Government of Western Australia
Department of Environment Regulation

Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: City of Swan

Works Approval: W/5969/2016/1

Registered office: City of Swan
2 Midland Square
MIDLAND WA 6056

Premises address: Bullsbrook Material Recovery Centre
Lots 6 on Diagram 55166, 121 Stock West Road
BULLSBROOK WA 6084

Granted: Thursday, 30 June 2016

Commencement date: Monday, 4 July 2016

Expiry date: Wednesday, 3 July 2019

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
61A	Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	1,000 tonnes or more per year	7,000 tonnes per annual period
62	Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	500 tonnes or more per year	40, 000 tonnes per annual period

Conditions
This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 30 June 2016
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Alan Kietzmann
Manager Licensing (Waste Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Works Approval Conditions

1 General

1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986;*

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au

'clearing' means any clearing of native vegetation as defined in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004;*

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

'Schedule 1' means Schedule 1 of this Works Approval unless otherwise stated;

'Works Approval' means this Works Approval numbered W5969/2016/1 and issued under the *Act;* and

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.

1.2 General conditions

1.2.1 The Works Approval Holder must ensure that the Works specified in Column 1 of Table 1.2.1 meet or exceed the specifications in Column 2 of Table 1.2.1 for the infrastructure in each row of Table 1.2.1.

1.2.2 The Works Approval Holder must not depart from the specifications in Column 1 and 2 for the infrastructure in each row of Table 1.2.1 except:

a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;

and in accordance with all other Conditions in this Works Approval.

Table 1.2.1: Column 1	**Construction specifications** Column 2	
Infrastructure	**Area**	**Specifications (design and construction)**
1) All		The following specifications apply: (a) fenced with a 1.8m high security fence with access to the facility through lockable gated entry/exit points; (b) water hose connections with sufficient fire-fighting capacity as required to service the requirements for the sorting and processing areas to be installed; (c) Low speed signage (≤8 km/hr) to be installed within the premises boundary at entrance to all trafficable areas. (d) signage to be installed at entry points identifying waste acceptance types and emergency contact phone numbers; and (e) stormwater to be directed away from storage areas
2) Construction & demolition (C&D) storage area, and green wastes & timber storage and chipping area	1,873m^2 2,481m^2	The following construction specifications will apply: (a) 400mm compacted base using recycled crushed concrete road base material. (b) Must have a gradient of at least 0.5% to ensure free drainage of all leachate and runoff from area is directed to leachate collection infrastructure. (c) Must be free of any asbestos containing material. (d) C&D storage area will have a 900mm containment wall.
3) Mixed waste hardstand sorting and processing area	2,754m^2	The following construction specifications will apply: (a) Constructed either of reinforced concrete, or a 40mm asphalt seal over 400mm compacted base (free of asbestos containing material) (b) Have a hardstand base to achieve a permeability of ≤ 1x10^{-9} m/s; (c) Be engineered and constructed so as to be capable of accommodating the weight and movement of materials, vehicles and equipment used on the hardstand area; (d) Hardstand to have a minimum 0.5% drainage gradient to ensure the free drainage of all leachate to leachate collection infrastructure; (e) Enclosed storage bins to be placed on concrete hardstand for the collection of non-conforming waste types;
4) One shed for the storage and processing of wastes	1,074m^2	The following construction specifications will apply: (a) Constructed with a reinforced concrete floor; (b) Have a hardstand base to achieve a permeability of ≤ 1x10-9 m/s; (c) Be engineered and constructed so as to be capable of accommodating the weight and movement of materials, vehicles and equipment used on the hardstand area; (d) Designed to capture any leachate within leachate containment infrastructure

Table 1.2.1: Column 1	Construction specifications Column 2	
Infrastructure	**Area**	**Specifications (design and construction)**
5) Leachate collection infrastructure	N/A	The following construction specifications apply: (a) Leachate collection infrastructure that will collect all leachate and contaminated stormwater from the mixed waste, green waste and timber storage areas and direct the leachate into the leachate pond: (b) Be impervious to leachate and contaminated stormwater leakage ($1x10^{-9}$ m/s); (c) Must be directed to the leachate pond; and (d) Designed to be able to accommodate a one in 10 year (10 year average recurrence interval)storm event of 24 hour duration.
6) Leachate pond		The following construction specifications apply: (a) Constructed on 3 x 150mm compacted clay layers; (b) Pond must be lined using a HDPE liner and must be constructed in accordance with the following specifications: i. a minimum thickness of 1.55 mm with heat welded joints; ii. All seams and joins made on site should be continuous. Panels of the liner should be overlapped by a minimum of 100 mm, prior to heat welding or mechanical jointing; iii. have a permeability of less than $1x10^{-9}$ m/s; and iv. be capable of maintaining that permeability for the working life of the pond. (c) Batter slopes for the liners on the sides of ponds must not exceed 1:3 vertical to horizontal elevation to ensure compaction and stability of the dam liner. (d) Pond capacity to cater for a 1 in 10 year storm event (10 year average recurrence interval) of 72 hours duration and maintenance of a minimum 300mm freeboard for operational purposes. (e) Sediment trap (as either part of the pond or under leachate control infrastructure). (f) Must be constructed to maintain a minimum one metre separation distance of between the base of the pond and the highest groundwater level. (g) Construction activities must not intersect the watertable, or dewater the watertable unless an Acid Sulfate Soil Management Plan is prepared and implemented in accordance with the document: *Treatment and Management of Soils and water in acid sulfate soil landscapes* (DER, 2015)
7) Other treatments		(a) Plant machinery and vehicles involved in the construction of the Works must operate only between 7am to 7pm Monday to Saturday. (b) No crushing or screening of materials are authorised under this works approval.

1.2.3 The Works Approval Holder shall undertake the works in accordance with the documentation detailed in Table 1.2.2:

Table 1.2.2: Construction Requirements[1]

Works specifications	Document	Parts	Date of Document
Works Approval Application Form	City of Swan Works Approval Application – Solid Waste Facility and depot on Lot 6 (No.121) Stock	All, including drawings	18 March 2016

Table 1.2.2: Construction Requirements[1]			
Works specifications	**Document**	**Parts**	**Date of Document**
	West Road, Bullsbrook	and annexures	
Works Approval Application Form-revised version	Proposed Waste Transfer Station – Solid Waste Facility and depot on Lot 6 (No.121) Stock West Road, Bullsbrook		21 April 2016
Works Approval Application – Supplementary information	Proposed Waste Transfer Station – Solid Waste Facility and depot on Lot 6 (No.121) Stock West Road, Bullsbrook	Section 3, 7 8, 9, 10, 11, 12 Appendix 1 Appendix 2	18 March 2016 version 1
Updated Supplementary information provided on 29 June 2016	Bullsbrook Waste Transfer Station No.121 Lot 6 Stock West Road, Bullsbrook Preliminary Plans	All drawings	undated

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.2.4 The Works Approval Holder must conduct the following construction quality assurance testing to ensure that the Works specified in Column 1 of Table 1.2.3 meet or exceed the specifications in Column 2 of Table 1.2.3 for the infrastructure in each row of Table 1.2.3.

