MAKING COMPLEX EASY
A TETRA TECH COMPANY

Level 3, 500 Hay Street
Subiaco, WA 6008
T +61 8 9211 1111

Our ref: 604-OEENVPER-17403

Date: 28 March 2025

Peta Brunel
Senior Environment and Development Planner
Tilt Renewables
Level 24 / 600 Bourke Street
Melbourne VIC 3000

Dear Peta,

Waddi Wind Farm: Targeted star sun orchid and sandplain duck orchid searches

Background

Waddi Wind Farm Pty Ltd, a subsidiary of a portfolio of companies that are trading as Tilt Renewables, is proposing to construct and operate the Waddi Wind Farm. The Waddi Wind Farm will consist of up to 18 wind turbines and generate enough combined renewable energy to power 68,000 homes per year. The 10,491- hectare (ha) project area, within which the Waddi Wind Farm will be constructed and operated, is located approximately 12 kilometres (km) north-west of Dandaragan in Cooljarloo, Western Australia.

The Waddi Wind Farm was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in August 2023. On 13 November 2023, a delegate of the Minister for the Environment and Water decided that the proposed action is likely to have a significant impact on matters protected under the EPBC Act, specifically threatened species and communities and migratory birds, and hence a controlled action. It was determined that the proposed action would be assessed by preliminary documentation.

Draft preliminary documentation was lodged by the proponent on 23 April 2024. On 28 May 2024, DCCEEW requested further information in relation to the draft preliminary documentation, identifying that additional targeted searches for the star sun orchid (*Thelymitra stellata*) and sandplain duck orchid (*Paracaleana dixonii*) would be required. RPS AAP Consulting Pty Ltd (RPS) was engaged by Tilt Renewables to conduct targeted searches for *Thelymitra stellata* and *Paracaleana dixonii* individuals to confirm the presence of these species within and proximate to the native vegetation clearing area indicated in Figure A.

Species description and habitat requirements

Star sun-orchid (*Thelymitra stellata*)

Thelymitra stellata is listed as Endangered under the EPBC Act by the Threatened Species Scientific Committee (TSSC). Endangered species face a very high risk of extinction in the wild in the near future. *Thelymitra stellata* is a tuberous, perennial herb that grows between 15 to 25 centimetres (cm) high on a robust stem. It has up to six symmetrical flowers, 2.5 to 3 cm in diameter. The flowers are usually golden

brown but may be yellow with orange stripes on the sepals and petals (Plate 1). *Thelymitra stellata* flowers from late September to November (DCCEEW 2008a[1]; Western Australian Herbarium (WAH) 1998-[2]).

At the base of the stem there is a curled leaf, up to 9 cm long and 4 cm wide. The leaf is usually withered by the time of flowering and the plant dies back below ground level after it has flowered. It is closely related to *Thelymitra jacksonii* and *Thelymitra fuscolutea,* but differs in having smaller, lighter coloured inflorescences, an earlier flowering time and is distributed further north (DCCEEW 2008; WAH 1998-).

Plate 1: Photograph of *Thelymitra stellata* within survey area

The species typically grows in habitats containing low heath and scrub in *Eucalyptus marginata* (jarrah) and *Eucalyptus wandoo* (wandoo) woodland and in low heath on lateritic hill tops (DCCEEW 2008a).

Thelymitra stellata is endemic to Western Australia where it is uncommon but occurs over a wide area and is known from at least 23 populations between Three Springs and Pinjarra, with a single disjunct occurrence near Dumbleyung. The populations are small, most numbering fewer than 10 plants. *Thelymitra stellata* is

[1] Department of Climate Change, Energy, the Environment and Water. 2008a. Approved conservation advice for *Thelymitra stellata* (Star sun-orchid). Accessed November 2024. https://www.environment.gov.au/biodiversity/threatened/species/pubs/7060-conservation-advice.pdf

[2] Western Australian Herbarium. 1998-. Florabase. *Thelymitra stellata* Lindl. Accessed November 2024. https://florabase.dbca.wa.gov.au/browse/profile/10862

conserved in Mt Lesueur National Park and Coomallo Nature Reserve, but some populations occur on private land or along roadsides (DCCEEW 2008a).

Ten *Thelymitra stellata* records are reported within 25 km of the project area by the DBCA's Threatened and Priority flora database, two of which are located within Coomallo Nature Reserve to the north (RPS 2023[3]; WAH 1998-). Sixteen *Thelymitra stellata* records (37 individuals) were detected within proteaceous heath vegetation by the Reconnaissance flora and vegetation survey undertaken for the project area (RPS 2023). *Thelymitra stellata* was not detected within any other vegetation community or by any of the preceding flora and vegetation surveys undertaken for the wind farm (Ecologia Environment 2016[4]; Outback Ecology 2014[5]; Outback Ecology 2010[6]).

All known *Thelymitra stellata* records have been avoided from direct impacts (i.e. clearing) to date by the wind farm design (Figure A).

Sandplain duck orchid (*Paracaleana dixonii*)

Paracaleana dixonii is listed as Endangered under the EPBC Act by the TSSC. Endangered species face a very high risk of extinction in the wild in the near future. *Paracaleana dixonii* is a tuberous, perennial herb growing from 9 to 20 cm high including one or two flowers. Flowers are yellow-brown and green with a unique 'duck like' inflorescence (Plate 2). It flowers October through January, with flowering being more profuse after summer bushfires (DCCEEW 2008b[7]; WAH 1998-).

Paracaleana dixonii's unique flowers and tall height makes it easily distinguishable from other members of the *Paracaleana* species group, including its nearest relative, the Broad-billed duck orchid (*Paracaleana triens*). *Paracaleana dixonii* has longer, and narrower linear leaf and longer flowering stem than the Broad-billed duck orchid. It has paler flowers and longer labellum lamina (DCCEEW 2008b).

[3] RPS. 2023. Reconnaissance flora and vegetation assessment – Waddi Wind Farm. Final report prepared for Tilt Renewables
[4] Ecologia Environment. 2016. Supplementary Flora, Vegetation and Fauna Survey. Unpublished report prepared for Waddi Wind Farm Pty Ltd
[5] Outback Ecology. 2014. Waddi Wind Farm spring Flora and Vegetation Survey and Black Cockatoo Habitat Survey. Unpublished report prepared for RPS
[6] Outback Ecology. 2010. Waddi Wind Farm spring Flora and Vegetation Survey and Black Cockatoo Habitat Survey. Unpublished report prepared for RPS
[7] DCCEEW. 2008b. Approved conservation advice for *Paracaleana dixonii* Hopper & A.P.Br. *nom.inval.* (Sandplain duck orchid). Accessed November 2024. https://www.environment.gov.au/biodiversity/threatened/species/pubs/82050-conservation-advice.pdf

Plate 2: Photographs of *Paracaleana dixonii*. Photos by G. Brockman, A.P. Brown & I. & M. Greeve (WA Herbarium 1998-)

Paracaleana dixonii grows in deep sand in open areas beneath dense tall shrubs with scattered banksias, or in heathland in shallow sand over laterite (DCCEEW 2008b).

Paracaleana dixonii is endemic to Western Australia and is currently known from at least eight populations from Arrowsmith, Eneabba and south to the Jurien Bay area. Five of these eight populations occur on nature reserves that have active mining leases and an adjacent railway reserve, two others occur in national parks and the other is on private property. There are another 11 populations previously recorded throughout this area, but plants have not been seen at these locations since the early 1990s. These populations were on a mixture of road verges, unallocated Crown land and national parks (DCCEEW 2008b).

Two *Paracaleana dixonii* records are reported within a 25 km of the project area by the DBCA's Threatened and Priority flora database (RPS 2023). No sandplain duck orchid records have detected by any of the flora and vegetation surveys undertaken for the wind farm (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010).

Methodology

The targeted orchid search was undertaken within the project area west of Mullering Brook plus a 5 metre buffered extent and the native vegetation clearing area east of Mullering Brook plus a 20 metre buffered extent. The spatial extent of the 83.46 ha buffered targeted search areas is presented in Figure A.

The targeted orchid search of the survey area was undertaken from 21 October to 24 October 2024 by RPS senior botanist Martin Henson assisted by Giles Glasson (Practice Leader), Richard Storey (Graduate Environmental Consultant) and Darcy Terpstra (Graduate Environmental Consultant).

