REGION OF OTTAWA-CARLETON REPORT
RÉGION D'OTTAWA-CARLETON RAPPORT

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DATE 26 August 1998

TO/DEST. Co-ordinator
Planning and Environment Committee

FROM/EXP. Commissioner, Planning and Development Approvals Department
Commissioner, Environment and Transportation Department
Medical Officer of Health, Health Department

SUBJECT/OBJET **RURAL SERVICING STRATEGY**

DEPARTMENTAL RECOMMENDATION

That the Planning and Environment Committee recommend that Council approve the following:

1. **A request for funding to the Ministry of the Environment under the Water Protection Fund to assist in the funding of the proposed rural servicing strategy for the rural areas in Ottawa-Carleton;**

2. **A request for funding to Agriculture Canada to assist in the collection of background data for the rural servicing strategy;**

3. **Participation with the United Counties of Prescott and Russell and Stormont, Dundas and Glengarry in their Ground and Surface Water Resource Management Pilot Project for those areas where the United Counties and the RMOC have overlapping watersheds and aquifers.**

PURPOSE

The purpose of this report is to seek Council approval of two funding requests to assist in the preparation of a rural servicing strategy, and also to support staff participation with neighbouring counties undertaking a Ground and Surface Water Resource Management Pilot Project. This report has the further purpose of updating Council on the rural servicing initiative.

BACKGROUND

RMOC has become involved in the development of a rural servicing strategy in order to ensure that groundwater, as a vulnerable resource, is protected. Specifically, the RMOC has significant interests in ensuring its protection, including:

- the Regional Medical Officer of Health is mandated to protect public health;
- the Region is wholly or partially responsible for public water supply and sewage collection and treatment;
- the Region establishes the planning framework within which development decisions are made and is responsible for implementing the Provincial Policy Statement, issued under The Planning Act;
- the Region will be responsible wholly or partially for corrections to private wells and sewage disposal systems, in the case of failures; for example, Vars, Carlsbad Springs.

In September 1993, Council approved a Rural Servicing Strategy for Ottawa-Carleton. This Strategy was developed in recognition of the Region's responsibilities and in an effort to prevent future problems related to groundwater. The Strategy (attached as Annex A) included the following key elements:

- the need to develop a rural settlement strategy for Ottawa-Carleton
- recognition of the appropriateness of communal systems for certain developments in the rural area; along with the identification of RMOC as a potential owner and operator of these systems based on the principle of user pay and; the request to have MOE involved in the review and identification of alternate technologies for communal systems
- recognition of the appropriateness of private individual services for certain developments in the rural area, with recommendations focused on protecting the quantity and quality of the groundwater at the time of development
- promotion and distribution of educational material to rural landowners on the ways to ensure long term protection of the quality and quantity of groundwater in the rural area.

ACCOMPLISHMENTS TO DATE

Since 1993, staff in four key departments (Planning and Development Approvals, Finance, Health, and Environment and Transportation) have been working together to implement Council's strategy. The following is a summary of the activities and accomplishments:

1. Amendment # 47 to the 1988 Regional Official Plan was approved, allowing for development in the rural area on the basis of communal systems for subdivisions and condominiums as demonstration projects. The purpose was to develop experience in operating alternative technologies (the limited application to "demonstration projects" was replaced with a broader policy in the 1997 Regional Official Plan).
2. The 1997 Regional Official Plan defines objectives and policies for communal water and wastewater services, incorporating:
    - the need to ensure that there is water of sufficient quality and quantity when approving rural development;

- the need to undertake an aquifer management strategy
- policies to permit communal systems for higher density development e.g. villages;
- policies to permit private services for low density development;
- a strategy that rural development will continue to account for approximately 10% of the growth in the RMOC'

3. Regional staff worked closely with area municipalities and provincial agencies on the mechanisms to ensure properly installed septic systems and wells
4. Consultation with the public took place through groundwater awareness evenings in several rural municipalities
5. Specific requests were made to MOE:
   - to place efforts into researching new technologies for communal system; and
   - to change the legislation to enable area municipalities to require the regular pump-out of septic systems and well water testing.
6. A study was completed comparing the cost of all services for country lot estate development on communal as opposed to private individual services. The Study concluded communal servicing would not be cost-effective for country lot estate development.

RURAL SERVICING STRATEGY UPDATE

Much work remains to be done, including further implementation of the policies in the new Regional Official Plan . More specifically, staff need to:

1. Define funding mechanisms for communal or central system extensions in the rural area;
2. Define what is meant by "user pay" in the rural area;
3. Gain additional knowledge and experience with communal systems. Since the adoption of OP Amendment # 47, only two proposals have been approved. Neither are operational.
4. Consider the impact of changes in legislation, which have made the inspection of small septic systems the responsibility of the area municipality through the Building Code;
5. Prepare a more detailed rural settlement strategy in the context of the overall regional development strategy.

In light of the above, and based on recent experience, staff have been meeting to discuss priority issues associated with rural servicing. The proposed initiatives will focus on the following priorities:

- identification of responsibility for treatment, collection, operation and maintenance of communal systems among the various parties including developers, area municipalities and RMOC;
- development and recommendation of appropriate funding mechanisms;
- identification of constraints to servicing in the rural area;
- identification and assessment of servicing problems and priorities for servicing;
- review and recommendations of the types of communal water and wastewater technologies that the RMOC could favour
- development of an aquifer management strategy which will identify groundwater availability and quality, areas with susceptible contamination , means to acquire maintain and distribute

reliable groundwater monitoring data, well head and aquifer protection strategies links to surface water.

