

Mississippi Mills Rural Design Guidelines



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Rural Design Guidelines

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1

INTRODUCTION

1.1 Purpose and Background

The Town of Mississippi Mills Community Official Plan (COP) encourages the development of high quality urban and rural environments, a sense of pride and an improved image of the Town of Mississippi Mills today and into the future. The Town's vision was established during the preparation of the COP which affirms that the Town is recognized for its natural and architectural beauty, high quality of life and respect for its heritage and environment. By building upon the direction of the COP and to capture the vision, the Town has prepared urban and rural design guidelines that recognize and celebrate the Town's identity, its architecture, its heritage and its diverse urban and rural landscapes.

Rural Design is concerned with the following:

- Managing the resources of the built environment, both new and existing
- Using an ecosystem approach to create a balance between development and the conservation of features of the natural environment
- Creating a sense of place where buildings, open spaces, streets, and the people exist and function together as a whole

In general, good rural design seeks to create a safe, functional and attractive built environment. The intent of the following guidelines is to assist the Town of Mississippi Mills, the public, and the development industry in the design of the future rural forms of the community. The guidelines are intended to be considered as a package since many design principles will affect a single development even though the rural elements exist in separate sections. The guidelines are intended to be flexible as specific design solutions cannot be prescribed for all circumstances. For example, there may be instances where, due to site conditions or unique circumstances, different guidelines from this document may be in conflict with each other or physically not achievable.

The guidelines differentiate between the Villages/Rural Settlement Areas and the Rural Areas by identifying different standards within built up areas and using different approaches to development in both distinct areas. The guidelines will take into account natural areas and ensuring development is built in and around the landscape rather than simply on the landscape.

This document is organized to include general design principles, as well as more detailed guidelines and standards. The principle focus of the rural guidelines is to guide development for residential development in the rural area.

Rural character is not homogeneous, nor should it be. The rural landscape of

Mississippi Mills includes open spaces, forests, rivers and waterways, farms, small settlement areas, natural resource areas, wilderness, and natural areas and habitats. These guidelines do not address development on farms and natural and sensitive areas as they are protected from development in the COP. On the balance of the lands, which tend to be varied and fragmented and have been designated as Rural, appropriate development may require similarly varied approaches to building and building placement.

Over the past 30 years, the rural areas of Mississippi Mills have been subjected to significant alterations as a result of increased rural non-farm residential development. The objective of this Plan is to chart a new course for development in the rural area and pay more attention to the location of new rural land uses. Focus will be on locating development with minimal impact on natural resource and visual integration into the rural landscape.

The tangible elements of rural design and built form are important in maintaining rural character and attractive rural landscapes. These criteria will be used to review development proposals. It is recognized that development proposals vary in terms of size and detail and may be able to address design matters in different ways. In some instances, one design feature may be deemed more important than others and therefore may have more attention paid to it.

The single most significant form of development will be the creation of rural non-farm residential lots. This form of development has historically had the greatest visual and physical impacts on the traditional rural landscape of Mississippi Mills. Other forms of development in the rural area should also be assessed against these design criteria.

1.2 Policy Direction

The Guidelines have been prepared in the context of the overall principles and intent of the Provincial Policy Statement and the Community Official Plan. Specific guidelines relevant to environmental sustainability have been consolidated and put into each section as applicable, as well as in the final section.

1.3 Public Consultation Process

In February of 2007, three Public Consultation sessions were held to canvas the members of the public. Members of the public were asked to define rural character and to distinguish what they liked and disliked about their community with respect to Planning and Design. Points of interest from these workshops are detailed in a separate document, which is available from the Town.

2

RURAL DESIGN

2a. Roads

i. Introduction

While it is understood that the majority of the development in the rural area will occur along Municipal Roads, it is important to distinguish between the different types of Municipal Roads, the issues of access points, setbacks and buffering from the Municipal Road.

ii. Municipal Road Type

For the purpose of this document two types of Municipal Roads will be considered: paved and unpaved.

iii Access Points

Municipal Road entrances are only permitted every 150 m in the Rural Area and development should be set back adequately from the Municipal right-of-way.

Shared entrances should be considered when creating more than one lot in an area. Reducing the number of places where vehicles have to enter traffic increases safety. Shared driveways also provide more flexibility in placement.



