Water Down the Drain: Re-use It or Lose It

You can't destroy water, but you can make it unfit to drink. Or you can send it somewhere else where it is no longer accessible when you need it. The concerns about water conservation, water shortages and depletion of water are all questions of distribution, not of disappearance per se.

The *total* amount of water on Earth has not changed in eons. It simply cycles between oceans, ice caps, freshwater bodies, groundwater and the atmosphere (clouds and water vapor). But the liquid fresh water we need for life is a very small part of total water. Most water is either in the salty oceans or is frozen in the ice caps.

Seventy-five percent of Wisconsin's population uses groundwater, pumped from a well, for domestic use. The rest use surface water from Lake Superior, Lake Michigan, or Lake Winnebago. The State has 19 surface water intakes for drinking water use, of which 12 serve the lakeshore communities of southeastern Wisconsin, 4 serve Lake Winnebago communities, and 3 serve Superior, Ashland and Marinette.

What happens to water when we use it in our homes? Some is evaporated or boiled off as steam. Most runs down the shower, tub or sink drains. Some is flushed down the toilets. Wastewater from the drains or toilets enters either an onsite sewage system or a public sewer. Either treats the wastewater and returns it to the water cycle. But they differ in some important details.

Although about 75% of Wisconsin's population uses groundwater, the wastewater of only about 30% recharges back to groundwater via the approximately 700,000 onsite sewage systems. Most public sewers discharge to surface waters, often downstream of the original groundwater source. For example, the Madison Metropolitan Sewage District uses 40 million gallons of groundwater each day, which is discharged into Badfish Creek and eventually finds its way to the Yahara River and on to the Mississippi River. This alters the water cycle and can lead to a net loss or depletion of groundwater in the zone feeding the wells. Onsite systems, on the other hand, disperse treated wastewater back into the ground beneath the system, typically within 50 to 100 feet downslope of the point the water came from, thus the groundwater is re-cycled in place.

Onsite sewage systems provide treatment of domestic wastewater equivalent to or better than public sewage treatment plants. The proposed new onsite sewage system regulations continue to ensure effective treatment with current options, and provide a high level of confidence that new options will be equally effective.

Onsite sewage systems are good for recycling and they provide effective treatment. The Environmental Protection Agency (1998) says, "These systems merit serious consideration in any evaluation of wastewater management options for small and mid-sized communities and new development." The need for additional options that safely treat and recycle domestic wastewater grows with our increasing demands on Wisconsin's water resources. The proposed Comm 83 onsite sewage system regulations will provide those options for Wisconsin's future.

Prepared by the State of Wisconsin Department of Commerce, Division of Safety and Buildings: Version date 2/1/99

COMM 83
PRIVATE ONSITE WASTEWATER TREATMENT SYSTEMS

SUMMARY OF STATUS AND ISSUES

MIKE CORRY
DIVISION ADMINISTRATOR
SAFETY AND BUILDINGS DIVISION
DEPARTMENT OF COMMERCE

FEBRUARY 25, 1999

CURRENT STATUS

A public hearing was held on September 28, 1998 on the Final Environmental Impact Statement (FEIS) for the proposed revision of Comm 83, Comm 85 and Comm 91. These chapters, hereafter referenced by the shorter version Comm 83, regulate the private onsite wastewater treatment system (POWTS) program. The public comment period was open until October 9, 1998. The department is reviewing the document and comments, preparing a record of decision, and making appropriate changes to the code. Both documents will be advanced to the legislature early in 1999.

The 1000 Friends of Wisconsin and the Alliance of Cities have previously announced intent to file a lawsuit to delay or stop the code. The League of Wisconsin Municipalities is considering a lawsuit. The primary criticism of all of these is an alleged negative effect on land use.

BACKGROUND INFORMATION

1. There are about 1,990,000 households in Wisconsin.

2. There are an estimated 701,000 residential and commercial buildings served by onsite septic systems.

3. Ninety-three (93%) percent of septic systems are in townships.

4. 10,000 - 12,000 new and 7,000 - 8,500 replacement systems are installed annually.

5. About 200,000 current systems were installed prior to 1969 (first of modern codes). There is no empirical evidence statewide to currently justify a recall of the older installed systems.

