

TOWN PLANNING SCHEME NO 3

LOCAL PLANNING POLICY

LPP15 WATER SENSITIVE URBAN DESIGN



SUSTAINABLE DEVELOPMENT

NOVEMBER 2009

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FINAL

Background to Local Planning Policy No 15 – Water Sensitive Urban Design

In May 2009, Council commenced a major review of its existing Local Planning Policies. Local Planning Policy 15 *Water Sensitive Urban Design* replaces the previous Local Planning Policy No 18 *Water Sensitive Urban Design* adopted in March 2008.

Record of Adoption of Local Planning Policy 15 – Water Sensitive Urban Design

<i>Revision No & Date</i>	<i>Description</i>	<i>Endorsed by Council</i>
0 (04.09)	<i>draft (for internal review)</i>	N/A
1 (06.09)	<i>draft for Council adoption to advertise</i>	PCDS.13/6/09 G.37/6/09 16 June 2009
2 (11.09)	<i>final for Council adoption</i>	PCDS.31/11/09 G.51/11/09 24 November 2009

Record of Modifications to the approved Local Planning Policy 15 – Water Sensitive Urban Design

<i>Amendment No</i>	<i>Description</i>	<i>Endorsed by Council</i>

1. INTRODUCTION

1.1 OBJECTIVE

The objectives of this policy are:

- (a) To improve the achievement of 'total water cycle management' outcomes via the planning and development approvals process, consistent with the State Planning Policy No. 2.6 *Water Resources* (December 2006);
- (b) To achieve better integration of land-use and water planning resulting in improved water management outcomes for the Peel-Harvey Catchment; and
- (c) To ensure that land-use planning decisions are compatible with achieving the objectives and maintenance of the:
 - Environmental quality criteria in the *Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992*;
 - Ministerial conditions imposed in EPA Bulletin 994 *Peel Region Scheme*; and
 - Water Quality Improvement Plan for the Peel-Harvey Region.

1.2 RELATIONSHIP TO TOWN PLANNING SCHEME NO 3

A Local Planning Policy is adopted under clause 9.6 of Town Planning Scheme No 3.

A Local Planning Policy is not part of Scheme 3 and does not bind the Council in respect of any application for planning approval but the Council is to have due regard to the provisions of the Policy and the objectives which the Policy is designed to achieve before making its determination.

Local Planning Policies are guidelines used to assist Council in making decisions under the Scheme. Although Local Planning Policies are not part of Scheme 3, they must be consistent with, and cannot vary, the intent of Scheme 3 provisions, including the Residential Design Codes.

In considering an application for planning approval, the Council must have due regard to relevant Local Planning Policies as required under clause 7.5.

If a provision of a Local Planning Policy is inconsistent with Scheme 3, Scheme 3 prevails.

1.3 INTERPRETATIONS

'*Scheme 3*' means the City of Mandurah Town Planning Scheme No. 3. For the purpose of this policy, definitions and interpretations shall be applied in accordance with Scheme 3.

'*Best Management Practice*' means devices, practices or methods for removing, reducing or preventing targeted pollutants from reaching receiving waters and for reducing runoff volumes and velocities, and includes structural and non-structural controls.

'*Controlled Groundwater Level*' means the controlled (i.e. modified) groundwater level (measured in metres Australian Height Datum) at which drainage inverts are set. This level must maintain the hydrologic regimes of groundwater dependent ecosystems, such as wetlands, that are to be protected.

'*Deep Rooted Perennial*' means vegetation, other than grasses, which occurs year round with root depths of at least 100mm.

'*Direct Discharge*' means stormwater flow through benched piped systems which has undergone no treatment. Treatment may include vegetated treatment trains, gross pollutant traps and infiltration.

'*Environmental Quality Objective*' means water quality, quantity, conservation and management objectives, which form the basis for the design and management of land uses and developments.

