



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8310/1
Permit Holder:	V & V Walsh Abattoirs
Duration of Permit:	6 November 2019 to 6 November 2024

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of irrigation of wastewater as part of waste water treatment process (*fertigation*).

2. Land on which clearing is to be done

Lot 5 on Diagram 50137, Davenport
Lot 1 on Diagram 12060, Davenport

3. Area of Clearing

The Permit Holder must not clear/*fertigate* more than 9.37 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8103/1.

4. Clearing not authorised

This Permit does not authorise the Permit Holder to physically clear any native vegetation and authorises the Permit Holder to '*fertigate*' vegetation only.

5. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

6. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared/*fertigated* authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing/*fertigation* of native vegetation;
- minimise the amount of native vegetation to be cleared/*fertigated*; and
- reduce the impact of clearing/*fertigation* on any environmental value.

7. Vegetation management

The Permit Holder shall not clear/*fertigate* native vegetation within 50 metres of the *riparian vegetation* of any *watercourse* or *wetland* within and/or adjacent to the area cross-hatched yellow on attached Plan 8103/1.

PART III – RECORD KEEPING AND REPORTING

8. Record keeping

The Permit Holder must maintain the following records in relation to the clearing/*fertigating* of native vegetation authorised under this Permit:

- (a) the location where the clearing/*fertigation* occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date(s) that the area was cleared/*fertigated*;
- (c) actions taken to avoid and minimise clearing/*fertigation* of native vegetation in accordance with condition 6 of this Permit; and
- (d) actions taken in accordance with condition 7 of this Permit

9. Reporting

The Permit Holder must produce the records required under condition 8 of this Permit when required by the *CEO*.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

Fertigate/ed/ion is the injection of fertilizers, used for soil amendments, water amendments and other water-soluble products into an irrigation system.

riparian vegetation has the meaning given to it in Regulation 3 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*;

watercourse has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

wetland/s means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary.



Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

11 October 2019



1. Application details

Permit application details

Permit application No.: 8310/1
Permit type: Area Permit

Applicant details

Applicant's name: V & V Walsh Abattoirs
Application received date: 21 December 2018

Property details

Property: Lot 5 on Diagram 50137, Davenport
Lot 1 on Diagram 12060, Davenport
Local Government Authority: City of Bunbury
Localities: Davenport

Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
9.37		Mechanical Removal	Waste disposal/management

Decision on application

Decision on Permit Application: Grant

Decision Date: 11 October 2019

Reasons for Decision:

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance to clearing principle (f) and (i), may be at variance to clearing principle (a), (b), (e), (g) and (h), and is not likely to be at variance to the remaining clearing principles.

Through assessment it was identified that the application area is a significant remnant within an extensively cleared area as it supports suitable habitat for western ringtail possum. However noting that the proposed fertigation will not result in the actual removal of vegetation and there is no evidence of poor tree health within the current fertigation areas, the proposed fertigation of vegetation is unlikely to have any direct impacts on conservation significant fauna species, including western ringtail possum.

The assessment also identified that the application area includes several multiple use wetlands and a watercourse. A condition has been added to the permit to ensure that no fertigation occurs within 50 metres of wetlands or watercourses.

The Delegated Officer noted that the close proximity to Preston River and the mapped wetlands within the local area may contribute to land degradation in the form of eutrophication and is likely to cause deterioration in the quality of surface or underground water.

In determining to grant a clearing permit, the Delegated Officer determined that potential impacts to land degradation and deterioration in the quality of surface or underground water can be adequately minimised and/or controlled by regular monitoring and controlling of nutrient loadings as per the current prescribed premises licence (L6001/1989/15) conditions and associated compliance requirements.

The Delegated Officer determined that the proposed clearing in the form of fertigation is unlikely to lead to any unacceptable risk to the environment in the short to medium term.

2. Site Information

Clearing Description

The application is to clear 9.37 hectares of native vegetation within Lot 1 on Diagram 12060 and Lot 5 on Diagram 50137, Davenport, for the purpose of irrigation of wastewater as part of waste water treatment process for V & V Wash meat processing facility.

