The On-site Septic System Permit Process

Public Report No. 18
July 1989

THE ON-SITE
SEPTIC SYSTEM PERMIT PROCESS

OFFICE OF THE OMBUDSMAN

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Legislative Assembly
Province of British Columbia

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July 10, 1989

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for Environment

Mr. Ken MacLeod
Deputy Minister
Ministry of Municipal Affairs
Recreation and Culture

Mr. S.P. Dubas
Deputy Minister
Ministry of Health

Dear Sirs:

Attached hereto is Ombudsman Public Report No. 18, regarding the review of the on-site septic system permit process. It is our hope that the Report forms a constructive part of the ongoing regulatory process.

My office appreciates the cooperation your officials have shown during this review.

Yours sincerely,

Stephen Owen

Stephen Owen
Ombudsman

Throughout human history, people have been faced with the problem of how best to dispose of their sewage with maximum efficiency and minimum damage to the environment. We all share in its creation. Yet few of us, especially those among us who are urban dwellers, give much thought to where it goes. And for the most part, even those of us who live in the country go through life never wondering about sewage. "Night soil" is no longer dumped into the streets from second-storey windows, as it was in centuries past; a mere flick of a handle sends it down the pipes and far away, comfortably out of our sight and our consciousness. However, during the past five years an increasing pressure to develop marginal land, and a heightened awareness of environmental sensitivities have intensified concerns in the minds of community planners, citizens' groups, homeowners and elected officials at the local and provincial level about the use of on-site sewage treatment.

We have two options for getting rid of our waste: disposing of it on the land where it is generated with an on-site system; or collecting it through a sewer system, treating it at a waste treatment plant, and then disposing the treated effluent into a body of water or onto land.

As communities expand, and as people seeking a rural lifestyle search for undeveloped property, land capable of absorbing waste becomes increasingly scarce. In order to obtain it, individuals lobby politicians and apply to public servants at provincial and local levels of government for permission to develop marginal land. Once permission is granted, the on-site sewage technology must be adapted to fit the constraints of the land.

During the past few years, the Ombudsman's Office has received a number of complaints concerning malfunctioning on-site septic systems. In addition to being a public nuisance and an environmental concern, a failing system very quickly becomes a potential health hazard. Effluent from these systems has the potential to contaminate ground and surface water with a variety of disease-causing microbial agents. This contamination becomes a potential health risk if the water is then used as a drinking supply, for recreation or for shell-fishing. Septic systems also fail by contributing unacceptable quantities of nutrients to ground water and surface waters.

Individuals contacting this Office are typically confused about who is ultimately responsible for helping them maintain a safe system. In some instances they have been

notified by a government official that they must do something to repair their malfunctioning septic system. These repairs are costly, and the process complex: two or three provincial Ministries may be involved; yet what is required to fix the system may remain elusive. In other cases, individuals involved in land use and land development feel harassed by government officials if necessary permits are not granted or are delayed. To many of those affected, the rules regarding the creation of a septic field seem unclear, ever changing and inconsistently applied.

On the initiative of the Ombudsman's Office, and with the cooperation of the Ministries of Environment, Health and Municipal Affairs, regional district officials and private consulting firms, a study was undertaken of the process required to obtain a permit to construct a septic system. The scope of the study did not include community on-site septic systems which serve two or more dwelling units. (The Ministry of Health has jurisdiction over these if the total flow is less than 5,000 gallons per day. The Ministry of Environment has jurisdiction if the flow is greater than 5,000 gallons per day.)

The objective was to examine closely the process in order to determine the source(s) of the public's confusion and its perception that the current system is unfair and accountable to no single government body. The series of recommendations in this report attempts to strengthen the process so that it leads to fair and consistent decisions regarding approvals.

In order to acquire a general familiarity with the technology of sewage disposal, the individuals involved, and different regional practices, we visited four different regions of the province to gather field-specific information: Chilliwack, Courtenay, Prince George and the Okanagan Valley. Officials in the Ministries of Environment, Health, and Municipal Affairs, Recreation and Culture, were interviewed as were planners and building inspectors from several regional districts. A literature search was conducted and those involved in the training of sewage professionals were contacted.

History of Complaints

The following summaries highlight the common themes of complaints received by the Office. The examples illustrate the breadth of concern expressed by complainants and do not necessarily identify the conclusions of this office. It is recognized that although thousands of permits are issued every year, a relatively small number of complaints about the process are received. At the same time however, the problems outlined in the following summaries have been confirmed by Ministry staff and indicate systemic concerns that have the potential to be extremely costly to the public purse.

1. Two land developers complained to the Ombudsman about the way in which a public health inspector had dealt with them for the past one and a half years. They had received initial approval from the municipality to develop their 15 acres into one-acre lots on the condition that the Ministry of Health's public health inspector approve the sites for on-site sewage disposal. The inspector had given written preliminary approval for the subdivision and indicated in the letter that final approval would be

granted once two conditions had been met. For the next one and a half years, the developers, employing an engineer approved by the inspector plus a contractor, worked towards meeting the two conditions. After the conditions appeared to change several times, they asked to see the Ministry's policy. Their request was denied. The complainants stated that the inspector at one point refused to speak to anyone except the engineer and on another occasion cited a memo from Victoria saying he did not have to answer any questions. Finally the complainants received a letter from the inspector stating that he was not going to spend any more time inspecting the site and that he was not recommending the subdivision for approval. The two developers were confused about the process and were at a loss as to what the public health inspector wanted. They felt that the inspector was making arbitrary decisions, the basis for which changed frequently.

2. A homeowner had been ordered by the health inspector to repair his malfunctioning sewage system because neighbours had complained and had alerted the Health Unit. After researching the problem, the complainant discovered that the permit for the system had been issued several years before he bought the home on the

regulatory criterion that there were 4 feet of soil in which to build a septic field. However, most of his lot was solid bedrock with a very small covering (less than 3 feet) of topsoil. The cost to repair the system had been estimated at $35,000. His equity in the home was $5,000. He felt the inspector was to blame for approving a system which obviously contravened the regulation. He did not have the money to fix the system; nor could he sell the house for the amount he had paid for it.