6. There are 28.5 million acres of private, non-urban land in Wisconsin. Assuming the current trend in new installations, and assuming one-acre lots, there is a 1,100-year supply of land available for private rural residential construction under the current code.

POWTS - A LONG TERM SOLUTION

Onsite treatment systems are the long-term solution for wastewater treatment in areas of low density. The EPA, in a 1997 report to Congress, reported, "Adequately managed decentralized wastewater systems are a cost-effective and long-term option for meeting public health and water quality goals, particularly in less densely populated areas."[1] The Dane County Regional Planning Commission 1998 report On-Site Wastewater Systems Management Program reported in the summary of findings that "... on-site systems installed under current codes and management programs are providing safe, economical

[1] U.S. EPA *Response to Congress on Decentralized Wastewater Treatment Systems, April 1997* EPA 832R-97.001B, Environmental Protection Agency, Washington, D.C. p. i.

and environmentally sound wastewater disposal for rural residents."[2] The report further states that "... systems currently being installed are safe, reliable, economical and environmentally sound, exhibiting long, useful service lives and low failure rates."[3]

PROBLEMS WITH CURRENT CODE

1. The current code does not meet the requirements of the Chapter 160 Wis. Stats., that contains the Ground Water Protection Standards.

2. The code is old, last substantially revised in 1980. Many provisions are outdated and new knowledge and advances in POWTS technology have not been incorporated into the code.

3. The current code is subject to numerous variances and interpretations that should be incorporated into the code.

4. The code is unclear with respect to retroactivity of provisions.

5. System maintenance provisions have not kept pace with newer system designs.

6. Current rules discriminate between "new" and "replacement" systems – leads to "games" playing.

STRATEGIC ISSUE

Land Use - To what extent should Comm 83, a public health and groundwater protection code, prevent or discourage citizens from building or maintaining homes in rural areas or urban fringe areas not served by centralized municipal sewage systems?

EXPANSION OF AVAILABLE SYSTEMS FOR "NEW" CONSTRUCTION

The current code discriminates between replacement and "new systems" (first system on the property) in access to optional treatment designs although there is no public health reason for this discrimination. Currently, installation of "new systems" is limited to designs that require two feet of suitable native soil (conventional, at-grade and standard mound). Replacement systems can be installed on as little as 6-10 inches of suitable native soil. (A+4 Mound, sand filter and aerobic treatment units (ATU) that discharge to modified dispersal areas). Both new and replacement applications can use a holding tank if permitted by local government.

The proposed code improves the design of the current systems by incorporating the results of the latest research and allows the possibility of additional engineered designs that meet prescribed treatment outcomes.

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[2] Dane County Regional Planning Commission *On-Site Wastewater Systems Management Programs*, September 10, 1998, Madison Wisconsin. p. 1

[3] Ibid. p. 2

The proposed code removes the distinction between "new" and replacement sites and adds two new designs to the pre-approved design inventory.

POWTS TREATMENT PROCESS

A brief explanation of the treatment process is necessary to understand the new pre-approved designs.

The conventional POWTS onsite treatment system consists of a septic tank and a drainfield. Following are the primary treatment activities that occur in the system.

1. Separation of input ingredients (clarification) - The input elements are separated in the septic tank based on their density – they sink, float or remain in suspension. In the onsite septic tank, elements that sink (sludge) and float (scum) remain in the septic tank and are periodically removed by pumping the tank. Elements that remain in suspension are transported to additional treatment processes.

2. Bacterial reduction of sewage – All sewage treatment systems use bacteria to reduce the sewage to harmless by-products. Natural bacteria exist in two conditions, aerobic (presence of free oxygen) and anaerobic (lack of free oxygen). Onsite treatment systems employ both techniques. Anaerobic bacteria dominate in the septic tank and aerobic bacteria dominate in the drainfield.

3. Mechanical filtration – Some constituents of sewage are filtered out as they move through the soil or other filtering media.

4. Ion bonding - Some sewage constituents carry a positive or negative electrical charge. These ions bond with soil particles with the opposite charge under the drainfield.