Prior to the commencement of the targeted search, a brief reconnaissance search was undertaken for the known populations of star sun-orchids within the clearing area (as recorded by RPS (2023)) to ascertain the emergence and flowering status of a known population. Several of the known *Thelymitra stellata* individuals were located within the Waddi road clearing area (Figure A; page 16) and were used as a reference point for

the targeted search. The located individuals were in flower, but partially closed due to the cool and overcast weather conditions.

The targeted searches were undertaken in accordance with the DCCEEW's Draft Survey Guidelines for Australia's Threatened Orchids (DCEEW 2013)[8] and the Environmental Protection Authority's (EPA) Technical Guidance: Terrestrial flora and vegetation surveys for environmental impact assessment (EPA 2016)[9] to supplement the RPS (2023) assessment.

The targeted searches involved:

- Systematic grid-based foot-traverses at 5 to 10 metre spacings across the native vegetation clearing area and the nominal buffer areas. Transect separation was dependent on the density of the vegetation and presence of suitable orchid habitat (Plate 3)
- Survey track logs of the foot traverses were recorded on a hand-held GPS
- Weather and climate conditions were recorded prior to, and specifically for, each day of the targeted searches
- The area in the immediate vicinity of any recorded plants was searched using tighter transects (2.5 to 5 metres) to identify any additional individuals and determine the species' local size and distribution.

For any plants identified during the search, the following information was recorded:

- Location – UTM GDA94 datum coordinates on a hand-held GPS
- Number of individuals
- Health of population (senesced / alive; flowering stage)
- Photographs of each population and individuals for taxonomic determination if required.

See Table 1 for GPS model specifications and accuracy levels. Accuracy buffers of each GPS (as per manual specifications) have been mapped in Figure B.

The survey methodology implemented, as described above, was provided to DCCEEW for confirmation in July 2024, well ahead of survey commencement. The methodology provided to DCCEEW has been attached as Appendix A for reference.

[8] Department of the Environment. 2013. Draft survey guidelines for Australia's threatened orchids. Accessed November 2024. https://www.dcceew.gov.au/sites/default/files/documents/draft-guidelines-threatened-orchids.pdf

[9] Environmental Protection Authority. 2016. Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment, EPA, Western Australia.

Plate 3: Field survey team conducting systematic grid-based foot-transects

Table 1: GPS specifications

Brand	Model	Accuracy
Garmin®	GPS60	2-3 metres
	GPS700i	+/- 3.65 m
	GPSMAP66i	+/- 3.65 m
	GPSMAP67i	+/- 3.65 m

Results

Climate and weather

Climate data retrieved from the Bureau of Meteorology (BoM; BoM 2024)[10] shows that 2024 was a below average rainfall year (with 418.4 millimetres (mm) of rain received for the 12-month period prior to the search, representing approximately 81 % of the annual average of 519.3 mm since 1965). Rainfall the month prior to the survey (September) had almost 80 % less rain than the long-term average.

The EPA's Technical Guidance: Terrestrial flora and vegetation surveys for environmental impact assessment (EPA 2016) identifies that in periods of below average rainfall, supplementary sampling in succeeding years (with suitable rainfall) may be necessary to compensate for low diversity recorded during a survey (especially ephemeral species). This will be highly desirable in cases where drought is prolonged or in the absence of a range of species that might normally be expected in the environment.

[10] Bureau of Meteorology. 2024. Monthly rainfall – Badgingarra research station (closest BoM station with available data approximately 40 km north of the search sites). Accessed November 2024. http://www.bom.gov.au/climate/averages/tables/cw_009037.shtml

Although the month prior to the survey had significantly less rainfall than the long-term average, environmental conditions for the year were generally considered favourable for the emergence and detectability of terrestrial flora species.

The seasonal rainfall conditions for RPS (2023) were optimal for orchid emergence and flowering (19 mm above average in 2021 and 77 mm above average in 2022). Considering that the results of the targeted searches show high correlation with results of RPS (2023), and both the RPS (2023) searches and the current 2024 search had seasonal conditions conducive to orchid emergence, additional supplementary sampling in succeeding years is not considered to be required.

The weather and climate conditions specific to the days of the targeted search are shown in Table 2.

Table 2: Weather conditions during the survey

Day	Minimum temperature (°C)	Maximum temperature (°C)	Rainfall (mm)	Maximum wind speed (km/hr)	Cloud cover (%)
21/10/2024	8.6	20.6	3.8	37	25-50%
22/10/2024	5.6	22.1	0	37	75-85%
23/10/2024	8.9	27.4	0	41	0-15%
24/10/2024	11.4	33.0	0	44	0-15%

Targeted search

Thelymitra stellata

Twenty-five *Thelymitra stellata* records containing 34 individuals were identified within the survey area (Figure A; pages 11 and 16). Results are summarised as follows:

- Waypoints marked within the survey area on Page 11, Figure A, contained four records of *Thelymitra stellata* with five individuals
- Waypoints marked within the survey area on Page 16, Figure A, contained 21 records of *Thelymitra stellata* with 29 individuals
- All *Thelymitra stellata* individuals were recorded within proteaceous heath vegetation on gravelly hill tops in the east of the project area. This habitat type is considered to be the key assemblage for *Thelymitra stellata* in the project area.

There were twelve *Thelymitra stellata* records containing seventeen individuals within 10 metres of the native vegetation clearing area indicated in Figure A, page 16. Seven of these records containing 10 individuals were less than 5 metres away (Figure 1 - Figure 4).

One *Thelymitra stellata* orchid was mapped inside the road within the north-western portion of the Waddi Road survey area (Figure 1). The GPS used to record the orchid, GPSMAP67i, has an accuracy level of +/- 3.65 metres. This accuracy buffer intersects with the native vegetation clearing area in Figure 1. Given this and the cleared nature of the road, RPS considers that the record is located within the adjacent native vegetation clearing area.

Five *Thelymitra stellata* individuals were identified within the north-east area portion of the Waddi Road survey area (Figure 2). The GPS' used to record the orchids, GPSMAP66i and GPSMAP67i, have an accuracy level of +/- 3.65 metres. The GPS accuracy buffer for all records intersects with the native vegetation clearing area. It is possible that these orchids may be located within the native vegetation clearing area.

Two *Thelymitra stellata* individuals were recorded within the central portion of the Waddi Road survey area (Figure 3). The GPS used to record the orchids, GPSMAP67i, has an accuracy level of +/- 3.65 metres. The GPS accuracy buffer for one record intersects with the native vegetation clearing area. It is possible that the record may be located within the native vegetation clearing area.

Nine *Thelymitra stellata* individuals were identified within the south-east portion of the Waddi Road survey area (Figure 4). The GPS used to record the orchids, GPSMAP66i, has an accuracy level of +/- 3.65 metres.

The accuracy buffer for three of these records intersects with the native vegetation clearing area. It is possible that these records may be located within the native vegetation clearing area.

