



# Waterwise Display Village Criteria





## Waterwise Display Village Program

The Waterwise Display Village Program offers the housing industry and new homebuyers the opportunity to play an important role in conserving our State's water supply. This initiative is just one way the Water Corporation is working towards the goals set by the State Government in the State Water Strategy to make WA a more water efficient community.

The Water Corporation recognises the link between urban design, landscape architecture and alternate water supplies in developing new water sensitive properties and developments. By applying the water efficient principles to new and existing urban forms detailed in this document and managing stormwater as a resource, water efficiency and environmental values will be optimised as well as providing aesthetic and recreational benefits to the community.

To assist with the shift towards waterwise land developments the Corporation has introduced the concept of a Waterwise Display Village. The Waterwise Display Village Program is the next step following the endorsement of a Waterwise Land Development.

For more information on the Waterwise Display Village Program or the Waterwise Land Development Program contact:

Water Efficiency Projects Branch

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E: [Water Efficiency](#)





## Criteria to attain Waterwise Display Village Endorsement

To obtain endorsement as a Waterwise Display Village, the following steps must be taken into consideration and include the entry statement, sales office and all display homes.

### 1. Entry Statement

At an early stage during the planning process the developer must discuss with the local authority provisions for the authority to accommodate the irrigation and maintenance of the entry statement within their existing waterwise practices.

- Garden and irrigation design must be consistent with criteria outlined below.
- The developer must agree to incorporate the Waterwise Display Village logo into entry statement signage once endorsement has been achieved.

### 2. Display Homes

All display homes in the village must be waterwise. Please see below for a list of detailed criteria.

- The developer has agreed to prominently place waterwise signage, provided by the Water Corporation, on items and in areas listed below.
- Any new homes built in the display village after waterwise endorsement has been received, is required to meet the criteria of a waterwise home as listed below.

### Waterwise Home criteria

#### INSIDE

- All internal taps have a **4 Star WELS rating or better (mandatory)**. Refer to [www.waterrating.gov.au](http://www.waterrating.gov.au)
  - Consider aerators – reduce flow, reduce splash and improve wetting
  - Consider spring loaded controls to prevent running taps
- Dishwasher on display has a 4 Star WELS rating or better **(mandatory)**. Refer to [www.waterrating.gov.au](http://www.waterrating.gov.au)
- Washing machine on display has a 4.5 Star WELS rating or better **(mandatory)**. Refer to [www.waterrating.gov.au](http://www.waterrating.gov.au)

Air conditioning is:

- Reverse cycle refrigerated type (preferred).
- Evaporative type (prefer models with an auto dump triggered by salinity over continuous discharge type).





### Bathroom:

- All showerheads have a **3 Star WELS rating or better (mandatory)**.
- Toilets are dual flush 4 Star WELS rating or better **(mandatory)**.
- No bath or low volume, small surface area.

Refer to [www.waterrating.gov.au](http://www.waterrating.gov.au)

Spas:

- Not encouraged.

### OUTSIDE

#### Garden Design:

- Garden design includes a balanced mix of hard stand, garden beds and turf. *Water features are not recommended.*
- Unnecessary turf area is minimised (recommended to be less than 50% of the entire garden area).
- Turf species used is a genotype endorsed by the UWA Turf Industries Research Steering Committee. *Please refer to Attachment 2.*
- Plant selection is based on the Waterwise Plants for WA database on the Corporation's [website](#) This database contains over 800 species of native plants with origins in WA, and therefore adapted to our climate.
- Where 1, 2 & 3 drop plants are used, plants are grouped according to their water needs (hydro-zoning).
- Garden beds should be densely planted where appropriate to maximise irrigation and appearance.

#### Windbreaks:

Wind is a significant element in evaporation and transpiration. Windbreaks can reduce irrigation losses, particularly from lawn sprinklers and protect plants from heat stress and excess water use.

- Use artificial (fences, walls, pergolas) or natural (mounds, shrubs, trees) windbreaks.

#### Soil Improvement:

Improved soils retain more moisture around the root zone which means that plants can make the most of the water they need.

- Soil is improved with a soil conditioner certified to Australian Standard AS4454 to a minimum depth of 150mm for lawn areas and a depth of 300mm for garden beds.

Mulches dramatically reduce surface evaporation, and break down to improve the moisture holding capabilities of the soil, mulch to be certified to AS4454;

- Garden beds must be mulched to 50 - 75mm with a product certified to Australian Standard AS4454.





### **Irrigation:**

The irrigation system must be installed to Irrigation Australia Limited Standards. Please refer to Attachment 3 and where possible use a Waterwise Garden Irrigator to install the system.

### **Lawn emitters:**

- Coarse drop sprays are used to minimise evaporation (e.g. MP Rotators).
- Spray patterns and layouts which minimise overspray have been selected.
- Sprinklers are placed to optimise water distribution.
- Only one class of emitter has been used per watering station i.e. not mixed.

### **Garden bed emitters:**

- Drip or subsurface irrigation has been used to minimise evaporation.

### **Shrub and tree emitters:**

- Adjustable drippers to each plant have been used.