Table 1.2.3: Construction Quality Assurance testing	
Column 1	**Column 2**
Infrastructure	**Specifications (testing criteria)**
1) Storage and sorting areas	The following compaction testing criteria will apply: • Sub-grade: Perth Sand Penetrometer, 1 test per 1,000 m^2 • Gravel sub-base: nuclear tests, 1 test per 4,000 m^2 • Gravel base-course: nuclear tests, 1 test per 2,000 m^2 • Bituminous concrete: Marshall Field Density tests, 1 test per 4000 m^2. Bituminous emulsion seal tests will be undertaken to the following criteria: • Class of bitumen and bitumen content tested to Australian Standard AS1160 and MRWA bitumen specification 511 - one test per batch. • Spray run sheet for bitumen application rates at 1.3 l/m^2 or 7 mm and 1.6 l/m^2 for 10 mm – one test per day • Permeability test – one test per run sheet – field standing head permeability test. Asphalt Concrete layer tests will be undertaken to the following criteria: • Batch sample of asphalt mix to Specification APWEA AAPA Rev 3 conducted at the manufacturing plant prior to delivery - one test per day. • Core sampling for density and thickness (Field Marshall Test) - one test per 4000 m^2. Survey: • As-constructed survey of all completed operational areas, drains, roads and ponds. Hardstands will be certified by an independent engineer to validate design, construction, and permeability after completion, with validation by compaction tests, as-constructed survey, and permeability testing

Table 1.2.3: Construction Quality Assurance testing	
Column 1	**Column 2**
Infrastructure	**Specifications (testing criteria)**
Pond liners	For the construction of new ponds, the following liner testing criteria will apply: • All seams and joins should be constructed and tested as watertight over their full length using a vacuum test unit, air pressure testing or other approved method used in the HDPE membrane industry. Liners are to be certified by an independent engineer to validate design, specification, construction, and permeability after completion in accordance with Table 1.2.2.

2 Information

2.1 Reporting

2.1.1 Subject to Condition 1.2.2, the Works Approval Holder must, at least 21 days prior to the commencement of the Works, provide to the CEO detailed engineering and construction drawings and plans that are certified by a suitably qualified professional engineer that each item of infrastructure specified in Column 1 of Table 1.2.1 meets or exceeds the specifications in Column 2 of Table 1.2.1 for the infrastructure in each row of Table 1.2.1.

2.1.2 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of Premises and prior to commencing operations.

2.1.2 The Works Approval Holder must ensure the construction compliance document:

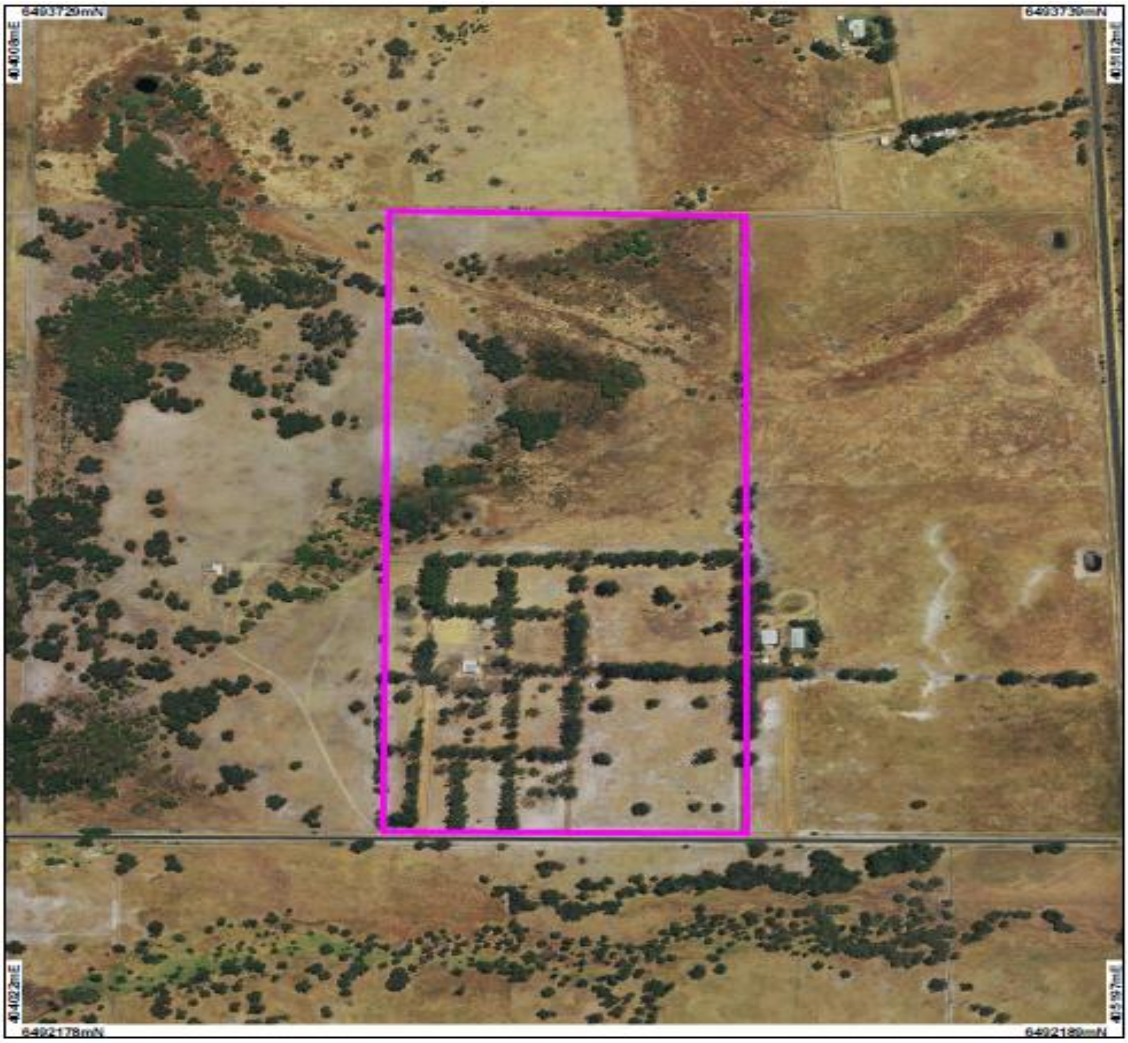
(a) is certified by a suitably qualified professional engineer or builder that each item of infrastructure specified in Condition 1.2.1, Table 1.2.1 has been constructed and tested in accordance with the Conditions of the Works Approval with no material defects; and

(b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.