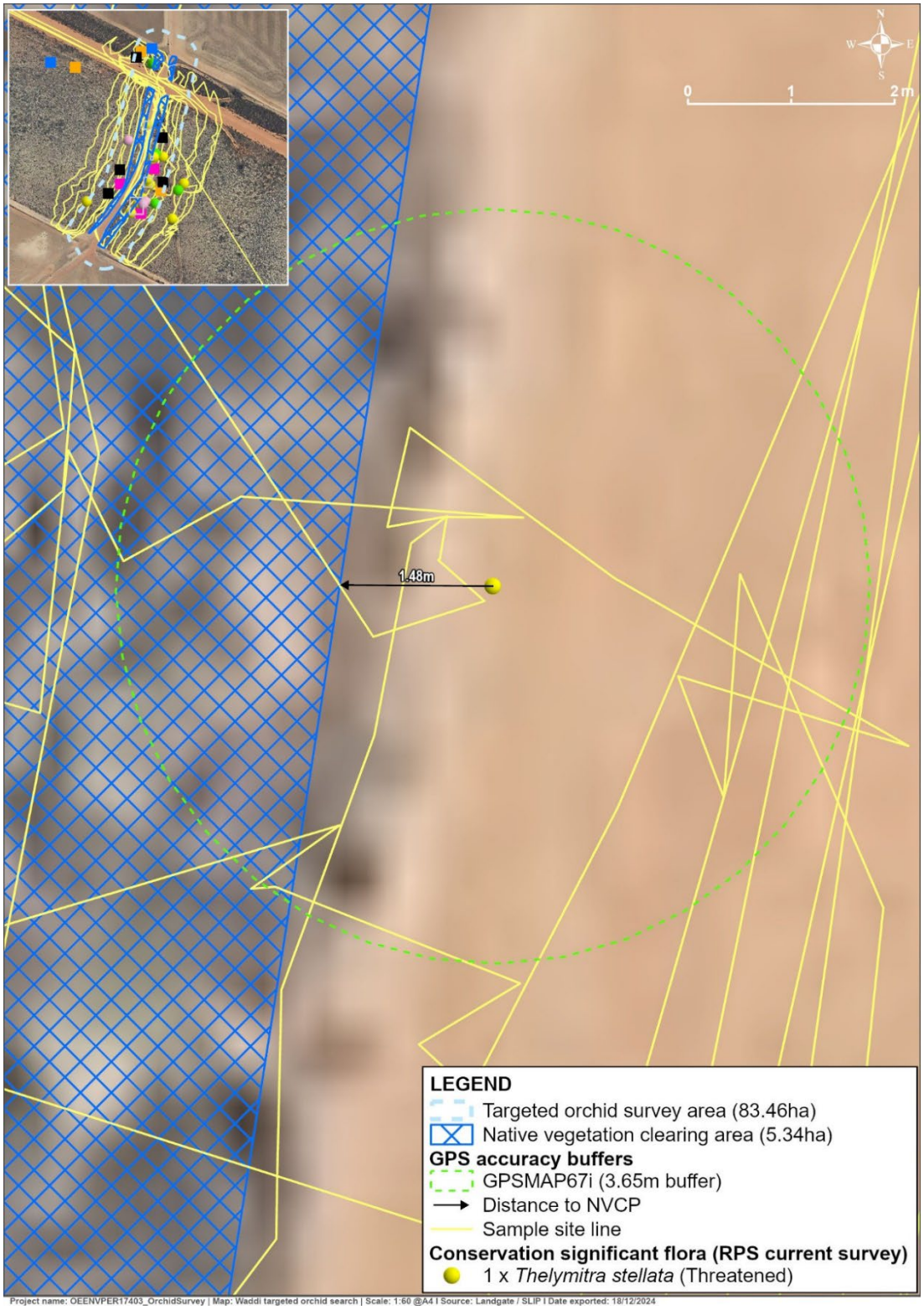


Figure 1 Native vegetation clearing area (north-western area) and *Thelymitra stellata* waypoints / track logs

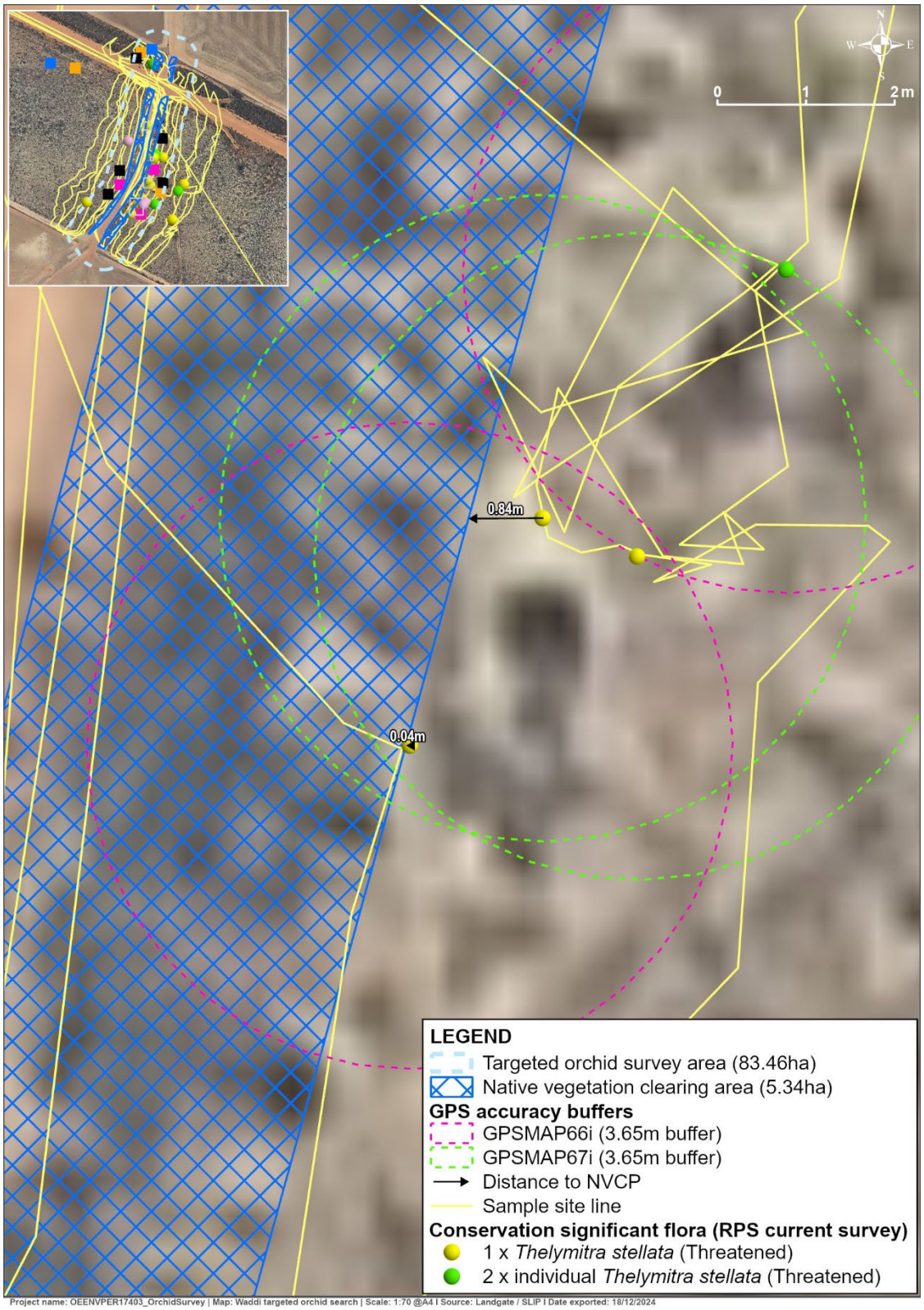


Figure 2 Native vegetation clearing area (north-east area) and *Thelymitra stellata* waypoints / track logs

