



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8766/1
Permit Holder:	City Of Cockburn
Duration of Permit:	From 13 January 2022 to 13 January 2027

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of access and re-development of a waste recycling centre.

2. Land on which clearing is to be done

Lot 2 on Diagram 17998, Wattleup
Lot 235 on Deposited Plan 226117, Wattleup.

3. Clearing authorised

The permit holder must not clear more than 0.08 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

5. Weed management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

6. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;(c) the date that the area was cleared;(d) the size of the area cleared (in hectares);(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; and(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 5.

7. Reporting

The permit holder must provide to the *CEO* the records required under condition 6 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
fill	means material used to increase the ground level, or to fill a depression.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

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

20 December 2021

Schedule 1

The boundary of the area authorised to be cleared is shown in the map below (



Figure 1).



Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 8766/1
Permit type:	Purpose permit
Applicant name:	City of Cockburn
Application received:	16 December 2019
Application area:	0.08 hectares of native vegetation
Purpose of clearing:	Waste disposal/management
Method of clearing:	Mechanical removal
Properties:	Lot 2 on Diagram 17998, Wattleup Lot 235 on Deposited Plan 226117, Wattleup
Location (LGA area):	City of Cockburn
Localities (suburb):	Wattleup

1.2. Description of clearing activities

The City of Cockburn is in the process of developing a new and fully-integrated Community Recycling Centre within the existing Cockburn Resource Recovery Park (previously known as the Henderson Waste Recovery Park). The site is situated on exhausted limestone quarries. Lot 2 on Diagram 17998 (Lot 2) is almost entirely covered with lined landfill cells, and Lot 235 on Deposited Plan 226117 (Lot 235) is the primary focus of the facility, which requires an entrance off Dalison Avenue immediately to the south. Clearing of 0.08 hectares of scattered native vegetation is required to facilitate the development.

1.3. Decision on application

Decision:	Granted
Decision date:	20 December 2021
Decision area:	0.08 hectares of native vegetation as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix G), the findings of a site inspection (Appendix E), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), relevant planning instruments (Section 3.3), the applicant's minimisation and mitigation measures (Section 3.1), and any other matters considered relevant to the assessment. The assessment identified that the proposed clearing will result in the following:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures, the Delegated Officer determined that given size and location of the clearing, and the Completely Degraded condition of the vegetation present, the proposed clearing is unlikely to have any further significant environmental impacts, and is not likely to lead to an unacceptable risk to the environment. The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

1.5. Site map



2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The City of Cockburn is in the process of developing a new and fully-integrated Community Recycling Centre within the existing Cockburn Resource Recovery Park, previously known as the Henderson Waste Recovery Park (City of Cockburn 2019a). The site is situated on exhausted limestone quarries. Lot 2 on Diagram 17998 (Lot 2) is almost entirely covered with lined landfill cells and Lot 235 on Plan 226117 (Lot 235) is the primary focus of the facility, which requires an entrance off Dalison Avenue immediately to the south (City of Cockburn 2019b).

To reduce impact, the proposed access road will utilise the existing firebreak on the extreme western boundary of Lot 235. A preliminary site layout has been provided (Appendix F). This strategy will minimise tree and shrub removal, and in particular a stand of Tuarts (of approximately 300 metres by 30 metres) located along the southern boundary of Lot 235. These trees will be retained to both ensure unnecessary environmental impact, and to provide a visual buffer to the facility (City of Cockburn 2019b).

Vegetation condition over the application area is Completely Degraded and consists of numerous scattered and isolated stands of native vegetation consisting of common species. Salvageable species such as *Xanthorrhoea preissii* (Grass trees) and *Macrozamia riedlei* (Zamia palms) will be translocated for use by the City of Cockburn (City of Cockburn 2019b).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (**Error! Reference source not found.**) identified that the impacts of the proposed clearing are limited but present a potential risk to the biological values of flora, fauna, and ecological communities that required further consideration. The consideration of these potential impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora, fauna and ecological communities). Clearing Principles (a, b, c and d)

Assessment

The application area is located within the Swan Coastal Plain bioregion as described by Thackway and Cresswell (1995). The vegetation over the application area is in a Completely Degraded condition based on the condition scale of Keighery (1994), and consists of scattered and isolated stands of common flora species including; *Jacksonia sternbergiana* (Stinkwood), *Grevillea vestita*, *Acacia saligna* (Golden Wreath Wattle), *Xanthorrhoea preissii* (Grasstree), *Macrozamia riedlei* (Zamia), and *Eucalyptus gomphocephala* (Tuart). The understorey is dominated by

weed species which include; Castor Oil (*Ricinus communis*), Fennel (*Foeniculum vulgare*) Agave species, Olive Tree (*Olea europaea*), Cotton Bush (*Gomphocarpus fruticosus*), Tagasaste (*Chamaecytisus palmensis*), Cape lilac (*Melia azedarach*) and other exotic trees with an understory of introduced grasses including Wild Oats (*Avena fatua*) and Fountain Grass (*Pennisetum setaceum*) (Appendix E).

According to available databases no Threatened or Priority flora (P) taxa have been recorded within the application area, or within 1.5 kilometres of the application area. The closest Priority flora taxa, the Priority 4 *Dodonaea hackettiana*, has been recorded approximately 1.51 kilometres to the east, with the P3 *Austrostipa mundula* recorded approximately 1.82 kilometres to the south-west. Four threatened orchid species have been recorded within ten kilometres of the application area (WAH 1998-). Of these, the Vulnerable *Diuris drummondii* is the closest with a record over 2.5 kilometres to the north-east. Due to the Completely Degraded nature of the vegetation, and distance to known flora species of conservation significance, Threatened and Priority flora are unlikely to occur within the application area.

No Threatened Ecological Communities (TECs) listed under the *Biodiversity Conservation Act 2016* (BC Act) or *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), or Priority Ecological Communities (PECs) have been mapped over the application area, nor is the application area within any buffer areas of any mapped TECs or PECs. The Priority 3 listed Northern Spearwood shrublands and woodlands (SCP24), listed as Endangered under the EPBC Act, has been mapped approximately 540 metres west of the application area, with the Priority 3 listed Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region recorded approximately 1,080 metres to the east. The Completely Degraded vegetation of the application area is not representative of these PECs or TECs.

Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain is listed as a Priority 3 PEC by DBCA and Critically Endangered TEC under the EPBC Act. Two Tuart trees are located within the application area and form the extreme western edge of an approximately 1.48 hectare stand of Tuart trees along the southern boundary of Lot 235 (**Figure 2**).