Schedule 1: Maps

Premises map

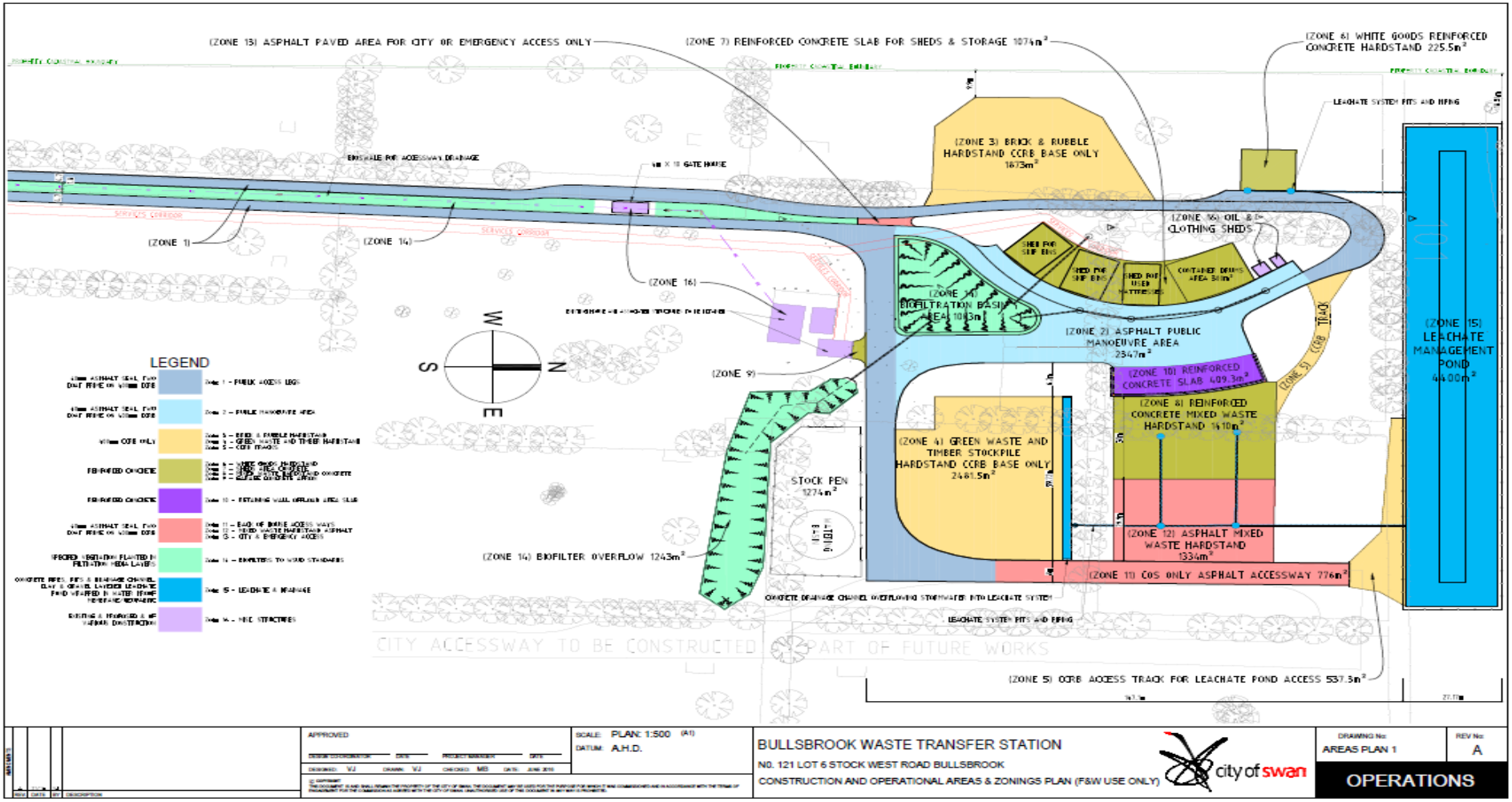
The Premises and surrounding sensitive receptors and land uses are shown in the maps below. The pink line depicts the Premises boundary.



Map

Showing the nearest sensitive receptor

Site Plan


(ZONE 13) ASPHALT PAVED AREA FOR CITY OR EMERGENCY ACCESS ONLY
(ZONE 7) REINFORCED CONCRETE SLAB FOR SHEDS & STORAGE 1074m²
(ZONE 6) WHITE GOODS REINFORCED CONCRETE HARDSTAND 225.5m²
(ZONE 3) BRICK & RUBBLE HARDSTAND CCRB BASE ONLY 1673m²
(ZONE 1)
(ZONE 14)
(ZONE 16)
(ZONE 9)
(ZONE 5) OIL & CLOTHING SHEDS
(ZONE 14) BIOFILTRATION BASIN AREA 1043m²
(ZONE 2) ASPHALT PUBLIC MANOEUVRE AREA 2347m²
(ZONE 15) LEACHATE MANAGEMENT POND 4400m²
(ZONE 10) REINFORCED CONCRETE SLAB 409.3m²
(ZONE 8) REINFORCED CONCRETE MIXED WASTE HARDSTAND 1610m²
(ZONE 4) GREEN WASTE AND TIMBER STOCKPILE HARDSTAND CCRB BASE ONLY 2481.5m²
STOCK PEN 1274m²
(ZONE 12) ASPHALT MIXED WASTE HARDSTAND 1334m²
(ZONE 14) BIOFILTER OVERFLOW 1243m²
(ZONE 11) COS ONLY ASPHALT ACCESSWAY 776m²
(ZONE 5) CCRB ACCESS TRACK FOR LEACHATE POND ACCESS 537.3m²
CITY ACCESSWAY TO BE CONSTRUCTED AS PART OF FUTURE WORKS
LEGEND
W
S
N
E
PLAN: 1:500 (A1)
DATUM: A.H.D.
BULLSBROOK WASTE TRANSFER STATION
NO. 121 LOT 6 STOCK WEST ROAD BULLSBROOK
CONSTRUCTION AND OPERATIONAL AREAS & ZONINGS PLAN (F&W USE ONLY)
city of swan
DRAWING No: AREAS PLAN 1
REV No: A
OPERATIONS

