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## Subsurface Wastewater Program Summer 2009 Newsletter

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### Program Director's Message

Effective September 1, 2009 I will be retiring from my position as Director of the Subsurface Wastewater Program. With over 25 years of state service my current stint will be just short of 8 years. Combined with my 13 years in the private sector I have spent my professional career dealing with a variety of public health and environmental issues. I look forward to working with many of you in the future and will be in touch as to my future plans.

### Subsurface Permit Surcharge

Section **FFFF** of the recently passed budget bill ([PL 2009, ch. 213](#)) requires municipalities to assess a **\$15.00** surcharge to all non-engineered subsurface wastewater system permits, and to **remit this money to the Department of Environmental Protection**, to become part of the Water Quality Improvement Fund. According to [Andrew Fisk](#), Bureau Director, Land & Water Quality, MDEP the purpose of the Fund is to improve and protect water quality to reduce impacts on shellfish growing areas. The Fund will allow the hiring of three staff in the shellfish area program at the Department of Marine Resources. The fund will also be used to improve the State's wastewater infrastructure, remove licensed overboard discharges, abate pollution from failed subsurface wastewater disposal systems, and improve the identification of pollution in shellfish harvesting areas. Revenue for the Fund will come from several sources including fees on certain municipal wastewater treatment facilities and combined sewer overflows.

This surcharge would apply to **all non-engineered full systems**, whether a first time, replacement, or expansion; but not to components such as a tank-only replacement. Note that this surcharge does not reduce or increase the basic **\$100.00** subsurface system permit charge, nor does it impact any local fees set by ordinance. Municipalities are still required to submit **25%** of the minimum permit fee to the Department of Health and Human Services for all internal and subsurface permits. **The \$15.00 surcharge will need to be accounted for separately and should be submitted to the Department as a separate check, for forwarding to the MDEP for processing.**

We encourage all municipalities to submit both the **25%** state share of the permit fees and the **\$15.00** subsurface system surcharge on a monthly basis. If your level of permit activity supports a less frequent submittal, we would prefer to hear from you at least once a quarter. All checks need to be made payable to the "Treasurer of State". The surcharge check should indicate the number of subsurface system permits covered, and specify "Water Quality Surcharge" either through a notation on the check, check stub, or a separate document. All submittals, financial or otherwise should be sent to:

Division of Environmental Health  
Subsurface Wastewater Program  
11 State House Station  
Augusta, ME 04333-0011

### **Revisions to the Maine Subsurface Wastewater Disposal Rules, CMR 241**

In the fall of 2006 a task force of individuals involved in the field of onsite wastewater disposal was organized for the purpose of reviewing the Subsurface Wastewater Disposal Rules. As several individuals from the private sector expressed a belief that they did not have sufficient input to the rulemaking process, the task force was purposely structured to minimize involvement by the Department. The task force consisted of licensed Site Evaluators, Local Plumbing Inspectors, equipment suppliers, system inspectors, and representatives of other State of Maine government agencies. The initial group split into three subgroups that met periodically to review administrative and technical rule requirements.

As various proposals or "position papers" were issued by the subgroups, the position papers were circulated by e-mail for comment to a volunteer group of 150 individuals. These reviewers were solicited from approximately 1,600 wastewater professionals including Site Evaluators, Local Plumbing Inspectors, suppliers, installers, and pumpers. In the fall of 2008 a list of recommended rule changes was submitted to the Department for consideration. Those changes, along with ones developed by the Department for portions of the rules that were not considered by the task force, constitute the changes proposed for adoption.

The Division of Environmental Health held a public hearing on Wednesday December 17, 2008; with comment periods from November 26, 2008 to December 31, 2008, and January 14, 2009 to February 8, 2009. Notices for the hearing and comment periods appeared in newspapers throughout the state in a timely manner. The record for written comments closed on February 8, 2009. The rules as originally proposed have been modified to incorporate appropriate comments. The adoption date of the revised Rules is August of 2009. The reprinted Rules (red cover) have the modified sections marked with a black line in the left margin. The following is a summary of the significant changes:

- Reduction in depth of native soil necessary for first time systems outside the Shoreland Zone from 12 inches to 9 inches. (Section 400.4.1)
- Definition for private potable water supplies including both owner and abutter. (Chapter 3)
- Authorization for local plumbing inspector to approve more replacement system variances without state involvement. (Section 702.2)
- Setback between systems and private potable water supplies (owner and abutter) treated equally. (Chapter 7)
- Small system size removed from Table 600.1. Chapter 6)
- New format for 600 Tables. Chapter 6)
- Liner requirement for coarse soils in Shoreland Zone moved from chapter 16 to Section 406.0.