### **Hanging basket and potted plant emitters:**

- Adjustable drippers to each plant have been used.

*Microsprays are not recommended.*

### **Irrigation controllers:**

- Irrigation controller must be sufficiently sophisticated to allow:
  - Separation of zones.
  - No watering station to service more than one zone.
  - Separation of emitter types.
  - No watering station to service more than one style of emitter.
- Controller set to apply the "Standard Drink" as appropriate for the soil type. Refer to [www.watercorporation.com.au](http://www.watercorporation.com.au)
- Controller set to comply with permanent watering rosters.
- Watering to occur in the early morning when evaporation rates are low.
- Controller is adjusted to water according to the seasons (i.e. turned off during the Winter Sprinkler Ban).
- Irrigation system includes a rain sensor or soil moisture sensor that is connected to the irrigation controller and designed to shut off the automatic system when it rains.

Please note where scheme water is being used for irrigation, an automatic exemption to establish the garden will apply. Click on the Being Waterwise section of the Water Corporation website for further details on automatic exemptions.

### **Maintenance:**

- A maintenance schedule is submitted that outlines the following:
  - Controller reprogramming - sufficient to accommodate seasonal changes in watering frequency.
  - Emitter inspection - sufficient to ensure optimum performance is maintained (particularly drippers).





- Irrigation system performance check - annual check using catch-cups.
- Mulch replacement and top-up.
- Do not disturb existing mulches.
- Weed removal - regular removal to minimise water use.
- Fertilising - minimum consistent with satisfactory plant health (manufacturer's recommendation as a maximum).
- Lawn mowing - cut to blade length of 10 -15mm in summer; 15 - 20mm in winter.
- Pruning - summer pruning to maintain shrubs and trees at required size.

#### **Other considerations:**

##### **Water pressure reduction**

High supply pressures contribute to poor water efficiency for example pipe leakage, dripping taps, showers, irrigation and running taps. The installation of a pressure control device to regulate pressure to a maximum of 35 metres or a waterwise meter restricting flow to 30 litres a minute is encouraged.

##### **Alternate non-potable water supply sources**

- Roof runoff captured in rainwater tanks with tanks plumbed in to the house and utilised to flush toilets and/or for washing machine use.
- Grey water re-use systems should be plumbed in to the house and utilised to flush toilets and/or water the garden.
- In areas deemed suitable for a bore by the Department of Water, garden bores should be installed and used to water the garden in accordance with the permanent water efficiency measures.

##### **Affordability**

Provide educational resources that demonstrate the ability to save water without compromising the cost of the development, or ongoing maintenance and/or running costs (including energy).

##### **Water Heating**

- Network design – to reduce draw-off.
- Heater location.
- Heater to be located within five metres of the major hot water using point. (If solar heater installed this may be varied).
- Pipe work:
  - Lowest pipe ID commensurate with good flow.
  - Minimise length.
  - Consider grouping of fixtures relative to water heater.
  - Consider multiple heaters as an option.
  - Consider pipe work configuration (i.e. Where to branch off for off-takes).
  - Consider lagging pipes for insulation.

**For more tips on how to be waterwise inside and outside the home visit [www.watercorporation.com.au](http://www.watercorporation.com.au)**





## Attachment 1

# Land Developer Support Packages

When agreement on the Waterwise Display Village criteria is reached and the developer has demonstrated significant progress toward meeting the criteria, the following support options are available:

- 1. Press Release:** PR opportunity regarding signing an agreement.
- 2. Promotion:** Developer permitted to use a phrase such as:

*The Water Corporation is pleased to support the waterwise practices developed for this village.*

When a sales office is opened in relevant village:

### **3. Promotion:**

- Water Corporation will provide waterwise promotional materials and resources for sales office.

When a display village is granted Waterwise status:

- Developer will be given permission to use the "Waterwise Display Village" logo on all promotional material.
- Display village and particulars will be placed the Corporation's [website](#)





Attachment 2

## UWA Turf Water Use Research Project

### Turf Types Demonstrating Water Efficient Characteristics

(when tested at UWA Turf Research Site Shenton Park)

| Scientific name                                  | Common name                          | Cultivar or selection                |
|--|--------------------------------------|--------------------------------------|
| <i>Cynodon dactylon</i>                          | Couch or Bermuda grass               | Wintergreen<br>Windsor Green<br>CT-2 |
| <i>C. dactylon</i> x<br><i>C. transvaalensis</i> | Couch hybrid or Bermuda grass hybrid | Santa Ana                            |
| <i>Paspalum vaginatum</i>                        | Saltene or Seashore Paspalum         |                                      |
| <i>Stenotaphrum secundatum</i>                   | Buffalo or St. Augustine grass       |                                      |
| <i>Pennisetum clandestinum</i>                   | Kikuyu grass                         |                                      |





### *Attachment 3*

## Water Corporation

### Irrigation Australia Limited (WA Region)

## Standards for Domestic Irrigation Installation

### 1. Activities Prior to Commencement

Prior to commencement of a domestic irrigation installation, the Irrigation Contractor shall:

- 1.1 Conduct a flow test, using a 'Flow and Pressure Testing device' and record the flow/s at the appropriate pressure/s recommended by the manufacturers of the components of the irrigation system.
- 1.2 Present to the Client a written quotation detailing all works and activities that will be conducted.
- 1.3 Present the client with a design of the proposed irrigation system.

