

## Sustainability Strategy

### Density

Density assumptions play an important part in estimating the development land requirements arising from a new dwelling requirement / forecast. In the simplest terms, density refers to the number of housing (or other) units that can be accommodated on a particular area of land. National policy is to encourage higher density development on serviced zoned lands. Given the continuing fall in average household sizes, an increase in the number of dwellings per hectare is necessary to maintain the viability of existing services such as local shops, sports clubs and community facilities. The DSWLAP is the largest housing development area within the lands covered by Dundalk and Environs Plan 2003 – 2009. The DSWLAP area comprises some 600ha in total of which 285ha are zoned premature for residential development due to lack of servicing. (including the Crumlin and Rath sectors)

### Net & Gross Densities

Net densities are defined as the number of units per hectare including roads and open space immediately associated with the development, but excluding major distributor roads, schools, commercial development and larger public parks. Gross density measurements include roads and open space immediately associated with the development and major distributor roads, schools, commercial development and larger public parks. A 'Gross' density measure is best applied to estimating land areas required for mixed use developments or where a neighbourhood master plan is being prepared, such as the DSWLAP. Such plans necessarily involve a number of neighbouring sites which have not been accurately defined.



*High Density Dwellings.*

A net site density measure is a more refined estimate than a gross site density measure and includes only those areas which will be developed for housing and directly associated uses.

This will include:

- Access roads within the site
- Private garden space
- Car parking areas
- Incidental open space and landscaping, and
- Children's play areas where these are to be provided.

**An average density of 35 units per hectare should be observed throughout the DSWLAP. The planning authority will determine instances in which densities at the lower or higher ends of the permitted range will be appropriate. Lower densities may be acceptable in peripheral areas of the DSWLAP given the context and pattern of development of such areas. Higher densities will be encouraged at key nodal locations particularly in the environs of the civic and commercial centres and along the key transportation corridors.**

It should be noted that the DSWLAP takes due cognisance of the "Residential Density, Guidelines for Planning Authorities" recommendations.

The approach to densities across the DSWLAP area will vary to permit the development of a built environment which is both sustainable in land use terms and also attractive for residents and other users.



*High Density Duplex Dwellings.*

The national "Residential Density, Guidelines for Planning Authorities" stress that net residential densities in the range of 25 – 50 dwellings per hectare should be encouraged in Greenfield locations such as the DSWLAP area. It is planned that the DSWLAP area will be served by a much enhanced public transport network, initially bus based but ultimately augmented by rail. In such a scenario, the Residential Density Guidelines suggest that it may be appropriate to encourage higher densities in the vicinity of public transport corridors. Higher densities are encouraged within the DSWLAP area along certain key routes and at key nodes.

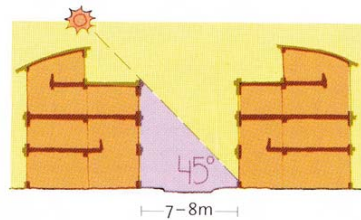
### Adaptability

A vital aspect of achieving sustainable development and vital communities is that neighbourhoods are allowed to evolve and grow. Single use zones, where only one activity such as residential or retail use exists, will not generally be acceptable. While a dominant use such as residential is identified, other uses such as small work units and shops will also be encouraged (on a strictly ancillary basis to the primary zoning) subject to residential amenity being preserved.

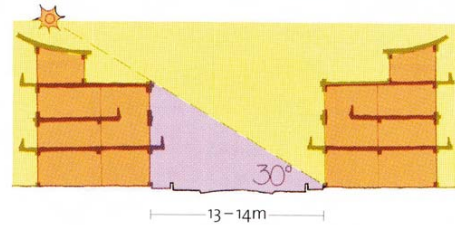
Buildings designed and located so as to be capable of adaptation to a range of other uses will be encouraged primarily within the defined Civic and Commercial Centres. Larger residential units may be designed so as to be capable of conversion into smaller units at some stage in the future, either as flats or business units (and vice versa).

## Orientation

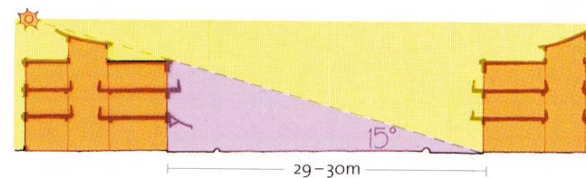
The orientation and design of buildings to take maximum advantage of passive solar gain and shelter from prevailing winds can play a significant part in reducing the energy demands of a building. While conflicts can emerge between designing a building for maximum solar gain and other considerations, such as creating a sense of place or providing passive supervision of a public space, the planning authority will encourage the design of buildings so as to minimise energy demands.



