

The Registrar  
Office of the Environmental Protection Authority  
Locked Bag 10,  
East Perth WA 6892

5 June 2015

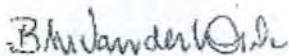
Dear Sir/Madam

**Re: S.38 REFERRAL, PROPOSED FLORIDA NORTH RESIDENTIAL DEVELOPMENT,  
LOT 9008 OCEAN ROAD, DAWESVILLE, W.A.**

On behalf of Aberdeen Nominees Pty Ltd., Talia Nominees Pty Ltd., Caspar Pty Ltd and Coastal Estates Pty Ltd trading as **Florida Partnership**, the proponent for the abovementioned s.38 Referral, please find enclosed a hardcopy and USB e-copy of the Referral and associated figures and attachments.

Please do not hesitate to contact me should you wish to discuss any of the information contained within the Referral and attachments.

Yours sincerely



**BERNADETTE VAN DER WIELE**  
Director

Office of the Environmental Protection Authority	
File: .....	
<b>08 JUN 2015</b>	
A:	<input type="checkbox"/> For Information
fa:	<input type="checkbox"/> For Discussion
Officer:	<input type="checkbox"/> For Action
<input type="checkbox"/> Dir.AC	Response please:
<input type="checkbox"/> Dir. Bus Ops.	<input type="checkbox"/> GM Signature
<input type="checkbox"/> Dir. SPPD	<input type="checkbox"/> Dir for GM (copy to GM)
<input type="checkbox"/> Dir. Strat Sup	<input type="checkbox"/> Dir Signature (copy to GM)
<input type="checkbox"/>	<input type="checkbox"/> Mgr Direct (copy to GM)



## Referral of a Proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*.

### PURPOSE OF THIS FORM

Section 38 of the *Environmental Protection Act 1986* (EP Act) makes provision for the referral to the Environmental Protection Authority (EPA) of a proposal (significant proposals, strategic proposals and proposals under an assessed scheme) by a proponent, a decision making authority (DMA), or any other person.

The purpose of this form is to ensure that EPA has sufficient information about a proposal to make a decision about the nature of the proposal and whether or not the proposal should be assessed under Part IV of the EP Act. Information provided in the referral form must be brief (no more than 30 pages), sharp and succinct to achieve the purposes of this form.

This form does not prevent the referrer from providing a supplementary referral report. Should a referrer choose to submit a supplementary referral report please ensure the following.

- i. Information is short, sharp and succinct.
- ii. Attachments are below eight megabytes (8 MB) as they will be published on the EPA's website (exemptions apply) for public comment. To minimise file size, "flatten" maps and optimise pdf files.
- iii. Cross-references are provided in the referral form to the appropriate section/s in the supplementary referral report.

This form is to be used for all proposals<sup>1</sup> which can be referred to the EPA under section 38 of the EP Act; i.e. referrals from: **proponents** of proposals (significant proposals, strategic proposals, derived proposals, proposals under an assessed scheme); **DMAs** (significant proposals); and **third parties** (significant proposals).

This form is divided into several sections, including; Referral requirements and Declaration; Part A - Information of the proposal and proponent; and Part B Environmental Factors. Guidance on successfully completing this form is provided throughout the form and is also available in the EPA's *Environmental Assessment Guideline for Referral of a Proposal under s38 of the EP Act (EAG 16)*.

#### Send completed forms to

Office of the Environmental Protection Authority  
Locked Bag 10, East Perth WA 6892

or

Email: [Registrar@epa.wa.gov.au](mailto:Registrar@epa.wa.gov.au)

#### Enquiries

Office of the Environmental Protection Authority  
Locked Bag 10, East Perth WA 6892

Telephone: 6145 0800

Fax: 6145 0895

Email: [info@epa.wa.gov.au](mailto:info@epa.wa.gov.au)

Website: [www.epa.wa.gov.au](http://www.epa.wa.gov.au)

<sup>1</sup> Please note that this form consolidates and replaces the following forms: *Referral of a Proposal by the Proponent to the EPA under section 38(1) of the EP Act*, *Referral of a Proposal by a third party to the EPA under section 38(1) of the EP Act*, and *Referral of a development proposal to the EPA by the decision making authority*.

## Referral requirements and Declaration

The following section outlines the referral information required from a proponent, decision making authority and third party.

### (a) Proponents

Proponents are expected to complete all sections of the form and provide GIS spatial data to enable the EPA to consider the referral. Spatial GIS data is necessary to inform the EPA's decision.

The EPA expects that a proponent will address Part B of the form as thoroughly as possible to demonstrate whether or not the EPA's objectives for environmental factors can be met.

If insufficient information is provided the EPA will request more information and processing of the referral will commence once the information is provided or the EPA decides to make a precautionary determination on the available information.

Proponent to complete before submitting form	
Completed all the questions in Part A (essential)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Completed all the questions in Part B	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Completed all other applicable questions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Included Attachment 1 – any additional document(s) the proponent wishes to provide	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Included Attachment 2 – confidential information (if applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but clearly separating any confidential information	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Completed the Declaration	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
What is the type of proposal being referred? <i>* a referred proposal seeking to be declared a derived proposal</i>	<input checked="" type="checkbox"/> significant <input type="checkbox"/> strategic <input type="checkbox"/> derived* <input type="checkbox"/> under an assessed scheme
Do you consider the proposal requires formal environmental impact assessment?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, what level of assessment? <i>API = Assessment of Proponent Information</i> <i>PER = Public Environmental Review</i>	<input type="checkbox"/> API Category A <input type="checkbox"/> API Category B <input type="checkbox"/> PER

**NB:** The EPA may apply an Assessment on Proponent Information (API) level of assessment when the proponent has provided sufficient information about:

- the proposal;
- the proposed environmental impacts;
- the proposed management of the environmental impacts; and
- when the proposal is consistent with API criteria outlined in the [Environmental Impact Assessment \(Part IV Division 1 and 2\) Administrative Procedures 2012](#).

If an API A formal level of assessment is considered appropriate, please refer to Environmental Assessment Guideline No. 14 *Preparation for an Assessment on Proponent Information (Category A) Environmental Review Document EAG 14 (EAG14)*.

## Declaration

I, BERNADETTE MARY VAN DER WIELE, (*full name*) declare that I am authorised on behalf of JOHN PERRY (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature		Name (print) Bernadette Mary Van der Wiele	
Position	Director	Organisation	EndPlan Environmental
Email	bernadette@endplanenvironmental.com.au		
Address	42 Harvest Road		
	Suburb North Fremantle	State W.A.	Postcode 6159
Date			

## PART A: Information on the proposal and the proponent

All fields of Part A must be completed by the proponent and/or decision-making authority for this document to be processed as a referral. Third party referrers are only expected to fill in the fields they have information for.