### 2. System Design and Components

Irrigation system design and product selection shall comply with appropriate Australian Codes and standards and conform to the manufacturer's recommendations for the products used. These include:

- 2.1 System design to be according to the flow test results in 1.1 (above) with individual station demand (at the manufacturer's recommended operating pressure) no greater than the tested flow. Where station demand is less than the tested flow a pressure regulating device/s must be installed where such is required to ensure operation to manufacturers' recommended operating pressure.
- 2.2 Pipe will be sized to ensure water velocity does not exceed 1.5 metres per second at design flow.
- 2.3 Sprinklers shall be spaced at no more than the radius of throw specified by the manufacturer's recommendations.
- 2.4 Sprinklers shall operate at the manufacturer's recommended operating pressure.
- 2.5 Mainlines shall be minimum PN9 PVC, PN8 polyethylene or other appropriate material of no lesser pressure rating; pipe under live mains pressure should be minimum PN12 rating or as otherwise specified by Water Corporation regulations.
- 2.6 Valves under live mains pressure shall be Water Corporation approved 'tested' valves.
- 2.7 Sprinklers on any station shall be fitted with matched precipitation nozzles.
- 2.8 Part-Circle Sprinklers shall be used in locations where they will prevent wasteful overspray.
- 2.9 Where an irrigation controller is installed to operate stations of different water requirements it shall be a minimum three-program controller and must be programmable to comply with Water Corporation and Department of Water guidelines or restrictions.





### 3. Installation of the System

The installation of the irrigation system shall be conducted to meet the requirements of applicable statutory regulations, including backflow prevention.

- 3.1 The Client shall be advised of all installation work that, as a requirement of law, will be completed by a licensed tradesperson.
- 3.2 Master solenoid valves shall be used when connecting to scheme water supply and when installing more than two station valves.
- 3.3 Solenoid wires shall be buried under pipework. Where wires do not run with such pipework they should be placed in electrical conduit.
- 3.4 A colour code for solenoid wires shall be used, black for "Common" wires, red for 'Master Valve' control wires and white for 'spare' wires. Spare wires shall be taped (or otherwise waterproofed) at their field termination point. Station valves shall be installed with cable colours other than those listed. Wire from each valve to the controller shall be one single colour.
- 3.5 Solenoid wire connections shall be made only at valve boxes and a minimum 300mm loop of wire left at each valve for ease of service.
- 3.6 Solenoid wire connections shall be either crimped or soldered and covered with heat shrink material or made with gel-filled or silicone grease type electrical cable connectors made for this purpose.
- 3.7 All pipework shall be buried other than where expressly stated.
- 3.8 Mainline and lateral piping shall be buried to the minimum recommended cover of 150 mm.
- 3.9 Low Density poly pipe shall be secured at all connections by ratchet clamps or other device according to manufacturer's specifications.
- 3.10 All valves shall be located in valve boxes designed for this purpose, the lid thereof to be no higher than surrounding material.
- 3.11 All systems shall have a minimum of 150 mm of pipe either side of valve to enable service removal of valve and replacement without major disruption.
- 3.12 All irrigation stations should be established to water areas of similar demand (hydrozones).

### 4. Completion and Handover

- 4.1 At the completion of the work the site is to be left in neat and tidy state.
- 4.2 The Irrigation Contractor shall perform a system "hand-over", including a working demonstration of all functions of the irrigation controller. The installer is to install a program (compliant with current Water Corporation and Department of Water regulations and recommendations) and explain same to the client.
- 4.3 The Client shall be given a recommended watering schedule for peak demand, with recommended seasonal reduction (as a percentage of maximum) detailing all stations (with description of each) plus an estimated P.R. (Precipitation Rate) for each station.
- 4.4 If the installed controller requires a battery, a battery of the type recommended by the manufacturer is to be supplied and installed by the Irrigation Contractor prior to hand-over.





## 5. Warranty

- 5.1 The Irrigation Contractor to specify a minimum one-year warranty on all parts and labour.

## 6. General

- 6.1 Where any variations from these standards have occurred the Irrigation Contractor will provide detail of these, and the requirements for the changes, to the client as well as a clear indication that such changes do not comply with the "Standards for Domestic Irrigation Installation" of Irrigation Australia Ltd (WA Region).

### Disclaimer:

The Standards for Domestic Irrigation Installation have been developed by members of Irrigation Australia Ltd's Western Australian region. These Standards have been designed for use in Western Australia and are based on current knowledge and practice at the time of the preparation of this material (October 2002, Revised 2007).

These Standards are issued as a guide only. Their use is of a voluntary nature and the IAL is not liable for any loss, injury, damages, costs or other consequences of any kind that result from their use. All persons conducting or procuring domestic irrigation installation should comply strictly with the manufacturer's recommendations for the use and installation of equipment. The IA reserves the right to modify, add to or delete Standards prescribed herein at any time.

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