NCDOT GUIDELINES ON THE MANAGEMENT AND DISPOSAL OF CONCRETE GRINDING RESIDUALS

December 2024

The North Carolina Department of Transportation (NCDOT) has prepared this guidance to summarize the permitted options for the management and disposal of concrete residual waste liquids, slurries and solids generated by concrete milling, hydrodemolition, grinding, grooving and sawing of new or old concrete. This guidance will list and explain the options available to NCDOT contractors and subcontractors for the management and disposal of concrete grinding residuals (CGR), including diamond grinding slurry (DGS) and hydrodemolition operation slurry (HOS). Refer to Table 1 - HOS/DGS Reuse and Disposal Options at the end of this document for further clarification on management and disposal options.

The NCDOT and its contractors are legally responsible for all industrial process wastes generated during construction, maintenance and preservation projects. The federal regulations from the Environmental Protection Agency (EPA) and the Resource Conservation and Recovery Act (RCRA) and corresponding waste disposal regulations from the North Carolina Department of Environmental Quality (NCDEQ) Division of Water Resources (DWR) and the Division of Waste Management (DWM) follow hazardous wastes generated "from cradle to grave", requiring NCDOT to perform waste determinations, document, manage and dispose of wastes according to state and federal regulations. (See NC Hazardous Waste Management Rules https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/hazardous-waste-rules-and-rulemaking)

Discharges of industrial process wastes (liquid or solid) to surface waters, the land surface, the subsurface, and/or to groundwater require permit approval by NCDEQ, DWR, and/or DWM. In 2013, NCDOT received a programmatic statewide permit (NCDEQ-DWR Permit No.WQ0035749) for distribution of the HOS/DGS as a Class A residual. On 3/01/2019, Permit WQ0035749 was renewed and the permit was subsequently renewed October 2, 2024. A copy of the current permit is included as **(Attachment A)**.

To further assist Contractors, NCDOT has developed a HOS/DGS Management and Disposal Plan template (**Attachment B**) that, when completed by the Contractors, will include the information required by NCDOT for approval prior to beginning a project. This template includes minimum information required to maintain compliance with environmental regulations. It remains the responsibility of the Contractor/Subcontractor to determine whether more than these minimum steps are required and to perform whatever work is necessary to comply with all applicable laws and regulations. In addition, a permit modification is necessary to use the temporary storage option. For example, using an earthen storage structure for temporary storage requires a permit modification. If temporary storage is necessary, plan in advance (Section 1.5).

1.0 HOS/DGS Management and Disposal Plan

The Contractor is required to submit a written HOS/DGS Management and Disposal Plan (Management Plan) to the NCDOT Resident Engineer at least **45 days** prior to starting work on an HOS/DGS operation. This Management Plan is required for the generation of HOS or DGS regardless of the method of disposal. As previously discussed, a template to help prepare this plan and the

associated subplans is provided in **(Attachment B)**.

In addition, **the HOS/DGS Management Plan must be reviewed and approved by NCDOT Resident Engineer or other designated person prior to the beginning of operations.** The Management Plan will include a Collection & Containment Approach, the Sampling and pH Control Plan, the Spill Control Plan and the Solid Waste Disposal Plan option with written confirmation from the receiving facility (if applicable). Additional information regarding the contents of the Management Plan are included in this document and a template is included in **Attachment B**.

1.1 Collection & Containment

Total containment of the HOS/DGS is required during either hydrodemolition or diamond grinding operations to be in compliance with State and Federal Regulations. Therefore, the approach to the collection and containment shall be summarized in the Management Plan. The Collection & Containment Approach shall include the following information/directives at a minimum:

- Measures to prevent any release of HOS/DGS to the environment.
- HOS/DGS shall not be allowed to enter storm sewers, stormwater inlets, bridge drainage scuppers or downspouts or bridge approach downspouts, ditches, surface waters, soil surfaces, floodplains or wetlands.
- All bridge deck joints and drains shall be sealed prior to starting work, to prevent the release of HOS/DGS to the ground surface or to surface waters.
- If the HOS/DGS is to be land applied, utilizing NCDEQ-DWR Permit No. WQ0035749, only percent solids, pH and the Calcium Carbonate Equivalence (CCE) are the laboratory tests that are required for each road construction project prior to the initial land application event. Testing must be performed by a DWR-certified laboratory. A listing of Division-certified laboratories can be found at: https://slphreporting.dph.ncdhhs.gov/Certification/CertifiedLaboratory.asp
- If the HOS/DGS solids are to be buried, utilizing NCDEQ-DWM guidance, one representative sample for Full Toxicity Characteristics Leaching Procedure (TCLP) is required per project, in addition to passing the Paint Filter Test. TCLP testing must be performed by a DWR-certified laboratory. A listing of Division-certified laboratories can be found at: https://slphreporting.dph.ncdhhs.gov/Certification/CertifiedLaboratory.asp
- Document activities associated with the Collection & Containment.
- Mobile storage units may be used to store HOS/DGS at or near the project site.
- Mobile storage units can be used to store HOS/DGS for up to 60 days at a land application site. NCDEQ must provide written approval for temporary storage over 60 days.
- If an Earthen Structure is proposed for temporary storage of DGS/HOS, on-site or off-site of DOT property, a separate permit is required by NCDEQ. See Section 1.5 of this document for completing the permit application and any required supporting documentation.

1.2 Sampling and pH Control Plan

At a pH of 12.5 or greater, the HOS and DGS are considered hazardous waste under RCRA, and

thus require compliance with the RCRA transportation, storage and disposal regulations under 40 CFR 260 - 280. Therefore, the Contractor must sample and test the HOS/DGS to determine if it is a characteristic hazardous waste (12.5 pH or greater) and potentially adjust the pH of the HOS/DGS prior to its transport from the project site. HOS and DGS typically run at a pH of 11.5 to sometimes greater than 12.5. If the pH needs to be lowered by adding muriatic acid, or other material, then lowering the pH below 12.0 is advisable. Note that the preferred method for managing the pH is to pretreat the water used in the diamond grinding process.

In addition, to be in compliance with Collection and Containment, a pH adjustment must occur in a container, tank, or a transport vehicle before leaving the project site. Because of the potential to handle hazardous waste, careful planning and documentation is required and must be

approved by NCDOT. The approach to managing the pH is documented in the Sampling and pH control Plan (pH Control Plan) provided to NCDOT within the Management Plan.

The Sampling and pH control Plan (pH Control Plan) shall include the following information/directives at a minimum:

- Include the methods of sampling, calibration, testing, monitoring, managing, and adjusting the pH in the HOS/DGS. Other actions that will be performed to meet pH requirements shall also be included in the pH Control Plan.
- The pH meter shall be calibrated with pH 7.0 and pH 14.0 standards at least once per day.
- For land application, each truckload (or storage unit/tank) shall be collected, analyzed for pH, and results documented according to pH Control Plan for compliance with the permit.
- It is important to note that Test results shall be obtained by using EPA Method 9040 (Attachment C) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. (https://www.epa.gov/hw-sw846/sw-846-test-method-9040c-ph-electrometric-measurement). As such, this information should be included in the Sampling and pH Control Plan.
- List all personnel, equipment, and supplies necessary to obtain samples. A qualified employee of the Contractor shall administer the pH Control Plan. The qualified employee administering Sampling and pH Control Plan shall list qualifications in this Plan. That individual shall be present on site during the hydrodemolition or diamond grinding work and shall be authorized to take all actions necessary for the successful implementation of any pH adjustments.
- Contractor will document all actions taken to adjust the pH and provide copies of the daily reports to the Resident Engineer. The Contractor will certify in writing that the testing equipment to be used is properly calibrated.

1.3 Spill Control Plan

A written Spill Control Plan shall be submitted with the pH Control Plan to address how accidental spills or releases of HOS/DGS will be prevented, contained, cleaned up and reported to NCDOT. The Spill Control Plan shall include the following information/directives at a minimum:

- The Contractor is responsible for inspection and maintenance of all hoses and clamps, in order to prevent accidental releases.
- A secondary berm shall be installed and a back-up pump available when HOS is allowed to flow into a bermed catchment basin on a bridge in case of berm or pump failure.
- If a release of HOS/DGS occurs to the ground surface, surface waters or storm water ditches or conveyances, the NCDOT Resident Engineer and the Division Environmental Officer (DEO) shall be notified immediately.

1.4 Solid Waste Disposal Plan

The Contractor may choose to dispose of the HOS/DGS at a private landfill, Publicly Owned Treatment Works (POTW) or a permitted wastewater treatment plant (WWTP), and may dispose of the solids at a Construction & Demolition or Municipal Landfill. The solids must pass the Paint Filter Test to be disposed of as a solid waste at a solid waste landfill. (See EPA Test Method 9095B at the following link: https://www.epa.gov/hw-sw846/sw-846-test-method-9095b-paint-filter-liquids-test . Also, the pH shall have to be lowered below 12.0 prior to transport or hauling in order to avoid hazardous waste transportation, storage or disposal requirements. The Contractor shall cover and contain the HOS/DGS to prevent loss to the environment during transport and delivery to the licensed facility. The HOS/DGS may also be hauled to a licensed treatment or disposal facility, in accordance with the approved Management Plan. The receiving plant, facility or landfill must be contacted prior to inclusion in the written waste disposal plan, to confirm that they
will accept the HOS/DGS or solids. The written confirmation from the receiving facility shall be included in the Management Plan.

The HOS/DGS may be land applied under the Distribution of Diamond Grinding and Hydrodemolition Slurry/Wastewater (Class A Residuals) Statewide Permit (NCDEQ-DWR Permit No. WQ0035749). The land application operation must be in compliance with all conditions in the permit. See the entire permit **(Attachment A)**, which includes the permit conditions, and **(Attachment C)**, which includes all of the following: Operations Checklist, Operation and Maintenance Plan, Landowner Utilization Agreement, the Spill Control Plan, Inspection Log, pH Log and Land Application Log. **Note direct discharge is via land application. For example, discharge through an open pipe is not allowed under this Permit.**

The use of a Certified Land Application Operator (list available in **Attachment D**) is advisable to assist with compliance associated with the "Land Application Permit Conditions". The permit conditions are specific and are listed in the permits. All permit conditions must be met to be in compliance with the permit.

1.5 Temporary Storage of DGS/HOS

Using earthen storage structures for temporary storage of DGS/HOS on-site or off-site of DOT property is not permitted under the new Permit No. WQ0035749 for Land Application of DGS/HOS. **Temporary storage is NOT a disposal option.** NCDEQ requires that temporary earthen storage structures be handled as a separate permit modification to this Permit for approval and prior to construction of each structure. The contractor must complete the NCDEQ Application Form for Distribution of Class A Residuals, Form (DCAR 06-16) and other supporting documentation required for the approval of temporary storage. For further guidance, see Permit No.WQ0035749 "Attachment B -Approved Temporary Storage Structures" and see Attachment E of this document, A brief description of the plan for temporary storage should also be included with the Management Plan, so the planning for temporary storage is initiated early in the process.

Having these structures individually permitted as modifications to Permit No. WQ0035749 places them under the requirements in G.S. 143-215.1(d)(1), Please note that it may take 90 days for NCDEQ to review the permit modification. Ultimately, the time allowed for NCDEQ review as described in in G.S. 143-215.1(d)(1) is dependent on the **quality** of the application provided

to NCDEQ from the contractor and that it contains all the necessary supporting documentation.

Any permit modifications that are necessary and associated time required to achieve approval shall be the responsibility of the contractor and no time extensions will be provided.

The Engineering Plans, Specifications, and Engineering Calculations all need to be signed, sealed, and dated by a licensed North Carolina Professional Engineer.

Therefore, please plan in advance to avoid unnecessary delays. Once a permit modification for temporary earthen structures has been approved by NCDOT and NCDEQ, it may be posted as an example within this document to help contractors understand the requirements for a permit modification.

1.6 Documentation

The Contractor shall furnish the NCDEQ, NCDOT Engineer, and Central Roadside Environmental Unit Office with a complete record for each truckload (or storage unit/tank) of HOS/DGS, with information on the point of generation, including the County name, Bridge number, NCDOT Contract Number, the volume transported, and the name and location of the licensed disposal facility, or the location of the permitted disposal site. The Contractor shall provide documentation in a Project Completion Report format under the Land Application Permit within 30 calendar days of the completion of the DGS/HOS work or by the end of the calendar year whichever comes first. A Project Completion Template is provided in **Attachment F**. The Contractor shall submit all completed records to the Engineer prior to final payment. If the work is not completed within one calendar year, more than one report will be required.

