
Preserving the Rural Character
Rural Open Space Environment
(R.O.S.E.)[®]

by
Albert A. Bogdan

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Preserving the Rural Character Rural Open Space Environment (R.O.S.E.)[®]

by Albert A. Bogdan

As the growth of urban area sprawl swallows up rural areas, a small group of community residents has started to search for a positive way to preserve their rural lifestyle. Unintentionally, they have formed an unstated partnership with the older urban and suburban areas to stop the urban sprawl. Their desire for a green, small town lifestyle, within reach of the urban/suburban economic, cultural benefits, throws a barrier against the continuing growth of dead worm suburban subdivisions (what a typical suburban subdivision looks like on a Map).

At the same time, rural communities find themselves losing the appearance of the rural lifestyle as new residents build housing along the main roads. Open spaces are disappearing behind what I call strip residential development. Strip-residential development is the precursor to the successively greater densities that provide the intense development of the suburbs of today. The pressures of development cause lots to be successively subdivided and for platted subdivisions to be built in the open spaces.

The preservation of our rural environments requires innovative processes. We are all trained to respond to development as a positive value. Communities that protect their rural environment are classified as NIMBYs¹. Traffic engineers tell us that roads must be wide with significant right of ways with no trees arching over them. Trees along the road cause accidents since they somehow run into cars. Hanging branches can impede auto movement and require increase costs for maintenance. All roads must be public. Private roads are unmanageable.

Sewers must be extended. Septic systems cannot succeed, no matter how well managed. The preservation of open spaces is an unproductive endeavor since open space doesn't yield wealth. Land control mechanisms should be limited to master plans and zoning. Concepts as deed restrictions, land trusts, and performance zoning are foreign ideas.

Table 1
**Important Characteristics of
Rural/Small Town Landscape**

- ✓ Private roads with gravel surfaces
- ✓ Clusters of residential structures with enforced open space
- ✓ Agricultural fields
- ✓ Open fields
- ✓ Road front trees
- ✓ Wood lots
- ✓ Fence rows or trees
- ✓ Seeing wildlife
- ✓ Business districts with continuous storefronts, blocks of stores
- ✓ Stores close to street with on-street parking
- ✓ Small parking lots of 50-60 spaces
- ✓ Sidewalks
- ✓ Front yards and front porches
- ✓ Street lights downtown

Source: Survey results of Livingston County residents by Livingston County Planning Department

However, I believe that the creation of a permanent rural oasis reflects basic American values and if properly done can be a significant asset to a region's quality of life. I believe that the preservation of our rural environment is an integral part of a strategy to help our older urban communities survive. Therefore, I propose an answer to preserve our rural open spaces that I call - Rural Open Space Environment (R.O.S.E.).

The first step in preparation and establishment of a Rural Open Space Environment (R.O.S.E.) Plan is to clearly define the Vision the residents have of their community. Every community defines rural environment differently. Too often, planners give them a short shrift. Rural means large lots - that's the answer. Or, it means active working farms. Or, it means natural environment for wild animals and forests. Or, it means row trees along the roadside and between lots, stone walls, forests, and open fields. Or, it means rolling hills and plains. Or, it can mean small country style stores close to the road, Or, it just means fewer people living further apart. Or, it can be any combination of these.

Defining Rural

As I have discussed, rural conservation cannot be simply controlled by establishment of density limitations and open space structures. The rural environment has a feeling, a vision. You know it when you see it. And, for every community it is somewhat different. To preserve the feel and Vision, the perpetuation of a rural environment requires an innovative modification to the standard zoning technique for a community. Instead of using typical zoning methods that establish rigid criteria (such as fixed set backs), to control development,

