

City of Ryde Development Control Plan 2014

Part: 7.1 Energy Smart, Water Wise

Translation

ENGLISH

If you do not understand this document please come to Ryde Civic Centre, 1 Devlin Street, Ryde Monday to Friday 8.30am to 4.30pm or telephone the Telephone and Interpreting Service on 131 450 and ask an interpreter to contact the City of Ryde for you on 9952 8222.

ARABIC

إننا نعتذر عليك فهم محتويات هذه الوثيقة، نرجو للحضور إلى مركز بلدية رايد Ryde Civic Centre على العنوان: 1 Devlin Street, Ryde 1 من الاثنين إلى الجمعة بين الساعة 8.30 صباحاً والساعة 4.30 بعد الظهر أو الاتصال بمكتب خدمات الترجمة على الرقم 131 450 لكي تطلب من أحد المترجمين الاتصال بمجلس مدينة رايد، على الرقم 9952 8222، نيابة عنك.

ARMENIAN

Եթէ այս գրութիւնը չէք հասկնար, խնդրեմ եկէք՝ Բայր Սիվիլ Սենթըր, 1 Տելվին փողոց, Բայր, (Ryde Civic Centre, 1 Devlin Street, Ryde) Երկուշաբթիէն Ուրբաթ կ.ա. ժամը 8.30 – կ.ե. ժամը 4.30, կամ հեռաձայնեցէք Հեռաձայնի եւ Թարգմանական Սպասարկութեան՝ 131 450, եւ խնդրեցէք որ թարգմանիչ մը Բայր Քաղաքապետարանին հետ կապ հաստատուէ ձեզի համար, հեռաձայնելով՝ 9952 8222 թիվի:

CHINESE

如果您看不懂本文，請在周一至周五上午 8 時 30 分至下午 4 時 30 分前往 Ryde 市政中心詢問 (Ryde Civic Centre, 地址: 1 Devlin Street, Ryde)。你也可以打電話至電話傳譯服務中心，電話號碼是: 131 450。接通後你可以要求一位傳譯員為你打如下電話和 Ryde 市政廳聯繫，電話是: 9952 8222。

FARSI

اگر این مدرک را نمی فهمید لطفاً از 8.30 صبح تا 4.30 بعد از ظهر دوشنبه تا جمعه به مرکز شهرداری رايد، Ryde Civic Centre, 1 Devlin Street, Ryde مراجعه کنید یا به سرویس مترجم تلفنی، شماره 131 450 تلفن بزنید و از یک مترجم بخواهید که از طرف شما با شهرداری رايد شماره 9952 8222 تلفن بزند.

ITALIAN

Se non capite il presente documento, siete pregati di rivolgervi al Ryde Civic Centre al n. 1 di Devlin Street, Ryde, dalle 8.30 alle 16.30, dal lunedì al venerdì; oppure potete chiamare il Telephone Translating and Interpreting Service al 131 450 e chiedere all'interprete di contattare a vostro nome il Municipio di Ryde presso il 9952 8222.

KOREAN

이 문서가 무슨 의미인지 모르실 경우에는 1 Devlin Street, Ryde 에 있는 Ryde Civic Centre 로 오시거나 (월 – 금, 오전 8:30 – 오후 4:30), 전화 131 450 번으로 전화 통역 서비스에 연락하셔서 통역사에게 여러분 대신 Ryde 시청에 전화 9952 8222 번으로 연락을 부탁드립니다.

Amend. No.	Date approved	Effective date	Subject of amendment

Table of Contents

1.0 INTRODUCTION	5
1.1 Purpose of this Part	5
1.2 Objectives of this Part	5
1.3 Structure of this Part	5
2.0 DEVELOPMENT POLICIES	7
2.1 Alterations and Additions to a Dwelling	7
2.2 New Dwelling Houses, Dual occupancy (attached), Multi Dwelling Housing (attached) or Senior Housing Developments Alterations	8
2.3 Residential Flat Buildings (RFBs) including those contained in Mixed RFB/Commercial Developments Residential Conversion of Former Industrial Buildings	8
2.4 New Shops, Industrial and Commercial Premises (including those Contained in a Mixed-use Development).	10
2.5 New and Major Alterations to Motels, Hotels, Backpacker Accommodation and Boarding Houses	11
2.6 All Other Developments (School, Hospital, etc)	12
3.0 THE INFORMATION GUIDE	14
3.1 Pre-Application Consultation	14
3.2 Required Information	14
3.3 Other Matters for Consideration	15
3.4 Specialist Advice	15
3.5 Other Contacts	15
SCHEDULES	
Schedule 1 - Further Information	16