1.7 Regulatory Permits and Policies

The following Permits and Policies are included as Attachments to this document:

Attachment A: NCDEQ-DWR Permit: **WQ0035749 - NCDOT DGS and HOS Class A Residuals Program Distribution of Class A Residuals Statewide**,
Date issued: 4/24/2013, Renewal Dates: 3/01/2019; 10/02/2024.

Attachment B: Hydrodemolition Operation / Diamond Grinding Slurry Management and Disposal Plan Template.

Attachment C: Operations Checklist, Operation and Maintenance Plan, Landowner Utilization Agreement, Spill Control Plan, Inspection Log, pH Log, Land Application Log, EPA Method 9040.

Attachment D: List of Certified Land Application Operators

Attachment E: NCDEQ Application Form for Distribution of Class A Residuals, Form (DCAR 06-16) and supporting documentation required for the approval of temporary storage.

Attachment F: NCDEQ Project Completion Report Template

Attachment G: NCDEQ - DWM Guidance: **Memo for "beneficial fill" or burial of solids: June 6, 2013**.

Attachment H: NCDEQ - DWM Guidance: **Memo for clean millings reuse: March 15, 2012**.

TABLE 1 - HOS/DGS REUSE AND DISPOSAL OPTIONS

TYPE OF WASTE	NCDEQ-DWM (Solid Waste Management)	NCDEQ-DWR (Liquid or Slurry Management)	DISPOSAL ALTERNATIVES
	Guidance Memo	Permit No. WQ0035749	
Hydrodemolition liquids	N/A	Land Application Permit	POTW
Hydrodemolition slurry	N/A	Land Application Permit	POTW
Hydrodemolition solids	Burial in fill section	Land Application Permit	C&D or Municipal Landfill
Diamond Grinding liquids	N/A	Land Application Permit	POTW
Diamond Grinding slurry	N/A	Land Application Permit	POTW
Diamond Grinding solids	Burial in fill section	Land Application Permit	C&D or Municipal Landfill

C&D = Construction and Demolition Debris Landfill
POTW = Publicly Owned Treatment Works or Wastewater Treatment Plant
N/A = Not Applicable

Attachment A

NCDEQ-DWR Permit: WQ0035749 - NCDOT DGS and HOS Class A Residuals Program Distribution of Class A Residuals Statewide, Date issued: 4/24/2013, Renewal Dates: 3/01/2019' 10/02/2024

ROY COOPER
Governor
MARY PENNY KELLEY
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

October 2, 2024

LAMAR SYLVESTER, P.E. – CHIEF ENGINEER
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
1536 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1536

Subject: Permit No. WQ0035749
NCDOT DGS and HOS Class A
Residuals Program
Distribution of
Class A Residuals
Statewide

Dear Mr. Sylvester:

In response to your permit renewal request received on March 15, 2024, and subsequent additional information received on July 5, 2024, we are forwarding herewith Permit No. WQ0035749 dated October 2, 2024, to the North Carolina Department of Transportation for the continued operation of the subject residuals management program.

This permit is effective from the date of issuance through May 31, 2032, shall replace Permit No. WQ0035749 issued on March 1, 2019, and is subject to the conditions and limitations specified therein. **The Permittee shall submit a renewal application no later than December 3, 2031.**

Please pay attention to the monitoring requirements listed in Attachment A for they may differ from the previous permit issuance. Failure to establish an adequate system for collecting and maintaining the required operational information may result in non-compliance.

The Division has removed the following permit conditions since the last permit issuance dated March 1, 2019:

- Old Condition II.3. – The Division has replaced this condition with Condition III.4.
- Old Condition II.7. – The Division has replaced this condition with Condition III.5.
- Old Condition II.8 – The Division has removed this condition.
- Old Conditions III.5. and III.8. – The Division has replaced these conditions with Condition III.9.
- Old Condition VI.5. – The Division has replaced this condition with Condition I.1.

The following permit conditions and attachment are new or modified since the last permit issuance dated March 1, 2019:

- Condition I.1. – This condition replaces Old Condition VI.5.
- Condition III.4. – This Condition replaces Old Condition II.3.
- Condition III.5. – This condition replaces Old Condition II.6.
- Condition III.8. – The Permittee may stage Class A residuals at a land application site for up to 60 days for non-biological residuals in a manner to prevent runoff of leachate and other wastewaters generated.
- Condition III.9. – This condition replaces Old Conditions III.5. and III.8.
- Condition III.10.l. – The Permittee shall not land apply in the Critical Area of a water supply watershed.
- Condition IV.2. – A Division-certified laboratory shall conduct all required analyses.
- Condition VI.8. – The Permittee shall pay an annual fee for each year of the term of this permit and continue to pay annual fees for any facility operating on an expired permit that the Division has not rescinded or revoked.
- Attachment B – The Division has added information for previously approved temporary storage structures in this new attachment.

This permit can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within 30 calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Those interested in filing may access additional information regarding the requirements for filing a Petition and Petition forms at the OAH website or by calling the OAH Clerk's Office at (919) 431-3000. A party filing a Petition shall serve a copy of the Petition on the Department of Environmental Quality's Office of General Counsel at 1601 Mail Service Center, Raleigh, NC 27699-1601. If the party filing the Petition is not the Permittee, then the party shall also serve the Permittee pursuant to G.S. 150B-23(a).

If you need additional information concerning this permit, please contact Erick Saunders at (919) 707-3659 or erickson.saunders@deq.nc.gov.

Sincerely,

DocuSigned by:
Nathaniel Tipperburg
D1043082680C483...

Richard E. Rogers, Jr., Director
Division of Water Resources

cc: Asheville Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Fayetteville Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Mooresville Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Raleigh Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Washington Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Wilmington Regional Office, Water Quality Regional Operations Section (Electronic Copy)
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NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENTAL QUALITY

RALEIGH

DISTRIBUTION OF CLASS A RESIDUALS PERMIT

Pursuant to the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

North Carolina Department of Transportation

Statewide

FOR THE

continued operation of a residuals management program for North Carolina Department of Transportation consisting of the distribution of Class A residuals generated from diamond grinding and hydrodemolition operations

to serve the NCDOT DGS and HOS Class A Residuals Program, with no discharge of wastes to surface waters, pursuant to the application received on March 15, 2024, and subsequent additional information received on July 5, 2024.

This permit does not exempt the Permittee from complying with 40 CFR Part 257 or 40 CFR Part 503.

This permit is effective from the date of issuance through May 31, 2032, shall replace Permit No. WQ0035749 issued on March 1, 2019, and is subject to the following conditions and limitations:

I. SCHEDULES

1. The Permittee shall notify the appropriate Regional Office at least 48 hours in advance of initiating land application of Class A residuals at a new diamond grinding or hydrodemolition project site. [15A NCAC 02T .0108(b)(1)(A)]

2. If the permitted program changes ownership or the Permittee changes its name, the Permittee shall submit a permit modification request on Division-approved forms within 90 days of the change of ownership. The Permittee shall comply with all terms and conditions of this permit until the Division transfers the permit to the successor-owner. [G.S. 143-215.1(d3)]

3. The Permittee shall request renewal of this permit on Division-approved forms no later than December 3, 2031. [15A NCAC 02T .0105(b), 02T .0109]

II. PERFORMANCE STANDARDS

1. The Permittee shall operate and maintain the subject residuals management program so there is no discharge to surface waters, nor any contravention of groundwater or surface water standards. In the event the residuals management program does not perform as permitted, including the creation of nuisance conditions due to improper operation and maintenance, the Permittee shall immediately cease distributing residuals, take immediate corrective actions, and contact the appropriate Regional Office supervisor. [15A NCAC 02T .0108(b)(1)(A)]

2. This permit shall not relieve the Permittee of its responsibility for contravention of groundwater or surface water standards resulting from the operation of this residuals management program. [15A NCAC 02T .0108(b)(1)(A)]

3. The Permittee shall not distribute residuals when the residual pollutant concentrations exceed the following on a dry weight basis:

Parameter	Ceiling Concentration	Monthly Average Concentration
	(mg/kg)	*(mg/kg)*
Arsenic	75	41
Cadmium	85	39
Copper	4,300	1,500
Lead	840	300
Mercury	57	17
Molybdenum	75	
Nickel	420	420
Selenium	100	100
Zinc	7,500	2,800

[15A NCAC 02T .1105(a), 02T .1105(c)]

4. The Permittee shall not apply residuals in exceedance of agronomic rates or hydraulic capacity of the soils, whichever is most limiting. The Permittee shall calculate agronomic rates based on lime equivalency using the following methods:

   a. A Crop Management Plan as outlined by the North Carolina Cooperative Extension, the North Carolina Department of Agriculture and Consumer Services, the Natural Resource Conservation Service, or a certified crop adviser.

   b. If the Permittee cannot determine the appropriate lime application rates, the Permittee shall contact the Division to determine the necessary action.

   [15A NCAC 02T .1109(a)(1)(K)]

5. The Permittee shall operate and maintain the permitted facilities pursuant to the following setbacks:

   a. Setbacks for Class A land application sites are as follows (all distances in feet):

	Liquid Residuals	Cake Residuals [1]
i. Each private or public water supply source:	100	100
ii. Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands:	100	25
iii. Surface water diversions such as ephemeral streams, waterways, and ditches:	25	0
iv. Groundwater lowering ditches where the bottom of the ditch intersects the SHWT:	25	0
v. Each well with exception of monitoring wells:	100	100
vi. Bedrock outcrops:	25	0

[1] Unless otherwise noted in Attachment A, "cake" residuals are those that have greater than 15% solids by weight and can be stacked without flowing, as well as can be handled, transported, and spread as a solid (e.g., using a backhoe, front end loader, slinger spreader, broadcast spreader or other equipment designed for handling solid materials) without leaving any significant liquid fraction behind.

[15A NCAC 02T .1108(b)]

III. OPERATION AND MAINTENANCE

1. The Permittee shall operate and maintain the subject residuals management program as a non-discharge system. [15A NCAC 02T .0101]

2. The Permittee shall maintain an Operation and Maintenance Plan, which shall include:

   a. A description of the program and all associated facilities and equipment in sufficient detail to show what operations are necessary for the program to function and who shall conduct the operations.

   b. A description of anticipated maintenance of facilities and equipment associated with the program.

   c. Provisions for safety measures, including restriction of access to sites and equipment.

   d. Spill control provisions that include response to upsets and bypasses, including control, containment, and remediation; and contact information for personnel, emergency responders, and regulatory agencies.

   e. Detailed procedures for sampling and monitoring to ensure that the program stays in compliance with this permit.

[15A NCAC 02T .1110(a)]

3. Upon the Water Pollution Control System Operators Certification Commission's (WPCSOCC) classification of the subject non-discharge facilities, the Permittee shall designate and employ a certified Operator in Responsible Charge (ORC), and one or more certified operators as Back-up ORCs. The ORC or its Back-up shall operate and visit the facilities as required pursuant to 15A NCAC 08G .0204 and 08G .0205.

   At the time of this permit issuance, the WPCSOCC does not require an ORC and Back-up ORC for Distribution of Class A Residual Programs. [15A NCAC 02T .0117]

4. The Permittee shall only distribute residuals generated by the diamond grinding process and/or the hydrodemolition operation. [15A NCAC 02T .1101]

5. The Permittee shall not apply Class A residuals in exceedance of the soil test results, or recommendations from an agronomist or a licensed North Carolina Soil Scientist on the amount of Class A residuals needed for soil pH adjustment (i.e., lime equivalency rates). [15A NCAC 02T .0108(b)(1)(A)]

6. The Permittee shall ensure that this permit and the Division-approved Operation and Maintenance Plan are available when land applying residuals. [15A NCAC 02T .1110(b)]

7. The Permittee shall ensure that spill control provisions are available when transporting or land applying residuals. [15A NCAC 02T .1110(a)(4)]

8. The Permittee may stage Class A residuals at a land application site for up to 30 days for biological residuals and 60 days for non-biological residuals. The Permittee shall store or stage Class A residuals in a manner to prevent runoff of leachate and other wastewaters generated. The Permittee may store Class A residuals in mobile storage units at or near each project site. The Division shall approve temporary earthen storage structures through a permit modification request. [15A NCAC 02T .1110(c), 02T .1110(d)]

9. The Permittee shall take measures to prevent wind erosion and runoff from the bulk Class A residual land application sites. [15A NCAC 02T .0108(b)(1)(A)]

10. The Permittee shall not land apply bulk Class A residuals under the following conditions:
    a. The residuals are likely to adversely affect a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat.
    b. The application causes nuisance conditions.
    c. The land does not assimilate the residuals, or the application causes the contravention of surface water or groundwater standards.
    d. Runoff of the residuals would occur because of flooded, frozen, or snow-covered land.
    e. Within the 100-year floodplain elevation unless the Permittee injects the residuals or incorporates the residuals within 24 hours following a residual land application event.
    f. During precipitation events or within 24 hours following a rainfall event of 0.5 inches or greater in a 24-hour period.
    g. The slope of the land is greater than 10% when the Permittee surface applies liquid residuals, or if the slope of the land is greater than 18% when the Permittee injects or incorporates liquid residuals.
    h. The land does not have an established vegetative cover crop unless the land is a Division-approved no-till site, or the Permittee injects or incorporates the residuals within 24 hours of application.
    i. The vertical separation of the seasonal high water table and the depth of residual application is less than one foot.
    j. The vertical separation of the depth to bedrock and the depth of residual application is less than one foot.
    k. The application exceeds agronomic rates, except for dedicated sites where the Permittee has specifically requested and the Division has approved higher rates pursuant to 15A NCAC 02T .1104(d).
    l. The land application sites are located within:
        i. A WS-I watershed pursuant to 15A NCAC 02B .0212.
        ii. The Critical Area of a WS-II watershed pursuant to 15A NCAC 02B .0214(4)(g).
        iii. The Critical Area of a WS-III watershed pursuant to 15A NCAC 02B .0215(4)(h).
        iv. The Critical Area of a WS-IV watershed pursuant to 15A NCAC 02B .0216(4)(h).