- Elimination of 7" and 8" depth to limiting factor first time system variances inside and outside of the Shoreland Zone. (Chapter 19)
- Elimination of "minor" and "major" expansion terminology while maintaining existing expansion technical requirements. (Chapter 17)
- Water tightness testing procedure of certain treatment tanks installed 50 feet or less from major waterbodies and private potable water supplies. Section 907.8)
- Incorporation of stone trench design with provision for greater sidewall area. (Chapter 8)
- Provision to size disposal area on permeability of fill on 8 and 9 category soils with 12 inch depth of fill over native soil. (Section 600.7)
- Removal of prohibition of first time systems in the 10 year flood hazard zone. Section 606.2)
- Minor reformatting and addition of stormwater control structure setbacks to 700 tables. (Chapter 7)
- Inclusion of inspection checklist for use by the local plumbing inspector. Section 111.11)

### **2009 JETCC Training**

The [Joint Environmental Training Coordinating Committee](#), in association with the Maine County Soil and Water Conservation Districts, presented On-site Wastewater System Workshops from February to April, 2009. The workshops for this year were held in Portland, Brewer, Wells, Augusta, Presque Isle, and Farmington. The workshops included Site Evaluators Issues & Engineered Systems, System Inspectors, Rule Revisions, and Basic Installers presentations.

The Program's [2009 PowerPoint](#) training presentations are available for downloading, as are videos of the February 4 [Site Evaluators Issues & Engineered Systems](#) presentation in Portland. Please note that these do not include presentations by other participants in the training sessions. These files are also available on one CD, for \$10.00. Please contact Wendy Austin for more information. Contact J.E.T.C.C. at (207) 253-8020 for information on attending the 2010 JETCC Training.

### **LD 937 Fails To Pass**

LD 937 (HP 640) "[An Act To License Septic System Installers](#)", was sponsored by Representative Edward Finch. The bill was unanimously voted "Ought Not To Pass" by the Committee on Business, Research and Economic Development on April 7, 2009, subsequent to a work session on April 3, 2009. This bill, had it passed as written, would have required a license for onsite sewage disposal system installers. The requirements of the license would have included being licensed as a plumber and carrying proper insurance. There was no further discussion by the Committee prior to the vote.

### **Crematoria Rules Update**

The Subsurface Wastewater Program began work on a draft for Maine's proposed *Rules for Establishment and Operation of Crematoria* in late January, 2009. These Rules will provide minimum State requirements for establishing and operating crematoria for the disposal of human remains to assure such remains are treated in a safe and respectful manner. Stakeholder meetings were held in February and March of 2009, with great success. As a result, a set of draft rules were prepared for presentation at a public hearing. The hearing was held on June 12, 2009 in Augusta. [Please visit our web site for more information.](#)

### **Rules Interpretation: Water Use Records**

The August, 2005 revision to the Subsurface Wastewater Disposal Rules established new water use record criteria for calculating design flows. Under the prior criteria, records were multiplied by a flat rate based upon daily, monthly, quarterly, or annual readings. This process was superseded by a statistical analysis method, also based upon readings frequency. Under this process, daily, monthly, quarterly, or annual readings are assessed at the 80th, 85th, 90th, and 95th percentile of the readings. A percentile is the value of a variable below which a certain percent of observations fall. So the 80th percentile is the value (in this case, water use) below which 80 percent of the observations may be found.

However, lately we have been seeing designs based upon the old process. We have also seen several designs based upon methods that have never been approved. Designers must use the current statistical method when calculating design flows from water use records, or request use of an alternative method as allowed in Section 503.2.4 of the Rules.