THIS PAGE HAS BEEN
INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

1.1 Purpose of this Part

The purpose of this Part is to provide a strategic framework for achieving sustainable development throughout the City of Ryde.

This Part has controls and design objectives for most new building works, including home renovations through to larger residential, commercial, retail and industrial developments. All new developments are required to comply with a minimum energy performance standard. The energy performance of a structure will be assessed with reliable and consistent energy rating tools as outlined in the Plan.

By carefully examining the existing site conditions at the beginning of the design stages, new developments and improvements to existing buildings can benefit from more comfortable and economic living and working environments. Environmental benefits, such as the reduction in the emission of greenhouse gases can also be achieved.

1.2 Objectives of this Part

Objectives

The primary objectives of the Part are:

1. To encourage the design of energy efficient buildings in the City of Ryde;
2. To ensure site planning and building design optimise solar access to land and buildings;
3. To decrease the total energy use in buildings through reductions in heat loss and energy consumption for the purposes of heating and cooling; and
4. To encourage the construction and use of buildings that reduce the current level of attributed greenhouse gas emissions and natural resource consumption.

1.3 Structure of this Part

This Part is divided into three sections.

Section 1 - introduction provides an overview of the aims, objectives and the relationship of this development control Plan with other Council planning instruments.

Section 2 - development Policies are divided into the following six categories:

- Alterations and Additions to a Dwelling;
- New Dwelling House, Dual Occupancy (attached), Multi dwelling housing (attached) or Senior housing developments;
- Residential Flat Buildings (RFB) including those contained in Mixed RFB/ commercial developments;
- Residential Conversion of Former Industrial Buildings;
- New Shops, Industrial and Commercial Premises;
- New and Major Alterations to Motels, Hotels, Backpacker Hostels and Boarding houses; and
- All Other Developments (Schools, Hospital, etc.).

For each development Policy category there are a number of 'objectives' that explain the specific aims of each category. The 'provisions' detail the requirements that are to be met to ensure compliance.

Section 3 - information guide summarises the key provisions of the Plan and provides an explanation of the information that you may be required to submit.

If you require further information on issues such as building materials and techniques, a list of useful references has been provided in Schedule 1.

It is strongly suggested that you consult with your architect, builder or adopted person on these requirements prior to lodging an application to Council; you should also seek advice from Council officers in the formative stages of your proposal.

2.0 DEVELOPMENT POLICIES

This section is divided into six categories. For each Development Policy category there are 'objectives' that explain what compliance with the development policy seeks to achieve. The 'Provisions' detail the requirements that are to be met to achieve compliance. 'Concessions' outline any circumstances in which Council may consider variations to those provisions.

Depending on the development Policy category, a development proposal will be required to meet differing levels of energy and water efficiency. Whilst the basic principles of energy and water efficiency can be applied to all development, the means by which it is implemented and monitored may differ.

2.1 Alterations and Additions to a Dwelling

Council has recognized that the densely built-up nature of Ryde's residential area makes it difficult for people undertaking smaller developments to satisfy the full range of energy and water efficiency principles. Therefore minor and major alterations and additions to dwelling houses (i.e. works affecting the existing floor area) will be required to meet the most basic and effective objectives.