Figure 1
Typical Subdivision

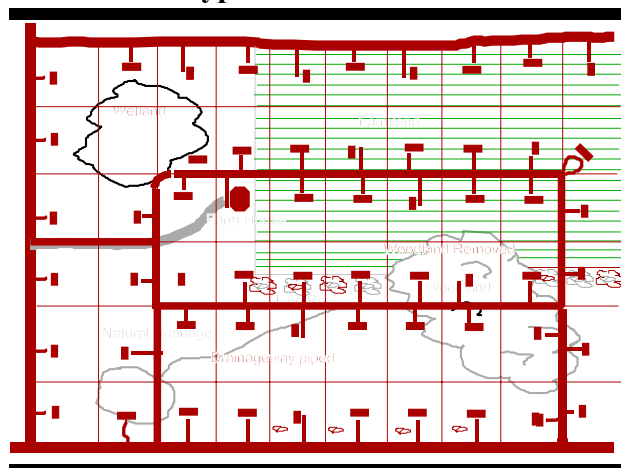
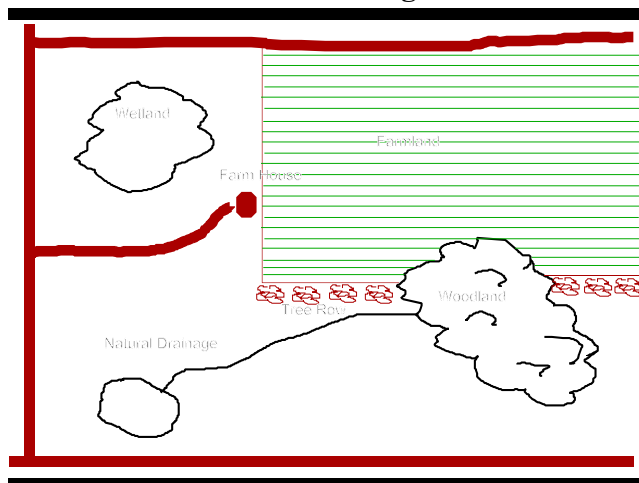


Figure 2
Present Land Configuration



the community needs a set of performance criteria to capture the "rural feel" of the community. The rural character, as defined by the community's residents, can be preserved and structured into any future development through the use of performance criteria. Performance standards should reflect the results of a community's rural attitude survey.

As you drive a rural road, you come to define your feel for a rural environment. It's the narrow roads, the open fields, the wooded areas with trees creating an archway over the road. It's the farm roadside stands where you can purchase fresh products in season. It's the stone row bordering the property line. It's the dirt roads that intersect the major arteries. It's the natural wet lands that breed the birds and animals. It's the small general store and service station with no setbacks. It's the open view of a lake, creek, or water hole with kids swimming. It's the tree rows along the edge of an open field, the cows clustered in the pasture, the healthy smell of cow manure spread on the fields. It's the corn as high as an elephant's hide.

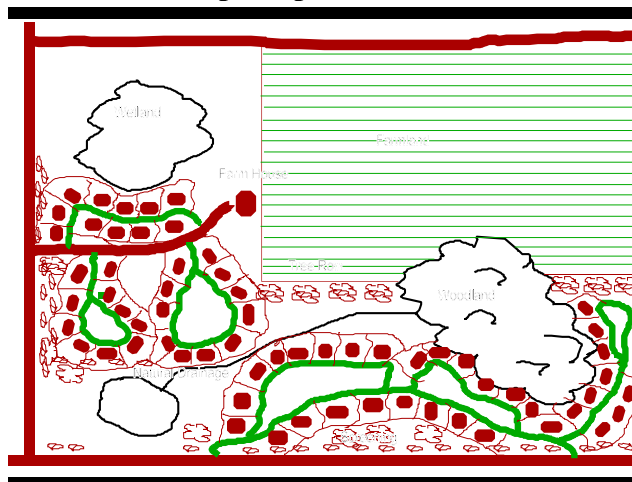
Some of the captured criteria needed to build a rural environment are contained in Table 1. They reflect a community survey performed by the Livingston County Planning Department for their rural Michigan county. It is an exurban community squeezed between the Lansing and Detroit Metropolitan Areas. Most of their people work elsewhere but want to live in a "rural" environment and want to preserve it. It reflects their county's definition of rural.

Some additional criteria defining a rural environment are found in Table 2. The list is flexible and can be different for each community. In order to be effective, the Vision the community has for its rural environment needs to be structured into a performance criterion. Table 2 provides a series of yardsticks that can be transformed into performance specifications as part of a subdivision controls and site reviews. Any particular community may add or replace or delete some criteria to have them more reflect the nature of their community. The results of the rural attitude survey is reflected in this set of yardsticks.

R.O.S.E. Performance Methods

"Conventional zoning (focusing on road design specifications,

Figure 3
Rural Open Space Environment



building setbacks, lot sizes, etc.) sometimes leads to poor design because of their rigidity. The standards that are set become the lowest common denominator with mediocrity in design a predictable result."² Under the R.O.S.E. scenario, We do not and cannot create a master plan in "which so many rigid controls are put in place to defeat every imaginable future problem and that any possibility of life, spontaneity, or flexible response to unanticipated events is eliminated."³ We must design the community to meet the aspirations of its residents and neighbors.