To accommodate use of the current method, the Program created and posted a [Microsoft Excel spreadsheet](#) on our web site. Site evaluators can download this spreadsheet, plug in the readings and frequency, and the percentiles are automatically calculated.

### **Advisory Rulings**

There will be times when a situation arises that can not be neatly pigeon-holed in the Subsurface Wastewater Disposal Rules. Sometimes, it is a unique property, an unusual use, or a circumstances not otherwise addressed by the Rules. Clearly, no set of rules can address every possible circumstance. When situations like these occur, designers should draw upon their experience to develop a solution that best meets the intent of the Rules. If one is uncertain how to proceed, the way to approach these situations is to obtain an interpretation of the Rules from the Program. This is done by applying for an Advisory Ruling.

Under Section 121.0 of the Rules, a request for an Advisory Ruling must be in writing, and must contain sufficient facts for the Program to make a ruling. We may request additional information, and failure to provide such information may cause for us to not issue a ruling. We will reply no more than 60 days from the date when all information necessary for the ruling has been received. Verbal opinions do not carry the weight of Advisory Rulings, as they are the opinion of our staff, and may have been made without benefit of thorough evaluation of the facts.

### **Variance Procedures**

All variances that are checked "State & Local Plumbing Inspector Approval", they must first be reviewed by the Local Plumbing Inspector and then sent to this Department before they can to be "stickered" by the LPI. Please only send 1 copy into us. You will not get this copy back so make sure you have 3 in your possession. Signatures shall include owners and site evaluators on the first page of the HHE-200 Form, property owner, plumbing inspector and the site evaluator on the variance form. If the variance is for a well setback from an abutting property, make sure the well setback release form is included and all the signatures are on the form. If the variance is for a holding tank, make sure the pumper's agreement is attached.

### **Permitting Sequence**

Before an [HHE-200 Form](#) (Septic System) or an [HHE-211](#) (Internal Permit) is "stickered", make sure all the information is filled out correctly. On the HHE-200 Form all boxes must be filled out. The property location is where the system is to be installed which may or may not be the same location as the owner/applicant information. Make sure all sections are filled out and the Site Evaluator signed the form. The latest forms are dated 2009; the Site Evaluators are encouraged to use these forms. Forms with a completion date greater than two years from the permit application need to be updated by the site evaluator prior to stickering. Double check setback distances from wells, the owners and abutters, water bodies, foundations, drainage ditches, etc. If the form is not legible, ask the homeowner to get a cleaner copy.

An internal plumbing permit must have the correct number of fixtures, name, address and the signature of the owner/applicant. Homeowners can do their own plumbing if they live in that dwelling in which the plumbing is taking place. If not, they must obtain the services of a master plumber. On commercial establishments, no owner, unless they themselves are a master plumber, can do their own plumbing. When a master plumber is used they must write in their License number on the HHE-211 Form.

After all is checked, the sticker may be affixed to the permit, state, town and applicant. For the LPI's that have more than one town or territory, make sure the correct sticker is placed on the correct town or territory.

The applicant gets their copy, the town keeps theirs for the files and the state gets sent into us with a 25% fee of the state minimum charge, usually once a month.

The first inspection may be waived by the LPI only if a certified contractor is installing the system and it is cleared through the LPI before construction and the contractor fills out a statement of compliance and gives it to the LPI so they can attach it to the permit. After the second inspection is completed, the LPI signs the form along with the date and files it in the town office. If the State permit is sent in before the second inspection is completed, the LPI fills out the certificate of approvals and passes it in along with a batch of permitted application the next time they are sent in to the office.

If any LPI needs the certificate of approvals, call either myself, Brent Lawson, 287-5670, Wendy Austin, 287-5672 or Lorraine Martin, 287-5689.

### **Primitive System Criteria**

There are two types of systems defined under primitive systems and alternative toilets. The first type of system is a primitive disposal system consisting of a grey water disposal field designed to handle hand carried or hand pumped water only and an alternative toilet. The second system is a limited system consisting of a grey water disposal field to handle water supplied from elevated storage tanks or cisterns, of no more than 1000 gallons capacity, and portable pumps, among other non-conventional pressurized water supplies and an alternative toilet.