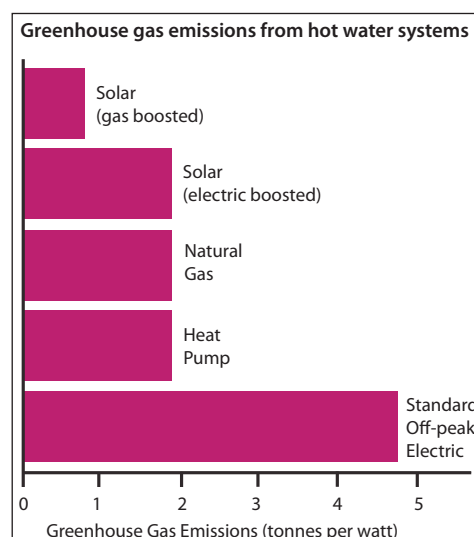
Objectives

1. Maximizing solar access to rooms and areas that are used most (living areas, family rooms and kitchens) through orientating rooms to the north, preferably within a range of 30° east and 20° west of true north.
Note: The 30° east and 20° west range for 'north-facing' elements represents the limits to energy efficient orientation. Any further variance to these angles will have a significant impact on energy consumption or the comfort levels of a dwelling.
2. Managing solar access to additional or replacement windows through the use of either vertical or horizontal shading devices such as pergolas, verandas, blinds or shutters to control the penetration of sunlight.
3. Preserving solar access to north facing windows, solar panels and clothes drying facilities in adjacent residential development.
4. Reducing household consumption of water, electricity and gas.

Controls

- a. Additional or replacement ceiling/roof and walls must be fitted with insulation. Ceiling/roof insulation must be rated R3.0 or equivalent and wall insulation must have an R1.5 or equivalent rating. Insulation of cavity brick walls is not required.
- b. Any hot water system(s) installed as part of a development or as a replacement must consider the most efficient option available to minimise greenhouse gas emissions (see diagram below as a guide).

Note: The Federal Governments Energy Rating website has a comprehensive list of efficient hot water systems rated through the Minimum Energy Performance Standard (MEPS) and is currently working on a rating scheme. The preferred system should be no worse than heat pump. <http://www.energyrating.gov.au>



- c. Water Efficient Fixtures: where new or replacement fittings are required shower heads shall be at least 3 star rated water efficient 4 star dual flush toilets and 4 star taps (for all taps other than bath outlets and garden taps), bathroom and kitchen taps shall be fitted with aerators; and water closets shall have a dual flush cistern.
- d. An external yard space or sheltered well-ventilated space for clothes drying must be provided and be suitably screened from view from any street, public space or adjoining property.
- e. Any products installed as part of a development or as a replacement that are regulated for water efficiency under Water Efficiency Labelling and Standards (WELS) Scheme must obtain a Minimum WELS rating of 4.5 stars. Products that carry a star water label and are regulated under WELS include clothes washing machines and dishwashers. The water star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments WELS website has a comprehensive list of efficient appliances based on star ratings. <http://www.waterrating.gov.au>
- f. Wherever practicable, orient the development to reduce the need for artificial lighting by maximizing daylight in habitable areas, whilst minimizing heat and glare. Ways to achieve this includes skylights, atriums or light shafts and adjustable shading.

Information to be Submitted with Application

- Details of insulation on plan information.
- Details and location of hot water system on plan information.
- Details of outdoors clothes drying area on plan information.
- Details of water efficient appliances and water storage.
- BASIX certification from accredited assessor when applicable.

2.2 New Dwelling Houses, Dual occupancy (attached), Multi Dwelling Housing (attached) or Senior Housing Developments Alterations

The requirements of BASIX applies to these developments, see www.basix.nsw.gov.au for more information.

2.3 Residential Flat Buildings (RFBs) including those contained in Mixed RFB/Commercial Developments Residential Conversion of Former Industrial Buildings

Due to the advantage of economies of scale, residential flat buildings and the like can easily maximise the thermal performance, thermal comfort and energy efficiency of all dwellings.

Objectives

1. Maximizing solar access to rooms and areas that are used most (living areas, family rooms and kitchens) through orientating rooms to the north, preferably within a range of 30° east and 20° west of true north.

