



**RHODE ISLAND**  
**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF WATER RESOURCES**  
**Groundwater and Wetlands Protection Program**



## **Avoidance and Minimization Guidance**

All applicants are required to avoid and minimize impacts to all wetlands including the perimeter wetland, riverbank wetland and floodplain. This means that you should do everything possible to stay out of the wetlands, or if the wetlands are unavoidable, you should do everything possible to limit the extent of alteration to the wetlands. The following recommendations may be helpful as you are designing your project.

### **For House Lots**

- Avoid building in or near the wetland if at all possible, this includes the riverbank and perimeter wetlands and the floodplain.
- Move your house or building closer to the road. If necessary, you can apply for a variance from the town on the required setback in order to avoid the wetland.
- Reduce the size of the house to be built. Try building up instead of out. Avoid placing accessory structures such as decks, porches, exterior ramps, and patios within wetland areas.
- Design the garage to go underneath the house, if site conditions allow.
- Use retaining walls to reduce the amount of fill needed.
- If you cannot avoid the wetland, consider obtaining an easement from a neighbor to reduce wetland encroachment.
- Try to preserve the tree canopy as much as possible when constructing your driveway and/or yard. Preserve as many large diameter trees as possible.
- Remember to provide realistic limits of disturbance that will encompass all work that is to be done on the site. Consider room for construction vehicles and space for future maintenance (e.g. room to set up a ladder). Ten feet of clearance around a home is typically accepted.
- Create a thicker vegetative buffer by increasing plantings at the limit of disturbance to reduce noise and other disturbances to wetland wildlife. Generally, the denser (i.e. 6-7 feet on center) and taller (minimum 4 feet tall) the plantings the better. Often evergreens are especially good because they retain leaves all year. Avoid plant species considered to be non-native or invasive. Consider the use of deer resistant plants, if deer are present.
- Avoid the use of any fertilizer, pesticides, herbicides, pollutants, chemical, or organic application within and/or adjacent to wetlands.

### **For Driveway and Roadway Wetland Crossings**

- Keep crossing width to the absolute minimum necessary.
- Avoid crossing through a wetland wildlife breeding area.
- Use a structure that will span as much of the wetland as possible.
- Instead of a simple box culvert, try using several box culverts, an arch culvert or a bridge. The greater the width of the wetland corridor that is preserved, the greater the chance it will stay as healthy habitat for plants and animals that depend on it.
- Consider spanning areas that are adjacent to the wetland edge to allow wildlife passage during high water periods.

- Generally, find the narrowest wetland section possible – if a stream is 30 feet wide in one section, but only 10 feet wide in another, cross over the 10-foot section to reduce the disturbance.
- Try to utilize any existing roadways, paths or trails as much as possible by upgrading them and including new box culverts, arch culverts, or bridge installations.
- Keeping close to existing grades can reduce fill amounts. Fill slopes present less of a barrier to wildlife movement than retaining walls and can be replanted. However, retaining walls can be used to avoid filling in sensitive habitats, in narrowing crossings, and in reducing fill impacts. Nonetheless, retaining walls should not be used without box culverts, arch culverts, or bridges, as they can present barriers to wildlife movement.
- Weave proposed driveways through the landscape to preserve the existing tree canopy as much as possible in the crossing area.
- Create a dense vegetative screen on both sides of the crossing by providing plantings at the limit of disturbance to reduce noise and other disturbances and provide replacement habitat for wetland wildlife. Generally, the denser (i.e. 6-7 feet on center) and taller (minimum 4 feet tall) the plantings the better. Often evergreens are especially good because they retain leaves all year. Avoid plant species considered to be non-native or invasive. Consider the use of deer resistant plants, if deer are present.

### **For Subdivisions**

- Consider reducing the number of lots you are going to create – design an 8-lot subdivision instead of a 10-lot subdivision and avoid wetlands all together.
- Avoid wetland crossings. Keep the number of wetland crossings to the absolute minimum.
- Consider horizontal directional drilling for utility crossings of wetlands.
- Try to utilize existing disturbed areas for utility crossings of wetlands.
- Consider restoration of wetland areas that are crossed by utilities.
- Reduce or eliminate road shoulders and sidewalks at wetland crossings.
- Allow room in the design for lots to have usable yard space without the need for alteration of additional wetland in the future.
- Consider use of pervious materials in constructing driveways and where appropriate, roadways. (Please note that, when calculating runoff rates and volumes, the Department currently treats pervious asphalt paving in the same manner as standard impervious pavements; BMPs should be designed with this understanding.)
- Design the detention/retention basins completely outside of all wetland areas, including riverbank and perimeter wetlands.
- Maintain existing drainage patterns wherever possible, for example by using multiple basins rather than one large basin. (Doing so will often minimize objections from downgradient abutters.)
- Consider infiltration of stormwater runoff from planned impervious surfaces wherever possible to offset losses in groundwater recharge, to lessen the size of detention basin(s), and to help maintain the existing hydrology of wetlands.
- Add plantings, especially where wetland encroachment is planned, including along wetland crossings, to reduce noise and other disturbances and to provide replacement habitat for wildlife. Generally, the denser (i.e. 6-7 feet on center) and taller (minimum 4 feet tall) the plantings the better. Often evergreens are especially good because they retain leaves all year. Avoid plant species considered to be non-native or invasive. Consider the use of deer resistant plants, if deer are present.