



## GUIDANCE FOR WASTEWATER DESIGNERS

### Primary Goal

To keep all parts of wastewater projects and any new development outside of the wetland and 50-foot buffer zone (well outside if the boundary of the wetland edge is ambiguous).

### Benefits

Avoiding impacts costs less money for the applicant in fees and hiring consultants (\$1000's) if wetlands are involved. Wetland Permits are currently averaging a 100 day turn around; avoiding impacts saves time and money.

### Secondary Goals

To encourage designers or landowners to call the District Wetlands Ecologist for permit evaluation and guidance when avoidance of wetlands and buffer zone is not possible, and to make designers and engineers aware that we will ask them to avoid and minimize all proposed impacts to wetlands and buffer zones (see Primary Goal above).

### Project Review

If it appears that the project will be in close proximity to a wetland, the applicant should avoid it or contact the Wetlands Program. In addition to the obvious, look for:

- ◆ Low areas in elevation
- ◆ Seepy/wet hillsides and springs
- ◆ Hummock/hollow forested areas
- ◆ Streams/water features with wet edges
- ◆ "Potential pond sites"

Look at more than just where the system is going. Does the project have the potential to impact wetlands or buffer zone via:

- ◆ Driveways
- ◆ Force mains
- ◆ Wells and/or water lines
- ◆ Grading and/or clearing for house sites, lawns or stormwater.

### Jurisdictional Wetlands

The following wetlands are subject to the [Vermont Wetland Rules](#) because they are presumed to provide significant functions and values:

- ◆ Any wetland on the VSWI map
- ◆ Any wetland contiguous or connected to the VSWI mapped wetland
- ◆ Any wetland that is the same type and size as what is on the VSWI maps (1/2 acre or larger)
- ◆ Wetlands over or under a half acre that:
  - ◆ Are adjacent to a stream, lake, pond, or river
  - ◆ Are vernal pools
  - ◆ Are special and unique wetlands - i.e. bogs or fens
  - ◆ Are headwaters above 2500 feet elevation
  - ◆ Are adjacent to impaired waters

- ◆ Building or building envelopes
  - ◆ We ask that building envelopes (including lawn areas) be depicted outside the buffer zone.

**Note:** Not all Class II wetlands are mapped on the [VT Wetland Inventory Map](#). Using the hydric soils layer is helpful for indicating potential wetland areas.

### Jurisdiction

All limits of disturbance need to be outside the 50-foot buffer zone in order to stay out of the jurisdiction of the Vermont Wetlands Rules. Definition of limits of disturbance goes beyond the edge of the mound or trench and includes tree clearing, grading, filling, trenching, erosion prevention devices, and/or installation of curtain drains.

- ◆ **Example:** Mound toe may be just outside the buffer zone, but additional 10 feet of tree clearing needed beyond toe may be in the buffer - requires redesign or Wetlands Permit.

Temporary impacts in wetlands or buffers also need permits.

## Common Hydrophytic Vegetation

- ◆ **Example:** Building temporary access roads for test pits and/or trenching & filling for septic lines.

Replacement of systems IN PLACE is an allowed use. Replacement of systems not in place is subject to wetland permits if within 50 feet of the wetland.

Expansion of footprint for existing structures also needs a permit.

## Wetland Delineation Criteria Simplified

### Hydric Soils

- ◆ Organic material 8-inches or deeper from soil surface (muck/peat)
  - Or
- ◆ Mineral soils
  - ◆ Gleyed – immediately following A horizon or w/in 10 inches of soil surface
  - ◆ Low matrix chroma/high mottles - immediately following A horizon or w/in 10 inches of soil surface
  - ◆ Matrix chroma of 2 or less in mottled soil
  - ◆ Matrix chroma of 1 or less in unmottled soils

### Hydrology

Inundation or saturation to within soil surface (within 12") for at least 5% of growing season in most years. This is the driving force of wetland formation.

### Vegetation

More than 50% of the vegetation are hydrophytic (water tolerant). Hydrophytic vegetation refers to plants (species or individuals) adapted to saturated or flooded soil conditions.



From left to right: organic material, gleyed soil, and mottled soil.



Image source: kgNaturePhotography.com

**In order from left to right: Blue vervain, cinnamon fern, purple-stemmed aster, mountain holly, purple loosestrife, blue flag, jewelweed, blueberry, cranberry, winterberry, sensitive fern, American elm, swamp candles, tamarack, steppleshub, giant goldenrod, red maple, Joe-pye-weed, reed canary grass, royal fern, and interrupted fern.**

### Exceptions to the Rule

Sometimes upland trees can occur in wetlands. They are often stressed and grow on top of hummocks, old berms, or beaver dams that elevate them from the water table.

Those species that are commonly found in wetlands are red maple, red spruce, red pine, pitch pine, white pine, grey birch and hemlock.

For more information about wetland delineation visit our website at: [dec.vermont.gov/watershed/wetlands](http://dec.vermont.gov/watershed/wetlands)

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