

originally created in waters of South Carolina (such as disposal areas in wetlands) nor resulted from the impoundment of waters of South Carolina.

Waters of the United States, or Waters of the U.S. means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) All interstate waters, including interstate "wetlands";
- (c) All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, wet meadows, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of South Carolina under this definition;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

"You" and "Your" as used in this permit is intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's responsibilities (e.g., the city, the country, the flood control district, the U.S. Air Force, etc.).

Appendix A - Regulated Small MS4s in SC

Reference list (not inclusive of all SMS4 owners or operators subject to SC Water Pollution Control Permits Regulation 61-9 122.32 – 122.36) of Governmental Entities Located Fully or Partially Within an Urbanized Area in the State of South Carolina according to the 2000 Census of Population and Housing, U.S. Bureau of the Census. Military bases, large hospitals, prison complexes, universities and colleges, sewer districts, and highway departments that own or operate an SMS4 within an urbanized area are also subject to the SC Water Pollution Control Permits Regulation 61-9 122.26(b)(16) and 122.32(a).

URBANIZED AREA (UA)	MUNICIPALITY	POPULATION (IN UA)	DENSITY
Anderson, including Centerville, Homeland Park & Northlake CDPs	Anderson	25,510	1,845
	Anderson County ¹	(40,636) + 9,958	
	Belton *	4,290	1,150
Augusta – SC, including Belvedere, Clearwater, Gloverville & Murphys Estates CDPs	Aiken	24,621	1,559
	Aiken County	40,423	
	Burnettown	2,331	558
	Edgefield County	246	
	North Augusta ²	17,381 + 5	1,003
Charleston – N. Charleston, including Ladson, a CDP	Berkeley County	43,233	
	Charleston	93,382	847
	Charleston County	45,755	
	Dorchester County	40,132	
	Folly Beach	1,760	113
	Goose Creek	28,708	903
	Hanahan	12,708	1,211
	Isle of Palms	4,508	826
	Lincolnton	904	807
	Mount Pleasant	45,582	959
	North Charleston ³	74,336 + 3,379	1,274
	Sullivan's Island	1,911	574
	Summerville ⁴	940 + 20 + 26,782	1,806
	Charlotte – SC, including Lake Wylie & Riverview CDPs	Fort Mill	7,533
Tega Cay *		4,044	1,287
York County ⁵		(12,552) + 20,663	
Columbia, including Dentsville, Lake Murray, Oak Grove, Red Bank, Seven Oaks, St. Andrews & Woodfield CDPs	Arcadia Lakes	882	1,316
	Cayce	11,817	1,076
	Elgin *	801	814
	Forest Acres	10,558	2,133
	Irmo ⁶	4,071 + 6,968	2,719
	Kershaw County *	1,678	
	Lexington *	9,769	1,709
	Lexington County	93,069	
	Pine Ridge	1,195	428
	South Congaree	2,252	697
	Springdale	2,877	712
	West Columbia	13,064	2,064
Florence	Darlington County	3,067	
	Florence	30,126	1,704
	Florence County	33,346	

Greenville, including Arial, Berea, City View, Dunean, Gantt, Golden Grove, Judson, Parker, Piedmont, Powdersville, Sans Souci, Taylors, Wade Hampton & Welcome CDPs	Anderson County ¹	(9,958) + 40,636	
	Easley [*]	17,698	1,659
	Greenville [*]	55,789	2,140
	Greer ^{7*}	(10,966 + 4,867) + 399	1,057
	Liberty [*]	2,697	705
	Pickens [*]	2,970	1,240
	Pickens County	17,454	
	Spartanburg County ⁸	(7,415) + 331 + 90,254	
Mauldin – Simpsonville, including Five Forks, a CDP	Travelers Rest [*]	3,693	932
	Fountain Inn ^{9*}	4,612 + 1,178	1,096
	Greer ^{7*}	(399) + 10,966 + 4,867	1,057
	Laurens County [*]	386	
	Mauldin [*]	14,978	1,764
	Simpsonville [*]	14,352	2,300
Myrtle Beach, including Forestbrook, Garden City, Little River, Murrells Inlet, Red Hill & Socastee CDPs	Spartanburg County ⁸	(331) + 7,415 + 90,254	
	Atlantic Beach [*]	351	2,340
	Briarcliffe Acres [*]	470	712
	Conway [*]	11,506	884
	Georgetown County	5,233	
	Horry County ⁴	68,302	
	Myrtle Beach ⁵	22,696	1,351
	North Myrtle Beach [*]	10,001	808
Rock Hill, including India Hook, Lesslie & Newport CDPs	Surfside Beach	4,425	2,269
	Rock Hill	49,344	1,599
Spartanburg, including Boiling Springs, Inman Mills, Roebuck, Saxon, Southern Shops, Startex & Valley Falls CDPs	York County ⁵	(20,663) + 12,552	
	Cherokee County [*]	363	
	Cowpens	2,074	978
	Duncan [*]	2,764	824
	Inman [*]	1,884	2,117
	Lyman [*]	2,391	653
	Spartanburg	39,673	2,064
	Spartanburg County ⁸	(90,254)	
Sumter, including Cane Savannah, Cherryvale, East Sumter, Lakewood, Millwood, Mulberry, Oakland, South Sumter & Stateburg CDPs	Wellford [*]	1,948	1,005
	Sumter	38,579	1,478
	Sumter County	25,561	

() Population for counties in two, or more UAs.