    [15A NCAC 02T .1109(a)(1), 02T .1109(b)]

11. The Permittee shall notify all third-party entities receiving bulk Class A residuals that land application activities occurring on the third-party's property shall meet the requirements in 15A NCAC 02T .1108(b) and 02T .1109(a)(1). [15A NCAC 02T .1103(a)(4), 02T .1103(a)(5)]

12. The Permittee shall not distribute bulk Class A residuals to any person or entity known to be applying residuals contrary to the conditions of this permit. The Permittee shall report to the appropriate Regional Office any person or entity known to be applying residuals contrary to the conditions of this permit. [15A NCAC 02T .0108(b)(1)(A)]

13. The Permittee shall affix a label to bagged or other container Class A residuals or shall provide an information sheet to any person or entity receiving the Class A residuals. The label or information sheet shall contain the following:

    a. The Permittee's name, address, and contact information.

    b. A statement that the receiving person or entity shall only apply the residuals pursuant to the instructions on the label or information sheet.

    c. A statement that the receiving person or entity shall apply at recommended rates for its intended use (i.e. agronomic rates, hydraulic capacity of the soils, or lime equivalency, whichever is most limiting).

    [15A NCAC 02T .1109(c)]

14. The Permittee may land apply of Class A residuals within NC Department of Transportation rights-of-way provided that the Permittee maintains a 25-foot setback to all drop inlets along the rights-of-way and the Permittee uses appropriate best management practices (BMPs) to prevent surface runoff from entering the storm drain system unimpeded. The Permittee shall buffer out areas where groundwater is less than one foot from the ground surface or areas with a defined channel. [15A NCAC 02T .0108(b)(1)(A)]

15. The Permittee may use the Class A residuals as soil amendment and land apply by injection or incorporation within roadbed fill areas where site grading is actively occurring. The Permittee shall recommend the suitable application rate and receive approval from the Division prior to beginning land application within these areas. The Permittee shall take caution to prevent surface runoff. [15A NCAC 02T .0108(b)(1)(A)]

IV. MONITORING AND REPORTING

1. The Permittee shall conduct and report any Division-required monitoring, including the monitoring of groundwater, surface water or wetlands, waste, wastewater, residuals, soil, treatment processes, lagoon or storage ponds, and plant tissue, if necessary to evaluate this program's impact on groundwater and surface water. [15A NCAC 02T .0108(c)]

2. A Division-certified laboratory shall conduct all required analyses. [15A NCAC 02H .0805]

3. The Permittee shall analyze the residuals to demonstrate they are non-hazardous under the Resource Conservation and Recovery Act (RCRA). The Permittee shall not apply residuals that test or are classified as hazardous or toxic waste under 40 CFR Part 261. The Permittee shall conduct an analysis on the Class A residuals from each road construction project prior to the initial land application event, and the Permittee shall maintain the results for a minimum five years. The analysis shall include the following parameters:

Calcium Carbonate Equivalence (CCE)	Percent Total Solids	pH [1]

[1] The Permittee shall sample pH for each truckload (or storage unit/tank, provided no additional waste is added to the unit after the sampling event) to demonstrate the residuals are non-hazardous under RCRA (i.e., 2.0 > pH < 12.5). If the waste is hazardous, the Permittee shall treat and dispose the waste as a hazardous waste.

[15A NCAC 13A .0102(b), 02T .1101, 02T .1111(a)]

4. The Permittee shall perform pH measurements pursuant to EPA Test Method 9040C. [15A NCAC 02T .0108(c)]

5. The Permittee shall perform laboratory parameter analyses on the residuals after any polymer or chemical additions and monitored pursuant to the requirements in 15A NCAC 02B .0505. [15A NCAC 02B .0505]

6. The Permittee shall maintain records of all bulk Class A residual distribution events. The Permittee shall maintain these records for five years and shall make them available to the Division upon request. These records shall include:

   a. Residual source (i.e., project name and location).
   b. Date of distribution.
   c. Location of receiving site (i.e., landowner name, address, latitude and longitude).
   d. Volume of residuals applied to each site (i.e., dry weight or in gallons with percent solids included).

   [15A NCAC 02T .0108(c)]

7. On or before March 1st of each calendar year, the Permittee shall submit a Residuals Annual Report containing all the required monitoring, analyses, and records in Conditions IV.3, IV.4, IV.5, and IV.6. Residuals Annual Report instructions and forms are located on the Non-Discharge website. If no activities occurred during the calendar year, the Permittee shall still submit a Residuals Annual Report documenting the absence of activity. The Permittee shall submit the Residuals Annual Report via the Non-Discharge online portal. [15A NCAC 02T .1111(d)]

8. **Noncompliance Notification**

The Permittee shall report to the appropriate Regional Office within 24 hours of first knowledge of the following:

a. Treatment of wastes abnormal in quantity or characteristic, including the known passage of a hazardous substance.

b. Any process unit failure (e.g., mechanical, electrical, structural, etc.) that makes the facility incapable of adequate residual treatment.

c. Any failure resulting in a discharge to surface waters.

d. Any time self-monitoring indicates the program has gone out of compliance with its permit limitations.

e. Distribution of residuals that are abnormal in quantity or characteristic.

f. Any discharge from a vehicle or piping system transporting or conveying residuals.

Emergencies requiring reporting outside normal business hours shall call the Division's Emergency Response personnel at the telephone number (800) 858-0368. All noncompliance notifications shall file a written report to the appropriate Regional Office within five days of first knowledge of the occurrence, and this report shall outline the actions proposed or taken to ensure the problem does not recur. [15A NCAC 02T .0108(b)(1)(A)]

V. INSPECTIONS

1. The Permittee shall perform inspections and maintenance to ensure proper operation of the Permittee's treatment, storage, and distribution facilities. [15A NCAC 02T .1110(f)]

2. The Permittee shall inspect the Permittee's treatment, storage, and distribution facilities to prevent malfunctions, facility deterioration, and operator errors that may result in discharges of wastes to the environment, threats to human health, or public nuisances. The Permittee shall maintain an inspection log that includes the date and time of inspection, observations made, and maintenance, repairs, or corrective actions taken. The Permittee shall maintain this inspection log for five years from the date of the inspection and shall make this log available to the Division upon request. [15A NCAC 02T .1110(f)]

3. Division-authorized representatives may, upon presentation of credentials, enter and inspect any property, premises, or place related to the residuals management program at any reasonable time for determining compliance with this permit. Division-authorized representatives may inspect or copy records maintained under the terms and conditions of this permit and may collect influent, treatment process water, effluent, residual, soil, plant tissue, groundwater, or surface water samples. [G.S. 143-215.3(a)(2)]

VI. GENERAL

1. The Permittee's failure to comply with this permit's conditions and limitations may subject the Permittee to a Division enforcement action. [G.S. 143-215.6A, 143-215.6B, 143-215.6C]

2. This permit is effective only for the nature and volume of wastes described in the permit application and Division-approved plans and specifications. [G.S. 143-215.1(d)]

3. There are no variances to administrative codes or general statutes governing the construction or operation of the permitted facilities unless the Permittee specifically requested a variance in the application and the Division approved the variance as noted in this permit's facility description. [15A NCAC 02T .0105(b)]

4. This permit does not exempt the Permittee from complying with all statutes, rules, regulations, or ordinances that other jurisdictional government agencies (e.g., local, state, and federal) may require. [15A NCAC 02T .0108(b)(1)(A)]

5. This permit is subject to revocation or modification upon 60-day notice from the Division Director in whole or part for:
   a. Violation of any terms or conditions of this permit or 15A NCAC 02T.
   b. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
   c. The Permittee's refusal to allow authorized Department employees upon presentation of credentials:
      i. To enter the Permittee's premises where a system is located or where the Permittee keeps any Division-required records under the terms and conditions of this permit.
      ii. To have access to any permit-required documents and records.
      iii. To inspect any monitoring equipment or method as required in this permit.
      iv. To sample any pollutants.
   d. The Permittee's failure to pay the annual fee for administering and compliance monitoring.
   e. A Division determination that the conditions of this permit conflict with the North Carolina Administrative Code or General Statutes.

   [15A NCAC 02T .0110]

6. Unless the Division determines that the Permittee needs a permit modification for the construction of facilities to resolve non-compliance with any environmental statute or rule, or the Division Director grants a variance, expansion of the permitted program shall not occur if any of the following apply:

   a. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has been convicted of environmental crimes under G.S. 143-215.6B or under Federal law that would otherwise be prosecuted under G.S. 143-215.6B, and the Permittee or any parent, subsidiary, or other affiliate of the Permittee has abandoned or exhausted all appeals of this conviction.

   b. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has previously abandoned a wastewater treatment facility without properly closing the facility in accordance with its permit or 15A NCAC 02T.

   c. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has not paid a civil penalty and the Permittee or any parent, subsidiary, or other affiliate of the Permittee has abandoned or exhausted all appeals of this penalty.

   d. The Permittee or any parent, subsidiary, or other affiliate of the Permittee is currently not compliant with any compliance schedule in a permit, settlement agreement, or order.

   e. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has not paid an annual fee pursuant to 15A NCAC 02T .0105(e)(2).

   [15A NCAC 02T .0120(b), 02T .0120(d)]

7. Unless the Division Director grants a variance, the Division shall not renew this permit if the Permittee or any affiliation has not paid an annual fee pursuant to 15A NCAC 02T .0105(e)(2). [15A NCAC 02T .0120(c), 02T .0120(d)]

8. The Permittee shall pay an annual fee for each year of the term of this permit pursuant to the schedule in G.S. 143-215.3D(a). The Permittee shall continue to pay annual fees for any facility operating on an expired permit that the Division has not rescinded or revoked. [15A NCAC 02T .0105(e)(2)]

Permit issued this the 2nd day of October 2024

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

DocuSigned by:
Nathaniel Ipenburg
D1043082680C483...

Richard E. Rogers, Jr., Director Division of Water Resources
By Authority of the Environmental Management Commission

Permit Number WQ0035749

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ATTACHMENT B – APPROVED TEMPORARY STORAGE STRUCTURES

North Carolina Department of Transportation **Permit Number: WQ0035749**

Certification Date: October 2, 2024 **Version: 3.0**

TEMPORARY STORAGE STRUCTURE INFORMATION					
Project	**Structure**	**Owner**	**County**	**Latitude**	**Longitude**
I-3802B [1]	Containment Basin	North Carolina Department of Transportation	Rowan	35.534526°	-80.572781°
	Evaporation Basin 1	North Carolina Department of Transportation	Rowan	35.534608°	-80.573091°
	Evaporation Basin 2	North Carolina Department of Transportation	Rowan	35.534792°	-80.573055°
I-3819B/U6039 [2]	Containment Basin	North Carolina Department of Transportation	Iredell	35.812820°	-80.860317°
	Evaporation Basin 1	North Carolina Department of Transportation	Iredell	35.813053°	-80.860212°
	Evaporation Basin 2	North Carolina Department of Transportation	Iredell	35.813045°	-80.860391°

1. The Permittee has closed out the basins for this project.
2. The Permittee is in the process of closing out the basins for this project.

I. TEMPORARY STORAGE STRUCTURES

1. The Permittee shall operate and maintain the permitted facilities pursuant to the following setbacks:

   a. The Division permitted the modifications to the residual storage units herein on July 13, 2023, with an application received on February 8, 2023. The setbacks for residual treatment and storage units originally permitted or modified with an application received on or after September 1, 2018, are as follows (all distances in feet):

      i. Each habitable residence or place of assembly under separate ownership: 100 [1]
      ii. Each private or public water supply source: 100
      iii. Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands: 50
      iv. Each well with exception of monitoring wells: 100
      v. Each property line: 50 [2]

      [1] Habitable residences or places of assembly under separate ownership constructed after the Division originally permitted or subsequently modified the facilities are exempt from this setback.