### 1 PROPONENT AND PROPOSAL DESCRIPTION

#### 1.1 The proponent of the proposal

Proponent and/or DMA to complete	
Name of the proponent	Aberdeen Nominees Pty Ltd., Talia Nominees Pty Ltd., Caspar Pty Ltd and Coastal Estates Pty Ltd <b>trading as Florida Partnership</b>
Joint Venture parties (if applicable)	Not applicable
Australian Company Number(s) (if applicable)	ABN 26 985 663 627
Postal Address <i>(Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)</i>	PO Box 668, Mandurah, W.A. 6210
Key proponent contact for the proposal  <i>Please include: name; physical address; phone; and email.</i>	Mr John Perry H & N Perry 54 Mandurah Tce, Mandurah, W.A. 6210 T: 08 9535 1822 E: john.perry@hnperry.com.au
Consultant for the proposal (if applicable)  <i>Please include: name; physical address; phone; and email.</i>	Bernadette Van der Wiele EndPlan Environmental 42 Harvest Road, North Fremantle, W.A. 6159 T: 0447 366 460 E: bernadette@endplanenvironmental.com.au

#### 1.2 Proposal

Proposal is defined under the EP Act to mean a “project, plan, programme policy, operation, undertaking or development or change of land use, or amendment of any of the foregoing, but does not include scheme”. Before completing this section please refer to [Environmental Protection Bulletin 17 – Strategic and derived proposals \(EPB 17\)](#) and [Environmental Assessment Guideline for Defining the Key Characteristics of a proposal \(EAG 1\)](#).

Proponent and/or DMA to complete	
Title of the proposal	Florida North Residential Development Lot 9008 Ocean Road, Dawesville
What project phase is the proposal at?	<input type="checkbox"/> Scoping <input type="checkbox"/> Feasibility <input checked="" type="checkbox"/> Detailed design <input type="checkbox"/> Other _____
Proposal type  <i>More than one proposal type can be identified, however for filtering purposes it is recommended that only the primary proposal type is identified.</i>	<input type="checkbox"/> <b>Power/Energy Generation</b> <input type="checkbox"/> Hydrocarbon Based – coal <input type="checkbox"/> Hydrocarbon Based – gas <input type="checkbox"/> Waste to energy <input type="checkbox"/> Renewable – wind

**Proponent and/or DMA to complete**

- Renewable – wave
- Renewable – solar
- Renewable – geothermal

**Mineral / Resource Extraction**

- Exploration – seismic
- Exploration – geotechnical
- Development

**Oil and Gas Development**

- Exploration
- Onshore – seismic
- Onshore – geotechnical
- Onshore – development
- Offshore – seismic
- Offshore – geotechnical
- Offshore – development

**Industrial Development**

- Processing
- Manufacturing
- Beneficiation

**X Land Use and Development**

- X** Residential – subdivision
- Residential – development
- Commercial – subdivision
- Commercial – development
- Industrial – subdivision
- Industrial – development
- Agricultural – subdivision
- Agricultural – development
- Tourism

**Linear Infrastructure**

- Rail
- Road
- Power Transmission
- Water Distribution
- Gas Distribution
- Pipelines

**Water Resource Development**

- Desalination
- Surface or Groundwater
- Drainage
- Pipelines
- Managed Aquifer Recharge

**Marine Developments**

- Port
- Jetties
- Marina

Proponent and/or DMA to complete	
	<input type="checkbox"/> Canal <input type="checkbox"/> Aquaculture <input type="checkbox"/> Dredging  <i>If other, please state below:</i> <input type="checkbox"/> <b>Other</b> _____
Proponent and/or DMA to complete	
Description of the proposal – describe the key characteristics of the proposal in accordance with <a href="#">EAG 1</a> .	<p>Aberdeen Nominees Pty Ltd., Talia Nominees Pty Ltd., Caspar Pty Ltd and Coastal Estates Pty Ltd trading as Florida Partnership (the proponent) is proposing is to construct an urban residential subdivision development of Lot 9008 Ocean Road, Dawesville in the <i>Florida Beach Estate</i> (refer to <b>Figure 1</b>).</p> <p>The Certificate of Title details are:            Lot Number: Lot 9008            Deposited Plan: 66420            Volume/Folio: 2726/266            Street Address: Ocean Road, Dawesville</p> <p>A copy of the Certificate of Title is included as <b>Attachment 1</b>.</p> <p>The construction of the portion of <i>Florida Beach Estate</i> known as ‘Florida North’ (the referral area) will result in the construction of approximately 161 allotments (lots) for residential purposes (R20-R30) and 2.77 ha of Public Open Space (POS) keeping with the zoning requirements of the PRS and TPS No. 3.</p> <p>As shown on the Proposed Subdivision Preliminary Concept Plan (refer to <b>Attachment 2</b>), the proposed development footprint will comprise approximately 16.73 ha and will require the clearing of approximately 11.72 ha of remnant native vegetation.</p> <p>Other activities that will be undertaken to construct the proposed development will include, amongst others:</p> <ul style="list-style-type: none"> <li>• topsoil stripping and stockpiling for later use in landscaping;</li> <li>• installation of infrastructure including sewerage, water and electrical services;</li> <li>• earthworks and cut to fill;</li> <li>• road construction;</li> <li>• landscaping; and</li> </ul>

Proponent and/or DMA to complete	
	<ul style="list-style-type: none"> <li>• construction of serviced lots.</li> </ul>
Timeframe in which the proposal is to occur (including start and finish dates where applicable).	In the event that all State and Commonwealth environmental and planning approvals are granted, construction of the proposed development is anticipated to commence in late 2016 and will take 5 years to complete. The finish date may change depending upon the strength of the residential housing market in the Dawesville area.
Details of any staging of the proposal.	Construction of Florida North will be undertaken using a staged approach to development. It is anticipated that there will be at least 5 stages to the development.
What is the current land use on the property, and the extent (area in hectares) of the property?	The referral area is currently unoccupied and comprises approximately 17.4445 ha.
<p>Have pre-referral discussions taken place with the OEPA?</p> <p>If yes, please provide the case number. If a case number was not provided, please state the date of the meeting and names of attendees.</p>	<p>Yes. A meeting was held at the OEPA offices on the 31 October 2014. Mr O'Brien and Ms Liesl Rohl represented the OEPA. Mr Garry Brandli and Ms Bernadette Van der Wiele represented the proponent.</p> <p>As yet a case number has not been assigned to the referral. <i>EndPlan Environmental</i> has liaised with Gerard O'Brien regarding this referral.</p>
DMA (Responsible Authority) to complete	
<p>For a proposal under an assessed scheme (as defined in <a href="#">section 3 of the EP Act</a>, applicable only to the proponent and DMA) provide details (in an attachment) as to whether:</p> <ul style="list-style-type: none"> <li>• <i>The environmental issues raised by the proposal were assessed in any assessment of the assessed scheme.</i></li> <li>• <i>The proposal complies with the assessed scheme and any environmental conditions in the assessed scheme.</i></li> </ul>	

### 1.3 Strategic / derived proposals

Complete this section if the proposal being referred is a strategic proposal or you are seeking the proposal to be declared a derived proposal. Note: Only a proponent may refer a strategic proposal and seek a proposal to be declared a derived proposal.

Proponent to complete	
Is this referred proposal a strategic proposal?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



Proponent to complete	
Are you seeking that this proposal be declared a derived proposal?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If you are seeking that this proposal be declared a derived proposal, what is the Ministerial Statement number (MS #) of the associated strategic proposal?	MS #: _____

#### 1.4 Location

Proponents and DMAs must provide spatial data. Please refer to [EAG 1](#) for more detail.