The design flow for a primitive disposal system is 25 gallons per day and is limited to not more than three (3) grey water fixtures (lavatory, shower/tub or sink). The design flow for a limited system is 50 gallons of gray wastewater per day.

The sizing, setbacks and installation requirements must meet all the requirements of the Rules. Be sure that the building sewer between the structure and the primitive disposal field is indicated on the HHE-200 form as a pipe of not less than 2 inches in diameter and have a minimum slope of ¼ inch per foot.

A septic tank is not required for a primitive or limited system. But the HHE-200 form must delineate a backup reserve area where a full size disposal area can be installed based on first time system criteria. The owner of the system should also be put on notice that the reserve area shall be left open so the full size system including the fill extensions could be installed.

### **Holding Tanks**

When a first time holding tank is proposed to be used, be sure to check with the municipality to see if it has adopted a model holding tank ordinance. The new model [Maine Department of Environmental Protection](#) shoreland zoning ordinance states that holding tanks for a first time system shall not be used within the shoreland under any conditions. Based on Section 2005 of the Subsurface Wastewater Disposal Rules a holding tank cannot be used for any first time systems serving residential structures when the municipality has not adopted a holding ordinance; or first time eating establishments requiring a license from the Department of Health and Human Services. Design flow for holding tanks shall not exceed 100 gallons per day or 500 gallons per week for non-residential uses.

If a holding tank is proposed be sure all of the requirements under Section 2002 *Requirements for Approval of All Holding Tanks* are met. Two very important parts of these requirements require documentation, these sections are 2002.1.2 *No Practical Alternative* and 2002.1.5 *Deed covenant*. Be sure that every possible alternative has been explored to site a conventional system on the lot and the documentation of this exploration should be included with the HHE-200 form. The owner should have a copy of the HHE-300 Holding tank Deed Covenant Form and be sure it has been recorded at the Registry of Deeds before signing off on the final inspection of the holding tank. Another very important form is the HHE-233 Form - Application/Agreement for Holding Tank Installation. This form has to be submitted along with the HHE-200 Form. This form includes the holding tank pumper statement agreeing to dispose of the wastewater at D.E.P. licensed disposal location.

We are asked at the Department if soils logs are necessary for a holding tank application. You should look at soil conditions as part of your site evaluation to develop documentation under the “no practical alternative” requirement and to try to establish an elevation for the inlet of the holding tank above seasonal high ground water if possible. Another reason to conduct a soils investigation is to determine if any type of anti-floatation device would be warranted based on seasonal high groundwater per Section 907.3 of the Rules. Since the holding tank may have to be pumped during times of seasonal high groundwater the anti-floatation device would prevent the holding tank from floating out of the ground. Soils logs would be required to determine the above requirements.

## Latitude and Longitude

Per Section 401.6.1 Location of system the geodetic latitude and longitude of the center of the disposal field, expressed as degrees, minutes and seconds to accuracy of  $\pm 30$  feet and referenced to NAD 83 datum shall be included on all HHE-200 forms effective January 1, 2006.

The Department enters certain data on the permitted HHE-200 forms sent into the Department from Local Plumbing Inspectors. Two of the fields entered are the latitude and longitude lines shown on the HHE-200 Form. The format required for data entry is degrees, minutes and seconds. During data processing we have discovered many forms that do not show the seconds. Many of these forms only show degrees and minutes extended in a decimal format. This is not an acceptable practice. The people processing the data cannot be delayed by having to convert the decimal minute format to seconds during this process. If you can reformat your GPS receiver to read out in degrees, minutes and seconds please do. If you cannot reformat your GPS receiver, multiply the decimal portion of the minutes reading by sixty (60) leaving only the whole minute amount in the minute location and record the calculated seconds amount in the seconds location on the form for both latitude and longitude.