(*) SMS4 owners or operators of Governmental Entities Located Fully or Partially Within an Urbanized Area in the State of South Carolina in addition to those listed on page 68831 of Appendix 6 of the preamble of the Federal Register, Vol. 64, N^o. 235, Wednesday, December 8, 1999, according to the 2000 Census of Population and Housing, U.S. Bureau of the Census. Military bases, large hospitals, prison complexes, universities and colleges, sewer districts, and highway departments that own or operate an SMS4 within an Urbanized Area are also subject to SC Water Pollution Control Permits Regulation 61-9 122.32 - 122.36

(¹) In the Anderson UA, 40,636 people & in the Greenville UA, 9,958 people

- (²) In the Augusta – Richmond County, GA – SC UA, 17,381 people in Aiken County & 5 in Edgefield County
- (³) In the Charleston – North Charleston UA, 74,336 people in Charleston County & 3,379 in Dorchester County
- (⁴) In the Charleston – North Charleston UA, 940 people in Berkeley County, 20 in Charleston County & 26,782 in Dorchester County
- (⁵) In the Charlotte, NC – SC UA, 12,552 people & in the Rock Hill UA, 20,663 people
- (⁶) In the Columbia UA, first number is the population in the Lexington County portion of the municipality, while the second corresponds to the Richland County portion
- (⁷) In the Greenville UA, 10,966 people in Greenville County & 4,867 in Spartanburg County. In the Mauldin - Simpsonville UA, 399 people in Spartanburg County
- (⁸) In the Greenville UA, 7,415 people, in the Mauldin – Simpsonville UA, 331 people & in the Spartanburg UA, 90,254 people
- (⁹) In the Mauldin – Simpsonville UA, 4,612 people in Greenville County & 1,178 in Laurens County

Appendix B – Sections 122.41 and 122.22 of SC Regulation 61-9

Section 122.41

122.41. Conditions applicable to all permits. The following conditions apply to all NPDES permits. Additional conditions applicable to NPDES permits are in section 122.42. All conditions applicable to NPDES permit shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the federal regulations (or the corresponding approved State regulations) must be given in the permit.

(a) **Duty to comply.** The permittee must comply with all conditions of the permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. The Department's approval of wastewater facility Plans and Specifications does not relieve the permittee of responsibility to meet permit limits.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) Failure to comply with permit conditions or the provisions of this regulation may subject the permittee to civil penalties under S.C. Code Section 48-1-330 or criminal sanctions under S.C. Code Section 48-1-320. Sanctions for violations of the Federal Clean Water Act may be imposed in accordance with the provisions of 40 CFR Part 122.41(a)(2) and (3).

(3) A person who violates any provision of this regulation, a term, condition or schedule of compliance contained within a valid NPDES permit, or the State law is subject to the actions defined in the State law.

(b) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. (But see 122.4(g)(2)).

(c) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) **(1) Proper operation and maintenance.** The permittee shall at all times properly operate and maintain in good working order and operate as efficiently as possible all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the

terms and conditions of this permit. Proper operation and maintenance includes effective performance based on design facility removals, adequate funding, adequate operator staffing and training and also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

(2) The permittee shall develop and maintain at the facility a complete Operations and Maintenance Manual for the waste treatment facilities and/or land application system. The manual shall be made available for on-site review during normal working hours. The manual shall contain operation and maintenance instructions for all equipment and appurtenances associated with the waste treatment facilities and land application system. The manual shall contain a general description of: the treatment process (es), the operational procedures to meet the requirements of (e)(1) above, and the corrective action to be taken should operating difficulties be encountered.

(3)(i) Except as stated in (ii) below, the permittee shall provide for the performance of daily treatment facility inspections by a certified operator of the appropriate grade as defined in the permit for the facility. The inspections shall include, but should not necessarily be limited to, areas which require visual observation to determine efficient operation and for which immediate corrective measures can be taken using the O & M manual as a guide. All inspections shall be recorded and shall include the date, time, and name of the person making the inspection, corrective measures taken, and routine equipment maintenance, repair, or replacement performed. The permittee shall maintain all records of inspections at the permitted facility as required by the permit, and the records shall be made available for on-site review during normal working hours.

(ii) The Department may make exceptions to operating requirements, if stated in the permit, as follows:

(A) Attendance by the certified operator of the appropriate grade ("the operator") is normally required only on days when treatment or discharge occurs.

(B) For performance of daily inspections, permits may allow a reduced grade of operator for limited time periods under specific circumstances when justified by the permittee in a staffing plan and approved by the Department.

(C) Reduced inspection frequency, but in no case less than weekly, may be suitable when specified in the permit, if there is complete telemetry of operating data and there is either a simple treatment system with a low potential for toxicity but requiring pumps or other electrical functions or the ability to stop the discharge for an appropriate period when necessary.

(D) In other circumstances where the permittee demonstrates the capability to evaluate the facility in an alternative manner equivalent to the inspection requirements in subparagraph 3(i).

(E) Any exceptions allowed under (A), (B), (C), and (D) above may be subject to compliance with the permit conditions.

(4) (i) Purpose. This regulation establishes rules for governing the operation and maintenance of wastewater sewer systems, including gravity or pressure interceptor sewers. It is the purpose of this rule to establish standards for the management of sewer systems to prevent and/or minimize system failures that would lead to public health or environmental impacts.

(ii) Authority and applicability. Under Section 48-1-30 of the Code of Laws of South Carolina (1976 as amended), the Department is authorized to adopt such rules and regulations as may be necessary to implement the Pollution Control Act. This regulation applies to all sewer systems that have been or would be subject to a DHEC construction permit under Regulation 61-67 and whose owner owns or operates the wastewater treatment system to which the sewer discharges and which discharges under NPDES. Nothing in this regulation supersedes a more stringent requirement that may be imposed by sewer system owners that manage wastewater from satellite systems. This regulation (122.41(e)(4)) is effective when published in the State Register.

(iii) General requirements. The requirements to properly operate and maintain sewer systems are the responsibility of the system owner. General Standards. The sewer system owner must:

(A) Properly manage, operate, and maintain at all times all parts of its sewer system(s), to include maintaining contractual operation agreements to provide services, if appropriate;

(B) Provide adequate capacity to convey base flows and peak flows for all parts of the sewer system or, if capital improvements are necessary to meet this standard, develop a schedule of short and long term improvements;

(C) Take all reasonable steps to stop and mitigate the impact of releases of wastewater to the environment; and

(D) Notify the Department within 30 days of a proposed change in ownership of a sewer system.

(iv) [Reserved.]

(f) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(g) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) **Duty to provide information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

(i) Inspection and entry. The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and Pollution Control Act, any substances or parameters at any location.

(j) Monitoring and records.

(1) (i) (A) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(B) Samples shall be reasonably distributed in time, while maintaining representative sampling.

(C) No analysis, which is otherwise valid, shall be terminated for the purpose of preventing the analysis from showing a permit or water quality violation.

(ii) Flow Measurements.