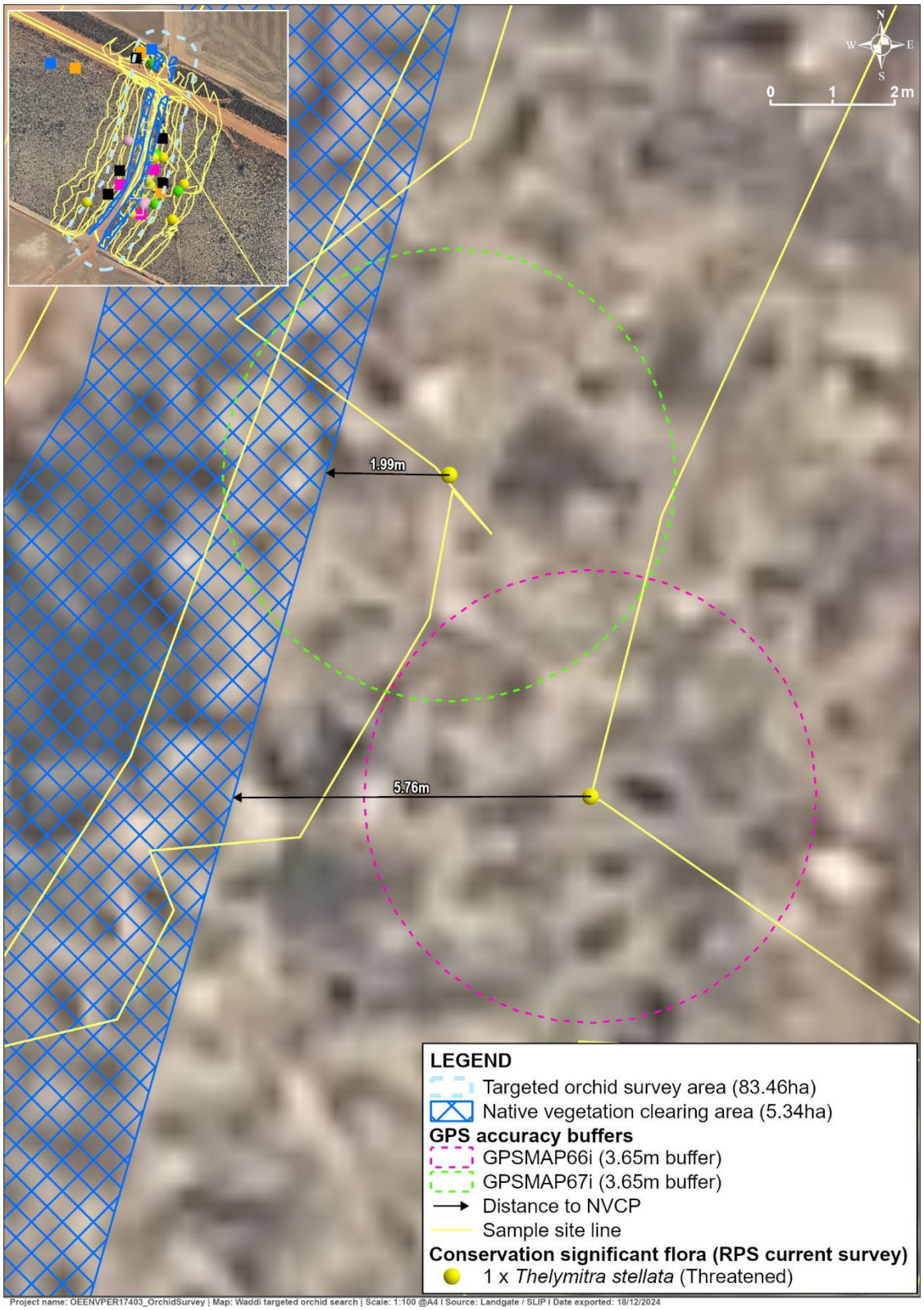


Figure 3 Native vegetation clearing area (central area) and *Thelymitra stellata* waypoints / track logs

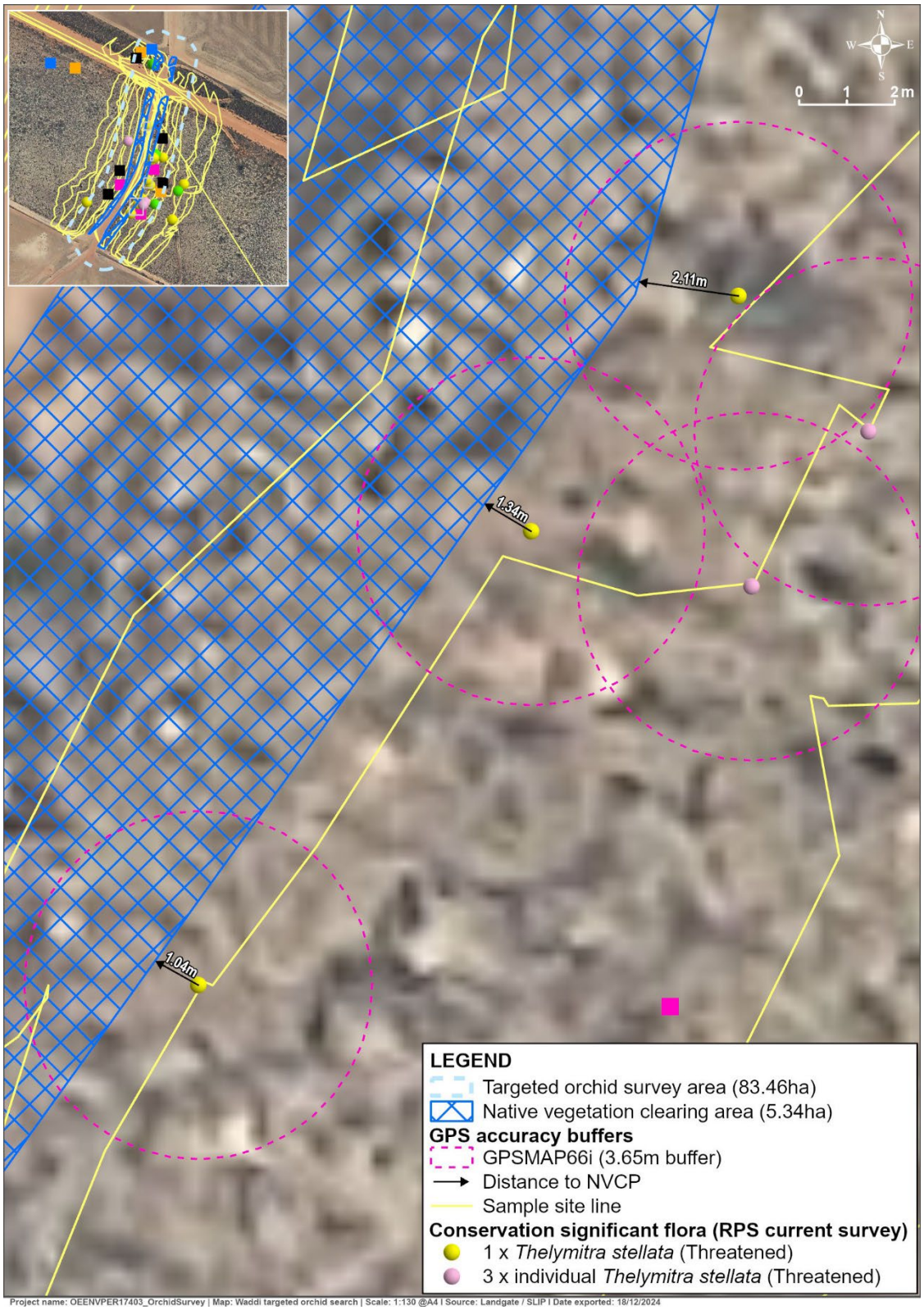


Figure 4 Native vegetation clearing area (south-east) and *Thelymitra stellata* waypoints / track logs

Paracaleana dixonii

No *Paracaleana dixonii* individuals were recorded by the targeted searches. *Paracaleana dixonii* requires deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (DCCEEW 2008b). These habitats within the survey area were thoroughly searched at the appropriate flowering time with no records identified.

Conclusions

The targeted searches of the survey area for *Thelymitra stellata* and *Paracaleana dixonii* were conducted by RPS in late October 2024 (i.e. known flowering time for both species). The targeted searches were undertaken in accordance with Draft survey guidelines for Australia's threatened orchids (DCCEEW 2013) and the Technical Guidance: Terrestrial flora and vegetation surveys for environmental impact assessment (EPA 2016) to supplement the RPS (2023) assessment.

The search identified 25 *Thelymitra stellata* records containing 34 individuals within the survey area. The area in the immediate vicinity of any recorded plants were searched with tighter transects (2.5 to 5 metres) to identify any additional individuals and determine the species' local size and distribution (Figure 1 - Figure 4).

All *Thelymitra stellata* individuals were recorded within proteaceous heath vegetation on gravelly hill tops in the east of the project area. This habitat type is considered to be the key assemblage for *Thelymitra stellata* in the project area.

Due to the cool and overcast weather conditions, the *Thelymitra stellata* plants that were in flower were generally not fully open. Despite this, *Thelymitra stellata* individuals were easily identifiable in the field given their unique characteristics (i.e. Single leaf and stem; curled leaf structure). Therefore, no samples were required to be taken for taxonomic determination.

Based on GPS accuracy buffers, it is possible that ten *Thelymitra stellata* individuals are located within the native vegetation clearing area in the Waddi Road survey area (Figure B; Figure 1 -Figure 4)

- One *Thelymitra stellata* orchid was mapped inside the road within the north-western portion of the Waddi Road survey area (Figure 1). The GPS used to record the orchid, GPSMAP67i, has an accuracy level of +/- 3.65 metres. This accuracy buffer intersects with the native vegetation clearing area in Figure 1. Given this and the cleared nature of the road, RPS considers that the record is located within the native vegetation clearing area
- Five *Thelymitra stellata* individuals were identified within the north-east area portion of the Waddi Road survey area (Figure 2). The GPS' used to record the orchids, GPSMAP66i and GPSMAP67i, have an accuracy level of +/- 3.65 metres. The GPS accuracy buffer for all records intersects with the native vegetation clearing area. It is possible that these orchids may be located within the native vegetation clearing area
- Two *Thelymitra stellata* individuals were recorded within the central portion of the Waddi Road survey area (Figure 3). The GPS used to record the orchids, GPSMAP67i, has an accuracy level of +/- 3.65 metres. The GPS accuracy buffer for one record intersects with the native vegetation clearing area. It is possible that the record may be located within the native vegetation clearing area
- Nine *Thelymitra stellata* individuals were identified within the south-east portion of the Waddi Road survey area (Figure 4). The GPS used to record the orchids, GPSMAP66i, has an accuracy level of +/- 3.65 metres. The accuracy buffer for three of these records intersects with the native vegetation clearing area. It is possible that these records may be located within the native vegetation clearing area.