In order to accomplish this strategy, four internal working groups have been established to address funding; aquifer management strategies; technology; and policy planning. Co-ordination and direction is provided through a Core Working Group made up of the chairs of the individual working groups, including staff from the Environment and Transportation, Health, Finance, Legal, and Planning and Development Approvals Departments.

OPPORTUNITIES FOR EXTERNAL FUNDING

Provincial and/or federal funding assistance may be available. The Ontario Ministry of the Environment's Water Protection Fund is one possibility which staff are exploring. A resolution from Council is required to apply. In addition, there is an opportunity to piggy-back onto similar funding requests by the United Counties of Prescott and Russell and Stormont, Dundas, and Glengarry for those areas of the Region where there is an overlap in watershed or aquifer boundaries. Finally, staff are pursuing opportunities at Agriculture Canada for funding to assist in the collection of certain data.

FINANCIAL IMPLICATIONS

As with all external funding programs, there is uncertainty about whether, or how much, funding may come from outside the Corporation. Staff are proposing a 1999 budget for the rural servicing strategy in the amount of approximately $300,000. Due to the increased scope of work and level of detail required, this budget represents an increase of $125,000 above the funds set aside in 1998 in the approved Servicing and Economic Analysis PDAD budget. Any revenues received from external grants will be applied against the overall budget authority of $300,000, in order toe reduce the overall regional requirement.

CONSULTATION

Varying levels of public consultation are required for the work plan. Each working group will determine the extent of consultation required, with co-ordination provided by. the Core Working Group to ensure a consistent and comprehensive approach. At a minimum, the consultation will be guided by the requirements as prescribed under the Planning Act.

Approved by
N.Tunnacliffe, MCIP, RPP

M.J.E Sheflin, P. Eng.,

Dr. Dunkley, for
R. Cushman, M.D.

Attach. (1)

A RURAL SERVICING STRATEGY FOR OTTAWA-CARLETON

June, 1993
#23-07

Planning Department
Health Department
Environmental Services Department

Ottawa-Carleton
A PARTNERSHIP IN PROGRESS

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A. INTRODUCTION

1. Background

On February 26, 1993, staff presented a report on rural services to a combined meeting of Environmental Services, Health and Planning Committees. This report was issue oriented and made no recommendations to Regional Council. The emphasis was on discussion to ensure a common understanding of rural servicing issues. Some key points for which there was general agreement include:

- groundwater is at risk from current rural servicing practices;
- rural residents should have some level of certainty about the safety of their water supply;
- we should examine the communal servicing option more closely, as proposed by MOEE; and
- in order to continue to provide for rural development on private services, the regulations should be applied in a rigorous and consistent fashion.

The direction of the combined committees was to consult with a wide range of interests, to get some estimates of the costs associated with some of the options being proposed and to report back with more specific recommendations.

Staff consulted with a wide range of interests while exploring options. A summary list of contacts is found in Annex A. Detailed responses are available on request.

2. Objective of this report

The objective of this report is to propose a rural servicing strategy. This is a strategy that will:

safeguard the quality and quantity of groundwater
- address issues associated with existing development
- prevent future problems
- monitor the quality and quantity of groundwater

while allowing choices of lifestyles
- accommodate the opportunity for a range of rural lot types from country lot to village development

and ensuring that any review and approval process is effective, timely and affordable
- establish an appropriate review process (streamlined, not more bureaucratic)

- provide the resources to ensure that the review process is implemented

This report does not restate the issues described in detail in the previous report: "Rural Servicing and the Protection of Groundwater in Ottawa-Carleton" (February, 1993). It builds on previous reports, makes specific recommendations in a few areas and sets a direction in others. If agreement is reached on the direction, further work will still be required. There may be a series of reports each dealing with a specific issue, its resolution and implementation.

The principal objective of the work is the protection of groundwater resources both in terms of quality and quantity. This could lead to policies in many areas. But, for the time being, we have chosen to concentrate on the issue of the provision of water and sewage to residential development in the rural area. There are many other issues that we do not address such as the servicing of non-residential development, stormwater management, the identification of potentially contaminated sites and so on.

Therefore, the report answers the following questions:

1. Where and under what conditions would rural development continue to be permitted on private individual services?

2. Where and under what conditions would rural development be required to occur with extensions of central or with communal services?

3. How do we ensure that private individual services are installed correctly?

4. How do we ensure that existing and new private services are maintained and function properly?

5. How do we ensure that implementation of any program is
   - affordable
   - consistent
   - effective

The report examines rural development in general and then focuses in on communal systems and private individual wells and septic systems.

3. Assessing the Risk of Contamination

A common and sensible goal is to reduce the amount of effort and resources placed in remedial actions and to place more emphasis on prevention. The difficulty in applying this to groundwater programs is that it is difficult to scientifically predict many things with certainty:

- whether or not contamination will occur at a specific location,
-the demands that all future property owners will place on the well and septic system,
-whether or not a site is going to support an in-ground sewage disposal system,
-what the cumulative impact will be, and so on.