3. A women in her 60's complained to our office because she and her husband had been refused a permit to build a septic system on their property. They had purchased the property 20 years earlier for a retirement home, and had maintained the lawn and paid taxes to the municipality since that time. Her husband had recently retired and now wanted to start building. However, she had been told by the health inspector that there was not a sufficient amount of "native soil" on the lot and that therefore he was denying the permit. The complainant stated that the inspector informed her that she would not be able to build until a community sewer line was connected to her property.

4. A lawyer complained to our office that her client's applications for sewage permits had been treated in an arbitrary and inflexible manner. The client had applied for and received a permit to build a septic system on a piece of property. Several years later he applied for a similar permit for a nearby piece of property. During the time between the two applications the jurisdiction of the properties had been changed from one Health Unit to another. The application for the second property was rejected. The man was not provided with information as to the consequences and appeal procedures and claimed he had been misled by the inspector.

5. A homeowner complained to our office that his failing septic system, which he had recently spent thousands of dollars repairing, should never have been approved. While conducting the repairs, he had learned that the percolation test (percolation being the rate at which the soil absorbs water) submitted to the inspector was approximately 40 times faster than what his land currently perked at. He strongly suspected that the original information had been

incorrect. He wondered how this could have been overlooked at the inspection stage. Several of the neighbouring lots in the subdivision were still vacant and he wanted to make sure that those owners attempting to build on these lots were advised that putting a septic system in would be very expensive due to the slow-perking, clay soils.

6. A consulting firm, specializing in on-site septic systems, complained to our office about the lack of consistent decision making on the part of public health inspectors. Inspectors on occasion demand that systems meet criteria more stringent than the regulations require. In other cases, inspectors have instructed an applicant to get an engineer-designed system which once submitted for approval, is rejected by the inspector because the soil and ground water requirements cannot be met by the lot. The consultant alleged that such conclusions could be reached prior to the designing of a system and the expense of hiring an engineer. Some Health Units require fill to be placed prior to approval. Others do not. Finally, there is a perception that for

those individuals employing consultants for land development, the conditions necessary for approval of the permit are more rigid, numerous and stringent.

In the field investigations conducted by the office, we became aware of other complaints. Regional district planners in some areas are confused about the policies public health inspectors use, but have been unable to get clarification. An elected official shared a similar frustration, leading him to speculate that the inspector was rejecting and approving permit applications based on inappropriate criteria. Several building inspectors expressed doubt as to the efficacy of the approval process. They suspected that 25% of the systems that were being approved would soon fail.

Medical health officers commented on the staffing of Health Units. It is not unusual for a medical health officer to have been the health officer of as many as four Health Units at one time due to staff vacancies. The necessity of covering such large areas has precluded close involvement in issues such as sewage. The result has been that their ability to provide direction and leadership in policy formation and application has been eroded.

The public health inspectors as a whole felt greatly pressured by their heavy caseloads and by land development trends. Many of those interviewed had never been on an in-service training program and were unaware of policies being created and used in neighbouring Health Units. They had little time to attend to their prescribed duties, let alone staying informed about current trends in technology. They talked about the various pressures they are under to approve permits so as not to be seen as an obstacle to land development.

The Jurisdiction of the Ombudsman

Section 10 of the Ombudsman Act enables him to investigate a decision or recommendation made, an act done or omitted and/or a procedure used by an authority that aggrieves or may aggrieve a person. Section 22 sets out the administrative fairness principles by which actions referred to in section 10 may be measured.[1]

The expertise of the Ombudsman's Office lies in the application of these principles of administrative fairness. It is within the Ombudsman's mandate to ensure

that the process used in the approval of septic systems is a fair one. Specifically, clearly written policies derived from an appropriate statutory base should be applied; where discretionary powers are granted, this discretion should be structured; and the process should include both an efficient internal application procedure and an accessible external review procedure.

Historical Methods of Sewage Disposal

As stated earlier, generally speaking there are two options with regard to sewage disposal: dispose of it on-site or move it elsewhere (usually the nearest body of water) for disposal. Until recent times, people disposed of their excreta and other wastes on the site where the wastes are generated. However, with the coming of the Industrial Revolution, the urbanization of population and development of technology and industry led to the organization of public works to accommodate increased population densities. The first marketable flush toilet was created in 1810. The first sophisticated closed sewer was built in Hamburg, Germany in 1848.[2] Royal Commissions established to study wastewater problems in England in 1850 and 1900 concluded that on-site sewage

disposal was the best method of getting rid of wastes. However, even at that time, problems of insufficient treatment, overloading from increased water use, soil clogging and rising groundwater tables were reported. On-site disposal systems for the most part were slowly losing their utility in the urban environment.

The early 20th century saw the development of the central water carriage sewer system with the large centralized wastewater treatment facility discharging into the nearest receiving water.[3] A sophisticated technology and accompanying philosophy was developed to accommodate this accepted solution to the need for alternative disposal methods. On-site systems were deemed second rate, temporary or failure-prone often because the pressure for development had led to systems being installed on unsuitable land. Contaminated wells and nutrient-overloaded lakes contributed to the low public acceptance of on-site technology.

Only recently, the late 1970s in the United States and the late 1980s in British Columbia, have those involved in sewage issues begun to question the effectiveness of sewage

disposal in natural water bodies. Economic comparisons and environmental impacts have demanded a rethinking of the use of high cost, large scale collection and treatment. The current trend for many public health officials, engineers, politicians, and local government administrators is to support on-site disposal where appropriate.

Principles of On-Site Sewage Technology

For those unfamiliar with on-site sewage problems, understanding the process as it exists today can be difficult. There is a specific body of technology with its own language and principles, and there are often several levels of government involved. The following paragraphs describe the basic principles of on-site sewage disposal and explain the application process in B.C.