The irrigation of native vegetation using wastewater is currently occurring on site however it has been identified that a clearing permit is required to continue the process in order to amend the prescribed premises licence for the facility on site.

Vegetation Description

The vegetation within the application area is mapped as the following Swan Coastal Plain vegetation complex's:

Southern River Complex, 42: Open woodland of *Corymbia calophylla* (Marri) - *Eucalyptus marginata* (Jarrah) - Banksia species with fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca raphiophylla* (Swamp Paperbark) along creek beds.

Swan Complex, 33: Fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca raphiophylla* (Swamp Paperbark) with localised occurrence of low open forest of *Casuarina obesa* (Swamp Sheoak) and *Melaleuca cuticularis* (Saltwater Paperbark) (Hedde et al, 1980).

A site inspection undertaken by the Department of Biodiversity, Conservation and Attractions (DBCA) identified the following vegetation types within the application area (refer to figure 1 for the areas described below):

- **Area 1** - *Eucalyptus rudis*, planted eastern state eucalypt forest with a central seasonally wet area supporting *Melaleuca raphiophylla*; native understorey lost.
- **Area 2** – *Agonis flexuosa* low closed forest; native understorey lost
- **Area 3** - *Agonis flexuosa* low forest with scattered *Banksia attenuata*, *Corymbia calophylla* and *Nuytsia floribunda*; native understorey lost (DBCA, 2019).

A vegetation assessment of parts of the application area identified that the application area comprise (Areas 1 and Area 2, Figure 1) plantations of introduced Eucalyptus species, Flooded Gums (*Eucalyptus rudis*), Peppermint (*Agonis flexuosa*) and Marri (*Corymbia calophylla*) trees, over a weedy understorey, with no native midstorey or understorey species (Cape Life, 2018).

Vegetation Condition

Degraded; Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994);

to

Good; Vegetation structure significantly altered with obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate (Keighery, 1994).

The vegetation condition of the application area was determined through a site inspection undertaken by DBCA (DBCA, 2019) and the Department of Water and Environmental Regulation (DWER) officers on 7 March 2019 (DWER, 2019a).

Soil and Landform Type:

The application area is mapped predominantly as the following soil types:

Bassendean B2 Phase subsystem is described as flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 metres;

Bassendean B3 Phase subsystem is described as closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam; and as

Bassendean B4 Phase is described as Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan (DPIRD, 2017).

Comments:

The local area referred to in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. The local area contains approximately 23 per cent native vegetation cover (Table 1).

3. Avoidance and minimisation measures

The original application was proposing to clear/fertigate 11.36 hectares of native vegetation within Lot 1 on Diagram 12060 and Lot 5 on Diagram 50137, Davenport, for the purpose of irrigation of wastewater as part of waste water treatment process for V & V Wash meat processing facility.

The preliminary assessment identified that the southern areas (Area 4 and Area 5) of the original application is mapped as the Commonwealth-listed threatened ecological community (TEC) 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region' (Banksia woodlands). Noting the species composition of these TECs and the vegetation occurring within the application area, and the southwestern portion (Area 4 and 5) of the application area is likely to represent the Banksia woodlands TEC. The DBCA southwest region advised that the overstorey within the southwestern application area is healthy and intact, and while the understorey is generally lacking, this area with appropriate management has some scope for regeneration. In other areas Banksia trees are more scattered and where present of a poor health (DBCA, 2019). Given this, the southwestern portion of the application area is likely to represent the Banksia woodlands of the Swan Coastal Plain TEC.