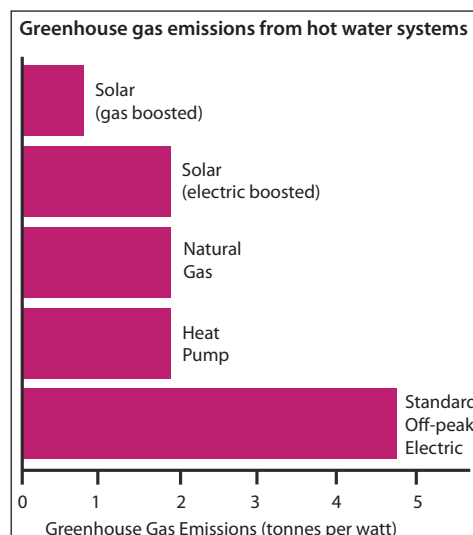
Note: The 30° east and 20° west range for 'north-facing' elements represents the limits to energy efficient orientation. Any further variance to these angles will have a significant impact on energy consumption or comfort levels.
2. Managing solar access to windows through the use of either vertical or horizontal shading devices such as pergolas, verandas, blinds or shutters to control the penetration of sunlight.

3. Preserving solar access to north facing windows, solar panels and clothes drying facilities in adjacent residential development.
4. Reducing household consumption of water, electricity and gas.

Controls

- a. Any hot water system(s) installed as part of a development or as a replacement must consider the most efficient option available to minimise greenhouse gas emissions (see diagram as a guide).

Note: The Federal Governments Energy Rating website has a comprehensive list of efficient hot water systems rated through the Minimum Energy Performance Standard (MEPS) and is currently working on a rating scheme. The preferred system should be no worse than heat pump. <http://www.energyrating.gov.au>



- b. Any products installed as part of a development or as a replacement that are regulated for energy efficiency under the Australian Standards for Products and/or Minimum Energy Performance Standards (MEPS) must achieve a Minimum energy rating of 4.5 stars.

Note: Products that carry an energy star label and are regulated under MEPS include refrigerators, freezers, clothes washers and dryers, dishwashers and air conditioners. The energy star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments Energy Rating website has a comprehensive list of efficient appliances based on star ratings. <http://www.energyrating.gov.au>

- c. Ceiling/roof and walls must be fitted with insulation. Ceiling/roof insulation must be rated R3.0 or equivalent and wall insulation must have an R1.5 or equivalent rating. Insulation of cavity brick walls is not required,
- d. Water Efficient Fixtures: where new or replacement fittings are required shower heads shall be at least 3 star rated water efficient 4 star dual flush toilets and 4 star taps (for all taps other than bath outlets and garden taps), bathroom and kitchen taps shall be fitted with aerators; and water closets shall have a dual flush cistern.
- e. An external yard space or sheltered well-ventilated space for clothes drying must be provided and be suitably screened from view from any street, public place or adjoining property.
- f. Any products installed as part of a development or as a replacement that are regulated for water efficiency under Water Efficiency Labelling and Standards (WELS) Scheme must obtain a Minimum WELS rating of 4.5 stars. Products that carry a star water label and are regulated under WELS include clothes washing machines and dishwashers. The water star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments WELS website has a comprehensive list of efficient appliances based on star ratings. <http://www.waterrating.gov.au>
- g. Wherever practicable, orient the development to reduce the need for artificial lighting by maximizing daylight in habitable areas, whilst minimizing heat and glare. Ways to achieve this includes skylights, atriums or light shafts and adjustable shading.

Information to be submitted with Application

- Energy Efficiency Performance Report (for proposals with 13 or more units).
- Details and location of hot water system on plan information.
- Details of insulation on plan information.
- Site Analysis (including placement of clothesline).
- BASIX certification from accredited assessor.
- Details of energy and water efficient appliances and water storage.

2.4 New Shops, Industrial and Commercial Premises (including those Contained in a Mixed-use Development).

The need to be resource efficient and environmentally friendly in the running of commercial, retail and industrial properties is increasingly recognised and prioritised, especially since adopting energy ‘smart’ measures can lead to a decrease in the operating costs of properties.

