

**BAULKHAM HILLS SHIRE COUNCIL**



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**GUIDELINES (FOR CONSIDERATION) FOR  
APPLICATIONS TO INSTALL SEWAGE MANAGEMENT  
SYSTEMS - ON A FLOOD PLAIN**

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BAULKHAM HILLS SHIRE COUNCIL  
December 2001

## **FORWARD**

These guidelines outline the matters that are taken into consideration for applications to construct, alter or modify an on-site sewage management system located within 100m from permanent surface waters or below the 1 in 100 year flood probability level.

The guidelines help to explain what supporting information needs to be included with the application form.

Complying with these Guidelines when submitting applications to install or alter an on-site sewage management system will help to expedite the assessment process, however Council may require additional information or specialist studies in some circumstances.

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## SECTION 1

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### LEGISLATIVE CONSIDERATIONS

There are three principal Acts that are considered when applications concerning sewage management systems in a floodway are assessed. The Environmental Planning & Assessment Act 1979, The Local Government Act 1993 and the Protection of the Environment Operations Act 1997.

#### 1.1 THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979

##### 1.1.1 Development Consent Required for New Systems

Development consent is required to carry out development involving the installation of a new sewage management system under the Environmental Planning & Assessment Act. Matters for consideration in the submission of a development application are listed under the Environmental Planning & Assessment Act and Council's Local Environment Plan and Development Control Plans.

##### 1.1.2 SREP No. 20 – Hawkesbury Nepean River

Sydney Regional Environment Plan No. 20 – Hawkesbury Nepean River (SREP No.20) requires a development consent to be obtained for any sewerage system or work within the catchment of the Hawkesbury River. The relevant Clause is Clause 11 sub clause 17 states;

*“(17) Sewerage systems or works*

*Definition:*

*Development for the purpose of any sewerage system or work which stores, treats or disposed of sewage (including domestic on-site disposal systems that are ancillary to development which requires consent) but not including a public utility undertaking.”*

The application shall be accompanied by information addressing;

*“Additional matters for consideration be the consent authority:*

- (a) Whether the proposed development will be capable of connection to a Sydney Water Corporation Limited of council sewerage system either now or in the future.*
- (b) The suitability of the site for on-site disposal of effluent or sludge and the ability of the sewerage system or works to operate over the long-term without causing significant adverse effects on adjoining property.*
- (c) The likely effect of any on-site disposal area required by the proposed development on*

- \* Any water bodies in the vicinity (including dams, streams and rivers), or*
- \* Any mapped wetlands, or*
- \* Any groundwater, or*

\* *The floodplain*

- (d) *The scope for recycling and reusing effluent or sludge on the site.*
- (e) *The adequacy of wet weather storage and the wet weather treatment capacity (if relevant) of the proposed sewerage system or works.*
- (f) *Downstream effects of direct discharge of effluent to watercourses.*
- (g) *The need for ongoing monitoring of the system or work.”*

### **1.1.3 Designated Development**

Depending on the proposed capacity of the sewerage system or works the development proposed may be Designated Development under Schedule 3 of the Environmental Planning & Assessment Act Regulations. A development application for designated development is required to be accompanied by an Environmental Impact Statement (EIS). If a sewerage system satisfies the following description from schedule 3 of the Environmental Planning & Assessment Regulation 2000, it is designated development. The relevant section of Schedule 3 of the Environmental Planning & Assessment Regulation 2000 states;

#### *PART 1 – WHAT IS DESIGNATED DEVELOPMENT?*

#### **29 Sewerage systems or works**

##### **(1) Sewerage systems or works:**

- (a) *that have an intended processing capacity of more than 2,500 persons equivalent capacity or 750 kilolitres per day, or*
- (b) *that have an intended processing capacity of more than 20 persons equivalent capacity or 6 kilolitres per day and are located:*
  - (i) *on a floodplain, or*
  - (ii) *within a coastal dune field.*