The stand of Tuart trees along the southern boundary has been mapped regionally as remnant vegetation, but not as the Tuart Woodland TEC (**Figure 2**), with the closest mapped occurrences of the TEC approximately 660 metres north-west of the application area and approximately 1.1 kilometres east of the application area.



Figure 1: Stand of predominantly Tuarts along the southern boundary of Lot 235

Key diagnostic characteristics and criteria for the Tuart Woodland and Forest TEC are provided in the EPBC Approved Conservation Advice of DoEE (2019). Due to the small patch size and Poor condition as defined within DoEE (2019), the two Tuarts within the application area are unlikely to be a component of this TEC (note that the patch boundary includes a 30 metre buffer beyond the outer canopy of the established Tuart trees). The City has largely avoided the stand of Tuart trees (Section 3.1) and the proposed access road will utilise the existing firebreak on the extreme western boundary of Lot 235 (Appendix F) with just two isolated trees requiring clearing.

Nine mammals, two reptiles, and 29 birds of conservation significance have been recorded within a ten kilometre radius of the application area (DBCA 2007-). Due to the lack of native understorey none of the reptiles or mammals of conservation significance identified are likely to utilise habitats of the application area. Due to the proximity of the coastline to the west over 24 estuarine/wetland bird species are included that would not occur over the application area due to the lack of wetland habitat. Of the remainder, two species of Threatened black cockatoo have the potential to utilise vegetation within the application area; the Endangered Carnaby's Cockatoo (*Calyptrorhynchus latirostris*) and the Vulnerable Forest Red-tailed Black Cockatoo (*Calyptrorhynchus banksii naso*).

The application area is located outside of any buffer areas for any known black cockatoo breeding sites or known night roosts for Carnaby's Cockatoo. The application area is also not located within a mapped area of Carnaby's Cockatoo 'areas requiring investigation as feeding habitat in the Swan Coastal Plain'. Of the two Tuarts within the application area one measures 300 millimetres diameter at breast height (DBH), with the other at 750 millimetres DBH. No hollows within these two trees were recorded by an inspection by City of Cockburn (2019b). No black cockatoos have been recorded within the stand of Tuarts within, or immediately outside of, the application area (DBCA 2007-), with the closest Carnaby's Cockatoo recorded approximately 450 metres to the west, and the closest Forest Red-tailed Black Cockatoo recorded approximately 2.2 kilometres to the north-east. The latter record is associated with a night roost used intermittently by the Forest Red-tailed Black Cockatoo. Due to the proximity of this roost site, foraging resources to maintain this species are important (Commonwealth of Australia 2017; DPAW 2013; EPA 2019), however, none of the flora species recorded over the application area (City of Cockburn 2019b) are a known food resource for the Forest Red-tailed Black Cockatoo (Bamford 2013; Johnstone *et. al.* 2013). Flora species known to be used as a food resource for Carnaby's Cockatoo consist of scattered individual *Acacia saligna* shrubs and the two Tuart trees (Bamford 2013; Groom 2011; Johnstone *et. al.* 2013; Le Roux 2017). However, the scattered and low-quality food resource potentially available for Carnaby's Cockatoo is not located within foraging distance of a known roost or breeding site for this species. The scattered and isolated vegetation over the application area does not provide foraging habitat for black cockatoos, nor is it likely that the two individual Tuarts provide roosting or breeding opportunities.

Given the Completely Degraded condition of the vegetation over the application area (Keighery 1994), the scattered and isolated nature of the vegetation present, the small scale of clearing required, and the lack of Priority and Threatened flora and fauna taxa recorded in the vicinity (or likely to be supported by the habitat present), it is unlikely that the application area comprises a high level of biodiversity. Vegetation is also not consistent with any key diagnostic criteria for any TECs or PEC's and proposed clearing is not at variance to Clearing Principles (a), (c), or (d) and not likely to be at variance with Clearing Principle (b).

A large number of exotic weed species have been recorded over the application area and native vegetation associated with the adjacent stand of Tuarts may be susceptible to weed invasion, which clearing processes may exacerbate. Native flora species susceptible to dieback disease (*Phytophthora sp.*) are unlikely to occur over the application area (Groves *et. al.*, no date).

Conclusion

Based on the above assessment, the proposed clearing may result in increased weed loads in an adjacent stand of remnant vegetation. For the reasons set out above, it is considered that any impacts of the proposed clearing can be managed by implementing the applicant's avoidance and minimisation strategies and taking steps to minimise the risk of the introduction and spread of weeds

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on the (DWER website on 11 January 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

Under the City of Cockburn Town Planning Scheme (TPS) No. 3 (2002) the Site is located within a zone subject to the *Hope Valley–Wattleup Redevelopment Act 2000*. This Act was established by DevelopmentWA with the functions to plan, undertake and coordinate redevelopment of the relevant land. The project is now known as Latitude 32 (covering 1,400 hectares) and forms part of the planning for the Western Trade Zone (WTZ). The WTZ is planned to become an integrated commercial and industrial region incorporating the Australian Marine Complex, and the Rockingham and Kwinana Industrial Areas.

Planning Approval for the construction of the Community Recycling Centre within the Cockburn Resource Recovery Park will be required from the City of Cockburn (or an exemption obtained from the Western Australian Planning Commission). The applicant has advised (City of Cockburn 2021) that a final Business Case has been approved by the City of Cockburn executive, and that a final Planning Report has been prepared (Allerding and Associates 2021) for submission for Development Approval (City of Cockburn 2021).

The Site falls under Schedule 1 - Prescribed Premises of Part V of the *Environmental Protection Regulations 1987* (as amended) as an 'industrial premise with the potential to cause emissions and discharges to air, land or water'. As it is not a new site, it has a current licence (L9159/2018/1) over Lot 2 on Diagram 17998 and Lot 235 on Plan 226117 (Categories 61, 62, 63, and 64) (City of Cockburn 2019a). A Works Approval application for the relevant proposal was submitted to DWER (Ref RR017037), with the required Works Approval granted to the City of Cockburn for the Cockburn Community Recycling Centre on 15 September 2020. That is, for a Category 62 Solid waste depot at 50,000 tonnes per annual period (Ref W6380/2020/1).

The application area is located within the Cockburn Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The application area is not located within any RIWI Act surface water areas or irrigation districts, nor any Country Areas Water Supply Act 1947 (CAWS Act) clearing control catchments or Public Drinking Water Source Areas. Proposed works will not obstruct, interfere or destroy the beds or banks of any watercourse. Abstraction of groundwater or surface water will not be undertaken and additional permitting by DWER under the RIWI Act will not be required.