DBCA southwest region also advised that parts of the original application area are proposed as Regional Open Space (ROS) reserves under the Greater Bunbury Region Scheme (GBRS) (EPA 2003) and have been identified for inclusion within the Preston River to Ocean Regional Park and Preston River Link portion of the proposed Leschenault Regional Park. The boundaries of the proposed Regional Parks are identified in the Preston River to Ocean Regional Park establishment plan (WA Planning Commission, 2011) and Leschenault Regional Park establishment plan (WA Planning Commission, 2017). Creation of the Regional Parks is an election commitment of the State Government, with allocation of funding being announced last year to commence the establishment and management of the proposed Parks. The DBCA is responsible for coordinating the establishment and management of the Parks, including preparation of a management plan that guides future management priorities (DBCA, 2019).

Under the GBRS, the purpose of ROS is to protect the natural environment, provide recreational opportunities, safeguard important landscapes and provide for public access. The Preston River to Ocean Regional Park establishment plan refers to the ecological significance of the east-west alignment of the bush connection from the Preston River to the ocean that also provides a unique sequence or cross section of vegetation complexes characteristic of the Swan Coastal Plain. DBCA southwest region advised that they do not support irrigation of areas identified as ROS within the proposed Regional Parks without further assessment/monitoring of potential impacts on vegetation from the proposed irrigation. If Regional Park areas are to be considered for approval, it is recommended that consideration be deferred to a later date (approximately five to seven years later) to provide for implementation of a tree health monitoring program within other irrigated areas to establish the sensitivity of *Banksia*, *Marri*, *Nuytsia* and Peppermint to the proposed actions. If they are found to be sensitive these Regional Park areas should not be considered for irrigation (DBCA, 2019).

Area 4 and 5 is also mapped as an ecological linkage as defined by the South West Regional Ecological Linkage Report (Molloy et al., 2009) and provides fauna connectivity across the landscape in the east-west direction.

Based on the preliminary assessment, DWER wrote to the applicant on 16 August 2019 requesting to modify the clearing permit application area to exclude Area 4 and 5. The applicants contact responded on 30 August 2019 stating that the applicant wishes to withdraw Area 4 and 5, and reducing the application area by 1.99 hectares. The applicants contact also advised that the current prescribed premises license has a restriction of irrigation within 50m of waterways and stormwater runoff (360 Environmental, 2019).

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is may be at variance to this principle

According to available databases, five threatened flora species and 27 priority flora species have been recorded within the local area. Majority of the application area is devoid of a native understorey (DWER, 2019a). A vegetation assessment of parts of the application area confirm that the application area is lacking in native midstorey or understorey species (Cape Life, 2018).

Noting the degraded to completely degraded condition of the vegetation and the vegetation present within the application area, the application area is not likely to support any flora species of conservation significance.

As assessed under principle (b), the application area comprises foraging habitat for threatened black cockatoos. A site inspection did not identify any large hollow bearing trees within the application area that may support breeding habitat for threatened black cockatoos (DWER, 2019a, DBCA 2019). However, the application area is likely to support habitat for western ringtail possum and the DBCA southwest region confirm that this species is highly likely to utilise the area (DBCA, 2019). Therefore the application area is likely to provide significant habitat for conservation significant fauna.

As assessed under principle (c), no threatened flora species are likely to occur within the application area.

Approximately 25 per cent of the application area is mapped as the Commonwealth-listed threatened ecological community (TEC) 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region' (Banksia woodlands). Noting the species composition of these TECs and the condition of the vegetation, the application area is not representative of a threatened ecological community. Area 4 and 5 (figure 1) was considered to be representative of the Banksia woodlands TEC as per DBCA advise (DBCA, 2019), however the applicant has withdrawn these areas from the application (360 Environmental, 2019).

DBCA Southwest region notes that majority of Area 1 (east of the settling ponds) has been irrigated for a number of years at the current discharge and there is no evidence of poor tree health (DBCA, 2019).

Given the above, the proposed clearing is likely to support conservation significant fauna species. However noting that the proposed clearing will not result in the removal of vegetation and noting DBCAs comment on no evidence of poor tree health (DBCA, 2019), the proposed fertigation is unlikely to have any direct impacts on conservation significant fauna species, particularly on western ringtail possum.