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: City of Swan

Works Approval: W/5969/2016/1

Registered office:	City of Swan 2 Midland Square MIDLAND WA 6056
Premises address:	Bullsbrook Material Recovery Centre Lots 6 on Diagram 55166, 121 Stock West Road BULLSBROOK WA 6084
Granted:	Thursday, 30 June 2016
Commencement date:	Monday, 4 July 2016
Expiry date:	Wednesday, 3 July 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) CEO delegated officer, has decided to grant a works approval. The delegated officer considers that in reaching this decision, he has taken into account all relevant considerations and legal requirements and that the Works Approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Abnesh Chetty
Licensing Officer

Decision Document authorised by: Alan Kietzmann
Delegated Officer

Contents

1 Purpose of this Document

This decision document explains how the DER delegated officer has assessed and determined the application and provides a record of the decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval ☒ New Licence ☐ Licence amendment ☐ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	61A	7 000 tonnes per annual period
	62	40 000 tonnes per annual period
Application verified Application fee paid	Date: 21/04/2016 Date: 04/05/2016	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome	Not applicable	
Is the proposal a Major Resource Project?	Yes☐ No☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☐ No☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes☐ No☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒		
Is the Premises subject to any EPP requirements? Yes☐ No☒		

3 Executive summary of proposal and assessment

The City of Swan (Applicant) has applied to construct the Bullsbrook Material Recovery Centre (BMRC), a 7,000 tonne per annum solid waste facility (category 61A) and 40,000 tonne per annum solid waste depot. The delegated officer has determined that the activities trigger category 61A and 62 under Schedule 1 of *Environmental Protection Regulations 1987*. The BMRC is situated within Lot 6 on Diagram 55166, Stock West Road, Bullsbrook (Premises), within in the City of Swan boundary. Lot 6 is approximately 33 hectare (ha) in size and the proposed depot has a footprint of approximately 3.8 ha within the southern half of the site.

The site is located within a special rural land use zone comprising of 3-6 ha lots. Livestock grazing is the surrounding main land use. The nearest sensitive receptor is a local resident located 40 m from the eastern boundary. According to the DER geographic information system, a separation distance of 210 m will exist between the nearest residence and the proposed BMRC facility; this resident did not object to the proposed activity during the City public consultation.

The depth to ground water is approximately 1.8 to 2.9 metres below ground level (mbgl). The Department of Water Perth Atlas indicates the area is not suitable to install garden bore. According to the DER GIS (GISviewer) application (WIN BORE layer), there are two bores on the property; these have total dissolved solids at levels greater than 240,000mg/L. The application supporting material identifies a soil profile that consists of topsoil over Bassendean Sand which is underlain by coffee rock and Guildford clays with a moderate to low risk of acid sulfate soil or potential acid sulfate soils at depth of greater than 3 mbgl. These soils are considered to be of low to moderate risk of acid sulfate soils (ASS) or potential acid sulfate soils (PASS).

The application references the proposed clearing of 56 eucalypt fence line trees. Clearing is less than 5 ha for the purpose of a building or other structure on a property; this is exempt from the provision of the legislation under regulation 5(1) of the *Environmental Protection (Native Vegetation Clearing) Regulations 2004*. According to the DER GIS (GISviewer), there is no declared rare flora, or priority flora, threatened fauna within the location.

The Applicant is seeking approval to install waste sorting and processing hardstand areas. This will include the construction of a large storage and sorting shed with concrete flooring, operational hardstand areas directing contaminated runoff to a leachate containment system and a leachate pond. Final specific infrastructure design details have not been provided in the application; this will need to be submitted prior to commencing construction. The application supporting documentation specifies the intent to dewater the groundwater table by one metre to allow base compaction of the pond; this will have implications for *in situ* ASS or PASS on site. .

The facility application proposes to initially open to the public on 7:00 to 16:00 Wednesday to Sunday and accept, sort, store and process the following waste types:

Waste type	Quantity	Activity	Location
Construction and demolition waste (C&D) (e.g. brick and rubble)	30,000 tonnes per year design capacity	Acceptance, storage and removal only	Designated compacted area with a 900mm concrete high wall.
Clean green waste and timber	7,000 tonnes per year design capacity	Acceptance, processing (mulching / chipping) and removal	Dedicated green waste compacted area.
Recyclables e.g. whitegoods, treated timber, office furniture steel, copper aluminium, mattresses, batteries, mobile phones and compact fluorescent lights (CFL's)	500 tonnes per year design capacity	Acceptance, sort, storage and removal	Dedicated skip bins on hardstand. E-waste will be stored in a shipping container prior to removal.

Waste type	Quantity	Activity	Location
E-Waste	60 tonnes per year design capacity	Acceptance, sort, storage and removal	Dedicated Sea containers
Used oil	2.5 tonnes per year	Acceptance, storage and removal	Dedicated covered sealed storage containers; oil storage to be double-bunded
Tyres	Less than 100 at any one time	Acceptance, storage and removal	Dedicated hardstand area

Potential emissions that could reasonably be expected to arise from the construction and operation of the works are:

- Dust: during construction of the infrastructure and during operation as a result of vehicle movements and waste handling;
- Noise: during construction and operation as a result of vehicle movements and general operations;
- Leachate: during operation, should green waste come into contact with stormwater, leachate may be generated;

Surface water from the mixed waste hardstand, green waste and timber areas will be captured and contained in the leachate pond to the northern side of the transfer station. Information provided by the applicant states an existing bore main and water tank on site are used for fire/dust suppression and reticulation. The existing house on site is on scheme water.

According to the application, the applicant referred the Local Planning Scheme (LPS) Amendment 17, Amendment 102 – Additional Use ("local government waste transfer station") proposal for the establishment of a waste transfer station to the Office of the Environmental Protection Authority (OEPA). The OEPA determined on 29 July 2013 that the proposed scheme amendment should not be assessed under Part IV, Division 3 of the *Environmental Protection Act 1986* (EP Act).

The Western Australian Planning Commission (WAPC) approved the LPS No17, Amendment no. 102 on 2 June 2015 with conditions that stipulated that no more than 200 tonnes of waste material can be stored on the site at any one time; no hazardous material, biosolids, manures or mulching is to be produced or stored on site; and the management of leachate is to the satisfaction of relevant State Authorities.

