**North Carolina Department of Environmental Quality - Division of Water Resources (DWR)
Non-Discharge Groundwater Remediation Permit Application Form**

THIS APPLICATION PACKAGE WILL NOT BE ACCEPTED UNLESS ALL APPLICABLE ITEMS ARE INCLUDED

***APPLICATION INFORMATION***

|  |  |
| --- | --- |
| Application Date: | Click here to enter a date. |
| Application Type: | Modification |
| \*New Projects – DWR to assign Application/Permit No. |  |
| \*\*Renewals/Modifications/Permit Rescission Request – Enter Permit No. | Click here to enter text. |
| Fee Submitted: (*refer to fee schedule at* <https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/ground-water-protection/non-discharge-groundwater-remediation>  | Choose an item. |

\***For New Projects**: Complete this page, signature page, and supply all attachments.

\*\***For Renewals/Permit Rescission Request**: Complete this page and signature page.
\*\***For Modifications**: Complete this page, signature page, and supply relevant attachments.

|  |  |
| --- | --- |
| Applicant's Name (*specify the name of the municipality, corporation, individual, etc.*): | Click here to enter text. |
| Owner or Signing Official’s Name and Title (*person legally responsible for the facility and its compliance*): | Click here to enter text. |
| Mailing Address: | Click here to enter text. |
| Telephone Number: | Click here to enter text. |
| Email Address: | Click here to enter text. |
| Facility Name (*name of the project site; be consistent throughout application package*): | Click here to enter text. |
| Physical Address: | Click here to enter text. |
| County: | Click here to enter text. |
| Geographic Coordinates: | Click here to enter text. |
| Contact Person (*who can answer questions about application*): | Click here to enter text. |
| Telephone Number: | Click here to enter text. |
| Email Address: | Click here to enter text. |
| I request this permit be rescinded (Yes or No) | Click here to enter text. |

***ATTACHMENTS***

The following shall be included as separate attachments to this application form. Failure to include the following information as part of the application package will result in the application package being returned as incomplete.

**A. Site Description and Incident Information**. As specified in [15A NCAC 02T .1604(a)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), the applicant must briefly describe the site, noting pertinent site information including:

(1) Contaminant(s) of concern,

(2) Source(s) and date(s) of the contaminant release,

(3) Remedial actions to date,

(4) Current land use,

(5) Potential receptors, and

(6) Incident number and name of oversight agency.

**B. Soils Evaluation**. As specified in [15A NCAC 02T .1604(b)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), for systems with proposed discharge within seven feet of land surface and above the seasonal high water table, a soil evaluation of the disposal site shall be provided to the Division by the applicant. If required by G.S. 89F, a soil scientist shall submit this evaluation. This evaluation shall be presented in a report that includes the following components:

(1) Field description of soil profile. Based on examinations of excavation pits or auger borings, the following parameters shall be described by individual diagnostic horizons to a depth of seven feet below land surface or to bedrock:

(A) Thickness of the horizon;

(B) Texture;

(C) Color and other diagnostic features;

(D) Structure;

(E) Internal drainage;

(F) Depth, thickness, and type of restrictive horizon(s);

(G) pH;

(H) Cation exchange capacity; and

(I) Presence or absence and depth of evidence of any seasonal high water table.

 (2) Recommendations concerning annual and instantaneous loading rates of liquids, solids, other wastewater constituents and amendments. Annual hydraulic loading rates shall be based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon.

**C. Hydrogeologic Evaluation**. As specified in [15A NCAC 02T .1604(c)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), a hydrogeologic evaluation of the disposal site shall be provided to the Division by the applicant. This evaluation shall be conducted to a depth that includes the depth of existing contamination and the total depth of the injection well(s) or infiltration gallery(ies). This evaluation shall be based on borings for which the numbers, locations, and depths are sufficient to define the components of the hydrogeologic evaluation. In addition to borings, other techniques may be used to investigate the subsurface conditions at the site. These techniques may include geophysical well logs, surface geophysical surveys, and tracer studies. This evaluation shall be presented in a report that includes the following components:

(1) A description of the regional and local geology and hydrogeology;

(2) A description, based on field observations of the site, of the site topographic setting, streams, springs and other groundwater discharge features, drainage features, existing and abandoned wells, rock outcrops, and other features that may affect the movement of the contaminant plume and treated wastewater;

(3) Changes in lithology underlying the site;

(4) Depth to bedrock and occurrence of any rock outcrops;

(5) The hydraulic conductivity, transmissivity, and storativity (specific yield if unconfined aquifer) of the affected aquifer(s);

(6) Depth to the seasonal high water table;

(7) A discussion of the relationship between the affected aquifers of the site to local and regional geologic and hydrogeologic features; and

(8) A discussion of the groundwater flow regime of the site focusing on the relationship of the plume and remediation system to groundwater receptors, groundwater discharge features, and groundwater flow media.

**D. Demonstration of Hydraulic Control**. As specified in [15A NCAC 02T .1604(d)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), computer modeling or predictive calculations based on site-specific conditions shall be provided to the Division by the applicant to demonstrate that operation of the system will not cause or contribute to:

(1) The migration of contaminants into previously uncontaminated areas, and

(2) A violation of the groundwater standards specified in [15A NCAC 02L .0202](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20l/15a%20ncac%2002l%20.0202.html) at the compliance boundary as described in [15A NCAC 02L .0107](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20l/15a%20ncac%2002l%20.0107.html).