## Rules Interpretation: Table 501.2, Design Flows for Other Facilities

When designing a system for a restaurant or other facility in which food is prepared for consumption, the design must be adjusted to compensate for the additional organic loading associated with such uses. This is found in Footnote 3 of Table 501.2. The language of the footnote states that "...disposal areas for restaurants [must] be increased by 80% (multiplied by 1.8). This multiplying factor may be decreased by using the following criteria (Department review required):

- a. If the septic tank capacity is equal to or greater than 200% of the design flow - deduct 0.2.
- b. If multiple compartment tanks or tanks in series are used - deduct 0.1.
- c. If the facility uses an external grease interceptor meeting the requirements of Section 912.0 - deduct 0.1.
- d. If the treatment tank(s) use an approved effluent filter - deduct 0.1.
- e. The applicant may add the total deductions and subtract them from 1.8. The disposal area shall be increased by the resulting factor."

Three aspects of this requirement are notable. First, it is the disposal area that must be adjusted for the restaurant waste, not the design flow *per se*. This is an issue because many designers have been adjusting everything on multiple use systems, such as employees, other commercial uses (offices, etc.), and apartments, in addition to restaurant uses. This results in disposal areas that are larger than they need to be, with associated additional costs. Therefore, this should be applied only to that portion of a waste flow which is generated by the food preparation facility.

When the system includes some form of advanced treatment, the 1.8 factor can be adjusted based on the expected effluent strength to be discharged to the soil. The provider or designer of the advanced treatment system should be able to furnish expected BOD5 and TSS values for the system effluent, which can be compared to the standard 240 mg/L combined BOD5 and TSS value assumed for domestic wastewater. A new adjustment factor can then be calculated.

Third, when calculating design flows to determine whether a design is engineered or not, the figure to use is the actual design flow, not the design flow adjusted under Footnote 3. Since it is the disposal area which is being modified, not the volume of effluent that is reaching the disposal area, the actual volume is the design flow for this purpose.

**Mandatory State Shutdown Days & Holidays**

State offices will be closed on the following dates. If you call you will get voice mail; if you want to talk to a warm body please call prior to or after one of these days.

Fiscal Year 2009-2010	Fiscal Year 2010-2011
Friday July 3 (Holiday)	Friday July 2 (Shutdown)
Monday July 6 (Shutdown)	Monday July 5 (Holiday)
Friday August 7 (Shutdown)	Friday August 6 (Shutdown)
Friday September 4 (Shutdown)	Friday September 3 (Shutdown)
Monday September 7 (Holiday)	Monday September 6 (Holiday)
Friday October 9 (Shutdown)	Friday October 8 (Shutdown)
Monday October 12 (Holiday)	Monday October 11 (Holiday)
Wednesday November 11 (Holiday)	Thursday November 11 ( Holiday)
Thursday November 26 (Holiday)	Thursday November 25 (Holiday)
Friday November 27 (Holiday)	Friday November 26 (Holiday)
Thursday December 24 (Shutdown)	Thursday December 23 (Shutdown)
Friday December 25 (Holiday)	Friday December 24 (Holiday)
Friday January 1 (Holiday)	Monday January 3 (Holiday)
Friday January 15 (Shutdown)	Friday January 14 (Shutdown)
Monday January 18 (Holiday)	Monday January 17 (Holiday)
Monday February 15 (Holiday)	Monday February 21 (Holiday)
Tuesday February 16 (Shutdown)	Tuesday February 22 (Shutdown)
Friday March 12 (Shutdown)	Friday March 18 (Shutdown)
Monday April 19 (Holiday)	Monday April 18 (Holiday)
Tuesday April 20 (Shutdown)	Tuesday April 19 (Shutdown)
Friday May 28 (Shutdown)	Friday May 27 (Shutdown)
Monday May 31 (Holiday)	Monday May 30 (Holiday)

**2009 Wetland Delineation and Identification Workshop**

The 2009 [Maine Association of Professional Soil Scientists](#), [Maine Association of Wetland Scientists](#), [Maine Association of Site Evaluators](#), [Society of Soil Scientists of Northern New England](#), & [Maine Forest Service](#) Wetland Delineation and Identification [Workshop](#) will be held at Reid State Park in Georgetown, Maine on September 9, 2009 from 9:00 am until 3:30 pm.

**Contact Us**



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