In rural unsewered areas, each residence must have a household method of treating its waste water. The disposal of effluent somewhere on the lot is referred to as on-site sewage disposal. The most common method of on-site disposal is the septic tank soil-absorption

system, in which waste water from the residence flows to the septic tank, where some settling of solids takes place. From there the liquid goes to a distribution box and then to a series of distribution lines made of perforated pipes. This entire system lies underground and utilizes the soil and air for the final breaking down of wastes.

The success of the system is dependent on several variables, all of which must be considered when the system is initially designed and installed.[4]

1. Permeability. This is defined as "the ease with which liquids can pass through the soil". Percolation rates (the measure of the soil's permeability) are stated in terms of minutes per inch. These rates are generally determined for on-site sewage purposes by following a prescribed process of digging holes and measuring how quickly the water placed in the hole disappears. A high percolation rate, as in clay soils, means liquid does not disperse quickly. A low percolation rate would be produced from a gravel soil where liquid disappears very quickly. In British Columbia, soils generally must perc at 30 minutes or less per inch in order to receive approval for a sewage system.

2. Slope. The distribution lines in a soil absorption field must be nearly level to ensure that the effluent coming from the distribution box is evenly distributed. If the slope is more than a few percent the lines must be laid perpendicular to the slope. Where the slope is too steep, it becomes impossible to lay the lines. The problem becomes more complex if the slope is irregular. Slopes of up to 30% are accepted in British Columbia as sites for disposal installations. The greater the slope, however, the more additional factors such as lot size and perc rates must be considered.

3. Depth to Bedrock. The depth to bedrock indicates the amount of soil available above the bedrock to treat and absorb the effluent. In British Columbia a minimum depth of 120 cm (4 ft.) of soil is generally required.

4. Depth to Other Restrictive Layers. Layers of relatively impermeable material may occur in the soil. When present these layers limit the amount of soil available for effluent treatment and may affect

the downward movement of effluent. They can cause effluent to surface down slope or in the absorption field. A minimum depth of 120 cm. (4 ft.) to impervious restrictive layers is generally required in British Columbia.

5. Depth to the Groundwater Table. Depth to the groundwater table is defined as the distance between the soil surface and the highest point to which the water table rises annually. A high groundwater table can interfere with the soil's capacity to absorb the effluent. And again, the thickness of the soil above the water table indicates the amount of soil available to treat the effluent. In British Columbia the minimum acceptable distance to the groundwater table is generally 120 cm (4 ft.).

6. Flooding. In areas where flooding occurs, absorption fields are already saturated with liquid and therefore are generally not capable of receiving effluent.

7. Climatic Influences. Factors such as annual precipitation, temperature range, depth of frost and wind patterns also affect the soil's ability to absorb effluent. These factors vary significantly from one area of the province to another.

In order to accommodate variations in site conditions, a variety of alternative sewage treatment designs have been developed and are used in British Columbia, including lagoons, leaching pits, raised beds and small packaged treatment plants. The most common system, however, is the septic tank plus soil absorption field.

In areas outside of the Greater Vancouver Health Departments and the Capital Regional District (CRD), systems for existing lots must be approved by the Ministry of Health's public health inspector. For the creation of new lots by subdivision, proposals are submitted to the approving officer appointed under the Land Title Act. The approving officer then asks for comments and a recommendation from the public health inspector. The two major pieces of legislation which guide the inspector in this activity are the Health Act and its Sewage Disposal

Regulations[5] and the Local Services Act and its Subdivision Regulations.[6]

It is important to note at this stage the role of the regional district. They are key players in the allowance of on-site systems because with a few exceptions most on-site systems exist in rural areas outside municipal boundaries and because regional districts' responsibilities include planning, zoning, subdivision regulation and the creation of waste management plans.

A regional district may pass a by-law under the Municipal Act setting minimum standards for sewage disposal systems within subdivisions that augment those standards set out in the provincial legislation. Such a by-law may prescribe different standards for lots that at least implement and perhaps exceed those standards, and prior to its drafting, the public health inspector or medical health officer may be consulted as the community expert on sewage disposal. Whether consulted or not, however, the inspector is expected to enforce the standards set by the by-law. Regional districts across the province vary considerably in their drafting of and enforcement of

by-laws. Some regional districts have yet to create specific by-laws governing subdivisions. In these instances the Local Services Act subdivision regulations apply. Others have spent considerable time working in conjunction with Health Unit staff zoning areas that require special sewage treatment and developing by-laws to ensure this. Examples of different by-laws are described later in this report.

Significant Events in the Evolution of On-Site Sewage Practises in British Columbia

1965 Creation of regional districts whose mandate is to carry out general planning for development in the various regions through the use of general regional plans and settlement plans for areas outside municipal boundaries.

1967 Introduction under the Health Act of the first regulations for on-site sewage disposal, entitled "The Sewage Disposal Regulations". Prior to 1967 local government by-laws, where in place, set the standards for the area. However, no requirements for permits or compliance had been in effect prior to this time.

1970 Introduction of subdivision regulations under the Local Services Act. For the first time, principles for approving land development regarding water supply, sewage and roads are legislated.

1974 Completion of task force report for the Environment and Land Use Committee on sewage disposal policies in unorganized areas. The report comments on several problem areas: effects of future planning and sewage disposal are not allowed for in the regulations; use of the perc test is limited, imprecise and inadequate; no requirement exists for periodic maintenance of disposal systems; use of packaged plants (a prefabricated mechanical device approved, designed and constructed to treat sewage) is not controlled by regulation; no ability is prescribed in the regulations to consider what happens in the case of developments being added to over a period of time. The report concludes that local ability to pay for sewers should not be the basis upon which sewers are installed because of the environmental and health considerations; the ability of health officials to approve alternate

systems should be clearly prescribed in the regulations; the lack of long-term planning is one of the major shortcomings of land development; and the regulations should not be amended to include packaged treatments plants.

1974 Sewage Disposal Regulations amended to include the use of packaged treatment plants, an appeal process, and some specified standards.

1979 Public Health Engineers transferred out of the Ministry of Health and into the Ministry of Environment, Water Management Branch. Although they continue to be consultants to public health inspectors, their focus shifts to water management issues.