      [2] Setbacks to property lines are not applicable when the Permittee, or the entity from which the Permittee is leasing, owns both parcels separated by the property line.

      [15A NCAC 02T .1108(a), 02T .1108(f), 02T .1108(g)]

2. The Permittee shall prohibit public access to the residual storage facilities. [15A NCAC 02T.0108(b)(1)(A)]

3. The Permittee shall maintain a freeboard of not less than two feet in the temporary storage structures. [15A NCAC 02T .0108(b)(1)(A)]

4. The Permittee shall provide gauges to monitor freeboard levels in the temporary storage structures. These gauges shall have readily visible permanent markings, at inch or tenth of foot increments, indicating the following elevations: the maximum liquid level at the top of the temporary liquid storage volume, the minimum liquid level at the bottom of the temporary liquid storage volume, and the lowest point on top of the dam. [15A NCAC 02T .0108(b)(1)(A)]

5. The Permittee shall establish and maintain a protective vegetative cover on all berms, pipe runs, erosion control areas, surface water diversions, and earthen embankments (i.e., the outside toe of the embankment to the maximum allowable temporary storage elevation on the inside of the embankment). The Permittee shall remove all trees, shrubs, and other woody vegetation from earthen dikes and embankments. The Permittee shall keep all earthen embankments mowed or otherwise controlled and accessible. [15A NCAC 02T .0108(b)(1)(A)]

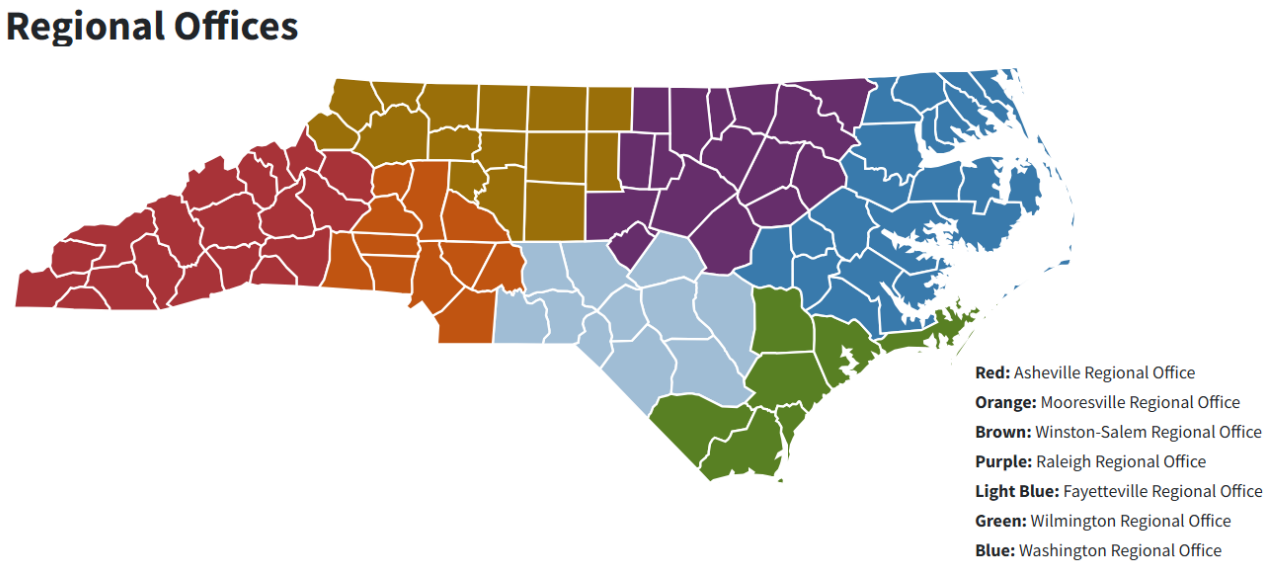
6. The Permittee shall measure and record weekly to the nearest inch or tenth of a foot of freeboard (i.e., the waste level to the lowest embankment elevation) in the temporary storage structures. The Permittee shall maintain the weekly freeboard records for eight years and shall make them available to the Division upon request. [15A NCAC 02T .0108(c)]

7. The Permittee shall retain this permit and the Division-approved plans and specifications for the life of the permitted facilities. [15A NCAC 02T .0105(o), 02T .0116(d)]
8. The Permittee shall comply with all permit conditions and requirements until the proper closure of the permitted facilities, or until another appropriate authority permits the facilities. [15A NCAC 02T.0105(j)]

9. Solids generated during the operation of the temporary storage structures that do not contain free liquid in accordance with EPA SW-846 Test Method 9095B (Paint Filter Liquids Test) are a solid waste. The Permittee shall dispose of solid wastes pursuant to North Carolina Division of Waste Management rules and regulations. [15A NCAC 02T .0108(b)(1)(A)]

North Carolina Department of Environmental Quality Regional Offices

Link to regional offices: https://www.deq.nc.gov/about/contact/regional-offices



Attachment B

Hydrodemolition Operation / Diamond Grinding Slurry Management and Disposal Plan Template

Attachment C

Operations Checklist, Operation and Maintenance Plan, Landowner Utilization Agreement, Spill Control Plan, Inspection Log, pH Log, Land Application Log, and EPA Method 9040.

NCDOT LAND APPLICATION PERMIT NO. WQ0035749

OPERATIONS CHECKLIST FOR PERMIT COMPLIANCE

- Notification to appropriate Division of Water Resources (DWR) Regional office at least 48 hours in advance of any land application of Class A residuals at a new diamond grinding or hydrodemolition project site.(Condition I.1)
- Compliance with setbacks for land application (Condition II.5)
- Land apply in accordance with agronomic rates (Condition II.4 and III.5)
- Copy of **Permit** shall be maintained at land application site (Condition III.6)
- **Operation and Maintenance Plan** shall be maintained at land application site (Condition III.6)
- Copy of **Spill Control Plan** shall be maintained in all transport and land application vehicles (Condition III.7)
- Know all conditions when land application shall not occur (Condition III.10)
- **Utilization Agreement** shall be in place prior to land application and a copy shall be maintained at land application site (Condition III.11)
- Class A residuals may be recovered and stored in mobile storage units at or near the project site. When requesting use of temporary earthen sites, these storage units must be individually approved by the Division through a permit modification request (Condition III.8)
- Provide landowner, lessee, or operator a copy of **Product Information Label** (Condition III.13)
- Land application of Class A residuals may occur within NCDOT rights-of-way provided a 25 foot setback to all drop inlets is maintained (Condition III.14)
- Using a Division of Water Resources -certified laboratory, obtain current laboratory analysis of Class A residuals from each road construction project prior to the initial land application event (Condition IV.3)
- pH sampling of each truckload in accordance with EPA test method 9040C (Condition IV.3 and 4) – **pH Log**
- New lab analyses shall be performed after any polymer or chemical additions (Condition IV.5)
- Maintain records for all land application to include completion and submittal of **Land Application Log** (Condition IV.6)
- All monitoring results and record tracking as required under permit Conditions IV.3, IV.4, and IV.6 shall be provided to NCDOT for each calendar year while diamond grinding or hydrodemolition occurs, no later than December 31 of that calendar year
- Notify Permittee immediately if any noncompliance of the permit occurs (Condition IV.8)
- Provide inspections to include completion and submittal of **Inspection Log** (Condition V.1 and 2)

The above checklist is only a summary of some of the permit conditions associated with Permit No. WQ0035749 and does not include all conditions outlined in the Permit. The Permit will be the overriding guidance when any questions arise.

OPERATION AND MAINTENANCE PLAN

N.C. Department of Transportation
Permit No. WQ0035749

HYDRODEMOLITION OPERATION SLURRY
DIAMOND GRINDING SLURRY

I. Operational Functions

Hydrodemolition Operation Slurry Description and Overview

The hydrodemolition operation slurry (HOS) is generated by the hydrodemolition of concrete on bridge decks during the deck restoration process. The hydrodemolition operation will typically generate a range of volumes per bridge with percent solids of the unfiltered water ranging from 0.5 to 10 percent. The hydrodemolition operation will typically generate a range of approximately 10,000 to 50,000 gallons of HOS per bridge. The hydrodemolition process shall be managed, monitored, collected, and properly disposed of as a portion of the bridge deck restoration process. Many variables will determine the quantity, such as hydrodemolition contractor process, size of bridge deck, total depth of concrete to be removed, etc. The generated water and solids (slurry) is stable and contains a high calcium value for application as a lime amendment.

Diamond Grinding Slurry Description and Overview

The diamond grinding slurry (DGS) is generated by diamond grinding of concrete pavement which generates a slurry material consisting of water and pulverized concrete. This material is collected in trucks through a vacuum system concurrent with the grinding process. The generated slurry is stable and also contains a high calcium value for application as a lime amendment. The diamond grinding process shall be managed, monitored, collected, and properly disposed of. The diamond grinding of concrete will generate a wide range of slurry volume per project. Many variables will determine the quantity, such as contractor performing the diamond grinding, length of roadway, etc.

The HOS and DGS shall be collected, hauled, and discharged in accordance with local, state, and federal regulations. The HOS and DGS will not be allowed to enter storm sewers, bridge drainage downspouts or bridge approach downspouts, ditches, surface waters, floodplains or wetlands. The HOS and DGS will be monitored to confirm its compliance with conditions in Non-Discharge Permit No. WQ0035749 to include:

- Calcium Carbonate Equivalence (CCE)
- Percent Total Solids
- pH

When land application of HOS is not a feasible option, the primary method of disposal will be to transport the HOS to a local publicly owned treatment works (POTW) or a licensed treatment or disposal facility. When land application of DGS is not a feasible

option, other methods of disposal will be determined such as transport of the liquid portion to a local publicly owned treatment works (POTW) or a licensed treatment or disposal facility and disposal of the solid portion in an approved solid waste disposal facility.

II. Maintenance Schedules

Maintenance will be the responsibility of the Contractor performing the hydrodemolition or diamond grinding operations. In addition, subcontractors must have a current Land Application of Residuals "Operator in Responsible Charge" (ORC) as certified by the North Carolina Water Pollution Control System Operators Certification Commission (WPCSOCC).

III. Safety Measures

Safety plans and training will be the responsibility of the Contractor performing the hydrodemolition or diamond grinding operations. All subcontractors will be required to comply with safety plans and training as applicable to the Contractor's performing the hydrodemolition or diamond grinding operations. NCDOT recognizes that the safety of employees and contractors is paramount to the maintenance and construction of the state transportation system. Therefore, NCDOT recognizes no boundaries in the development and implementation of a world class safety and health program that will protect their employees, contractors and the traveling public. The NCDOT Safety Philosophy is as follows:

- All accidents and injuries can be prevented.
- Management/supervisors are responsible, and will be held accountable, for preventing injuries and occupational illnesses.
- Occupational safety and health is part of every employee's total job performance.
- Working safely is a condition of employment.
- All workplace hazards can be safeguarded.
- Training employees to work safely is essential and is the responsibility of management/supervision.
- Prevention of personal injuries and accidents is good business.

IV. Spill Response Plan

Includes the following:

- Spill Control Plan (Attached),
- Spill Prevention Plan (Attached),
- Spill Control, Containment and Cleanup Plan (Attached).

V. Sampling and Monitoring Plan

All sampling and monitoring shall be performed in accordance with current Permit No. WQ0035749, NCDOT DGS and HOS Class A Residuals Program Distribution of Class A Residuals Statewide.

An analysis shall be conducted on HOS or DGS from each road construction project prior to the initial land application event to include the following parameters:

- Calcium Carbonate Equivalence (CCE)
- Percent Total Solids
- pH*

*pH shall be sampled for each truckload to demonstrate that the HOS or DGS is non-hazardous under the RCRA

Measurement of HOS/DGS pH shall be performed in accordance with the EPA Test Method 9040C

State of North Carolina
Department of Environment Quality Division of Water Resources

LANDOWNER UTILIZATION AGREEMENT FOR NC DEPARTMENT OF TRANSPORTATION

Hydrodemolition Operation Slurry (HOS) is generated by the hydrodemolition of concrete on bridge decks during the deck restoration process. The hydrodemolition operation will typically generate a range of volumes per bridge with percent solids of the unfiltered water ranging from 0.5 to 10 percent. The generated water and solids (slurry) is stable and contains a high calcium value for application as a lime amendment. **Diamond Grinding Slurry (DGS)** is generated by diamond grinding of concrete pavement which generates a slurry material consisting of water and pulverized concrete. This material is collected in trucks through a vacuum system concurrent with the grinding process. The generated slurry is stable and also contains a high calcium value for application as a lime amendment. Both products are permitted by the Division of Water Resources (Permit WQ0035749) for distribution and land application. This agreement is to allow the distribution and land application of **HOS and/or DGS** onto properties whose owner is herein giving written consent for the responsible application of this resource.

