

# Site Inspection Report

Environment Section  
Assets Planning and Delivery



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<b>Subject:</b>	<b>Targeted Orchid Survey Follow Up</b>
<b>Prepared By:</b>	Klara Allsopp/Vanessa Clarke (orchid IDs)
<b>Team:</b>	EIA and Approvals
<b>Prepared For:</b>	CD00116 – Vasse Diversion Drain Upgrade Project
<b>Date:</b>	12/10/2019
<b>Nexus ID:</b>	<a href="https://nexus.watercorporation.com.au/otcs/cs.exe/app/nodes/81387106">https://nexus.watercorporation.com.au/otcs/cs.exe/app/nodes/81387106</a>

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## Works and Site Details

The Vasse Diversion Drain Upgrade project is seeking environmental approval through a Bilateral Assessment process. In 2017 the project proposal was referred under the EPBC Act and the determination of Controlled action for a number of threatened species including the *Caladenia procera* (Carbanup King Spider Orchid).

In July 2019, EcoEdge was engaged to conduct a Targeted Orchid and PEC survey along the drain alignment to comply with the *Survey Guidelines for Australia's threatened orchids: Guidelines for detecting orchids listed as 'Threatened' under the EPBC Act 1999* (Commonwealth of Australia 2013).

On 23 September 2019 EcoEdge provided initial findings, including the locations of several sites with orchid species, including 1 site with confirmed *C. procera*, and a number of other sites with orchids and potential *C. procera* specimens. Mud maps with indicative locations have been included in **Attachment 1**.

## Methodology

On Wednesday 25 September 2019 and Saturday 12 October 2019, Klara Allsopp, a qualified Environmental Scientist, visited the potential locations as indicated by the consultant. Sites had been marked by the consultant and surveyor with Red tags. These tags were utilised as guidance for taking additional photos for further identification of species within a 1.5 m radius of the red tape.

GPS co-ordinates of the photos were taken using the *MyGPSCoordinates* application with an accuracy of +/- 5 m. A confirmation photo of the location, with the red tape was taken along with orchids located at that location.

Photographs have been labelled and provided to Vanessa Clarke, a qualified Botanist, for further identification of presence/absence of *C. procera*.

## Results

Photos of orchids located at sites indicated by EcoEdge were taken using an iPhone 8, with a tape measure for scale were appropriate. The photos have been provided to Vanessa Clarke for comments and advice, noted in the Tables below.


# Site Inspection Report



Location	Date	Photo	Notes
-33.664768, 115329588	25/09/2019		<i>Caladenia latifolia</i> (Pink fairies)
-33.664768, 115329588	25/09/2019		<i>Caladenia latifolia</i> (Pink fairies)

# Site Inspection Report



Location	Date	Photo	Notes
-33.664768, 115.329588	25/09/2019		<i>Caladenia latifolia</i> (Pink fairies)
-33.664791, 115.329552	25/09/2019		<i>Caladenia attigens</i> subsp. <i>attigens</i> (Forest mantis orchid)

# Site Inspection Report





Location	Date	Photo	Notes
-33.664821, 115.329569	25/09/2019		<p><i>Caladenia attigens</i> subsp. <i>attigens</i> (Forest mantis orchid)</p>
-33.664998 115.330582	25/09/2019		<p><i>Caladenia</i> sp.</p>






# Site Inspection Report



Location	Date	Photo	Notes
Site photo - 33.664998 115.330582	25/09/2019		Site Photo ( <i>C. procera</i> in background) with <i>Lepidosperma</i> , under peppermints)
-33.664998 115.330582	25/09/2019		<i>C. procera</i>

# Site Inspection Report





Location	Date	Photo	Notes
-33.664998 115.330582	25/09/2019		<i>C. procera</i> leaf stem
-33.664998 115.330582	25/09/2019		<i>C. procera</i> leaf
-33.664998 115.330582	25/09/2019		<i>C. procera</i> , leaf stem





# Site Inspection Report



Location	Date	Photo	Notes
Site photo- 33.664388, 115.326655	12/10/2019		Location Photo (open peppermint woodland)
-33.664388, 115.326655	12/10/2019		<i>C. attigens</i> subsp. <i>attigens</i>

# Site Inspection Report



Location	Date	Photo	Notes
-33.664388, 115.326655	12/10/2019		<i>Caladenia</i> sp.
Site photo -33.664785, 115.329569	12/10/2019		Location Photo





# Site Inspection Report



Location	Date	Photo	Notes
-33.664785, 115.329569	12/10/2019		<i>C. attigens</i> subsp. <i>attigens</i>
-33.664785, 115.329569	12/10/2019		<i>C. attigens</i> subsp. <i>attigens</i>


# Site Inspection Report



Location	Date	Photo	Notes
-33.664785, 115.329569	12/10/2019		<i>C. attingens</i> subsp. <i>attingens</i>
-33.664785, 115.329569	12/10/2019		Orchid sp. possibly <i>Elythranthera brunonis</i>