(A) Where primary flow meters are required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be present and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of not greater than 10 percent from the true discharge rates throughout the range of expected discharge volumes. The primary flow device, where required, must be accessible to the use of a continuous flow recorder.

(B) Where permits require an estimate of flow, the permittee shall maintain at the permitted facility a record of the method(s) used in "estimating" the discharge flow (e.g., pump curves, production charts, water use records) for the outfall(s) designated on limits pages to monitor flow by an estimate.

(C) Records of any necessary calibrations must be kept.

(iii) The Department may designate a single, particular day of the month on which any group of parameters listed in the permit must be sampled. When this requirement is imposed in a permit, the Department may waive or alter compliance with the permit requirement for a specific sampling event for extenuating circumstances.

(iv) The Department may require that a permittee monitor parameters in the stream receiving his permitted discharge as necessary to evaluate the need for and to establish limits and conditions and to insure compliance with water quality standards (i.e., R.61-68).

(2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by R.61-9.503 or R.61-9.504); the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

(3) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(4) Analyses for required monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless other test procedures have been specified in the permit or, in the case of sludge use or disposal, unless otherwise specified in R.61-9.503 or R.61-9.504.

(5) The PCA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$25,000 or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment provided by the Clean Water Act is also by imprisonment of not more than 4 years.

(k) Signatory requirement.

(1) All applications, reports, or information submitted to the Department shall be signed and certified (See section 122.22).

(2) The PCA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$25,000 per violation, or by imprisonment for not more than two years per violation, or by both.

(I) Reporting requirements.

(1) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under section 122.42(a)(1).

(iii) The alteration or addition results in a significant change in the permittee's sewage sludge or industrial sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan (included in the NPDES permit directly or by reference);

(2) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Transfers. This permit is not transferable to any person except after notice to the Department. The Department may require modification or revocation and reissuance of the permit to change the name of permittee and incorporate such other requirements as may be necessary under the Pollution Control Act and the Clean Water Act. (See section 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified in the permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in R.61-9.503 or R.61-9.504, or as specified in the permit,

the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See section 122.44(g)).

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours (See section 122.44(g)).

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (1)(6)(i) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (1)(6) of this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

(m) Bypass.

(1) Definitions.

(i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraph (m)(3) and (m)(4) of this section.

(3) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (l)(6) of this section (24-hour notice).

(4) Prohibition of bypass

(i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) Upset.

(1) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. A upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph (l)(6)(ii)(B) of this section (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Misrepresentation of Information.

(1) Any person making application for a NPDES discharge permit or filing any record, report, or other document pursuant to a regulation of the Department, shall certify that all information contained in such document is true. All application facts certified to by the applicant shall be considered valid conditions of the permit issued pursuant to the application.

(2) Any person who knowingly makes any false statement, representation, or certification in any application, record, report, or other documents filed with the Department pursuant to the State law, and the rules and regulations pursuant to that law, shall be deemed to have violated a permit condition and shall be subject to the penalties provided for pursuant to 48-1-320 or 48-1-330.

Section 122.22

122.22. Signatories to permit applications and reports.

(a) Applications. All permit applications shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(ii) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency or public facility: By either a principal executive officer, mayor, or other duly authorized employee or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) The chief executive officer of the agency, or

(ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator, Region IV, EPA).

(b) All reports required by permits, and other information requested by the Department, shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

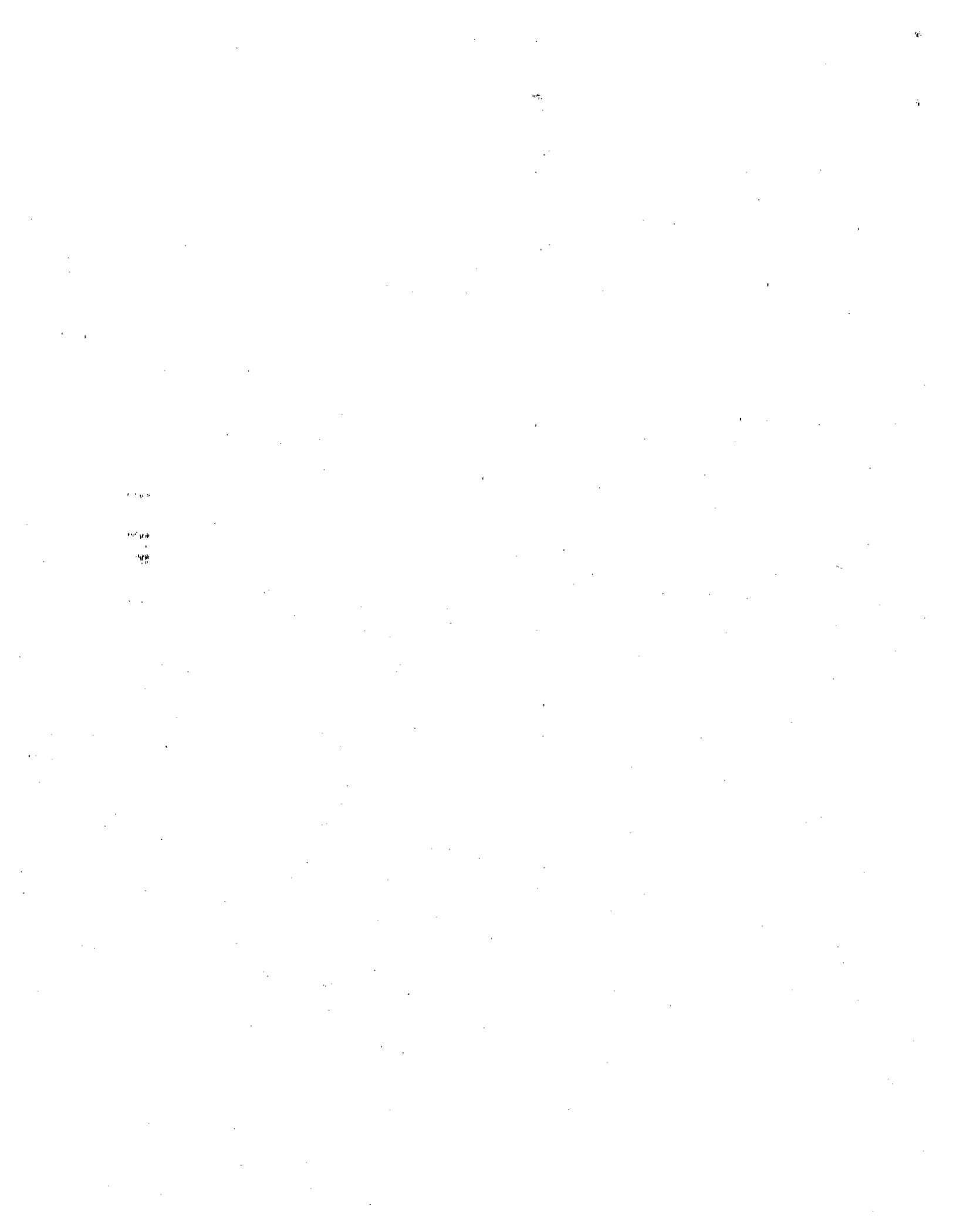
(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Department.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