Figure 1 indicates a typical rural environment with a farm and significant open area, row trees along the edge of the plowed field, natural drainage system, a wet land area, woodland. For our example, the farm could easily be an attractive, open, preserved natural area.

If we follow the typical subdivision process (Figure 2), the wet land area is avoided. But, it ends up being owned by multiple property owners. The farm house is protected as part of the subdivision. Some trees are avoided. The drainage area is made into a retention area. However, the rest of the property is subdivided into traditional lots. The woodland area is cut down to make way for the housing and roads. The natural drainage is installed in a pipe to accumulate the water. Almost every lot is made available for development. The drawing documents the traditional rural development process by showing the split lot development of housing along the main road's edge. A multitude of driveways has direct access to the roads. It is obvious that the rural atmosphere for the area has been lost. It is the first step toward the suburbanization of the rural environment.

Performance zoning provides the "freedom, flexibility, and creativity for good design." It permits the project designer to carry out the values of the community while simultaneously meeting the profit motivations of the development. "The increased flexibility of performance zoning enables the landowner to work within the constraints of the site" while helping the community to realize its Vision.

Performance zoning locates the intense development where the septic characteristics of the soils are the most permeable and the safest environmentally for the community. Or, locates the

development where a safe sewage system can be installed. Water quality can be protected by using natural drainage systems, protecting high water table areas, by assuring the protection of the wet lands and by minimizing paved surfaces. Open spaces are innovatively created and natural screening can be added along the main road to maintain the rural character as seen from the road. The wood land is protected and integrated into the development design. The wet land is not only protected but has a buffer along its edge. The farm continues to operate under the protection of a conservation easement with adequate setbacks to protect the residential areas from the noise and smells of a working farm. As important, the open space benefits are shared by all to enjoy. This includes the community at large that continues to live in

- ✓ Protects sensitive natural resources
- ✓ Clearly states and meets the Vision and Values of the community
- ✓ Permits creative site design that conserves open space and natural resources that might be precluded from lot size and setback requirements.

Preparing The R.O.S.E. Master Plan

The preparation of a master plan for any community requires a thorough analysis of current land uses, natural features, and soils. The differing land uses, land features (wooded areas, wet lands, vistas, etc.), water table, and soil capability will

**Table 2
Preserving The Rural Character**

Goals	Implementation Techniques
Minimize Visual Impact	<ul style="list-style-type: none"> ✓ Structures should not be placed in open fields ✓ Residences should be located adjacent to tree lines & wooded field edges. ✓ Residences should not front directly on off-site streets ✓ A minimum setback of 125 feet from waterways should be consistently maintained ✓ The maximum linear disturbance per lot should be limited - including docks, bulkheads, decks, and beach areas. ✓ Structures should not be placed on ridge lines ✓ Trees on ridges should not be removed ✓ Water towers should be placed below crowns of trees ✓ Retail businesses should be near the road with parking to the rear ✓ All signage should be in keeping with the rural character ✓ Commercial structure design should be in keeping with rural character being preserved
Retain Rural Features	<ul style="list-style-type: none"> ✓ Existing working farms should be preserved ✓ Existing farm roads should be preserved ✓ Historic buildings and sites should be preserved, where feasible ✓ Tree lines and stone wall rows should be preserved & encouraged ✓ Existing structures such as silos and barns should be preserved ✓ Retain narrow roads without concrete or asphalt curbs ✓ The construction of unpaved housing cluster collector roads should be permitted ✓ Trees between principal structure & roadway should be maintained ✓ Wet lands, waterways, and drainage areas should be conserved ✓ The creation of extensive lawns should be discouraged
Minimize Site Disturbances	<ul style="list-style-type: none"> ✓ Roads should follow existing contour ✓ Disturbances for construction of roads, basins, and other improvements should be kept to a minimum ✓ All trees destroyed by development should be replaced ✓ The maximum amount of natural vegetation should be preserved

Source: Much of the list is taken from "Preserving the Rural Character", by Fred Heyer, American Planning Association, Planning Advisory Report Number 429

a rural open space environment.

The criteria listed in Tables 1 and 2 needs to be rewritten into a set of performance specifications that reflect the Vision and Values of the community. Performance zoning meets three very important R.O.S.E. characteristics:

have an impact on the design of the Rural Open Space Environment.

The condition of the soils is important. Areas that have a high perkability factor permit more flexibility in the placement of residential development. The high perk locations are natural fit for relatively high density residential development.