INSTRUCTIONS TO THE APPLICANT:

A. Prepare a separate utilization agreement form for <u>each</u> landowner other than the applicant.

- ✓ A copy of the completed and appropriately executed utilization agreement form must be provided to the landowner and the lessee/operator (if applicable).

B. If the landowner wishes to exclude certain fields from use, a list of excluded fields along with a description of the excluded areas, shall be attached to this utilization agreement.

UTILIZATION AGREEMENT FOR THE LAND APPLICATION OF HYDRODEMOLITION OPERATION SLURRY AND/OR DIAMOND GRINDING SLURRY TO LAND APPLICATION SITES NOT OWNED BY THE PERMITTEE

The undersigned landowner or his representative hereby permits:

NC Department of Transportation
1558 Mail Service Center
Raleigh, North Carolina 27699
Telephone (919) 707-2942
E-mail: jagoodwin@ncdot.gov

hereinafter referred to as the Permittee, to land apply HOS and/or DGS, as defined above, to sites owned by the undersigned landowner in the following counties:_____ in accordance with the stipulations and restrictions as given in this Agreement, provided the Permittee and the landowner or his representative of the site agree to meet the requirements of, and follow, the Landowner Utilization Agreement.

The lessee, the landowner or his representative receives, in consideration, full use of the liming value of the applied HOS and/or DGS while the Permittee receives, in consideration, the use of the land application site(s) described below for the beneficial use of the HOS and/or DGS. This Agreement shall remain in effect for the length of the Division's permit for the HOS and/or DGS land application program and shall be renewed each time this permit is renewed if necessary.

Land Application Sites (list field by parcel #, specific location, or other identifying manner):

_____

_____

_____

I. STIPULATIONS:

1. This Agreement shall be binding on the grantees, the successors, and assigns of the parties hereto with reference to the subject matter of this Agreement.

2. Any duly authorized officer, employee, or representative of the Division may, upon presentation of credentials, enter and inspect any property, premises, or place on or related to the land application site(s) at any reasonable time for the purpose of determining compliance with the Division's HOS and/or DGS land application program permit; may inspect or copy any records that must be kept under the terms and conditions of this permit; or may obtain samples of groundwater, surface water, or leachate.

LANDOWNER RESPONSIBILITIES

3. The landowner or his representative authorizes the Permittee, local officials, and State officials or their representatives to take necessary soil, surface water, and groundwater samples during the term of, and for 12 months after termination of, this Agreement.

4. The landowner or his representative will furnish the Permittee with information regarding the amount and analysis of other sources of nutrients (e.g., fertilizer, unregulated animal waste, etc.) that have been applied to the land application site(s). For fields operated by a lessee, the lessee will supply this information for the landowner.

5. The landowner or his representative hereby authorizes the Permittee, local officials, and State officials or their representatives to inspect the land application site(s) prior to, during, and after any HOS and/or DGS land application event and to established monitoring facilities on or near the land application site(s) as required by the HOS and/or DGS land application program permit.

6. By agreeing to accept the HOS and/or DGS, it is recognized that the application of these materials is allowed under the conditions of this agreement. Land application of DGS/HOS is considered the beneficial reuse of a waste under 15A NCAC 02T .1100, and has been deemed permitted under 15A NCAC 02T .1103(4) provided the conditions of this agreement are met. Any action resulting in damages to surface water or groundwater, caused by failure to follow the conditions of this agreement, is subject to Division enforcement action.

7. The landowner or his representative accepting the HOS and/or DGS shall to the best of their knowledge meet the following application requirements:

   - HOS and/or DGS **shall not** be land applied under the following conditions:

     a. If the HOS and/or DGS are likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act or its designated critical habitat;
     b. If the application causes prolonged nuisance conditions;
     c. If the land fails to assimilate the HOS and/or DGS or the application causes the contravention of surface water or groundwater standards;
     d. Runoff of the HOS and/or DGS would occur because of flooded, frozen, or snow-covered land;
     e. Within the 100-year flood elevation, unless the HOS and/or DGS are injected or incorporated within a 24-hour period following a land application event;
     f. During precipitation events, or within 24 hours following a rainfall event of 0.5 inches or greater in a 24-hour period;
     g. If the slope is greater than 10% for surface applied HOS and/or DGS, or if the slope is greater than 18% for injected or incorporated HOS and/or DGS;
     h. The land does not have an established vegetative cover crop unless the land a Division-approved no-till site, or the Permittee injects or incorporates the residuals within 24 hours of application;
     i. If the HOS and/or DGS pH is greater than or equal to 12.5;
     j. If the vertical separation between the seasonal high water table and the depth of HOS and/or DGS application is less than one foot;
     k. If the vertical separation of bedrock and the depth of HOS/DGS application is less than one foot;
     l. The application exceeds agronomic rates, except for dedicated sites where the permittee has specifically requested and the Division has approved higher rates pursuant to 15A NCAC 02T.1104(d).
     m. The land application sites are located within:
        i. A WS-I watershed pursuant to 15A NCAC 02B .0212.

ii. The Critical Area of a WS-II watershed pursuant to 15A NCAC 02B.0214(4)(g).
iii. The Critical Area of a WS-III watershed pursuant to 15A NCAC 02B 0215(4)(h).
iv. The Critical Area of a WS-IV watershed pursuant to 15A NCAC 02B .0216(4)(h).

- HOS and/or DGS shall not be stockpiled or stored offsite for more than 60 days prior to land application;

- Application of HOS and/or DGS shall not occur within 100 feet of a public or private water supply source;

- Application of HOS and/or DGS shall not occur within 100 feet of surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands.
- Application of HOS and/or DGS shall not occur within 100 feet of any well, with the exception of Division approved monitoring wells;
- Application of HOS and/or DGS shall not occur within 25 feet of surface water diversions such as ephemeral streams, waterways, and ditches..
- Application of HOS and/or DGS shall not occur within 25 feet of groundwater lowering ditches where the bottom of the ditch intersects the seasonal high water table.
- Application of HOS and/or DGS shall not occur within 25 feet of bedrock

PERMITTEE RESPONSIBILITIES

Prior to the land application of HOS and/or DGS, the Permittee shall enter into an agreement with the landowner that includes the following conditions:

8. The Permittee has provided the landowner or his representative with information and data concerning the HOS and/or DGS land application program, including an analysis of constituents of the HOS and/or DGS.
9. The Permittee shall provide the landowner or his representative with a copy of the HOS and/or DGS land application program permit that has been most-recently issued by the Division prior to commencement of any HOS and/or DGS land application event. This permit will specify limitations and other restrictions prescribed by the laws and regulations.
10. Within the limits of the Division's HOS and/or DGS land application program permit, the Permittee will determine HOS and/or DGS application rates and schedules based on crop patterns and the current soil pH of each respective field.
11. Specific HOS and/or DGS land application area boundaries shall be clearly marked on the land application site(s) by the Permittee and/or his representative prior to and during a HOS and/or DGS land application event.
12. The Permittee shall provide information on the proper use of the HOS and/or DGS. A copy of the product information sheet for HOS and/or DGS will be provided.
13. The applicator or party accepting bulk residuals from the Permittee shall supply all third parties receiving bulk residuals with documentation specifying that application shall occur consistent with the utilization agreement.
14. Instructions, including contact information for key personnel, shall be provided to the applicator or party receiving bulk residuals in the event that any requirements specified in the utilization agreement are not met.
15. A copy of the Utilization Agreement shall be maintained at the land application sites when bulk residuals are being applied.

Landowner's Certification:

☐ I certify that I am a deeded landowner of the above-referenced land application site(s) and am authorized to make decisions regarding the use of the land application site(s) on behalf of other deeded landowners OR that I am otherwise authorized, through a power of attorney or other legal delegation, to make decisions regarding the use of the land application site(s) on behalf of the deeded landowners. I certify that I have read this Agreement, understand the stipulations and restrictions, and do hereby grant permission to the Permittee to land apply hydrodemolition operation slurry and/or diamond grinding slurry to the land application site(s) as specified herein.

Landowner name: _____

Landowner address: _____

City: _____ State: _____ Zip: _____

Home/business phone: _____ Cell phone: _____

Signature: _____ Date: _____

Permittee's Certification:

☐ I certify that I have read this Agreement and do hereby agree to abide by the stipulations and restrictions as specified herein.

Permittee / Permittee's Representative: _____

Signature: _____ Date: _____

***** END OF FORM: NCDOT LUA – December 2024*****

HYDRODEMOLITION OPERATION SLURRY / DIAMOND GRINDING SLURRY
pH LOG

Project Name
(Source of HOS/DGS): _____

Project Location: _____

Project Description: _____

Land Application
Operator in Responsible Charge: _____

Date pH Sample Collected	Date pH Analyzed / Reported	Lab or Field Sample	pH Measurement	Unit Sampled (Truck, Frac Tank, Dewatering Box, etc.)

HYDRODEMOLITION OPERATION SLURRY

DIAMOND GRINDING SLURRY

SPILL CONTROL PLAN

FOR PERMIT WQ0035749

THE FOLLOWING ACTIONS MUST BE TAKEN IN THE EVENT OF A SPILL:

1. **Halt the source of the spill:** Ruptured line or valve, or damaged tank unit.

2. **Contain spill:** Use straw bales to form a barrier. Straw or hay bales can be obtained from several sources for this purpose. Soil near the site can also be used to form a barrier for containment.

3. **Clean up:** Use land application equipment to recover as much of the Hydrodemolition Operation Slurry (HOS) or Diamond Grinding Slurry (DGS) as possible. After the application equipment has recovered as much HOS as possible, it will be land applied as per the management plan. A temporary sump pit may be dug in the containment area to enhance recovery.

4. **Notification:** As soon as possible, but in no case more than 24 hours or on the next working day following the occurrence, after a spill occurs notify:

   - NC DOT: Resident Engineer and Division Environmental Officer

   - NC Department of Environmental Quality
     Division of Water Resources Office

     - ❖ Asheville Regional Office (828) 296-4500
     - ❖ Fayetteville Regional Office (910) 433-3300
     - ❖ Mooresville Regional Office (704) 663-1699
     - ❖ Raleigh Regional Office (919) 791-4200
     - ❖ Washington Regional Office (252) 946-6481
     - ❖ Wilmington Regional Office (910) 796-7215
     - ❖ Winston-Salem Regional Office (336) 776-5000
     - ❖ Outside of normal business hours, call the emergency hot line: 1-800-858-0368

   - Fire Department if assistance is required for wash down

5. **Management of clean up efforts:** The responsible party for land application shall take immediate charge of the clean up activities. Additional labor will be requested as needed.

6. **Reporting:** Within 24 hours of a spill the responsible party for land application shall present a written report detailing the cause of the spill and all action taken in response to the spill.

SPILL PREVENTION PLAN

The spill prevention plan requires that all equipment used to transport HOS or DGS be subject to periodic safety inspections. Tires, brakes, lights, and turn signals will be inspected for proper working order. Each truck will be equipped with safety flares and appropriate signs to be used in the event of a breakdown. Any deficiencies observed during the safety inspections will result in the vehicle being removed from service and the responsible party for land application will be notified so that these deficiencies can be corrected and documented.

Routes leading from the storage point to the land application sites will be inspected for road hazards. The road hazards will be documented and the drivers will be informed of the hazards. Alternate routes will be investigated and routes which minimize road hazards will be selected. Hazardous situations resulting from rush-hour traffic will be avoided during hauling.

Drivers and management personnel associated with the hauling of HOS or DGS will be instructed in the spill prevention plan and will be required to attend training sessions. Drivers will be trained in defensive driving techniques in order to minimize road hazards. A driver who observes a road hazard will be required to report the hazard to the field superintendent who, in turn, will warn other drivers. As part of the spill prevention plan, drivers will be required to inspect the safety equipment of their vehicles on a daily basis. Any deficiency in safety equipment will be noted for corrective action. Drivers will be trained in the procedures to be taken in the event of a spill that occurs during the hauling of HOS or DGS. These procedures are discussed in the spill control, containment, and cleanup plan.