What is possible however, is to consider the level of risk associated with a particular site and a particular system. Most of the policy direction proposed in this report starts from this perspective.

Risk can be viewed as human health risk (is there a potable water supply) and general environmental risk (is the sewage disposal contaminating the groundwater and/or surface water). This differentiation is important because piped central water may provide a potable supply but unless the failing septic systems are replaced, the groundwater will continue to be contaminated.

The main factors affecting the level of risk are:

- density and number of systems (see Annex B for lot creation data)
- site conditions
- design and installation of facilities
- age of facilities
- maintenance of facilities
- increased water use.

Any policy direction is based on determining how much risk we are prepared to take and how to minimize the risk based on appropriate practices and programs.

B. DEVELOPMENT OF A RURAL SERVICING STRATEGY FOR OTTAWA-CARLETON

1. Settlement Strategy

a) Introduction

Based on broad discussion and evaluation, a general rural settlement strategy has been developed. In general it proposes:

- Higher density development (eg-villages) should be on communal or central services;

- Private, individual services are still appropriate for low density development (ie-large lots) provided they are carefully installed and maintained; and
- All future development in the rural area should be carefully planned to ensure that: the rural character is maintained, the amount of rural development does not jeopardize Council's strategy to provide for approximately 90% of development in the urban area, any communal servicing requirements are financially feasible and the quality and quantity of groundwater is safeguarded.

These proposals are discussed in more detail below.

b) Regional Official Plan

Currently the Regional Official Plan intends that rural development take place on the basis of private individual services except in some cases where health problems exist. There are also specific exceptions related to such things as mobile home parks. Therefore, Regional Council does not consider proposals to develop villages or country lot subdivisions on the basis of communal systems. The MOEE Interim Servicing Guidelines released in July, 1992 express a preference for development on central or communal services prior to considering private individual services.

The Official Plan intends to provide for a variety of housing choices. It therefore anticipates a full range of rural housing types from scattered rural to country lot subdivisions to villages.

Finally, the Regional Development Strategy in the Official Plan is based on the assumption that 10% of the population will choose to live in the rural area. This means that 90% of the population will be in the urban area where transportation, sewer and water services can be provided in an effective manner.

The challenge is to develop policies that continue to provide for a range of choices while:

- planning for services appropriate to the density; and
- ensuring that the Regional Development Strategy is not undermined.

c) Types of Rural Development

Rural development can be described in terms of the way in which the lot is created and also in terms of the density. This is summarized below.

Table 2
Method of Rural Lot Creation

TYPE	BY SEVERANCE	BY SUBDIVISION
Farm	yes	no
Hamlet/Strip	yes	no
Country Lot	yes	yes
Village	yes	yes

i) Infill

This can vary from a lot created by severance within a village, to a hamlet, to a strip along a rural road. There is a concern that these lots are often too small to allow for attenuation of nitrates from septic systems. The previous report suggested that an impact study could be required prior to approving a severance in order to ensure that the lot is large enough. (Impact study refers to a study defined by MOEE to ensure that nitrates are of a sufficiently low concentration by the time they reach the boundary of the lot). However, further discussion has revealed that it is not possible to do an impact study of a single lot; the study applies to a larger area and determines the *likelihood* of the nitrates being addressed.

Therefore, in the absence of an impact study, the minimum lot size for infill severances on private services should be increased to 1 ha. This is considered by MOEE to be a reasonable size to ensure that nitrates will not be a problem in most cases. Landowners are still able to do an impact study to support lots smaller than 1 ha, but they must recognize that it should be done for a fairly broad area and will probably cost in the neighbourhood of $3000. That is the same general cost as an impact study for a plan of subdivision.

The Region and municipalities will have to consider whether or not they want to permit severances in villages on private services if the lot size is to be so large.

Finally, all of the proposals found later in this report concerning the installation and maintenance of private services will apply.

ii) Scattered Rural

This is low density development including farm severances and country lot severances on lots greater than 0.8 ha in size. It

is likely to continue to occur and is probably fairly easily accommodated in a rural servicing strategy.

However, all of the policies for more rigorous attention to the installation and maintenance of private services would apply here. The requirement for 1 ha minimum lot sizes is also appropriate. Often these lots are quite isolated and the 1 ha minimum lot size, based on retaining nitrates within the property boundary, may seem unreasonable. However, this is the only way to address the potential cumulative effect of any future infill lots.

iii) Village Subdivisions

Approximately 90% of village lots are created by plan of subdivision in Ottawa-Carleton. The densities of these lots often approach those of suburban areas. However, the application of MOEE's requirement for impact studies to support septic systems is resulting in the need for fairly large lots in many cases. Large lots tend not to be the objective in terms of efficient use of the land from an environmental and economic perspective. It would be preferable to have relatively small lots and it would therefore be preferable to have communal or central services in villages where additional growth is anticipated.

iv) Country Lot Subdivisions

Originally, country lot subdivisions were encouraged as a form of development so as to avoid individual lots in a strip along roads. There is also a more rigorous review of subdivisions than there is of scattered rural severances which provides for more opportunity to achieve many planning objectives.

The Regional Official Plan requires that these subdivisions not take on an urban appearance: they are low density and built on treed and rolling sites. They are also not permitted in the only available path of future village or urban expansion.