The application area is located within the boundaries of the Gnaala Karla Booja Native Title Registered Claim (WAD6274/1998) and Indigenous Land Use Agreement. No Aboriginal Sites of significance have been recorded within the application area, nor within 1.2 kilometres of 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.

Appendix A. Additional information provided by applicant

Description	Reference
Supporting documentation for CPS 8766/1. Environmental Assessment and Management Plan.	City of Cockburn (2019a)
Supporting documentation for CPS 8766/1. Inspection Report including a photographic record taken	City of Cockburn (2019b)
Preliminary site layout	Appendix F
Supporting documentation for CPS 8766/1. Final planning considerations	City of Cockburn (2021)
Supporting documentation for CPS 8766/1. Final Planning Report	Allerding and Associates (2021)

Appendix B. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of the assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

B.1 Site characteristics

Characteristic	Details																																																													
Local context	<p>The area proposed to be cleared consists of isolated patches of native vegetation in the intensive land use zone of Western Australia. It is surrounded by predominantly cleared open areas. A stand of remnant vegetation orientated east west is located on the southern extremity of Lot 235 consisting predominantly of Tuart (<i>Eucalyptus gomphocephala</i>).</p> <p>Spatial data indicates the local area (10 kilometre radius from the area proposed to be cleared) retains approximately 28 per cent of the original native vegetation cover.</p>																																																													
Ecological linkage	Proposed clearing is not located within an Environmentally Sensitive Area (ESA), or any recognised ecological linkage, with the closest ESA approximately 520 metres to the west (ID 20856).																																																													
Conservation areas	<table><tr><th colspan="2">DBCA Managed Lands</th><th>Proximity (km)</th></tr><tr><td colspan="2">Mt Brown Lake</td><td>0.57</td></tr><tr><td colspan="2">Unnamed within Beeliar Regional Park</td><td>1.64</td></tr><tr><td colspan="2">WPL 21 Years. (I491113)</td><td>1.90</td></tr><tr><td colspan="2">Harry Waring Marsupial Reserve</td><td>1.93</td></tr><tr><td colspan="2">Coastal Park</td><td>2.04</td></tr><tr><td colspan="2">Thomsons Lake Nature Reserve</td><td>2.14</td></tr><tr><td colspan="2">WPL 21 Years Ministers Consent Required</td><td>4.97</td></tr><tr><td colspan="2">Wandi Nature Reserve</td><td>7.09</td></tr><tr><td colspan="2">1524/395</td><td>8.52</td></tr></table> <table><tr><th colspan="2">Regional Parks</th><th>Proximity (km)</th></tr><tr><td>Beeliar Regional Park</td><td>Harry Waring Marsupial Reserve</td><td>1.85</td></tr><tr><td>Beeliar Regional Park</td><td>Mt Brown Lake</td><td>0.57</td></tr></table> <table><tr><th>Bushforever (ID)</th><th>Proximity (m)</th></tr><tr><td>346</td><td>0.53</td></tr><tr><td>392</td><td>1.91</td></tr><tr><td>391</td><td>2.15</td></tr><tr><td>393</td><td>2.21</td></tr><tr><td>267</td><td>2.41</td></tr><tr><td>21</td><td>3.26</td></tr><tr><td>268</td><td>3.54</td></tr><tr><td>429</td><td>4.27</td></tr><tr><td>341</td><td>4.51</td></tr><tr><td>435</td><td>4.98</td></tr></table>	DBCA Managed Lands		Proximity (km)	Mt Brown Lake		0.57	Unnamed within Beeliar Regional Park		1.64	WPL 21 Years. (I491113)		1.90	Harry Waring Marsupial Reserve		1.93	Coastal Park		2.04	Thomsons Lake Nature Reserve		2.14	WPL 21 Years Ministers Consent Required		4.97	Wandi Nature Reserve		7.09	1524/395		8.52	Regional Parks		Proximity (km)	Beeliar Regional Park	Harry Waring Marsupial Reserve	1.85	Beeliar Regional Park	Mt Brown Lake	0.57	Bushforever (ID)	Proximity (m)	346	0.53	392	1.91	391	2.15	393	2.21	267	2.41	21	3.26	268	3.54	429	4.27	341	4.51	435	4.98
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Vegetation description	The vegetation within the application area is mapped as the Cottesloe Complex-Central and South (System 6 ID 52) (Hedde <i>et al.</i> 1980). The complex is described as a Mosaic of woodland of <i>Eucalyptus gomphocephala</i> (Tuart) and open forest of																																																													