5. Chemical or Radiation Disinfection (potential future option) – Wastewater can be further disinfected by exposure to treatment processes that use chlorine, ozone or ultraviolet light. There are no approved applications at this time.

A **conventional system** requires about five feet of suitable soil and is made up of three zones: a covering layer of soil, a distribution zone consisting of pipes and gravel, and a soil treatment zone consisting of three feet of unsaturated, native soil.

The **mound design** substitutes a sand blanket for some of the native soil. The standard mound substitutes one (1) foot of sand for one (1) foot of native soil in the conventional system. The advantage of the mound is that the sand blanket provides an optimal and predictable treatment component rather than the highly variable native soil found under a conventional drainfield. The **A+4 mound**, currently restricted to replacement systems, substitutes up to 2.5 feet of sand. As a result, while the standard mound needs 2-feet of suitable native soil the A+4 mound may need as little as 6-10 inches.

PROPOSED ADDITIONAL TREATMENT PROCESSES - The proposed code will include a maximum particle size requirement for the effluent discharging from a septic tank. In most cases this will mean adding a filter to the outlet of the septic tank. Other pretreatment components maybe incorporated into some designs.

A filter installed on the outlet of a septic tank will reduce the amount of suspended solids that can enter and clog a drainfield. This will extend the life of the system and can reduce the treatment requirements of the drainfield

Two aerobic pretreatment components are added as options. The first is a **sandfilter**. The sand filter is a "mound in a box" buried beneath the surface and is a component placed between the septic tank and the drainfield. It consists of a soil or gravel cover, distribution piping and two feet of sand within a waterproof liner. The use of the sandfilter will allow for the equivalence of two feet of soil treatment credit effectively **reducing the height of a mound served by a sand filter by two feet**. The use of a sand filter on a site with two or more feet of suitable soil could result in a below ground dispersal area rather than an above ground system. A property owner would perceive either alternative, as more aesthetically pleasing. The sandfilter is a 100-year-old technology and is used extensively in other states. An experimental sandfilter program was conducted in Wood County by the Small Scale Waste Management Project at UW – Madison over the past two years. The **Wood County Board** is so enthusiastic about the sandfilter and the other proposed treatment options that they **voted unanimously to support the code.**

The second are **aerobic treatment units** components. There are about eight manufacturers of these components whose products are currently recognized by the state. A typical component consists of a chamber where air is introduced to the sewage by a mechanical compressor or by media rotation between the sewage and an air chamber. This pretreatment unit substitutes for part of the aerobic treatment in the drainfield. Because tests show that these systems as a class have more variability in output than the sandfilter, the aerobic treatment units will be given only one (1) foot of credit in the depth of soil under the drainfield. Some mechanical aerobic systems have the capability to reduce nitrate by adding a second anaerobic treatment step following the aerobic treatment system.

Mechanical aerobic units have been in use in the state for the past 5 years as components of replacement systems. The quality of the output is high enough to reduce the clogging mat that forms in a conventional treatment system. These systems have been used to rejuvenate failing existing systems and to provide a treatment alternative to a holding tank when there is insufficient area or native soil depth for a mound or conventional system.

In summary, the current code permits the following designs as new systems: conventional, standard mound and holding tank. The proposed code will permit the following as pre-approved designs for "new" systems: conventional system, the full range

of mound systems (standard mound, through the at-grade and the A+4 mound), the holding tank, aerobic treatment systems and single pass sand filters. In addition, the performance standards in the code allow designers to propose engineered systems such as constructed wetlands, recirculating sand and gravel filters (nitrate reducing) and other engineered systems to meet special site needs.

COMPARISON WITH MUNICIPAL TREATMENT

The treatment process for municipal treatment and onsite systems use similar techniques. Municipal plants without disinfection units typically produce effluent that contains 200,000 –300,000 fecal coliform forming units (cfu's) per 100-milliliters (ml) water. Some municipal treatment plants require disinfection of the output, but many do not. The DNR standard for disinfection for municipal treatment plants requiring disinfection is a 30 day geometric mean of 400 fecal coliform bacteria cfu/100 ml of wastewater. The Milwaukee Jones Island facility, which uses chlorine for disinfection, can reduce the average output to 50-70 cfu/100ml. Madison's treatment plant, which uses ultraviolet light, can reduce the output to an average of 40-50 cfu/100ml. Both plants have instances where the output is much greater than 1,000 cfu/100ml. Onsite systems typically produce cleaner output than municipal treatment plants that do not disinfect and often cleaner than those that disinfect. The median fecal coliform output of a POWTS using a pre-treatment system (ATU or sandfilter) is less than 1 most probable number (MPN) per gram of dry soil with an average of 16 MPN when measured beneath 24 inches of suitable soil.

