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Western
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Commission

State Planning Policy 2.3

Jandakot Groundwater Protection

January 2017

*Prepared under Part Three of the Planning and Development Act 2005
by the Western Australian Planning Commission*

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CONTENTS

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1	CITATION	1	APPENDIX 1 – BACKGROUND INFORMATION	6
2	PURPOSE	1	APPENDIX 2 – DEFINITIONS	9
3	OBJECTIVES	1	FIGURE 1: JANDAKOT GROUNDWATER PROTECTION AREA	10
4	APPLICATION	1		
5	GROUNDWATER PROTECTION PRINCIPLES	1		
6	POLICY MEASURES	2		
6.1	Native vegetation and wetlands	2		
6.2	Land uses	2		
6.3	Strategic planning and Metropolitan Region Scheme amendments	3		
6.4	Local planning schemes	4		
6.5	Local structure plans	4		
6.6	Subdivision	4		
6.7	Development control provisions	4		
6.8	Sewage disposal	5		



1 CITATION

This is a State Planning Policy prepared under Part Three of the *Planning and Development Act 2005*. It may be cited as State Planning Policy 2.3 – Jandakot Groundwater Protection.

2 PURPOSE

This policy aims to protect the Jandakot Groundwater Protection area ("the policy area") (See Figure 1) from development and land uses that may have a detrimental impact on the water resource.

Groundwater is a highly valued resource of Western Australia. The Jandakot Groundwater Protection area provides a significant volume of high quality drinking water. Other sources of water, such as desalinisation and recycled water are required to supplement (but not replace) this source of drinking water.

Land use planning is guided by priority areas and the principles of risk avoidance, risk minimisation and risk management. The priority areas include Priority 1 (P1) areas (prevent risks), Priority 2 (P2) areas (minimise risks) and Priority 3 (P3) areas (manage risks). This policy reflects a presumption against development or land uses that are inconsistent with the priority areas. A map of the Priority areas can be found on the Department of Planning website.

This policy provides guidance regarding planning requirements that need to be considered in the policy area and should be read in conjunction with the Department of Water's *Water quality protection note 25: Land use compatibility tables in public drinking water source areas* (as amended).

3 OBJECTIVES

The objectives of this policy are:

- To ensure that all development and changes to land use within the policy area are compatible with maximising the long-term protection and management of groundwater, in particular for public drinking water supply;
- To protect groundwater quality and quantity in the policy area in order to maintain the ecological integrity of important wetlands that are hydraulically connected to that groundwater, including wetlands outside the policy area;
- To prevent, minimise, and manage in defined locations development and land uses that may result in contamination of groundwater; and
- To maintain or increase natural vegetation cover over the policy area.

4 APPLICATION

This policy applies to development and changes in land use proposed in the policy area in *Figure 1*, which extends across the following local government areas:

- City of Armadale
- City of Canning
- City of Cockburn
- City of Gosnells
- City of Kwinana
- Shire of Serpentine Jarrahdale.

5 GROUNDWATER PROTECTION PRINCIPLES

Land use intensification is associated with an increased risk of drinking water contamination. In recognition of this, groundwater protection is based on the following principles:

- The application of the precautionary principle through a presumption against development or land uses that pose a threat to the groundwater resource;
- Groundwater quality and quantity are inexorably linked and should not be managed in isolation;
- Groundwater for public water supply, environmental requirements, industry, agriculture, domestic use, recreation and aesthetics should be protected and promoted;
- Land use planning integrated with environmental, water, and health management processes is an appropriate mechanism for groundwater protection;
- Polluter pays - those who generate pollution and waste should bear the cost of containment, avoidance or abatement;
- Inter-generational equity (i.e. sustainable use) - the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations; and
- Groundwater dependent ecosystems, including native vegetation and wetlands, provide benefits, including maintaining groundwater quality.



The above principles are consistent with the principles contained within *National Water Quality Management Strategy - Australian Drinking Water Guidelines* (National Health and Medical Research Council, 2011), which is the main reference for the protection, management and supply of safe drinking water to consumers. These guidelines reflect best practice objectives and approaches and are endorsed by the State Government. The *National Water Quality Management Strategy Guidelines* for Fresh and Marine Waters are the main reference for ecosystem issues (National Health and Medical Research Council, 2000).