SPILL CONTROL, CONTAINMENT, AND CLEANUP PLAN

Spills that occur during loading or unloading HOS or DGS will occur at the generation point and the land application sites, respectively. These spills will not involve an environmental hazard or an over the road hazard and, therefore, will be handled using the equipment that will be available at either site. Spills that occur over-the-road will be subject to the contingencies contained in the spill control, containment, and cleanup plan. The equipment used in the spill control, containment, and cleanup consists of the following:

1. Vacuum pump, pump truck or tanker truck. A vacuum truck, vacuum pump or tanker truck will be used to assist with clean up of HOS or DGS spills.

2. Outside equipment if required

The following personnel will be involved in the spill control, containment, and cleanup.

1. The responsible party for land application will respond to the spill site and make an assessment of the spill and determine the containment procedures to be initiated and the equipment to be used to clean up the spill.

2. The responsible party for land application will be responsible for the direction of the cleanup team.

In the event of a spill, the driver of the truck or application vehicle, if he has not sustained a debilitating injury, will call the responsible party for land application and report the spill. The responsible party for land application will notify the appropriate authorities and will also notify the appropriate DWR Regional Office. The driver will set up safety flares and signs to warn motorists of the hazard. The responsible party for land application will mobilize the necessary equipment and personnel to the site, and will initiate the containment procedures. When the cleanup team arrives at the site, the site will be cleaned up according to the contingency plan. HOS or DGS cleaned up from the site will be transported to the land application sites where it will be applied in accordance with the permit. In the event that the driver is incapacitated due to personal injury, the responsible party for land application will mobilize the cleanup team as soon as the authorities notification of an incident.

HYDRODEMOLITION OPERATION SLURRY / DIAMOND GRINDING SLURRY
INSPECTION LOG

Project Name
(Source of HOS/DGS): _____

Project Location: _____

Project Description: _____

Land Application
Operator in Responsible Charge: _____

***** Inspections should be made of storage, transport and application equipment to prevent malfunctions, deterioration and operator errors resulting in discharges, which may cause the release of HOS or DGS to the environment, a threat to human health or a public nuisance *****

Date of Inspection	Time of Inspection	Observations Made	Maintenance, Repairs or Corrective Actions Taken

HYDRODEMOLITION OPERATION SLURRY / DIAMOND GRINDING SLURRY
LAND APPLICATION LOG

Project Name
(Source of HOS/DGS): _____

Project Location: _____

Project Description: _____

Land Application
Operator in Responsible Charge: _____

Date of Land Application	Location of Receiving Site (Land Owner Name)	Receiving Site Address or Latitude / Longitude	Quantity Applied (Gallons or Dry Weight)	% Solids

METHOD 9040C

pH ELECTROMETRIC MEASUREMENT

1.0 SCOPE AND APPLICATION

1.1 This method is used to measure the pH of aqueous wastes and those multiphase wastes where the aqueous phase constitutes at least 20% of the total volume of the waste.

1.2 The corrosivity of concentrated acids and bases, or of concentrated acids and bases mixed with inert substances, cannot be measured. The pH measurement requires some water content.

2.0 SUMMARY

2.1 The pH of the sample is determined electrometrically using either a glass electrode in combination with a reference potential or a combination electrode. The measuring device is calibrated using a series of standard solutions of known pH.

3.0 INTERFERENCES

3.1 The glass electrode, in general, is not subject to solution interferences from color, turbidity, colloidal matter, oxidants, reductants, or moderate (<0.1 molar solution) salinity.

3.2 Sodium error at pH levels >10 can be reduced or eliminated by using a low-sodium-error electrode.

3.3 Coatings of oily material or particulate matter can impair electrode response. These coatings can usually be removed by gentle wiping or detergent washing, followed by rinsing with distilled water. An additional treatment with hydrochloric acid (1:10) may be necessary to remove any remaining film.

3.4 Temperature effects on the electrometric determination of pH arise from two sources. The first is caused by the change in electrode output at various temperatures. This interference should be controlled with instruments having temperature compensation or by calibrating the electrode-instrument system at the temperature of the samples. The second source of temperature effects is the change of pH due to changes in the sample as the temperature changes. This error is sample-dependent and cannot be controlled. It should, therefore, be noted by reporting both the pH and temperature at the time of analysis.

4.0 APPARATUS AND MATERIALS

4.1 pH meter -- Laboratory or field model. Many instruments are commercially available with various specifications and optional equipment.

4.2 Glass electrode.

4.3 Reference electrode -- A silver-silver chloride or other reference electrode of constant potential may be used.

NOTE: Combination electrodes incorporating both measuring and referenced functions are convenient to use and are available with solid, gel-type filling materials that require minimal maintenance.

4.4 Magnetic stirrer and Teflon-coated stirring bar.

4.5 Thermometer and/or temperature sensor for automatic compensation.

5.0 REAGENTS

5.1 Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

5.2 Primary standard buffer salts are available from the National Institute of Standards and Technology (NIST) and should be used in situations where extreme accuracy is necessary. Preparation of reference solutions from these salts requires some special precautions and handling, such as low-conductivity dilution water, drying ovens, and carbon-dioxide-free purge gas. These solutions should be replaced at least once each month.

5.3 Secondary standard buffers may be prepared from NIST salts or purchased as solutions from commercial vendors. These commercially available solutions have been validated by comparison with NIST standards and are recommended for routine use.

6.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

Samples should be analyzed as soon as possible.

7.0 PROCEDURE

7.1 Calibration

7.1.1 Because of the wide variety of pH meters and accessories, detailed operating procedures cannot be incorporated into this method. Each analyst must be acquainted with the operation of each system and familiar with all instrument functions. Special attention to care of the electrodes is recommended.

7.1.2 Each instrument/electrode system must be calibrated at a minimum of two points that bracket the expected pH of the samples and are approximately three pH units or more apart. (For corrosivity characterization, the calibration of the pH meter should include a buffer of pH 2 for acidic wastes and a pH 12 buffer for caustic wastes; also, for corrosivity characterization, the sample must be measured at 25 ± 1 EC if the pH of the waste is above 12.0.) Various instrument designs may involve use of a dial (to "balance" or "standardize") or a slope adjustment, as outlined in the manufacturer's instructions. Repeat adjustments on successive portions of the two buffer solutions until readings are within 0.05 pH units of the buffer solution value.

7.2 Place the sample or buffer solution in a clean glass beaker using a sufficient volume to cover the sensing elements of the electrodes and to give adequate clearance for the

magnetic stirring bar. If field measurements are being made, the electrodes may be immersed directly into the sample stream to an adequate depth and moved in a manner to ensure sufficient sample movement across the electrode-sensing element as indicated by drift-free readings (< 0.1 pH).

7.3 If the sample temperature differs by more than 2 EC from the buffer solution, the measured pH values must be corrected. Instruments are equipped with automatic or manual compensators that electronically adjust for temperature differences. Refer to manufacturer's instructions.

7.4 Thoroughly rinse and gently wipe the electrodes prior to measuring pH of samples. Immerse the electrodes into the sample beaker or sample stream and gently stir at a constant rate to provide homogeneity and suspension of solids. Note and record sample pH and temperature. Repeat measurement on successive aliquots of sample until values differ by < 0.1 pH units. Two or three volume changes are usually sufficient.

8.0 QUALITY CONTROL

8.1 Refer to Chapter One for the appropriate QC protocols.

8.2 Electrodes must be thoroughly rinsed between samples.

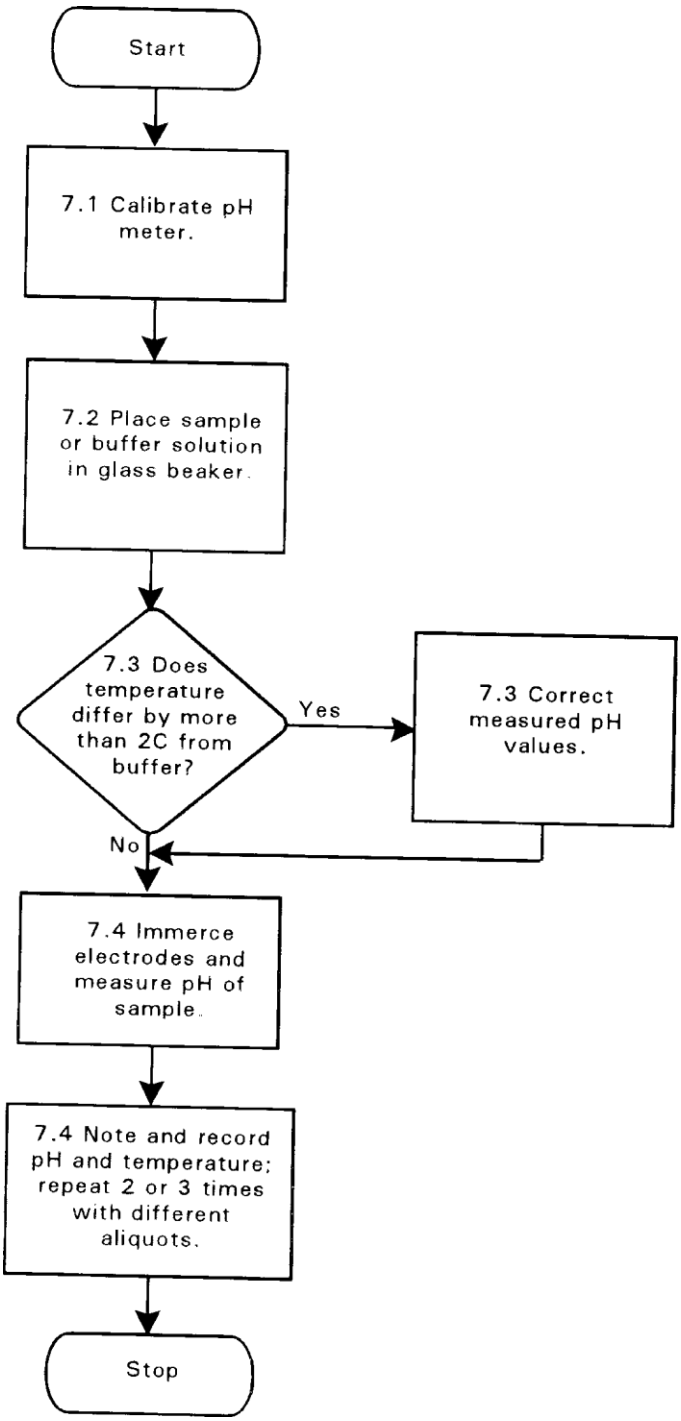
9.0 METHOD PERFORMANCE

9.1 Forty-four analysts in twenty laboratories analyzed six synthetic water samples containing exact increments of hydrogen-hydroxyl ions, with the following results:

		Accuracy as	
pH Units	Standard Deviation pH Units	Bias %	Bias pH Units
3.5	0.10	-0.29	-0.01
3.5	0.11	-0.00	
7.1	0.20	+1.01	+0.07
7.2	0.18	-0.03	-0.002
8.0	0.13	-0.12	-0.01
8.0	0.12	+0.16	+0.01

10.0 REFERENCES

1. National Bureau of Standards, Standard Reference Material Catalog 1986-87, Special Publication 260.


Start
7.1 Calibrate pH meter.
7.2 Place sample or buffer solution in glass beaker.
7.3 Does temperature differ by more than 2C from buffer?
Yes
7.3 Correct measured pH values.
No
7.4 Immerce electrodes and measure pH of sample.
7.4 Note and record pH and temperature; repeat 2 or 3 times with different aliquots.
Stop

Attachment D

List of Certified Land Application Operators

LAND APPLICATION CONTRACTORS

COMPANY NAME	POC	LA ORC #	WORK PHONE	WORK PHONE #2	MOBILE PHONE	FAX	ADDRESS	EMAIL	WEBSITE	REGION
EMA Resources, Inc.	Roy Whitaker	13283	(336) 751-1441		(336) 909-1718		755 Yadkinville Rd, Mocksville, NC 27028	roy.whitaker@emaresources.com	www.emaresourcesinc.com	SE US
Bio-Green Services, Inc.	Ray Gambill	985951	(866) 209-0308		(336) 813-8063		383 Potts Road, Advance, NC 27006	info@biogreensvc.com	www.biogreenservices.com	NC/SC
Lewis Farms	Wesley Wooten	993105	(800) 624-2979	(910) 283-5444	(910) 604-0049	(910) 283-2500	8155 Malpass Corner, Currie, NC 28435	wesley@lewisfarmsnc.com	www.lewisfarmsandliquidwaste.com	NC
Bio-nomic Services, Inc.	Joel Coert	23879	(800) 782-6798	(704) 529-0000	(704) 904-9703	(704) 529-1648	530 Woodlawn Street, Belmont, NC 28012	jcoert@bio-nomic.com	www.bio-nomic.com	US
Bio-nomic Services, Inc.	Vaughn Stevenson	998715	(800) 782-6798	(704) 529-0000	(704) 930-8886	(704) 529-1648	530 Woodlawn Street, Belmont, NC 28012	vstevenson@bio-nomic.com	www.bio-nomic.com	US
Synagro	Marshall Puryear	994465	(800) 370-0035	(336) 998-7150	(434) 738-8002		284 Boger Road, Mocksville, NC 27028	mpuryear@synagro.com	www.synagro.com	US
Hines Septic, LLC	Glenn Hines	15698	(252) 232-3941	(252) 261-8899	(252) 435-7666		3178 Caratoke Hwy, Currituck, NC 27929	hinesseptic@aol.com	www.hinesseptic outerbanks.com	NE NC/VA
Granville Farms	Andy Smith	13265	(919) 690-8000		(919) 603-4799		Post Office Box 1396, Oxford, NC 27565-9199	asmith@granvillefarmsinc.com		NC
Granville Farms	Jason Smith	13266	(919) 690-800		(252) 903-5367		Post Office Box 1396, Oxford, NC 27565-9199	jsmith@granvillefarmsinc.com		NC
Atlantic Sewage Control	Sammy Smith		(252) 255-2030		(252) 489-0862		Post Office Box 2560, Kitty Hawk, NC 27949	sammy@atlanticsewage.com		NE NC
L&L Environmental Services	Dayton W. Oaks	14785	(704) 332-0911		(704) 320-1012		3304 Robinson Circle, Charlotte, NC 28206-1925	dayton@llenviro.com		NC