1979 Report completed by the Okanagan Basin Water Board on Septic Tank Sewage Disposal Recommendations. Recommendations focus on environmental issues and include more stringent standards for sewage disposal within 300 feet of any body of water within the Okanagan Basin. The report implies that

provincial regulations are not strict enough and that its recommendations should be applied province-wide. Addressing the environmental issues means the health issues are addressed as well.

1983 Reversal of the funding formula for grants to build and repair community sewers and water systems. Prior to 1983, municipalities received 75% of the total cost of these works from the provincial government. The new formula provides a 25% rebate instead.

1983 Elimination of the regional planning mandate for regional districts. The technical planning committees, which required membership from all local and provincial agencies to consider all zoning and land use planning are discontinued.

1985 Amendment of Sewage Disposal Regulations for the second time. The appeal process is deemed to be ultra vires and is eliminated, and final inspections of system installations are no longer required.

1987 Report completed by interministerial technical committee on Rural Sewage Disposal Problems in B.C. The report identifies 73 areas in the province with significant sewage disposal problems. The cost for correction is estimated at $47 million. Recommendations call for a review of minimum lot sizes and revision of the Subdivision Regulations, implementation of additional site evaluation techniques, encouragement of regional districts to develop improved site evaluation procedures. Sources of the problem are described as small lot sizes, cumulative effects of development of an area on soil/water balance, weakness of the percolation test and drainage from uphill areas.

1988 Minister of Municipal Affairs, Recreation and Culture announces an additional $20 million under the Revenue Sharing Program for sewer and water systems. The general formula continues to be 25% provided by the province, increasing to 50% for high priority public health or environmental problems.

This series of events illustrates that government officials have been aware of weaknesses in the legislation and the process for approving system installations since 1974. Two attempts have been made to strengthen the regulations through amendments. The injection of an extra $20 million into the Municipal Revenue Sharing Program also reflects an acknowledgement by senior government officials of the need to address serious problems related to sewage.

There remains little dispute that on-site sewage problems continue to cause many government officials, elected politicians, land developers, and home owners enormous grief and frustration. The Charlie Lake subdivision near Fort St. John (correction costs $2 million), the Black Mountain Subdivision near Kelowna (correction costs $6 million), the Pritchard Subdivision near Kamloops (correction costs $1 million) and the Barnhardtvale subdivision also near Kamloops (correction costs $20 million) serve as reminders of the high cost of fixing malfunctioning systems. There is general agreement that we have seen only the beginning of the emergence of such problem sites. Old standards and practises used in

approving systems 15 years ago for the most part continue to be used today. As these systems continue to fail, the cost of correction will increase significantly. It would appear that strictly from an economic perspective, recommen- dations contained in government task force reports of 1987 and 1974 can no longer be ignored.

The following section describes the current permit approval system and makes recommendations for improvements, applying principles of administrative fairness.

The Permit Approval Process in British Columbia in Areas Outside the Greater Vancouver Health Units and the C.R.D.

1. Existing lots.

An individual wanting to build a septic system on an existing lot must complete an application for a sewage permit obtained at his local Health Unit. The application requires the following information: legal description and street address of the lot; lot dimensions; depth to hardpan, bedrock or water table;

percolation rate of the soil; distance from wells, streams or lakes; and the source of domestic water. A site plan is required indicating where the house and absorption field are to be located on the lot. A series of test holes must be dug and flagged for inspection, and perc tests must be conducted. Upon completion of the application, a public health inspector reviews the information and visits the site, and if all requirements have been met, upon payment of the $200 fee, a permit is issued. The system is installed, usually by a private contractor, and the public health inspector revisits the site to inspect the uncovered system. Upon approval, the system is covered with soil and is commonly seeded to grass.

If the conventional system requirements cannot be met (for example, distance to bedrock or groundwater table is less than 4 feet, the percolation rate is greater than 30 minutes/inch or the slope of the lot is greater than 30%), the public health inspector may request further testing, reports from geotechnical experts or hydrologists, or a design certified by an engineer before he issues a permit.

2. New Lots Outside Municipal Boundaries.

An individual wanting to subdivide his property, whether into 2 lots or 50, must submit his proposal to the Ministry of Highways approving officer. The Ministry of Highways is involved in subdivision approvals because of its responsibility for ensuring safe access to all new parcels of land. Health issues had formerly been seen as secondary to the issue of safe access. The approving officer then asks for the opinion and recommendation of the public health inspector regarding sewage disposal. The public health inspector then writes a letter recommending that the subdivision be either allowed or disallowed based on the criteria listed in the Subdivision Regulations.

The formal route of appeal against an inspector's decision regarding existing lots or subdivisions lies through judicial review in the Supreme Court of British Columbia. Informal appeal routes are less clear. Historically, individuals have complained to

the chief public health inspector, medical health officer, an elected local government official, the Minister, and the Ombudsman's Office.

As mentioned earlier, in some areas of the province, regional districts have enacted procedures that supplement requirements for the disposal system. For example, in the Fraser-Fort George area individuals wishing to build on a lakeshore property are subject to a regional district by-law which states that the site of the sewage disposal system must be at least 200 feet from the boundary of the lake. This setback is greater than the Ministry of Health guidelines and serves to protect the lake from nutrients seeping out from the septic field.

Another by-law in the same regional district using special supplementary letters patent requires that prior to the issuance of a permit, where the Ministry of Health approves a sewage lagoon system (a type of on-site evaporation system where the sewage is stored in a large constructed 'lagoon' and left to evaporate or percolate), the owner of the property must register

a restricted covenant with the Land Titles Office. The by-law ensures that when a malfunction occurs corrective action will be taken. Under the by-law the Ministry of Health public health inspector directs a regional district agent to inspect lagoons on an annual basis. If corrective measures are needed the owner is advised and given the opportunity to do the repairs. If the owner is negligent, through the by-law and registered covenant, the District has the authority to go onto the property, do the necessary repairs and charge the owner through taxes in arrears if necessary.

