



# 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](http://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:

<b>1. PROJECT LOCATION</b>				
PROJECT NAME:				
ADDRESS:				
TOWN/CITY:		COUNTY:		STATE:
TAX MAP:		BLOCK:	LOT NUMBER:	UNIT:
LOCATION COORDINATES:			<input type="checkbox"/> LATITUDE/LONGITUDE <input type="checkbox"/> UTM <input type="checkbox"/> STATE PLANE	
<b>2. APPLICANT INFORMATION (DESIRED PERMIT HOLDER)</b>				
APPLICANT NAME:			CONTACT NAME:	
EMAIL:		FAX:	PHONE:	
ADDRESS:				
TOWN/CITY:			STATE:	ZIPCODE:
<b>3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT)</b>				
PROPERTY OWNER:			CONTACT NAME:	
EMAIL:		FAX:	PHONE:	
ADDRESS:				
TOWN/CITY:			STATE:	ZIPCODE:
<b>4. AGENT INFORMATION</b>				
ENGINEERING FIRM:			CONTACT NAME:	
EMAIL:		FAX:	PHONE:	
ADDRESS:				
TOWN/CITY:			STATE:	ZIPCODE:
<b>5. PROJECT TYPE</b>				
<input type="checkbox"/> EXCAVATION	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> SCHOOL	<input type="checkbox"/> AGRICULTURAL	<input type="checkbox"/> LANDFILL
<input type="checkbox"/> RESIDENTIAL	<input type="checkbox"/> GOLF COURSE	<input type="checkbox"/> MUNICIPAL	<input type="checkbox"/> LAND CONVERSION	<input type="checkbox"/> OTHER

<b>6. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")</b>	
<b>7. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT</b>	
<b>8. REQUIRED QUESTIONS (PLEASE DO NOT LEAVE FIELDS BLANK. IF NOT APPLICABLE, STATE "N/A")</b>	
A. Date a copy of the <i>complete</i> application was sent to the municipality <sup>1</sup> : ___ / ___ / _____. <b>(Attach proof of delivery)</b>	
B. Total area of disturbance: _____ square feet	
C. Additional impervious cover as a result of the project: _____ square feet (use the "-" symbol to indicate a net reduction in impervious coverage). Total impervious cover: _____ square feet.	
D. Total undisturbed cover: _____ square feet	
E. Number of lots proposed: _____	
F. Total length of roadway: _____ linear feet	
G. Select plan type submitted: <input type="checkbox"/> Land Conversion <input type="checkbox"/> Detailed Development <input type="checkbox"/> Excavation, Grading & Reclamation <input type="checkbox"/> Steep Slope	
H. Name of receiving waters: _____	
Using NHDES's Web GIS OneStop program ( <a href="http://www2.des.state.nh.us/gis/onestop/">www2.des.state.nh.us/gis/onestop/</a> ), with the Surface Water Impairment layer turned on, list the impairments identified: _____ (enter "NA" if no pollutants are listed). For more guidance see: <a href="http://des.nh.gov/organization/divisions/water/wmb/tmdl/documents/onestop_gis_wgc_ref_guide.pdf">http://des.nh.gov/organization/divisions/water/wmb/tmdl/documents/onestop_gis_wgc_ref_guide.pdf</a>	
I. <input type="checkbox"/> This project is within ¼ mi of a <u>designated river</u> ( <b>River name:</b> _____) AND I have notified the <u>Local River Management Advisory Committee</u> by providing them with a copy of the complete application <sup>1</sup> , including all supporting materials, on <b>Month:</b> __ <b>Day:</b> __ <b>Year:</b> ____ <b>(Attach proof of delivery)</b> <input type="checkbox"/> This project is <b>not</b> within ¼ mi of a designated river.	
J. Name of species identified by the Natural Heritage Bureau as threatened or endangered or of concern: _____	
K. Cut volume _____ cubic feet and fill volume _____ cubic feet within the 100-year floodplain (enter "NA" if not within the floodplain)	
L. Is the project within a Water Supply Intake Protection Area (WSIPA)? YES <input type="checkbox"/> NO <input type="checkbox"/> Is the project within a Groundwater Protection Area (GPA)? YES <input type="checkbox"/> NO <input type="checkbox"/> Are the well setbacks outlined in Env-Wq 1508.02 being met? YES <input type="checkbox"/> NO <input type="checkbox"/> Note: Guidance document titled " <a href="#">Using NHDES's OneStop WebGIS to Locate Protection Areas</a> " is available online. For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.	

<sup>1</sup> In accordance with Env-Wq 1503.05 (c)(4), *provide proof* that a completed application form, checklist, plans and all other supporting materials have been sent or delivered to the governing body of each municipality in which the project is proposed. Env-Wq 1503.05 (c)(4) also requires the applicant to provide proof that a completed application form, checklist, plans and all other supporting materials have been sent or delivered to the Local River Advisory Committee, if the project is within 1/4 mi of a designated river.