Applications for country lot subdivisions require studies to support the safe and long term operation of a well and septic system. Recent MOEE Guidelines require an impact assessment related to ensuring that any nitrate contamination is retained on the individual lot. This requirement will be applied to new subdivisions and the studies will be reviewed by MOEE. Where the Region is reviewing the conditions on subdivisions that have lapsed, regional staff is requesting an impact study. In these cases, the original studies did not include an impact assessment and a number of years may have passed. While the actual hydrogeology of the site may not have changed, the application for resubdivision provides an opportunity to include the additional requirement for an impact study. In these

circumstances, the review is being undertaken by another professional at the expense of the developer. MOEE is not reviewing these.

Country lot subdivisions are limited to stages of 40 lots to provide an opportunity to review the functioning of the private services prior to permitting new lots to be approved. However, there is really no limit on the total number of lots that can be approved over a period of time on contiguous parcels of land. From a land use planning perspective, large agglomerations of development should be in villages where the community services and facilities can be provided.

In the context of this review, there has been some discussion about permitting country lots to develop on the basis of communal services. This raises a number of concerns.

- Is it feasible to provide communal systems in new country lot subdivisions without creating 'new villages'? If the economics demand a large number of lots, should these not in fact be designated as 'villages' with all the associated community infrastructure?

- Current Official Plan policies for country lot subdivisions are insufficient to ensure that the character of the rural landscape is maintained if densities are increased.

However, if the policies are in place to safeguard these concerns, and if private services have been investigated and found to be not feasible, communal systems may be the appropriate option. Therefore, it appears that there may be potential to consider country lot subdivisions on private systems in some cases and communal systems in others. The MOEE Guidelines, on the other hand, suggest that communal systems ought to be considered first and rejected before private individual services are considered. While this is appropriate for villages, it is not considered appropriate for the density of country lots.

Preliminary cost estimates have been undertaken for communal systems of approximately 40 lots. These are in a separate report entitled Rural Servicing Cost Analysis.

d) Existing Rural Development

Thus far, the discussion has dealt primarily with future rural development. Any rural settlement strategy should also address any existing problems.

Health problems have been identified in some villages such as Carp and steps have been taken to ensure that these are addressed

through the provision of central and/or communal services. In these cases, policies should ensure:

- that the source of communal water is protected from contamination (well head protection policies); and
- that no additional development be permitted on private individual services.

Where the risk of future problems is high because of densities, terrain and so on, monitoring of water should be undertaken on a regular basis. This includes regular water testing of individual wells by residents and more rigorous monitoring of a wider range of parameters on a selective basis by the Region. When developing a settlement strategy and identifying priority areas for communal systems, the level of risk associated with existing development should be considered.

Finally, existing systems should be maintained properly as discussed in a later section of this report.

e) Components of a Rural Settlement Strategy

All of the discussion thus far has identified the need to develop a comprehensive rural settlement strategy within the context of the overall Regional Development Strategy. This should be done jointly by the Region and the area municipalities. It would be a major component of the Regional Official Plan review. This is important because the Regional Official Plan currently provides sufficient urban land for 90% of the Region's population to at least 2011. If the rural area is no longer constrained by servicing limitations, it may suggest that much more of the rural area can be developed. This would then have a significant effect on other regional services such as roads, transit and other services such as garbage collection and education.

Matters to be addressed in a settlement strategy include:

- How much rural development should we plan for in the rural area (projections, expectations)?

- What kind of rural area do we want to see in 50 years, 100 years?

- Are some villages better placed for expansion than others? What are the evaluation criteria? Identify key villages where growth may be considered. Are any locations well suited to the establishment of a new village? Develop a mechanism to require all new development in these villages to be on the basis of communal systems.

- For villages not intended to accommodate significant future growth, require development to consider communal services

but permit private individual services where sufficient study has been provided to support them.

- From a planning perspective where would country lot subdivisions be appropriate? How will the local official plan ensure that subdivisions not take on the appearance or size of a village? Should new villages be designated?

- Propose a servicing solution for each country lot subdivision based on the location, site characteristics, density and so on that considers private servicing options first and communal options if private services are not feasible.

- Develop planning guidelines for country lot subdivisions that considers communal system options and requires some land to be maintained as common space, shows how to accommodates multiple units if that is appropriate, provides the optimum site for the communal facilities and so on.

There has been some discussion about placing a moratorium on country lot development until area municipalities can address the planning issues in their official plans. The preference would be for pre-designation based on a fairly comprehensive review of each township. This would be a component of the Official Plan Review.

f) Summary

1. develop a rural settlement strategy in consultation with area municipalities that:
    - is considered in the context of the Regional Development Strategy;
    - identifies priority villages for future development and provides policies for development in these locations on communal or central services;
    - identifies appropriate locations for country lot subdivisions and encourages these on the basis of private individual services, supported by the appropriate hydrogeology study and impact study;
    - provides for country lot subdivisions on the basis of communal systems in some circumstances; and
    - provides for individual severances on the basis of private individual services with a minimum lot size of 1 ha.

2. prepare a Regional Official Plan amendment to permit communal systems in the rural area.

3. Ensure that the requirement for impact assessments be applied to applications for resubdivision in the rural area where the existing conditions have lapsed. This would be at the expense of the developer.