6 POLICY MEASURES

6.1 Native vegetation and wetlands

The retention of native vegetation and wetlands is beneficial in protecting and maintaining the quality of the groundwater resource and is fundamental to the objectives of this policy. Protection and enhancement of native vegetation and wetlands is a key requirement of any new development.

6.2 Land uses

This section outlines the acceptability of broad land uses for the policy area.

- a) Any land use that is approved in the policy area is to maximise protection against water quality contamination risks.

- b) Best practice management is required for land uses in the policy area to protect public health and ensure the ongoing availability of a safe, reliable, low cost and good quality drinking water now and into the future.

c) **P1 areas (Water Catchments reservation of Metropolitan Region Scheme)**

The acceptability of land uses in the Water Catchments reservation is based on the objective of *risk avoidance*. Land use change or development that introduces additional risks will not be supported.

d) **P2 areas (Rural-Water Protection zone of Metropolitan Region Scheme)**

The acceptability of land uses in the Rural-Water Protection zone is based on the objective of *risk minimisation*. Low risk and intensity of development consistent with the Rural zoning is generally supported, subject to appropriate conditions.

e) **P3 areas (Urban and Industry zones of Metropolitan Region Scheme)**

The acceptability of land uses in the Urban and Industry zones that are classified as Priority 3 (P3) is based on the objective of *risk management*. P3 areas provide for a range of urban, commercial and light industrial uses. Key elements in the protection of P3 areas include the need for reticulated sewerage and implementing best management practices.

Special conditions for areas changed from P1/P2 to P3

Land within the policy area that is rezoned from Rural-Water Protection to Urban after gazettal of this policy version may be subject to land use restrictions

beyond what is normally provided for in P3 areas. The following conditions may apply:

- Restrictions on the type of non-residential land uses permitted - land uses provided for should be consistent with the special conditions for areas changed from P1/P2 to P3 contained within *Water quality protection note 25: Land use compatibility in public drinking water source areas*;
- The use of public open space to protect existing and proposed drinking water abstraction bores; and
- Drainage in wellhead protection zones is to be directed away from existing or proposed bores, and infiltrated as far away from existing or proposed bores to the maximum extent possible.

f) **Wellhead protection zones**

Wellhead protection zones are based on the objective of *providing maximum practical protection of groundwater*. These zones surround water abstraction bores and are particularly vulnerable to water quality contamination risks. Any development proposal in these zones is to have regard to the *Metropolitan Water Supply, Sewerage and Drainage By-laws 1981* and *Water quality protection note 25: Land use compatibility tables for public drinking water source areas*. A map of the wellhead protection zones within the policy area can be found on the Department of Planning website.

g) **Land use compatibility**

- Guidance on the acceptability of land uses, activities and subdivision within P1, P2 and P3 areas within the policy area is provided in *Water*



quality protection note 25: Land use compatibility tables for public drinking water source areas contained in previous versions of this policy¹.

- Where a proposed use is not mentioned in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas*, but is similar to a use that is listed, then applications should be referred to the Department of Planning and the Department of Water for advice and recommendation before the proposal is determined.
- Best management practices for each land use are referred to in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* and should be taken into consideration by the relevant decision maker in the determination of a planning application.
- Land uses and activities which were previously provided for through *State Planning Policy 2.3 - Jandakot Groundwater Protection* in 1995, but are deemed incompatible in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* will continue to be deemed compatible with conditions².

¹ Reference to *Land Use Suitability – Table 1 of State Planning Policy 2.3* in local planning schemes should be interpreted as reference to *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* until such time as the scheme is amended.

² *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* contains special provisions that apply to the Jandakot groundwater protection area to provide for these land uses.

h) **Discretionary uses**

Where an application is made for approval of a land use identified as 'compatible with conditions' in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas*, the relevant decision-maker should refer the application to the Department of Water for advice and recommendation before making a determination.

i) **Non-conforming uses**

Guidance on non-conforming land uses and injurious affection is provided in the *Planning and Development Act 2005, Planning and Development (Local Planning Schemes) Regulations 2014* and local planning schemes.