The Okanagan-Similkameen Regional District developed a by-law to protect and regulate existing and future land use in the Chain, Link and Osprey Lakes area. The setback distance for septic fields from the lakes is established through the use of a matrix that includes the percolation rate and the depth to the water table. This means that rather than an established setback distance, the location of septic tank absorption fields is allowed to vary with the

soil percolation rate and the depth to the water table. Again the public health inspector is expected to enforce the by-law requirements.

Within municipal boundaries, the general process for obtaining a permit is the same as described above both for existing lots and new lots, except that the authorities may change. First, some municipalities (and one regional district) have their own health inspectors so Ministry of Health inspectors are not involved. Second, approval for subdivisions is required from a municipal approving officer under the Land Title Act, rather than from the Ministry of Transportation and Highways approving officer also under the Land Title Act. The health official (either provincial or local government) then makes recommendations to the approving officer. Health units may cover organized (municipal) and unorganized areas. In these cases Ministry inspectors use municipal by-laws and report to municipal staff, at the same time as using provincial regulations and regional district by-laws and reporting to the Provincial approving officers.

Discretion

Discretion can be defined as "the liberty of deciding as one thinks fit" or "as the power to make a decision that cannot be determined to be right or wrong in any objective way."[7] The legislature may grant discretionary powers to individuals and agencies which must make decisions in circumstances when (1) it is difficult to create a single rule applicable in all cases, (2) it is difficult to identify all the factors to be applied to a particular case and (3) when the issue that is being addressed is complex. All three of these conditions apply to decision making regarding on-site sewage. The Sewage Disposal Regulations under the Health Act and Subdivision Regulations under the Local Services Act reflect this and grant the medical health officer and public health inspector discretion in several major areas as follows:

1. Where, in the opinion of a medical health officer, a health hazard exists with regard to domestic sewage, the medical health officer or public health inspector may order that something be done. A health hazard is defined as "a condition or circumstance that has, or may have, an adverse effect on the health of a person."

2. A permit is not granted until site investigation tests "have been carried out to the satisfaction of the medical health officer or public health inspector" and he has determined that "the construction, installation and ultimate use of the system will not contravene the Act or this regulation."

3. "Where a medical health officer or public health inspector is satisfied that it is impossible for a person to comply with" the requirements of a conventional system, he may issue a permit "containing conditions that he considers appropriate to meet the omitted standards having regard to safeguarding public health."

4. "In situations where (i) no records are available (ii) there is a probability of flooding or a high water table, the medical health officer or public health inspector may determine the groundwater table." If the medical health officer or public health inspector is not satisfied with the information he receives from the applicant regarding ground water and surface water, he "may require that alternative or additional tests be carried out...so as to ensure that proper surface and ground water quality will be maintained."[8]

Discussions with those in the field who apply these regulations and with experts who create policy reveal a range of opinions as to what action should be taken once a health hazard has been identified; what is meant by a successful installation of a disposal field; the practical utility of the site investigation tests prescribed in the regulations; how long a system should be expected to last before it is deemed worn out rather than prematurely failing; what alternate systems actually work in the long term; what are the appropriate site conditions necessary for a working system; and what conditions ensure that ground water and surface water will be unaffected by a septic field. Health units across the province vary in their interpretation of these specific areas of discretionary power.

Discretion is granted by the law makers in order that unique situations may be dealt with according to their specific circumstances. In other words, discretion should be applied differently in different situations. At the same time, it must be exercised in a way that is, and appears to be, fairly and consistently applied. This may be achieved through the structuring of the discretionary power.[9]

The certainty of fair and consistent decisions being produced depends on the application of clearly enunciated objective standards and principles contained in the administrative plans, policy statements, directives and memos that provide guidance for the interpretation of statutes and regulations. When there are no written standards and principles, every new situation requiring a decision or assessment must be re-evaluated. There is a danger that over time different criteria may be used, resulting in inconsistent and seemingly arbitrary decisions. In the absence of comprehensive and comprehensible policies, interpretations of the meaning of legislation may vary considerably according to the disposition of the public servant making a decision.

Recommendation #1

That the Ministry of Health develop a written comprehensive set of policies for the interpretation of regulations to be used by all Health Units across the Province.

The task facing those who have been given discretionary powers is to apply a consistent and reasonable set of principles to the decision making process on a case-by-case basis. The challenge comes in discovering the balance between fettering discretion and structuring it.

Discretion is fettered when the rules are so consistently and rigidly applied that a decision maker no longer considers the individual events of the case and thus loses the ability to accommodate changing circumstances. In developing guidelines, individual and regional differences must be considered.

Recommendation #2

That the policies developed under Recommendation #1 acknowledge the regional differences in climate, soil typologies, and local government involvement in order that inflexible policy statements and a fettering of discretion be avoided.

Health Units in British Columbia have varying histories and expertise with on-site sewage disposal due largely to differing pressures for land development. Sophisticated policies have emerged in some areas, while other regions are just beginning to see the need for policy development. Those creating policy must take their direction from the legislative provisions while taking into account practical differences in regional needs.

Recommendation #3

That the Ministry of Health indicate the legislative authority for each policy statement, beginning with a general statement of mandate reflecting the spirit of the legislation.

In meetings with the various professionals involved with sewage issues, it became clear that much confusion and distrust surrounded the practise of issuing sewage permits. The creation of a comprehensive set of policies available to the public will help demystify the process and assist the public in measuring administrative performance with confidence.

Recommendation #4

That the Ministry of Health policies be compiled in a manual to be available to the public.

Consultants and regional district staff indicated that further confusion is created when policies that have been in place are changed with no notification to the public.

Recommendation #5

That a method be established for notifying the public of changes in Ministry of Health policy.

A complaint often heard from public health inspectors and medical health officers is that sewage permits are frequently issued within a pressured environment. They would like stricter guidelines and stronger support for their decisions. Private consultants and regional district board members and planners complain that decisions made are not flexible enough. The question then becomes what criteria should reasonably be used by inspectors in the decision-making process and what are the irrelevant considerations which should be ignored?