Proponent, DMA and Third Party to complete	
Name of the Local Government Authority in which the proposal is located.	City of Mandurah
Location: a) street address; lot number; suburb; and nearest road intersection; or b) if remote the nearest town; and distance and direction from that town to the proposal site.	Lot 9008, Ocean Road, Dawesville Cnr of Ocean Road and Mandurah Bypass/Old Coast Road (refer to <b>Figure 1</b> ).
Have maps and figures been included with the referral (consistent with <a href="#">EAG 1</a> where appropriate)? <i>The types of maps and figures which need to be provided (depending on the nature of the proposal) include:</i> <ul style="list-style-type: none"> <li>maps showing the regional location and context of the proposal; and</li> <li>figures illustrating the proposal elements.</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Proponent and DMA to complete	
Have electronic copies of spatial data been included with the referral? <b>NB:</b> <i>Electronic spatial (GIS or CAD) data, geo-referenced and conforming to the following parameters:</i> <ul style="list-style-type: none"> <li>GIS: polygons representing all activities and named;</li> <li>CAD: simple closed polygons representing all activities and named;</li> <li>datum: GDA94;</li> <li>projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);</li> <li>format: ESRI geodatabase or shapefile, MapInfo Interchange Format, Microstation or AutoCAD..</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

#### 1.5 Significance test and environmental factors

Proponent, DMA and Third Party to complete	
What are the likely significant environmental factors for this proposal?	<input type="checkbox"/> Benthic Communities and Habitat <input type="checkbox"/> Coastal Processes <input type="checkbox"/> Marine Environmental Quality <input type="checkbox"/> Marine Fauna <input checked="" type="checkbox"/> Flora and Vegetation

Proponent, DMA and Third Party to complete	
	<input type="checkbox"/> Landforms <input type="checkbox"/> Subterranean Fauna <input type="checkbox"/> Terrestrial Environmental Quality <input checked="" type="checkbox"/> Terrestrial Fauna <input type="checkbox"/> Hydrological Processes <input type="checkbox"/> Inland Waters Environmental Quality <input checked="" type="checkbox"/> Air Quality & Atmospheric Gases <input type="checkbox"/> Amenity <input type="checkbox"/> Heritage <input type="checkbox"/> Human Health <input type="checkbox"/> Offsets <input type="checkbox"/> Rehabilitation and Decommissioning
<p>Having regard to the Significance Test (refer to Section 7 of the <i>EIA Administrative Procedures 2012</i>) in what ways do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA?</p>	<p>In consideration of the aspects of the proposal and in the knowledge of the matters in which the EPA may have regard, <i>EndPlan Environmental</i> is of the opinion that the proposal is unlikely have a significant effect upon the environment. While three factors have been identified as potentially significant (i.e. Flora and Vegetation, Terrestrial Fauna and Air Quality namely odour), the environmental surveys and investigations undertaken to date show that the consequences of the likely impacts upon the environment will be limited.</p> <p>With respect to <b>Air Quality (Odour)</b>, the proposed reduction of the Caddadup WWTP odour buffer 400m to 300m has been based on EPA recognised odour modelling methodologies and real time field sampling results (refer to <b>Attachment 3</b>). The approach recommended by the Department of Environmental Regulation (DER) to assess air quality impacts from industrial proposals is modelling the dispersion of air emissions as described of “Air Quality Modelling Guidance Notes” (DEP 2006) and comparing the predictions to criteria for acceptable impacts. With respect to odour more specifically, the DER has published an “Odour Methodology Guideline” (DEP 2002).</p> <p>The level of conservatism in the modelling results is up a factor of four. Even with this:</p> <ul style="list-style-type: none"> <li>- The maximum predicted odour concentrations from the Caddadup WWTP at the most affected location of the proposed development for the statistic closest to the criterion (DER’s 99.5 percentile) is only 32 % giving a margin of safety of odour concentrations of approximately three; and</li> <li>- The odour at the criterion level (DER’s 99.5 percentile) is still at least 300 metres away from the northern boundary of the proposed development – in other words, giving a margin of</li> </ul>

**Proponent, DMA and Third Party to complete**

safety of approximately 300 meters.

While these outcomes need to be cautioned by the uncertainties in the variability in odour emissions due to aspects such as seasonal factors, operating conditions and equipment failures (although these issues were also not addressed in the CEE (2009) Alkimos odour modelling study), as far as can be determined, the predicted odour levels from the Caddadup WWTP easily meet all relevant criteria for residential acceptability within the revised proposed development area – that is, 100 metres further north into the southern extent of the current 400 metre odour buffer.

With respect to **Flora and Vegetation**, the following findings of the spring survey (refer to **Attachment 4**) conducted in accordance with the EPA's Guidance Statement No. 51 and Position Statement No. 3 are relevant:

- No Threatened Flora were identified from within the referral area.
- Two Vegetation Complexes fall within the referral area: the Cottesloe Complex (Central and South) has 41.1% of its original extent remaining on the Swan Coastal Plain, whilst the Yoongarillup Complex has 45.0% remaining. Therefore both vegetation complexes are above the 30% threshold set by the EPA (2006) for clearing vegetation within constrained areas.
- Floristic Community Type analysis of quadrat survey data found that there are four inferred FCTs that are most closely associated with the vegetation types of the referral area are all currently Priority 3-listed ecological communities. In all cases the reliability of the inferred FCTs is considered to be low due to the relatively low correlation between species lists.

With respect to **Terrestrial Fauna**, the following findings of the Level 1 survey undertaken in September 2011 (refer to **Attachment 4**) and conducted in accordance with the EPA's Guidance Statement No. 56 and Position Statement No. 3 are relevant:

- 21 vertebrate species were identified by sighting or other signs. None of these were conservation significant species, and all are common in the region and expected to be present based on previous DPaW and EPBC records.
- Tuart (*Eucalyptus gomphocephala*) is the only tree species occurring in the referral area with potential to develop hollows suitable for

Proponent, DMA and Third Party to complete	
	<p>cockatoo nesting, or tall enough for roosting. None of the trees within the site boundary exceed 0.5 m in DBH (diameter at breast height) or were observed to have hollows present (approximately 12 trees have DBH 0.4 m or slightly more).</p> <ul style="list-style-type: none"> <li>- No evidence of past or present foraging, breeding or nesting was recorded on the referral area;</li> <li>- The remnant vegetation includes some potential Black-Cockatoo foraging habitat species but they are limited in number and distribution comprising only a relatively minor component of the remnant vegetation found within the referral area (approximately 4.14 ha); and</li> <li>- The extensive tracts of foraging habitat in the area south of the Dawesville Channel is currently protected in reserves vested in regulatory authorities.</li> </ul>

## 1.6 Confidential information

All information will be made publically available unless authorised for exemption under the EP Act or subject to the Freedom of Information Act 1992.

Proponent to complete	
<p>Does the proponent request that the EPA treat any part of the referral information as confidential?</p> <p><i>Ensure all confidential information is provided in a separate attachment in hard copy.</i></p>	<p><input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>

## 2 REGULATORY CONSIDERATIONS

This section applies to the Local, State and Commonwealth regulatory considerations for the referred proposal.

### 2.1 Government approvals

#### 2.1.1 State or Local Government approvals

DMA to complete	
<p>What approval(s) is (are) required from you as a decision-making authority?</p>	
<p>Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.</p>	<p><input type="checkbox"/> Yes    <input type="checkbox"/> No</p>

## 2.1.2 Regulation of aspects of the proposal

Complete the following to the extent possible.

Proponent to complete	
<p>Do you have legal access required for the implementation of all aspects of the proposal?</p> <p><i>If yes, provide details of legal access authorisations / agreements / tenure.</i></p> <p><i>If no, what authorisations / agreements / tenure is required and from whom?</i></p>	<p style="text-align: center;"><input checked="" type="checkbox"/> Yes   <input type="checkbox"/> No</p> <p>The landholding is owned by the parties that collectively trade as Florida Partnership. The Certificate of Title for the landholding is included as <b>Attachment 1</b>.</p>

Outline both the existing approvals and approvals that will be / are being sought as a part of this proposal.