'*Maximum Groundwater Level*' means this level must be determined, through modelling and/or measurement. Where this information is not available from DoW, local studies shall be undertaken and endorsed by DoW. Where the level is at or less than 1.2 metres of the surface, the importation of clean fill and/or the provision of sub-surface drainage will be required to ensure that adequate separation of building floor slabs from groundwater is achieved. In such instances, the sub-surface drainage will need to be placed at a DEC/DoW controlled groundwater level.

'*Non-Structural Controls*' means institutional and pollution prevention practices that prevent or minimise pollutants from entering stormwater runoff and/or reduce the volume of stormwater that requires management. They do not involve fixed permanent facilities and they usually work by changing behaviour through government regulation, persuasion and/or economic instruments. Such practices use alternative

maintenance procedures, regulatory measures, economic incentives, education of management and technical personnel, or planning and design of structures to reduce the amount of pollutants entering stormwater and accumulating on impervious areas.

'*Structural Controls*' means structural stormwater quality and quantity best-management practices that are permanent, engineered devices implemented to control and improve stormwater quality and restore natural hydrological flows and velocities. Structural controls should be installed at or near the source of runoff/pollutant inputs, to prevent or treat pollution and manage the quantity of stormwater as high in the catchment as possible.

'*Total Water Cycle Management*' means water supply, stormwater, groundwater and sewage services are interrelated components of catchment systems, and therefore must be dealt with using a holistic water management approach that reflects the principles of ecological sustainability. Water efficiency, re-use and recycling are integral components of total water cycle management.

'*Water Quality Objective*' means quantitative physical, biological or chemical water quality measurements which, if achieved, are likely to prevent the loss or degradation of an Environmental Value. Water Quality Objectives are likely to be replaced by Environmental Quality Criteria.

'*Water Body*' means an area that is inundated or saturated by surface water or groundwater at any time of the year and includes natural and artificial water bodies. Swales and treatment trains established for the purpose of stormwater treatment are excluded from this definition.

1.4 POLICY CONTEXT

This policy is applicable to the municipal district of the City of Mandurah as per the provisions of Scheme 3.

This policy is consistent with Council Policy WS-IS 02 *Water Sensitive Urban Design*.

This policy should be used and applied in the preparation of:

- Local Structure Plans;
- Precinct Plans;
- Outline Development Plans;
- Development/Subdivision Guide Plans;
- Local Planning Policies;
- Subdivision Applications; and
- Development Applications.

An Outline Development Plan or Development / Subdivision Guide Plan should provide information relevant to this policy as part of the content of the plan pursuant to clause 7.11.1 of Scheme 3. An Outline Development Plan or Development / Subdivision Guide Plan that does not comply with the provisions and objectives with this policy, will be progressed in accordance with clause 7.11.3.1 (b) of Scheme 3.

Applications for Planning Approval shall include details on how such an application addresses the objectives and provisions of this policy pursuant to clauses 7.2.2 (c) and 7.5 of Scheme 3. An Application for Planning Approval that does not provide sufficient information will be progressed in accordance with clause 7.7.4 of Scheme 3.

2. POLICY PROVISIONS

2.1A Water Sensitive Urban Design Strategies

- (a) Strategic plans and proposals should comply with Environmental Quality Criteria. This Criteria is listed in Appendix 1 of this policy.
- (b) Stormwater Management Systems should comply with the principles, objectives and guidelines in the *Stormwater Management Manual for Western Australia* (Department of Water 2007).
 - A Local Water Management Strategy should be prepared to support a Local Structure Plan or a plan made under Scheme 3 (i.e. Outline Development Plan, Precinct Plan, Development Guide Plan).
- (c) Plans and proposals should incorporate appropriate structural and non-structural practices and adopt a treatment train approach. Best management practices should be applied using a treatment train approach consistent with the *Peel-Harvey WSUD Technical Guidelines* (October 2006).
- (d) The preparation of an Urban Water Management Proposal will be needed for all Strategic Plans and Development Proposals. The level of detail required in the proposal will be dependent upon the stage of development, site specifics including the potential water quality impacts, proximity to water bodies, including groundwater, scale of development, etc.
- (e) Soil amendment may be required in some areas where the maximum annual rainfall is less than 1.2 metres below the surface and Phosphorous Retention Index (PRI) values are less than 10.
- (f) Total Phosphorous and Total Nitrogen Import and Export should meet the EPA Criteria within the *Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992*.
- (g) Proposals should aim to maintain a minimum 20% of deep rooted perennials in areas of public open space.