Shared driveways reduce the visual impact of development on rural roads by limiting the number of entrances.

iv Setbacks and Planting

Setbacks are determined by Zoning Bylaws but screening should be provided if the development is in view of the travelled road. Screening may be described as the planting of shrubs or trees which at maturity will adequately conceal the development from the travelled road. While 100% screening is not required, placing the plantings at strategic locations will minimize the visual impact on the travelled road (see diagram). Conversely, if there is adequate vegetation existing on the property, houses should be placed within the vegetation so as to minimize the number of new plantings required.

It should be noted that when deciding on the type and scope of the vegetation, organic hedgerows are the dominant vegetation along roads in the rural area.



The tradition of visual screening with native vegetation is well established in rural Mississippi Mills. This practice gives residence privacy, protection from noise and dust as well as helping to maintain a rural character to the roadways.

v **Brushing and Road Upgrades**

- a. Country roads with a treed canopy have been identified as a defining element of Mississippi Mills rural character. As such, unpaved roads should have a maximum brush-out clearing on the sides of the road of 4 m. wide and 4.5 m high, except where a safety concern can be demonstrated.
- b. Country roads that follow the topography have also been identified as an important defining element of Mississippi Mills rural character and as a significant deterrent to excess speed. To preserve this character on unpaved roads, existing curves and hills should only be removed where a safety or driving hazard can be demonstrated.
- c. When laying out new rural roads (opening road allowances, etc), consideration should be given to the character of the resulting road to the extent that the roads should follow the natural topography where this will not result in a safety or driving hazard.



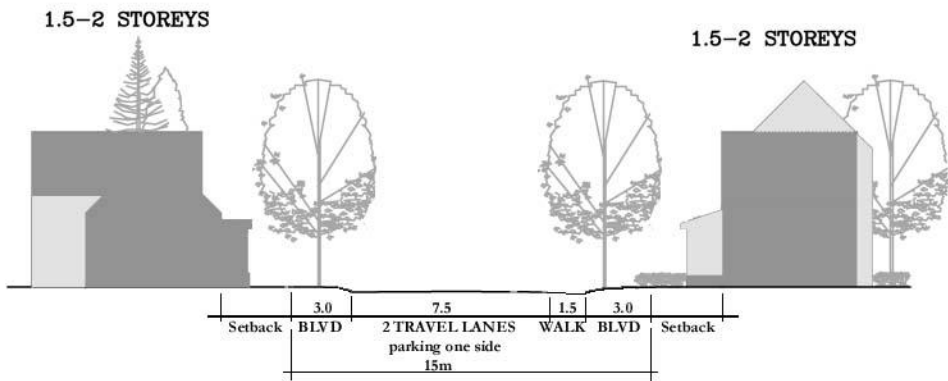
Country roads that follow the topography of the land, often carving through treed canopies, have been identified as a defining element of the Mississippi Mills rural character. Except where specific conditions create hazards, roads of this nature also slow traffic resulting in safer, pedestrian friendly roadways.

- d. Where major roads are to be upgraded and paved, bicycle lanes should be accommodated in order to allow for safe movement of bicycles along the travelled roads.

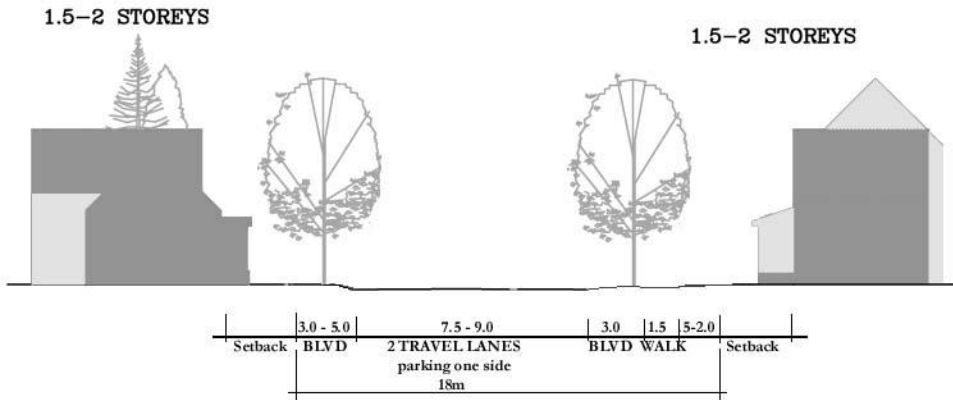
vi. Local Roads in the Villages and Rural Settlement Areas