2. Communal Systems

The strategy discussed so far suggests that there is merit in permitting, and in fact encouraging, some development on communal systems in the rural area.

a) Ownership and Operation

Based on MOEE's guidelines released in July 1992, the municipality must own and operate any waterworks built to service more than five units and any communal sewage disposal system. These guidelines are still being reviewed. Hopefully further revisions may create the opportunity to contract out the operation. However, the way matters currently stand, there is little opportunity to consider other forms of ownership such as condominium-like models.

Therefore, the first concern is how efficient will it be to develop a rural settlement strategy relying on many small, widely dispersed systems. Secondly, water is typically a regional concern and sewage collection is typically delegated to area municipalities. However, it may be more efficient if the ownership and operation of all rural communal services be the responsibility of one level of government. This could still allow for contracting the operation out.

In the Region of Waterloo, any rural subdivision is required to be on a communal well and the Region owns and controls the whole water supply. In Ottawa-Carleton the Region currently owns the following communal wells: Munster Hamlet in Goulbourn, Hillside Gardens in Manotick, King's Park in Richmond and the Julia Subdivision in Carp. In addition, central water has been extended to South Gloucester, Manotick and Notre-Dame-des-Champs. Currently it is not possible to break out the costs associated with the operation of these communal systems as they are not accounted for separately.

With respect to communal sewage disposal, the Region owns and operates the sewage lagoons in Munster Hamlet. In addition, central services have been extended to the Village of Richmond.

b) Cost

R.W. Connelly Associates Inc. has completed a report Rural Servicing Cost Analysis. This has been provided separately but data will be drawn from it as appropriate.

It generally concluded three key things with respect to communal systems:

- the provision of private individual wells and septic systems to a multiple lot development of fewer than 40 units is approximately $21,000 per lot as compared to communal services in the neighbourhood of $25,000 per lot. These are similar values;
- it costs far more to provide communal or central services as remedial work than it does to do it right at the outset; and
- the operation and maintenance costs associated with communal systems are higher on a per unit basis then they are for private individual systems.

c) Feasibility of providing communal services

One of the most persistent criticisms of the current rural servicing environment is that little attention is being given to research into other technologies. Many parties have suggested that MOEE should step back from its regulatory role and put its resources into research. This is important for two reasons. It reduces the risk to municipalities associated with accepting communal technologies. It also would provide much clearer information on the financial feasibility of pursuing specific options.

In the meantime, the Region of Waterloo has almost completed a comprehensive feasibility study related to communal systems. Waterloo staff advise that the results of the study could be used in any Regional setting with minor changes. The study will look at the various communal system technologies, experience in other jurisdictions, the regulatory environment, the potential system specifications and other related matters. It will also look at Regional Development Charges, potential opportunities for joint public/private ventures and other funding matters. A parallel report will recommend policy directions. It is generally suggesting that communal sewage systems will be appropriate in some circumstances with strict requirements. The motivation is more efficient use of the land and enhanced environmental protection.

The Region of Waterloo's study will be very useful in developing a strategy for Ottawa-Carleton.

Any communal servicing scheme must be cost effective and supported by the user pay principle as it is in the urban area. However, discussion is required with respect to whether or not the rural service area should be distinct from the urban service area with respect to water billing.

A very important message is that it is not possible to standardize the servicing solution. Considerations tend to be very site specific and relate to the characteristics of the soil,

the presence of a receiving stream, the size of the development, potential uses for the septage etc.

d) Summary

1. endorse that principle that Ottawa-Carleton be responsible for the ownership and operation of any communal rural services.

2. develop the specific requirements with respect to the design of communal systems, the mechanisms to provide for developer financing, the requirements for operation and maintenance and the mechanisms to ensure that the user pay for the operation and maintenance.

3. encourage the MOEE to place its efforts and resources in research into alternative communal technologies.

3. Subsurface Disposal Systems (Septic Systems)

The previous report suggested that more attention should be given to the installation of the septic system, including a third inspection for the placement of fill on the raised bed. The report also suggested the need for regular pump-outs of septic systems.

a) Installation of subsurface disposal systems

This is regulated through Part VIII of the Environmental Protection Act. The Act states that these systems require approval of the Ministry of Environment and Energy (MOEE) and also provides for inspection by MOEE. However, MOEE has the authority to delegate this function, and all of the associated liability, to another party. In most cases, Health Units or Health Departments implement the Part VIII program.

In early 1993, the Part VIII program was implemented by:

- MOEE in 6 areas
- Health Units or Departments in 31 areas
- Conservation Authorities in 1 area
- Planning Department in one restructured County

In Ottawa-Carleton MOEE implements it. The legislation establishes the fee which is $36.05 for a single family unit. Evidently, MOEE cannot charge the true cost without changing the legislation. The true cost is probably in the neighbourhood of $500 per unit.

MOEE contracts the inspection function out to one consultant. The first inspection takes place prior to issuing the Certificate of Approval and relates to site features and conditions. A

second inspection occurs once the septic system has been installed in order to issue a Use Permit.

The previous report stated that two main weaknesses of the program include a need for a third inspection and the inadequacy of the fee relative to the effort required to perform the duties properly. This position has been borne out through discussions with a wide range of interests.