Where existing uses are likely to have a detrimental effect on the quality of the groundwater through the discharge of nutrients or other waste matter, the *Environmental Protection Act 1986* may apply.

6.3 **Strategic planning and Metropolitan Region Scheme amendments**

- a) In order to protect the quality of the public drinking water source, there is a presumption against new urban or industrial land uses in the Water Catchment reservation and the Rural-Water Protection zone of the Metropolitan Region Scheme.
- b) Amendments to the Metropolitan Region Scheme will only be supported where the land has been identified for development in the manner proposed through a strategic planning document approved or prepared by the Western Australian Planning Commission, such as a sub-regional planning framework or sub-regional structure plan.

- c) Planning for more intense land uses through strategic planning instruments (such as a sub-regional planning framework or sub-regional structure plan) and subsequent Metropolitan Region Scheme amendments should incorporate the following:
 - the subject land is to meet the following criteria:
 - large landholdings that were already substantially cleared at the time this policy was published; and
 - directly adjacent to already developed 'Urban' zoned land;
 - the risk to drinking water supplies associated with the proposed development;
 - proven efficacy of available risk mitigation measures;
 - the net long-term public benefit attributable to the proposed rezoning;
 - the need for additional urban land, taking into account the current stock of undeveloped urban zoned land in the sub-region;
 - potential alternative locations for proposed land use in the sub-region that would have less or no impact on Public Drinking Water Source Protection Areas;
 - any strategic environmental assessment, whether underway or completed; and
 - access to infrastructure that is already constructed or scheduled for construction.



6.4 Local planning schemes

- a) The land uses and equivalent annotations listed in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* should be reflected in relevant amendments to local planning schemes or in new local planning schemes. *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* categorises land uses as 'acceptable', 'compatible with conditions' and 'incompatible'.
 - i **Acceptable** means the use is permitted providing the use complies with the relevant development standards and the requirements of the local planning scheme. This should be represented as a 'P' use in the local planning scheme.
 - ii **Compatible with conditions** means the use is not permitted unless the local government, after having due regard for the advice from the Department of Water, has exercised its discretion by granting planning approval. This should be represented as a 'D', 'A' or 'AA' use in the local planning scheme.
 - iii **Incompatible** means the land use should not be permitted. This should be represented as an 'X' use in the local planning scheme.
- b) Land uses not mentioned in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* should only be introduced into the list of permissible or discretionary uses within the policy area following consultation with the Department of Water.

- c) Amendments to local planning schemes prepared to align with areas rezoned to Urban in the Metropolitan Region Scheme after the gazettal of this policy are to be consistent with the special conditions in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* for areas changed from P1/P2 to P3.

6.5 Local structure plans

- a) Local structure plans prepared for areas rezoned to Urban in the Metropolitan Region Scheme after the gazettal of this policy are to be consistent with the special conditions for areas changed from P1/P2 to P3 contained in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas*.
- b) Land uses not mentioned in *Water quality protection note 25: Land use compatibility tables for public drinking water source areas* should only be provided for in local structure plans following consultation with the Department of Water.

6.6 Subdivision

Rural-Water Protection zone (P2 areas)

- a) Subdivision potential for the Rural-Water Protection zone is to be guided and informed by the *Jandakot Land Use and Water Management Strategy, the Jandakot Groundwater Protection Area Drinking Water Source Protection Review* (Department of Water, 2013) and this policy.
- b) The minimum lot size is two hectares.

- c) Where it can be adequately demonstrated that the risk of contamination to the groundwater resource is not increased, an average lot size of two hectares may be acceptable provided that the proposed lots are not capable of further subdivision.
- d) When advising on subdivision proposals, local government are to ensure that drainage provisions maximise the consumption and retention of drainage on site in accordance with the Department of Water's *Stormwater Management Manual for WA* (2004–2007). Conservation reserves do not function as treatment for stormwater.