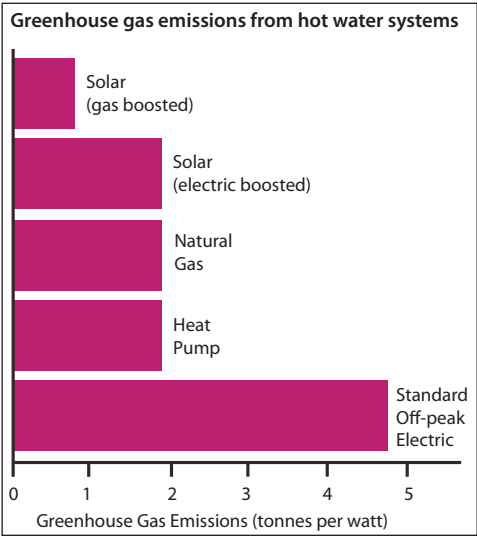
Objectives

1. A base building that incorporates appropriate energy conservation measures.
2. Reducing the consumption of water, electricity and gas for the purposes of lighting, heating and cooling.
3. Substantial reductions in water consumption through the use of water efficient fixtures and water efficient landscaping.

Controls

- a. The total anticipated energy consumption for the base building is no greater than 450 Mega Joules/ annum/ metre square [MJ/am²] (commercial) and 900 Mega Joules/ annum/ metre square [MJ/am²] (retail).
- b. Any hot water system/s installed as part of a development or as a replacement must consider the most efficient option available to minimise greenhouse gas emissions (see diagram below as a guide).

Note: The Federal Governments Energy Rating website has a comprehensive list of efficient hot water systems rated through the Minimum Energy Performance Standard (MEPS) and is currently working on a rating scheme. The preferred system should be no worse than heat pump. <http://www.energyrating.gov.au>



- c. Any products installed as part of a development or as a replacement that are regulated for energy efficiency under the Australian Standards for Products and/or Minimum Energy Performance Standards (MEPS) must achieve a Minimum energy rating of 4.5 stars.

Note: Products that carry an energy star label and are regulated under MEPS include refrigerators, freezers, clothes washers and dryers, dishwashers and air conditioners. The energy star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments Energy Rating website has a comprehensive list of efficient appliances based on star ratings. <http://www.energyrating.gov.au>

- d. Water Efficient Fixtures: where new or replacement fittings are required, Shower heads shall be at least 3 star rated water efficient 4 star dual flush toilets, 4 star taps (for all taps other than bath outlets and garden taps) and 3 star urinals, bathroom and kitchen taps shall be fitted with aerators; and water closets shall have a dual flush cistern.
- e. The installation of energy efficient lighting, motion detectors and dimmers where appropriate are encouraged.
- f. Any products installed as part of a development or as a replacement that are regulated for water efficiency under Water Efficiency Labelling and Standards (WELS) Scheme must obtain a Minimum WELS rating of 4.5 stars. Products that carry a star water label and are regulated under WELS include clothes washing machines and dishwashers. The water star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments WELS website has a comprehensive list of efficient appliances based on star ratings. <http://www.waterrating.gov.au>

Information to be submitted with Application

- Energy Efficiency Performance Report. This report shall include evidence from a suitably qualified consultant to confirm compliance with the total anticipated energy consumption.
- Details of complying water heater type and location on plan information.
- Site Analysis.
- Details of energy and water efficient appliances.

2.5 New and Major Alterations to Motels, Hotels, Backpacker Accommodation and Boarding Houses

Due to the advantage of economies of scale, larger developments can achieve a greater range of energy 'smart' measures. Careful consideration of simple and sensible objectives and design outcomes at an early stage of a development can create a comfortable environment whilst decreasing the operating costs of a building. (Major alterations is defined as works affecting more than 50% of the existing floor area.)

Objectives

1. Maximizing solar access to rooms and areas that are used most (living areas, family rooms and kitchens) through orientating rooms to the north, preferably within a range of 30° east and 20° west of true north.
Note: The 30° east and 20° west range for 'north-facing' elements represents the limits to energy efficient orientation. Any further variance to these angles will have a significant impact on energy consumption or comfort levels.
2. Managing solar access to windows through the use of either vertical or horizontal shading devices such as pergolas, verandas, blinds or shutters to control the penetration of sunlight, ensuring optimal access and use of renewable energy sources.
3. Substantial reductions in water consumption through the use of water efficient fixtures and water efficient landscaping.
4. Installation of energy efficient appliances and lighting that minimises green house gas generation.