IMPROVED INSTALLATION, INSPECTION AND MAINTENANCE REQUIREMENTS

Septic systems work best when properly installed, operated and maintained to prevent premature failure. Some of the mechanical systems need to be serviced periodically to operate. The proposed code makes the following changes to help ensure that this occurs.

1. Each installed system will have a **manual** detailing the installation instructions, inspection protocol, and a mandatory maintenance schedule. The maintenance interval ranges from each six-months for some mechanical aerobic systems to three years for the conventional system (Similar to soil absorption type systems currently installed under the Wisconsin Fund Program).

2. Each required maintenance service event will be **reported** to either the county or the department (similar to county programs under the Wisconsin Fund). The department has developed an automated tracking system and has distributed a request for proposal (RFP) to develop a fully integrated package that would include maintenance tracking and permit issuance. The counties will be able to opt into the program in lieu of using their own.

3. Installers and inspectors will be **required** to attend a **training** class prior to the installation of a new system type. (Training has been held for both the sandfilter and mechanical aerobic systems – 225 plus attended the August 1998 training program)

4. A new classification titled **Mechanical POWTS Maintainer** is being created for the personnel that will perform maintenance on mechanical POWTS systems. Likely maintainers could be plumbers, septic tank pumpers and factory trained individuals.

5. A provision was added that failure to maintain a system could result in the system being classified as a **public health hazard** and enforcement action taken by the county staff or the state.

RETROACTIVITY

The first of the modern codes was adopted in 1969 with the statewide requirement for a 3-foot treatment zone between the bottom of the infiltrative surface and a limiting condition such as bedrock or groundwater. The code has been amended a number of times since 1969 where the size of the drainfield and septic tank has been increased to provide additional safety factors. As a result, the **current inventory of 700,000 systems was installed under multiple code specifications.** About 200,000 systems were installed prior to 1969.

The current code is not retroactive for the evaluation of installed systems. It does specify evaluation criteria for failing systems and for evaluation of septic systems when building additions are planned that would increase the wastewater flow. Criteria for evaluations done at other times are not specified. Nevertheless, selective field inspection practices have developed that are not supported by the code, most notably, the retroactive application of the "3 foot" standard.

The **3-foot rule** has evolved over time into a **surrogate definition** for a **system failure**. However, the department has learned through recent research that older systems with mature clogging mats can treat wastewater within the first six inches of soil to the level normally anticipated by the full three-feet of soil required by the current code. As a result, some systems may have been replaced that were not technically failing. **The practice of condemning pre-1969 systems for failure to meet the 3-foot rule and systems with smaller than currently specified drainfields and septic tanks is not supported by the current code.**

The proposed code clearly indicates which provisions are retroactive and creates a rebuttable presumption concerning the current 3-foot rule.

1. Systems installed between 1969 and the present will be evaluated according to the code in effect at **the time they were installed**. This is similar to the uniform dwelling code.

2. Because it is difficult to assess the quality of the wastewater leaving the drainfield, field tests of treatment quality are not practical. Based on research knowledge and practices adopted in Minnesota, the new code will provide that systems installed prior to 1969 with **less than two feet of suitable soil** will be **presumed to be failing**.

Those with **more than two feet** will be **presumed to be adequately treating** the wastewater. The assumptions are rebuttable. Because all codes since 1969 required the 3 feet of soil, **all post 1969 systems will be required to have the 3-foot separation.**

COUNTY OPTIONS

Current law requires that Comm 83 be administrated and enforced by the counties. Comm 83, as part of the plumbing code, is a uniform code. As a result the counties must adopt the code and cannot pass local ordinances that change or add to the provisions.

