MINISTER FOR THE ENVIRONMENT;
LABOUR RELATIONS

Statement No.

000529

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE ENVIRONMENTAL PROTECTION ACT 1986)

WASTEWATER DISPOSAL, BUSSELTON WASTEWATER TREATMENT PLANT
QUEEN ELIZABETH AVENUE, BUSSELTON

Proposal: The staged development of the Busselton Wastewater Treatment Plant, Queen Elizabeth Avenue, Busselton to an output of 6750 cubic metres per day, comprising Stages 1 and 2, disposal of treated wastewater from the plant via an on-site wetland to the Vasse Agricultural Drain (A_2A, A_2) and consequently to the Vasse Diversion Drain, as documented in schedule 1 of this statement.

Proponent: Water Corporation

Proponent Address: 629 Newcastle Street, LEEDERVILLE WA 6007

Assessment Number: 1132

Report of the Environmental Protection Authority: Bulletin 945

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following conditions and procedures:

1 Implementation

1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.

1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.

1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

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2 Proponent Commitments

2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.

2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

3 Proponent

3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.

3-2 Any request for the exercise of that power of the Minister referred to in condition 3-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.

3-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

4 Commencement

4-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.

4-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.

4-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 4-1 and 4-2.

4-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

5 Compliance Auditing

5-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

5-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.

5-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

Note

1 The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the Environmental Protection Act.

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

15 DEC 1999

Schedule 1

The Proposal (1132)

Increase throughput of the Busselton Wastewater Treatment Plant to 6750 cubic metres per day and dispose treated wastewater to an on-site wetland overflowing to the Vasse Agricultural drainage system, Vasse Diversion Drain and consequently to Geographe Bay. The treatment plant is located on Queen Elizabeth Avenue, Busselton and will discharge treated water to the Vasse Agricultural Drain (A_2A and A_2) and Vasse Diversion drain adjacent to Queen Elizabeth Avenue, Busselton (see Figures 1 and 2).

The wastewater will be treated in a mechanical activated sludge plant known as an Intermittently Decanted Extended Aeration (IDEA) Plant, stored in stabilisation lagoons, sand filtered, disinfected using an ultraviolet disinfection treatment system and discharged to the on-site wetlands for disposal.

The proponent will implement an Environmental Improvement Initiative which is a catchment-based nutrient management initiative to reduce catchment-based nutrient input, focussing on rural nutrient discharges affecting Southern Geographe Bay.

Key Characteristics Table

Element	**Description**			
Life of project	Staged capacity increase to be implemented as follows:			
		Indicative Timing	Flow	
	Stage 1	2005	4500 cubic metres/day	
	Stage 2	2020	6750 cubic metres/day	
Treatment process	Wastewater treated to tertiary standard using an IDEA plant discharging to storage ponds. Flow is then directed to a sand filtration and UV disinfection system prior to release into the on-site wetland system, Vasse Agricultural Drainage Network and consequently to Geographe Bay. Air emissions are not expected to adversely impact as the process is controlled to minimise odour production in addition to a 500 metre buffer area from the perimeter of the site boundary.			
Estimated median and 95th percentile water quality output to the on-site wetland.	Parameter	Current 1700 m3/day	Stage 1 4500 m3/day	Stage 2 6750 m3/day
	BOD (g/m3)	not measured	10	10
	Suspended Solids (SS) (g/m3)	20	10	10
	Total Nitrogen (TN) (g/m3)	20	10 (20)	8 (16)
	Total Phosphorus (TP) (g/m3)	3.5 (8)	1 (2)	0.8 (1.6)
	Thermotolerant Coliforms (cfu/100mL)	450(summer) 2000(winter)	10	10
	Note: Values are medians (values in parenthesis are 95th percentiles)			

Disposal to Wetland		Current	Stage 1	Stage 2
	Total flow (cubic metres/day)	1700	4500	6750
	SUMMER			
	Northern wetland	N/A	200	200
	Southern wetland	N/A	4300	6550
	WINTER			
	Northern wetland	N/A	500	500
	Southern wetland	N/A	4000	6250
	Note: Proposed reuse by Busselton Golf Club would reduce disposal to southern wetland by 1100 cubic metres/day during the summer irrigation period.			
Disposal from Wetland	Treated wastewater from the Southern wetland will be released to the Vasse Agricultural Drain A_2 A, Vasse Sub A_2, Vasse Sub-A, and Vasse Diversion Drain adjacent to Queen Elizabeth Avenue and subsequently discharged to Geographe Bay.			
Implementation of the Environmental Improvement Initiative (EII).	Catchment-based nutrient reduction initiative focusing mainly on rural nutrient discharges from the catchments of the Buayanup River, Vasse Diversion Drain, the Vasse-Wonnerup System, and the Abba and Ludlow Rivers for a maximum of five years. The EII will focus on and support the dairy, intensive and broadacre agricultural industries (eg vegetable growers) to implement improved nutrient and water management practices and programmes to reduce their nutrient export.			
Odour management	Low odour IDEA plant which is fully contained within the Water Corporation-owned buffer.			