Controls

- a. Ceiling/roof and walls must be fitted with insulation. Ceiling/roof insulation must be rated R3.0 or equivalent and wall insulation must have an R1.5 or equivalent rating. Insulation of cavity brick walls is not required.

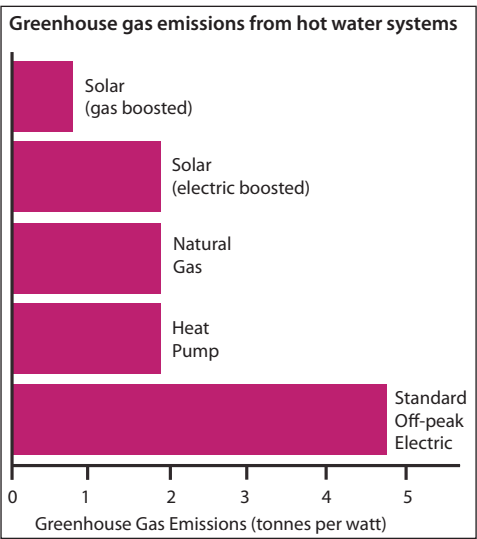
- b. Any hot water system/s installed as part of a development or as a replacement must consider the most efficient option available to minimise greenhouse gas emissions (see diagram below as a guide).

Note: The Federal Governments Energy Rating website has a comprehensive list of efficient hot water systems rated through the Minimum Energy Performance Standard (MEPS) and is currently working on a rating scheme. The preferred system should be no worse than heat pump. <http://www.energyrating.gov.au>

- c. Any products installed as part of a development or as a replacement that are regulated for energy efficiency under the Australian Standards for Products and/or Minimum Energy Performance Standards (MEPS) must achieve a Minimum energy rating of 4.5 stars.

Note: Products that carry an energy star label and are regulated under MEPS include refrigerators, freezers, clothes washers and dryers, dishwashers and air conditioners. The energy star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments Energy Rating website has a comprehensive list of efficient appliances based on star ratings. <http://www.energyrating.gov.au>

- d. Water Efficient Fixtures: where new or replacement fittings are required, Shower heads shall be at least 3 star rated water efficient 4 star dual flush toilets, 4 star taps (for all taps other than bath outlets and garden taps) and 3 star urinals, bathroom and kitchen taps shall be fitted with aerators; and water closets shall have a dual flush cistern.
- e. The installation of energy efficient lighting, motion detectors and dimmers where appropriate are encouraged.



Information to be submitted with Application

- Details of insulation on plan information.
- Details of water heater type and location on plan information.
- Site analysis.
- Details of energy and water efficient appliances.

2.6 All Other Developments (School, Hospital, etc)

All other development may include developments such as schools, hospitals and universities. Due to varying nature of such development the range of energy and water efficiency requirements for each of these uses are not listed in this Plan. The development are however required to meet the minimum elements of energy and water efficiency principles.

Objectives

1. Maximizing solar access to rooms and areas that are used most (living areas, family rooms and kitchens) through orientating rooms to the north, preferably within a range of 30° east and 20° west of true north.

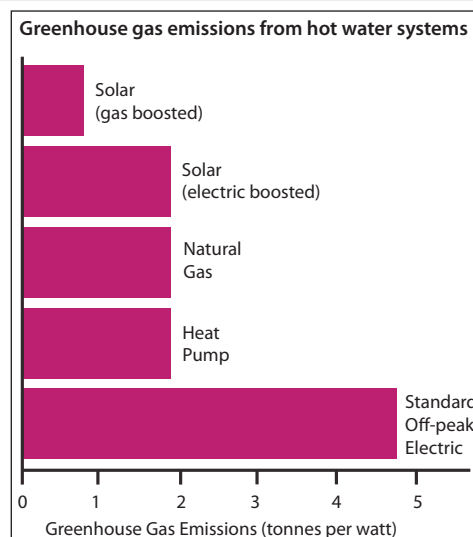
Note: The 30° east and 20° west range for 'north-facing' elements represents the limits to energy efficient orientation. Any further variance to these angles will have a significant impact on energy consumption or comfort levels.