APPENDIX J

FORT JACKSON HAZARDOUS MATERIAL WASTE MANAGEMENT PLAN

HAZARDOUS MATERIAL AND WASTE MANAGEMENT (HMWM) PLAN

August 2007

1. PURPOSE

a. The purpose of the HMWM Plan is to assist Fort Jackson (FJ) organizations in complying with environmental regulations pertaining to hazardous substances. Violators can be held personally liable for clean up costs and civil/criminal penalties. Liability can include supervisors and commanders who allow violations to occur and do not take immediate action to prevent or correct the violation. Ignorance of the law is not an acceptable defense.

b. The plan satisfies hazardous waste minimization requirements by documenting the actions being taken to reduce the quantity and toxicity of hazardous substances used and generated on FJ.

2. DEFINITIONS

a. Hazardous substance: Any substance (material or waste) that poses a threat to human health or the environment when improperly treated, stored, transported, or otherwise managed.

b. Hazardous material (HM): A usable hazardous substance.

c. Hazardous waste (HW): An unusable hazardous substance that meets the regulatory criteria of a listed or characteristic (ignitable, corrosive, toxic, or reactive) HW.

d. Acute HW: A listed HW that has a U.S. Environmental Protection Agency (EPA) HW Number beginning with a "P" or the EPA HW Number F020, F021, F022, F023, F026, or F027.

e. Universal Waste (UW): A subset of HW. UW includes certain types of batteries, pesticides, mercury-containing equipment, and lamps (i.e. light bulbs).

f. Controlled Waste: An unusable hazardous substance that does not meet the regulatory definition of HW, but must be disposed IAW HW regulations.

g. Material Safety Data Sheet (MSDS): A hazard information sheet prepared by the manufacturer, specific to a HM, that identifies the hazardous ingredients, physical and health hazards, precautions for safe handling and use, and manufacturer information.

h. Reuse Center: The collection point for unwanted paint related materials, usable hazardous substances, empty paint cans and plastic pails, office supplies, used lamps, rechargeable batteries, mercury containing equipment, cell phones, Tyvek envelopes and compact disc holders, and overhead transparencies. The Reuse Center (x-5121) is located in Building 2558, Essayons Way, and is open Monday-Friday from 1000 to 1400.

i. Recycling Center: The collection point for household-type recyclables including cardboard, newspapers, telephone books (January-March only), magazines, high-grade white paper, high-grade mixed paper, glass, steel, aluminum, plastic #1 & #2, inkjet cartridges, scrap metal, and Xmas trees (during the holiday season only). Pallet recycling can be coordinated by calling the Recycling Center. The Recycling Center (x-4208) is located in Building 5671, Lee Road, and is open Monday-Friday from 0700 to 1500. The Drive Thru Drop-Off is open 24 hours, 7 days a week.

j. Hazardous Substance Management System (HSMS): A computer database system that tracks the receipt, use, and transfer of HM. The HSMS Office is located inside the Reuse Center.

k. Satellite Accumulation Area (SAA): An area, located near the point of generation, where HW is accumulated. The total volume of HW must not equal or exceed 55 gallons (1 quart of acute HW) for more than 72 hours (3 days).

l. Container Storage Area (CSA): An area where an unlimited volume of HW can be stored, however, the HW must be transported to a permitted facility within 90 days.

m. Empty: A container is considered empty if the contents have been removed using the practices commonly employed to empty that type of container (i.e. pouring, pumping, scraping, etc.). Except for those containers that held an acute HW, empty containers are not HW.

3. WASTE IDENTIFICATION

a. A waste is something that can no longer be used or is intended for disposal.

b. All waste must be evaluated to determine the proper disposal method. This includes anything thrown in the trash, poured down the drain, turned-in to the Defense Reutilization and Marketing Office (DRMO), picked-up by a contractor, etc.

c. The best way to determine if the waste you generate is hazardous is by looking at the MSDS that came with the product. If it is a combination of wastes, or a spent product, then a laboratory analysis is generally used to make a determination. Call the Environmental Management Branch (EMB) at x-6858 for assistance.

d. Unused HM does not always require disposal as a HW. It must be inspected by EMB (x-6858) while still in the original container.

4. WASTE MINIMIZATION

a. FJ must eliminate or reduce the purchase and use of HM (especially those containing toxic chemicals), eliminate the unnecessary disposal of unused HM, and minimize the quantity and toxicity of waste generated.

b. The waste minimization hierarchy is: Reduce, Reuse, Recycle, and Dispose only as a last resort. Source reduction can be achieved through material substitution, good housekeeping, HM control, process or equipment change, and waste segregation.

c. Usable HM may only be turned in to DRMO after exhausting all other options. You should first attempt to return it to the supplier or manufacturer. If this is not possible, give it to another organization that can use it or store it for future use. Advertise your excess material via e-mail.

d. Empty containers should be reused whenever possible. Empty paint cans should be turned in to the Reuse Center. Triple-rinsed steel drums and steel cans may be recycled. Empty 5-gallon plastic pails with lids may be turned in to the Reuse Center or Recycling Center for possible reutilization.