[Ridge.Mauck@des.nh.gov](mailto:Ridge.Mauck@des.nh.gov) or (603) 271-2147

NHDES Alteration of Terrain Bureau, PO Box 95, Concord, NH 03303-0095

[www.des.nh.gov](http://www.des.nh.gov)

**8. REQUIRED QUESTIONS CONTINUED**

M. Is the project a High Load area in accordance with Env-Wq 1502.26? YES  NO

If yes, specify type of high load land use or activity? \_\_\_\_\_

N. For each type of approval or permit, check "Yes" if the permit or approval type is required for your project and indicate the permit number / approval date. Indicate "Pending" if the application has been filed, but the permit has not yet been issued. Check "No" to indicate that the permit type is required, but not yet been filed with the Department. Check "N/A" if the permit or approval type is not required for your project. To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Web Page](#).

1. Water Supply Approval	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Permit number:	Pending <input type="checkbox"/>
2. Wetlands Permit	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Permit number:	Pending <input type="checkbox"/>
3. Shoreland Permit	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Permit number:	Pending <input type="checkbox"/>
4. Individual Sewerage Disposal	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Permit number:	Pending <input type="checkbox"/>
5. UIC Registration	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Registration date:	Pending <input type="checkbox"/>
6. Large/Small Community Well Approval	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Approval letter date:	Pending <input type="checkbox"/>
7. Large Groundwater Withdrawal Permit	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Permit number:	Pending <input type="checkbox"/>

**9. ADDITIONAL INFORMATION**

A. If you have had a pre-application meeting with AoT staff, state his or her name(s): \_\_\_\_\_  
 Attach a copy of the meeting minutes.

B. Will blasting of bedrock be required? YES  NO  If yes, estimated quantity of blast rock: \_\_\_\_\_ cubic yards.  
 If yes, standard blasting BMP notes must be placed on the plans, available at:  
<http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-10-12.pdf>

If greater than 5,000 cubic yards of blast rock will be generated and there are drinking water supply wells (public or private) within 2,000 feet of blasting activities, a groundwater monitoring program must be developed and submitted to NHDES. Contact the AoT Bureau for additional detail.

C. Indicate if the project will withdraw from, or directly discharge to, any of the following water sources *post-development* and, if "Yes", indicate its purpose:

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

**10. 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](http://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](http://des.nh.gov/organization/divisions/water/aot/fees.htm)
- Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale)
- A copy of the pre-application meeting minutes, if you had a pre-application meeting with AoT staff.

**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](http://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 - [www2.des.state.nh.us/gis/onestop/](http://www2.des.state.nh.us/gis/onestop/)
- Web GIS printouts with the AoT screening layers turned on - [www2.des.state.nh.us/gis/onestop/](http://www2.des.state.nh.us/gis/onestop/)
- NHB letter using DataCheck Tool – [www.nhdf.org/about-forests-and-lands/bureaus/natural-heritage-bureau/](http://www.nhdf.org/about-forests-and-lands/bureaus/natural-heritage-bureau/)
- The Web Soil Survey Map with project's watershed outlined – [websoilsurvey.nrcs.usda.gov](http://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](http://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](http://des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls)

[Ridge.Mauck@des.nh.gov](mailto:Ridge.Mauck@des.nh.gov) or (603) 271-2147

NHDES Alteration of Terrain Bureau, PO Box 95, Concord, NH 03303-0095

[www.des.nh.gov](http://www.des.nh.gov)

**10. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN ORDER LISTED)**

- 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)
- 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/dwspp/gw\\_discharge](http://des.nh.gov/organization/divisions/water/dwgb/dwspp/gw_discharge))
- Inspection and maintenance manual with, if applicable, long term maintenance agreements
- 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.

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

**11. REQUIRED SIGNATURES**

<input type="checkbox"/> APPLICANT OR <input type="checkbox"/> AGENT:  SIGNATURE	PRINT NAME LEGIBLY	/ / DATE
OWNER OR OWNER'S AGENT (IF DIFFERENT FROM APPLICANT):  SIGNATURE	PRINT NAME LEGIBLY	/ / DATE
By initialing here, I understand that in accordance with Env-Wq 1503.20(e), within one week after permit approval, the applicant shall submit a copy of all approved documents to the department in PDF format on a CD.		_____

[Ridge.Mauck@des.nh.gov](mailto:Ridge.Mauck@des.nh.gov) or (603) 271-2147

NHDES Alteration of Terrain Bureau, PO Box 95, Concord, NH 03303-0095

[www.des.nh.gov](http://www.des.nh.gov)

# 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
- The treatment BMP's proposed
- Any innovative BMP's proposed

**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 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 November 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:
  - 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> .