Characteristic	Details																												
	<p><i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri); closed heath on limestone outcrops.</p> <p>Photographs supplied by the applicant indicate that the vegetation proposed to be cleared consists of scattered and isolated stands of native vegetation surrounded by cleared areas of exotic grassland and weed species (Appendix E). The scattered vegetation present is not representative of the Cottesloe Complex-Central and South (System 6 ID 52).</p>																												
Vegetation condition	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in a Completely Degraded condition based on the condition scale of Keighery (1994).</p> <p>The understorey is dominated by weed species which include; Castor Oil (<i>Ricinus communis</i>), Fennel (<i>Foeniculum vulgare</i>) Agave species, Olive Tree (<i>Olea europaea</i> subsp. <i>Europaea</i>), Cotton Bush (<i>Gomphocarpus fruticosus</i>), Tagasaste (<i>Chamaecytisus palmensis</i>), Cape lilac (<i>Melia azedarach</i>) and other exotic trees with an understory of introduced grasses including Wild Oats (<i>Avena fatua</i>) and Fountain Grass (<i>Pennisetum setaceum</i>) (City of Cockburn 2019b).</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Error! Reference source not found..</p>																												
Climate and landform	<p>The climate experienced in the area is a Mediterranean climate, with dry, hot summers and cool, wet winters. Average rainfall is 816 millimetres per annum with the majority falling between June and August (BOM 2021).</p> <p>The landform consists of lower slopes of dune ridges with moderately deep to deep siliceous yellow-brown sands, or pale sands with yellow-brown subsoils, and minor limestone outcropping.</p>																												
Soil description	Soils are mapped as the Spearwood S2a Phase (211Sp__S2a). Yellow deep sands, pale deep sands & loams, calcareous deep sands & yellow/brown shallow sands, semi-wet soil & wet soil																												
Land degradation risk	<table><tr><th>Degradation factor</th><th colspan="3">Mapped risk</th></tr><tr><td>Wind Erosion</td><td>H2</td><td>High</td><td>>70% of mapped unit has a high to extreme risk</td></tr><tr><td>Water Erosion</td><td>L1</td><td>Low</td><td><3% of mapped unit has a high to extreme risk</td></tr><tr><td>Water Logging</td><td>L1</td><td>Low</td><td><3% of mapped unit has a high to extreme risk</td></tr><tr><td>Salinity risk</td><td>L1</td><td>Low</td><td><3% of mapped unit has a high to extreme risk</td></tr><tr><td>Sub-surface acidification</td><td>L2</td><td>Low</td><td>3-10% of mapped unit has a high to extreme risk</td></tr><tr><td>Acid Sulphate</td><td>Low</td><td></td><td></td></tr></table>	Degradation factor	Mapped risk			Wind Erosion	H2	High	>70% of mapped unit has a high to extreme risk	Water Erosion	L1	Low	<3% of mapped unit has a high to extreme risk	Water Logging	L1	Low	<3% of mapped unit has a high to extreme risk	Salinity risk	L1	Low	<3% of mapped unit has a high to extreme risk	Sub-surface acidification	L2	Low	3-10% of mapped unit has a high to extreme risk	Acid Sulphate	Low		
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Water Logging	L1	Low	<3% of mapped unit has a high to extreme risk																										
Salinity risk	L1	Low	<3% of mapped unit has a high to extreme risk																										
Sub-surface acidification	L2	Low	3-10% of mapped unit has a high to extreme risk																										
Acid Sulphate	Low																												
Waterbodies	<table><tr><th>Directory of important wetlands</th><th>Proximity (km)</th></tr><tr><td>Thomsons Lake (WA092)</td><td>2.4 kms north-east</td></tr></table> <table><tr><th>Ramsar-listed wetlands</th><th>Proximity (km)</th></tr><tr><td>Forrestdale and Thomsons Lakes (ID 35)</td><td>2.4 kms north-east</td></tr></table> <table><tr><th>Type of inland water</th><th>Description</th><th>Proximity (km)</th></tr><tr><td>Geomorphic Wetlands (Classification), Swan Coastal Plain. Lake Mount Brown</td><td>Conservation - Sumpland</td><td>0.59</td></tr><tr><td>Geodata, Lakes, Lake Mount Brown</td><td>Swamp</td><td>0.61</td></tr></table>	Directory of important wetlands	Proximity (km)	Thomsons Lake (WA092)	2.4 kms north-east	Ramsar-listed wetlands	Proximity (km)	Forrestdale and Thomsons Lakes (ID 35)	2.4 kms north-east	Type of inland water	Description	Proximity (km)	Geomorphic Wetlands (Classification), Swan Coastal Plain. Lake Mount Brown	Conservation - Sumpland	0.59	Geodata, Lakes, Lake Mount Brown	Swamp	0.61											
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Geomorphic Wetlands (Classification), Swan Coastal Plain. Lake Mount Brown	Conservation - Sumpland	0.59																											
Geodata, Lakes, Lake Mount Brown	Swamp	0.61																											

Characteristic	Details		
	Hydrography, Lakes (medium scale 250k GA) Lake Mount Brown	Swamp	0.61
	Geodata, Lakes	Sub_To_Inund	0.77
	Hydrography, Lakes (medium scale 250k GA)	Sub_To_Inund	0.77
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Multiple Use - Sumpland	2.30
	WA Coastline Water Mark	-	2.39
	Rivers	: Coastal Waterline	2.39
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Conservation - Lake	2.41
	Rivers	Thompsons Lake : Major Trib	2.41
	Geodata, Lakes	Lake	2.41
	Hydrography, Lakes (medium scale 250k GA)	Lake	2.41
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Resource Enhancement - Sumpland	2.42
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Resource Enhancement - Lake	2.63
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Not Applicable - No Longer A Wetland	2.84
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Multiple Use - Lake	3.01
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Multiple Use - Dampland	3.12
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Conservation - Dampland	3.13
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Resource Enhancement - Dampland	3.53
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Not Applicable - Dryland	3.99
	Rivers	Kogolup Lake : Minor Trib	4.34
	Rivers	Peel Main Drain : Minor River	4.79
	Rivers	: Minor Trib	4.87
	Rivers	The Spectacles Wetlands : Minor River	5.63
	Rivers	Yangebup Lake : Minor Trib	5.70
	Rivers	South Lake : Minor Trib	7.18
	Rivers	Bibra Lake : Minor Trib	7.91
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Resource Enhancement - Not Assessed	8.02
	Geomorphic Wetlands (Classification), Swan Coastal Plain	Multiple Use - Not Assessed	9.06
	Rivers	: Insignificant Trib	9.17

Characteristic	Details	
Hydrogeography	Division	South West division
	Basin	Murray River basin
	Catchment	Bartram Road Catchment catchment
	RIWI Act surface	None
	RIWI Act rivers	None
	RIWI groundwater	Within Cockburn Groundwater Area
	CAWS	None
	PDWSA	None - 5 km east (Jandakot Underground Water Pollution Control Area)
	Flooding	L1
	Groundwater salinity	500-1,000 TDS mg/l
Flora	The native flora species recorded over the application area are: <i>Jacksonia sternbergiana</i> (Stinkwood), <i>Grevillea vestita</i> , <i>Acacia saligna</i> (Golden Wreath Wattle), <i>Xanthorrhoea preissii</i> (Grasstree), <i>Macrozamia riedlei</i> (Zamia), and <i>Eucalyptus gomphocephala</i> (Tuart). No threatened or priority flora found within the application area or likely to occur.	
Ecological communities	The scattered and individual native flora species present do not represent any threatened or priority ecological community.	
Fauna	Due to the degraded nature of the native vegetation and the lack of native understorey significant fauna habitat is not present.	

B.2. Vegetation extent

	Pre-European Extent (ha)	Current extent (ha)	Percentage remaining (%)	Current extent protected (IUCN I-IV) for conservation (ha)	Current percentage remaining within lands protected (IUCN I-IV) for conservation (%)
IBRA bioregion					
Swan Coastal Plain	1,501,222	579,814	38.6	153,955	10.26
Vegetation complex					
Cottesloe Complex-Central and South (52)	45,300	14,568	32.2	4,308	9.5
Local area					
Remnant vegetation within 10km	23,200	6,557	28.3		

B.3 Flora of significance recorded from local area

Threatened flora taxa	Status	Count	Proximity (km)
<i>Caladenia huegelii</i>	CR	32	6.13
<i>Drakaea elastica</i>	CR	5	7.08
<i>Diuris drummondii</i>	VU	2	2.45
<i>Diuris micrantha</i>	VU	6	8.47