The proposed code retains current options and adds a number of new options. The options are:

1. Counties and towns can currently ban or limit holding tanks. The provision is retained.

2. A new code, Comm 91, recognizes privies, composting and incinerating toilets. The code allows local bans or limitations.

3. The code will permit the county to delay, by ordinance, the use of aerobic systems, the A+4 mound, and sand filters for up to 18 months after the adoption of the code. When new pre-approved package designs are approved in the future, the counties may delay the use of these designs for up to 18 months from the date of package approval.

4. Local sewage districts will be able to determine when homes need to be hooked up to municipal collections systems.

5. Local government may specify additional methods of administration and enforcement of regulations.

COMM 83 AND LAND USE

Comm 83 is a code designed to protect public health and the groundwater. Land use regulation directly limits the use of the land in general through zoning. The code affects land use on specific lots where a home cannot be built because access to a wastewater treatment system is denied. As a result, some groups in Wisconsin attempt to block access to treatment systems in order to stop construction in the mistaken belief that this would stop urban sprawl or prevent farmland conversion.

There are a number of reasons why blocking access to a wastewater treatment system is a bad idea. First, the legislature did not give the Department of Commerce the authority to regulate land use through the plumbing code. The powers of the department as contained in s. 145.02 (1) Wis. Stats., involve safeguarding the "public health and waters of the state."

Second, if a lot has been zoned for residential construction by a local governmental unit having authority to make the decision, and if the property owner is unable to build on that property because systems recognized as effective by the state in protecting public health and safety (such as the A+4 mound) are not permitted, then it is possible that the state could be subject to a takings action by the injured party. At the least, this is a practice unfair to individuals.

Third, using the onsite sewage system code as land use control doesn't work. Twelve thousand new homes are being built in unsewered areas each year. Given the ample supply of land available under the current code, this will continue. The proposed code does not affect demand; it merely provides more siting options.

Fourth, the current code exacerbates the problems of "sprawl" and the loss of farmland because it restricts the options available to planners and zoning officials for optimizing the allocation of land for specific uses.

The current code exacerbates sprawl because it prevents the efficient use of all of the land zoned in residential subdivisions and, in some cases, it prevents the most efficient layouts of subdivisions. To illustrate this point, lets look at a hypothetical subdivision of 100 lots, assuming that soil is distributed in that subdivision as it would be statewide. The limitation on the use of various onsite system designs is the depth of suitable soil required by the code for each system type. The table below lists system type with the depth of suitable soil required by code for each. The systems are listed in the order of soil depth, which also corresponds to their assumed preference (preferred because of cost or inconvenience). The percent of land is the statewide percentage of each soil depth range. The marginal increase is the difference in percentage between each soil depth range and the next deeper range.

System Type	Percent of Land	Marginal Increase	Code Required Soil Depth	Million Acres
Conventional	47	--	56-60 inches	12.9
Standard Mound	57	10	24-56 inches	15.5
A+4 Mound[1]	81	24	6-24 inches	22.4
Holding Tank[2]	100	19	None	27.7

[1]Under the current code, the A+4 mound can be used as a replacement, but not for new construction. There is no performance justification for this discrimination between new and replacement use.
[2]If not otherwise banned.

In this subdivision, 47 lots would be suitable for a conventional onsite system and an additional 10 lots would be suitable for a standard mound. The remaining 43 lots would not be suitable for a soil based treatment system under the current code even though they are planned and zoned for residential use. These 43 lots would remain undeveloped unless holding tanks were permitted by the local government. Under the proposed code, 24 of these remaining lots could be developed with wastewater treatment systems. The restrictions of the current code, unnecessary for the protection of public health and safety,

result in lower density construction (sprawl) for the subdivision and a continuing demand for more rural property from the 43 potential homeowners.

The current code also exacerbates loss of farmland because the types of soil required by the current code for new construction are also those that are usually found in the most productive farmland. Because the soil required for new POWTS under the current code, that is, 24 or more inches of suitable soil, is typically also the same as that for farmland, the result is that the current code concentrates the demand for land for housing on prime farmland. The proposed code would provide land use planners and owners with greater flexibility to designate marginal farmland or land unusable for other purposes as sites for residential or commercial development and thus take pressure off farmland.