Abbreviations

g/m3 = grams per cubic metre
m3/day = cubic metres per day
EII = Environmental Improvement Initiative
IDEA = Intermittently Decanted Extended Aeration

Figures

Figure 1 - Wastewater Treatment Plant regional location.
Figure 2 - Flow chart.

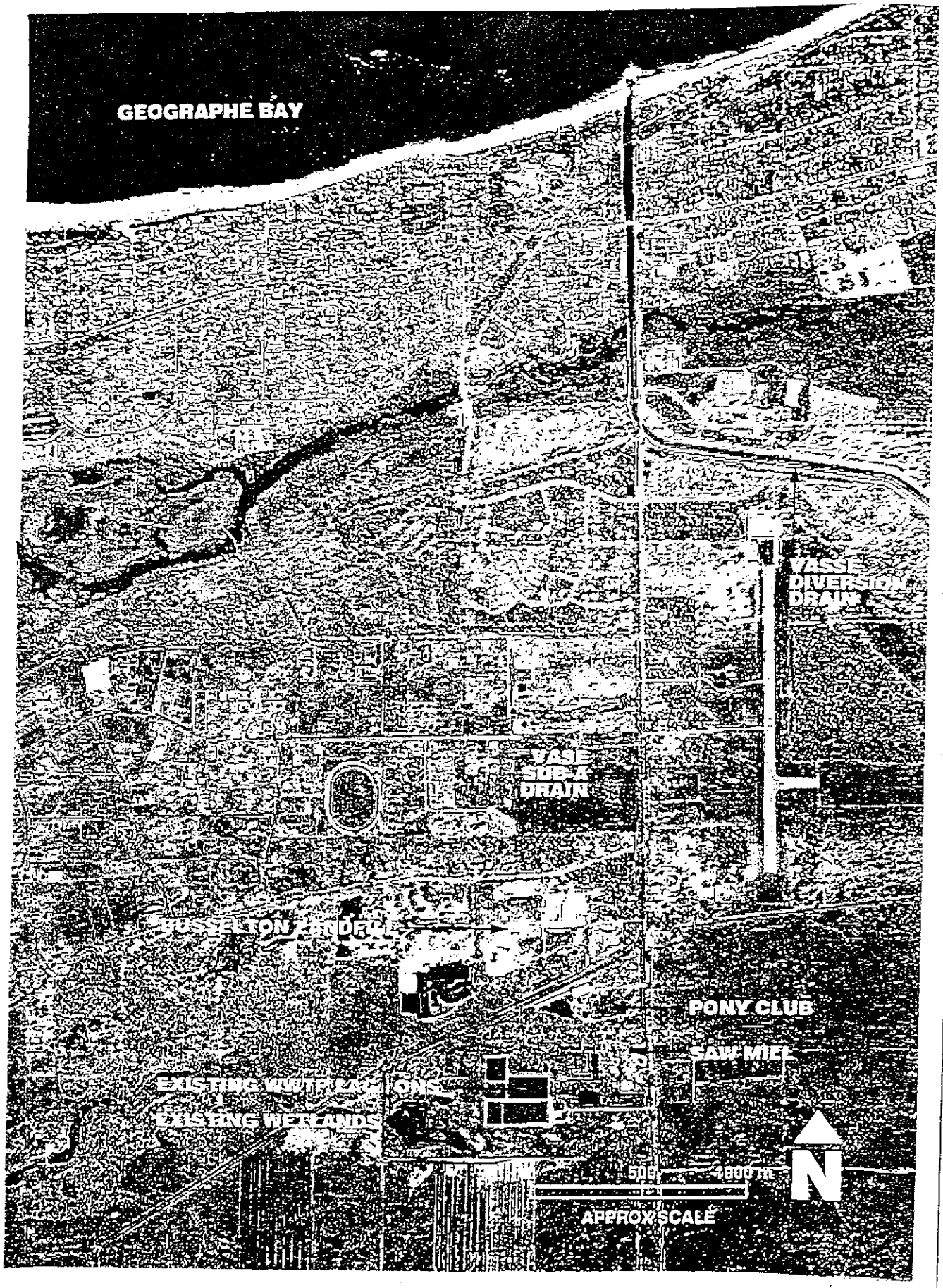

Figure 1. Aerial Photograph of Busselton Wastewater Treatment Plant Regional Location.