5. HAZARDOUS SUBSTANCE MANAGEMENT

a. All containers must be in good condition, clean, and marked or labeled to identify the contents. The label must be legible. Containers must be tightly sealed when not in use.

b. If a container is in poor condition, the contents must be transferred to a new container or the damaged container must be over packed (i.e. placed in a larger container). Hazardous substances should never be placed in a container that previously held food or drink!

c. Hazardous substances should not be placed in a container which previously held an incompatible substance. Containers must be compatible with the contents (i.e. strong corrosives should not be stored in metal containers).

- d. Inventory your HM via a Hazardous Chemical Inventory Form (HCIF). The HCIF must be turned in to the HSMS Office (x-5121) by the 10th of each month. *See Appendix A for a blank HCIF.*
- e. Maintain a MSDS for each item. MSDSs must be located near all hazardous substance storage and handling areas, and must be easily accessible by all employees.
- f. Before purchasing new items:
 - (1) Check your HCIF. Contact the HSMS Office (x-5121) to find out if other organizations have excess quantities.
 - (2) Check the Reuse Center (x-5121) for paint related materials, common building supplies, common household HM, and office supplies.
 - (3) Contact other organizations (on-post and off-post) to see if they have excess.
 - (4) Determine if personal protective equipment or cleaning solutions will be needed.
 - (5) Determine if a non-hazardous, non-shelf-life, or recycled item can be procured.
 - (6) Determine if a HW will be generated. This should be avoided whenever possible.
- g. When purchasing new items:
 - (1) Comply with Green Purchasing Program (GPP) requirements. GPP concerns the purchase of environmentally preferable products and services. For more information, visit <https://www.denix.osd.mil/denix/Public/ES-Programs/Pollution/Procurement/GPP/gpp-intro.html>. *Note: Federal agencies are required to purchase products containing recycled materials including engine coolants, re-refined lubricating oil, and retread tires.*
 - (2) Purchase the least hazardous product that will do the job.
 - (3) Purchase only what you need (do not stockpile). Minimize or eliminate the use of toxic chemicals (such as lawn and garden products).
 - (4) Avoid items that cannot be returned to the store (such as custom colored paints).
 - (5) Check expiration dates. Only purchase what can be used prior to the expiration date.
 - (6) Save your receipts.
 - (7) Update the HCIF. Add new or revised MSDSs to your file.
- h. When storing hazardous substances:
 - (1) Storage areas must be kept neat through good housekeeping practices.
 - (2) Storage areas should be covered and secure to protect the containers from the weather and tampering.
 - (3) Store containers inside whenever possible to prevent containers from rusting and prevent product spoilage due to heat or cold.
 - (4) Store containers on a paved surface, away from floor drains, storm drains, or hazards that might lead to a spill, to prevent soil or water contamination if a leak or spill should occur.
 - (5) Store large containers (>10 gallons) on pallets to prevent rusting and aid in leak detection and spill prevention.
 - (6) Provide secondary containment to hold volume of largest container.

(7) Separate incompatible substances, using the MSDS for guidance. Call the Safety Office (x-6004/2542) for assistance.

(8) Storage of flammable liquids (those with a flash point $\leq 100^{\circ}\text{F}$) must comply with FJ Reg 420-90, "Fire Prevention and Protection Services". To view this regulation, go to the Y: drive, open the "Public" folder, open the "Publications" folder, and click on "FJ Reg 420-90".

(9) Manage shelf-life items to avoid expiration. Maintain a log or calendar indicating when shelf-life items will expire.

(10) Inspect storage areas, including aboveground storage tanks, at least weekly. The area should be free of ground stains, spills, odors, or fumes.

i. When using HM:

(1) Follow manufacturer's instructions.

(2) Use the oldest HM first (or any containers in poor condition).

(3) Use the least amount necessary to do the job.

(4) Use up the entire product and then reuse or recycle the empty container, if possible.

(5) Return, give away, or turn in excess items that you don't plan on using.

(6) Update the HCIF when a container is used up or transferred to another location.

(7) Avoid shelf-life expiration. Request shelf-life extensions for expired items. The policies for optimizing shelf-life are contained in [DoD 4140.27-M, Shelf-Life Management Manual](#).

(8) Evaluate wastes to determine the proper disposal method. Do not mix wastes - you take the risk of turning a non-hazardous waste into a HW.

6. HAZARDOUS WASTE (HW) MANAGEMENT

a. The following are examples of hazardous substances that must be managed as HW:

(1) Spent (unusable) mineral spirits, paint thinner, and some solvents.

(2) Unusable gasoline, gasoline mixtures, or gasoline contaminated soil or absorbent.

(3) Rifle bore patches/swabs used with unapproved products, such as WD40 or carburetor cleaner (patches/swabs used with the approved products, CLP and LSA, may be thrown in the trash).

(4) Inactivated MRE heaters (activated MRE heaters may be thrown in the trash).

(5) M17 or M40 gas mask filters (C2 filters only, C2A1 filters may be thrown in the trash).

b. Requirements common to both a HW Satellite Accumulation Area (SAA) and HW Container Storage Area (CSA):

(1) Once HW is placed in a container, a HW label must be put on the container and the contents identified. HW labels are available from EMB (x-6858).

(2) HW must not be mixed. Separate storage containers are required for each type of HW.

(3) If other items are stored in the same area as HW, the boundary of the SAA or CSA must be clearly identified by placing tape on the floor or some other means of identification.

(4) Site-specific spill response plans, spill response kits, and MSDS files must be displayed prominently near all HW storage areas.

(5) HW storage areas must be inspected weekly. The inspections must be documented and kept near the storage area for review by an inspector. *See Appendix B for HW inspection forms.*

(6) Containers holding ignitable or reactive waste must be at least 50 feet from the base property line, and must be separated and protected from sources of ignition or reaction. Containers of flammable waste must be electrically grounded (wires should lead to a grounding rod or system).

c. Requirements specific to a SAA:

(1) The total volume of HW must not exceed 55 gallons (1 quart of acute HW) for more than 72 hours (3 days).

(2) The accumulation start date must be marked on the HW label when the 55 gallon limit (or 1 quart of acute HW) is reached. The HW must be moved to a CSA, turned in to DRMO, or transported off-post to a permitted treatment, storage, or disposal facility within 72 hours of the accumulation start date.

(3) The SAA must have a sign identifying it as a "Hazardous Waste Satellite Accumulation Area/No Smoking".