# Site Inspection Report





Location	Date	Photo	Notes
<p>-33.664971, 115.330440</p>	<p>12/10/2019</p>		<p>Poor Quality photo, no other specimens found at this location.</p> <p>Leaf and stem only.</p>
<p>Site -33.665022, 115.330532</p>	<p>12/10/2019</p>		<p>Location Photo</p>





# Site Inspection Report



Location	Date	Photo	Notes
-33.665022, 115.330532	12/10/2019		<i>C. attingens</i> subsp. <i>attingens</i>
-33.665022, 115.330532	12/10/2019		<i>C. attingens</i> subsp. <i>attingens</i> and <i>Microtis</i> ? <i>media</i>

# Site Inspection Report



Location	Date	Photo	Notes
-33.665022, 115.330532	12/10/2019		<p><i>C. procera</i> Identified in the EcoEdge Survey and in the site visit 25/09/2019</p>
-33.665022, 115.330532	12/10/2019		<p><i>C. procera</i> Identified in the EcoEdge Survey and in the site visit 25/09/2019</p>



## Evaluation

The *Caladenia procera* (Carbunup King Spider Orchid) is a perennial herb that dies back to a dormant tuber during summer. The species grows to approximately 70 cm tall, and has a single, pale green leaf that is 10–30 cm long and 6–10 mm wide. Each plant has 1–3 spider-like flowers. The stiffly-held petals and sepals of the flowers are greenish lemon yellow with lines and spots of dark maroon to pink (Hoffman & Brown 1998; Stack & English 2004; TSSC 2008).

The Corporation engaged Russel Smith, through EcoEdge Consulting, to conduct a targeted Orchid survey in preparation for the submission of a variation to referral 2017/7932, CPS8191/1 Vasse Diversion Drain Upgrade. In compliance with the *Survey Guidelines for Australia's threatened orchids: Guidelines for detecting orchids listed as 'Threatened' under the EPBC Act 1999* (Commonwealth of Australia 2013).

The Corporation received notification on 23/09/2019 from EcoEdge that a positively identified specimen of *C. procera* had been located within the targeted survey area. Russel advised that there were a number of orchids located within the survey area that were not yet in flower and species identification was not possible. In order to obtain a level of certainty around the number of DRF specimens present, additional site visits were undertaken for monitoring and confirmation only. These visits were not compliant with regulatory requirements for biological surveys, but merely an opportunity to capture further photos of orchids as they came into flower.

GPS data utilised for navigation during these site visits has an accuracy of +/- 5 m (although the phone application is not verifiable). Red survey markers were utilised for positive identification of the actual sites. Accurate location of the orchids will be taken using a DGPS and qualified Surveyor, and will be provided in the Targeted Orchid and PEC survey (EcoEdge 2019).

Both site visits confirmed that only one specimen of the *Caladenia procera* species was located within the development area.

A level of significance of potential impacts on the plants is unable to be determined until the detailed design footprint, with the intended clearing area is finalised.

## References

Hoffman, N. & A. Brown (1998). *Orchids of South-west Australia Rev.* 2nd edn. Nedlands, Western Australia: University of Western Australia Press. (Online 2019).

## Attachments:

Attachment 1a & 1b: EcoEdge Mud Maps (received from EcoEdge 23 September 2019)

Attachment 2: Vasse Diversion Drain CD00116 Orchid Locations 25 September 2019

Attachment 3: Vasse Diversion Drain CD00116 Orchid Locations 12 October 2019





## Attachment 1

EcoEdge Mud Maps (received from EcoEdge 23 September 2019)

# Legend

Survey Boundary

## Threatened Flora

- Caladenia procera
- Caladenia procera?



Basemap: openstreetmap.org



Project: Vasse Diversion Drain  
Targetted Flora and Vegetation  
Survey  
September 2019

Aerial image: Landgate 2018  
Datum: GDA94  
Date Drawn: 9/09/2019  
Drawn By: C. Spencer



Preliminary Results - Targetted search for Caladenia procera

0 25 50 m





## Legend

Survey Boundary

### Threatened Flora

- Caladenia procera
- Caladenia procera?



Basemap: [openstreetmap.org](https://openstreetmap.org)



Project: Vasse Diversion Drain  
Targetted Flora and Vegetation  
Survey  
September 2019

Aerial image: Landgate 2018  
Datum: GDA94  
Date Drawn: 9/09/2019  
Drawn By: C. Spencer



Preliminary Results - Targetted search for *Caladenia procera*

0 25 50 m







## Attachment 2

Vasse Diversion Drain CD00116 Orchid Locations 25 September 2019

345,000

345,500

6,274,000

6,274,000



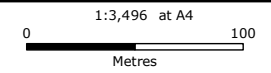
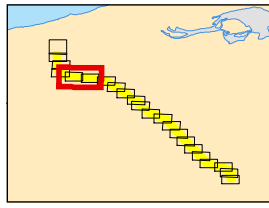
File: S:\AA\_EIA\_GIS\1\_Projects\Capital\CD00116 - Busselton Upgrade Vasse Diversion Drain\ArcMap\DAF\_VasseDrain\_vegetationclearing.mxd