Priority flora taxa	Status	Count	Proximity (km)
<i>Acacia lasiocarpa</i> var. <i>bracteolata</i> long peduncle variant (G.J. Keighery 5026)	P1	1	7.85
<i>Netrostylis</i> sp. Chandala (G.J. Keighery 17055)	P2	1	9.10
<i>Thelymitra variegata</i>	P2	1	6.12
<i>Amanita preissii</i>	P3	2	7.40
<i>Amanita wadjukiorum</i>	P3	1	7.53
<i>Austrostipa mundula</i>	P3	1	1.83
<i>Cyathochaeta teretifolia</i>	P3	2	7.49
<i>Dampiera triloba</i>	P3	2	9.13
<i>Jacksonia gracillima</i>	P3	3	8.18
<i>Phlebocarya pilosissima</i> subsp. <i>pilosissima</i>	P3	1	7.79
<i>Pimelea calcicola</i>	P3	1	9.18
<i>Stylidium paludicola</i>	P3	4	3.28
<i>Styphelia filifolia</i>	P3	1	8.85
<i>Aponogeton hexatepalus</i>	P4	1	8.48
<i>Dodonaea hackettiana</i>	P4	24	1.62
<i>Grevillea olivacea</i>	P4	1	6.15
<i>Kennedia beckxiana</i>	P4	1	8.19
<i>Microtis quadrata</i>	P4	1	6.12
<i>Stylidium ireneae</i>	P4	1	8.46
<i>Stylidium longitubum</i>	P4	1	6.12
<i>Tripterococcus</i> sp. <i>brachylobus</i> (A.S. George 14234)	P4	2	8.49
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	8.90

B.4 Fauna of significance recorded from local area

Common name	Scientific name	Status	Count	Proximity (km)
BIRDS				
Carnaby's Cockatoo	<i>Calyptrorhynchus latirostris</i>	EN	533	0.48
Forest Red-tailed Black Cockatoo	<i>Calyptrorhynchus banksii naso</i>	VU	40	2.10
Masked Owl (Southwest)	<i>Tyto novaehollandiae novaehollandiae</i>	P3	3	3.51
Barking Owl (Southwest)	<i>Ninox connivens connivens</i>	P3	1	8.92
Peregrine Falcon	<i>Falco peregrinus</i>	OS	15	2.93
Blue-Billed Duck	<i>Oxyura australis</i>	P4	196	2.75
Australian Little Bittern	<i>Ixobrychus dubius</i>	P4	4	6.84
Osprey	<i>Pandion cristatus</i>	MI	2	6.65
White-Winged Black Tern	<i>Chlidonias leucopterus</i>	MI	2	3.32
Crested Tern	<i>Thalasseus bergii</i>	MI	53	5.35
Curlew Sandpiper	<i>Calidris ferruginea</i>	CR	19	2.42
Great Knot	<i>Calidris tenuirostris</i>	CR	10	3.15
Red Knot	<i>Calidris canutus</i>	EN	1	5.41
Greater Sand Plover	<i>Charadrius leschenaultii</i>	VU	2	6.40
Hooded Plover	<i>Thinornis rubricollis</i>	P4	3	6.46
Common Sandpiper	<i>Actitis hypoleucos</i>	MI	2	5.54
Ruddy Turnstone	<i>Arenaria interpres</i>	MI	20	5.41
Sharp-Tailed Sandpiper	<i>Calidris acuminata</i>	MI	28	2.42
Sanderling	<i>Calidris alba</i>	MI	8	4.11
Pectoral Sandpiper	<i>Calidris melanotos</i>	MI	7	3.21
Red-Necked Stint	<i>Calidris ruficollis</i>	MI	59	2.42
Long-Toed Stint	<i>Calidris subminuta</i>	MI	9	3.21
Pacific Golden Plover	<i>Pluvialis fulva</i>	MI	4	5.83
Grey Plover	<i>Pluvialis squatarola</i>	MI	21	5.41
Black-Tailed Godwit	<i>Limosa limosa</i>	MI	2	3.50
Little Ringed Plover	<i>Charadrius dubius</i>	MI	4	5.49
Wood Sandpiper	<i>Tringa glareola</i>	MI	25	2.75
Greenshank	<i>Tringa nebularia</i>	MI	123	1.07
Marsh Sandpiper	<i>Tringa stagnatilis</i>	MI	14	3.24

MAMMALS				
Numbat	<i>Myrmecobius fasciatus</i>	EN	2	3.35
Chuditch	<i>Dasyurus geoffroii</i>	VU	2	6.64
Quokka	<i>Setonix brachyurus</i>	VU	1	7.04
Brush-Tailed Phascogale (SW)	<i>Phascogale tapoatafa wambenger</i>	CD	2	3.28
Tammar Wallaby	<i>Notamacropus eugenii derbianus</i>	P4	1	3.44
Western Brush Wallaby	<i>Notamacropus irma</i>	P4	6	3.05
Quenda	<i>Isodon fusciventer</i>	P4	858	0.64
Water-Rat	<i>Hydromys chrysogaster</i>	P4	2	1.63
Western False Pipistrelle	<i>Falsistrellus mackenziei</i>	P4	1	3.06
REPTILES				
Perth Slider	<i>Lerista lineata</i>	P3	249	0.18
Black-Striped Snake	<i>Neelaps calonotos</i>	P3	8	3.76

B.5 Significant ecological communities

Common name	Status (WA)	Status (Federal)	Proximity (km)
Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain	P3	CR	~ 0.66 km N-W
Northern Spearwood shrublands and woodlands	P3		~ 0.54 km west
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	P3	EN	~ 1.08 km east
<i>Melaleuca huegelii</i> - <i>Melaleuca systema</i> shrublands on limestone ridges (floristic community type 26a as originally described in Gibson et al. (1994))	EN		~ 4.30 km south