**Mews: 60 – 70% loss of total annual solar radiation**



**Street: 30 – 40% loss of total annual solar radiation**



**Square or high street: 5% loss of total annual solar radiation**

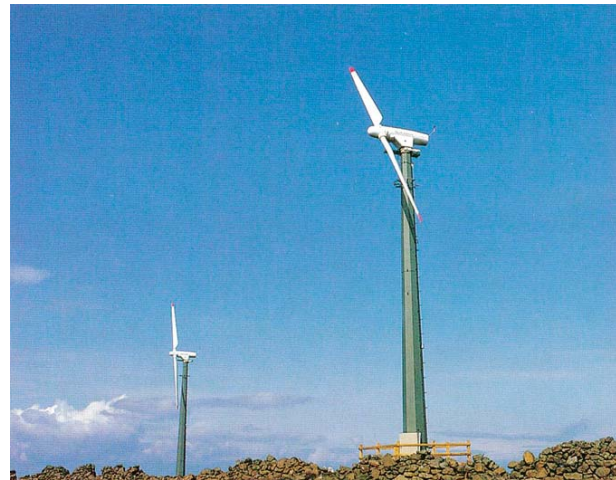
### Solar Orientation.

## Passive Housing

Passive Houses are buildings which ensure a comfortable indoor climate in summer and in winter without needing a conventional heating system. Passive housing is based on a principle whereby the passive heat inputs delivered externally by solar irradiation through the windows and provided internally by the heat emissions of appliances and occupants, essentially suffice to keep the building at comfortable indoor temperatures throughout the heating period. It is a part of the Passive House philosophy that efficient technologies are also used to minimize the other sources of energy consumption in the building, notably electricity for household appliances. It is the policy of the DSWLAP to encourage the location of such development within the plan area, particularly given the predominant southerly aspect of much of the plan area.

## Technology

Many new technologies designed to reduce energy consumption in buildings are now becoming commercially viable. The DSWLAP encourages their use generally in all development and will seek their use particularly in any buildings financed by the state. Designers of social housing, schools and other public buildings should investigate and use where possible technologies such as heat pumps and solar panels and wind turbines.



**Wind Turbines.**

## Protection of Aquatic Ecosystems

The Ramparts River rises west of Dundalk and flows through the Rath and Mounthmilton areas of the plan. It is culverted through park of Dundalk town and then flows in an open channel in the Ramparts area of the town before entering the sea at the port. The river contains modest stocks Brown Trout, most notably in its upper reaches; in fact a fish friendly culvert was installed under the new motorway to allow for fish passage along that stretch. There are also small numbers of Trout in the Ramparts area of the town.

It is incumbent upon all developers in the DSWLAP area that locally important aquatic habitats including the Ramparts River are afforded suitable protection site during site investigations, clearance or construction stages and this protection and future enhancement is incorporated into final schemes.

## Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites

The Eastern Regional Fisheries Board is charged under the Fisheries Acts with the responsibility to protect and conserve all freshwater fisheries within its area of jurisdiction. Every river, stream, canal, lake, pond and reservoir within this area must be regarded as constituting and/or supporting a Fishery under the meaning of the Acts

The Board provides general guidance notes which are aimed at identifying the likely impact on fisheries habitat in the course of construction and development work, and to outline practical measures for the avoidance and mitigation of damage. These guidelines should not be regarded as all-embracing. Each project must be assessed on a case by case basis. It is, therefore, essential to consult with the Board. It may also be necessary to seek professional expert advice.

Summary of the Eastern Regional Fisheries Board General Requirements

- In salmonid catchments, all in-stream works should be carried out during the period May to September
- In the event that these waters contain Lamprey it is necessary to contact National Parks and Wildlife Service for their requirements.
- No instream works shall be carried out without the written approval of the Board. A method statement must be agreed well in advance.
- The Board should be given sufficient notice before pre-approved in-stream works commence.
- If a section of watercourse is to be de-stocked work must be carried out by authorized personnel. If this work is to be carried out by Fishery Board staff, two to three weeks notice must be given and the cost will be recouped by the Board.
- There must be no discharge of suspended solids or any other deleterious matter to watercourses.
- Fish passage conditions must be maintained at all times.

Developers must contact the Eastern Regional Fisheries Board prior to commencing any site investigations, clearance or construction work