Finally, current restrictions on the use of cluster onsite systems, combined with the practice in some communities of setting a minimum lot size in the range of 1.5 - 35 acres if the lot is not served by a municipal sewer, increases the cost of housing. This discriminates against the provision of affordable housing. Large lot requirements also encourage low density "sprawl" and do not prevent loss of farmland because 35 acres is too small for most types of farms.

Land Use Summary. Maintaining the current code inflicts needless punishment on individual citizens without providing the claimed general benefits of land use control. In fact, the current code exacerbates the problem by hindering compact development, preventing the use of currently approved residential lots, and restricting alternatives to farmland as construction sites.

The holding tank – replacement system dodge.

Many citizens take advantage of the provision in the current code that allows access to more treatment technologies for replacement systems. They first install a holding tank. A holding tank looks like a septic tank, except it only has an inlet port. After the holding tank is installed, they apply for a permit to have the holding tank replaced with an A+4 mound. The plumber then cuts a second port in the holding tank, thereby converting the holding tank to a septic tank and hooks it up to the mound system. This is done at considerable extra cost because two permits are needed, and the installer must return to the site, must expose the holding tank to do the conversion and install the mound. The installation on the holding tank also requires activities that are not needed for a mound system, a water meter and an access

OTHER CODE CHANGES

1. The department has agreed with the DNR to propose a change in law that would give DNR sole jurisdiction over systems larger than 12,000 gallons design flow per day.

2. Restrictions on development of cluster systems are removed.

3. Plat review is minimized in the proposed code to eliminate non-value-added procedures.

4. NR 140 standards are adopted except for nitrate, and the Preventive Action Limit, (PAL) for chloride.

5. The petition for variance provisions are recognized in the code.

CORRESPONDENCE

Department of Commerce to Department of Health and Social Service re public health issue.

Department of Health and Social Service response to Department of Commerce re public health issue.

Washington County to homeowners re variance granted for holding tank on condition it be converted to A+4 mound

Wisconsin
Department of Commerce

P.O. Box 7969
Madison, Wisconsin 53707

Tommy G. Thompson, Governor
William J. McCoshen, Secretary

May 13, 1997

Mr. Chuck Warzecha
Division of Health
Department of Health and Family Services
1414 E. Washington Ave.
Madison, WI 53703

Dear Mr. Warzecha:

The Safety and Buildings Division is in the process of drafting a revision of the Private Septic System Code, which we have labeled the Private Onsite Wastewater Treatment System (POWTS) Code. As part of the code, we will set some standards that apply to currently installed POWTS systems. This agency needs to establish whether retroactive application of some provisions are reasonable and necessary.

The new code will continue to require the equivalent of three feet of soil between the bottom of a drain field and a limiting condition for all new and replacement systems. Limiting conditions are normally high groundwater or bedrock. This standard is sufficient to ensure that adequate wastewater treatment is achieved in a very broad range of local soil and use conditions. In many circumstances, less than three feet of soil is believed sufficient for treatment, but as the soil depth is decreased, the potential for of inadequate treatment increases.

We have been asked to apply the same three foot standard retroactively to approximately 680,000 installed systems. Where systems are discovered not to meet the three foot standard, they would be condemned and ordered replaced. In most cases, this would require the replacement by a mound system or a holding tank. Mound systems typically cost about $8,500, a significant amount of money for most Wisconsin homeowners. Holding tanks are discouraged because of high annual pumping costs and problems associated with the proper disposal of septic wastes.

The current three foot rule has been in place since about 1980. We estimate that there are between 190,000 and 222,000 systems still operating that were installed prior to 1980. Our staff believes that 40 to 50 percent of these systems are installed with less than three feet from the bottom of the drainfield to a limiting condition, and if replaced today, would require a mound or a holding tank. If staff estimates are correct, the total statewide cost of installing replacement mounds in these locations would range between $615,000,000 to $945,000,000.

A major purpose of the septic code is to protect public health. The systems in question have been in use in excess of 27 years. If these systems are a public health problem, there should be data to show where and under what circumstances health problems occur. Before imposing an expensive solution, we need to be sure of the extent of the problem and the likely benefits resulting from the expenditure.

