



ALTERATION OF TERRAIN PERMIT APPLICATION



Water Division/ Alteration of Terrain Bureau/ Land Resources Management
Check the Status of your Application: www.des.nh.gov/onestop

RSA/ Rule: RSA 485-A:17, Env-Wq 1500

Administrative Use Only	Administrative Use Only	Administrative Use Only	File Number:
			Check No.
			Amount:
			Initials:

1. APPLICANT INFORMATION (INTENDED PERMIT HOLDER)

Applicant Name:	Contact Name:	
Email:	Daytime Telephone:	
Mailing Address:		
Town/City:	State:	Zip Code:

2. APPLICANT'S AGENT INFORMATION If none, check here:

Business Name:	Contact Name:	
Email:	Daytime Telephone:	
Address:		
Town/City:	State:	Zip Code:

3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT)

Applicant Name:	Contact Name:	
Email:	Daytime Telephone:	
Mailing Address:		
Town/City:	State:	Zip Code:

4. PROPERTY OWNER'S AGENT INFORMATION If none, check here:

Business Name:	Contact Name:	
Email:	Daytime Telephone:	
Address:		
Town/City:	State:	Zip Code:

5. CONSULTANT INFORMATION If none, check here:

Engineering Firm:	Contact Name:	
Email:	Daytime Telephone:	
Address:		
Town/City:	State:	Zip Code:

6. PROJECT TYPE

Excavation Only
 Residential
 Commercial
 Golf Course
 School
 Municipal
 Agricultural
 Land Conversion
 Other:

7. PROJECT LOCATION INFORMATION

Project Name:

Street/Road Address:

Town/City: _____ County: _____

Tax Map: _____ Block: _____ Lot Number: _____ Unit: _____

Location Coordinates: Latitude/Longitude UTM State Plane

Post-development, will the proposed project withdraw from or directly discharge to any of the following? If yes, identify the purpose.

1. Stream or Wetland Purpose:	<input type="checkbox"/> Yes	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
	<input type="checkbox"/> No		
2. Man-made pond created by impounding a stream or wetland Purpose:	<input type="checkbox"/> Yes	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
	<input type="checkbox"/> No		
3. Unlined pond dug into the water table Purpose:	<input type="checkbox"/> Yes	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
	<input type="checkbox"/> No		

Post-development, will the proposed project discharge to:

- A surface water impaired for phosphorus and/or nitrogen? No **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A Class A surface water or Outstanding Resource Water? No **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A lake or pond not covered previously? No **Yes - include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond**

Is the project a High Load area? Yes No
 If yes, specify the type of high load land use or activity: _____

Is the project within a Water Supply Intake Protection Area (WSIPA)? Yes No
 Is the project within a Groundwater Protection Area (GPA)? Yes No
 Will the well setbacks identified in Env-Wq 1508.02 be met? Yes No

Note: Guidance document titled "[Using NHDES's OneStop WebGIS to Locate Protection Areas](#)" is available online. For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.

Is any part of the property within the 100-year floodplain? Yes No
 If yes: Cut volume: _____ cubic feet within the 100-year floodplain
 Fill volume: _____ cubic feet within the 100-year floodplain

Project **IS** within ¼ mile of a designated river Name of River: _____
 Project is **NOT** within ¼ mile of a designated river

Project **IS** within a Coastal/Great Bay Region community - include info required by Env-Wq 1503.08(I) if applicable
 Project is **NOT** within a Coastal/Great Bay Region community

8. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")

9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT

11. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN ORDER LISTED)**LOOSE:**

- Signed application form: des.nh.gov/organization/divisions/water/aot/index.htm (with attached proof(s) of delivery)
- Check for the application fee: des.nh.gov/organization/divisions/water/aot/fees.htm
- Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale)
- If Applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.

BIND IN A REPORT IN THE FOLLOWING ORDER:

- Copy of the signed application form & application checklist (des.nh.gov/organization/divisions/water/aot/index.htm)
- Copy of the check
- Copy of the USGS map with the property boundaries outlined (1" = 2,000' scale)
- Narrative of the project with a summary table of the peak discharge rate for the off-site discharge points
- Web GIS printout with the "Surface Water Impairments" layer turned on - <http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx>
- Web GIS printouts with the AOT screening layers turned on - <http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx>
- NHB letter using DataCheck Tool – www.nhdfi.org/about-forests-and-lands/bureaus/natural-heritage-bureau/
- The Web Soil Survey Map with project's watershed outlined – websoilsurvey.nrcs.usda.gov
- Aerial photograph (1" = 2,000' scale with the site boundaries outlined)
- Photographs representative of the site
- Groundwater Recharge Volume calculations (one worksheet for each permit application): des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- BMP worksheets (one worksheet for each treatment system): des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- Drainage analysis, stamped by a professional engineer (see Application Checklist for details)
- Riprap apron or other energy dissipation or stability calculations
- Site Specific Soil Survey report, stamped and with a certification note prepared by the soil scientist that the survey was done in accordance with the Site Specific Soil Mapping standards, *Site-Specific Soil Mapping Standards for NH & VT, SSSNNE Special Publication No. 3*.
- Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)]
- Registration and Notification Form for Storm Water Infiltration to Groundwater (UIC Registration-for underground systems only, including drywells and trenches): http://des.nh.gov/organization/divisions/water/dwgb/dwssp/gw_discharge
- Inspection and maintenance manual with, if applicable, long term maintenance agreements [Env-Wq 1503.08(g)]
- Source control plan

PLANS:

- One set of design plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)
- Pre & post-development color coded soil plans on 11" x 17" (see Application Checklist for details)
- Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)

100-YEAR FLOODPLAIN REPORT:

- All information required in Env-Wq 1503.09, submitted as a separate report.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- See Checklist for Details

- REVIEW APPLICATION FOR COMPLETENESS & CONFIRM INFORMATION LISTED ON THE APPLICATION IS INCLUDED WITH SUBMITTAL.**

12. REQUIRED SIGNATURES

_____ By initialing here, I acknowledge that I am required by Env-Wq 1503.20(e) to submit a copy of all approved documents to the department in PDF format on a CD within one week after permit approval.

By signing below, I certify that:

- The information contained in or otherwise submitted with this application is true, complete, and not misleading to the best of my knowledge and belief;
- I understand that the submission of false, incomplete, or misleading information constitutes grounds for the department to deny the application, revoke any permit that is granted based on the information, and/or refer the matter to the board of professional engineers established by RSA 310-A:3 if I am a professional engineer; and
- I understand that I am subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

APPLICANT

APPLICANT'S AGENT:

Signature: _____

Date: _____

Name (print or type): _____

Title: _____

PROPERTY OWNER

PROPERTY OWNER'S AGENT:

Signature: _____

Date: _____

Name (print or type): _____

Title: _____

ATTACHMENT A: ALTERATION OF TERRAIN PERMIT APPLICATION CHECKLIST

Check the box to indicate the item has been provided or provide an explanation why the item does not apply.

DESIGN PLANS

- Plans printed on 34 - 36" by 22 - 24" white paper
- PE stamp
- Wetland delineation
- Temporary erosion control measures
- Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and non-residential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the NH Stormwater Management Manual.
- Pre-existing 2-foot contours
- Proposed 2-foot contours
- Drainage easements protecting the drainage/treatment structures
- Compliance with the Wetlands Bureau, RSA 482- A <http://des.nh.gov/organization/divisions/water/wetlands/index.htm>. Note that artificial detention in wetlands is not allowed.
- Compliance with the Comprehensive Shoreland Protection Act, RSA 483-B. <http://des.nh.gov/organization/divisions/water/wetlands/cspa>
- Benches. Benching is needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.
- Check to see if any proposed ponds need state Dam permits. <http://des.nh.gov/organization/divisions/water/dam/documents/damdef.pdf>

DETAILS

- Typical roadway x-section
- Detention basin with inverts noted on the outlet structure
- Stone berm level spreader
- Outlet protection – riprap aprons
- A general installation detail for an erosion control blanket
- Silt fences or mulch berm
- Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.
- Hay bale barriers
- Stone check dams
- Gravel construction exit
- Temporary sediment trap
- The treatment BMP's proposed
- Any innovative BMP's proposed

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CONSTRUCTION SEQUENCE/EROSION CONTROL

- Note that the project is to be managed in a manner that meets the requirements and intent of RSA 430:53 and Chapter Agr 3800 relative to invasive species.
- Note that perimeter controls shall be installed prior to earth moving operations.
- Note that temporary water diversion (swales, basins, etc) must be used as necessary until areas are stabilized.
- Note that ponds and swales shall be installed early on in the construction sequence (before rough grading the site).
- Note that all ditches and swales shall be stabilized prior to directing runoff to them.
- Note that all roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
- Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade
- Note that all erosion controls shall be inspected weekly AND after every half-inch of rainfall.
- Note the limits on the open area allowed, see Env-Wq 1505.02 for detailed information.

Example note: The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.

- Note the definition of the word "stable"

Example note: An area shall be considered stable if one of the following has occurred:

- Base course gravels have been installed in areas to be paved.
- A minimum of 85 percent vegetated growth has been established.
- A minimum of 3 inches of non-erosive material such stone or riprap has been installed.
- Or, erosion control blankets have been properly installed.