- a. All village roads under the jurisdiction of the municipality shall be considered as local roads.
- b. Local roads should be designed to create 'intimate' pedestrian-scaled streetscapes that promote walkability and residential activities but discourage speeding.
- c. Local village roads should be laid out with a hierarchy of scale and detailing of the pedestrian spaces alongside the roads. More space and separation from traffic should be provided for on through roads and other high traffic areas.
- d. On municipal through roads or roads intersecting with through roads a defined pedestrian area of 1.5 m wide should be provided on at least one side of the street.
- e. On municipal through roads or other high traffic roads such as those leading to a public facility like a church or community centre, a separation between the pedestrian area and the vehicle lanes should be provided by a boulevard, curb/gutter, or standard curb.
- f. Local Roads should be designed with a narrow or reduced right-of-way standard of 15.0 m. Except for municipal through roads or roads leading to a public facility, which can be designed to 18m.
- g. Local road right of way can be increased to a maximum of 20 m. where this increased width is specifically designed for increased pedestrian use or plantings.
- h. A maximum total of two traffic lanes - each 2.75 m wide and 1 shared traffic/on-street parking lane of 2.0 m wide is required. 1 (or 1.5) traffic lanes (yield configuration) with 1 shared traffic/on-street parking lane may be provided as an 'alternative standard' to reduce total pavement width on strictly residential streets.
- i. A 1.0 m wide 'property buffer' should be situated between any walkway and the private property boundary to provide options for locating underground services within the street right-of-way.
- j. Bicycle movement is considered to be a normal part of Local Street traffic movement - so no dedicated bicycle infrastructure is required.
- k. To encourage walkability and pedestrian safety, Local Road curb or edge radii should be 5.0 m ~ 6.0 m.

- l. Utilities are encouraged to be buried below grade - typically in the boulevard section of the right-of-way. The use of a joint utility trench is encouraged for access and maintenance benefits. The installation or replacing of utilities should be coordinated with tree planting to ensure that there is adequate separation between the utilities and the tree/roots.
- m. Tree plantings in the street right of way should be included on both sides of the road at a minimum spacing of 40 m. Appropriate native deciduous trees to be selected.



Local Street - Residential



Local Street - High Traffic

2

RURAL DESIGN

2b. Maintaining Character and Design

i. Introduction

Future development within the Villages and Rural Settlement Areas of the Town will differ from that of the urban areas in that the COP does not permit significant or rapid growth in the rural area. However, form and density and building placement play a large role in defining the character of the rural area and there is a need for guidelines and examples to guide development towards maintaining the existing rural character, whether it is for infilling or the creating of new lots.

ii. Infilling

Infilling is the basis of much of the village development and there are several key issues which should be addressed:

- a. Size of lot
- b. Type and scale of existing neighbouring development
- c. Proposed servicing (full municipal services or individual on-site)
- d. Location of lot
- e. Setbacks and other aspects of interface with the public road/street

The development that exists on neighbouring properties should be considered before a dwelling is built. This is largely because a character already exists in that neighbourhood, and by building something new that does not necessarily “fit in”, may take away from that character.

For example, one would agree that the photo directly below shows different houses from Clayton that generally fit in with each other.



It would also be fair to say that the photo shown below, if developed between two of those houses shown above, would not fit in with the character of the neighbourhood, even if the lot was big enough.



Neighbourhood character is one of the more difficult features to protect, which is why there are specific guidelines listed below which provides direction to development where there is an opportunity for infill.

1. Infill Within Village and Rural Settlement Areas

The following guidelines address infill development for residential and commercial uses. To achieve an appropriate relationship to existing developments, design considerations of massing and scale, and to a lesser degree, architectural elements and details, are required.

Setbacks

In the villages of Mississippi Mills, houses and other buildings were traditionally built with a setback of between 2 m and 5 m creating a strong street edge along the village roads. In instances where this was not the case the street edge tended to be similarly defined with plantings or fencing. In more recent years some developments have not followed these traditions but the intention of these guidelines is to establish standards to promote the continuation and celebration of the traditional village character



- a. Infill development should match the 'building line' setback of existing traditional buildings of a similar type in the village the infill is taking place. Where there are compelling reasons not to locate the building in this manner, the street edge should be defined by fencing or appropriate plantings. In order to maintain the continuous street edge and maintain appropriate spatial definition of the village road, such plantings or fences should be located between the established building line and the property edge.
- b. Where no predominant 'street wall' can be established, infill development should be located with the minimum setback from the street so that a traditional relationship between the building and the street is established.
- c. Where mature or significant vegetation exists on the property, as much of it shall be retained as is possible to ensure the character of the street is maintained. Where mature trees are removed to accommodate new buildings or their construction, replacement trees of at least eight feet in height, should be planted of similar species and type to those removed, or other native species of a similar nature.