As described by inspectors themselves, the "pressure" they feel comes from a variety of sources. What follows are possible scenarios at the subdivision stage:

1. Prior to contacting the public health inspector, the developer often talks to local politicians and representatives. His proposal may be seen as a tourist attraction, a source of job creation, and a general boost to the economy. The local paper may publish a story that in effect promotes the developer's idea and rallies public support.

2. The developer meets with the inspector and discusses the rules regarding sewage. The rules or policies are sometimes not comprehensive or printed. The inspector may be inexperienced or new to the particular Health Unit and may find it difficult either to articulate or to defend the policy. The developer is inevitably dissatisfied.

3. The developer then approaches the Ministry of Transportation and Highways approving officer with his plan. The approving officer writes to the inspector and asks for his opinion on the viability of sewage disposal in the proposed subdivision within 10 days. In order to provide an informed opinion the inspector must have a complete set of detailed plans for the proposal and must visit the site at least once (and sometimes over 20 times). At the same time during those 10 days the inspector must maintain a high caseload of his other duties. The proposal may include some sophisticated technology with which he may not be familiar with.

4. The developer may call the inspector and say that his test holes have been dug and his engineer has flown in from Vancouver for the day. He demands an on-site visit. The inspector may not be able to go that day but does do a site visit three days later. By that time some of the test holes have sloughed in. The backhoe operator is called in to clean them. The site is then visited again.

5. The approving officer may call the inspector to inform him that a road has changed from what the plan initially indicated. Some of the septic fields have been moved. The inspector must revisit the site and new perc tests may be required.

6. At some point, the inspector makes a final decision to recommend the proposal or not. He may consider such things as his neglected caseload; the likelihood of winning if the developer appeals to the court or political level; the reputation of the developer; the historical support given by his superiors; the most recent directive or court settlement announcement from the central office; the amount of information he has

been able to gather to defend his position, and the degree of delay already experienced by the developer in his decision.

Other individuals have complained that inspectors refuse to consider the use of the latest technology even when supported by data from other jurisdictions.

The legislature in its granting of discretion to the medical health officer and public health inspector has selected these individuals as the most appropriate individuals to carry out certain designated duties. It would appear, however, that the system as it currently operates may be subject to inappropriate influences that erode the statutory authority given to these individuals. The medical health officer and public health inspector must be able to consider all relevant criteria and ignore all irrelevant criteria in his decision-making tasks.

Recommendation #6

That a review of Health Unit caseloads be conducted to assess the amount of time available and necessary to make fair and reasoned decisions about sewage disposal systems, and that if such a review indicates that the current volume of caseloads inhibits such a process, additional staff be hired.

According to the vast majority of public health inspectors interviewed, priorities as assigned by the central office cannot be met because of the high volume of permit applications. In addition to sewage permits, public health inspectors are expected to monitor water sources, swimming pools, restaurants, dairies, and fish-processing plants. The designated priorities as established by the chief public health inspectors and supported by the Ministry in order of importance, are water, food, and sewage permits. A review of caseloads in light of these priorities would indicate whether in fact these priorities are being met; can realistically be met; and if extra staff is needed.

The reporting hierarchy varied within the Health Units visited. In certain areas the medical health officer dealt on a weekly, sometimes daily, basis with appeal-like complaints about sewage. In other areas, all complaints were dealt with either by the chief inspector or by staff in the Victoria office. When questioned about this, medical health officers explained that because of the high vacancy rate of medical health officer positions, it is not uncommon for a medical health officer to cover two,

three or even four health units. It is difficult to determine appropriate remedies for identified health hazards and provide support and direction given this range of responsibility.

Recommendation # 7

That a review of responsibilities and supervisory capacities be conducted to determine if medical health officers are able to provide adequate support to public health inspectors. If they are not able to do so, it is recommended that greater emphasis be placed on supervision through the use of training either by the chief public health inspector or by the Health Unit manager.

Very few inspectors could remember, when asked, the last time they had received some in-service training. They generally appear to have little opportunity to learn about the latest procedures and technologies used in other jurisdictions and in other areas of the province. Consultants complained that when they propose innovative or experimental methods for installing a system, the inspector refuses to consider the proposal presumably because he has no body of knowledge on which to draw for assessment.

This same principle applies to those inspectors new to an area. Historically, inspectors have been encouraged to move every two years. Because the climate, local government by-laws and soil conditions vary, each new area presents the inspector with a new set of variables upon which he must make decisions. Regional and province-wide training packages and in-service sessions would facilitate this process.

Recommendation #8

That an in-service training program be developed to provide public health inspectors with information on the current technologies and procedures being used.

Recommendation #9

That a training package be developed for each region to be used for training public health inspectors new to the area.

In order to assist inspectors in justifying their decisions, more information is needed on the success rates of new technologies and the innovative designs and solutions to problems being used in other parts of the province. Very few surveys and evaluations of current designs are being carried out within the Health Units

themselves. The central office could encourage increased monitoring by designing survey instruments and by passing on information on methods being used in other parts of the province. Inspectors commonly stated that they need more support for their decisions in order to defend their positions in a world of increasing litigation and profitable land development.

Recommendation #10

That the role of the Public Health Inspection Branch of the Ministry of Health be expanded to include the collection and generation of research data related to on-site systems, and that the Branch coordinate and encourage research activity at the college, university, institute and field levels.

Individuals calling our office have expressed frustration at the lack of a formal appeal mechanism for decisions made by public health inspectors. They relate their experiences of, after being denied a sewage permit, requesting the medical health officer, as the senior local health official, to review his inspector's decision. The perception of these individuals is that the medical health officer discusses the decision with his chief inspector who in turn consults with the inspector who originally

made the decision. No true independent review is conducted. The medical health officer is seen to be merely restating what his staff have told him.

Principles of fair administration require, in most cases, that at least one level of appeal be available regarding a decision. True rights of appeal to an independent body engender public confidence in the quality of decisions made and in the system as a whole.[10] Decisions made by inspectors to refuse permits are based on technical requirements. The appropriate appeal body must then consist of experts capable of assessing the technical merits of the original decision.