Approval to operate may be granted under a Licence, subject to demonstrating compliance with the Works Approval conditions, regulatory controls and provisions of the *Environmental Protection Act 1986*.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Interpretation	W1.1.1 – 1.1.4	**Construction** Conditions 1.1.1 – 1.1.4 require that terminology used within the Works Approval is referenced to the appropriate definitions where applicable and that any reference to a standard or guideline is to the most current version of that standard or guideline. **Operation** Operation is subject to the general provisions of the *Environmental Protection Act 1986*. Categories 61A and 62 activities fall under Schedule 1 Part 1 of the *Environmental Protection Regulation 1987* and will be subject to Licence regulatory controls. An application for a Licence will need to be submitted by the City of Swan prior to operation of the facility.	General provisions of the *Environmental Protection Act, 1986*. *Environmental Protection Regulations, 1987*.
General conditions	W1.2.1 - W1.2.5	**Construction** The specifications of the Works are not fully defined and specifications will need to be provided prior to construction to ensure this assessment undertaken is relevant to the proposed infrastructure. Condition 1.2.1 and 1.2.2 is included within the Works Approval states the design and construction specifications for the works are as assessed to prevent unauthorised discharges to the environment. It does however provide scope for minor variations that do not materially change or affect the infrastructure and will not increase the risk to public health, amenity or the environment. Also included are restrictive operating hours to reduce risk of non-compliance with the *Environmental Protection (Noise) Regulations 1997*; and prohibition of	Application supporting documentation *Environmental Protection Act 1986* *Environmental Protection (Unauthorised*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		crushing and screening as this activity has not been assessed for authorisation. Condition 1.2.3 is included within the Works Approval requires the construction of the works to be undertaken in accordance with the relevant parts of the application supporting documentation subject to the conditions of the works approval. Condition 1.2.4 has been included to require the appropriate construction quality assurance is completed as assessed to mitigate risk to the environment. ***ASS or PASS*** The proposal supporting documentation suggests that the water table levels may be reduced by one metre in the vicinity of the leachate pond to allow for compaction prior to liner placement. With the potential of exposing ASS or PASS, which have not been addressed in the application, there is a risk of oxidising hydrogen sulphides that will reduce pH and mobilise heavy metals. Exposure of ASS or PASS should be avoided. Condition 1.2.2 stipulates that the excavation of the leachate pond base should not intersect highest groundwater level or interfere with the water table to achieve the proposed compaction. Should the proponent consider the need to dewater, then an Acid Sulfate Soil Management Plan will need to be prepared and implemented in accordance with the document entitled: *Treatment and management of soils and water in acid sulfate soil landscapes* (DER, 2015).	*Discharges) 2004*
	N/A	***Stormwater Contamination*** <u>Emission Description</u> *Emission:* Stormwater contaminated with sediment from construction works of the hardstand pads and leachate pond. No leachate will be generated as a result of construction activities. *Impact:* Contamination of surrounding land and surface water drainage systems. There are no known wetlands or waterways within 1km and it is unlikely that any surface water ecosystems impacts will be impacted from any sediment movement due to low gradients. *Controls:* No controls are proposed.	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
	L – Licence conditions proposed	Risk Assessment *Consequence*: Minor *Likelihood:* Unlikely *Risk Rating:* Low Regulatory Controls In accordance with DER's licensing process, no specified conditions for stormwater emissions have been included in the works approval. Contaminated stormwater emissions can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986* (the Act). Residual Risk *Consequence*: Insignificant *Likelihood:* Unlikely *Risk Rating:* Low **Operation** ***Leachate and stormwater management*** Leachate discharges can take place when the pond will overflow and/or failure of storage and processing infrastructure. Refer to Appendix 1 for the detailed risk assessment	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Premises operation	WA – N/A L - Licence conditions proposed	**Construction** No approval to operate is granted under the Works Approval. **Operation** There is also potential for unauthorised hazardous and controlled wastes with dry bulk waste loads which will require regulatory controls. The supporting documentation has not made any reference to the potential of the C&D materials containing asbestos. The licence will specify that no asbestos containing materials (ACM) is to be accepted within the C&D materials; any potential ACM will need to be quarantined and be managed to reduce risk of exposure. Information provided in the application states that a Waste Acceptance Procedure will be implemented for BMRC to ensure that only waste materials meeting the acceptance criteria are accepted. The Waste Acceptance Procedure will include the following control measures: • A controlled site entrance that includes trained and experienced personal to identify non-compliant loads. • Signs at the entrance to the facility outlining accepted and non-accepted wastes. • A data management system at the gate that records the type, weight, source and • customer for each waste load. • A radio communication system linking the gate staff and operational staff at the drop-off zones of the BMRC. • A trained staff member will be located at the tipping area as a “spotter” to identify noncompliant materials within waste loads. Operators of mobile machinery will also be • trained in identifying contaminated loads. • If non-compliant waste is identified within an incoming load, the vehicle will be refused entry and re-directed from the facility to another suitable waste disposal facility. • If the non-compliant waste is identified after the event of drop-off, the load will be segregated from the main waste stream to a dangerous goods storage area whilst the source of the material is identified and a suitable alternative disposal organised.	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		It is recommended that the following regulatory controls are placed on the BMRC Licence: • Specification and limits of the waste types, quantities that can be accepted at the Premises and processes to ensure these conform to the outcomes of the assessment, including asbestos in the C&D material. Crushing or screening of C&D material is not authorised as this activity has not been assessed under this application. An application will be need to be submitted for consideration. • Limitation on the amount of waste that can be stored on the premises at any one time consistent with the planning approvals. • The Licensee is required to remove waste from the premises that does not meet the waste acceptance criteria to an authorised facility as soon as practicable to ensure operations conform to approvals. • The Licensee to undertake activities according to the standard operating procedures in place to manage asbestos issues on site (e.g. an Asbestos Management Plan should be provided with the licence application) • Maintaining integrity of leachate collection and storage infrastructure. • Implementation of security measures to prevent unauthorised access and exposure of hazards. The site will be manned and be open to the public for scheduled periods. • A freeboard of 300 mm for the leachate pond must be maintained to avoid overflow during large rainfall events. The leachate pond is required to be designed to capacity to accommodate a 1 in 10 year storm event of 72 hour duration. • Signage at the entrance to the facility outlining what wastes can and will not be accepted at the premises, operating hours and emergency contact numbers to reduce the risk of unauthorised materials being brought on site. • No burning of wastes will be authorised at the premises to reduce the risk of smoke impacting neighbouring receptors. An impact of burning waste has not been assessed. • Management of vermin and pests to prevent infestations as the storage of wastes may create suitable habitat and attract vermin and pests, which could affect the amenity of area.	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Fugitive emissions	N/A	**Construction and operation** *Emission:* Dust arising from excavation activities, hardstand preparation and vehicle movements (loaders, excavators, bobcats and water cart etc.) during the construction and operation of BMRC. Construction will be of short duration. Dust emissions during operations will be reduced as a consequence of sealing the trafficable areas. Dust may also be generated during green waste chipping activities. *Impact:* Reduced local air quality from airborne particulates, the closest residence is located about 40m from the eastern boundary (about 210m from the operational footprint). *Controls:* Water carts will be used during the construction phase to manage dust. Site speed limit is restricted to 8 km/hr. The BMRC consist of sealed roads, hardstand and compacted operation areas. Traffic will be directed across fully sealed roads. All roadways within the site will be regularly checked and maintained to avoid any build-up of dust through road sweeper management programs. C&D wastes will not be crushed on site and therefore unlikely to generate dust lift-off from stockpiles. **Risk Assessment** *Consequence:* Insignificant *Likelihood*: Possible *Risk Rating:* Low **Regulatory Controls** Given the low risk of fugitive emissions during construction and operation, no specific regulatory controls are considered necessary. It is considered that the provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate dust emissions during construction and operation. **Residual Risk** *Consequence:* Insignificant *Likelihood*: Possible *Risk Rating:* Low	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Odour	W1.2.2; and L1.2.2	**Construction** *Emission:* Odour may be generated from construction of the hardstand (bitumen). *Impact:* Interference with the health, welfare, convenience, comfort or amenity of sensitive commercial and residential receptors. The closest residence is located about 210m from the proposed BMRC. The laying of the bitumised sealants is expected to be of short duration and unlikely to impact the health or amenity of the neighbouring receptor. *Controls:* The specifications of the Works are not fully defined and no controls are specified in the application. **Risk Assessment** *Consequence:* Insignificant *Likelihood*: Possible *Risk Rating:* Low **Regulatory Controls** It is considered that the provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate odour emissions. **Residual Risk** *Consequence:* Insignificant *Likelihood*: Rare *Risk Rating:* Low **Operation** *Emission:* No odour-generating putrescible wastes are to be received at the premises. The only putrescible wastes to be received will include cardboard, timber or green-waste. Odour may be generated from green waste storage where aerobic conditions are not maintained in the stockpiles.	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Odour (cont.)		*Impact:* Interference with the health, welfare, convenience, comfort or amenity of sensitive commercial and residential receptors. The closest residence is located about 210m from the proposed BMRC. *Controls:* According to the applicant odour emissions are not a potential impact from the BMRC as the incoming waste stream is dry bulk recyclable waste and therefore absent of an odorous putrescible fraction. For this reason the BMRC has not incorporated an odour management plan. **Risk Assessment** *Consequence:* Insignificant *Likelihood*: Possible *Risk Rating:* Low **Regulatory Controls** The Planning Approval restriction on volumes to be stored at any one time also reduces the risk of emissions and impacts. Due to the low risk of odour, no specific odour controls are proposed to be added to the licence. It is considered that the provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate odour emissions created during construction and operation. **Residual Risk** *Consequence:* Insignificant *Likelihood*: Rare *Risk Rating:* Low	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Noise	N/A	**Construction and Operation** Emission description: *Emission:* Noise arising from construction activities, machinery movement, earthworks and the acceptance and movement of waste, and operation of a chipping machine. The chipping machine will only operate on a campaign basis. *Impact:* Interference with the health, welfare, convenience, comfort or amenity of sensitive residential receptors The closest residence is located about 40m from the eastern boundary (210m from the proposed facility). *Controls:* Information provided confirms that vehicle movements within the facility will be managed using ring-roads and contra flow systems. Management of noise will be implemented by site personnel to ensure excessive noise is compliant with *Environmental Protection (Noise) Regulations 1997*. Risk assessment: *Consequence:* Insignificant *Likelihood:* Likely *Risk Rating:* Low Regulatory controls: It is considered that the provisions of *Environmental Protection (Noise) Regulations 1997* will be sufficient to regulate noise emissions during construction and operation. Residual risk: *Consequence:* Insignificant *Likelihood:* Likely *Risk Rating:* Low	*Environmental Protection (Noise) Regulations 1997*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Monitoring general	NA L - Licence conditions proposed	**Construction** No monitoring is required under the Works Approval. **Operation** Monitoring general conditions have been added to the licence as monitoring of inputs and outputs. This requirement will allow DER to audit the volume of waste in compliance with the licence condition specifying waste acceptance and the approved production capacity.	Application supporting documentation
Information	W2.1.1- W2.1.3 L-Licence conditions proposed	**Construction** Condition 2.1.1 included in the Works Approval requires the submission of detailed construction plans and drawings prior to construction. The submission will verify that the infrastructure to be constructed meets the specifications of the Application and the Works Approval conditions by way of qualified professional certification. The condition includes the provision for minor deviation from design and construction specifications under Condition 1.2.2. Plans and drawings were lacking in the Application. Conditions 2.1.2-2.1.3 included in the Works Approval require that the construction specifications for infrastructure are confirmed as compliant in writing by the Works Approval Holder following the completion of construction. The conditions include the provision for minor deviation from design and construction specifications under Condition 1.2.1. **Operation** The following regulatory controls are recommended to be drafted onto the Licence to facilitate robust and efficient review and enquiry into the Premises operations, the management of risks posed by potential emissions and to ensure that the risk assessment undertaken in this Decision Document is accurate. Licence condition which requires that information and reporting is clear, legible and retained for an appropriate time period.	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Information	L - Licence conditions proposed	Licence condition that requires for the subsequent submission of an Annual Audit Compliance Report. Licence condition that requires the Licensee to implement and maintain a complaints management system. Licence condition that outlines the information to be included in the Annual Environmental Report. Annual reporting allows periodic reviews of the Premises performance and management of emission risks.	General provisions of the *Environmental Protection Act 1986*
Works Approval Duration **Licence Duration**	N/A	**Construction** The document *Guidance statement: licence duration* does not prescribe duration periods for works approvals. It is proposed to grant the works approval for a three year period even though the application has stated that works will be completed within a 6 month period. No other statutory approvals have been identified as limiting the duration of the works approval. Subject to the regulatory controls imposed, the residual risk for all works has been classified low. **Operation** In consideration of granting a 20 year licence the following factors will be considered: • Other statutory approvals limiting the duration of a licence. • Demonstrated compliance with the regulatory controls specified in the Works Approval. • The residual risk rating for the proposed facility; this has been assessed as being low.	General provisions of the *Environmental Protection Act 1986* *Guidance statement: licence duration*