However, mixed soils or non-perkable soils no longer prevent the construction of housing in an area. Developers now use manufactured systems that include the replacement of the non-perkable soils with the somewhat sandy soil needed to support a septic system. However, in the mixed soils area it is preferable to encourage residential clustering to provide the greatest flexibility in locating the septic fields on "good" soils.

If the water table tends to be high, any residential development may need to be distributed to assure the septic fields do not affect the water table or the aquifer.

Where there is a desire to preserve the natural terrain such as wooded areas, vistas, wet lands, and waterways, the size of the minimum development should be structured to assure the preservation of that natural terrain. The scale of the development size needs to be related to the scale of the natural features being preserved.

Farms

Where it is desirable to maintain working farms, the size of the open space component for a residential development must be large enough to encourage farms to stay large enough entities to survive economically. Larger setbacks and added screening need to be included to separate the residential development from farms then may be necessary for the maintenance of more passive open space. Too often, new residents romanticize the notion of farms forgetting the fact that they are primarily commercial enterprises. They are in conflict with residential development. Their machinery and tractors cause noise; their animals and fertilizers create smells; and their barns and other buildings often have lights on during the early dark morning; and trucks make deliveries and take the product to market.

States have passed laws to protect farms from the newly arrived residents that seek to change the farm's operation. Michigan is a "Right to Farm" state. This means that residents that move into an area after a new zoning ordinance permits residential development have no recourse, if the farm uses normal operating procedures. The new residents must live with the noise, smell, and light.

Open Space

The preservation of open space is a key requirement of maintaining a rural environment. There are many differing strategies for maintaining these open spaces. They range from the state, county, or community purchasing property for that purpose such as parks, to very large lot zoning by the creation of large private preserves; to open space zoning through the use of R.O.S.E. to create privately owned and maintained permanent open spaces.

The first and third method are the only process that provides the greatest assurance of relative permanency. The permanency is obtained through multiple faceted controls over the development rights to the property. It encompasses the use of deed restrictions with the community as an interested beneficiary to prevent the use of open spaces for other purposes. It assures continued maintenance of the property by the property owner. However, political leaders change and with the change comes changes in policy.

To protect the property from the timidity and lack of

constancy of public officials, it is recommended the development rights be donated to a Land Trust Conservancy. The conservancy is a nonprofit corporation established to hold the development rights and to encourage the establishment of open spaces. The open spaces can be operating farms or passive open areas. The combination of actions including the open space zoning ordinance, deed restrictions, and donation of development rights to an independent land trust conservancy provides the greatest degree of permanence.

The use of deed restrictions as part of the land planning process is somewhat innovative. But, it is mandatory since it will allow developers and the community to realize their mutual benefits. The use of deed restrictions provides the kind of flexibility needed to make performance based zoning work. It, essentially, becomes a contract with the developer to deal with several key issues:

- ✓ An agreement about how the common open space property is to be maintained;
- ✓ An agreement as to the specific design considerations;
- ✓ An agreement on the maintenance of private roads or common driveways, if private roads and private driveways is included;
- ✓ An agreement to abide by the rules for septic tank and field maintenance;
- ✓ A clear mechanism to assure that property owners will pay the fair share of continued maintenance of the infrastructure;
- ✓ The selection of Land Trust Corporation to own the development rights (conservation easement) to the property.
- ✓ The right to place a lean on the real estate to assure collections of payments for maintenance.

Value of Conservation Easements

Conservation easements can be sold or granted as gifts to a governmental entity or nonprofit land trust dedicated to conservation. The donation method is becoming an integral part of a new method of conserving property for the greater good of the public. The internal revenue code⁴ authorizes the contribution of conservation easements that is granted "in perpetuity" to a qualified organization exclusively in being for conservation purposes or to government. The use of a nonprofit land trust prevents local governments' interference in conservation. The two key thoughts are expressed in the word perpetuity and the concept of an organization dedicated to conservation. The Internal Revenue Code identifies the following four broad purposes permitted for conservation easements to qualify for eligible tax deductions.

Public Outdoor Recreation & Education

Protection of lands for parks and trails hiking, hunting, fishing, bird watching and trapping. These easements have a common denominator of permitting some public access. It may regulate the type of use, limit the use to

only certain portions of the property, or limit the use to certain times of the year.

Natural Habitat Easement

Preserves and protects the habitat of fish, wildlife, plants, and their ecosystems in its natural state. At the same time, it can preserve land for scenic enjoyment or limited public outdoor recreation. It can restrict the type and amount of public use, changing the land's contour, use of pesticides, and plantings.