##### **(2) Sewerage systems or works that incinerate sewage or sewage products.**

##### **(3) Sewerage systems or works that store sewage, sludge or effluent and:**

- (a) *that have a capacity of more than 1,000 tonnes of material, or*
- (b) *that are located:*
  - (i) *within 100 metres of a natural waterbody or wetland, or*
  - (ii) *in an area of high watertable or highly permeable soils, or*

- (iii) *within a drinking water catchment, or*
  - (iv) *on a floodplain, or*
  - (v) *within 250 metres of a dwelling not associated with the development.*
- (4) *Sewerage systems or works that release or reuse more than 20 persons equivalent capacity or 6 kilolitres per day of sewage, effluent or sludge and that are located:*
- (a) *in or within 100 metres of a natural waterbody, wetland, coastal dunefield or environmentally sensitive area, or*
  - (b) *in an area of high watertable, highly permeable soils or acid sulphate, sodic or saline soils, or*
  - (c) *on land that slopes at more than 6 degrees to the horizontal, or*
  - (d) *within a drinking water catchment, or*
  - (e) *within a catchment of an estuary where the entrance to the sea is intermittently open, or*
  - (f) *on a floodplain, or*
  - (g) *within 500 metres of a residential zone or 250 metres of a dwelling not associated with the development.*

This clause requires that any alteration to an on-site sewage management system for a caravan park would be designated development if the processing capacity is more than 20 persons, however Part 2 of the schedule allows an exemption to the requirements of Designated development for an application for additions or alterations to a sewage management system in some circumstances.

#### **1.1.4 Exemptions from the requirements of Designated Development**

The relevant section of Schedule 3 of the Environmental Planning & Assessment Regulation 2000 states;

##### *PART 2 – ARE ALTERATIONS OR ADDITIONS DESIGNATED DEVELOPMENT?*

#### **35. *Is there a significant increase in the environmental impacts of the total development?***

*Development involving alterations or additions to development (whether existing or approved) is not designated development if, in the opinion of the consent authority, the alterations or additions do not significantly increase the environmental impacts of the total development (that is the development together with the additions or alterations) compared with the existing or approved development.*

This clause allows the Council to consider whether the proposed alteration or addition to an on-site sewage management system will cause a significant increase to the environmental impacts of the total development. If there is thought to be no significant increase in environmental impacts, the alteration is not subject to all of the requirements of Designated Development. In forming its opinion, Council must consider the matters listed in clause 36 of schedule 3 as stated below;

*36 Factors to be taken into consideration*

*In forming its opinion as to whether or not development is designated development, a consent authority is to consider:*

*(a) the impact of the existing development having regard to factors including:*

*(i) previous environmental management performance, including compliance with the conditions of any consents, licences, leases or authorisations by a public authority and compliance with any relevant codes of practice, and*

*(ii) rehabilitation or restoration of any disturbed land, and*

*(iii) the number and nature of all past changes and their cumulative effects, and*

*(b) the likely impact of the proposed alterations or additions having regard to factors including:*

*(i) the scale, character or nature of the proposal in relation to the development, and*

*(ii) the existing vegetation, air, noise and water quality, scenic character and special features of the land on which the development is or is to be carried out and the surrounding locality, and*

*(iii) the degree to which the potential environmental impacts can be predicted with adequate certainty, and*

*(iv) the capacity of the receiving environment to accommodate changes in environmental impacts, and*

*(c) any proposals:*

*(i) to mitigate the environmental impacts and manage any residual risk, and*

*(ii) to facilitate compliance with relevant standards, codes of practice or guidelines published by the Department or other public authorities.*

## 1.2 LOCAL GOVERNMENT ACT 1993

### 1.2.1 Approval Required to Alter an Existing System

An application under s 68 of the Local Government Act is required to be submitted to alter any existing on-site sewage management system. An application under this section of the Local Government Act is not required for systems that require Development Consent under the Environmental Planning & Assessment Act 1979.