Noting the presence of supporting habitat for western ringtail possum, the application area comprises a high biological diversity.

The proposed clearing may be at variance to this principle.

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.

Proposed clearing may be at variance to this principle

According to available databases, 25 Threatened species, three Priority 3, seven Priority 4 fauna species, four other specially protected fauna species and 25 fauna protected under international agreement fauna species have been recorded within the local area (DBCA, 2007-).

Noting the habitat requirements of these species, and the type and condition of the vegetation within the application area, the application area may comprise suitable habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*), forest red-tailed black cockatoo (*Calyptorhynchus baudinii*) (collectively known as black cockatoos) and western ringtail possum (*Pseudocheirus occidentalis*).

Carnaby's cockatoo and Baudin's cockatoo are listed as endangered and forest red-tailed cockatoo is listed as vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A site inspection did not identify any large hollow bearing trees within the application area that may support breeding habitat for threatened black cockatoos (DWER, 2019a, DBCA 2019). Black cockatoos forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (Banksia, Hakea, Grevillea), Eucalyptus, Corymbia and a range of introduced species (DotEE, 2013; Valentine and Stock, 2008). Noting that the long term irrigation of the application area is likely to lead to mortality of native tree species including Banksia species, the proposed clearing is likely to have a long term impact on foraging habitat for threatened black cockatoos. In particular the native vegetation within Areas 4 and 5 in the southern section of the application area.

The application area comprises WA peppermint trees (*Agonis flexuosa*) and is mapped as suitable habitat for western ringtail possum. There are 154 known records of western ringtail possum sittings within a two kilometre radius of the application area (DBCA, 2007-). The western ringtail possum is classified as 'fauna that is rare or likely to become extinct as critically endangered fauna' under the WC Notice. This species utilises a variety of shelters including dreys (within *Agonis flexuosa*), tree hollows and forks, grass trees (*Xanthorrhoea* spp.), hollow logs, rabbit burrows and forest debris (Shedley and Williams, 2014). Studies have shown that the rate of sighting for the species correlates with the abundance of *Agonis flexuosa* and presence of hollow bearing trees (Shedley and Williams, 2014). Given the presence of *Agonis flexuosa*, the application area may provide suitable habitat for this species. DBCA southwest region confirm that the species is highly likely to utilise the area (DBCA, 2019).

Given the above, the proposed clearing is likely to support conservation significant fauna species. However noting that the proposed clearing will not result in the removal of vegetation and noting DBCAs comment on no evidence of poor tree health (DBCA, 2019), the proposed fertigation is unlikely to have any direct impacts on conservation significant fauna species, particularly on western ringtail possum.

The proposed clearing may be at variance to this principle.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, Threatened flora.

Proposed clearing is not likely to be at variance to this principle

According to available databases, five Threatened flora species have been recorded within the local area. Majority of the application area is devoid of a native understorey (Cape Life, 2018, DWER, 2019) and noting the degraded to completely degraded condition of the vegetation, the application area is not likely to support any Threatened flora species.

Given the above, the proposed clearing is not likely to be at variance to this principle.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Proposed clearing is not likely to be at variance to this principle

According to available data sets there are seven threatened ecological communities (TECs) endorsed by the WA Minister for Environment recorded within the local area.

Noting the vegetation types and soil types within the application area, vegetation within the application area is not likely to comprise a TEC.

Given the above, the proposed clearing is not likely to be at variance to this principle.

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Proposed clearing is may be at variance to this principle

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

In assessing the risk of further loss and subsequent cumulative effects, consideration has been given to the extent of native vegetation remaining and what is currently managed as conservation estate. As indicated in Table 1, the current vegetation extents for the bioregion are above the 30 per cent threshold (Government of Western Australia, 2019), However; the current vegetation extent for the mapped South West Forests vegetation complex's within the application area is below the 30 percent threshold for the bioregion, with less than 2 per cent contained in conservation estate (Government of Western Australia, 2019). The current vegetation extent for the City of Bunbury is also below the 30 per cent threshold. Therefore the application area is within an area that has been extensively cleared.