Attachment E

NCDEQ Application Form for Distribution of Class A Residuals, Form (DCAR 06-16) and supporting documentation required for the approval of temporary storage

Earthen Storage Structures for Temporary Storage of DGS/HOS

In regards to using earthen storage structures for temporary storage of DGS/HOS, please note the following procedure:

Using earthen storage structures for temporary storage of DGS/HOS on-site or off-site of DOT property is not currently permitted under the new Permit No. WQ0035749 for Land Application of DGS/HOS. NCDEQ requires that temporary earthen storage structures be handled as a separate permit modification to this Permit for approval and prior to construction of each structure.

Having these structures individually permitted as modifications to Permit No. WQ0035749 places them under the requirements in G.S. 143-215.1(d)(1), which informs that a permitting action has a time frame of no more than 90 days. NCDEQ anticipates that, on average, the time from them receiving the modification request to approval being approximately 21 days, which would include the application review, site visit, and permit issuance. However, this time estimate is dependent on the **quality** of the application provided to NCDEQ from the contractor and that it contains all the necessary supporting documentation.

The application for each earthen storage structure shall include:

- A completed and appropriately executed Distribution of Class A Residuals application (FORM: DCAR 06-16). Section V does not need to be completed.
- An application fee in the amount of $395 made payable to NCDEQ.
- A cover letter describing the proposed permit modification.
- Detailed Plans – See first item of Instruction E of DCAR 06-16 and 15A NCAC 02T .1104(a)(2)(A).
- Specifications – See third item of Instruction E of DCAR 06-16 and 15A NCAC 02T(a)(2)(B).
- Site Map – See the second Item of Instruction E of DCAR 06-16. This map would vary for each modification, as it is a site-specific map based on the proposed location of the earthen structure.
- Engineering Calculations – See Instruction F of DCAR 06-16 and 15A NCAC 02T(a)(2)(C).
- Property Ownership Documentation – Would vary from site to site.
- Applicant's Certification – Signatory Authority signature attesting the application.

The Engineering Plans, Specifications, and Engineering Calculations all need to be signed, sealed, and dated by a licensed North Carolina Professional Engineer.

State of North Carolina
Department of Environmental Quality
Division of Water Resources

15A NCAC 02T .1100 – DISTRIBUTION OF CLASS A RESIDUALS
INSTRUCTIONS FOR FORM: DCAR 06-16 & SUPPORTING DOCUMENTATION

Please use the following instructions as a checklist in order to ensure all required items are submitted. Adherence to these instructions and checking the provided boxes will help produce a quicker review time and reduce the amount of additional information requested. Failure to submit all of the required items will lead to additional processing and review time for the permit application. Unless otherwise noted, the Applicant shall submit one original and two copies of the application and supporting documentation

For more information, visit the Water Quality Permitting Section's Non-Discharge Permitting Unit website

General – This application is for treatment, storage, transport, distribution, land application, and/or marketing of **Class A** (or Equivalent) residuals under 15A NCAC 02T .1100.

Unless otherwise noted, the Applicant shall submit one original and two copies of the application and supporting documentation listed below.

A. Distribution of Class A Residuals (FORM: DCAR 06-16):

☒ Submit the completed and appropriately executed Distribution of Class A Residuals (FORM: DCAR 06-16) form. Please do not make any unauthorized content changes to this form. If necessary for clarity or due to space restrictions, attachments to the application may be made, as long as the attachments are numbered to correspond to the section and item to which they refer.

☒ The project name should be consistent on the plans, specifications, etc.

☒ The Applicant's Certification on Page 3 of this form shall be signed in accordance with 15A NCAC 02T .0106(b). An alternate person may be designated as the signing official if a delegation letter is provided from a person who meets the criteria in 15A NCAC 02T .0106(b).

☐ If this project is for a modification of an existing permit, submit one copy of the existing permit.

☐ Please submit this application form at least 180 days prior to the expiration date on the existing permit, or 90 days prior to operation of proposed facility(ies) for application packages involving new or changes to treatment and storage units.

B. Application Fee (New and Major Modification Application Packages) **(ENCLOSED)**

☒ Submit a check, money order or electronic funds transfer made payable to: North Carolina Department of Environmental Quality (NCDEQ).

Facility Classification	New Permit	Major Modification [1]
Major (residuals permitted for distribution ≥ 3,000 dry tons/year)	$1,310	$395
Minor (residuals permitted for distribution < 3,000 dry tons/year)	$810	$245

[1] - A major modification shall be defined as any permit modification that: increases the generating facility's residuals dry tonnage; adds additional residuals sources; or includes the addition of new treatment or storage units/processes not previously permitted. There is no fee for minor permit modifications.

C. Cover Letter (All Application Packages) **(ATTACHED)**

☒ List all items included in the application package, as well as a brief description of the requested permitting action.

D. Program Information (All Application Packages) **(N/A)**

☐ Provide a narrative explaining the following:

- ☐ How the materials will be handled and transported from where the residuals were produced to where it will be treated.
- ☐ How the residuals will be processed/treated (attach process flow diagram).
- ☐ How leachate collection will be handled.
- ☐ Where the residuals will be stored until processed.
- ☐ How the final product will be distributed (packaging, bulk, etc.)
- ☐ What nutrients or other constituents (i.e. nitrogen, phosphorous, aluminum, calcium, etc.) are used or recommended as the limiting parameter for determination of residuals loading rate to ensure that it does not overload the soil and cause contravention of surface water or groundwater standards, limit crop growth, or adversely impact soil quality.

☐ Attach a marketability statement detailing destinations and approximate amounts of the final product to be distributed.

☐ Provide either a label that shall be affixed to the bagged processed residual or an information sheet that shall be provided to the person who receives the processed residual. The label or information sheet shall contain, at a minimum, the following information:

- ☐ Name and address of the person who prepared the residual that is sold or given away.
- ☐ A statement that application of the residuals to the land shall be in accordance with the instructions on the label or information sheet.
- ☐ A statement that the residuals shall not be applied to any site that is flooded, frozen or snow-covered.
- ☐ A statement that adequate procedures shall be provided to prevent surface runoff from carrying any disposed or stored residuals into any surface waters.
- ☐ Information on all applicable setbacks in accordance with 15A NCAC 02T .1108(b).
- ☐ A statement that the residuals shall be applied at agronomic or recommended rates for intended uses.

E. Detailed Plans and Specifications (Application Involving New or Changes to Treatment or Storage Units) **(ATTACHED)**

☒ Submit detailed plans and specifications that have been signed, sealed, and dated by a NC Professional Engineer per 15A NCAC 02T .1104(a). Specifications for standard equipment may only be omitted for municipalities with approved standard specifications, but use of the standard specifications must be noted on each sheet of the plans.

☒ Plans must include the following minimum items: a general location map, a topographic map, plan and profile view of the residuals treatment and storage units as well as the proximity of the residuals treatment and storage units to other utilitie s and natural features within 500 feet of all treatment and storage facilities, and detail drawings of all items pertinent to the residuals treatment and storage units. Depict minimum separations required in 15A NCAC 02T .1108(a) on the plans.

☒ Specifications must include, at a minimum, the following for all items pertinent to residuals treatment and storage units: description of materials to be used, methods of construction, quality of construction testing procedures to ensure the integrity of the final product in accordance with 15A NCAC 02T .1104(a)(2)(B), including leakage and pressure testing as appropriate.

☒ Plans and specifications must not be labeled with preliminary phrases (e.g., FOR REVIEW ONLY, NOT FOR CONSTRUCTION, etc.) that indicate that they are anything other than final plans and specifications. However, the plans and specifications may be labeled with the phrase: FINAL DESIGN – NOT RELEASED FOR CONSTRUCTION.

F. Engineering Calculations (Application Involving New or Changes to Treatment or Storage Units) **(ATTACHED)**

☒ Submit all design calculations that have been signed, sealed, and dated by a NC Professional Engineer per 15A NCAC 02T .1104(a).

G. Environmental Assessments (May be Required – See 15A NCAC 1C .0300) **(N/A)**

☐ Submit a copy of the Findings of No Significant Impact (FONSI) or Environmental Impact Statement (EIS). Also, include information on any mitigating factor(s) from the Environmental Assessment (EA) that impact the construction of the residuals treatment and storage facilities. An EA may also be required for private systems if any public funds and/or lands are used for the construction of the subject facilities.

H. Operation and Maintenance Plan (New and Renewal Application Packages) **(N/A)**

- ☐ For Modification Application, if there are any changes to the existing plan, submit an updated O&M plan.
- ☐ Submit the O&M Plan in accordance with 15A NCAC 02T .1110 and include at a minimum:
- ☐ Operational functions; describe the operation of the program to show what operations are necessary for the program to function and by whom the functions are to be conducted.
- ☐ Maintenance schedules; may include equipments calibration, maintenance of signs, etc.
- ☐ Safety measures; may include safety training program, manuals, signs, etc.
- ☐ Spill response plan; including control, containment, remediation, emergency contact information, etc.
- ☐ Inspection plan including the following information;
- ☐ Names and titles of personnel responsible for conducting the inspections.
- ☐ Frequency and location of inspections, including those to be conducted by the ORC, and procedures to assure that the selected location(s) and inspection frequency are representative of the residuals management program.
- ☐ Detailed description of inspection procedures including record keeping and actions to be taken by the inspector in the event that noncompliance is observed.
- ☐ Sampling and monitoring plan including the following information;
- ☐ Names and titles of personnel responsible for conducting the sampling and monitoring.
- ☐ Detailed description of monitoring procedures including parameters to be monitored.
- ☐ Sampling frequency and procedures to assure that representative samples are being collected. Fluctuation in temperature, flow, and other operating conditions can affect the quality of the residuals gathered during a particular sampling event. The sampling plan shall account for any foreseen fluctuations in residuals quality and indicate the most limiting times for residuals to meet pathogen and vector attraction reduction requirements (e.g. facilities that land apply multiple times per year but have an annual sampling frequency, may need to sample during winter months when pathogen reduction is most likely to be negatively affected by cold temperatures.