Open Space Easements

Scenic Easements

Preserves scenic the natural state of the scenic attractiveness of a property. Frequently used to protect view sheds from parks and roads. The easements can prohibit plantings or construction to obstruct or damage the view, maintenance rules, and may include betterments to improve the scenic view.

Farmland Easements

Preserves the agricultural production. Such easements may be used to preserve the rural and scenic character of an area by limiting other uses. The easement can require the property conform to sound agricultural practices, prohibit other uses, and restrict the type of planting.

Timberland Easement

Preserves the land for timber production and limit its use for other purposes. It may also used for scenic enjoyment and to protect outdoor public recreation. It can control clear cutting, protect logging operations or limit it, it can regulate the type of operation to be conducted on the land.

Historic Preservation Easements

Preserve distinctive historic or architectural features of buildings (including facade easements) or entire historic setting of buildings and land. Easements can govern kinds of uses, design, appearance, changing configuration through mining or land movement, maintenance, and so on.

Federal Income Taxes

The general method of appraisal for easements is to prepare an appraisal for the property prior to the granting of the easement using the traditional three approaches⁵ and then compare it to the value of the property after granting the easement. The appraisals, however, must consider the entire impact of the easement and not only the portion that reduces property value. For instance, if a property owner has ten acres and grants a conservation easement for eight of those acres, the appraiser must consider the fact that the two acres left will forever, have a conserved open space next to it that can never be developed. The reduced value of the eight acres must be added to the increased value of the two acres that can be developed.

The difference between the two values defines the contribution value of the easement. The percentage of change is then applied to the original basis of the property to define the total deduction that can be taken for the easement. For instance, if the property is valued at

\$50,000 and the easement causes the property value to drop to \$20,000, the drop in value is 60%. If the property was a basis of \$20,000 (it was originally purchased for \$25,000 and had depreciated by \$5,000), the value of the easement will be $.60 \times \$20,000 = \$12,000$.

Property Taxes

The Michigan State Tax Commission has determined that certain open space uses in recorded plats should be assessed at zero.⁶ These uses include:

- ✓ A park reserved for the lot owners in a subdivision
- ✓ A private road serving a subdivision
- ✓ A community building, swimming pool or tennis court built on lots reserved for the lot owners of a subdivision
- ✓ A sewage disposal system provided solely for the subdivision lots
- ✓ A water system provided solely for the subdivision lots
- ✓ Land submerged by a lake or wet lands around where a subdivision is located
- ✓ A boat ramp or access to a lake or river reserved solely for the use of the owners of lots in a subdivision

The zero assessment comes about because the actual value of these parcels is already reflected in the sales price of the developable lots. The uses are not considered tax exempt. Instead, the Tax Commission and courts have determined the value has been transferred to the lots. The property value of the developed property will be higher due to the availability of the benefits of the open space uses. To be eligible, the land must be restricted by a permanent irrevocable deed restriction.

This practice is similar to that used for assessing condominium property. The value of the common area is expressed in the value of the individual residential units. The key is that the land must be irrevocably dedicated to the common use.

Wet lands or open spaces that are not part of subdivisions will tend to be assessed based on their potential use. For instance wet lands can be used for hunting. The assessment should reflect the extent an irrevocable deed of trust limits that use further than the present legal limits for wet lands and prevents future sale to anyone for any economic use. There is no public action required to approve or disapprove of people creating irrevocable deeds of trust and from donating a conservation easement to a nonprofit land trust corporation.

Septic Sewage Systems

There are several components of the Rural Open Space Environment (ROSE) that are held in common by any community that wants to maintain a Rural Oasis⁷. One of them is the use of septic systems.

With some narrow exceptions such as densely populated towns near ecologically sensitive areas or overdeveloped lake areas, septic based sewage disposal systems are the backbone of a Rural Open Space Environment. The septic system sewage disposal is almost mandatory since it tends to act as an incentive to lower density development and to keep the cost of residential development affordable. A community based sewage treatment facility acts as a strong incentive to encourage more development to reduce the amortization costs of a large capital intensive investment.