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p>Principle (a): <i>"Native vegetation should not be cleared if it comprises a high level of biodiversity."</i></p> <p>Assessment: The area proposed to be cleared is Completely Degraded and does not contain locally or regionally significant flora, fauna, or habitats (Appendix B1). The Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain is listed as a Priority 3 PEC. Two Tuart trees are located within the application area and form the extreme western edge of an approximately 1.48 hectare stand of Tuart trees along the southern boundary of Lot 235.</p>	Not likely to be at variance	Yes Refer to Section 3.2.1
<p>Principle (b): <i>"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."</i></p> <p>Assessment: Nine mammals, two reptiles, and 29 birds of conservation significance have been recorded within a ten kilometre radius of the application area (Appendix B4). Due to the lack of native understorey none of the reptiles or mammals of conservation significance identified are likely to utilise habitats of the application area. Two Tuart trees present over the application area may provide habitat for black cockatoo species.</p>	Not at variance	Yes Refer to Section 3.2.1
<p>Principle (c): <i>"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</i></p> <p>Assessment: Four threatened orchid species have been recorded within ten kilometres of the application area (Appendix B3). Due to the Completely Degraded nature of the vegetation, and distance to known Threatened flora species of conservation significance, Threatened flora taxa are unlikely to occur within the application area and the native vegetation is not necessary for the continued existence of Threatened flora.</p>	Not at variance	Yes Refer to Section 3.2.1
<p>Principle (d): <i>"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."</i></p> <p>Assessment: The Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain is listed as a Critically Endangered TEC under the EPBC Act. Two Tuart trees are located within the application area and form the extreme western edge of an approximately 1.48 hectare stand of Tuart trees along the southern boundary of Lot 235.</p>	Not at variance	Yes Refer to Section 3.2.1
Environmental value: significant remnant vegetation and conservation areas		
<p>Principle (e): <i>"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."</i></p> <p>Assessment: Vegetation over the application area has been mapped as the Cottesloe Complex-Central and South (System 6 ID 52) (Appendix B2). 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 the year 1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Cottesloe Complex-Central and South has approximately 32.2 per cent of its original extent remaining, and the Swan Coastal Plain (IBRA) bioregion retains approximately 32.49 per cent of its pre-European vegetation extent (Government of Western Australia 2019) (Appendix B2). Vegetation within the application area is Completely Degraded (Keighery 1994) and is not representative of the mapped complex. The Environmental Protection Authority (EPA) recognises the Perth</p>	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Metropolitan Region as a constrained area, which provides for the reduction of vegetation complexes to a minimum of 10 per cent of their pre-European extent (EPA 2008). At the local scale of a ten kilometre radius approximately 6,557 hectares of native vegetation remains, representing approximately 28 per cent native vegetation cover. The scattered vegetation over the application area in a Completely Degraded condition is not significant as a remnant of native vegetation.		
<p><u>Principle (h):</u> <i>"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."</i></p> <p><u>Assessment:</u> Lake Mount Brown within the Beeliar Regional Park is the closest land managed for conservation purposes to the application area, with un-named reserves associated with, and surrounding, the Harry Waring Marsupial Reserve also occurring approximately 1.8 kilometres to the east (also within the Beeliar Regional Park) (Appendix B1). Given the distance to the nearest conservation areas, the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.</p>	Not at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."</i></p> <p><u>Assessment:</u> The application area is located in the Bartram Road Catchment of the Murray River basin (DPIRD 2017). No wetlands or water courses occur over the application area. Native vegetation over the application area is not growing in, or in association with, any watercourse or wetland.</p>	Not at variance	No
<p><u>Principle (g):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</i></p> <p><u>Assessment:</u> The application area is located on the Swan Coastal Plain consisting of an alluvial, shoreline, and aeolian deposits. The application area occurs on lower slopes of dune ridges with moderately deep to deep siliceous yellow-brown sands, or pale sands with yellow-brown subsoils, and minor limestone outcropping (Schoknecht <i>et al.</i>, 2004). Soil has been mapped as the Spearwood S2a Phase (211Sp_S2a) of yellow deep sands, pale deep sands and loams, calcareous deep sands, and yellow to brown shallow sands (Schoknecht <i>et al.</i>, 2004). Within the 211Sp_S2a soil unit risks of potential acid sulfate soils, or sub-surface acidification, are assessed as low (DPIRD 2017). Similarly, due to the unconsolidated and permeable nature of these soils water erosion and water-logging risks are also rated as low (L1) (DPIRD 2017). Conversely, due to these aspects, wind erosion is rated as high (H2). The application area comprises soils prone to wind erosion if left exposed, however, with the small scale of clearing required, and standard construction methodologies employed, wind erosion impacts can be mitigated. Given the location, small scale of clearing, surrounding landscape, and standard construction methodologies employed (City of Cockburn 2019a) it is unlikely that the proposed clearing would contribute to, or cause, appreciable land degradation.</p>	Not at variance	No
<p><u>Principle (i):</u> <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."</i></p> <p><u>Assessment:</u> The application area is located within the Cockburn Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act). However, the application area is not located within any RIWI Act surface water areas or irrigation districts, nor any <i>Country Areas Water Supply Act 1947</i> (CAWS Act) clearing control catchments or Public Drinking Water Source Areas. Regional groundwater is mapped at approximately 5 metres below ground level and as</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
'fresh' at 500 to 1,000 total dissolved salts (TDS) milligrams per litre (mg/L), with salinity risk within the 211Sp_S2a soil unit is rated low (DPIRD 2017). Standard site management procedures for drainage, stormwater and leachate will mitigate risk to ground water. Given that no water courses or wetlands, or Public Drinking Water Sources Areas are recorded within 550 metres of the application area, the proposed clearing is unlikely to impact surface or groundwater quality.		
<p><u>Principle (j):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</i></p> <p><u>Assessment:</u> Proposed clearing is not located within any 1 in 100 annual exceedance probability (AEP) floodplain, and flood risk is assessed as low (L1) (DPIRD 2017). There are no defined drainage paths over the application area or in the vicinity. Surface flow may occur over short distances for short periods during, and immediately after, very intense rainfall, however proposed clearing is unlikely to increase the incidence or intensity of flooding.</p>	Not at variance	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very Good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

4 December 2019



Purpose Permit Application Inspection Report City of Cockburn Resource Recovery Park Proposed Development

To Whom it May Concern,

The City of Cockburn (the City) is in the process of developing a new modern, fully integrated Community Recycling Centre (CRC) within the existing Cockburn Resource Recovery Park (CRRP), previously known as the Henderson Waste Recovery Park (HWRP).

The CRC is located within the Site comprising Lot 235 on Plan 226117, Lot 2 on Diagram 17998 and Lot 202 on Plan 60443. The development of this facility will require a Works Approval in accordance with Part V, Division 3 of the Environmental Protection Act 1986.

The scope of the proposed CRRP redevelopment includes:

- Replacement and/or relocation of existing waste management related facilities operated by the City in the form of the new CRC;
- Provision and lease of serviced land to operators of waste management facilities, including a Resource Recovery Facility for processing waste that is currently received at the landfill facility; and
- Provision of a capacity to create waste feedstock for Energy from Waste facilities that are planned to be constructed in the Kwinana and Rockingham areas.

The site is uniquely located close to the Kwinana industrial strip providing valuable landfill capacity and a potential waste processing capability to service properties and businesses in the area. The development strategy for the CRRP aims to ensure that the Site remains a major piece of waste infrastructure for Perth's southern region in the context of future changes to the waste industry.