Proponent to complete			
Aspects* of the proposal	Type of approval	Legislation regulating this activity	Which State agency /entity regulate this activity?
Development Approval	Subdivision Approval	<i>Planning and Development Act 2005</i>	WAPC
Development Approval	Development Approval	City of Mandurah TPS 3	City of Mandurah
Fauna trapping and relocation	<i>Regulation 15 Permit to Take Fauna for Educational or Public Purposes</i>	<i>Wildlife Conservation Act 1950</i>	DPaW

\*e.g. mining, processing, dredging

## 2.1.3 Commonwealth Government Environment Protection and Biodiversity Conservation Act 1999 approvals

Refer to the [assessment bilateral agreement](#) between the Commonwealth of Australia and the State of Western Australia for assistance on this section.

Proponent to complete	
1. Does the proposal involve an action that may be or is a controlled action under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)?	<p style="text-align: center;"><input checked="" type="checkbox"/> Yes   <input type="checkbox"/> No</p> <p><i>If no continue to Part A section 2.3.4.</i></p>
2. What is the status of the decision on whether or not the action is a controlled action?	<p><input type="checkbox"/> Proposal not yet referred</p> <p><input type="checkbox"/> Proposal referred, awaiting decision</p> <p><input type="checkbox"/> Assessed – controlled action</p> <p><input checked="" type="checkbox"/> Assessed – not a controlled action</p>
3. If the action has been referred, when was it referred and	Date: 23 April 2015

<b>Proponent to complete</b>	
what is the reference number (Ref #)?	Ref #: 2015/7462
4. If the action has been assessed, provide the decision in an attachment. Has an attachment been provided?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Refer to <b>Attachment 5</b>
5. Do you request this proposal to be assessed under the bilateral agreement?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Complete the following to the extent possible for the Public Comment of EPBC Act referral documentation.

<b>Proponent to complete</b>	
6. Have you invited the public to comment on your referral documentation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. How was the invitation published?	<input type="checkbox"/> newspaper <input checked="" type="checkbox"/> DotE website
8. Did the invitation include all of the following?	
(a) brief description of the action	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(b) the name of the action	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(c) the name of the proponent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(d) the location of the action	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(e) the matters of national environmental significance that will be or are likely to be significantly impacted	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(f) how the relevant documents may be obtained	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(g) the deadline for public comments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(h) available for public comment for 14 calendar days	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(i) the likely impacts on matters of national environmental significance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(j) any feasible alternatives to the proposed action	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(k) possible mitigation measures	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9. Were any submissions received during the public comment period?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Have public submissions been addressed? If yes provide attachment.	<input type="checkbox"/> Yes <input type="checkbox"/> No

## 2.1.4 Other Commonwealth Government Approvals

Proponent, DMA and Third Party to complete			
Is approval required from other Commonwealth Government/s for any part of the proposal?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, please complete the table below.</i>	
Agency / Authority	Approval required	Application lodged?	Agency / Local Authority contact(s) for proposal
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	

### 3. SUPPORTING INFORMATION

Please attach copies of any relevant information on the proposal, supporting evidence and / or existing environmental surveys, studies or monitoring information undertaken and list the documents below.

Proponent, DMA and Third Party to complete			
(1)	Florida North – Level 1 Flora and Fauna Assessments	Ecoscope (Australia) Pty Ltd	(refer to <b>Attachment 4</b> ) Ecoscope was commissioned by the Florida Partnership to conduct a Level 1 flora and vegetation and a Level 1 fauna assessment of the Florida North Environmental Assessment Area to assist in obtaining environmental approvals for future development of the area. The surveys were undertaken in accordance with EPA Guidance Statements 51 and 56 and Position Statement 3.
(2)	Assessment of Odour Impacts from Caddadup Waste Water Treatment Facility on Proposed Revised Development of Florida Beach Estate	Environmental Alliances Pty Ltd	(refer to <b>Attachment 3</b> ) The approved Florida Beach Estate structure plan includes a 400 metre buffer around the Caddadup Waste Water Treatment Plant WWTP. The Florida Beach development approval already covers the area up to the 400 metre buffer on the south side. The Florida Partnership would like to extend the approved development approximately 100 metres further north into the southern extent of the 400 metre buffer (leaving an approximate 300 metre buffer distance to the development). This report contains an assessment of the odour levels from the WWTP within the proposed extended development. The CALPUFF dispersion model was used to predict ambient odour concentrations. Meteorological data for the modelling was derived primarily from the CSIRO's TAPM model, supplemented by cloud cover data from Perth Airport. Odour emissions were scaled from an odour modelling study of the Alkimos WWTP. Two field odour surveys were also undertaken at the southern boundary of the Caddadup WWTP.
(3)	Fire Management Plan – Lot 9008 Ocean Road, Dawesville	Natural Area Holdings Pty Ltd	(refer to <b>Attachment 6</b> ) The Fire Management Plan has been prepared to support the planning approvals process. It provides fire risk mitigation options that will be applied as development



**Proponent, DMA and Third Party to complete**

			<p>at the site proceeds. The Plan has considered the requirements outlined in the <i>Planning for Bushfire Protection Guidelines</i> prepared by the Western Australian Planning Commission, the Department of Planning and the Fire and Emergency Services Authority (2010, Edition 2), and AS 3959 – 2009 <i>Construction of Buildings in Bushfire Prone Areas</i>. Activities involved with the plan preparation process included:</p> <ul style="list-style-type: none"><li>- Assessing the vegetation types present within and adjacent to the proposed development site using the <i>Planning for Bush Fire Protection Guidelines</i>.</li><li>- Assigning hazard ratings based on the vegetation types present.</li><li>- Determining projected BAL ratings and suggest likely management strategies that could be implemented based on current and projected site considerations.</li></ul>
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## **PART B: ENVIRONMENTAL FACTORS**

The purpose of Part B is to assist the EPA to determine the significance of the likely environmental impacts of the proposal in accordance with the EPA's *Environmental Assessment Guideline for Environmental factors and objectives* (EAG 8) and *Environmental Assessment Guideline for Application of a significant framework in the EIA process* (EAG 9). Referrers completing Part B should refer closely to EAG 8 and EAG 9.

The EPA has prepared [Referral of a Proposal under s38 of the EP Act EAG No.16 - Appendix A](#) (Appendix A) to assist in identifying factors and completing the below table. Further guidance can be found in the guidance and policy documents cited in Appendix A under each factor.

### ***How to complete Part B***

For each environmental factor, that is likely to be significantly impacted by the implementation of the proposal, make a copy of the table below and insert a summary of the relevant information relating to the proposal. The table can be broken down into more than one table per factor, if the need arises. For example the hydrological processes factor can be presented in two separate tables, one for surface water and one for groundwater, or similarly one for construction and one for operations.

For complex proposals a supplementary referral report can be provided in addition to the referral form. If this option is chosen the table must still be completed (summaries are acceptable) to assist the Office of the EPA with statistical reporting and filtering proposals for processing.

Proponents expecting an API level of assessment must provide information in accordance with the EPA's *Environmental Assessment Guideline for Preparation of an API-A environmental review document* (EAG 14).

For each of the significant environmental factors, complete the following table (Questions 1 – 10).