Description

A septic system is a waste water system designed for individual or for a small grouping of buildings in a rural or semi-rural setting. It consists of a watertight tank through which waste water flows and a drain field. In the septic tank the solid waste settles and bacterial decomposition of the settled sludge begins. The waste water leaves the tank from the top and flows into a drain field. The drain field consists of approximately 2,800 or more square feet (both active and reserve fields) of porous soils that allows the waste water to permeate the soils. Additional bacterial decomposition occurs in the soils and nutrients and pollutants are absorbed.⁸

Reasons for Failure

All septic systems will fail, if not properly maintained. However, through good maintenance, regulation, and built-in redundancy the life can be extended indefinitely. The most common reasons for septic systems failures are:

- ✓ Improper installation procedures
- ✓ Improper soils
- ✓ Ground water levels too high
- ✓ Drainage or flooding problems
- ✓ Insufficient space on site for system
- ✓ Septic system too small for site
- ✓ Improper use and operation
- ✓ Poor maintenance practices

Solutions

The first six problems can be resolved by requiring the issuance of permits before building construction or repair. The permitting helps assure good site analysis, proper system design and inspection prior to the installation of the system and by requiring the use of properly trained installers. The last two problems can be resolved with the implementation of a continuous maintenance program. The basic maintenance is relatively simple.

- ✓ The septic tank needs to be cleaned often enough to assure that solid waste does not flow into the field.
- ✓ Keep use of water to a minimum -(they work best with the least water)
- ✓ Systems will fail if overloaded with household cleaners, coffee grounds and garbage, paper products, grease, and certain chemicals. The overloads

prevent the bacterial process required to decompose the material. This causes overflows of waste material into the leaching field.

An Action Program

The life of the septic system can be extended indefinitely, if the following actions are taken:

- ✓ Use the R.O.S.E. concept to permit the buildings to be clustered in a location with the best soils
- ✓ Require that the edge of all septic fields be located at least 125 feet from surface water, water supplies, flood areas, wet lands, drainage areas or high ground water areas.
- ✓ Require the installation of two fields upon initial septic field construction with the ability to easily switch from one to the other.
- ✓ Establish septic system maintenance districts requiring the residents to comply with the septic system maintenance rules. The households would pay an annual or biannual fee for inspection services and be required to have the septic tanks cleaned out at least every two or three years. To be conservative, I prefer every two years. To save the residents costs, the cleaning services can also be contracted for the entire district using competitive bidding to obtain lower costs. The administrative costs would be less as well.

Centralized Sewerage Systems

The use of centralized sewerage systems will permit much higher density development and/or increase the flexibility in assuring an R.O.S.E. design. Therefore, it needs to be explored.

Centralized sewerage systems are discouraged by a bureaucratic process that requires a discharge permit and a construction permit from the Department of Natural Resources, if the discharge is expected to be more than 10,000 gallons per day. This is interpreted as any project with greater than 27 housing units. The typical discharge permit takes one to two years to obtain. The risk of the process and the length of time it takes is generally unacceptable costs and risks for a small developer.⁹

Projects up to 10,000 gallons per day (less than 27 housing units) still require a construction permit from DNR. However, that process takes only 30 to 60 days and is acceptable. DNR, however, requires that the entire project be 27 units or smaller. Even if there are two separate clusters with separate centralized systems, DNR requires that they be treated as one project. Therefore, centralized systems fit into a very narrow development niche. They can realistically service only small R.O.S.E. housing clusters.

In essence, the cost and time of the process acts to discourage the use of small treatment systems and unintentionally acts to encourage septic systems. The other side of the same coin means that DNR through their process makes independent treatment facilities reasonable only for expensive residential developments or very dense large developments that can afford to underwrite the capital costs and the cost of the lengthy permitting

process.

Protecting the Rural Open Space Environment

Although the health department of a county must approve any septic system prior to permitting the issuance of any building permit, there is no system in place to police and monitor or regulate property owners to assure that they are maintaining their system. A local county health department official stated that the only check on operating systems are banks that require an inspection before the issuance of a new mortgage. In the R.O.S.E. process, this is unconscionable. A few people can end up creating a situation where the environment is despoiled and the community forced to install a sewage treatment facility. The protection of the environment must be an integral part of the R.O.S.E. process.

Public health departments generally recommend that septic tanks be cleaned out every three years or more. In our view, any community that commits itself toward the maintenance of a Rural Open Space Environment should institute a biannual (every two years) inspection process and to require the septic tanks be cleaned out and the field checked for leaks. If the tanks are not cleaned out, the community can do so and obtain a reimbursement from the homeowner.

It is generally agreed that a continuous concern for the environment especially near ground water sources and water supplies can help the community maintain their rural environment without having to save it with a sewage treatment facility. The program can be a fee based and cost effective for those people that follow good septic maintenance processes by using subcontracted inspectors. This will save the homeowner costs by permitting the community to competitively contract for the cleaning services for all of its residents.