The Council considers that an alteration includes the laying of any additional pipe work, the installation of any additional holding or septic tanks, the installation of any additional pumping or irrigation equipment or the alteration to loading on an on-site sewage management system. The relevant section of the Local Government Act 1993 states;

*[s 68] What activities, generally, require the approval of the Council?*

**68** (1) *[Activities in the table] A person may carry out an activity specified in the following Table only with the prior approval of the council, except in so far as this Act, the regulations or a local policy adopted under Part 3 allows the activity to be carried out without that approval.*

#### TABLE – APPROVALS

##### PART C – MANAGEMENT OF WASTE

1. *For fee or reward, transport waste over or under a public place*
2. *Place waste in a public place*
3. *Place a waste storage container in a public place*
4. *Dispose of waste into a sewer of the council*
5. *Install, construct or alter a waste treatment device or a human waste storage facility or a drain connected to any such device or facility.*

## 1.3 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997

It is an offence to allow an on-site sewage management system to cause any waters to be polluted and this includes groundwater. If it is intended to install an on-site sewage management system that allows a discharge to a watercourse or is likely to allow effluent (whether treated or not) to enter a watercourse, a license is required from the Environmental Protection Authority in accordance with Section 43 (d) of the Protection of the Environment Operations Act. The relevant section of the Protection of the Environment Operations Act 1997 states;

#### PART 5.3 – WATER POLLUTION

##### *Prohibition of pollution of waters*

**120** (1) *Prohibition on polluting A person must not pollute any waters.*

- (2) **Prohibition on permitting pollution** A person must not cause any waters to be polluted.
- (3) **Prohibition on permitting pollution** A person must not permit any waters to be polluted.
- (4) **Offence** A person who contravenes this section is guilty of an offence.

**Waters means the whole or part of:**

- (a) any river, stream, lake, lagoon, swamp, wetlands, unconfined surface water, natural or artificial watercourse, dam or tidal waters (including the sea, or
- (b) any water stored in artificial works, any water in water mains, water pipes or water channels, or any underground or artesian water.

## SECTION 2

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### **MATTERS TO ACCOMPANY APPLICATIONS FOR APPROVAL TO INSTALL, CONSTRUCT OR ALTER A SEWAGE MANAGEMENT SYSTEM**

#### **2.1 Site Plan**

Must be drawn to scale showing the location of;

- (a) The proposed installations, alterations or additions to the on-site sewage management system
- (b) Any related effluent application areas showing all dimensions
- (c) Any buildings or facilities existing on, and any environmentally sensitive areas (as defined in the EP&A Act) on, any land located within 100 metres of the sewage management facility or effluent application areas
- (d) Any related drainage lines or pipe work (whether natural or constructed)
- (e) The contours of the site showing all associated flood levels (1 in 100 & 1 in 20 year probability flood levels)

#### **2.2 Specifications**

The application must be accompanied by full specifications of the sewage management facility proposed to be installed, altered or constructed on the premises concerned.

#### **2.3 Site Assessment**

The application must be accompanied by details of the climate, geology, hydrology, topography, soil composition and texture, and vegetation of any effluent application areas related to the sewage management facility together with an assessment of the site in the light of those details.

The site assessment is to include evidence that there will be no contamination of the ground water, surface waters or risk to human health, as a result of the effluent application system.

#### **2.4 Statement**

The application must be accompanied by details of

- (a) The number of equivalent persons residing, or possible number of persons to reside, on the premises, and
- (b) Such other factors as are relevant to the capacity of the proposed sewage management facility.

For caravan parks, the flow / loading figures in s3.3 of this guideline are to be used for the design capacity of the system.

On-site sewage management systems are to be sized according to the maximum possible loading for the system.

Justification of the capacity of the existing system based on these loading figures will be required prior to the approval of any alterations to an existing on-site sewage management system.