Height

- a. Infill building heights should match or complement established building heights of traditional buildings of a similar type in the village. The height of a development should generally not be less than 80% and not more than 120% of the average height of such traditional buildings. Traditional Mississippi Mills' village housing stock is dominated by 1 1/2-storey buildings with a front eave line between 4.5 and 7.0 m above grade. In any new residential development 50% of the buildings should conform to this standard. To assure variation within this conformity, no more than 3 buildings in a row should have the same eave line.



Corner Sites

- a. Corner lots should address the street building line on both streets through building location, planting or fencing. Where possible, corner sites on a through street should be designated for future redevelopment to be occupied by buildings with some public use.
- b. Driveways on corner lots should generally be off of the less traveled road.

Additions

- a. Building additions should reference and celebrate the building to which they are being added, both volumetrically and materially. Where existing buildings are at odds with the character of a village, renovating or adding an addition can provide an opportunity to harmonize the character of the original building with neighbouring structures.
- b. When adding to an existing building, particularly a heritage structure, the new structure should either be detailed similarly to the existing building or should provide a contemporary design response. Poor quality imitations of heritage styles are not appropriate.

Porches and Building Projections

- c. Building projections including porches, decks, canopies and stairs are encouraged as transitional building elements that provide weather protection, dwelling access and active amenity spaces. In any new residential development 70% of the buildings should have porches that protrude towards the street from the dominant build-to or setback line.
- d. Porch and deck dimensions should be large enough to accommodate furnishings and ensure their active use. The minimum depth for porches and decks should be 2.0 m (6.5 ft).

Roofs

- a. A variety of roof shapes should occur in each residential block. However, traditional Mississippi Mills housing stock is dominated by a variety of simple gable-style roof forms and as such a minimum of 70% of housing in new residential developments should respect this tradition. While roof forms should apply a consistent roofline in mass and height to adjacent buildings, no more than 3 buildings in a row should have the same roofline.

- b. Roof materials/colours should complement the building materials and the proposed building design.

Garages

- a. A garage built into the primary house massing (under the same roof form), is not part of the traditional village vernacular. In recognition of this and to reduce the garage dominance on the streetscape, attached garages should be located to the side or rear of the house and should have a roofline that is lower than the roof of the living space.
- b. There should be no projection of the garage from the front face of the house (measured from the primary building façade not the porch).
- c. In neighbourhoods with an established pattern of detached garages located in the rear yard, new garages should also be located at the rear of the house.
- d. Garage design should be complementary in character and quality of detail to the principal dwelling, and include high quality construction materials, adequate windows and appropriate architectural details
- e. Corner lots located at the intersection of major and minor roadways should normally have driveway access from the minor roadway.

2. Mixed-Use Infill

Mixed-use development should be promoted for infill sites at 'main street' and street commercial areas in rural village settings.

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RURAL DESIGN

2c. Rural Residential and Clustering

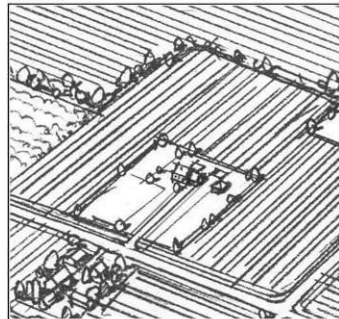
i. New Lot Creation

The creation of new lots through consent is primarily the avenue in which development is going to occur. The following guidelines address this situation on lands in the rural area or in a settlement areas/village.