R.O.S.E. Site Size

Therefore, a broad R.O.S.E. based development plan, by necessity, must, generally, be based on the use of individual septic systems with exceptions permitted for packaged systems. When we consider the various setback requirements of septic fields and tanks from water supplies (wells), right of ways, building foundations, surface water and combine that with the size of today's housing units that tend between 1500 square feet and 3500 square feet plus driveways, patios and other accessory structures and an allocation of 2800+ square feet for the active septic field and a reserve, the smallest lot, if everything had to be contained on a single lot, would be approximately $\frac{3}{4}$ of an acre.¹⁰ However, the R.O.S.E. concept can permit setbacks and the septic field to be located within the common open space. Therefore, the size of individual lots can remain flexible in response to specific site characteristics, natural terrain to be preserved, the creativity of the designer, and the potential marketability of the development.

The residential density within a Rural Open Space Environment is dependent on the vision established by the residents, the residential character that already exists in the general area, the characteristics of the soils and performance criteria as already discussed, and the characteristics of the collector and service roads to assure low

density traffic flow,

In transitional areas, between suburbs and rural areas, the housing density could be as high as one house for every 2 to 2.5 acres. Any densities higher than that will make the maintenance of any rural environment impossible. There wouldn't be adequate vistas. If there are working farms in the region, the density should be reduced to at most to one unit for every 5 to 10 acres. This assures adequate screening to reduce people conflicts with a working farm. As a rule of thumb, the smallest family farm that can survive economically is 40 acres. Therefore, that represents the size of the smallest size open space that needs to be maintained in a R.O.S.E. development. To establish an adequate separation between the working farm and the R.O.S.E. residential units, the residential units should be separated and screened from those activities. If the soils are particularly bad, the density may also be further reduced to permit adequate land mass to properly site the project. But the latter will happen due to the conditions of the performance zoning criteria.

The R.O.S.E. Development Process

Historically, planners have tended to use classical suburban zoning criteria as the main mechanism for residential zoning. The rules require standard setbacks, screening, road sizes and so on. Any deviation from these has been handled as special use criteria or more often through the use of "Planned Unit Development" (PUD) zoning. Under Planned Unit Development, the developer is permitted to prepare a site plan meeting broader zoning criteria. When originally established, PUDs were considered an innovation in planning. The major problem with PUDs is that the procedures are essentially identical to those required to obtain a zoning change. The process is lengthy and very risky for the developer. Communities that have used the PUD concept to foster open space zoning have generally failed. They have failed because the process creates a high risk penalty to create open space development. So when communities say they have tried open space development and failed - they haven't failed - they never really tried - their process was designed for failure.

The Rural Open Space Environment concepts require that the open space development process be at a minimum equal to the ease of the standard suburban subdivision development process. The rules must be set and understood by everyone concerned. By following the written criteria for development, the subdivision will be approved. In our view, it is preferable if the R.O.S.E. development process is made the primary method of development and a special use permit be required when the developer cannot meet the open space criteria. After all, if a rural open space environment is the goal of the community, any project that doesn't meet that goal should be treated as such. The developer should be required to justify, why those goals would not be realized and the public should be given an opportunity to comment on it through extensive public hearings. The elected leaders of the community should be required to confirm their concurrence with any non-open space development proposal.

As a second option, the community can permit conventional development with conventional subdivisions. The conventional subdivision approach would require significantly larger

lots to create the amount of open space to meet community open space objectives. Although we have stated a preference for the open space approach as the preferred approach, the decision is up to each community. Each community must decide, based on its values, whether to make the open space option the primary method, secondary or coequal.

The development option that will be used by developers is the one that will have the least risk and take the least time as well as having a market. To the extent that the developer can know the rules, and to the extent that they know that if they are followed and their proposal will be accepted, the higher is the probability that course of action will be used. Therefore, an open space concept that requires special permits or special processes in excess of established development techniques, will not work.

Density Bonus

Density bonuses (permitting a higher density of development in units per acre for the open space option) have historically been used to avoid the legal challenge that open space zoning is taking away the productive use of the land from the private landowner. The conventional development option has a lower residential density to meet similar rural characteristics established by open space development. To create openness with conventional development, each dwelling will require added land area surrounding it. A density bonus acts both as an added incentive to encourage open space conservation and simultaneously it reduces the potential for a legal challenge.

The R.O.S.E. Road System

The community's circulation system should be reviewed to figure out the effect of open space concept on the road's capacity to handle future traffic needs. Higher density development should be located near major thoroughfares while the lower density development should be located where the road system's carrying capacity is low.