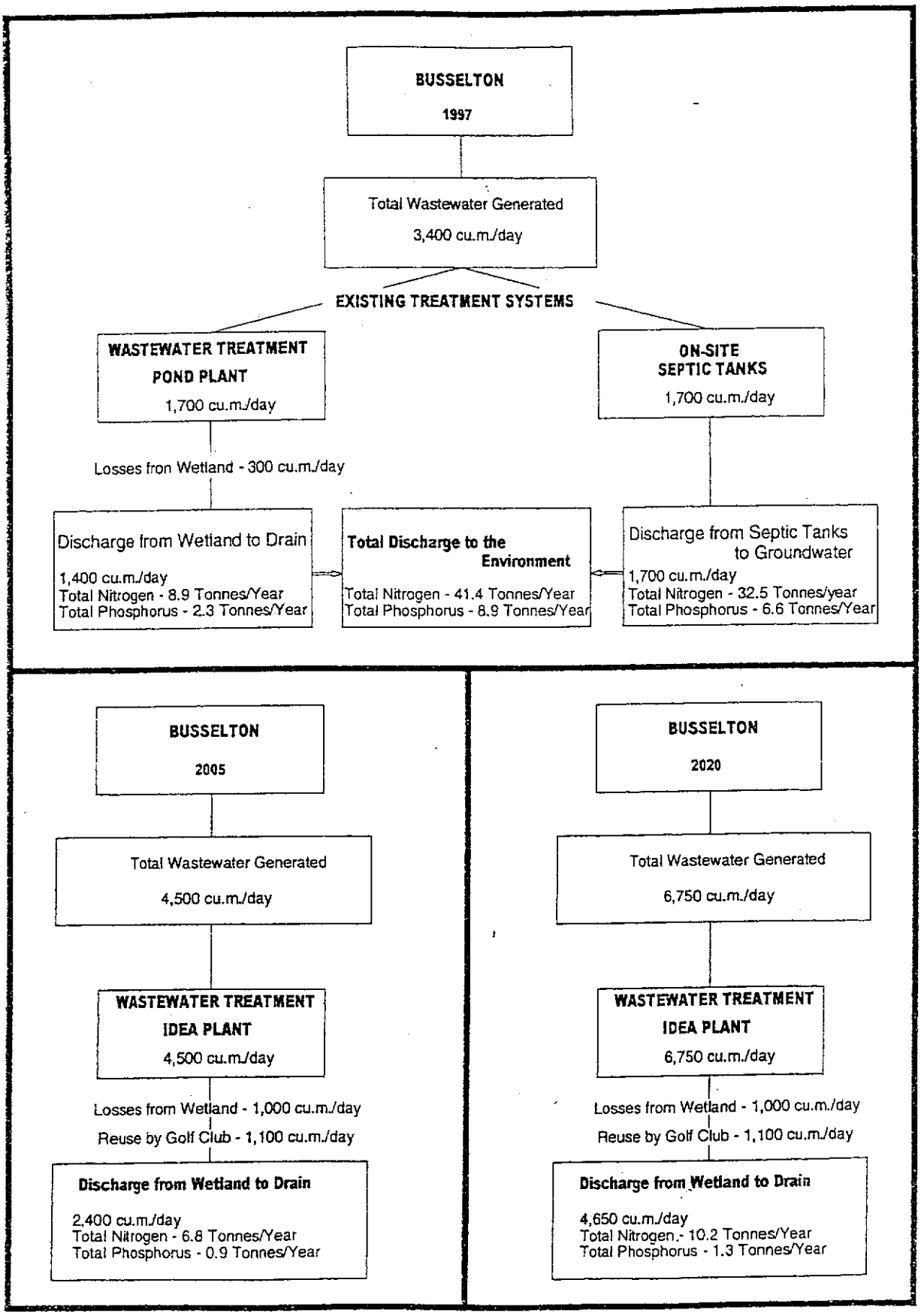

Figure 2. Flow Chart showing changes in Volumes of Effluent being treated and Nutrient Load Change. from the current situation to the Stage 1 and Stage 2 upgrades.