Modification to the clearing area adjacent to the Waddi Road access track is proposed to avoid *Thelymitra stellata* records and maximise separation distances. The alternative access track location is visually depicted in Appendix B along with the proposed engineering controls.

To address the risk to the *Thelymitra stellata* records immediately proximate to the alternative Waddi Road access track / Native Vegetation Clearing Area, the following management and monitoring actions are proposed:

- Pre-Construction / During Construction:
  - Due to the proximity of the *Thelymitra stellata* records to the alternative Waddi Road access track:
    - the location of the *Thelymitra stellata* records is to be reviewed during their known flowering time (i.e. late September to November) using a differential GPS with a sub 1 metre accuracy
    - the revised location of the *Thelymitra stellata* records must be mapped relative to the alternative Waddi Road access track. The proposed clearing area will be modified (as required) to ensure that at least a 5 metre separation distance is maintained between the clearing area and any *Thelymitra stellata* record
    - vegetation clearing will be undertaken outside of the *Thelymitra stellata* growing and flowering season (i.e. clearing will be undertaken during the period that the plant is below ground level) to reduce the risk to the orchid individuals from dust deposition during their period of active growth and reproduction.
  - Installation of ring lock fencing along the boundary of the native vegetation clearing area, where a known *Thelymitra stellata* record is located within 20 metres of the clearing area / existing cleared access track prior to clearing commencing
    - Fencing is proposed to form a barrier between the clearing area and retained vegetation to prevent accidental clearing from taking place and is proposed to be retained for the duration of construction
    - Signage to be installed at 10 metre intervals: “Flora Protection Area – No Access”
  - Windbreak netting will be attached to the ring lock fencing for the duration of construction to minimise any encroachment of sand / dust during clearing / construction works into the retained vegetation
    - Fencing of retained vegetation containing known conservation significant flora records and provision of windbreak netting:
      - Is a standard management practice to address potential impacts from accidental clearing and dust deposition during construction projects; and
      - Has been demonstrated and proven to be an effective management measure to ensure ongoing persistence of native vegetation / flora species during construction works
    - Visual monitoring and inspection of the fencing and windbreak netting will be included in an environmental audit schedule to be implemented during construction to determine if or when repairs are required. Opportunistic visual observations of the fencing and windbreak netting may also be undertaken by other construction staff outside of the environmental audit schedule
  - Dust suppression measures will be implemented for the duration of construction to minimise dust generation during clearing / construction works
    - During clearing / construction, water carts will be used as required in dust-generating conditions and when higher levels of traffic are anticipated through the Waddi Road access track. To reduce risk of runoff from water carts, silt socks (or similar) will be deployed where a known *Thelymitra stellata* record is located within 5 metres of the clearing area / existing cleared access track
    - Site access points north and south of the Waddi Road access track will be stabilised with a layer of aggregate to minimise dust generation prior to use by construction machinery
    - Speed limits (20 km/h maximum) will be introduced when vehicles are traversing areas where a known *Thelymitra stellata* record is located within 20 metres (e.g. Waddi Road access track), to reduce the already low potential for additional dust to be generated. Signage indicating speed limits will be installed to ensure speed limits are adhered to

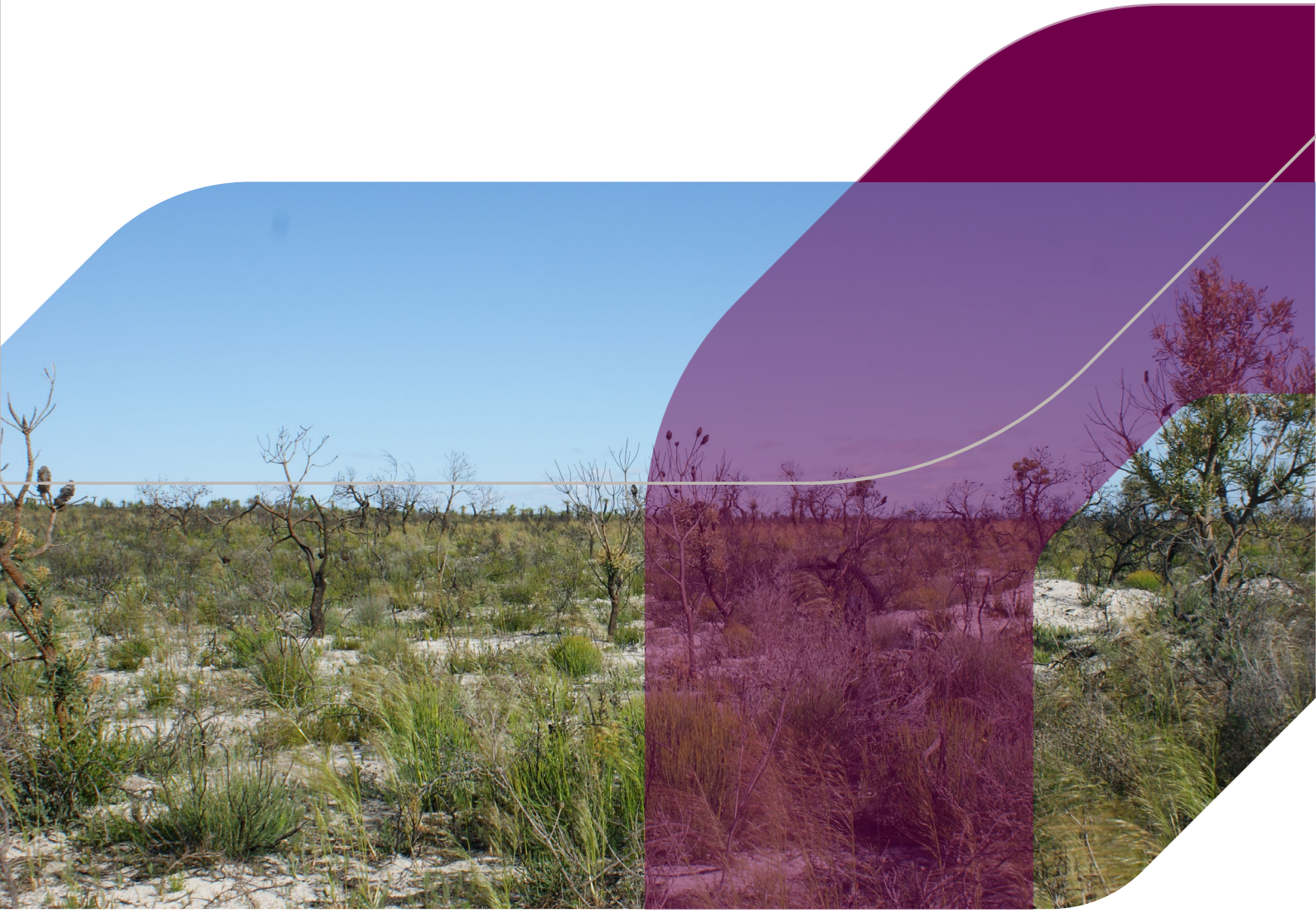
    - During periods of strong winds, water carts will be used on road sections within 20 metres of a known *Thelymitra stellata* record until wind speeds have substantially decreased
  - Monitoring of all known *Thelymitra stellata* records will be undertaken on an annual basis, within the known flowering time of the species (i.e. late September to November), during construction
- During Wind Farm Operation
  - Speed limit signage will remain in place along the Waddi Road access track at 20 km/h to minimise dust generation from vehicle movements associated with intermittent maintenance and monitoring of the northern turbines and associated infrastructure
  - Rink lock fencing, windbreak netting and silt socks (or similar) will be removed post construction completion
  - Monitoring of all known *Thelymitra stellata* records will be undertaken on an annual basis, within the known flowering time of the species (i.e. late September to November), for two years post construction completion.

Should you require further details or clarification, please do not hesitate to contact the undersigned.