Urban and Industrial zones (P3 areas)

- e) All urban and industrial zoned subdivision resulting in the creation of additional lots should be connected to reticulated sewerage.

6.7 Development control provisions

- a) The determination of development proposals is to be based on the zoning prescribed in the local planning scheme. Development proposals may be subject to the *Metropolitan Water Supply, Sewerage and Drainage By-laws 1981* (as amended from time to time). Further advice can be obtained from the Department of Water.
- b) Development should relate to land capability and suitability, employ specific management practices and not increase the risk of pollution to the groundwater resource.
- c) The extraction of groundwater for development is subject to licencing requirements under the *Rights in Water and Irrigation Act 1914* (as amended from

time to time). Exemptions may apply to abstraction for domestic purposes only. Further advice can be obtained from the Department of Water.

- d) Existing vegetation is to be retained and rehabilitated to the maximum extent possible to maintain the ecological integrity of the environmental resource and quality of the drinking water resource, particularly on the margins of wetlands.
- e) Development proposals within 200 metres of the boundary of Conservation or Resource Management category wetlands (as defined in Wetlands of the Swan Coastal Plain – Volume 2) should be referred to the Department of Parks and Wildlife for advice where the quality or volume of water flowing into the wetland may be affected by the development.

6.8 Sewage disposal

- a) Planning proposals should comply with the *Government Sewerage Policy* (as amended), which provides guidance on connection to reticulated sewerage, the requirements for onsite sewage disposal systems and recommended separation distances from groundwater, wellheads and water bodies. The onus of proof will rest with the proponent to provide sufficient technical and engineering evidence that proposed onsite systems will not result in adverse effects on public health, water resources or the environment.



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APPENDIX 1 – BACKGROUND INFORMATION

1 Parliamentary Select Committee on metropolitan development and ground water supplies

In November 1993 the Legislative Assembly of the Parliament of Western Australia resolved –

- (1) That a Select Committee be appointed to inquire into and report on to what extent and in what manner development should be permitted on or around groundwater reservoirs in the Perth Metropolitan Region, with particular regard to protecting underground water supplies while maximising the potential to zone and develop land for its optimum and best use inclusive of urban development;*
- (2) That the committee have power to send for persons and papers, to sit on days over which the House stands adjourned, to move from place to place and to report from time to time; and*
- (3) That the committee finally report by no later than 30 November 1994.*

The Select Committee concluded that Perth's groundwater systems constituted a significant regional resource of fresh water which met approximately 60 per cent of combined domestic, irrigation and industrial supply demands. The Jandakot mound had the potential to supply 13 million kilolitres a year of shallow groundwater (1994).

The Select Committee report, which was tabled into the Legislative Assembly on 1 December 1994, contained, inter alia, the following recommendations:

- 1.2 The Department of Planning's Water Resources Policy D.C No. 6.3 should be amended to strengthen groundwater protection mechanisms, be compatible with the Crown land Environmental Protection Policy and give greater responsibility to the Department's Water Resources Policy to ensure that protection of Perth's water supply is given primacy in the important recharge areas of Gnangara and Jandakot.
- 4.9 Consideration should be given to the gazetting of a priority one zone on the main recharge area of the Jandakot mound to cover land held by Government.
- 13.1 The town planning schemes developed by a local government should be reviewed to ensure they reflect the water protection policies and By-laws developed by the Water Authority (now the Water Corporation and the Department of Water), the State Planning Commission (now the Western Australian Planning Commission) and the Environmental Protection Authority (now the Office of the Environmental Protection Authority).

2 State Planning Policy No. 2.1 The Peel-Harvey Coastal Plain Catchment

On 21 February 1992 the then State Planning Commission published *State Planning Policy 2.1 – The Peel-Harvey Coastal Plain Catchment*. This policy was initiated by the State Government, which resolved that 'Measures be taken to ensure that there is no significant increase

of nutrients into the estuary from urban sources by requiring that all developments within 2 km are to include appropriate sewage disposal systems.'

