



# FACT SHEET

Office of Water Resources- Onsite Program

## Home Improvement – Application for Alteration to a Structure

### When Is An Alteration Application Required?

An Onsite Wastewater Treatment System (OWTS) Application for Alteration to a Structure is required whenever an applicant proposes changes to their home that increase flow to the septic system but that aren't major enough to require an Application for New Building Construction. Under the OWTS Rules, an alteration includes the following:

- The addition of no more than one bedroom to the building;
- A change in use of the building but with no increase in sewage flow to the septic system;
- Construction that changes the footprint of the structure such that the septic system is not in compliance with the OWTS Rules; or
- For systems installed without a state permit, any renovation of the building that affects more than half of the living space, adding an additional floor level, or any increase in the footprint size.

If **more than one** bedroom is to be added to the residence, an application for a New System will be required. Septic systems are sized using a daily sewage flow figure arrived at by multiplying the number of "bedrooms" by 115 gallons per day (assuming 2 persons per bedroom). The OWTS Rules define a bedroom as any room in a residential structure which is greater than 70 square feet in area, which is susceptible to present or future use as a private sleeping area, which has at least one window and one interior method of entry and egress, but excluding closets and bathrooms. Bedrooms must also have a way for the room to be closed off from the remainder of the residence for privacy. It is presumed that all residences contain a living room, kitchen, bathroom, and at least one bedroom. So although there may be no increase in the number of people occupying the residence, the addition of one or more rooms meeting the definition of a bedroom enables the residence to be occupied by a greater number of people, thus increasing the daily sewage flow the septic system must be designed to treat.

You may be informed by the OWTS Program that an application for alteration is required in response to an application for OWTS Suitability Determination, as described in Rule 17.4 of the OWTS Rules. An OWTS Suitability Determination is a determination as to whether or not an existing septic system is suitable for a proposed building construction, renovation, or change of use. If you are not sure if you need to apply for a permit from the DEM OWTS Program for your project, an OWTS Suitability Determination can help you make sure you comply with the rules. For more information, refer to the DEM Fact Sheet "Home Improvement- Residential OWTS Suitability Determination."

### The DEM Application for Alteration to a Structure

Applications for alteration of an OWTS must be prepared by a Class II or Class III Licensed Designer. The distinction between these two classes of OWTS licenses is described in the fact sheet "Septic System Designer License Classes Explained" and in Rule 9 of the OWTS Rules. An Application for Alteration requires preparation of a soil evaluation report.

### Locating and Contracting With Licensed OWTS Professionals

DEM maintains a list of Licensed Designers and installers; Soil Evaluators are listed with designers. These lists are available on the DEM website (<http://www.dem.ri.gov>). Hard copies are available at the Water Resources Permitting Office at 235 Promenade Street, or by calling 222-4700. You may also search to find designers who may be active in your neighborhood by using DEM's Online Permit Search tool.

It is prudent to approach the process of selecting OWTS professionals as you would any other major purchase. Seek price quotes from more than one of each contractor required (installer, designer, soil evaluator). Be certain that proposals or contracts are based on the same scope of work (system type, components and landscaping or property restoration the contractor will provide, etc.). If your site is difficult or may require an advanced treatment system, inquire as to whether the contractors have experience with this type of system. Contracts should articulate installation procedure, costs and payment schedule. Designers are required to witness and inspect installation of systems they design, so you should know if inspection services are included in the proposal or contract or will be part of a separate contract with the designer. Some soils require monitoring during the wet season to obtain required design information; you should know if the soil evaluator's contract includes wet season monitoring if that should be necessary. Beware that situations may occur, or conditions may be encountered which will require cost adjustments. For example, if bedrock is encountered during the soil evaluation or during installation, ledge test holes must be excavated and costs will increase. It is important that the designer incorporate into the contract situations which may cause an increase in costs to occur.

Request references and contact the parties provided by the contractors.

### Permitting

#### 1. *Soil Testing Application Form* (submitted by Soil Evaluator)

**Purpose:** This form notifies DEM that the Soil Evaluator, working on behalf of the property owner, wishes to conduct a soil evaluation and identifies the property on which the soil evaluation will be conducted.

**DEM Action:** DEM processes the form, assigns an Application Number to the project and notifies the soil evaluator whether DEM will need to witness the testing work. DEM will either schedule a date and time with the Soil Evaluator to witness the testing work or elect not to witness. Test holes for residential alterations on systems designed for flows smaller than 690 gallons per day (corresponding to 6 bedrooms) are generally not witnessed by the Department.