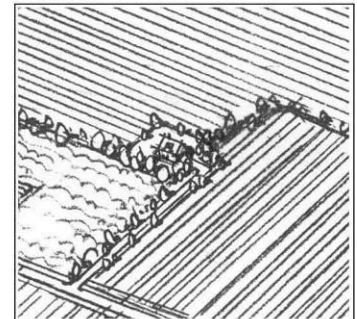
- a. The creation of new lots for residential uses within prime agricultural lands has been prohibited by the COP (Section 3.2.7). Still, significant portions of the lands designated as Rural, within Mississippi Mills, have a distinctly agricultural / mixed use character which should be preserved through the following measures:
 - Retaining existing open spaces on rural lands and preventing development that interrupts the views of the rural landscape, and interfere with Natural Areas or wildlife habitats established by the existing balance of meadow and bush.
 - Ensuring new construction or change of use of existing structures within the Rural designation area shall be subject to the appropriate **Minimum Distance Separation** (MDS) calculation as developed by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).
 - Requiring that new non-farm buildings and structures on lands adjacent to the Agricultural designation shall maintain a setback of 150 metres from the boundary of the Agricultural designation, and that such structures be screened from the agricultural lands by appropriate vegetation and/or topography where possible.
- b. To ensure that rural vistas are preserved, and impacts are minimized along rural roads, the COP (Section 4.2.3.1) requires that development be set back 100 m and screened (hidden) from the road. The following strategies should be used:

- New dwellings should be placed in areas which have existing vegetation to screen the development from the travelled road.
- New developments should be placed far enough back to not

Typical



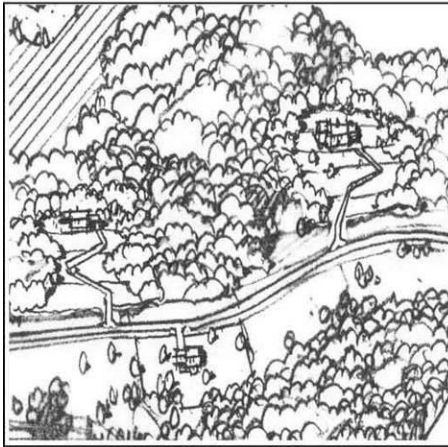
Preferred



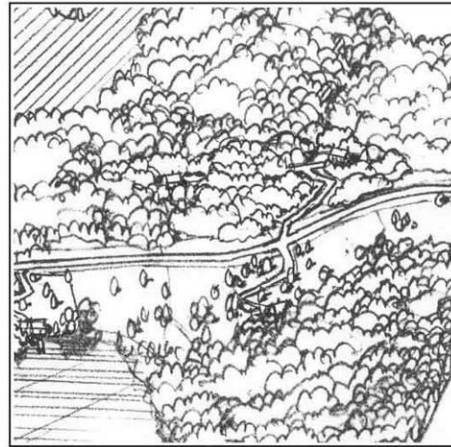
interrupt the rural vista.

- Visual impact of development on views from the road and neighbouring properties can be reduced through strategic siting of buildings.
- The minimum 100 m setbacks may be reduced by 20% if the proponent landscape's 80% of the frontage abutting the travelled road or further if it can be demonstrated that the proposed development will be completely hidden from the road.
- The number of access points onto the traveled road should be minimized
- Integrate development within existing topography and other natural features.

Typical



Preferred



- c. Woodlots play a significant role in the mixed-use economy of rural Mississippi Mills, and provide a local fuel supply for many local residents. To preserve and promote this local industry, new development should minimize impact on areas of bush with mature or semi-mature forest that could support a managed woodlot harvest.

ii. Architectural and Landscape Features

Where new buildings are clearly visible from the road or public lands the architectural features on the sides of the building facing the public area should respect traditional forms of rural development as exemplified by traditional farmhouses and barns. This approach should be applied to out-buildings of any size, as well as housing.

Were fencing is desired, the use of traditional cedar rail fencing is encouraged.



iii. Rural Residential Clustering

A cluster lot development is a grouping of three to five lots accessed by a single road (not including the retained parcel) created by consent for clustered rural non-farm residential development. The main purpose of this alternative form of rural residential development is to direct housing away from public roads, reduce the visual impact of strip development, and increase the financial viability of scattered rural residential development (Section 3.3.7 - COP).

- a. Generally, the placement of dwellings within the cluster lot development shall be determined based on the following considerations:
 - Buildings should be set back from the nearest public road a minimum of 100 metres, unless it can be demonstrated that they are substantially hidden from such road by topography or mature vegetation;
 - The siting of dwellings should consider the significant landscape features, vegetation, wildlife habitats and other resources on the property. Development within vegetation is permitted however, to provide screening, but removal of mature trees should be limited;
 - Identifiable features of rural character should be maintained or enhanced through the location of the dwellings;
 - The siting of dwellings shall blend with the natural landscape so that the rural character is undisturbed;

- When the 100 metre setback is waived due to a screen of mature vegetation, agreements must be entered into that ensure the screening effect of the vegetation is not compromised.