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
16/05 /2016	Applications advertised in West Australian (or other relevant newspaper)	No comments received	None applicable
28/06/2016	Proponent sent a copy of draft instruments	Following comments were received by the applicant on 29 June 2016: (a) Clarification on the storage of oils and hydrocarbons within Table 1.2.1. (b) Leachate containment drainage is proposed to be 0.5% grade and the City believes this is adequate to ensure drainage. DER had referenced 1% grade. (c) One large shed now proposed as opposed to 5 sheds. (d) Applicant questioned the bunding requirement specification on the basis the gradients proposed are adequate to drain water to drainage pits directed to the leachate pond. Installing kerb bunding around the hardstands would be an operational issue to the City because they would be easily knocked down by vehicles/machineries accessing to the site. (e) modification of C&D storage area to include a 900mm concrete containment wall	(a) This reference has been removed as it related to storage of oils and hydrocarbons during construction. The *Environmental Protection (Unauthorised Discharges) Regulations 2004*. The licence may include specifications (double bunding and exclusion of stormwater) relating to the acceptance and storage of used oils and hydrocarbons. (b) 0.5% gradient will only be allowed if it will ensure the free drainage of all leachate to leachate collection infrastructure. Furthermore, the leachate containment infrastructure is also to be designed and constructed to accommodate a 1 in 10 year, 24 hour storm event without overtopping or discharging to the environment. The wording has been amended accordingly (c) Construction specification modified to reference a single large shed. (d) Bunding specification removed (see section (b) above for rationale).