The resultant State Planning Policy covers the catchment areas of those water systems that discharge into the Peel Harvey Estuary. It extends into the local government districts of Cockburn, Armadale, Kwinana, Rockingham and Serpentine-Jarrahdale within the Metropolitan Region Scheme. The State Planning Policy 2.1 will overlap the Jandakot Groundwater Protection Policy, and it is important that the two policies are recognised and incorporated into town planning schemes. The two planning instruments, this policy and State Planning Policy 2.1, are similar in that they have a general resource protection objective. Obviously, the circumstances and associated policy provisions differ to achieve discrete objectives. Therefore, inconsistencies do exist with regard to policy provision. As a general practice, where there is an inconsistency from one policy to the next, the latter policy prevails. In this instance, the State Planning Policy 2.3 prevails.

3 Environmental Protection (Peel Inlet-Harvey Estuary) Policy, 1992

The Environmental Protection (Peel Inlet-Harvey Estuary) Policy, 1992 sets out environmental quality objectives for the Peel Inlet-Harvey Estuary for the purpose of rehabilitation and protection of the estuary from further degradation. The policy also outlines the means by which the environmental quality objectives are to be achieved and maintained. This policy underpins the *SPP 2.1 – the Peel-Harvey Coastal Plain Catchment*.



4 Jandakot Land Use and Water Management Strategy, 1995

The strategy established the physical and policy framework for the long-term planning, management and development of the area covered by this State Planning Policy. The overall aims of the strategy are to:

- promote development which is consistent with the protection and management of the groundwater system and key environmental values;
- provide opportunities for consolidated urban growth close to existing services in the Perth Metropolitan Region; and
- preserve significant wetlands and remnant vegetation while providing for compatible economic and recreational activities.

The strategy includes land use and management controls designed to protect both the groundwater and environmental resources in the policy area. These controls involve both local and State Government agencies responsible for environmental protection and water resource management.

The *Jandakot Land Use and Water Management Strategy* designated much of the policy area for rural living. The strategy recommends that lot sizes should be determined to suit local conditions, having regard to prevailing lot size (subject to minimum lot size of 2 ha), and be based on a detailed assessment of land capability and suitability.

5 Metropolitan Region Scheme Amendment No. 981/33 Rural-water Protection (South-west and South-east Corridors)

The Western Australian Planning Commission examined options for protecting the groundwater for privately owned land zoned Rural in the Metropolitan Region Scheme. As there were no suitable zones in the scheme in the Metropolitan Region Scheme, the preferred option was to create a new zone.

At its meeting on 11 August 1996 the Western Australian Planning Commission resolved to proceed with an amendment to the Metropolitan Region Scheme to create a new zone for the purpose of protecting groundwater for public water supply on the Jandakot mound and to rezone the affected area of land accordingly. The amendment was made under the provisions of section 33 of the *Metropolitan Region Town Planning Scheme Act 1959*.

The amendment applied the Rural-Water Protection zone to the land that was currently zoned Rural over the capture areas of the (then) existing Jandakot Public Water Supply wellfield and its proposed extension. The affected areas are currently designated by the Department of Water as Priority 2 areas. The area affected is 4,818 hectares. The amendment originally proposed the name of the new zone to be Rural Groundwater Catchment Protection zone. However, after consideration of submissions and hearings, the Hearings Committee recommended to the Hon Minister for Planning to simplify the terminology to Rural-Water Protection zone.

It was also proposed to apply the current Metropolitan Region Scheme Water Catchments reservation to

Crown land located over the capture areas of the (then) existing Jandakot Public Water Supply wellfield and its proposed extension. The 1,650 hectares of land affected were reserved under the Metropolitan Region Scheme as Parks and Recreation and Public Purposes. The Water Catchments reserve has been extended to include Important Regional Road and Railway reserves in the policy area.

6 State Planning Policy 2.3 – Jandakot Groundwater Protection Policy

In June 1998 a state planning policy was gazetted in response to the findings of the *Jandakot Land Use and Water Management Strategy* (1995) and the *Australian Drinking Water Guidelines* (as updated).

The policy was then amended in 2003 to incorporate a new boundary based on scientific modelling. In 2015, the policy was reviewed to reflect land use and policy changes affecting the policy area.