Proponent to complete.		
1	Factor, as defined in <a href="#">EAG 8</a>	<b>FLORA AND VEGETATION</b>
2	EPA Objective, as defined in <a href="#">EAG 8</a>	To maintain representation, diversity, viability and ecological function at the species, population and community level.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	<p><i>Guidance for the Assessment of Environmental Factors No 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia</i> (EPA, 2004)</p> <p><i>Guidance for the Assessment of Environmental Factors. Level of assessment for proposals affecting natural areas within the System 6 Region and Swan Coastal Plain portion of System 1 Region.</i> No. 10 (EPA, 2006)</p> <p><i>Terrestrial Biological Surveys as an Element of Biodiversity Protection Position Statement No. 3</i> (EPA, 2002)</p> <p><i>Environmental Protection Bulletin No. 12 Swan Bioplan – Peel Regionally Significant Natural Areas</i> (EPA, 2010)</p>

Proponent to complete.		
4	<p>Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:</p> <ul style="list-style-type: none"> <li>• <i>anticipated level of public interest in the impact;</i></li> <li>• <i>consultation with regulatory agencies; and</i></li> <li>• <i>consultation with community.</i></li> </ul>	<p>The Florida Outline Development Plan (ODP), which the referral area forms a part of, was advertised for public comment by the City of Mandurah in 1996 (refer to <b>Attachment 7</b>). A total of 24 submissions were received by the City of Mandurah including those from government agencies. In addition, in June 1996, the proponent participated in a public meeting facilitated by the City of Mandurah and attended by approximately 180 people (refer to <b>Attachment 8</b>).</p> <p>An ethnographic survey/consultation in relation to the entire <i>Florida Beach Estate</i> development area was undertaken by Dr Rory O'Connor in August 1995 in order to assist the proponent in fulfilling any responsibilities which they may have under the <i>Aboriginal Heritage Act 1972-80</i>. The field survey component of the investigation was undertaken by Dr O'Connor accompanied by Mr F. Nannup and Mr J. Walley (both Aboriginal elders with a good knowledge of the area).</p> <p>In 1995 an archaeological site survey of the <i>Florida Beach Estate</i> development area was undertaken by Yates Heritage Consultants in order to determine whether any known or unknown Aboriginal heritage sites were present. The database search identified that the closest known sites to the survey area are two discrete artefact scatters (S0172 and S0308) located approximately 800m north of Dawesville Road in the dunes along the Old Coast Road. Following both a predictive and systematic search of the Estate it was concluded that no new sites were discovered (Yates Heritage Consultants, 1995).</p> <p>As a result of the examination of the Aboriginal Heritage Sites register including the ethnographic database, consultation process and field inspection, it was established that there were no sites of significance to Aboriginal people within the <i>Florida Beach Estate</i> development area (Yates Heritage Consultants, 1995) (refer to <b>Attachment 9</b>).</p> <p>In May 2015, the referral area was the subject of an EPBC referral for the proposed action to construct the Florida North residential development. As part of the EPBC referrals process, the referred action was publicly advertised on the DotE website for 20 working days. No public submissions were received on the referred action.</p> <p>It is anticipated that further community consultation will be undertaken with regulatory agencies and the public through the State planning approvals process.</p>

Proponent to complete.		
5	<p>Baseline information - describe the relevant characteristics of the receiving environment.</p> <p><i>This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.</i></p>	<p>The referral area is located within the Swan Coastal Plain 2 (SWA2) subregion of the Swan Coastal Plain bioregion as defined in the Interim Biogeographic Regionalisation of Australia (IBRA) (Australian Government 2011b). Two Vegetation Complexes fall within the referral area: the Cottesloe Complex (Central and South) has 41.1% of its original extent remaining on the Swan Coastal Plain, whilst the Yoongarillup Complex has 45.0% remaining. Therefore both vegetation complexes are above the 30% threshold set by the EPA (2006) for clearing vegetation within constrained areas.</p> <p>A Level 1 spring flora survey of the referral area, undertaken in September 2011, identified a total of 50 species (23 native and 27 weed species) representing 18 families recorded from seven different vegetation types. The dominant families were Poaceae (grasses) and Myrtaceae (<i>Eucalyptus</i>) with 11 taxa were recorded from each family (<b>Attachment 4</b>).</p> <p>While the proposed development footprint comprises approximately 16.73 ha, 1.2 ha has been mapped as completely degraded (comprising introduced weeds), 0.85 ha has been historically cleared (former sand extraction area) and 2.96 ha were unmapped (unsealed road). The remaining 11.72 ha comprised seven vegetation types in good to very good condition</p> <p>Conservation significant taxa identified by the DPaW and EPBC database searches were targeted for an intensive field survey, searching for their presence in areas of good or better condition vegetation. Degraded and lesser condition vegetation was also assessed for presence of conservation significant flora, but at a wider spacing and in a more targeted manner. No Threatened Flora (TF) species listed as under the <i>WA Wildlife Conservation Act 1950</i> or the <i>EPBC Act</i> were recorded within the referral area during the survey (Ecoscape, 2012). The Priority-listed flora, <i>Conostylis pauciflora</i> subsp. <i>pauciflora</i> (P4) was recorded from a single population (11 individuals).</p> <p>Floristic Community Type analysis of quadrat survey data found that there are four inferred FCTs that are most closely associated with the vegetation types of the referral area. All are Priority 3-listed ecological communities and in <b>all</b> cases the reliability of the inferred FCTs is considered to be <b>low</b> due to the relatively low correlation between species lists.</p>

Proponent to complete.		
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	<p>Due to the proposed subdivision design, the single population of the PF-listed species <i>Conostylis pauciflora</i> subsp. <i>pauciflora</i> (P4) is unlikely to be retained in its current location.</p> <p>The FCT analysis indicates that all of the vegetation types recorded within the referral area may be analogous with currently recognised Priority 3-listed ecological communities. While the reliability of the inferred FCTs is considered to be low due to the relatively low correlation between species lists, the proposal to develop the referral area will require the clearing of approximately 11.72 ha of native vegetation.</p> <p>The proposal may potentially result in the establishment of invasive weed species (through edge effects) in habitat contained in the adjacent Caddadup Reserve and Tuart Park POS. However, given that the majority of this habitat is already surrounded by urban land use areas, it is unlikely the proposal will result in any new invasive species becoming established.</p>

Proponent to complete.		
7	<p>Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:</p> <ul style="list-style-type: none"> <li>• <i>Avoidance - avoiding the adverse environmental impact altogether;</i></li> <li>• <i>Minimisation - limiting the degree or magnitude of the adverse impact;</i></li> <li>• <i>Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and</i></li> <li>• <i>Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.</i></li> </ul>	<p>In order to mitigate the impact upon a potential PEC, the proponent proposes to cede 1.904 ha of <i>Eucalyptus gomphocephala</i> closed forest into the existing Tuart Park POS that was previously set aside as part of the overall planning design for <i>Florida Beach Estate</i>. The <i>E. gomphocephala</i> closed forest was classified as being in very good condition and should not require extensive rehabilitation. Approximately 0.8669 ha of <i>Acacia rostellifera</i>, <i>Spyridium globulosum</i>, <i>Santalum acuminatum</i> mid-high closed shrubland that is predominantly in very good condition will be retained in a linear POS area along the eastern boundary adjoining the Old Coast Road.</p> <p>The flora survey identified 32 introduced species. Of these, <i>Asparagus asparagoides</i>, <i>Gomphocarpus fruticosus</i> and <i>Solanum linnaeanum</i> are Declared Plants recognised under the <i>Agriculture and Related Resources Protection Act (1976)</i> and requiring control or prohibiting the movement of plants or seeds. Land clearing will result in the removal of the Declared Plants where they are located within the proposed development footprint. Where Declared Plants are located within proposed POS areas, a targeted weed eradication program will be implemented.</p> <p>To ensure that over clearing does not occur, a Vegetation and Fauna Management Plan (VFMP) will be prepared to the satisfaction of the City of Mandurah prior to vegetation clearing commencing. A component of the VFMP will be a fauna trapping and relocation management program that will be implemented to avoid adverse impacts upon resident fauna during the vegetation clearing and construction phases.</p>