Yours sincerely,
for RPS AAP Consulting Pty Ltd

Darcy Terpstra
Graduate Environmental Consultant
darcy.terpstra@rpsconsulting.com

Figures:



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

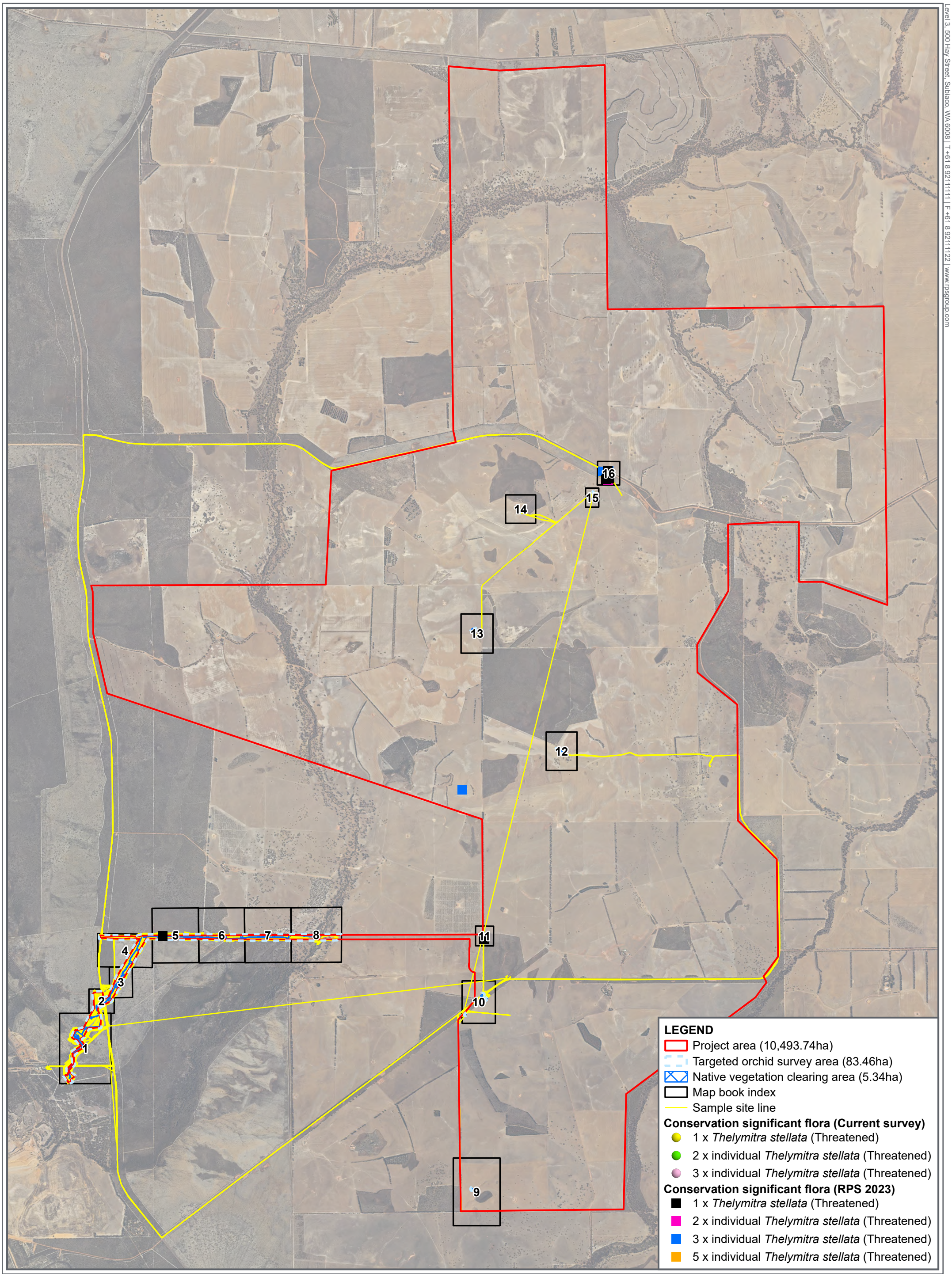


Figure A

Star sun-orchid and sandplain duck orchid targeted survey areas

GDA2020 MGA Zone 50

0 0.5 1 2 km

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_FigA_StarSunOrchidRecordsOverview
Date exported: 26/03/2025
Scale: 1:55,000 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

rps
A TETRA TECH COMPANY

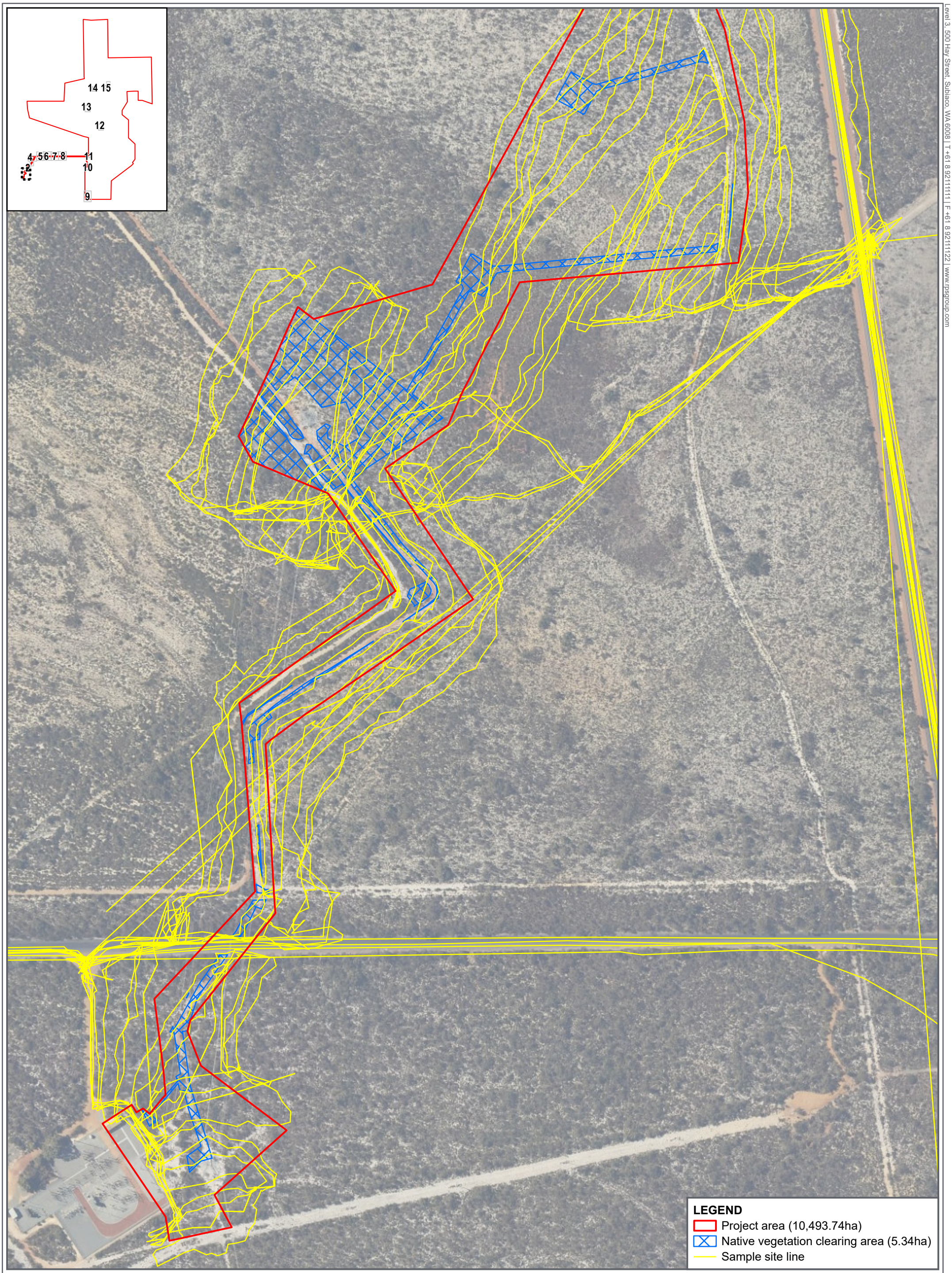


Figure A
Page 1 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 50 100 200 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:3,100 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