ONE ORIGINAL AND TWO COPIES OF THE COMPLETED APPLICATION PACKAGE, INCLUDING ALL SUPPORTING INFORMATION AND MATERIALS, SHALL BE SENT TO THE FOLLOWING ADDRESS:

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES
WATER QUALITY PERMITTING SECTION
NON-DISCHARGE PERMITTING UNIT

By U.S. Postal Service:
1617 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1617

By Courier/Special Delivery:
512 N. SALISBURY STREET
RALEIGH, NORTH CAROLINA 27604

TELEPHONE NUMBER: (919) 807-6464

FAX NUMBER: (919) 807-6496

State of North Carolina
Department of Environmental Quality
Division of Water Resources

15A NCAC 02T .1100 – DISTRIBUTION OF CLASS A RESIDUALS
FORM: DCAR 06-16

I. APPLICANT INFORMATION:

1. Applicant's name: N.C. Department of Transportation

   Applicant type: ☐ Individual ☐ Corporation ☐ General Partnership ☐ Privately-Owned Public Utility
   ☐ Federal ☒ State ☐ Municipal ☐ County

   Signature authority's name per 15A NCAC 02T .0106: Lamar Sylvester, P.E. Title: Chief Engineer

   Applicant's mailing address: 1536 Mail Service Center

   City: Raleigh State: N.C. Zip: 27601-1536

   Telephone number: (919) 707-2500 Email Address: lsylvester@ncdot.gov

2. Consultant's name: _____ License Number (for P.E.): _____

   Affiliation: ☐ On Staff ☐ Retained (Firm: _____)

   Consultant's mailing address: _____

   City: _____ State: _____ Zip: _____

   Telephone number: _____ Email Address: _____

3. Fee submitted: 395.00 (**See Instruction B**)

II. PERMIT INFORMATION:

1. Application is for (check all that apply): ☐ new, ☒ modified, ☐ renewed permit

2. If this application is being submitted to renew or modify an existing permit, provide the following:

   Permit number: WQ0035749

   Date of most-recently issued permit: October 2, 2024

   Date of most-recently certified Attachment A (if different than the permit): N/A

III. FACILITY INFORMATION:

1. Name of residuals processing facility: _____

   City: _____ State: _____ Zip: _____

   Coordinates: _____ Latitude: __° __ _ ″ Longitude: __° __ ′ _ ″

   Datum: _____ Level of accuracy: _____

   Method of measurement: _____

   County where facility is located:

2. Facility contact (person familiar with residuals preparation):

   Name: _____ Title: _____

   Mailing address: _____

   City: _____ State: _____ Zip: _____

   Telephone number: _____ E-mail address: _____

3. Is the residual process facility also the generator? ☐ Yes; ☐ No

   If No, please specify delivery frequency and quantity of residual to be processed: _____

4. Length of residuals storage at facility: _____(Note: the Division requires minimum 30 days storage in units that are separate from treatment system, i.e. not in clarifiers, aeration basins, etc.)

IV. RESIDUALS QUALITY INFORMATION:

1. Specify how these residuals will be distributed:

   ☐ sold or given away in bags or other containers; ☐ lawn (bulk); ☐ home garden (bulk);

   ☒ other (explain); Bulk land application on NCDOT right of way and private agricultural land

   Note: Bulk residuals shall mean residuals that are transported and not sold or giving away in a bag or other receptacles with a load capacity of one metric ton or less.

2. Complete the following if residuals are to be mixed with other materials:

Type of Materials	Amounts to be added per 1.0 dry ton of residuals (dry ton)
N/A	

3. Approximate amounts of the residuals received and processed at the facility: N/A dry tons per year.

4. Approximate amounts of the final product (processed residuals) to be distributed: N/A dry tons per year.

5. Provide a description of the onsite storage management plan for the treated residuals (including estimated average and maximum storage times prior to distribution): Project by project basis

6. Does the facility have a stormwater management plan? ☐ Yes; ☒ No

   Explain whether the treatment and storage areas are under roof or how stormwater runoff will be handled: N/A

V. RESIDUALS SOURCE INFORMATION: (Required for all new, renewed, or modified residuals source)

Complete and submit the attached *Residuals Source Certification* and all associated documentation. **(N/A)**

Residuals Source Certification **(N/A)**

Professional Engineer's Certification: (Application Involving New or Changes to Treatment or Storage Units)

I,_____, attest that this application for _____

Temporary Storage Unit

has been reviewed by me and is accurate and complete to the best of my knowledge. I further attest that to the best of my knowledge the proposed design has been prepared in accordance with the applicable regulations. Although certain portions of this submittal package may have been developed by other professionals, inclusion of these materials under my signature and seal signifies that I have reviewed this material and have judged it to be consistent with the proposed design.

North Carolina Professional Engineer's Seal, Signature, and Date:

Applicant's Certification:

The applicant or any affiliate has not been convicted of an environmental crime, has not abandoned a wastewater facility without proper closure, does not have an outstanding civil penalty where all appeals have been exhausted or abandoned, are compliant with any active compliance schedule, and do not have any overdue annual fees under Rule 15A NCAC 02T .0105.

☒ Yes ☐ No, Explain; _____

I, Lamar Sylvester, P.E. Chief Engineer

(Signature Authority's Name – PLEASE PRINT) (Title)

attest that this application for Modification of Distribution of Class A Residuals Statewide (NCDOT DGS and HOS DCAR)

(Facility Name)

has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that the Division of Water Resources may not conduct a technical review of this program and approval does not constitute a variance to any rules or statutes unless specifically granted in the permit. Further, any discharge of residuals to surface waters or the land will result in an immediate enforcement action, which may include civil penalties, injunctive relief, and/or criminal prosecution. I will make no claim against the Division of Water Resources should a condition of this permit be violated. I also understand that if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned to me as incomplete.

Note: In accordance with North Carolina General Statutes §143-215.6A and §143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application shall be guilty of a Class 2 misdemeanor, which may include a fine not to exceed $10,000 as well as civil penalties up to $25,000 per violation.

Signature: _____ Date: _____

peration

Attachment F

NCDEQ Project Completion Report

NCDEQ Project Completion Report

Description of Work:

Per Contract Special Provisions, the Contractor is responsible for compiling information and preparing an report to be submitted to the North Carolina Department of Environmental Quality (NCDEQ). The Contractor shall provide documentation for reporting in the template provided within this attachment within 30 calendar days of the completion of the work or by the end of the calendar year whichever comes first. If the work is not completed within one year, more than one report will be required. The Contractor shall submit all completed records to the Engineer prior to final payment.

Reporting is required as part of this contract and failure to prepare and submit this report can result in a violation of the NCDOT Permit #WQ0035749.

Complete the Project Completion Report and forward the original copy to:

NCDEQ-DWR
Information Processing Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Attention: Information Processing Unit

Also provide copies of the report to:

1. The Resident Engineer or other designated person

2. Roadside Environmental Unit
   State Roadside Environmental Engineer
   1557 Mail Service Center
   Raleigh, NC 27601

Use the following template for completing the Project Completion Report:

Page 1

Prepare a Project Completion Report cover sheet with the following information:

<Insert Year Work Accomplished> Project Completion Report
<Insert Date of Report>
Land Application Program
NC Department of Transportation
Permit #WQ0035749

Prepared For:

NC Department of Transportation
1536 Mail Service Center
Raleigh, North Carolina 27601-1536

<Insert Name of Firm>
<Insert Address>

Compiled By:
<Insert Name>

Project No. *<Insert Project #>*
<Insert Project Description>

Page 2
Prepare a cover letter with the following information using your Company letterhead:

<Insert Date>

NCDEQ-DWR
Information Processing Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Attention: Information Processing Unit

Reference Land Application Project Completion Report for Project <insert project #>
NC Department of Transportation
Permit No. WQ0035749

Non-Discharge Compliance Unit:

<Insert Name of Firm> is submitting the monitoring and reporting data for the Subject Project for <*insert year for which the DGS/HOS was land applied*>. Per the North Carolina Department of Transportation (NCDOT) Permit No. WQ0035749, this report is to be submitted at project completion for work accomplished by our firm on this project report using data gathered by our staff and/or contractors during the compliance year for <*insert Diamond Grinding Slurry or Hydrodemolition Operation Slurry*>.

If additional information is required or if there are questions concerning this project completion report, please contact my office for assistance at :<*provide phone and email contact information*>.

Sincerely,

<Insert Signature>

<Insert Name Typed>
<insert Title>

Enclosures

Page 3 –
Complete the information for the table below:

NC DEPARTMENT OF TRANSPORTATION LAND APPLICATION OF DIAMOND GRINDING AND HYDRODEMOLITION OPERATION SLURRY PERMIT NO. WQ0035749 <*insert year of Land Application*> LAND APPLICATION SUMMARY				
CONTRACTOR	DOT PROJECT NO.	PROJECT LOCATION	TYPE (DGS OR HOS)	YEAR APPLIED
			<INSERT DGS OR HOS>	

Page 4

Use the table of contents shown below:

TABLE OF CONTENTS

SECTION NO.	TITLE
I.	Diamond Grinding Slurry (DGS)
	Hydrodemolition Slurry (HOS)
	Analyses
II.	Diamond Grinding Slurry (DGS)
	Hydrodemolition Operation Slurry (HOS)
	pH and Land Application Logs

NC Soil Scientist -Complete the information for the table below:

SECTION I

DIAMOND GRINDING SLURRY (DGS)

HYDRODEMOLITON SLURRY (HOS)

ANALYSIS

NC DEPARTMENT OF TRANSPORTATION

<insert DGS or HOS> **ANALYSIS**

Permit No. WQ0035749

<insert contractor name and Project description>

Date Sampled: *<insert date>*

<insert % Solids from sampling/tests> **Solids:**

<insert pH of sample> **pH:**

Parameter	**%**	**Mg/Kg Dry Weight (% x 10,000)**	**Pounds/Dry Ton (mg/Kg x 0.002)**
Calcium Carbonate Eq.			

Page 6

Insert page for Section II

SECTION II

DIAMOND GRINDING SLURRY (DGS)

HYDRODEMOLITION OPERATION SLURRY (HOS)

pH AND LAND APPLICATION LOGS

Page 9 thru end of report

Insert page(S) for Section II

1. Attach completed "Hydrodemolition Operation Slurry / Diamond Grinding Slurry Land Application Logs"

2. Attach completed "Hydrodemolition Operation Slurry / Diamond Grinding Slurry pH Logs"

Attachment G

NCDENR – DWM (Currently NCDEQ-DWM) Guidance: Memo for "beneficial fill" or burial of solids: June 6, 2013

From: Scott, Michael
Sent: Thursday, June 06, 2013 11:49 AM
To: Maycock, Robin L
Cc: Mussler, Ed
Subject: RE: Status on email on concrete waste residuals

Robin,

I have attached our response that addresses the different points we discussed on May 23rd. We have addressed the landfill questions while also providing some clarification on reuse options. Give me a call to discuss the specifics. I will be in the office this afternoon and on Friday.

- Concrete grinding residues (CGR) that are not liquid and otherwise not hazardous may be disposed of in a municipal solid waste landfill or utilized as an alternate daily cover (ADC). The definition of a solid, for solid waste disposal purposes, is a material that passes a Paint Filter test.

- CRG's may be eligible for disposal or use as ADC in an unlined sanitary landfill, or construction and demolition debris landfill. The Solid Waste section recommends that the unlined landfill operator obtain project specific data indicating that the material meets the Superfund Inactive hazardous Sites Branch limits for the eight RCRA metals for unrestricted use prior to acceptance at an unlined landfill.

- Dewatered CGR's may be beneficially reused within the DOT project boundary or areas under DOT control at agronomic rates suitable for the establishment of vegetation. Dewatered CGR's may also be used within the roadbed at rates approved by DOT staff for soil modification purposes.

- Analytical testing of CGR's for beneficial reuse is not required by the Solid Waste Section for CGR's that originate from new concrete surfaces. However, a basic North Carolina Department of Agriculture waste analysis is recommended to establish the ag lime equivalency (ALE). CGR's from existing concrete or contaminated concrete should be analyzed. The TCLP procedure should be used for contaminated concrete and a total metals analysis for existing concrete prior to reuse. A total metal analysis should be run for the eight RCRA heavy metals and compared to the Superfund Inactive Hazardous Sites Branch limits for unrestricted use.

- The link to the Superfund Inactive Hazardous Sites branch soil remediation is provided below:

  http://portal.ncdenr.org/c/document_library/get_file?uuid=5539ecfb-739f-4345-9459-b514508135f1&groupId=38361

- Bulk disposal of CGR's or roadside application of the slurry is not addressed by this response.

Michael

Michael E. Scott, Chief
Solid Waste Section
NC DENR-Division of Waste Management
1646 Mail Service Center Raleigh, NC 27699-1646
919-707-8246 (Phone / Fax)
michael.scott@ncdenr.gov
http://portal.ncdenr.org/web/wm/sw

The physical address at Green Square is:
NCDENR
Division of Waste Management
217 W. Jones St.
Raleigh, NC 27603

Attachment H

NCDENR - DWM (Currently NCDEQ-NCDWM) Guidance: Memo for clean millings reuse: March 15, 2012

From: "Hare, Wes" <wes.hare@ncdenr.gov>

Date: Thu, 15 Mar 2012 12:58:30 +0000

To: jimmy@jwhollandengineering.com<jimmy@jwhollandengineering.com>

Cc: Shackelford, Dennis<dennis.shackelford@ncdenr.gov>

Subject: Concrete millings use for drive/pathways

Mr. Holland,

It was nice speaking with you this morning. There is no problem with the use of clean concrete millings being placed for driveways and pathways. If you need any further assistance with this or any other matters, please let me know.

Wes Hare

Environmental Senior Specialist

Department Of Environment & Natural Resources

Division of Waste Management / Solid Waste Section

Wilmington Regional Office

127 Cardinal Drive Ext.

Wilmington, North Carolina 28405

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Office: 910.796.7405 Fax: 910.350.2004

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http://portal.ncdenr.org/web/wm/sw