Specifically, we would like to know if there are data linking these older septic systems to current health problems in the state. If yes, is the problem state wide or associated with specific local conditions such as housing density, soil or groundwater conditions? If the problems are localized, a local solution might be more appropriate.

If there are insufficient data to make a direct link between these older systems and observed public health problems, we would like your opinion on the efficacy of imposing the restriction statewide.

Sincerely,

Michael Corry
Administrator

Tommy G. Thompson
Governor

Joe Leean
Secretary

State of Wisconsin
Department of Health and Social Service

DIVISION OF HEALTH

BUREAU OF PUBLIC HEALTH
1414 E. WASHINGTON AVE., ROOM 167
MADISON WI 53703-3044

(608) 266-1251

May 19, 1997

Michael Corry
Safety and Buildings Division
Department of Commerce
201 East Washington Avenue
P.O. Box 7969
Madison, WI 53707

Retroactive Application of Private Septic System Code Revisions

Dear Mr. Corry:

In your May 13th letter to Mr. Warzecha, you asked if there were data available that links older septic systems to health problems in the state. Specifically, you are interested in those not having the minimum three-foot of soil above a limiting condition (either bedrock or high groundwater). No health studies have been conducted on that topic. The replacement cost for the number of potentially effected systems that you have outlined is very high. I agree that we should have significant tangible evidence of the health benefit prior to considering a general recall of the systems lacking three feet of soil. There is no empirical evidence statewide to currently justify such a recall.

There are some difficulties related to conducting health studies on this issue. The types of health effects generally thought to be associated with exposure to non-treated wastes from a failing septic system (diarrhea and flu like symptoms) are not uniformly reported to physicians, and if reported to physicians, they are not necessarily reported to public health officials. When these health effects are reported there is no automatic mechanism for follow up to identify an environmental cause. The study that your agency is currently sponsoring with the Marshfield Clinic will be of great interest for these reasons.

Failing septic system are public health hazards. The ability of your inspectors and your agents to take actions based on potential public health hazards should be maintained. Your agency's administration of the Wisconsin Fund serves a very important public health function by helping homeowners abate health hazards. The system replacement costs could be prohibitive without assistance, especially for low-income families. This fund could not support the estimated cost of replacing eligible systems potentially effected by this requirement.

In your letter you mentioned the option of developing a local solution if specific local conditions are better indicators of increased health problems. Because of the extreme variation in relevant geologic and demographic conditions across Wisconsin, such an approach may be appropriate. Local health departments may have records of anecdotal incidents of health effects related to failing septic systems. If you feel it would be appropriate, the Bureau of Public Health could help your agency gather that type of health information from local health departments. We would ultimately defer to the local health department representatives from the ILHR 83 external advisory committee on the local health issues.

I appreciate your interest in receiving continued input from our agency and the local health departments while developing this important administrative code. If there is additional information that I, or others in our agency could provide, please contact me at 264-9880.

Sincerely,

Tom Sieger
Environmental Epidemiology and Prevention Section Chief

cc: Bill Otto
Chuck Warzecha
Ken Baldwin/Meg Ziarnik
John Chapin

Washington County

Land Use and Park Department
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FAX: 335-6868

02/15/99

Gerald & Jennifer Pritzlaff
704 North Street
Random Lake, WI. 53075

Re: Sanitary Variance – Gerald & Jennifer Pritzlaff, SE ¼, Sec. 16, Village of Germantown
(Highway 145 & Lovers Lane - **Request for a residential holding tank**)

Dear Mr. & Mrs. Pritzlaff:

This letter serves to confirm action taken by the Park & Planning Commission at its meeting on February 10, 1999 . The Commission voted to grant the variance for a residential holding tank with the following conditions:

1) State and County permits for the holding tank be obtained.

2) The applicant/owner agrees to convert this system to an A+4 Mound System upon completion of the building.

If you have any questions, please do not hesitate to contact this office.

Sincerely,

Paul E Mueller HFW

Paul E. Mueller
Administrator

PEM:HFW:jwt

c: Town Clerk
DOC - Safety & Buildings Dept.