345,500

**LEGEND**



DAF



Coordinate System: GDA 1994 MGA Zone 50  
Vertical Datum: AHD

AUTHOR: ALLSOPKO      DATE: 18/10/2019

BRANCH: DTG - MAPPING & GEOSPATIAL

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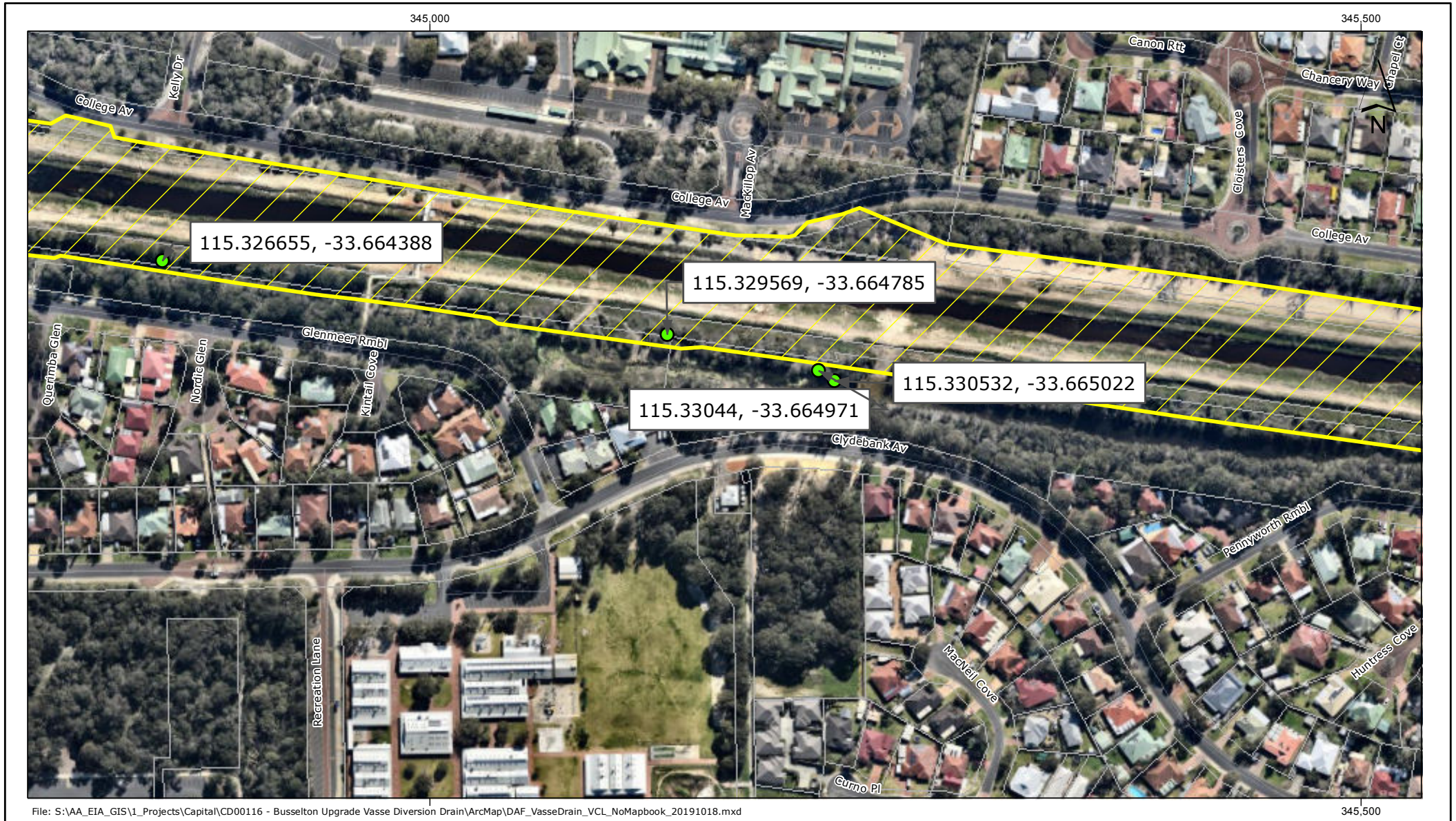
Vasse Diversion Drain  
CD00116  
Orchid Locations  
25 September 2019



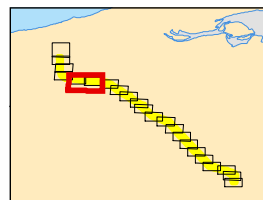


## Attachment 3

Vasse Diversion Drain CD00116 Orchid Locations 12 October 2019



**LEGEND**  
 DAF



1:2,801 at A4

0 100  
Metres

Coordinate System: GDA 1994 MGA Zone 50  
Vertical Datum: AHD

AUTHOR: ALLSOPKO	DATE: 18/10/2019
BRANCH: DTG - MAPPING & GEOSPATIAL	

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Vasse Diversion Drain  
 CD00116  
 Orchid Locations  
 12 October 2019