**E. Maps and Cross-Sections**. As specified in [15A NCAC 02T .1604(e)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of facility components including:

(1) A scaled map of the site, with site-specific topographic contour intervals and showing all facility-related structures and fences within the treatment, storage and disposal areas;

(2) Locations of all test auger borings or inspection pits;

(3) The location of all wells (including usage and construction details if available), designated wellhead protection areas, streams (ephemeral, intermittent, and perennial), springs, lakes, ponds, other surface drainage features, and any other site activities or features that may involve possible exposure to contamination within 500 feet of all waste treatment, storage, and disposal sites;

(4) Setbacks specified in [15A NCAC 02T .1606](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1606.html);

(5) Delineation of property boundaries, review boundaries, and compliance boundaries;

(6) The horizontal and vertical extent of the contaminant plume for each of the contaminants of concern, including isoconcentration lines and plume cross-sections;

(7) Cross-sections depicting soil and rock layers and features to a depth including the depth of existing contamination and the total depth of the injection wells or infiltration galleries; and

(8) Hydrologic features such as potentiometric surface / water table contours and the direction of groundwater flow.

**F. Engineering Design Documents**. As specified in [15A NCAC 02T .1604(f)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), the following documents shall be provided to the Division by the applicant:

(1) Engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless they are directly tied into the new units or are critical to the understanding of the complete process;

(2) Specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product; and

(3) Plans that include construction details of recovery, injection, and monitoring wells and infiltration galleries.
NOTE: Recovery and monitoring wells shall be constructed in accordance with the requirements of 1[5A NCAC 02C .0108](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0108.html). Injection wells shall be constructed in accordance with the requirements of [15A NCAC 02C .0225(g)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.html).

**G. Operating and Monitoring Plans**. As specified in [15A NCAC 02T .1604(g)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1604.html), an operation and monitoring plan shall be provided to the Division by the applicant. These documents shall be specific to the site and include:

(1) The operating plan shall include:

(A) The operating schedule including any periodic shut-down times,

(B) Required maintenance activities for all structural and mechanical elements,

(C) All consumable and waste materials with their intended source and disposal locations,

(D) Restrictions on access to the site and equipment, and

(E) Provisions to ensure the quality of the treated effluent and hydraulic control of the system at all times when any portion of the system ceases to function.

(2) If injection wells are to be used then the operating plan shall also include:

(A) The proposed average and maximum daily rate and quantity of injectant;

(B) The average maximum injection pressure expressed in units of pounds per square inch (psi); and

(C) The total or estimated total volume to be injected.

(3) The monitoring plan shall be prepared in accordance with [15A NCAC 02T .1607](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.1607.html) and include:

(A) The monitoring well(s) that will be sampled,

(B) The constituent(s) for which those samples will be analyzed, and

(C) The schedule for sampling.

**H. *In Situ* Remediation Additives**. The following shall be provided to the Division by the applicant if the remediation system includes additives to promote remediation *in situ*:

*NOTE: Approved injectants can be found online* [*http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/ground-water-protection/ground-water-approved-injectants*](http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/ground-water-protection/ground-water-approved-injectants) *. All other substances must be reviewed by the Division of Public Health, Department of Health and Human Services as required by* [*15A NCAC 02C .0225(a)*](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.html)*. Contact the UIC Program for more information (Ph# 919-807-6464).*

(1) MSDS, concentration at the point of injection, and percentage if present in a mixture with other injectants;

(2) A description of the rationale for selecting the injectants and concentrations proposed for injection, including an explanation or calculations of how the proposed injectant volumes and concentrations were determined;

(3) A description of the reactions between the injectants and the contaminants present including specific breakdown products or intermediate compounds that may be formed by the injection;

(4) A summary of results if modeling or testing was performed to investigate the injectant’s potential or susceptibility for biological, chemical, or physical change in the subsurface; and

(5) An evaluation concerning the development of byproducts of the injection process, including increases in the concentrations of naturally occurring substances. Such an evaluation shall include the identification of the specific byproducts of the injection process, projected concentrations of byproducts, and areas of migration as determined through modeling or other predictive calculations.

**Professional Engineer's Certification:**

Name & Lic. No. of Professional Engineer:

Name of Engineering Firm: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mailing Address:

City: State: Zip: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone Number: (\_\_\_\_\_\_\_) Fax Number: (\_\_\_\_\_\_\_)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email Address:

I,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , attest that this application for

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 (signing authority must be in compliance with** [**15A NCAC 2T .0106(b) and (c))**](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.0106.html)**:**

I,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, attest that this application for

has been reviewed by me and is accurate and complete to the best of my knowledge. I 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.

Signature and Title: Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SEND TWO COPIES OF THE COMPLETE APPLICATION PACKAGE, INCLUDING ALL SUPPORTING INFORMATION AND MATERIALS, TO THE FOLLOWING ADDRESS:

**DIVISION OF WATER RESOURCES – UIC PROGRAM
1636 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1636**

**TELEPHONE NUMBER: (919) 807-6496**