Proponent to complete.		
8	<p>Residual impacts – review the residual impacts against the EPA objectives.</p> <p><i>It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA’s objective for this factor would be met if residual impacts remain. This will require:</i></p> <ul style="list-style-type: none"> <li>• <i>quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;</i></li> <li>• <i>putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and</i></li> <li>• <i>comparison against any established environmental policies, guidelines, and standards.</i></li> </ul>	<p>The proposal will result in the clearing of approximately 11.72 ha of native vegetation that is representative of two Vegetation Complexes: the Cottesloe Complex (Central and South) has 41.1% of its original extent remaining on the Swan Coastal Plain, whilst the Yoongarillup Complex has 45.0% remaining. Therefore both vegetation complexes are above the 30% threshold set by the EPA (2006) for clearing vegetation within constrained areas.</p> <p>No TECs were identified as occurring on or in the vicinity of the referral area.</p> <p>No TF species were located during the field survey and based on their known natural distribution and habitat preferences they are not likely to occur within the site (Ecoscape, 2012). The flora and vegetation survey was undertaken in spring to coincide with peak flowering period. Rainfall in the six months prior to the survey being conducted was comparable to the long-term mean and as such conditions were considered to be good for the identification of several of the listed conservation significant species.</p> <p><b>No residual impact</b> is expected to occur on any of TEC or TF species protected under either the <i>Wildlife Conservation Act</i> or the EPBC Act.</p>
9	<p>EPA’s Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to <a href="#">EAG 9</a></p>	<p><input checked="" type="checkbox"/> <i>meets the EPA’s objective</i></p> <p><input type="checkbox"/> <i>may meet the EPA’s objective</i></p> <p><input type="checkbox"/> <i>is unlikely to meet the EPA’s objective</i></p>



Proponent to complete.		
10	Describe any assumptions critical to your conclusion (in Question 9). <i>e.g. particular mitigation measures or regulatory conditions.</i>	<p>The flora survey was undertaken in spring 2011 by Mr Stephen Kern a qualified senior botanist with Ecoscape (Australia) Pty Ltd who has extensive botanical field survey experience on the Swan Coastal Plain. The field survey, which included quadrat analysis, was conducted in spring and undertaken in accordance with the EPA's Guidance Statement No. 51. The statement of limitations identifies that there were predominantly 'no' constraints in undertaking the survey (refer to <b>Attachment 4</b>).</p> <p>The proposed consolidation of Tuart Park POS through the ceding of a further 1.9 ha of very good quality vegetation (including Tuart close forest) will increase Tuart Park's long-term viability as an ecological linkage with Caddadup Reserve.</p>

Proponent to complete.		
1	Factor, as defined in <a href="#">EAG 8</a>	<b>TERRESTRIAL FAUNA</b>
2	EPA Objective, as defined in <a href="#">EAG 8</a>	To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	<p><i>Guidance for the Assessment of Environmental Factors No 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia</i> (EPA, 2004)</p> <p><i>Guidance for the Assessment of Environmental Factors. Level of assessment for proposals affecting natural areas within the System 6 Region and Swan Coastal Plain portion of System 1 Region.</i> No. 10 (EPA, 2006)</p> <p><i>Terrestrial Biological Surveys as an Element of Biodiversity Protection Position Statement No. 3</i> (EPA, 2002). <i>Environmental Protection Bulletin No. 12 Swan Bioplan – Peel Regionally Significant Natural Areas</i> (EPA, 2010)</p> <p><i>Environmental Protection Bulletin No. 12 Swan Bioplan – Peel Regionally Significant Natural Areas</i> (EPA, 2010)</p>

Proponent to complete.		
4	<p>Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:</p> <ul style="list-style-type: none"> <li>• <i>anticipated level of public interest in the impact;</i></li> <li>• <i>consultation with regulatory agencies; and</i></li> <li>• <i>consultation with community.</i></li> </ul>	<p>As previously discussed, the Florida ODP, which the referral area forms a part of, was advertised for public comment by the City of Mandurah in 1996. A total of 24 submissions were received by the City of Mandurah including those from government agencies. In addition, in June 1996, the proponent participated in a public meeting facilitated by the City of Mandurah and attended by approximately 180 people.</p> <p>In May 2015, the referral area was the subject of an EPBC referral for the proposed action to construct the Florida North residential development. As part of the EPBC referrals process, the referred action was publicly advertised on the DotE website for 20 working days. No public submissions were received on the referred action.</p> <p>Further community consultation will be undertaken with regulatory agencies and the public through the planning approvals process.</p>
5	<p>Baseline information - describe the relevant characteristics of the receiving environment.</p> <p><i>This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.</i></p>	<p>From a fauna habitat assessment perspective, there was no evidence of fire in recent years, but dense new growth of native vegetation, grasses, and (in more disturbed areas) weeds in response to recent rain was observed. Bushland condition was 'Very Good' over most of the referral area, but tracks, firebreaks and an artificial mound (soil stockpile covering an old limestone quarry) in the south-west of the referral area are 'Completely Degraded'.</p> <p>The entire referral area showed an unusually high density of kangaroo tracks, scats and resting traces, indicating use by many adult and juvenile individuals (as part of larger home ranges). Building waste and rubbish is present around the soil stockpile, roadsides and adjoining recent residential development, and lizards were found under waste items (planks, corrugated fibro-cement, broken concrete slabs, sheet iron) rather than natural items of cover: fallen wood is rare, limestone rocks are mostly too deeply imbedded to be moved, leaf litter was abundant in woodland sections but raking was unproductive, as was investigation of hollow <i>Xanthorrhoea</i> trunks (Ecoscape, 2012).</p>

Proponent to complete.		
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	<p>Vegetation clearing will reduce the availability of local fauna habitat by 11.72 ha.</p> <p>With respect to the 'significant impact criteria' identified in Table 3 of DSEWPaC's '<i>Referral guidelines for three species of Western Australian Black Cockatoos</i>' (2012), when applied in terms of impact on habitat, based on the site assessment undertaken, the following findings are made:</p> <ul style="list-style-type: none"> <li>- There are no trees within the referral area with a DBH greater than 500 mm;</li> <li>- No evidence of past or present foraging, breeding or nesting was recorded on the referral area;</li> <li>- Remnant vegetation includes some potential Black-Cockatoo foraging habitat species but they are limited in number and distribution comprising only a relatively minor component of the remnant vegetation found within the referral area (approximately 4.14 ha).</li> </ul> <p>With respect to other Threatened species identified on DPaW and EPBC databases, their presence was considered to be unlikely due to the lack of suitable habitat available for each of the relevant species.</p> <p>Suitable habitat does exist within the referral area for the following Priority species: Perth Lined Lerista (<i>Lerista lineata</i>) P3, Carpet Python (<i>Morelia spilota imbricata</i>) P3 and the Southern Brown Bandicoot /Quenda (<i>Isoodon obesulus fusciventer</i>) P5.</p>