7 Arrangements for a common approach between relevant government agencies

This State Planning Policy is the result of collaboration between the Department of Water and Department of Planning on the content and requirements of the policy. In this way, a policy framework is provided to guide Metropolitan Region Scheme and local planning scheme amendments to ensure the ongoing protection of the groundwater resource through land use planning. The performance of statutory functions and discretions by the Department of Water under their legislation will be independently exercised.



8 Jandakot Underground Water Pollution Control Area

Clause 57A of the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909* gives the Governor the power on the recommendation of the Department of Water to proclaim, constitute and declare any part or parts of an area to be an Underground Water Pollution Control Area (UWPCA).

Within this control area the Department of Water has defined three priority-protection levels, which are:

Priority one (P1) area. This is the highest level of protection and normally will apply to land owned by the State, with low intensity and low-risk land use such as forestry. Use of this land for protection of the public water supply outweighs virtually all other considerations and the object is to ensure that there is no degradation of water resources in these areas (i.e. risk avoidance/prevention).

Priority two (P2) area. Normally includes private rural with few buildings, with low-risk, low-intensity land use. These areas have a high priority for public water supply use. The management objective is to ensure there is no increased risk of pollution to the water source (i.e. risk minimisation). Restricted development may take place under specific guidelines.

Priority three (P3) area. Generally includes areas where water-supply needs co-exist with other land uses such as housing, commercial sites and light industry. Management controls, rather than land use restrictions dominate the water management and protection policy for these areas. The areas are defined to minimise the risk of pollution to the water source (i.e. risk management).

The Jandakot Underground Water Pollution Control Area is shown at *Figure 1*. This boundary is based on a *Review of Groundwater Protection Priority Area Boundaries Jandakot Mound* (Dames and Moore, 1996) and was confirmed by the Department of Water in the *Drinking Water Source Protection Review for the Jandakot Groundwater Protection Area*, 2013.



APPENDIX 2 – DEFINITIONS

In this policy, unless the contrary intention appears:

Contamination means the presence of substances in soil or groundwater at above background concentrations and which present, or have the potential to present, a risk of harm to human health, the environment or any environmental value.

Development means the development or use of any land, including:

- a) any demolition, erection, construction, alteration of or addition to any building or structure on the land;
- b) the carrying out on the land of any excavation or other works;
- c) in the case of a place to which a Conservation Order made under section 59 of the *Heritage of Western Australia Act 1990* applies, any act or thing that:
 - (i) is likely to change the character of that place or the external appearance of any building; or
 - (ii) would constitute an irreversible alteration of the fabric of any building.

Groundwater means water located below the surface of the ground and includes surface expressions of groundwater, e.g. lakes and wetlands.

Land use means the active or passive use to which the land is put by its owner or lessee or occupier.

Margin means a 50 metre buffer distance of upland vegetation, measured from the wetland boundary, and which includes the permanently inundated, seasonally inundated and seasonally waterlogged zones.

Metropolitan Region Scheme means the Metropolitan Region Scheme made pursuant to the *Planning and Development Act 2005* published in the Government Gazette of 9 August, 1963 and as amended from time to time.

Mining operations has the meaning given to that expression in section 8(1) of the *Mining Act 1978*.

Native vegetation means vegetation as defined in sections 3(1) and 51A of the *Environmental Protection Act 1986*.

Non-conforming use means any use of land or building which was lawful immediately prior to the coming into operations of the local government town planning scheme, but is no longer in conformity with the provisions of the scheme.

Nutrient means any chemical that provides nourishment for a living organism. Well-known nutrients include the macronutrients of nitrogen, phosphorus and potassium.

Pollution has the meaning given by section 3A of the *Environmental Protection Act 1986*.

Recharge means the process of water being added to a groundwater system.

Reserve means any land reserved for a public purpose.

Town planning scheme has the same meaning as described in the *Planning and Development Act 2005*.

Underground Water Pollution Control Area means an area constituted under section 57A of the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909*, for the protection of drinking water quality.

Wellhead protection zone is a defined area regulated to address contamination of public drinking water abstraction bores. It has a radius of 500 metres in P1 areas, and 300 metres in P2 and P3 areas.