As discussed under Principles (a) and (b), the application area may comprise significant habitat for indigenous fauna. Noting that the mapped vegetation complexes within the application area and the current extent for the City of Bunbury does not meet the 30 per cent threshold, the application area may be a significant remnant within an extensively cleared area.

Given the above, the application area may be significant as a remnant of native vegetation in an area that has been extensively cleared.

The proposed clearing is may be at variance to this principle.

Table 1: Vegetation representation statistics (Government of Western Australia, 2019)

	Pre-European (ha)	Current Extent (ha)	Remaining (Per cent)	Current Extent in DBCA Managed Lands	
				(ha)	(Per cent)
IBRA Bioregion					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Local government					
City of Bunbury	6,218.76	1,455.52	23.41		
South West Forest Vegetation Complex in Bioregion					
Southern River Complex: 42	58,781.48	10,828.04	18.42	940.36	1.60
Swan Complex: 33	15,194.13	2062.03	13.57	140.58	0.93
Local area					
10 kilometre radius	29,633.33	6,634.61	22.39	-	-

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is at variance to this principle

Several multiple use wetlands and a minor, perennial watercourse have been mapped within the application area, and the Preston River runs approximately 40 meters east of the application area, with a conservation category wetland associated with the river running parallel along the north south direction (Figure 1).

A site inspection of the application area identified riparian vegetation (*Eucalyptus rudis*) on the north-western application area (Area 1 in Figure 1). Therefore the native vegetation within the application area is growing in association with a watercourse and wetland.

The requirement to retain a 50 metre buffer to any riparian vegetation associated with this watercourse will ensure that vegetation growing in association with this watercourse is not disturbed. Therefore the impacts are not likely to be significant.

Given the above, the proposed clearing is at variance to this principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is may be at variance to this principle

Majority of the application area is mapped as the Bassendean B2 phase soil subsystem, described as flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands (DPIRD, 2017). These soil types have a high to extreme phosphorous export risk (Table 2). Given that the proposed wastewater irrigation is likely to increase soil nutrient levels and noting that one of the mapped soil types have a moderate to very high risk of waterlogging, the risk of eutrophication may increase within the application area.

Noting the close proximity to Preston River and the mapped wetlands within the local area (Figure 1), proposed clearing may cause land degradation in the form of eutrophication.

Potential impacts to land degradation can be adequately minimised and/or controlled by regular monitoring and controlling of nutrient loadings as per the current prescribed premises licence conditions and associated compliance requirements.

Table 2: Land degradation risk levels

Risk categories	Bassendean B2 Phase	Bassendean B3 Phase	Bassendean B4 Phase
Wind erosion	>70 per cent of map unit has a high to extreme wind erosion risk	3-10 per cent of map unit has a high to extreme wind erosion risk	10-30% of the map unit has a high to extreme wind erosion risk
Water erosion	<3 per cent of map unit has a high to extreme water erosion risk	30-50 per cent of map unit has a high to extreme water erosion risk	<3 per cent of map unit has a high to extreme water erosion risk
Salinity	30-50 per cent of map unit has a moderate to high salinity risk or is presently saline	30-50 per cent of map unit has a moderate to high salinity risk or is presently saline	<3% of the map unit has a moderate or high salinity risk or is presently saline
Subsurface Acidification	<3 per cent of map unit has a high subsurface acidification risk or is presently acid	<3 per cent of map unit has a high subsurface acidification risk or is presently acid	<3 per cent of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3 per cent of map unit has a moderate to high flood risk	30-50 per cent of map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk
Water logging	3-10 per cent of map unit has a moderate to very high waterlogging risk	>70 per cent of map unit has a <u>moderate to very high waterlogging risk</u>	>70 per cent of map unit has a <u>moderate to very high waterlogging risk</u>
Phosphorus export risk	>70 per cent of map unit has a <u>high to extreme phosphorus export risk</u>	>70 per cent of map unit has a <u>high to extreme phosphorus export risk</u>	>70% of the map unit has a <u>high to extreme phosphorus export risk</u>

The proposed clearing may be at variance to this principle.