Proponent to complete.		
7	<p>Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:</p> <ul style="list-style-type: none"> <li>• <i>Avoidance - avoiding the adverse environmental impact altogether;</i></li> <li>• <i>Minimisation - limiting the degree or magnitude of the adverse impact;</i></li> <li>• <i>Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and</i></li> <li>• <i>Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.</i></li> </ul>	<p>A Vegetation and Fauna Management Plan (VFMP) be prepared to the satisfaction of the City of Mandurah prior to vegetation clearing commencing. A component of the VFMP will be a fauna trapping and relocation management program that will be implemented to avoid adverse impacts upon resident fauna during the vegetation clearing and construction phases. Fauna trapping and relocation will be undertaken by a fauna consultant who has liaised with the DPaW. The fauna consultant will be required to have been issued with a <i>Regulation 15 Permit to Take Fauna for Educational or Public Purposes</i> for the purposes of implementing the trapping and relocation work in accordance with the approved VFMP.</p> <p>The majority of the Tuart trees identified during the survey as having the potential to become hollow bearing (hollows large enough for nesting Black Cockatoos are usually only found in trees that are more than 200 years old), are located within the western portion of the referral area that has been identified as an area of POS. Given that this area of POS will be consolidated with the existing Tuart Park, these trees will be protected in perpetuity.</p>

Proponent to complete.		
8	<p>Residual impacts – review the residual impacts against the EPA objectives.</p> <p><i>It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA’s objective for this factor would be met if residual impacts remain. This will require:</i></p> <ul style="list-style-type: none"> <li>• <i>quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;</i></li> <li>• <i>putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and</i></li> <li>• <i>comparison against any established environmental policies, guidelines, and standards.</i></li> </ul>	<p>Approximately 4.14 ha of Tuart (<i>Eucalyptus gomphocephala</i>), Chenille Honeymyrtle (<i>Melaleuca huegelii</i>) and Slender Banksia (<i>Banksia attenuata</i>) habitat contains potential foraging habitat for black cockatoos, there are no known breeding or roosting sites within the referral area.</p> <p>Approximately 1,130.56 ha of suitable foraging/breeding habitat for the Black-Cockatoo species habitat are conserved within nearby conservation reserves including Caddadup Reserve, Tim’s Thicket Reserve, City of Mandurah Reserve, Melros Reserve and a portion of Yalgorup National Park (<b>Attachment 10</b>). The proposed clearing of approximately 4.14 ha of potential Black Cockatoo habitat therefore represents approximately 0.36% of Black-Cockatoo habitat protected within these reserves.</p>
9	<p>EPA’s Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to <a href="#">EAG 9</a></p>	<p><input checked="" type="checkbox"/> <i>meets the EPA’s objective</i></p> <p><input type="checkbox"/> <i>may meet the EPA’s objective</i></p> <p><input type="checkbox"/> <i>is unlikely to meet the EPA’s objective</i></p>

Proponent to complete.		
10	Describe any assumptions critical to your conclusion (in Question 9). <i>e.g. particular mitigation measures or regulatory conditions.</i>	<p>The survey was undertaken by Dr John Scanlon a senior zoologist with Ecoscape (Australia) Pty Ltd who has extensive fauna field survey experience on the Swan Coastal Plain. The fauna survey limitations analysis identify that constraints ranged from 'no' to 'negligible' (refer to <b>Attachment 4</b>).</p> <p>The survey was undertaken within the known breeding season for Black Cockatoos and the lack of hollows observed and trees sufficiently large enough to support hollows, collectively reduce the likelihood for Black Cockatoo breeding habitat to be available within the referral area. Both the DPaW database and anecdotal evidence indicates that the nearest Black Cockatoo breeding locations are known to breed in an area of Dawesville approximately 5 km to the south of the referral area. The extent of foraging habitat within the referral area is relatively small compared to the extent that is available on both a local and regional scale.</p> <p>The addition of 1.9 ha of Tuart woodland to the existing Tuart Park POS will include most of the older tall timbers with the potential over time to develop breeding hollows.</p>

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, as defined in <a href="#">EAG 8</a>	<b>AIR QUALITY AND ATMOSPHERIC GASES</b>
2	EPA Objective, as defined in <a href="#">EAG 8</a>	To maintain air quality for the protection of the environment and human health and amenity, and to minimise the emission of greenhouse and other atmospheric gases through the application of best practice.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	<p>Guidance Statement 3 – <i>Separation Distances between Industrial and Sensitive Land Uses</i> (EPA, 2005)</p> <p>Guidance Statement 33 - <i>Environmental Guidance for Planning and Development</i> (EPA, 2008)</p> <p>Guidance Statement 55 - <i>Implementing best practice in proposals submitted to the EIA process</i> (EPA, 2003)</p> <p>State Planning Policy 4.1 - <i>State Industrial Buffer</i> (Amended) (Draft) (WAPC, 1997)</p>

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
4	<p>Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:</p> <ul style="list-style-type: none"> <li>• <i>anticipated level of public interest in the impact;</i></li> <li>• <i>consultation with regulatory agencies; and</i></li> <li>• <i>consultation with community.</i></li> </ul>	<p>In light of the Department of Environment Regulation's (DER) draft Guidance Statement on Land use planning, consultation will need to be undertaken with the DER and Water Corporation (the owner of the Caddadup WWTP) with respect to the findings of the odour modelling undertaken (refer to <b>Attachment 3</b>).</p>
5	<p>Baseline information - describe the relevant characteristics of the receiving environment.</p> <p><i>This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.</i></p>	<p>The original Florida Beach ODP was approved by the WAPC in 1996. A revision to the Florida ODP was undertaken in 2011 in order to provide detailed planning of the Florida Neighbourhood Centre. The ODP was approved by Council on the 26 July 2011 and endorsed for implementation by the WAPC on the 11 November 2011 (refer to <b>Attachment 7</b>). Both versions of the Florida Beach ODP identified a 400m buffer to the Caddadup WWTP although the incorporation of the buffer was not based upon odour modelling but was adopted as a standard setback to development.</p> <p>The Caddadup WWTP is located within a low-lying area (8-12m AHD) with local ridges rising to 24m AHD located to the north, east and south. The adjacent golf course located to the west is near to the same local height level as the WWTP.</p> <p>Except for the golf course greens the vegetation surrounding the WWTP is predominantly dense ranging in height from 2 to 5 metres (refer to Figures 2 and 3 in <b>Attachment 3</b>).</p>