Some examples:

- The Region of Halton charges $262 to implement the Part VIII program. They include a third inspection in the case of raised tile beds to address the landscaping issue.
- The Region of Waterloo charges $305 to implement the Part VIII program. This is insufficient to include a third inspection and still operate on a cost recovery basis. However, they may have Regional Council consider a proposal to increase the fee.
- The Conservation Authorities in the London area (Middlesex County) implement the Part VIII program. They charge $200 per system and do not include a third inspection.

In all cases, the implementing authorities feel that they can provide better control and more rigorous adherence to standards than can MOEE. This is because they can charge the appropriate cost for the work but MOE cannot. Even though they take over any associated liability for the systems that they will approve when they take over the program, this has not been an issue. The prevalent attitude is that careful adherence to the regulations will mean that septic systems should not fail because of improper installation.

The liability to the approval agency is further reduced because the Ontario New Home Warranty Program warrants new construction against any structural defects due to builder failure. In their experience, failures in septic systems attributable to the builder tend to occur when fill is placed over the raised bed after the MOEE has issued the Use Permit. The program provides funds to the homeowner to remedy the failure.

MOEE appears to be moving towards a system that promotes the delegation of functions to other bodies as permitted by the Act or to designate municipal officials as Provincial Officers for the purposes of the Environmental Protection Act. This has been done in the majority of Counties and Regions with respect to Septic System approval and on an experimental basis in Oxford-on-Rideau with respect to well installation.

There may be some benefits to having the Conservation Authorities implement the Part VIII program. They have an interest in water quality and quantity. They also already do many site visits in

carrying out their current responsibilities including inspections of the location of some septic systems. They would be able to charge the actual cost of the inspection, unlike MOEE. But, Conservation Authorities are creatures of the Province (of MNR) and are vulnerable to changes in provincial funding priorities. Also, their boundaries are not coincident with those of the Region. Finally, there is merit in identifying an approval authority who could be involved in all aspects of the rural servicing function, including wells.

In Ottawa-Carleton, the most appropriate body to be responsible for inspections is the area municipality. At the area municipal level, the opportunity exists to combine the septic system inspections, the well inspections and the building inspections as appropriate. Further:

- the municipality is the first contact when there is a problem,
- establishing inspectors at another level of government provides the potential for duplication with the existing municipal inspection requirements,
- this provides the opportunity for 'one stop shopping' at the municipal level,
- the Building Code requires that there be a source of potable water.

Clearly there would be a requirement for training, standardization of requirements, exploration of opportunities to share resources and so on. The Region could participate in these discussions to ensure that inspections occur on a consistent basis. In addition, staff must explore with the MOEE, the opportunities to delegate this function to the area municipal level. Any program that results from this investigation must be evaluated against the existing system. If the proposed program does not in result in improvements to the installation of septic systems it ought to be rejected.

On average, about 600 to 700 use permits are issued annually in Ottawa-Carleton for septic systems.

b) Maintenance of subsurface disposal systems

A residential septic system should probably be pumped out at least every three years. In the Province of Quebec there is legislation to allow municipalities to require that systems be pumped out every two years. The municipality generally arranges for one contractor to provide the service at the expense of the property owner. If a homeowner refuses to participate, the municipality can institute legal action.

There is no similar legislation in Ontario. Consultation has not revealed any municipalities that require pumping out through their own by-laws. However, some public education efforts are in

effect to ensure that homeowners are aware of the importance of this practice. In addition, the previous report identified the need for water conservation practices in the rural area, more in keeping with the capabilities of the septic system to deal with effluent.

Ottawa-Carleton should work with other agencies to provide information to residents. It would be a very low cost initiative but bound to improve individual practices.

Ottawa-Carleton should also investigate ways to require regular pumping out of systems. This would likely require the enacting of provincial legislation to empower municipalities to require pumping out.

c) Cost of Proposed Enhancements

A report entitled Rural Servicing Cost Analysis has been issued separately. It identifies the estimated costs associated with each servicing option. Based on these figures, it is possible to estimate the cost of the program enhancements being discussed in this report. For private individual septic systems:

- The current cost assumed by the homeowner of design and installation of a septic system ranges from $10,800 to $16,000
- The current cost of reviewing studies and administering the program that is absorbed by MOEE is estimated to be $450 per lot
- The proposed enhancements to the program include:
  -a third inspection at $100
  -periodic pump out at $100 every three years
  -periodic inspection estimated to be $100 every three years

d) Summary

1. jointly with area municipalities, investigate means to provide for area municipalities to be responsible for the inspection of the installation of septic systems.

2. prepare and distribute promotional material to educate homeowners on the installation and maintenance of septic systems.

4. Private Individual Wells

The previous report called for more careful installation of wells, particularly with respect to grouting and sealing, in order to safeguard against contamination of well water. It also proposed that homeowners have their well water tested regularly.

Based on wide ranging discussion relating to installation, two main issues emerged. The first relates to ensuring, at an appropriate stage in the process, that there is sufficient quality and quantity of water on the site. The second relates to ensuring that the well itself is correctly installed.

a) Ensuring the quality and quantity of water.

All municipalities in Ottawa-Carleton require a hydrogeology study to support a country lot subdivision. This study typically does sufficient testing to ensure an adequate supply of potable water on the site. It also provides the specifications for the wells that are to be drilled on this site.