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Proposed clearing is may be at variance to this principle

According to available databases, the nearest conservation area is over one kilometre away from the application area.

DBCA southwest region advised that parts of the application area are proposed as Regional Open Space (ROS) reserves under the Greater Bunbury Region Scheme (GBRS) (EPA 2003) and have been identified for inclusion within the Preston River to Ocean Regional Park and Preston River Link portion of the proposed Leschenault Regional Park. The eastern edges of Area 2 and the northern-most Area 3 also appear to be within ROS and proposed Regional Park (DBCA, 2019).

Given the above, the proposed clearing may be at variance to this principle.

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Proposed clearing is at variance to this principle

Several multiple use wetlands and a minor, perennial watercourse have been mapped within the application area, and the Preston River runs approximately 40 meters east of the application area, with a conservation category wetland associated with the river running parallel along the north south direction.

Groundwater salinity within the application area is mapped between 500 - 1000 milligrams per litre total dissolved solids which is considered to be marginal. However noting that the mapped soil type within the application area has moderate to high risk of salinity (Table 2), the proposed clearing may cause deterioration in the quality of underground water in the form of salinity.

DWER's regulatory services (Water) advised due to the proximity to a high value wetland and waterway, and scale of the operation, the proposed clearing through irrigation is deemed to be of high risk; these risks include nutrient, chemical and pathogen input into a high value wetland system (Preston River) that can detrimentally impact the water resource; particularly that the area is likely to be subject to flooding/inundation; potential risk for eutrophication, fish kills, algal blooms and associated odours, in particular due to the high biological oxygen demand (BOD) of the untreated abattoir wastewater; the above risks can impact downstream users; potential contamination of groundwater, as nutrients and other associated abattoir chemicals leach into groundwater contaminating the resource (DWER, 2019b).

Potential impacts to deterioration in the quality of surface or underground water can be adequately minimised and/or controlled by regular monitoring and controlling of nutrient loadings as per the current prescribed premises licence conditions and associated compliance requirements. Therefore the proposed impacts are not likely to be significant.

Given the above, the proposed clearing is at variance to this principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this principle

As discussed in principle (g), the soils within the application area predominantly sandy soils which are highly permeable and have a very low risk of flooding.

The proposed clearing is not likely to be at variance to this principle.

Planning instruments and other relevant matters.

The City of Bunbury advised that the development approval for the abattoir does not specifically address fertigation/irrigation activities on the site as proposed and that the operation of licensed premises such as abattoirs goes beyond the scope of local planning schemes, and is not explicitly dealt with under the *Planning and Developing Act 2005* (City of Bunbury, 2019).

The City of Bunbury also advised that most of the land to the east of the subject site has recently been included in the 'Industrial Zone' under the Greater Bunbury Region Scheme (GBRS), but it should be noted that a significant proportion of this land falls outside the City of Bunbury and is hence controlled by the Shire of Dardanup. In the medium to long term, with the development of the Picton industrial area, it is therefore recommended that the abattoir should deal with its waste water properly so as to ensure that it will not increase the limitations on future surrounding development. As such, future industrial development to the east will need to factor in an odour buffer, as there nevertheless remains the risk of sensitive land uses establishing in this area that may be affected by odour (City of Bunbury, 2019).

The application area is located in the Bunbury Groundwater Area as proclaimed under the *Rights in Water and Irrigation Act 1914*. Any groundwater abstraction in this proclaimed area is subject to licensing by the department, other than supply from the shallow watertable (superficial aquifer) for domestic and non-intensive stock watering purposes. For further licensing information, applicant is advised to contact DWER's Bunbury licencing branch (DWER, 2019b).