Schedule 2

Proponent's Consolidated Environmental Management Commitments

August 1999

WASTEWATER DISPOSAL - BUSSELTON WASTEWATER TREATMENT PLANT QUEEN ELIZABETH AVENUE, BUSSELTON (1132)

WATER CORPORATION

Environmental management commitments - Busselton Wastewater Treatment Plant (1132)

Item		Issue	Objective	Commitment	Timing	Advising Authority	Specification
1. Proposal Implementation	1.1	Environmental Management Plan (EMP)	Demonstrate compliance with relevant marine water quality standards for each stage through the development and implementation of an Environmental Management Plan, taking into account programmes in commitments 5 and 6.	Prepare and implement an EMP demonstrating compliance with relevant marine water quality standards for Stages 1 and 2.	Prior to commissioning of the upgraded wetland and discharge of treated wastewater from the wetland; and reviewed prior to commissioning of Stage 2 of the plant.	EPA	EMP developed and implemented to requirements and satisfaction of the EPA
2. Wetland and WWTP	2.1	Wetland vegetation	Minimise disturbance to existing native flora and fauna	Retain as much of the existing vegetation as possible during construction of the upgraded wetland.	Construction phase	DEP	Disturbance to area no greater than agreed with DEP officer at on-site inspection prior to commencement of works
	2.2	Water resources	Ensure efficient use of local water resources	Explore treated wastewater reuse opportunities for other off-site users	As opportunities arise, for the life of the WWTP	DEP	Discussions held with potential users of treated wastewater as opportunities arise
	2.3	Discharged wastewater quality	Ensure discharges from WWTP comply with licence requirements	Undertake ongoing monitoring of flow and water quality at the discharge point of the WWTP, the wetland, and as per the schedule of drain monitoring in the CER (specifically drain monitoring points 1, 2, 4, 5, 6, 7, 8, 9, 10, BB, BBW, and BBE), to determine the relative contribution of nutrients from the WWTP with total load discharging to sea from the Vasse Diversion Drain outlet.	Monthly, while treated wastewater is discharged to the Vasse Agricultural Drainage Network	DEP	Treated wastewater complies with DEP licence. Gauging stations constructed and surface water monitoring results reported to Water and Rivers Commission annually.
3. Groundwater	3.1	Groundwater quality	Ensure superficial groundwater level and quality in the vicinity of	Install six groundwater monitoring bores around the WWTP site and conduct ongoing monitoring of groundwater levels and water	Install before commissioning, and then monitor	DEP	Monitoring bores installed and annual groundwater monitoring

			the WWTP is maintained to environmentally acceptable standards	quality at those bores and the nearest down-aquifer bore potentially affected by the WWTP operation. Install and monitor a nest of monitoring bores at the northern edge of the site to determine the vertical distribution of any contamination.	annually for the life of the WWTP		results reported to DEP
				Implement one or more of the following options to decrease discharge of nutrients from the WWTP site: • improve the performance of the IDEA plant; • sealing the bottom of the wetland with more impervious material; • reducing local groundwater with trees; • diversion of treated wastewater to off-site users; and/or • other suitable measures as agreed, if a deterioration in existing groundwater quality is detected by routine monitoring		DEP	Action taken to prevent infiltration of treated wastewater if problem identified
4. Catchment management	4.1	Environmental Improvement Initiative	Work towards overall reduction of nutrient loads entering Southern Geographe Bay [1].	Establish an Environmental Improvement Initiative for the Southern Geographe Bay Coastal Catchment. The Environmental Improvement Initiative (EII) will commence in Busselton, where the proponent commits $200,000 per year for five years to appropriate environmental projects to assist dairies and other land users in the catchment to improve their nutrient and water management. Provision will be made to carry over the annual balance of funds if suitable projects are not forthcoming during any one year. A local stakeholder committee will be formed to provide guidelines and advice on the	Up to a period of 5 years. The EII process will commence prior to the completion of the WWTP.	Water Corporation	Provision of up to $200,000 annually to establish a trust from which suitable projects are funded

				disbursement of funds to the Water Corporation through a State Steering Committee that includes members from the DEP and the WRC. This will ensure that EII-funded projects are complementary to regional and sub-regional catchment strategies. In accordance with annual reporting requirements in the Ministerial Conditions and after the completion of the five year EII program, the State Steering Committee will provide advice to the DEP on the proponent's compliance with the commitment in the event that the $1 million is not spent because of a lack of suitable projects.			
5. Marine water	5.1	Marine water quality monitoring	Quantify spatial and temporal variation in marine water quality within the Special Management Area [2]	Undertake ongoing monitoring of, and report on, marine water quality in Geographe Bay within the Special Management Area [2] If desired management objectives are not met, the DEP and WRC will be notified immediately. In the first instance, it will be important to determine whether breach of the objective was attributable to operation of the WWTP or to other point or diffuse contributions to Geographe Bay [1]. If it was determined that unacceptable levels of nutrients were being discharged into Geographe Bay from treated wastewater, the proponent would consider and, following discussion with the DEP, implement one or more of the following options to decrease discharge of nutrients from the WWTP site: • improve the performance of the IDEA plant; • construct additional wetlands on the site to further polish the wastewater;	Every six months, for the life of the WWTP	DEP	Marine water monitoring results reported to DEP annually.