Recommendation #11

That the legislation be amended to provide a formal mechanism for appeals of decisions made by health officials regarding public health issues to the Environmental Appeal Board, or a similarly constituted and mandated board.

Inspectors and complainants have indicated to our office that poor workmanship contributes to the failure of many systems. Policy states that inspectors cannot recommend a design or system because of the liability implications.

Individual homeowners often have little knowledge of the installation of systems. It has been suggested that in order to guard against inexperienced installers, contractors be required to apply for certification. If the inspector discovers that a contractor is not installing good quality systems he can then ask the contractor to improve his standards or force relinquishment of the certification.

Recommendation #12

That contractors and septic tank installers be required to apply for certification and that certification be granted by one central board.

A second suggestion with regard to contractors is to require them to be accountable for their work through the posting of a bond prior to the subdivision approval stage. If a system fails through no fault of the homeowner, the bond money could then be used to repair the system. If at the end of a specific time period all systems are functioning properly, the bond money could be rolled over into a fund for developing a community sewer system. As the process currently operates, when systems malfunction 6 months, 2 years or 5 years after the

installation, the homeowner typically does not know who is responsible. The contractor may no longer be in business or may have moved out of the area.

Recommendation #13

That contractors or developers be required to set aside a bond for a time-limited period as a form of insurance against future malfunctioning sewage disposal systems.

The two task force reports prepared during the past 15 years recommended that the regulations under both the Health Act and the Local Services Act be revised. Comments from inspectors, consultants, and experts in other jurisdictions support these recommendations. This office would like to draw further attention to the need for regulatory revision by reiterating the four most recent task force report recommendations. From a fairness point of view, these changes would further alleviate the "pressure" felt by inspectors to make decisions that in some cases may include irrelevant criteria.

The task force technical committee identified 73 areas in the Province which posed public health risks related to malfunctioning septic systems. It concluded that with the

level of Provincial grants available, the cost of correction was too high for many areas. It therefore recommended:

Recommendation #14

For those areas identified as having public health risks resulting from malfunctioning sewage disposal systems that a Cabinet submission for special funding to study alternative solutions and to construct corrective works be developed.

Public health inspectors, waste management officials and planners at the provincial and regional district levels talked often about the need for planning with regard to sewage issues. The general theme of the comments was that those involved in issuing permits do not have the legislated authority to adequately assess the ability of an area to absorb effluent at the prescribed subdivision density. The regulations to date do not allow for consideration of anticipated use. In other words, although each lot in a proposed subdivision may individually meet the requirements for installation of a septic system, when considered as a whole the proposed subdivision may not be capable of absorbing the total volume of effluent.

To reiterate the technical committee's recommendations:

Recommendation #15 (amended)

That the Ministry of Municipal Affairs, Recreation and Culture, in conjunction with affected agencies, conduct a review of the Provincial Subdivision Regulations and establish appropriate revisions in an effort to prevent future public health problems.

Recommendation #16 (amended)

That the review recommended in Recommendation #15 include additional site and area evaluation requirements.

Recommendation #17 (amended)

That regional districts and municipalities be encouraged to base zoning by-laws on sound land use planning which considers soil type, groundwater table, and other factors which affect on-site sewage disposal.

Conclusion and Summary of Recommendations

This report has examined the existing process governing the issuance of permits for on-site septic systems and has assessed that process in light of accepted principles of administrative fairness. We conclude that successful management of the process, which is complex and involves a variety of agencies and individuals, may be enhanced by a greater knowledge of sophisticated technology and a broader familiarity with field experiences than generally exists at present.

In discussing the permit application process with individuals throughout the Province, several officials questioned whether or not the public health inspector is the most appropriate person to issue septic system permits. Suggestions have been made to our office that building inspectors, municipalities, or Ministry of Environment staff should administer the Program. However, it is our conclusion that the public health inspector is in the most effective position to oversee the permit application process. A malfunctioning system translates into a potential health hazard. The public health inspector is trained to manage potential health hazards and has the support and expertise of other Health Unit staff members.

The interministerial task force on rural sewage found that an expenditure of $47 million of public funds would be required to remedy the hazards created by deficient septic systems brought to its attention in 1987. Additional problem sites have been identified since that time. Implementation of the recommendations of this report, especially those relating to a more accountable permit-approval process, long-term planning and greater

cooperation among decision makers, may result in more efficient management of the approval process. The resulting minimalization, if not elimination, of hazards requiring the expenditure of public funds may result in a saving of far more than the cost of implementing the recommendations, which is estimated to be a fraction of the $47 million identified by the task force.

Recommendation #1

That the Ministry of Health develop a written comprehensive set of policies for the interpretation of regulations to be used by all Health Units across the Province.

Recommendation #2

That the policies developed under Recommendation #1 acknowledge the regional differences in climate, soil typologies, and local government involvement in order that inflexible policy statements and a fettering of discretion be avoided.

Recommendation #3

That the Ministry of Health indicate the legislative authority for each policy statement, beginning with a general statement of mandate reflecting the spirit of the legislation.

Recommendation #4

That the Ministry of Health policies be compiled in a manual to be available to the public.

Recommendation #5

That a method be established for notifying the public of changes in Ministry of Health policy.

Recommendation #6

That a review of Health Unit caseloads be conducted to assess the amount of time available and necessary to make fair and reasoned decisions about sewage disposal systems, and that if such a review indicates that the current volume of caseloads inhibits such a process, additional staff be hired.