Date	Event	Comments received/Notes	How comments were taken into consideration
		(f) Clarification of licensing requirement to operate facility. (g) Clarification on the ability to crush and screen C&D material. City may consider this activity at the premises in future (h) Clarification on the definition of hardstands in relation to the storage of various wastes; green waste, and C&D wastes are proposed to be stored on compacted concrete road base material.	(e) Specification amended (f) Wording clarified. Works Approval granted for construction of facility but a Licence application will need to be submitted with supporting documentation (including demonstrated compliance of works approval conditions). Facility only authorised to operate after Licence is granted. (g) No crushing or screening authorised under this Works Approval or any subsequent licence unless the acceptability of the activity has been demonstrated in a risk assessment process. Crushing of C&D waste may trigger Category 13 under *Environmental Protection Regulations 1987*. This can be considered in future as part of an amendment request. (h) Specifications clarified in documents and hardstand definition included.

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High

Appendix A

Emission Description – leachate and sediment

Emission Risk Assessment – Operation

Emission: Potential emissions include stormwater contaminated with sediment from C&D stockpiles or leachate from the chipping and downsizing green waste operations. Leachate could migrate from the stored waste area when in contact with stormwater and may enter the environment from the overflow of the leachate pond, failure of pond linings and from the hardstand areas. Sediment movement from C&D storage bunkers are expected to be low given the no crushing or screening of material is proposed at the facility.
No emissions are expected from hazardous materials during normal storage as these will be maintained in sealed infrastructure to exclude any rainfall.

Impact: Due to the inert nature of the C&D material, any runoff from the stockpiles is unlikely to pose a risk. C&D stockpiles will not be crushed on site which will cause the creation of small particles. The nearest surface water body is greater than 1,000m away. Contamination of surrounding land and surface water drainage systems may occur from leachate runoff from green waste stockpiles. Any infiltration of leachate could impact the groundwater quality; the groundwater use in the area is unknown but GIS datasets indicate high TDS values. There are two bores are shown on the GISviewer, WIN bore dataset as being on the premises, which the occupier uses for garden reticulation (however, there is no abstraction licence for this activity). All the residents in the areas are on the scheme water network. The highest groundwater level is reported by the applicant to be greater than 1.9mbgl. Given the short-term storage of green waste, leachate generation is expected to be limited.

Controls: The specifications of the operations are not fully defined. The Applicant has committed to constructing hardstands and bins for managing waste acceptance and storage. All collected leachate will be evaporated or removed with sediments and disposed of at appropriate landfills. Uncontaminated stormwater is directed via spoon drains to storage basins for direct infiltration. All contaminated stormwater (including surface water from the green waste and timber hardstand area) will pass through a sediment trap prior to being captured and contained in the leachate pond located on the northern side of the transfer station. Hazardous materials will be stored in sealed containers under cover on a hardstand to prevent any emissions to land. Green waste material received at the site will be placed on a hardstand and will not undergo any composting or windrowing process but will instead be chipped, downsized and removed from site by City of Swan contractors. Ponds will be lined and uncontaminated stormwater runoff on the premises will be directed to an overflow swale for infiltration purposes.

Risk assessment:
Consequence: Insignificant
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory controls:
While groundwater table is shallow, the proposed leachate containment system will prevent infiltration of contaminants and leachates generated. The limitation to store only 200 tonnes of any material on site reduces the risk of impact.

In the absence of a water balance being provided in the works approval application, Condition W1.2.2 specifies that leachate collection and storage infrastructure must be constructed with a capacity to endure a 1 in 10 year storm event (24 hour duration). Licence conditions will be imposed requiring the maintenance of integrity of hardstand and leachate infrastructure to reduce the risk of leachate discharges. Contaminated stormwater discharges can be sufficiently regulated under the provisions of *the Environmental Protection (Unauthorised Discharges) Regulations 2004* and section 49 of the Act.

Works Approval condition 1.2.2, Table 1.2.1, row (2), item (b) requires that hardstands should be constructed to achieve a permeability of ≤ $1x10^{-9}$ m/s. Along with condition 1.2.1, Table 1.2.1, row

(2), item (d) and item (e), this will reduce the likelihood of contaminated stormwater and leachate infiltrating or entering the environment.

Works Approval condition 1.2.1, Table 1.2.1, row (2), item (c) requires that all areas constructed for the storage of waste are done so using bunded hardstands. This will ensure that any leachate arising from the stored waste can be contained and managed appropriately and does not migrate to the environment or infiltrate.

Works Approval condition 1.2.2, Table 1.2.1, row (3), items (a) and (b) requires that the Leachate collection infrastructure have an impervious ($1x10^{-9}$ m/s) kerb bunding of at least 150 mm high x 150 mm wide to prevent run-on and run-off of surface water, including a 1 in 10 year storm event (10 year average recurrence interval) of 72 hours duration; and have a seal between the hardstand and any bund kerbing that is impervious ($1x10^{-9}$ m/s) to prevent any leaks.

Works Approval condition 1.2.2, Table 1.2.1, row (4), items (a) and (b) will reduce the likelihood of any seepage from the leachate pond.

Since the site will be accepting small amounts of waste oil and storing onsite until it is removed it is recommended that a licence condition be drafted to the licence that will require a dedicated covered sealed storage container and to be double-bunded.