rps
A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

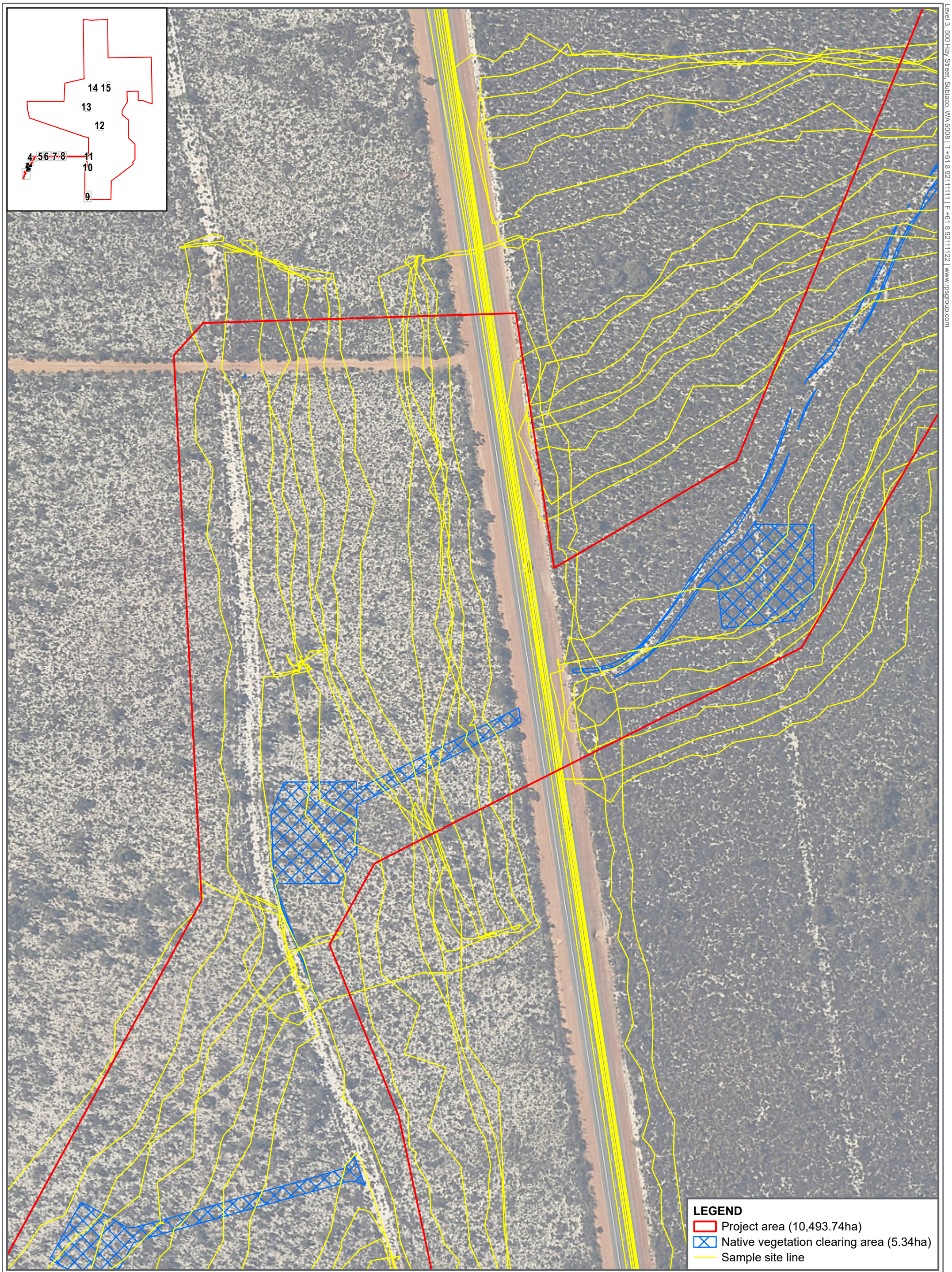


Figure A
Page 2 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 20 40 80 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,500 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

rps
A TETRA TECH COMPANY

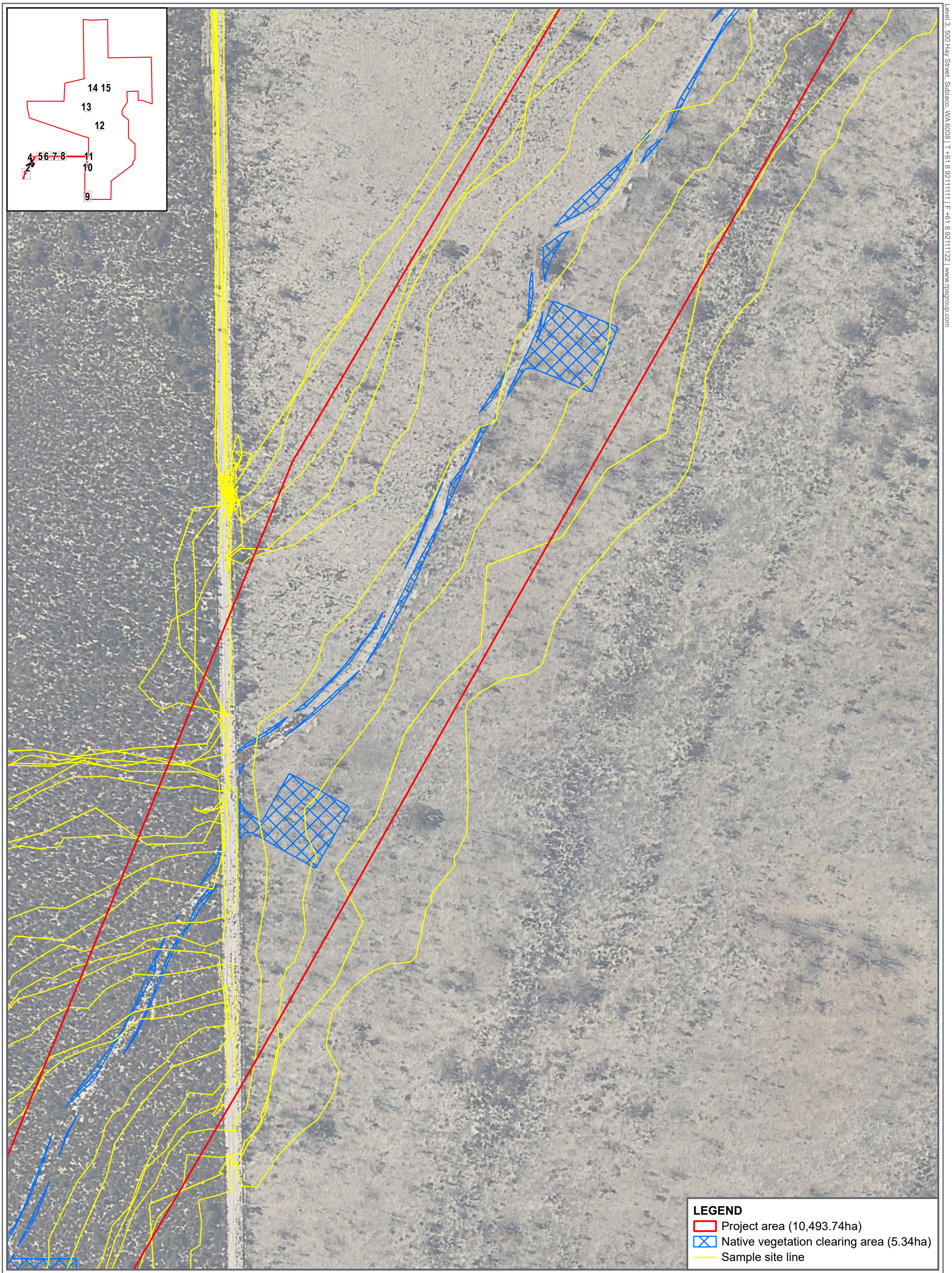


Figure A
Page 3 of 16

Star sun-orchid (*Thelymitra stellata*) records

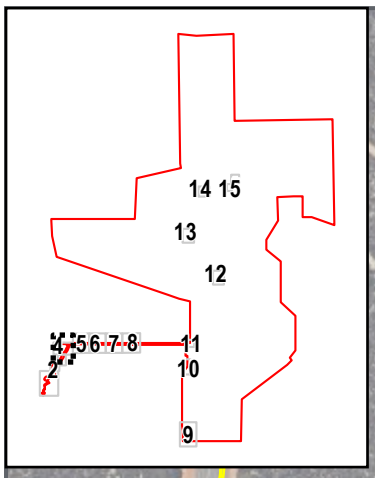
GDA2020 MGA Zone 50

0 20 40 80 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,400 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

rps
A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

LEGEND
- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Figure A
Page 4 of 16