2. Managing solar access to windows through the use of either vertical or horizontal shading devices such as pergolas, verandas, blinds or shutters to control the penetration of sunlight.
3. Preserving solar access to north facing windows, solar panels and clothes drying facilities in adjacent residential development.
4. Reducing the consumption of water, electricity and gas.

Controls

- a. Ceiling/roof and walls must be fitted with insulation. Ceiling/roof insulation must be rated R3.0 or equivalent and wall insulation must have an R1.5 or equivalent rating. Insulation of cavity brick walls is not required.
- b. Any hot water system/s installed as part of a development or as a replacement must consider the most efficient option available to minimise greenhouse gas emissions (see diagram below as a guide).

Note: The Federal Governments Energy Rating website has a comprehensive list of efficient hot water systems rated through the Minimum Energy Performance Standard (MEPS) and is currently working on a rating scheme. The preferred system should be no worse than heat pump. <http://www.energyrating.gov.au>



- c. Any products installed as part of a development or as a replacement that are regulated for energy efficiency under the Australian Standards for Products and/or Minimum Energy Performance Standards (MEPS) must achieve a Minimum energy rating of 4.5 stars.

Note: Products that carry an energy star label and are regulated under MEPS include refrigerators, freezers, clothes washers and dryers, dishwashers and air conditioners. The energy star rating as well as date of purchase of the product should be visible on the product at all times. The Federal Governments Energy Rating website has a comprehensive list of efficient appliances based on star ratings. <http://www.energyrating.gov.au>

- d. Any products installed as part of a development or as a replacement that are regulated for water efficiency under Water Efficiency Labelling and Standards (WELS) Scheme must obtain a Minimum WELS rating of 4.5 stars. Products that carry a star water label and are regulated under WELS include clothes washing machines and dishwashers. The water star rating as well as date of purchase of the product should be visible on the product at all times. The federal governments WELS website has a comprehensive list of efficient appliances based on star ratings. <http://www.waterrating.gov.au>
- e. Wherever practicable, orient the development to reduce the need for artificial lighting by maximizing daylight in habitable areas, whilst minimizing heat and glare. Ways to achieve this includes skylights, atriums or light shafts and adjustable shading.

3.0 THE INFORMATION GUIDE

The information guide provides both an overview of the type of information that is required to be submitted with a development application and a glossary of the terms used in the Plan. Applicants are encouraged to discuss development proposals with Council's staff at an early concept stage prior to lodgement of a development application. This prelodgement meeting will assist in identifying and addressing any matters that may otherwise increase processing time.

3.1 Pre-Application Consultation

Discussions with Council are encouraged at an early stage in the development application process to discuss and agree on the overall design approach before a detailed WSUD or Energy Management Plan is prepared.

The intent is to have the locality analysis available so that parameters can be agreed rather than providing the analysis only at the development application stage, thus saving time and costs associated with revisions and major modifications.

The aim of the consultation process is to provide direction and guidelines to you, the applicant, and to assist you with advice on Council's requirements. The level of consultation required will largely depend on the size and the complexity of the development. In some instances it will be mandatory to lodge a preliminary application with Council for developments of a certain level and/or scale.

3.2 Required Information

Energy Efficiency Performance Report

An Energy Efficiency Performance Report from an accredited consultant is required to demonstrate how the intent of the DCP has been met. Lists of accredited consultants are available from Nabers on www.nabers.com.au.

The report should evaluate the performance of the development in relation to (but not necessary limited to) the following issues:

1. The levels of solar access that have been achieved for north facing windows, solar hot water systems and clothes drying areas;
2. How energy efficiency influences the design in general;
3. Justification of hot water systems selection;
4. Justification of clothes dryer selection;
5. Overshadowing of adjoining properties;
6. Total anticipated energy consumption;
7. Water efficient fixtures;
8. How demand for water and discharge of wastewater will be minimised; and
9. Details of the potential for the treatment and re-use of effluent or stormwater.