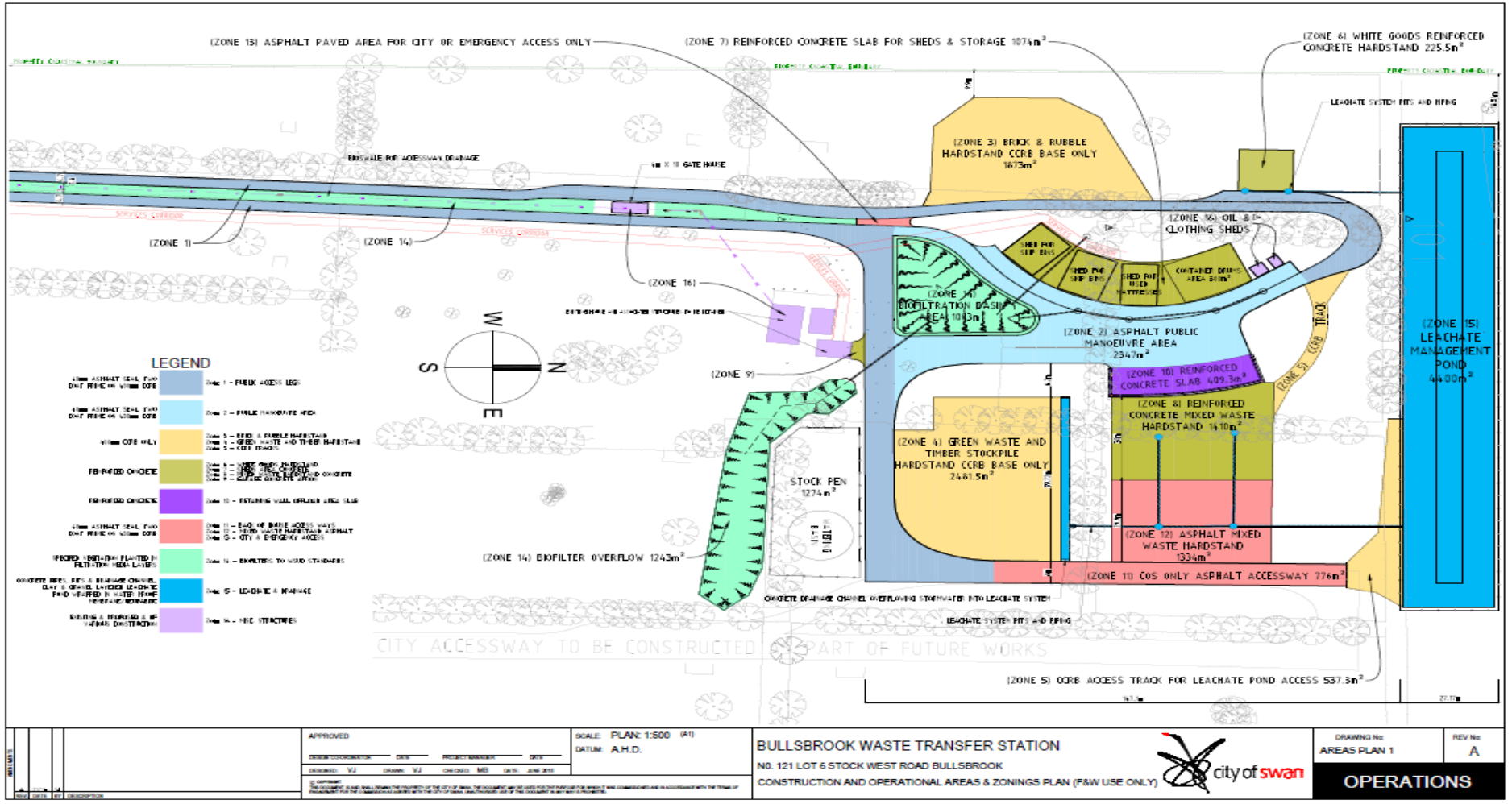
It is recommended that licence condition be drafted to the licence that requires all waste is stored on the hardstands of the solid waste depot.

It is also recommended that licence condition be drafted to the licence that requires the management of leachate pond such that a minimum top of embankment freeboard of 300mm is maintained as well as maintaining the integrity of the containment infrastructure. This will help ensure that any leachate arising from the stored waste is contained and managed appropriately and does not migrate to the environment or infiltrate.

It is recommended that licence condition be drafted to the licence that requires all collected leachate meets the designated landfill criteria prior to disposal. In accordance with DER's licensing process and assessed risk profile, no specified conditions for stormwater emissions are proposed to be included in the licence.

Residual risk:
Consequence: Insignificant
Likelihood: Rare
Risk Rating: Low

Site Plan


(ZONE 13) ASPHALT PAVED AREA FOR CITY OR EMERGENCY ACCESS ONLY
(ZONE 7) REINFORCED CONCRETE SLAB FOR SHEDS & STORAGE 1074m²
(ZONE 6) WHITE GOODS REINFORCED CONCRETE HARDSTAND 225.5m²
(ZONE 3) BRICK & RUBBLE HARDSTAND CCRB BASE ONLY 1673m²
(ZONE 1)
(ZONE 14)
(ZONE 16)
(ZONE 9)
(ZONE 14) BIOFILTRATION BASIN AREA 1043m²
(ZONE 2) ASPHALT PUBLIC MANOEUVRE AREA 2347m²
(ZONE 10) REINFORCED CONCRETE SLAB 409.3m²
(ZONE 8) REINFORCED CONCRETE MIXED WASTE HARDSTAND 1610m²
(ZONE 4) GREEN WASTE AND TIMBER STOCKPILE HARDSTAND CCRB BASE ONLY 2481.5m²
STOCK PEN 1274m²
(ZONE 12) ASPHALT MIXED WASTE HARDSTAND 1334m²
(ZONE 11) COS ONLY ASPHALT ACCESSWAY 776m²
(ZONE 14) BIOFILTER OVERFLOW 1243m²
(ZONE 15) LEACHATE MANAGEMENT POND 4400m²
(ZONE 5) CCRB ACCESS TRACK FOR LEACHATE POND ACCESS 537.3m²
LEGEND
CITY ACCESSWAY TO BE CONSTRUCTED AS PART OF FUTURE WORKS
PLAN 1:500 (A1)
A.H.D.
BULLSBROOK WASTE TRANSFER STATION
NO. 121 LOT 6 STOCK WEST ROAD BULLSBROOK
CONSTRUCTION AND OPERATIONAL AREAS & ZONINGS PLAN (F&W USE ONLY)
city of swan
DRAWING No: AREAS PLAN 1
REV No: A
OPERATIONS