(4) The SAA must be located near the point of generation.

d. Requirements specific to a CSA:

(1) The accumulation start date must be marked on the HW label immediately when HW is first placed in the container.

(2) An unlimited volume of HW can be accumulated, however, each container must be turned in to DRMO or transported off-post to a permitted treatment, storage, or disposal facility within 90 days of the accumulation start date.

(3) The CSA must have a sign identifying it as a "Hazardous Waste Container Storage Area/No Smoking".

(4) An alarm system, communication device, fire control, and spill response equipment must be available.

(5) The Fire Department, EMB, hospital, and police must be supplied with a layout of the CSA and a HW inventory.

(6) A copy of the Installation Spill Contingency Plan (ISCP) must be kept near the CSA.

7. UNIVERSAL WASTE (UW) MANAGEMENT

a. It is against the law to throw away or mismanage lamps (i.e. light bulbs), certain types of batteries, mercury-containing equipment (such as thermometers or thermostats), and unused pesticides. These items are considered UW, a subset of HW.

b. UW must be placed in containers and sealed. Containers must remain closed and lack evidence of leakage, spillage, or damage. UW must be managed in a way that prevents releases to the environment.

c. The accumulation start date and contents must be marked on the container when UW is first placed in the container (i.e. "Used Lamps", "Used Batteries", "Used Mercury-Containing Equipment", and "Waste-Pesticides").

d. UW must be turned in to the Reuse Center within 6 months from the start date.

7.1 LAMPS (LIGHT BULBS).

- a. Used lamps must be carefully packed to avoid breakage. Do not tape lamps together and do not mix different sizes/types in the same box! The original boxes and packing material should be used whenever possible. Other boxes and packing material can be used if the originals are not available.
- b. The accumulation start date and the phrase "Used Lamps" must be marked on the box when the first lamp is placed in the box. When full, the quantity of lamps should be marked on the end of the box.
- c. All boxes must be sealed and protected from the weather and potential breakage. Broken lamps must be cleaned up, placed in a leak-proof container, and sealed to prevent the release of mercury or other hazardous constituents.
- d. Small quantities of lamps (≤ 8 boxes) should be turned in to the Reuse Center. Large quantities will be dealt with on a case-by-case basis (call x-6858 for recycling instructions).

Note: The easiest way to collect lamps is to use the same box as the new ones. After you pull out a new one, put the used lamp in the empty spot and mark an "X" on the end of the lamp. If the box contains both good lamps and used lamps, mark the box with the phrase "Good Lamps & Used Lamps" and the accumulation start date.

7.2 BATTERIES. All batteries should be turned in "wet". Do not drain and neutralize batteries.

- a. Rechargeable batteries, including nickel cadmium (NiCd), nickel metal hydride (NiMH), lithium ion (Li+), and small (<2 lbs) lead-acid (Pb), should be turned in to the Reuse Center for recycling. Batteries may be stored in a cardboard box or other container prior to turn in. The accumulation start date and the phrase "Used Batteries" must be marked on the container when the first battery is placed in the container.
- b. Large (>2 lbs) lead-acid batteries in good condition must be recycled. The DRMO requires lead-acid batteries to be stacked on a pallet no more than three (3) high and banded with non-metallic banding. If non-metallic banding is not available, insulate the batteries with a layer of cardboard and then band with metallic banding. Store the batteries in a covered area until there is enough for at least one pallet. Contact DRMO (x-7112) for turn-in guidance.
- c. Alkaline and carbon zinc batteries are non-hazardous waste and may be thrown away.
- d. Other batteries are managed on a case-by-case basis. Call EMB (x-6858) for a hazard determination and recycling/disposal instructions.

8. CONTROLLED WASTE MANAGEMENT

8.1. ABSORBENTS/SOIL. The disposal of absorbents or soil will vary depending on the type of absorbent and the contaminant. The disposal routes for absorbents/soil contaminated with oil, diesel, or gasoline are shown below. The disposal of absorbents/soil contaminated with other types of hazardous substances must be evaluated on a case-by-case basis. Information from the container label, MSDS, or laboratory analysis will be used to determine if the waste is a HW. Call EMB (x-6858) for a hazard determination.

- a. Soil or organic absorbent (such as peat moss or dry sweep) that is lightly contaminated with oil or diesel (not saturated) may be thrown away or taken to the bioremediation shed on Ivy Road. If it is heavily contaminated (saturated), it must be taken to the bioremediation shed. Call EMB (x-6858) for a turn-in appointment.

b. Inorganic absorbent (such as polypropylene) that is contaminated with oil or diesel may be thrown away if it is not saturated. If it is saturated, it must be turned in to DRMO as non-HW.

c. Soil or absorbent (any kind) that is contaminated with gasoline is a HW. Whenever possible, use absorbents with a high absorbency rate to reduce the total weight of HW.

8.2. ANTIFREEZE. Used antifreeze is generally not a HW. Used antifreeze is transported off-post by a contractor. Call DLE Maintenance (x-7346) for service related questions.

8.3. COOKING OIL AND GREASE. Cooking oil and grease from food service establishments must be transported off-post by a contractor. Cooking oil and grease are considered hazardous substances under the Clean Water Act and must be managed in the same way as petroleum oil and grease. Call DLE Maintenance (x-4731) for service related questions.

8.4. MOTOR OIL. Used oil is generally not a HW. Used oil includes hydraulic fluid, transmission fluid, rear end oils and greases, and transaxle oils. Containers and aboveground storage tanks used to store used oil must be labeled or marked clearly with the words "Used Oil". Used oil is transported off-post by a contractor. Call DLE Maintenance (x-7346) for service related questions.

8.5. OIL FILTERS.

a. Oil filters must be drained while at or near normal operating temperature using one of the following gravity, hot drain methods:

(1) puncture filter anti-drain back valve or filter dome end and hot drain for a minimum of twelve hours, or

(2) hot drain for a minimum of twelve hours and crush the filter, or

(3) dismantle the filter and hot drain for a minimum of twelve hours, or

(4) hot drain using any other equivalent method that will remove the used oil.

b. The oil drained from the filter must be transferred to an approved used oil container.

c. After draining, the filter carcass can be thrown away or recycled. The Lexington County Landfill Recycling Station recycles uncrushed oil filters from privately owned vehicles for free.

d. Used oil filters from government vehicles are transported off-post by a contractor. Call DLE Maintenance (x-7346) for service related questions.