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FOOTNOTES

1. Ombudsman Act, R.S.B.C. 1979, C.306

2. Rein, Laak, Wastewater Engineering Design for Unsewered Areas, (Michigan: Ann Arbor Science Publishers, Inc., 1980), 1-2

3. Arild Schanke Eikum and Robert W. Seabloom, Alternative Wastewater Treatment: Low-Cost Small Systems, Research and Development. (Boston: D. Reidel Publishing Company, 1981), 3-4

4. Philip, Epp, 'Soil Constraints for Septic Tank Effluent Absorption' (B.C. Ministry of Environment, Kelowna, B.C., 1984), 21-35

5. Health Act, R.S.B.C. 1979, C.161 and Sewage Disposal Regulation B.C. Reg. 411/85, O.C. 2398/86

6. Local Services Act, R.S.B.C. 1979, C. 247 and Subdivision Regulations B.C. Reg. 262/70 O.C. 1171/59

7. J.H. Grey, Discretion in Administrative Law (17 Osgoode Hall Law Journal) 107

8. Numbers 1-4 are quotations from The Health Act, R.S.B.C. 1979, C.161

9. H.J. Wilson. "Discretion" in the Analysis of Administrative Process ((1972) 10 Osgood Hall L.J.) 122-125

10. D.P. Jones and A.S. deVillars, Principles of Administrative Law (Canada: Carswell, 1985) 329-355

BIBLIOGRAPHY

Texts and Articles

American Society of Agricultural Engineers
Proceedings of the Fourth National Symposium on Individual and Small Community Sewage Systems, New Orleans, Louisiana Dec. 1984

Bernhardt, Alfred P. Treatment and Disposal of Wastewater From Homes By Soil Infiltration and Evapo-transpiration (2nd ed.), Toronto: University of Toronto Press, 1973

Bish, Robert Local Government in British Columbia Union of British Columbia Municipalities in Cooperation With University of Victoria School of Public Administration, Vancouver, 1987

Case, E.S. and Tinkle, P.Z.R. and Lucas, A.R. eds. Fairness in Environmental and Social Impact Assessment Processes, Canadian Institute of Resources Law, Faculty of Law, University of Calgary, 1983

Eikum, Arild Schanke and Seabloom, Robert W. Alternative Wastewater Treatment: Low-Cost Small Systems Research and Development, Boston: D. Reidel Publishing Co., 1981

Evans, Barry M. "Aerial Photographic Analysis of Septic System Performance' in Photogrammetric Engineering and Remote Sensing, Vol. 48, No. 11, November 1982

Graham Engineering B.C. Ministry of Municipal Affairs, Report on Single Family Infiltration/Evaporation Lagoons in the Northern Interior Health Unit, Ministry of Municipal Affairs, November 1983

Hummel, Ralph P. The Bureaucratic Experience (2nd ed.) New York: St. Martin's Press, 1982

Jewell, William J. and Swan, Rita, eds. Water Pollution Control in Low Density Areas - Proceedings of a Rural Environmental Engineering Conference, New Hampshire: University Press of New England, 1975

Laak, Rein. Wastewater Engineering Design For Unsewered Areas Ann Arbor, Michigan: An Arbor Science Publishers, 1980

McClelland, Nina I. Individual Onsite Wastewater Systems - Proceedings of the Third National Conference Ann Arbor, Michigan: Ann Arbor Science Publishers Inc., 1976

Miner, Stuart L. 'Implementation Issues of On-Lot Management' in Biocycle, Pennsylvania, May/June 1983

National Smallflows Clearinghouse Small Flows January 1989. U.S. Environmental Protection Agency West Virginia, 1989

Nova Scotia Departments of Municipal Affairs, Health and Environment Wastewater Management Districts: An Alternative For Sewage Disposal In Small Communities May, 1983

Sewage Disposal Task Group Review of Sewage Disposal Policies in Unorganized Areas of B.C. Interim Report No. 1, 1974

Spencer, James 'Woodstock's Onsite Wastewater Systems' in Biocycle, Pennsylvania, Sept/Oct. 1983

U.S. Department of Health, Education and Welfare Manual of Septic Tank Practise. U.S. Government Printing Office, Washington, D.C., 1963

U.S. Environmental Protection Agency, Design Manual - Onsite Wastewater Treatment and Disposal Systems, Office of Water Program and Research and Development, Cincinnati, Ohio, 1980

U.S. Environmental Protection Agency Planning Wastewater Management Facilities for Small Communities Cincinnati, Ohio, August 1980

Waller, D.H. and Townsend, A.R. eds. Appropriate Wastewater Technologies For Rural Areas Under Adverse Conditions, Halifax, Nova Scotia: Tech Press, 1986

Winneberger, J.T. and Anderman, W.H., Jr. Failure of the Engineering Approach to Design of Septic Tank Systems and the Development of Septic Tank Districts, Eldorado County Health Department, Placeville, California, September, 1971

Unpublished Papers

B.C. Water and Waste Association Conference papers on Wastewater Technologies For Small Communities and Rural Areas Under Adverse Conditions. Whistler, 1988

Epp, P.F. 'Soil Constraints for Septic Tank Effluent Absorption, British Columbia Ministry of Labour, Kelowna, B.C., 1984

North Carolina Division of Health Services and North Carolina State University Soil Science Department. 'Papers from the 1982 Southeastern On-site Sewage Treatment Conference', September, 1982

Roark, Tim 'Suggested Amendments to the Health Act of B.C., Discussion Paper'. Central Fraser Valley Health Unit, Maple Ridge, B.C., September 1985.

The Task Force on Septic Tank Regulations 'Septic Tank Sewage Disposal Recommendations for the Okanagan Basin' Okanagan Basin Water Board, October, 1979

U.S. Environmental Protection Agency 'Alternatives For Small Wastewater Treatment Systems'. October, 1977

U.S. Environmental Protection Agency and The Municipal Finance Officers Association. Draft Manuals of Environmental Planning, 'Small Community Wastewater Systems', 'Wastewater Treatment Systems', 'Sewer Extension as Septic System Relief Projects', May, 1980

Legislation

Health Act, R.S.B.C. 1979, c.161

Local Services Act, R.S.B.C. 1979, c. 247

Ombudsman Act, R.S.B.C. 1979, c. 306

Regulations Governing Sewage Disposal, O.C. 453, 1968

Sewage Disposal Regulation, B.C. Reg. 411/85, O.C.2398/85, B.C. Reg. 577/75 O.C. 2757

Subdivision Regulations B.C. Reg. 262/70, O.C. 1171/59