The Henderson Waste Recovery Park is spread across 3 lots situated on exhausted limestone quarries. Two of the lots (Lot 2 and 52) are almost entirely covered in lined landfill cells.

The City's Temporary CRC is situated on Cells 4 and 5 and the large tract of land to the east has been quarantined by the City to allow for the proposed Intermodal Facility (Kwinana Freight Terminal).

Lot 235 is therefore the only available area to create this facility, which requires an entrance off Dalison Avenue.

The City consulted extensively with Development WA and their consultants on the strategic planning and road network for the Latitude 32 Development. A fly over is proposed over the railway line to connect east and west Dalison Avenue. Main Roads WA then requested the City plan their entry/exit to this Facility as far west as possible.

The proposed entrance/exit road is now therefore planed for the existing firebreak on the extreme western boundary to minimise tree removal. The 400m by 30m deep stand of old Tuart trees on the southern side of Lot 235 is to remain to ensure unnecessary environmental impact and provide a visual buffer to the Facility.

The proposed development site has a vegetation condition which may be considered as completely degraded and is dominated by weed species which consist of, but not limited to - Castor oil, Fennel, Agave, Olive, Cotton bush, Tagasaste, Cape lilac and exotic trees with an understory of introduced grasses.

Below is the photo record taken on site on the 29th November 2019



1 - *Xanthorrea pressii*

Date: 29-11-2019

Latitude: -32.17227, Longitude: 115.798389, Direction: 111.2 degrees

Comments: *Xanthorrea pressii* x2 with *Macrozamia redlii* underneath. Veldt grass and wild oats in foreground fennel behind and olive at back

Grass trees and *Zamia* palm will be translocated



2 - *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.172318, Longitude: 115.798396, Direction: 101 degrees

Comments: Single Jacksonia sternbergiana with grass understory - Tuart stand at back, which will not be removed



3 – *Grevillea vestita* and *Xanthorrea pressii*

Date: 29-11-2019

Latitude: -32.17237, Longitude: 115.798449, Direction: 105 degrees

Comments: Agarvae in foreground with *G. vestita* and *X. pressiana* in background



4 – *Grevillea vestita*

Date: 29-11-2019

Latitude: -32.172416, Longitude: 115.798865, Direction: 272.3 degrees

Comments: Stand of *Grevillea vestita*, fennel on slope



5 - *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.172468, Longitude: 115.798747, Direction: 0 degrees

Comments: J. sternbergiana in foreground, fennel and olive in background



7 - *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.172222, Longitude: 115.799167, Direction: 0 degrees

Comments: *Jacksonia sternbergiana*, olive, fennel and fountain grass



6 - *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.172461, Longitude: 115.799041, Direction: 0 degrees

Comments: *Jacksonia sternbergiana* x2 with juvenile *Acacia saligna* x6



7 - *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.172222, Longitude: 115.799167, Direction: 0 degrees

Comments: *Jacksonia sternbergiana*, olive, fennel and fountain grass



8 - Jacksonia sternbergiana

Date: 29-11-2019

Latitude: -32.172106, Longitude: 115.799193, Direction: 291.4 degrees

Comments: *Jacksonia sternbergiana* in foreground and at back to right, fountain grass, fennel, olive tree at back to left



9 – *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.171799, Longitude: 115.798977, Direction: 331.7 degrees

Comments: *Jacksonia sternbergiana*, wild oats, fennel



10 - *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.171996, Longitude: 115.798819, Direction: 283.3 degrees

Comments: *J. sternbergiana* in background on ridge with fennel in foreground valley



11 - *Acacia saligna*

Date: 29-11-2019

Latitude: -32.171432, Longitude: 115.800108, Direction: 14.1 degrees

Comments: *Acacia saligna* – stand of three



12 - *Acacia saligna*

Date: 29-11-2019

Latitude: -32.171193, Longitude: 115.799189, Direction: 283.5 degrees

Comments: *A. saligna* in background with fennel in foreground and left. Exotic/ weed tree species in background



13 – *Jacksonia sternbergiana*

Date: 29-11-2019

Latitude: -32.171804, Longitude: 115.798772, Direction: 279.2 degrees

Comments:

J. sternbergiana with fennel and understory of wild oats. Olive in background



14 - *Acacia saligna*

Date: 2019:11:29 11:18:00

Latitude: -32.170362, Longitude: 115.799125, Direction: 172.7 degrees

Comments:

Single *Acacia saligna*



Tuart 1 - *Eucalyptus gomphacephalla*

Date: 29-11-2019

Latitude: -32.172809, Longitude: 115.798415, Direction: 0 degrees

Comments:

Eucalyptus gomphacephalla DBH = 750mm, no apparent hollows or roosting activity



Tuart 2 - *Eucalyptus gomphacephalla*

Date: 29-11-2019

Latitude: -32.172854, Longitude: 115.798396, Direction: 166.6 degrees

Comments:

Eucalyptus gomphacephalla max DBH = 300

No apparent hollows or roosting activity



Lot 235 Dalison Avenue: Aerial indicating native vegetation that is proposed for removal with photo points represented above

We look forward to your favourable consideration of this clearing permit.