8.6. RAGS/DISPOSABLES.

a. Rags destined for laundering are not considered a HW; therefore, the best practice is to have rags laundered. Currently the Post Laundry (x-4694) will wash, but not dry, rags.

b. Rags may be laundered off-post. Circle Environmental (695-9700), located in Columbia, will provide drums of clean rags and pick up used rags at a cost of \$0.12/rag.

c. Rags, protective clothing, drop cloths, and filters intended for disposal must be analyzed to determine if they are a HW. Call EMB (x-6858) for a hazard analysis.

8.7. WEAPONS CLEANING/PARTS WASHING UNITS. Weapons cleaning/parts washer solvent is transported off-post by a contractor. The units must not be moved. The lid must be kept closed when the unit is not in use. Call DLE Maintenance (x-7346) for service related questions.

9. NON-HAZARDOUS WASTE MANAGEMENT

9.1. AEROSOL CANS. Aerosol cans that are completely empty are not a HW. Aerosol cans should be turned in to the Reuse Center for reuse or puncturing/recycling.

9.2. GAS MASK FILTERS. There are two types of filters used in the M40 Protective Mask; the C2 and C2A1. Unserviceable C2A1 filters (green in color) are non-hazardous and may be thrown in the trash. Unserviceable C2 filters (black in color) and M17 gas mask filters are HW due to chromium.

9.3. MRE HEATERS. MRE heaters should be activated prior to disposal (this renders them non-hazardous) or saved for future use. Inactivated MRE Heaters are a reactive HW upon disposal.

9.4. PAINT. Paint related materials (full, partly full, or empty) such as paint, spray paint, stain, varnish, primer, sealer, paint thinner, or paint remover should be turned in to the Reuse Center.

9.5 RIFLE BORE PATCHES. Patches and swabs used to clean weapons are not a HW if the two approved products, CLP and LSA, are used. These patches and swabs may be thrown in the dumpster. Unapproved products, such as WD40, carburetor cleaner, or engine cleaner, must not be used! These patches and swabs would be HW and must be managed IAW HW management guidance.

10. DRMO TURN-IN PROCEDURE

a. Call the EMB (x-6858) to schedule a turn-in. The EMB will prepare a HW Profile Sheet and a DD Form 1348-1 Turn-in Document (1348) and schedule a turn-in appointment with DRMO. A MSDS or laboratory analysis is required to complete the paperwork.

b. On the turn-in day, stop by the EMB (Bldg. 2563, Essayons Way) on the way to DRMO and pick up the documentation. EMB personnel will inspect the container and sign the 1348. The DRMO will only accept turn-ins if the containers are in good condition, labeled properly, and the appropriate documents accompany the item.

11. TRANSPORTATION

a. Transportation of HW off-post by unauthorized personnel is a federal offense, punishable by imprisonment and/or fines.

b. On-post transportation of HW is not regulated by the Department of Transportation; however, certain precautions must be taken to ensure safe delivery.

(1) All containers must be secured within the vehicle to prevent spills and accidents. Loads must be balanced in the vehicle lengthwise and crosswise, and braced to prevent movement.

(2) When loading and unloading reactives, care must be taken to keep them dry, out of wet weather, and away from ignition sources.

(3) Keep ignitables away from heat and ignition sources. DO NOT load or unload ignitables from a motor vehicle while the engine is running.

(4) Do not transport incompatible hazardous substances together in the same vehicle.

12. TRAINING REQUIREMENTS

a. All personnel who manage or handle hazardous substances must be trained to respond to spills or other emergencies, protect the environment, and properly handle and dispose of the waste. Training must be completed within six months of employment. Hazardous substance training includes:

(1) Hazard Communication (HAZCOM) training is required for all personnel exposed to hazardous substances. This training is conducted by the organization's Additional Duty Safety Officer (ADSO). Call the Safety Office (x-6004/2542) for additional information.

(2) Initial HW/UW training for Environmental Compliance Officers (ECOs) is included in the mandatory ECO Course conducted by the Environmental and Natural Resources Division (ENRD). Call ENRD (x-5011) to sign up. ECOs that manage or handle HW must take part in annual refresher training either through on-the-job-training or by attending a HW refresher class.

(3) Initial HW/UW training for non-ECOs is conducted by EMB on a special basis. The class is tailored to the participants and is one to four hours in length. Non-ECOs who manage or handle HW must take part in annual refresher training through on-the-job training or by attending a HW refresher class. Call EMB (x-6858) for additional information.

(4) Personnel responsible for signing HW manifests, Land Disposal Restriction Notification Forms, and shipping papers must receive function-specific training in the transportation of HM/HW. Call EMB (x-6858) for additional information.

b. Training files must be updated after each training session, must be readily accessible, and must be kept for at least three years from the employee's termination date. The following information must be included:

(1) The HW Training Record or similar records that contain the following: employee's name, job title, job description, and amount and type of training completed (both formal and on-the-job). *See Appendix C for a blank HW Training Record.*

(2) A certificate documenting formal training completed by the employee, or a DD Form 1556 if a certificate is not available.

(3) Documentation for informal on-the-job training that includes topics covered, class time, list of attendees, and instructor's signature.

13. SPILL RESPONSE

a. It is the responsibility of each organization to maintain site-specific spill response plans, spill response kits, and MSDS files and display these items prominently near all hazardous substance storage and handling areas. Personnel must be trained in response procedures and how to use the equipment. Training should emphasize "safety first". *See Appendix D for a sample Spill Response Plan.*

b. Spill response kits must be sufficient to handle the volume of the largest container. Spill kits can be made from locally purchased items and will vary depending on the type and quantity of hazardous substances stored or handled.

c. All spills greater than 5 gallons, or spills of any size that can not be safely contained and cleaned up by organization personnel, must be immediately reported to the FJ Fire Department at 911. Spills that are 5 gallons or less must be reported if the spill enters a storm drain, creek, lake, or other body of water.

d. The FJ Installation Spill Contingency Plan (ISCP) establishes procedures and identifies resources for the control and cleanup of hazardous substance spills. After receiving notification of a spill, the FJ Fire Department will implement the ISCP. A copy of the ISCP must be located near each CSA, but is not required at other hazardous substance storage areas.