However, the most important impact on current road system will result from the need to limit the number of direct accesses to the collector roads to preserve the rural quality. Strip residential development of single family homes along a road quickly starts to reduce the rural character of a community. To maintain the rural character, internal roads need to be constructed to serve housing clusters that are generally screened from the collector road. Initially that can be done through the use of lot splits using common driveways or easements. Preferably, the design of R.O.S.E. subdivisions or site condos should be encouraged to conserve and protect the natural features of the land.

Cluster Housing vs. R.O.S.E.

Until people have a full understanding of the R.O.S.E. concept, they sometime compare it to clustered housing approach. R.O.S.E. does cluster the housing to create open space, but that is the closest the two ideas agree. The two are significantly different. Cluster housing focuses on the housing and not on the open space. As a general rule, the open space area is a small percentage of the development parcel. Open space is squeezed out of an already dense residential land use. As a general rule, a 25% allocation for open space would be considered more liberal.

**Table 3
Minimum Width of Traveled Way**

Design Speed (mph)	Width (ft.) For Design Volume		
	Current ADT < 250	Current ADT 250-400	Current ADT > 400
20	18	20	20
30	18	20	20
40	20	20	22
<i>Width of graded shoulder (each side)</i>			
All speeds	2	2	4

To maintain the rural character, trees should be permitted to arch over the road and be generously distributed along its length. As a general rule, the community's R.O.S.E. Vision will require that the roads be narrow (although wide enough for fire vehicles) and even gravel. Therefore, they will, generally, be privately owned. The community needs to make tradeoffs between county acceptable roads and privately owned roads. The latter will require a Private Road Ordinance and the use of deed covenants to assure adequate and continuing maintenance. The use of deed covenants will permit the placement of liens against the property to assure appropriate assessments for that maintenance.

In our view, roads serving R.O.S.E. clusters need not be paved. They can be gravel and narrow. The size and specification for a road should be based on its present and projected use. If we are designing an artery that will have thousands of autos per day, at speeds of 50 miles an hour or more than we need 12 foot wide lanes with structured shoulder to permit autos to pull off for repairs. However, if we have a R.O.S.E. cluster of 10 housing units located on a circular common as shown in figure 3, the average number of auto trips per day will be approximately 104 auto trips per day.¹¹ With only 10 housing units and speeds of 20 or 30 mph, the road can be one way with a 9 to 10 foot width with a 7 foot shoulder for people to pass or for visitors to park.¹² If the road is one way (since it is circular) the entire road width needs to be only 17 feet.

Where the road is two lanes but still serves less than 24 housing units, the road width needs only to be 18 feet as shown in Table 3.¹³ The rural road can be either asphalt or gravel.

On the other hand, since R.O.S.E. is founded on open space preservation, it has significantly more land designated for open space than is designated for site development. -The open space to development site ratio needs to be at least 1:1 or more. Where farm land is to be preserved, the ratio can reach as much as 5 or 6 acres to 1 acre site. In addition, R.O.S.E. is more than a zoning ordinance, it replicates a vision or feel that the community identifies as rural. It is a land use process that captures a complete environment.

End Notes

1. Not In My BackYard
2. "Performance Zoning," by Lane Kendig with Susan O'Connor, Cranston Byrd, and Judy Heyman, American Planning Association, 1980
3. Edge City - Life on the New Frontier, by Joel Garreau, Doubleday, 1991
4. Internal Revenue Code §§ 170(f)(3)(B)(iii) and 170(h)
5. The three approaches to value determination are the comparable method where the property is compared with comparable property that has recently been sold; the income approach where the value is determined based on the income it can generate; and replacement costs where the value of the property is determined based on what it would cost to reconstruct it at today's costs.
6. Michigan State Tax Commission Memorandum - 1990
7. The Vision of Addison Township
8. Much of the technical information was supplied obtained from Technical Bulletin #4 - "Septic System Management by Local Governments: Planning, Regulation, and Maintenance," by Southeast Michigan Council of Governments
9. "Protect Environment Agriculture & Rural Landscape - An Open Space Zoning Technique," by Livingston County Planning Department - June 1, 1991
10. Based on computations and information gathered by Livingston County Planning Department for its PEARL concept.
11. For planning purposes, the residents of the average single family house make 10.4 auto trips per day.
12. "A Policy on Geometric Design of Highways & Streets - 1990", American Association of State Highway & Transportation Officials
13. "A Policy on Geometric Design of Highways & Streets - 1990", American Association of State Highway & Transportation Officials. Table V-8, page 426