While the Regional Official Plan requires adequate hydrogeological information to support a severance, the requirement is not implemented. MOEE reviews severance applications and if they know of problems in the area they will flag them. Approximately one third of rural lots are created by severance.

It is difficult to do a hydrogeology study for a severance; it really implies pre-drilling the well. However, pre-drilling the well should be required to ensure that the severance is appropriate.

In the Region of Halton, the building permit cannot be issued until the Health Department says there is a suitable quality and quantity of groundwater. This requires that the well be drilled prior to the permit being issued and it must be within a recent time frame. This is a good practice as it applies to all existing lots whether created by subdivision or severance. However, it is a requirement that should be applied at the time a severance is being created rather than waiting until the building permit is issued. This will require some discussion with the area municipalities.

b) Installation of a Well

As stated above, the hydrogeology study for a subdivision provides the specifications for the well. By all accounts, the hydrogeology study is rarely referred to when installing the wells. In addition, the developer who created the lots is seldom the person who builds the dwelling units.

The Township of Cumberland requires, as a condition on subdivision agreements, that a hydrogeologist provide a Certificate of Well Compliance to state that the well was inspected during construction and was installed as required in the hydrogeology report. While this only applies to new lots created through the subdivision process, it does address some problems.

Some other area municipalities have the driller and the homeowner sign a document to confirm that the well has been drilled according to the Township's well compliance regulation. It does not require an inspection, but it does apply to all wells. This does not really address the issue of whether or not the well was installed correctly.

The well drillers, in informal consultation, would also like to see more rigorous controls on well drilling to ensure that the quality of the work in the Region remains high.

In the previous report, three key points were identified at which an inspection of well installation ought to be undertaken:

- 24 hours before well drilling commences;
- when the contractor installs the well casing and the grouting material; and
- when the contractor completes the well.

Currently, nobody does these inspections. However, it is possible for MOEE to designate municipal officials as Provincial Officers in order to implement a well inspection program. MOEE continues to be responsible for training and certification of well inspectors. That is how Oxford-on-Rideau, in a pilot project, is able to require well inspections as a condition of issuance of a building permit. The building inspectors are given the authority and training to do the inspections.

This seemed like a good idea to investigate in Ottawa-Carleton. Their mandate, issuing the building permit, occurs at the stage in the process when there is an opportunity to apply such an inspection requirement. They deal with the plumbing regulations and the building code and this seems consistent with the issue of wells. They are in a position to integrate all of the information associated with the septic system, the well and the house. All of the arguments apply as stated for the inspection of subsurface disposal systems.

c) Maintenance of Well

Homeowners should have their water tested on a regular basis, probably twice a year, to ensure that it remains potable. In addition, at the time of pump out the water should be subjected to a bacteriological test to identify any emerging problems.

d) Cost of Proposed Enhancements

- Current cost to homeowner to study and install the well is $3850 to $6400
- the current estimated cost to the homeowner to operate the well is approximately $280 per year
- the review costs absorbed by MOE for each installation is about $175

- the Proposed inspection cost to be absorbed by the homeowner is $100

e) Summary

1. implement measures to ensure that rural severances are reviewed on the basis of pre-drilling wells and ensuring an adequate quantity and quality of water.

2. require that the issuance of a building permit for all rural lots be based on the assurance of an adequate quantity and quality of water.

3. jointly with area municipalities, investigate means to provide for area municipalities to be responsible for inspections of the installation of private individual wells.

4. prepare and distribute promotional material on the installation of wells and ongoing testing of water quality.

5. Heat Pumps

Heat pumps were discussed in the previous report as a potential groundwater threat. Currently MOEE is undertaking a critical review of the Heat Pump Industry and issues related to their use. It is appropriate to wait until they finish their review before Ottawa-Carleton takes a position on this matter. They may address the issues raised earlier.

However, it should be noted that 40% of all ground source heat pumps installed since 1990 in Ontario, have been in Eastern Ontario. Therefore, what might transpire to be a non-issue to MOEE, may in fact be an issue to communities in Eastern Ontario.

6. Holding Tanks

It is recommended that holding tanks continue to be used only in exceptional circumstances.

7. Monitoring

a) Requirements

A number of governments and agencies currently have an interest in monitoring surface water quality. The Region is specifically involved in monitoring water at beaches through the Health Department and monitoring stormwater discharge points through the Environmental Service Department. The same level of diligence does not exist for groundwater and related issues.

Individual property owners can have their water tested for bacteria at no cost. In addition, the Region monitors the water quality of their communal facilities discussed earlier.

However, any policy or program associated with groundwater protection should be monitored to ensure that it is effective. There are a number of considerations that could be part of a groundwater monitoring system that can be worked out in more detail as the policies are developed:

- the RMOC could build on the data base already developed during work for this study. It includes all well records and hydrogeology studies currently available and is associated with the Region's GRIS. This could be updated and available to well drillers and hydrogeologists for their consultation.

- the Regional Official Plan requires country lot subdivisions be phased to allow for monitoring of private services in each phase before a subsequent phase is approved. In conjunction with a settlement strategy, the mechanisms should be put in place to ensure that this is done appropriately. Access to one operating well in the subdivision could be provided to the RMOC,

- there should be periodic monitoring of the performance of private systems relative to the performance predicted by the hydrogeology study and the impact study.