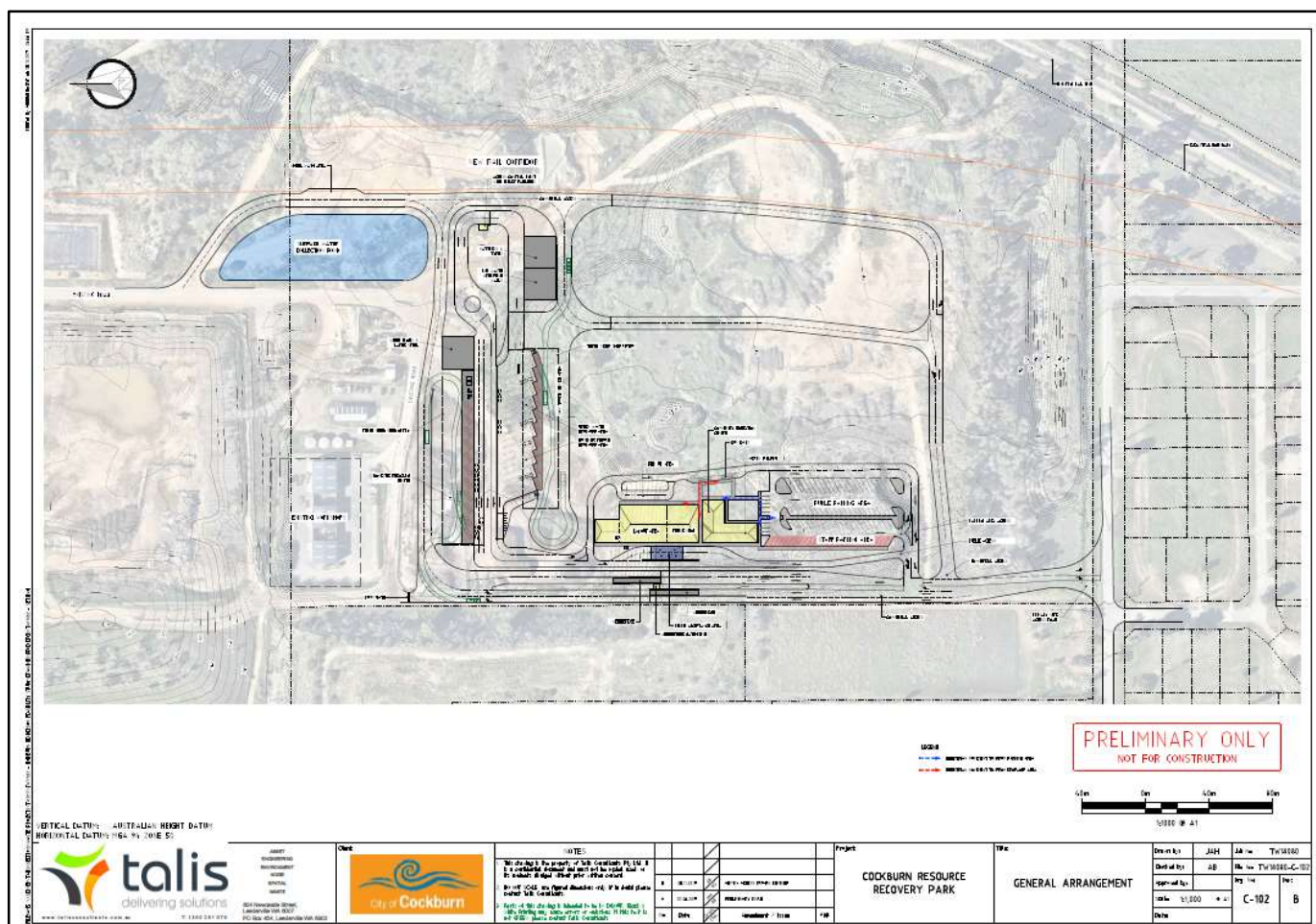
If you have any questions regarding this matter please contact me on 9411 3584 or email adamh@cockburn.wa.gov.au

Yours sincerely

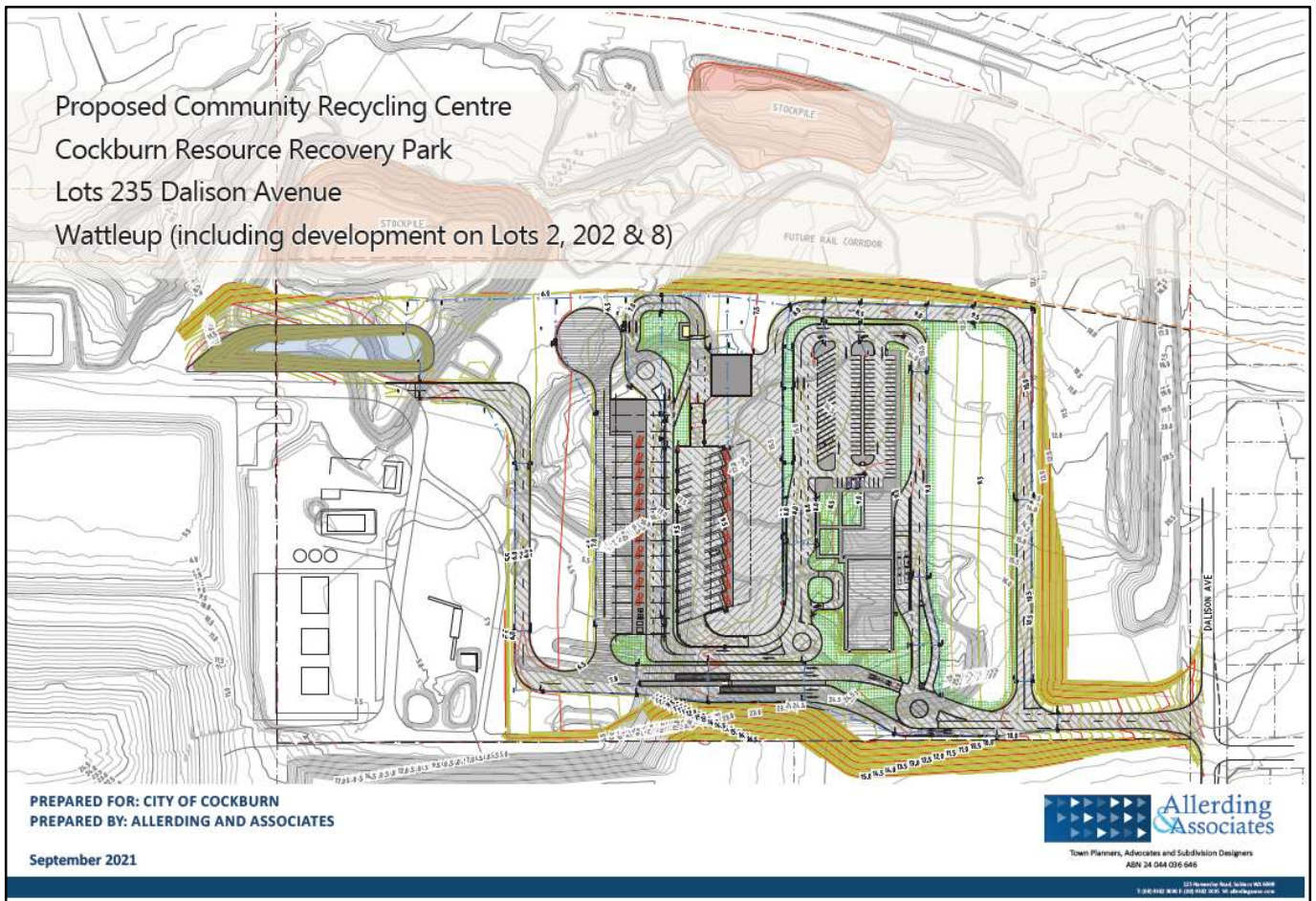
Adam Harris

Environmental Officer-Natural Resource Management

Appendix F. Site layouts (Allerding and Associates 2021)



Proposed Community Recycling Centre
Cockburn Resource Recovery Park
Lots 235 Dalison Avenue
Wattleup (including development on Lots 2, 202 & 8)



Appendix G. Sources of information

G.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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