## **2.5 Operation and maintenance**

The application must be accompanied by details of;

- (a) The operation and maintenance requirements for the proposed sewage management facility, and
- (b) The proposed operation, maintenance and servicing arrangements intended to meet those requirements and
- (c) The action to be taken in the event of a breakdown in, or other interference with its operation.

## SECTION 3

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### GENERAL REQUIREMENTS

Requirements for applications for systems on properties that are entirely or partly within 100m from a watercourse and/or below the 1 in 20 year flood probability flood level.

#### 3.1 Buffer distances

##### 3.1.1 Absorption trenches

For new trenches;

- \* 100m to permanent surface waters
- \* 250m to domestic groundwater well
- \* 40 metres to other waters (eg farm dams, intermittent waterways and drainage cannels, etc)
- \* 12 metres if area up-gradient and 3 metres if area down-gradient of site or property boundaries
- \* 6 metres if area up-gradient and 3 metres if area down gradient of swimming pools, driveways and buildings.

No trenches are to be installed in areas where depth to high episodic/seasonal water table is less than 1m.

For Existing Trenches;

Alterations to existing absorption trenches will be considered if evidence from a suitably qualified soil scientist, geotechnical engineer or wastewater consultant is supplied showing that the trench is adequately sized according to the flow figures in section 3.3 of this guideline and that no effluent will leave the property, enter any permanent watercourse or groundwater.

##### 3.1.2 Irrigation systems

Effluent for irrigation is to meet the following quality criteria;

- \* Biochemical Oxygen Demand < 20 mg/L
- \* Suspended Solids <30 mg/L
- \* Total nitrogen <25 mg/L
- \* Total Phosphorus <10 mg/L
- \* Faecal coliforms <30 cfu/100 mL

Irrigation may be allowed down to the 1 in 20 flood probability level however electrical equipment, tanks or transpiration/ treatment beds should be above the 1 in 100 flood probability level unless an appropriate performance based solution can be reached.

Spray irrigation must occur more than 100m from the watercourse.

Subsurface irrigation may be allowed if the system is site specifically designed by a suitably qualified soil scientist, geotechnical engineer or wastewater consultant to assure that no effluent enters permanent waters or ground water.

### 3.1.3 Transpiration Beds & Subsurface Irrigation

Transpiration beds and subsurface irrigation may be allowed within 100m from the water course if evidence is provided from the suitably qualified soil scientist, geotechnical engineer or waste water consultant that no effluent will enter the water course or ground water.

### 3.2 Tank Locations

- \* All tanks are to have a 1.5m buffer distance around the lid.
- \* No tanks are to be completely buried. All lids of tanks are to be exposed.

### 3.3 Flow / Loading

Loading for systems is to be calculated as per the following;

Appendix 4.2D AS/NZS 1547:2000

Source	On-site roof water tank supply (L/person/day)	Reticulated community or a bore-water supply (L/person/day)
Households with standard fixtures (including automatic washing machine)	140	180
Households with standard water reduction fixtures	115	145
Households with full water reduction facilities	80	110
Households with extra wastewater producing facilities	170	220
Households (Blackwater only)	50	60
Households (greywater only)	90	120
Motels/hotels		
- guests, resident staff	140	180
- non-resident staff	30	40
- reception rooms	20	30
- bar trade (per customer)	20	25
- restaurant (per diner)	20	30
Community halls		
- banqueting	20	30
- meetings	10	15
Restaurants (per diner)		
- Dinner	20	30
- lunch	15	25
Tea rooms (per customer)		
without restroom facilities	10	15
with restroom facilities	15	25

School (pupils plus staff)	30	40
Rural factories, shopping centers	30	50
Camping grounds		
-Fully serviced	100	130
-Recreational Areas	50	65

\* Fully serviced camping grounds include: – parks that provide amenities including showers with hot water (either within the park amenities buildings or within on-site caravans or relocatable homes).

Design load for caravan sites will be 4 persons per site.

Design load for relocatable homes will be 2 persons per bedroom.

## SECTION 4

### APPENDIX

#### 4.1 Application - Flow Chart