14. INSPECTIONS

a. Hazardous substance storage areas must be inspected, at least weekly, for deterioration of containers and the containment system. HW inspections must be documented and kept near the storage area for review by an inspector. Federal regulations require CSA inspection forms to be

retained for at least 3 years. SAA inspection forms must be retained for at least 1 year. *See Appendix B for HW inspection forms.*

b. Scheduled and unannounced environmental compliance inspections are routinely conducted by the EMB. Deficiencies observed during the inspections are documented and submitted to the Commander or Director for corrective action. All inspection results, both positive and negative, may be forwarded to the Commanding General for review.

c. Unannounced compliance inspections are routinely conducted by outside agencies. Violations found during a regulatory inspection will result in a warning letter or Notice of Violation (NOV) and can result in fines and/or possible criminal/civil actions.

15. REPORTING AND RECORD KEEPING

a. The following documents should be maintained at each organization:

(1) HMWM Plan

(2) FJ Regulation 200-8 “Environmental Protection and Enhancement” - To view this regulation, go to the Y: drive, open the “Public” folder, open the “Publications” folder, and click on “FJ Reg 200-8”.

(3) FJ Regulation 350-14 “Post Range Regulation” – Units only

(4) ECO appointment letter

(5) MSDSs - A MSDS must be available for all hazardous substances.

(6) HCIFs

(7) HW training records - Federal regulations require retention for at least three years from the employee’s termination date.

(8) Site-specific spill response plan

(9) ISCP (only at CSAs)

(10) HW inspection form - Federal regulations require CSA inspection forms to be retained for at least three years. SAA inspection forms must be retained for at least one year.

b. Any organization that has a contractor pick-up their waste (such as batteries or oil/water separator sludge), must provide EMB (x-6858) with pertinent data, including pick-up date, type of waste, and quantity, immediately after shipment.

c. Any organization that has a SAA or CSA must provide EMB (x-6858) with the amount (volume or weight) of HW in storage at the end of each month.

16. PLAN REVIEW AND REVISIONS. The HMWM Plan will be reviewed and evaluated for revision at least once every three years. A copy of the plan will be maintained by all organizations that handle hazardous substances.

APPENDIX B

SATELLITE ACCUMULATION AREA INSPECTION FORM

ITEM TO BE INSPECTED	WK 1	WK 2	WK 3	WK 4	WK 5	CORRECTIVE ACTION NEEDED	DATE COMPLETED
AREA							
Warning signs are present & legible							
Area is secured & covered							
Area is clean & neat							
Total volume of HW is less than 55 gal (1 qt of Acute HW)							
CONTAINERS							
Incompatible containers are segregated							
Containers are properly labeled & the contents identified							
Containers are in good condition							
Large containers are on pallets							
There are no spills, odors, or fumes present							
Containers are tightly sealed							
Flammable containers are grounded							
SPILL RESPONSE PLANNING							
Spill supplies are readily available							
Spill response plan is nearby							
MSDS file is nearby							

Location of SAA _____

Week 1 – Inspection Date: _____

Week 2 – Inspection Date: _____

Week 3 – Inspection Date: _____

Week 4 – Inspection Date: _____

Week 5 – Inspection Date: _____

Amount of HW in storage at end of month _____

Signature of Inspector: _____

CONTAINER STORAGE AREA INSPECTION FORM

ITEM TO BE INSPECTED	WK 1	WK 2	WK 3	WK 4	WK 5	CORRECTIVE ACTION NEEDED	DATE COMPLETED
AREA							
Warning signs are present & legible							
Area is secured & covered							
Area is clean & neat							
Aisle space is adequate							
CONTAINERS							
Incompatible containers are segregated							
Containers are properly labeled & the contents identified							
Accumulation start date is within 90 days							
Containers are in good condition							
Large containers are on pallets							
There are no spills, odors, or fumes present							
Containers are tightly sealed							
Flammable containers are grounded							
SPILL RESPONSE PLANNING							
Spill supplies are readily available							
Spill response plan/ISCP is nearby							
An alarm system, communication device, and fire control is available							
MSDS file is nearby							

Location of CSA _____

Week 1 – Inspection Date: _____

Week 2 – Inspection Date: _____

Week 3 – Inspection Date: _____

Week 4 – Inspection Date: _____

Week 5 – Inspection Date: _____

Amount of HW in storage at end of month _____

Signature of Inspector: _____

Spill Response Plan

The goal of the spill response plan is to reduce safety, health, and environmental risks associated with a hazardous substance incident. In the event of a spill, the following actions should be implemented:

SECURE AND EVACUATE THE AREA - Keep unauthorized persons out of the area.

REPORT THE SPILL - All spills >5 gallons must be immediately reported to the Fire Department at 911. Spills that are ≤5 gallons must be reported if the spill enters a storm drain, creek, lake, or other body of water, or cannot be safely contained and cleaned up by organization personnel. Provide any pertinent information, including:

- Substance spilled.
- Location of spill.
- Nature and extent of injuries.
- Extent to which spill traveled.
- Estimated amount spilled.
- Time spill occurred.

PROTECT YOURSELF - Extinguish smoking material and ignition sources. Identify the substance spilled and obtain appropriate personal protective equipment, such as:

- Protective Goggles.
- Protective Apron.
- Rubber Overboots.
- Compatible Rubber Gloves.
- Respirators.

STOP THE FLOW - Stop or slow flow of hazardous substance if it can be done safely.

- Plug or patch punctured container(s).
- Upright overturned or tipped container(s).
- Close appropriate valve(s).

CONTAIN THE SPILL - The spilled substance should be contained within the immediate area. Prevent flow to drains, drainage ditches, and sewer systems if it can be done safely.

- Place nonreactive absorbent material such as sand, earth, straw, vermiculite, absorbent pillows or booms on the spill.
- Block the spill from entering storm drains or sewers by constructing a dike around all points of entry.
- If the spill is on the ground, clean it up immediately by digging up the contaminated soil, placing it in proper containers, and disposing of it properly.