2.1B Policy Provisions

The *Peel-Harvey Coastal Catchment Water Sensitive Urban Design Technical Guidelines* (October 2006) is the technical document which supports and forms part of this policy. The *Technical Guidelines* should be referred to at all stages of the planning process.

The principles of water sensitive urban design should be applied when undertaking strategic and statutory planning within the district. These principles, in order of priority, are as follows:

- (a) Provide protection to life and property from flooding that would occur in a 100-year Average Recurrence Interval (ARI) flood event.
- (b) Manage rainfall events to minimise runoff as high in the catchment as possible. The one-year-one-hour ARI event should be retained on-site or as close to the source as possible. Infiltration should be encouraged in permeable areas through mechanisms such as landscaping, flush kerbing and storage devices. Drainage systems should minimise runoff and maximise on-site infiltration where possible.
- (c) Retain, restore and/or replicate the functions of the natural drainage system, including waterway, wetland and groundwater features, regimes and processes, and integrate these elements into the urban landscape. These features should effectively manage mosquito populations and would need to be approved by the Environmental Health Services section of Council.
- (d) Maximise water use efficiency, reduce potable water demand and maximise the re-use of water harvested from impermeable surfaces.
- (e) Minimise pollutant inputs through implementation of appropriate non-structural source controls and structural controls.
- (f) The construction of drainage sumps is discouraged and any future development adjacent to existing drainage sumps should use the opportunity to retrofit the area into a multiple-use water sensitive urban design site if considered by Council to be appropriate.
- (g) Drainage systems should be designed to prevent direct discharge into a water body. Drainage systems should use multiple management measures to ensure stormwater flow is reduced and treated using structural controls before it is discharged.

3. ADMINISTRATION

3.1 IMPLEMENTATION

This policy has effect on publication of a notice under clause 9.6.3.3 (a) of Scheme 3.

Modifications to its content may be undertaken in accordance with the provisions of clause 9.6 of Scheme 3, or at Council's discretion.

Implementation of this policy aims to be consistent with the *Peel-Harvey Coastal Catchment Water Sensitive Urban Design Technical Guidelines* and the *Better Urban Water Management* guidance document. Both documents should be referred to in conjunction with reading this policy.

3.2 CONSULTATION PROCEDURE

Consultation procedures within the *Planning and Development Act 2005*, its subsidiary legislation, or Scheme 3 cannot be circumvented by this policy.

3.3 DELEGATION

The Council delegates authority to Director Sustainable Development and Manager Planning and Projects pursuant to clause 9.2 of Scheme 3 and sections 5.42 and 5.44 of the *Local Government Act 1995*: refer to DA – SD 1.1.

3.4 REFERENCES

Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992, available from the **EPA** website:

www.epa.wa.gov.au

Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System – Phosphorous Management (Final, November 2008), available from the **EPA** website:

www.epa.wa.gov.au

State Planning Policy 2 – *Environmental and Natural Resources Policy*

State Planning Policy 2.1 – *Peel-Harvey Coastal Plain Catchment Policy*

State Planning Policy 2.9 – *Water Resources*

Better Urban Water Management (October 2008), available from the **WAPC** website:

www.planning.wa.gov.au

Stormwater Management Manual for Western Australia (February 2004), available from the **DOW** website:

portal.water.wa.gov.au

Peel-Harvey Coastal Catchment Water Sensitive Urban Design Technical Guidelines (October 2006), available from the **PHCC** website:

www.peel-harvey.org.au

APPENDIX 1 ENVIRONMENTAL QUALITY CRITERIA

The Environmental Quality Criteria for the protection of environmental values (including beneficial uses) within the policy area are those set out in parameters, targets, standards and criteria in the following documents, and any amendments thereto:

- 1) The *Peel-Harvey Water Quality Improvement Plan*.
- 2) A District Water Management Strategy prepared and applicable to the subject land that is endorsed by the Department of Water.
- 3) A Local Water Management Strategy prepared and applicable to the subject land that is endorsed by the Department of Water.
- 4) An Urban Water Management Plan prepared and applicable to the subject land that is endorsed by Council.
- 5) The interim Environmental Quality Criteria set out below.

In the event of any deficiency or inconsistency arising between the parameters, standards or criteria set out above these shall be applied in the following order:

- 1) In the first instance an applicable District Water Management Strategy endorsed by the Department of Water;
- 2) An applicable Local Water Management Strategy endorsed by the Department of Water;
- 3) The *Peel-Harvey Water Quality Improvement Plan*; and
- 4) The interim Environmental Quality Criteria set out below.

Interim Environmental Quality Criteria

The following interim environmental criteria are proposed to be used as a guide for development of the urban water management system for strategic planning, subdivision and development until finalisation of the *Peel-Harvey Water Quality Improvement Plan*. Demonstration of compliance with these design objectives may be through appropriate computer modelling or other assessment methods acceptable to the Department of Water.

Water Conservation – Potable & Wastewater

Principle:

No potable water should be used outside of homes and buildings.

Design Objective:

Consumption targets for potable water of 40-60kL/person/year

Water Quantity Management

Principle:

Post development annual discharge volume and peak flow be maintained relative to pre-development conditions, unless otherwise established through determination of Ecological Water Requirements for sensitive environments.

Design Objective:

Ecological Protection – For the critical 1-in-1 year ARI event, the post development discharge volume and peak flow rates shall be maintained relative to pre-development conditions in all parts of the catchment. Where there are identified impacts on significant ecosystems, maintain or restore desirable environmental flows and/or hydroperiods as specified by the Department of Water.

Flood Management – Manage the peak flows and discharge volume to the receiving water body (waterway / wetland/ groundwater or coastal marine area), for the 100-year ARI major event and the minor ARI design flood event as required in the relevant Water Management Strategy.

If an approved Water Management Strategy covering the development area has not been prepared, peak flows and discharge volumes should be maintained at pre-development levels.

Water Quality Management

Principle:

Maintain surface and ground water quality at pre-development levels (median concentrations) and, if possible, improve the quality of water leaving the development area to maintain and restore ecological systems in the (sub)catchment in which the development is located.

Design Objective:

Contaminated Sites – To be managed in accordance with the *Contaminated Sites Act 2003*.

All other Land – If the pollutant outputs of development (measured or modelled median concentrations) exceed catchment ambient conditions, the proponent shall achieve water quality improvements within the development area or, alternatively, arrange equivalent water quality improvement offsets within the catchment. If catchment ambient conditions have not been determined, the development should meet relevant water quality guidelines stipulated in the *National Water Quality Management Strategy* (ARMCANZ & ANZECC, 2000).

Stormwater Modelling Criteria

If it is proposed to use a computer stormwater modelling tool to demonstrate compliance with design objectives the following design modelling parameters are recommended.

As compared to a development that does not actively manage stormwater quality:

- At least 80% reduction of total suspended solids;
- At least 60% reduction of total phosphorous;
- At least 45% reduction of total nitrogen; and
- At least 75% reduction of gross pollutants.

Disease Vector and Nuisance Insect Management

To reduce health risk from mosquitoes, retention and detention treatments should be designed to ensure that between the months of November and May, detained immobile stormwater is fully infiltrated within a time period not exceeding 96 hours.

Permanent water bodies are discouraged, but where accepted by the Department of Water, must be designed to maximise predation of mosquito larvae by native fauna to the satisfaction of Council on advice of Department of Water and Department of Health.