- there should be monitoring for the presence of such things as phosphorous that may be of importance to the quality of surface water. We should be more mindful of the relationship between surface water and groundwater.

All of these matters ought to be addressed in the context of developing a rural settlement strategy as mechanisms to ensure that the objectives are met.

b) Summary

1. develop mechanisms to periodically assess the effectiveness of policies in safeguarding the quality and quantity of groundwater.

C. SUMMARY OF RECOMMENDATIONS

Based on the discussion in this report,

It is recommended that Regional Council:

1. Recognising the importance of safeguarding the quality and quantity of groundwater, agree in principle to the following policy:
   a) All future development in the rural area be approved on the basis of the official plan which has as a primary objective the safeguarding of the quality and quantity of groundwater;
   b) Higher density development (eg-villages) should be on communal or central services unless there is conclusive evidence that private services will function in perpetuity;
   c) Private individual services are appropriate for low density development on large lots, provided the services are carefully installed and maintained; and
   d) Council will be responsible for the ownership and operation of communal services, either directly or through contractual arrangements, to be paid for on the basis of user pay and charge back to users.

2. In order to implement the above, immediately direct staff to undertake the following and report back with progress by the end of 1993:
   a) prepare a Regional Official Plan Amendment to permit communal systems in the rural area, require appropriate hydrogeological studies and impact assessments, increase the minimum lot size for individual severances to 1 ha (in the absence of an impact assessment), and other relevant matters;
   b) require impact assessments for all subdivisions in the rural area on private subsurface disposal systems, and impose this condition whenever an existing draft approved subdivision lapses and an extension is requested;
   c) prepare a report outlining the specific requirements with respect to the design of communal systems, the mechanisms to provide for developer financing, the requirements for operation and maintenance and the mechanisms to ensure that the user pay for the operation and maintenance;
   d) jointly with the area municipalities and the relevant provincial ministries, investigate means to provide for area municipalities to be responsible for the inspection of the installation of septic systems and private individual wells;

e) ensure that rural severances on private individual services, provide evidence of a properly drilled well and water of sufficient quality and quantity prior to the registration of the lot;
f) jointly with area municipalities investigate how the issuance of a building permit for all rural development be based on the assurance of an adequate quality and quantity of groundwater; and
g) prepare and distribute promotional material to educate home owners on:
   i) the installation and maintenance of septic systems,
   ii) the installation of wells,
   iii) the need for ongoing testing for well water quality, and
   iv) water conservation measures.

3. In order to further refine the policy (1 above) direct staff, as part of the Regional Official Plan Review to:
   a) consider development in the rural area in the context of the regional development strategy in the upcoming official plan review;
   b) jointly with area municipalities identify villages with a priority for accepting growth and prepare policy for the development in these locations on the basis of communal or central services;
   c) jointly with area municipalities identify appropriate locations for country lot development on the basis of private individual services and investigate further the implication of allowing some country lot development on the basis of communal systems.

4. Transmit this report to MOEE and request MOEE to place its efforts and resources into researching new technologies for communal systems.

5. Request the Provincial Government to provide legislation which would allow municipalities to require regular pump out of septic systems and well water testing.

6. Direct staff to develop, in association with these policies, mechanisms to periodically assess the effectiveness of policies in safeguarding the quality and quantity of groundwater.

ANNEX A

Summary List of Contacts

The previous report was circulated widely and a number of groups and individuals responded in writing:

- Canadian Earth Energy Association
- City of Gloucester
- City of Kanata
- Fallowfield Community Association
- March Rural Association
- Ministry of Environment and Energy
- Mississippi Valley Conservation Authority
- Ontario Water Well Association (Ontario Office)
- Ontario Water Well Association (Eastern Ontario Director)
- Ottawa-Carleton Health Department Community Environmental Advisory Committee
- Rennie, Mr. R.J.
- Rideauview Recreation Centre Board
- South Nation River Conservation Authority
- Springthorpe, Susan
- Township of Goulbourn

Staff also met with a number of interests:

- Chief Building Officials (Area Municipalities)
- Well Drillers
- Heat Pump Industry
- Chief Administrative Officers and Planning Directors (Area Municipalities)
- Municipal Staff(Area Municipalities)
- Ministry of the Environment and Energy

Finally, staff have contacted others through workshops, phonecalls etc:

- Ontario Society for Environmental Management Workshop
- Ontario Groundwater Institute Workshop on Communal Treatment Options
- Halton Region Health and Planning Departments
- Upper Thames River Conservation Authority
- Rideau Valley Conservation Authority
- Waterloo Region Engineering, Health and Planning Departments
- Ontario New Home Warranty Program

ANNEX B

METHOD OF LOT CREATION
1975-1992

TYPE		LOTS	%
VILLAGE			
	SEVERANCE	444	10%
	SUBDIVISION	3952	90%
	TOTAL	4396	
COUNTRY LOT			
	SEVERANCE	1560	34%
	SUBDIVISION	3034	66%
	TOTAL	4594	
INFILL			
	SEVERANCE	382	100%
TOTAL NON-FARM			
	SEVERANCE	2386	25%
	SUBDIVISION	6986	75%
	TOTAL	9372	
FARM RELATED			
	SEVERANCE	1096	100%
TOTAL RURAL LOTS		10468	
	SEVERANCE	3482	33%
	SUBDIVISION	6986	67%