PRIVATE ROAD STANDARD

Road Width - 4 m (13.1 ft)

Shoulder Width - 1 m (3.3 ft) on both sides

Right-of-way Width - flexible but generally no less than 15 m (49 ft)

Brushing Out - 4 m (13.1 ft) wide and 5 m (16.4 ft) high maximum

Road Slope - maximum of 8%

Centre Line Radius - not less than 12 m (39.4 ft)

Where the Road is greater than 90 m (295 ft) long there needs to be a turnaround for fire access. Loops or 'T' junctions are preferred over the cul-de-sac

iv. Designing Rural Residential Cluster Developments

- a. Every proposed cluster development should be based upon a fairly thorough (but not necessarily costly) analysis of the features of the site proposed for development - both opportunities and constraints. Buildings should be strategically placed in a way that minimizes impact on existing vegetation, vistas, open spaces, and natural areas.
- b. Lands proposed for a cluster development should take into account the natural features and open spaces that already exist. Dwelling should be designed around these preventing the unnecessary removal of vegetation, while taking advantage of natural screening



The overall maximum density of a cluster development shall be approximately one unit per hectare of land, as established by the COP. This density can be established entirely through private lots or by a combination of private lots and lands held in common, as in the example above.

2

RURAL DESIGN

2d. Environmental Sustainability

i. Design Principles

1. **Green Buildings:** Green buildings are resource efficient, use less energy, utilize construction materials efficiently (including recycled and reused resources), are designed reduce internal and external impacts on the environment, and can reduce operating costs. Green building methods should be considered for both large and small projects.
2. **Recycle & Reuse:** Heritage structures were often built for long-term value. As these buildings outlive their intended purpose, opportunities for adaptive reuse should be explored to find new uses while retaining their historic features. Similarly, old materials can be given new life through recycling.
3. **Environmentally Sustainable Site Plan:** The site plan should address environmental sustainability principles. Water quality/consumption and preservation of habitat are key site sustainability issues in rural areas. A range of appropriate design measures should be considered such as the preservation of natural vegetation and features, reduction of hard surfaces and addition of extensive landscaping.

ii. Site Landscaping

- a. Native plant materials should be used wherever possible. Naturalistic plantings should be provided at the interface of parking areas with adjacent watercourses and natural heritage areas.
- b. Existing significant trees, tree stands, and vegetation should be protected and incorporated into site design and landscaping.
- c. Landscape design should incorporate a wide range of strategies to minimize water consumption, e.g. native species, use of mulches and compost, alternatives to grass, rainwater collection systems.
- d. The distribution of outdoor lighting should be controlled according to outdoor lighting design recommendations of the Royal Astronomical Society of Canada and COP to minimize light pollution and maintain a dark, night sky.

iii. New Building Design

- a. New buildings should be designed to meet or exceed Energy Star standards
- b. In the alternative to meeting Energy Star new rural housing is encouraged meet the following standards:

- | |
|--|
| <ol style="list-style-type: none">1. Mechanicals and included appliances<ul style="list-style-type: none">• All mechanical systems and included appliances should be Energy Star qualified2. Water Heating<ul style="list-style-type: none">• High efficiency boiler or tankless water heater• HW runs below 20' in one storey units and 30' in two storey units.3. Windows and Doors |
|--|

- All windows, patio doors and skylights should be Energy Star qualified and/or at a minimum, be thermal paned units with low-e, argon filled
 - All exterior doors should be urethane core insulated or equivalent
4. Insulation Recommended Minimums
 - Heated ceilings with attic:
 - Roof s with an R-value greater than R-50 are encouraged
 - All truss roofs with blown insulation should have a raised heel height sufficient to allow specified R-value
 - Exterior walls with an R-value greater than 25 are encouraged
 - Basement walls, R-20 full height interior or R-12.5 full height exterior are encouraged
 - Slab without in-floor heating: R-10 perimeter insulation if less than 2' below grade are encouraged
 - Slab with in-floor heating: R-10 full slab are encouraged
 - Exposed floors: R-32 are encouraged
 5. Air Leakage
 - Less than 2 square inches per 100 square feet as tested by CGSB blower door method is recommended
 6. Ducts
 - Basement ductwork should be sealed/taped
 7. Roofing
 - Material with a minimum warranty of 30 years encouraged
 8. VOCs
 - All interior paint, finishes and flooring are encouraged to be low VOC or no VOC
 9. Water Use
 - Toilets, shower heads and faucets are encouraged to be low-flow
 - The capture and use of roof run-off is encouraged