Wetland has the same meaning as defined in Schedule 5 of the *Environmental Protection Act 1986*.

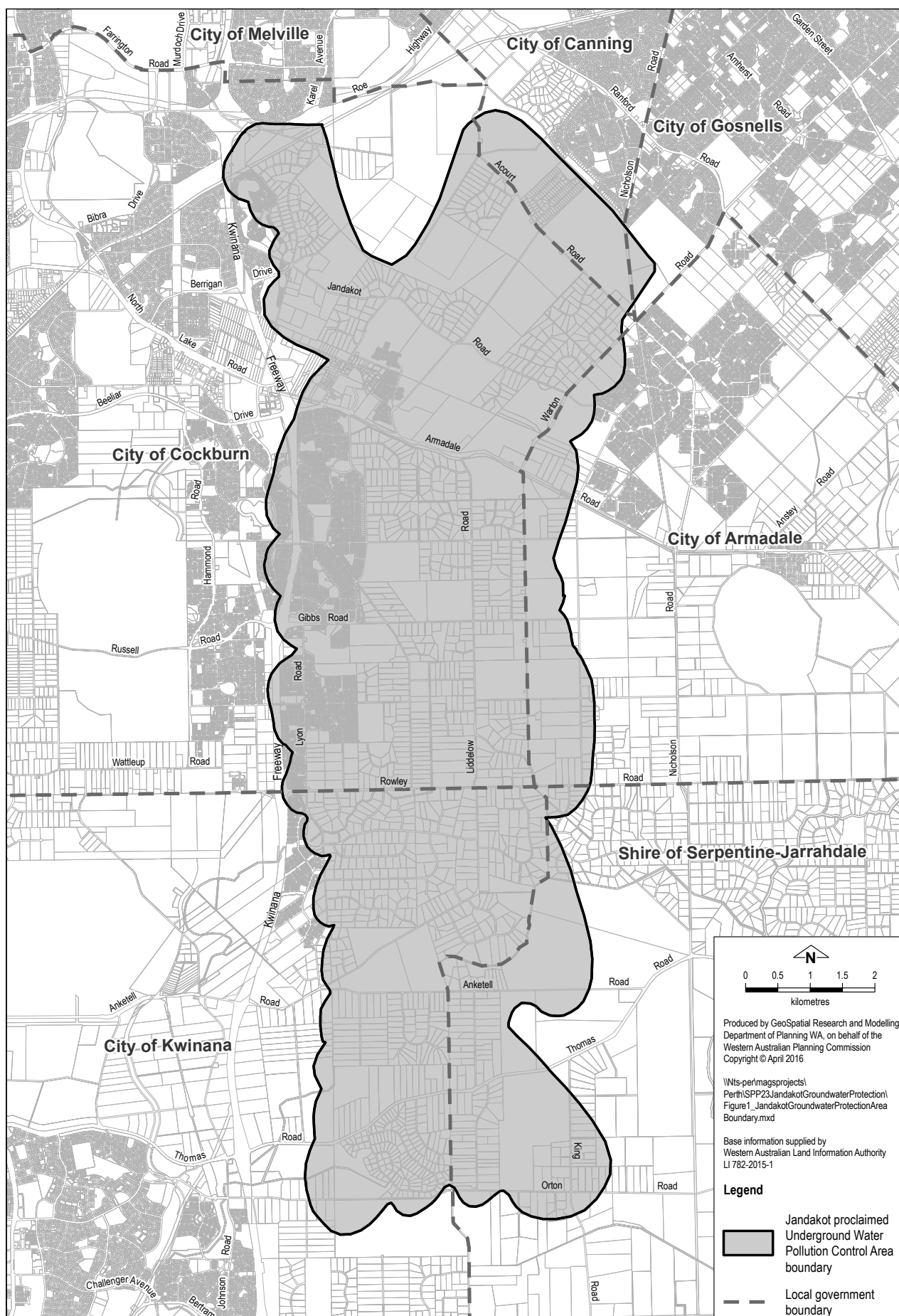


Figure 1: Jandakot Groundwater Protection Area