				• sealing the bottom of the wetland with more impervious material; • reducing local groundwater with trees; • divert treated wastewater to off-site users; or • other suitable measures as agreed.			
6.	**Seagrass**	6.1	Seagrass management	Ensure that there is no loss of seagrass as a result of release of treated wastewater to drain through excessive epiphytic fouling in the area influenced by the Vasse Diversion Drain outflow	Undertake ongoing monitoring of, and report on epiphytic (or periphytic) biomass in Geographe Bay within the Special Management Area [2].	Annually, during the summer disposal period to Geographe Bay	DEP	Marine environmental monitoring results reported to DEP annually.
					Undertake aerial monitoring of the spatial distribution of seagrass meadows within 1km of the Vasse Diversion Drain outlet.	Every four years for the life of the WWTP discharge to Geographe Bay.	DEP	No decline in seagrass meadows as a result of WWTP operations
7.	**Air pollution**	7.1	Odour	Ensure that there are no unacceptable odours related to the WWTP operations outside the 500 metre wide buffer area	Record and respond to odour complaints	As required, for the life of the WWTP	DEP	No unacceptable odours emanating from the WWTP operations outside the 500 metres buffer area
8.	**Public health and safety**	8.1	Mosquito management	Minimise the risk of disease being spread from the WWTP and wetland by mosquitos	Undertake ongoing monitoring of mosquito populations within the southern and northern wetlands	Fortnightly during summer breeding season, for the life of the wetlands	Health Department of Western Australia	Fortnightly mosquito monitoring data provided to Health Department of Western Australia
					Control mosquito populations at the WWTP site to acceptable levels	During summer breeding season, for the life of the wetlands	Health Department of Western Australia	Mosquito levels at WWTP site below guidelines specified by the Health Department of

							Western Australia
	8.2	Pathogenic bacteria	Ensure discharges of specified pathogenic bacteria meet licence requirements	Provide additional disinfection if the concentrations of pathogenic bacteria in the Vasse Diversion Drain and within the Special Management Area are unacceptable as a consequence of construction and operation of the WWTP and wetlands	For the life of the WWTP	DEP	The concentrations of pathogenic bacteria comply with licence requirements
			Ensure the treated wastewater released to the wetlands or diverted to prospective users has a median thermotolerant coliform count of less than 10 cfu/100 mL.	Provide additional disinfection to reduce bacteria in treated wastewater leaving the IDEA plant to achieve the level stated in the objective	For the life of the WWTP	DEP	The concentrations of pathogenic bacteria comply with the objective and the commitment
9. Social	9.1	Public amenity	The wetlands provide public recreational and educational values	Facilitate controlled public use of the wetlands through provision of well-maintained wetlands of appropriate amenity	Construction phase and for the life of the WWTP	Water Corporation	Groups visiting the wetlands
	9.2	Visual amenity	Visual amenity of the area is not unduly affected by the proposal	Create and maintain an aesthetically attractive site by landscaping and planting trees around the WWTP site and entrance	Construction phase and for the life of the WWTP	Water Corporation	Landscaping plans implemented
10. Auditing and reporting	10.1	Auditing	Confirm WWTP and wetlands perform as expected, and commitments are implemented	Conduct regular audits of the performance of the WWTP and wetland	Annually or as required by regulator	DEP	Audit reports presented to the DEP as required
	10.2	Reporting	Report to the community	Report to the Busselton community on a range of issues, including providing water quality monitoring results (groundwater bores, drains, and the marine environment), mosquito counts at WWTP site, odour complaints, and the progress being made with the Environmental Improvement Initiative.	Quarterly	Water Corporation	Quarterly reports submitted to the Shire of Busselton and published in local newspaper

Note:

1 Landholders, Agriculture WA and Water and Rivers Commission also have responsibility for influencing the appropriate management of nutrients in catchments discharging to Southern Geographe Bay.

2 The Special Management Area is defined as the area up to 500 metres along the Busselton Beach either side from the discharge point of the Vasse Diversion Drain, and up to 300 metres offshore.

Abbreviations:

DEP = Department of Environmental Protection
EPA = Environmental Protection Authority
WRC = Water & Rivers Commission
WWTP = Wastewater treatment plant