Site Analysis

Site analysis involves consideration of a range of environmental factors that will influence the site and the building(s) to be developed on it. These factors may well be both internal and external to the site. The complexity of the site analysis will depend on the size and complexity of the project.

For small alterations and single residential infill projects, a simple annotated plan/ diagram showing key site characteristics including true solar north, and relationships to existing trees, buildings and streets may be all that is necessary. For larger sites a complete analysis including infrastructure will be required.

The following list gives an example of information that may be relevant to a site analysis:

1. Topographical characteristics and the direction of true north;
2. Site context, e.g. adjacent buildings or structures, relationship to the street or road;
3. Placement of clotheslines and drying equipment;
4. Existing causes of overshadowing, e.g. adjacent buildings or trees;
5. Views and any prevailing winds;
6. Shadow diagrams of the overshadowing of any adjacent properties solar hot water system created by the proposed development;
7. The arrangement of new lots, and the footprint of buildings for each lot (for major residential subdivision proposals); and
8. Details of existing natural features including waterways, views, vegetation or other important features on or affecting the site.

3.3 Other Matters for Consideration

The following matters are to be taken into consideration during the preparation of all DA's requiring water and energy efficient factors:

- Roads – consideration of the placement and incorporation of WSUD elements within and around roads, verges and footpaths;
- Safety – public safety and OHS considerations; and
- Maintenance and Monitoring – development of maintenance and monitoring regime for the management of WSUD and energy conservation elements.

3.4 Specialist Advice

- Applicants and developers are required to employ the services of appropriately qualified and experienced practitioners for the development of appropriate water and energy efficient factors, plans and strategies. The benefit of using consultants with demonstrated capacity to fulfil the requirements of this Part will generally reflect a smoother and more straightforward approval and construction process.
- Prior to commencing planning for water and energy efficient factors please contact Council.

3.5 Other Contacts

Duty officer – City of Ryde Customer Service, phone: 299528222.

Schedule 1 - Further Information

Legislation

- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2006

General Sustainable Building Guides

- Your Home Your Future, www.yourhome.gov.au
- Mender, S. and Odell, W. 2000 *The HOK Guidelines to Sustainable Design*. John Wiley & Sons.
- Mobbs, M. 1998 *Sustainable House – Living for Our Future*. Choice Books.

Sustainable Building Materials and Products

- Gertsakis, J (ed) 1999. *Ecospecifier – A guide to Sourcing Environmentally Preferable Materials*. A comprehensive database on sustainable building materials developed by Centre for Design at RMIT and Society for Responsible Design. See the website for a more up to date list <http://ecospecifier.rmit.edu.au>.
- *Builder Database on PVC Alternatives*. Greenpeace has launched a new international database that helps builders choose environmentally friendly alternatives to PVC products. The PVC Alternatives Database features more than 200 products from companies based in 17 countries that avoid the use of polyvinyl chlorides (PVCs), which have been linked to a range of health problems: <http://archive.greenpeace.org/toxics/pvcdatabase/>
- Environment Australia. 2001 *Shop Smart Buy Green – A consumer's guide to saving money and reducing environmental impacts*. Provides guidelines on how to make the environmental based purchasing decisions. Available at Council.
- NSW Waste Boards. *The Buy Recycled Guide*. 2nd Edition. Includes construction and building materials, household and industrial products and office supplies.

Energy

- Energy Star, www.energystar.gov.au – provides a comprehensive description of energy star, and how to activate energy star on computers.
- Energy ratings, www.energyrating.gov.au – includes a list of appliances, their star ratings and energy consumption.
- Live Energy Smart, www.energysmart.com.au
- Green Power, www.greenpower.com.au
- Hollo, N. *Warm House, Cool House*. Choice Publications
- Energy Smart Information Centre is available at www.energysmart.com.au

THIS PAGE HAS BEEN
INTENTIONALLY LEFT BLANK



City of Ryde
Civic Centre
1 Devlin Street
Ryde NSW 2112

www.ryde.nsw.gov.au