**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	<p>The odour impact assessment methodology used by <i>Environmental Alliances</i> is the approach recommended by the DER to assess air quality impacts from industrial proposals i.e. modelling the dispersion of air emissions as described of “Air Quality Modelling Guidance Notes” (DEP 2006) and comparing the predictions to criteria for acceptable impacts. With respect to odour more specifically, the DER has published an “Odour Methodology Guideline” (DEP 2002).</p> <p>In order to compare the odour levels from the WWTP to the EPA’s criterion for acceptable odour impacts at residential areas, the dispersion of the odour emissions must be modelled over a full year in this case the period from 1 July 2013 to 30 June 2014 was used. The 8,760 1-hour average concentration values predicted by the model at each grid point are then ranked from highest to lowest. The 99.9 percentile is the 9th highest ranked concentration. The 99.5 percentile is the 44th highest ranked concentration. The 9th or 44th highest 1-hour average concentrations at each gridded receptor may then be contoured using a computer software package to draw continuous lines of equal concentrations. The software interpolates the concentrations required for the contours as selected by the user between the values predicted at each discrete grid point. The highest 1-hour average 99.9 percentile ground-level concentration predicted anywhere on the modelling grid was only 5 ou. This is within the WWTP boundary. Therefore, both the DER’s and Water Corporation’s 99.9 percentile criterion are actually met at the boundary of the WWTP. The highest 1-hour average 99.9 percentile ground-level concentration predicted at the most affected location of proposed development area is only 18% and 28% of the DER’s and Water Corporation’s criterion respectively. The highest 1-hour average 99.5 percentile ground-level concentration predicted anywhere on the modelling grid was 3.4 ou. This is within the WWTP boundary. The highest 1-hour average 99.5 percentile ground-level concentration predicted at the most affected location of proposed development area is only 32% of the DER’s criterion.</p> <p>The predicted 2.5 ou 1-hour average 99.5 percentile contour is shown in Figure 5 of <b>Attachment 3</b>. The closest part of the criterion contour is still some 300 metres away from the northern boundary of the proposed development. As far as can be determined, the predicted odour levels from the Caddadup WWTP easily meet all relevant criteria for residential acceptability within the revised proposed development area – that is, 100 metres further north into the southern extent of the current 400 metre odour buffer .</p>
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**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

7	<p>Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:</p> <ul style="list-style-type: none"> <li>• <i>Avoidance - avoiding the adverse environmental impact altogether;</i></li> <li>• <i>Minimisation - limiting the degree or magnitude of the adverse impact;</i></li> <li>• <i>Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and</i></li> <li>• <i>Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.</i></li> </ul>	<p>From 2008, the Caddadup WWTP was upgraded by the Water Corporation as part of a program of works designed to increase treatment capacity and efficiency, produce treated wastewater suitable for reuse, as well as reduce odour emissions. Works undertaken during the upgrade included:</p> <ul style="list-style-type: none"> <li>- installation of bioscrubbers and sealing of inlet works to reduce odour emissions;</li> <li>- construction of in-tank mechanical screening;</li> <li>- construction of additional aeration tank and clarifier;</li> <li>- construction of aerated biosolids storage and thickening tank; and</li> <li>- construction of a common biosolids dewatering facility. The new dewatering facility will eliminate the need for existing sludge lagoons at the three plants, reducing odour and simplifying transport of biosolids for reuse or disposal.</li> </ul> <p>The odour modelling undertaken indicates that the closest part of the criterion contour is approximately 300 metres away from the northern boundary of the proposed development footprint. Assuming that Caddadup Reserve (Reserve 2851) will be retained in its current form by the City of Mandurah (i.e. the topography and vegetation that currently exist will remain <i>in situ</i>) then no mitigation measures will be required to be implemented.</p>
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**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

<p>8</p>	<p>Residual impacts – review the residual impacts against the EPA objectives.</p> <p><i>It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA’s objective for this factor would be met if residual impacts remain. This will require:</i></p> <ul style="list-style-type: none"> <li>• <i>quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;</i></li> <li>• <i>putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and</i></li> <li>• <i>comparison against any established environmental policies, guidelines, and standards.</i></li> </ul>	<p>The maximum predicted odour concentrations from the Caddadup WWTP at the most affected location of the proposed development for the statistic closest to the criterion (DER’s 99.5 percentile) is only 32 % giving a margin of safety of odour concentrations of approximately three.</p> <p>The odour at the criterion level (DER’s 99.5 percentile) is still at least 300 metres away from the northern boundary of the proposed development – in other words, giving a margin of safety of approximately 300 meters.</p> <p>These outcomes need to be cautioned by the uncertainties in the variability in odour emissions due to aspects such as seasonal factors, operating conditions and equipment failures at the WWTP. The latter uncertainties are out of the control of the proponent.</p> <p>The criteria currently used by the DER to assess acceptable odour impacts is:</p> <ul style="list-style-type: none"> <li>- for sources other than wake-free stacks: C99.9,1hr=8ou and C99.5,1hr=2.5ou; and</li> <li>- for wake-free stacks: C99.9,1hr = 1.6 ou and C99.5=0.5ou.</li> </ul> <p>For WWTP odours, the Water Corporation uses a maximum odour level at the boundary of the buffer zone of 5 ou for 99.9 per cent of the time (CEE 2009). The Water Corporation has ascertained that the 5 ou level of odour encompasses the zone of odour complaints from the urban community and also the zone in which odour can be perceived as annoying, based on correlation of odour complaints and odour modelling around the existing Halls Head, Broome, Subiaco, Mandurah, Woodman Point and Beenyup treatment plants. This criterion has recently been endorsed by the EPA in determining an acceptable level of odour for sensitive land uses (EPA Bulletin 1272, October 2007) (CEE 2009). This criterion is abbreviated as: C99.9,1hr=5ou. This criterion applies to WWTP sources other than wake-free stacks as well as WWTP wake-free stacks.</p> <p>All odour sources at the Caddadup WWTP are wake-affected therefore the criteria that can be applied are:</p> <ul style="list-style-type: none"> <li>- C99.9,1hr=8ou (DER/EPA);</li> <li>- C99.9,1hr=5ou (Water Corporation); and</li> <li>- C99.5,1hr=2.5ou (DER).</li> </ul>
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**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to <a href="#">EAG 9</a>	<input checked="" type="checkbox"/> <i>meets the EPA's objective</i> <input type="checkbox"/> <i>may meet the EPA's objective</i> <input type="checkbox"/> <i>is unlikely to meet the EPA's objective</i>
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**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

<p>10</p>	<p>Describe any assumptions critical to your conclusion (in Question 9). <i>e.g. particular mitigation measures or regulatory conditions.</i></p>	<p>The CALPUFF modelling system was used for modelling odour dispersion from the Caddadup WWTP. The “model” consists of three main components; CALMET - a diagnostic 3-dimensional meteorological model, CALPUFF - an air quality dispersion model, and CALPOST - a post-processing package. This model has been adopted by the U.S. Environmental Protection Agency (US EPA) in its “Guideline of Air Quality Models” as the preferred model for assessing long range transport of pollutants and their impacts on Federal Class I areas and on a case-by-case basis for certain near-field applications involving complex meteorological conditions (Environmental Protection Agency 2003). The combination of low level, non-buoyant emission sources at the Caddadup WWTP and the various different surrounding land types and roughness lengths imply that local plume dispersion will be subject to complex influences. These issues necessitate the use of this type of model for realistic predictions of dispersion.</p> <p>Key assumptions used for the CALPUFF modelling included:</p> <ul style="list-style-type: none"> <li>- cartesian 61 x 65 grid with 25 m spacing;</li> <li>- PG dispersion coefficients</li> <li>- rural wind profile exponents ; and</li> <li>- terrain heights obtained from the 1s (approximately 30 metres) SRTM 2010 Smoothed Digital Elevation Model (DEM-S).</li> </ul> <p>The modelling results have incorporated the following conservative assumptions:</p> <ul style="list-style-type: none"> <li>- Constants in Weber-Fechner equation to estimate field odour concentrations (DOC=10ou) likely to over-state the concentrations. The Water Corporation’s odour assessment methodology assumes a DOC=5ou for WWTP odours hence this assumption may be conservative by a factor of two;</li> <li>- Even with the over-estimated field odour concentrations, the modelling predictions for the field conditions were generally a factor of two higher;</li> </ul> <p>It is therefore considered that the level of conservatism in the modelling results is up a factor of four.</p>
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## FIGURES