#### 2. *Application for Alteration to a Structure* (Submitted by Class II or III Designer)

**Purpose:** This form is used to obtain DEM's approval of a design for an alteration to a septic system and includes information about the site, the owner and the proposed use of the property. It is accompanied by plans depicting the location of the system and home on the site, current and proposed grading, and the location of roads and sensitive receptors such as drinking water supplies and waterbodies, etc.

**DEM Action:** Reviewed by Department.

- DEM will **approve the application** if it is complete, in compliance with the rules, and there are no deficiencies or errors on the plan.
- DEM will **return the plan to the designer, unacceptable**, if the application is not complete, is not in compliance with the rules, or contains errors or deficiencies.

The design is required to meet the requirements of the OWTS Rules to the greatest extent possible. If necessary, certain requirements under the rules may be relaxed at DEM's discretion, provided that the applicant consider an approved alternative or experimental (A/E) technology that may allow the applicant to meet most of the requirements of the rules. The protection of the public health and the environment is given priority over all other considerations. If the proposed project will increase the design flow of the septic system, the applicant will need to request a variance from any Rules with which the system cannot comply.

### Variance Applications

If your site can not accommodate a septic system in full compliance with the OWTS Rules **and** your project proposes an increase in design flow of your septic system, you must apply to DEM for a variance from the rules that can not be met. The variance notice requirements in Rule 47.6.1 do not apply. Variance applications require more effort from

your designer, **do not always result in an approval**, take longer to process, and involve greater costs than applications which are in compliance with the rules.

### **Using the Internet to Monitor Application Activity**

OWTS Application activity may be monitored from your computer using the "OWTS Permit Search" tool available on DEM's website (<http://www.dem.ri.gov>).

### **Approved Application**

Your approved application will indicate any special terms of approval on the lower right side of the form. When stamped "Approved" and signed by DEM, your application becomes your "permit to install." Once the OWTS design is approved by DEM, a copy of the approved permit is mailed to the owner, the designer, and the city/town Building Official. The Building Official cannot issue a building permit until he/she receives a copy of the OWTS permit. The permit is valid for 5 years from the date of approval.

### **System Installation**

Following approval of the OWTS application, installation may begin. Your designer must call DEM to notify the Onsite program of the "Start of Construction" within 24 hours of beginning the installation. If DEM has indicated required inspections in the permit, the designer will be required to contact DEM to arrange for the required inspection(s). The components of the system will be delivered to the site and your installer will excavate the soil to accommodate the components of the system. Beware that during excavation conditions may be encountered that were not anticipated or uncovered during the soil evaluation. Should such a situation occur, the job will be halted and additional testing or additional design work may be required before the installation can resume. Once construction of the system is complete your designer must certify to DEM that the system was installed in accordance with the design and meets DEM OWTS Rules.

### **Certificate of Conformance**

Once your system is installed and DEM receives the certification from your designer that the installation is proper, the application process is complete! DEM will issue a Certificate of Conformance, providing a copy to the city/town Building Official, and the system may then be used.

### **Operation and Maintenance**

Operation and maintenance needs differ based on whether a system is a conventional system (septic tank, distribution box and leach field) or an alternative or experimental (A/E) system (components vary by type of system). However there are some fundamental operation and maintenance considerations common to all system types. Avoid excessive water use by distributing routine activities requiring a lot of water evenly over the week (laundry, running dishwasher) and quickly repairing leaky faucets and toilets. Septic systems function, in part, due to the contribution of bacteria; heavy use of bleach or strong cleaning materials, as well as dumping any paint, organic solvents or other chemical preparations down a sink or toilet, can interfere with the proper functioning of your system. If depleted, the bacterial population will ordinarily restore itself naturally over time provided use of the chemical agent is discontinued.

DEM requires that owners with certain alternative or experimental systems have a maintenance contract with a qualified service provider. DEM's requirements are specified in the particular system's certification. Your system's designer is required to provide you with detailed operating instructions for your A/E system.

It is wise to have your system inspected regularly, and pumped as needed. One can determine whether the tank needs pumping by measuring the thickness of solids on the bottom of the septic tank and scum on the surface of the wastewater in the septic tank. Systems should be inspected no less frequently than once every five years. Some communities have wastewater management ordinances that may have specific maintenance requirements. Contact your town to obtain current information concerning any such requirements.

**Additional Information on Operation and Maintenance**

Information on operation and maintenance of your septic system is available in the University of Rhode Island Cooperative Extension On-site Wastewater Training Center's information Sheet "*Maintaining Your Septic System*" (available online at: <http://www.uri.edu/ce/wq/OWT/Factsheets/index.htm>). Detailed information on maintaining a septic system is also available in the DEM publication "Septic System Checkup: The Rhode Handbook for Inspection" (available online at: <http://www.dem.ri.gov/pubs/regs/regs/water/isdsbook.pdf>).