DWER's regulatory services (Water) advised due to the proximity to a high value wetland and waterway, and scale of the operation, this proposed purpose is deemed to be of high risk; these risks include nutrient, chemical and pathogen input into a high value wetland system (Preston River) that can detrimentally impact the water resource; particularly that the area is likely to be subject to flooding/inundation; potential risk for eutrophication, fish kills, algal blooms and associated odours, in particular due to the high biological oxygen demand (BOD) of the untreated abattoir wastewater; the above risks can impact downstream users; potential contamination of groundwater, as nutrients and other associated abattoir chemicals leach into groundwater contaminating the resource (DWER, 2019b).

It is noted that this proposal is located in the 'Lower Preston' reporting subcatchment as identified in the Department's 'Leschenault Estuary water quality improvement plan (WQIP) (DoW, 2012); This WQIP classifies this subcatchment in the 'recovery' water quality objective category, due to the excessively high nitrogen and phosphorus levels. Impacts from elevated nutrient levels include algal blooms and associated odour. The WQIP target for this 'recovery' reporting subcatchment is a 33 per cent reduction in nitrogen and a 44 per cent reduction for phosphorus. There are a number of recommended management actions within this WQIP to reduce nutrients such as riparian restoration and effluent management (to reduce nutrient input). As this proposal results in the removal of riparian vegetation and adds a large quantity of nutrient rich wastewater, this proposed irrigation landuse is contrary to the objectives of the WQIP (DWER, 2019b).

The applicant advised that ongoing monitoring of groundwater will be undertaken to evaluate the status of remnant vegetation receiving wastewater irrigation to avoid significant impacts to any watercourses and wetlands and that no irrigation will be undertaken within 50 meters of a conservation category wetland (360 Environmental, 2018).

The current prescribed premises licence does not allow the irrigation of native vegetation and DWER Industry Licencing division has advised that they have not received an application for a licence amendment to remove the condition on their current licence that does not allow them to irrigate native vegetation. DWER Industry Licencing division also advised that an updated Nutrient and Irrigation Management Plan is also expected with the licence amendment application, as per DWER comments in their current Amendment Notice (DWER, 2019c).

It is also noted that an Environmental Improvement Plan is in place for managing nutrient loadings from the wastewater irrigation operations (Coffey Environments, 2010), with exceedances recorded as far back as 2007 (DEC, 2009). With increased throughput capacity with the recent licence amendment (DWER, 2018), these nutrient loadings are likely to increase further. Therefore the licence amendment will also require to reflect the current nutrient loadings and effluent discharge.

The prescribed premises licence for the abattoir includes several conditions on the irrigation of treated wastewater, which states "treated wastewater is evenly distributed over the irrigation areas; No soil erosion or ponding of wastewater occurs; There is no direct runoff, spray drift or discharge beyond the irrigation areas; Healthy vegetation cover is maintained over the irrigation area; Irrigation shall not occur within fifty metres of any defined watercourse or drain; Irrigation does not occur during periods of rainfall or onto flooded areas" (DWER, 2015).

There are several sites of Aboriginal significance within the application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

The clearing permit application was advertised on the DWER website on 31 January 2019 with a 21 day submission period. No public submissions have been received in relation to this application.

4. References

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- Department of Water and Environmental Regulation (DWER) (Industry Regulation) (2019c) Advice on the current industry licence conditions for L6001/1989 provided by assessing officer on 28 March 2019 (DWER Ref: A1795741).
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5. GIS Datasets

- Aboriginal Sites of Significance
- Clearing Regulations - Environmentally Sensitive Areas
- Carnaby's cockatoo: breeding, roosting, feeding
- Department of Biodiversity Conservation and Attractions, Tenure
- Geomorphic Wetlands, Swan Coastal Plain
- Groundwater salinity, statewide
- Hydrology, linear
- Land for Wildlife
- PDWSA, CAWSA, RIWI Act Areas
- Remnant vegetation
- SAC Biodatasets (accessed May 2019)
- Soils, statewide
- Swan coastal plain significant wetlands
- Swan coastal plain vegetation complexes
- Town Planning Scheme Zones