- c. Building construction and operation methods should aim at reducing dependence on non-renewable resources by using appropriate recycled materials and by promoting adaptive reuse of existing structures. Marginal energy costs should be reduced by promoting selection of locally manufactured or fabricated products and materials.
- d. Renewable energy systems should be considered to power site lighting and to supplement building power requirements.
- e. Innovative wastewater treatment, strategies are encouraged, especially for cluster development
- f. The inclusion of high efficiency wood stoves is encouraged in rural areas as they use a carbon neutral and locally available fuel source.

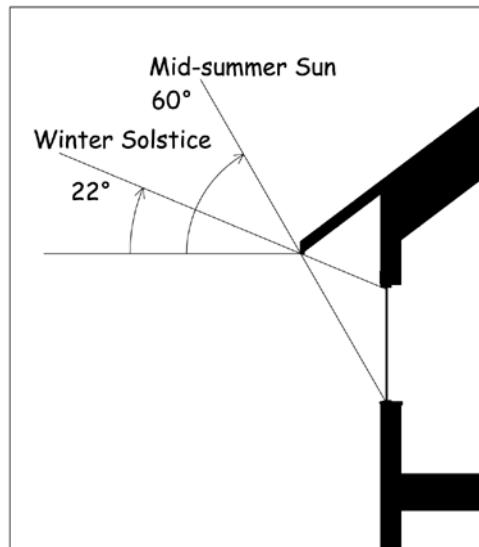
iv. Orientation and Passive Solar Design

Passive solar design offers free energy with next to no extra cost. Dwellings should be oriented and designed to take advantage of passive solar heating and shading whenever practical in a village setting, and wherever possible in rural development.

- Rule of thumb for achieving a passive solar home include:
 - The building should be elongated on an east-west axis.
 - The building's south face (within 15 degrees of south) should receive sunlight between the hours of 9:00 A.M. and 3:00 P.M. (sun time) during the heating season.
 - Interior spaces requiring the most light and heating and cooling should be along the south face of the building. Less used spaces should be located on the north.
 - An open floor plan optimizes passive system operation.
 - Window sizes and locations should add up to the totals in the following chart, calculated as a percentage of total floor area per floor level. The area of south-glazing depends crucially on the amount of thermal mass (which moderates the internal temperature by absorbing heat during the day and releasing it at night inside the thermal envelope.). To avoid overheating in a conventional house, i.e. a house without additional thermal mass, direct gain (south-facing windows) should not exceed 7% of floor area.

Recommended Net Glazing (Window) Areas for maximum efficiency:

<i>Wall Orientation</i>	<i>Percent of total floor area</i>
<i>East</i>	<i>4</i>
<i>North</i>	<i>4</i>
<i>West</i>	<i>2</i>
<i>South</i>	<i>7-12 (higher percentage requires the presence of interior thermal mass)</i>



- A minimum of 75% of south facing windows should be shading on the exterior to prevent summer sun entering the interior.
- All west facing windows beyond the recommended 2% should be shaded externally in the summer (deciduous trees work well for low sun angles)
- Thermal mass should be placed inside the thermal envelope to function as heat storage. The simplest rule of thumb is that thermal mass area should have an area of 6-8 times the (uncovered) surface area of the direct gain glass area. Thermal mass effectiveness increases proportionally to thickness up to about 4 inches. After that, effectiveness doesn't increase as significantly.

Wall and ceiling thermal mass surfaces should be light-colored, while floors should be dark.

- a. To achieve optimal solar orientation, streets should be oriented within 30 degrees of true east-west axis.
- b. New buildings should not be located so as to result in substantial shading of existing adjacent private or public open spaces that presently have substantial sun exposure.
- c. Landscape plans should use deciduous street trees and on-site trees where these trees will grow to shade windows of residential structures. Such trees provide shade and help reduce temperatures inside adjacent units during the warmer months and shed their leaves to allow sunlight and better heat penetration during cooler months.