- Note the limit of time an area may be exposed

Example note: All areas shall be stabilized within 45 days of initial disturbance.

- Provide temporary and permanent seeding specifications. (Reed canary grass is listed in the Green Book; however, this is a problematic species according to the Wetlands Bureau and therefore should not be specified)
- Provide winter construction notes that meet or exceed our standards.

Standard Winter Notes:

- All proposed vegetated areas that do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.
 - All ditches or swales which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions.
 - After October 15, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.
- Note at the end of the construction sequence that "Lot disturbance, other than that shown on the approved plans, shall not commence until after the roadway has the base course to design elevation and the associated drainage is complete and stable." – This note is applicable to single/duplex family subdivisions, when lot development is not part of the permit.

DRAINAGE ANALYSES

Please double-side 8 ½" x 11" sheets where possible but, **do not** reduce the text such that more than one page fits on one side.

- PE stamp
- Rainfall amount obtained from the Northeast Regional Climate Center- <http://precip.eas.cornell.edu/>. Include extreme precipitation table as obtained from the above referenced website.
- Drainage analyses, in the following order:

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- Pre-development analysis: Drainage diagram.
 - Pre-development analysis: Area Listing and Soil Listing.
 - Pre-development analysis: Node listing 1-year (if applicable), 2-year, 10-year and 50-year.
 - Pre-development analysis: Full summary of the 10-year storm.
 - Post-development analysis: Drainage diagram.
 - Post-development analysis: Area Listing and Soil Listing.
 - Post-development analysis: Node listing for the 2-year, 10-year and 50-year.
 - Post-development analysis: Full summary of the 10-year storm.
- Review the Area Listing and Soil Listing reports
- Hydrologic soil groups (HSG) match the HSGs on the soil maps provided.
 - There is the same or less HSG A soil area after development (check for each HSG).
 - There is the same or less “woods” cover in the post-development.
 - Undeveloped land was assumed to be in “good” condition.
 - The amount of impervious cover in the analyses is correct.

Note: A good check is to subtract the total impervious area used in the pre analysis from the total impervious area used in the post-analysis. For residential projects without demolition occurring, a good check is to take this change in impervious area, subtract out the roadway and divide the remaining by the number of houses/units proposed. Do these numbers make sense?

- Check the storage input used to model the ponds.
- Check to see if the artificial berms pass the 50-year storm, i.e., make sure the constructed berms on ponds are not overtopped.
- Check the outlet structure proposed and make sure it matches that modeled.
- Check to see if the total areas in the pre and post analyses are same.
- Confirm the correct NRCS storm type was modeled (Coos, Carroll & Grafton counties are Type II, all others Type III).

PRE- AND POST-DEVELOPMENT DRAINAGE AREA PLANS

- Plans printed on 34 - 36” by 22 - 24” on white paper.
- Submit these plans separate from the soil plans.
- A north arrow.
- A scale.
- Labeled subcatchments, reaches and ponds.
- Tc lines.
- A clear delineation of the subcatchment boundaries.
- Roadway station numbers.
- Culverts and other conveyance structures.

PRE AND POST-DEVELOPMENT COLOR-CODED SOIL PLANS

- 11” x 17” sheets suitable, as long as it is readable.
- Submit these plans separate from the drainage area plans.
- A north arrow.
- A scale.
- Name of the soil scientist who performed the survey and date the soil survey took place.

- 2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.
- Delineation of the soil boundaries and wetland boundaries.
- Delineation of the subcatchment boundaries.
- Soil series symbols (e.g., 26).
- A key or legend which identifies each soil series symbol and its associated soil series name (e.g., 26 = Windsor).
- The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, & Impervious = gray).

Please note that excavation projects (e.g., gravel pits) have similar requirements to that above, however the following are common exceptions/additions:

- Drainage report is not needed if site does not have off-site flow.
- 5 foot contours allowed rather than 2 foot.
- No PE stamp needed on the plans.
- Add a note to the plans that the applicant must submit to the Department of Environmental Services a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.
- Add reclamation notes.

See NRCS publication titled: *Vegetating New Hampshire Sand and Gravel Pits* for a good resource, it is posted online at: <http://des.nh.gov/organization/divisions/water/aot/categories/publications>.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- If project will discharge stormwater to a surface water impaired for phosphorus and/or nitrogen, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.
- If project will discharge stormwater to a Class A surface water or Outstanding Resource Water, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.
- If project will discharge stormwater to a lake or pond not covered previously, include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond.
- If project is within a Coastal/Great Bay Region community, include info required by Env-Wq 1503.08(I) if applicable.