Star sun-orchid (*Thelymitra stellata*) records

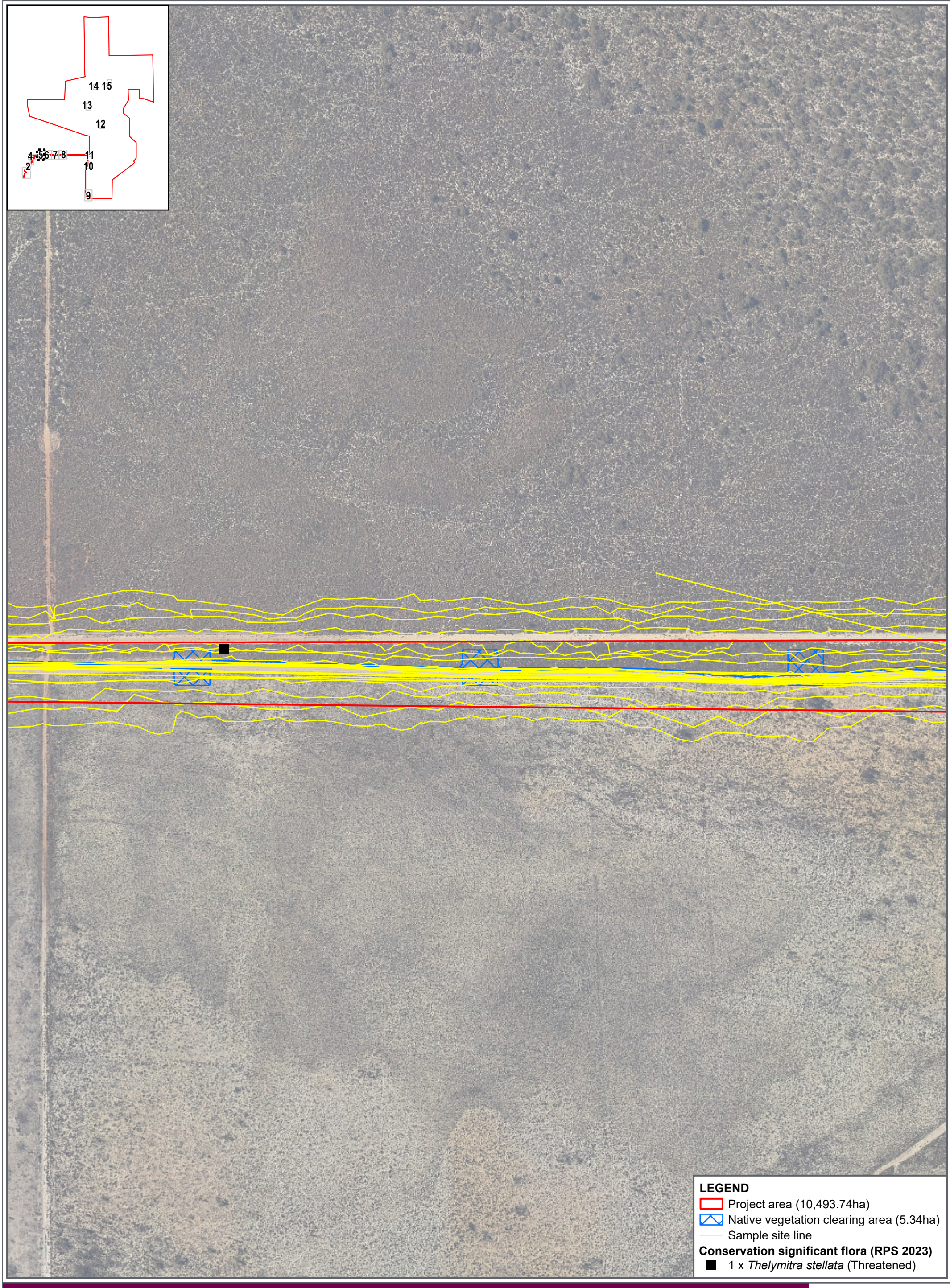
GDA2020 MGA Zone 50

0 50 100 200 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:3,300 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Conservation significant flora (RPS 2023)

- 1 x *Thelymitra stellata* (Threatened)

Figure A
Page 5 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 45 90 180 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:2,800 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

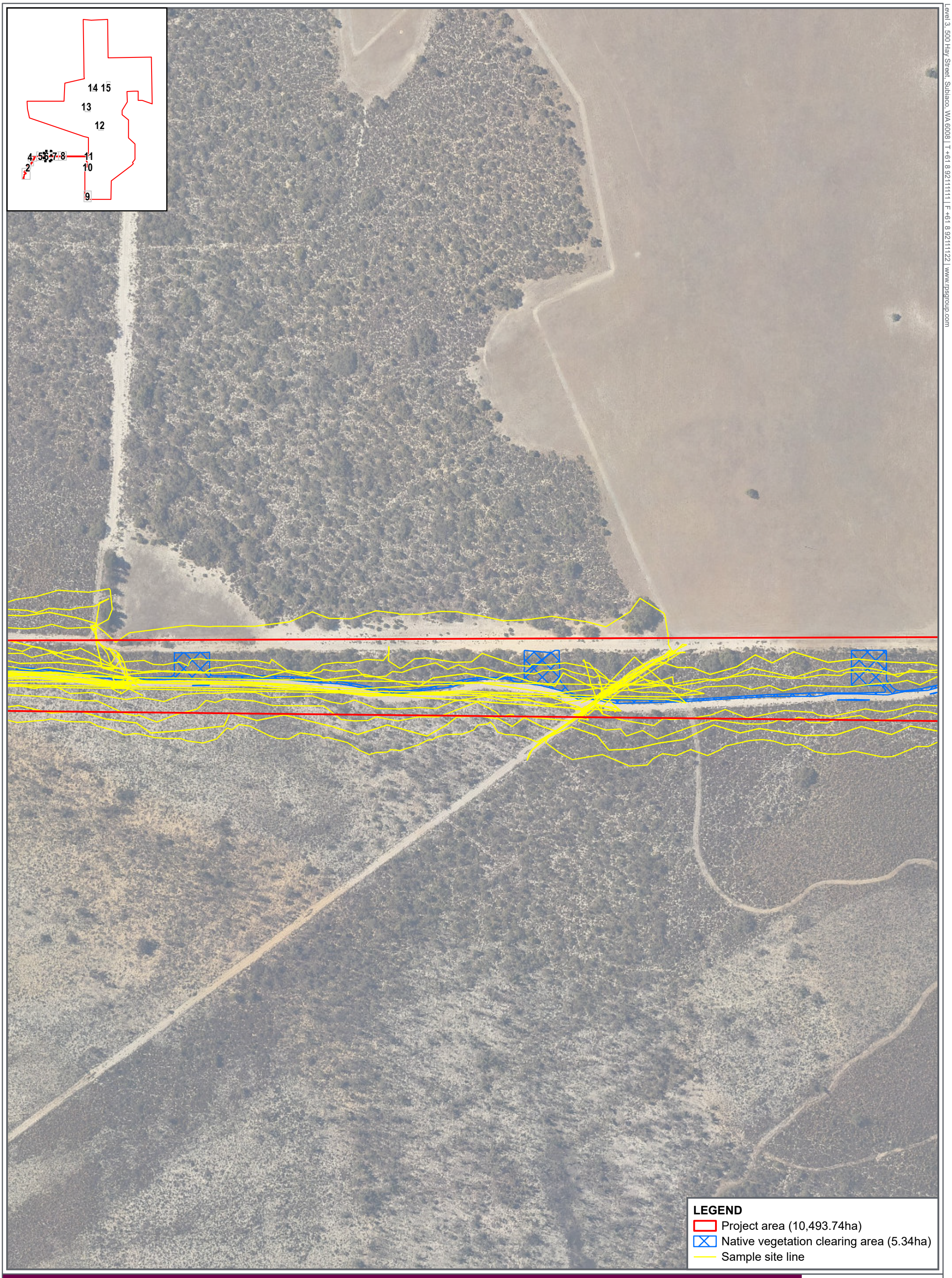


Figure A
Page 6 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 45 90 180 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:2,800 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

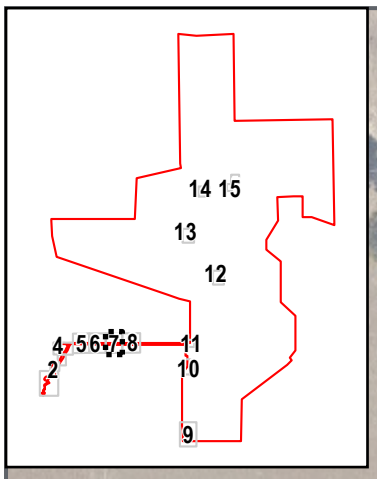


Figure A
Page 7 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 45 90 180 m

LEGEND
- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:2,800 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

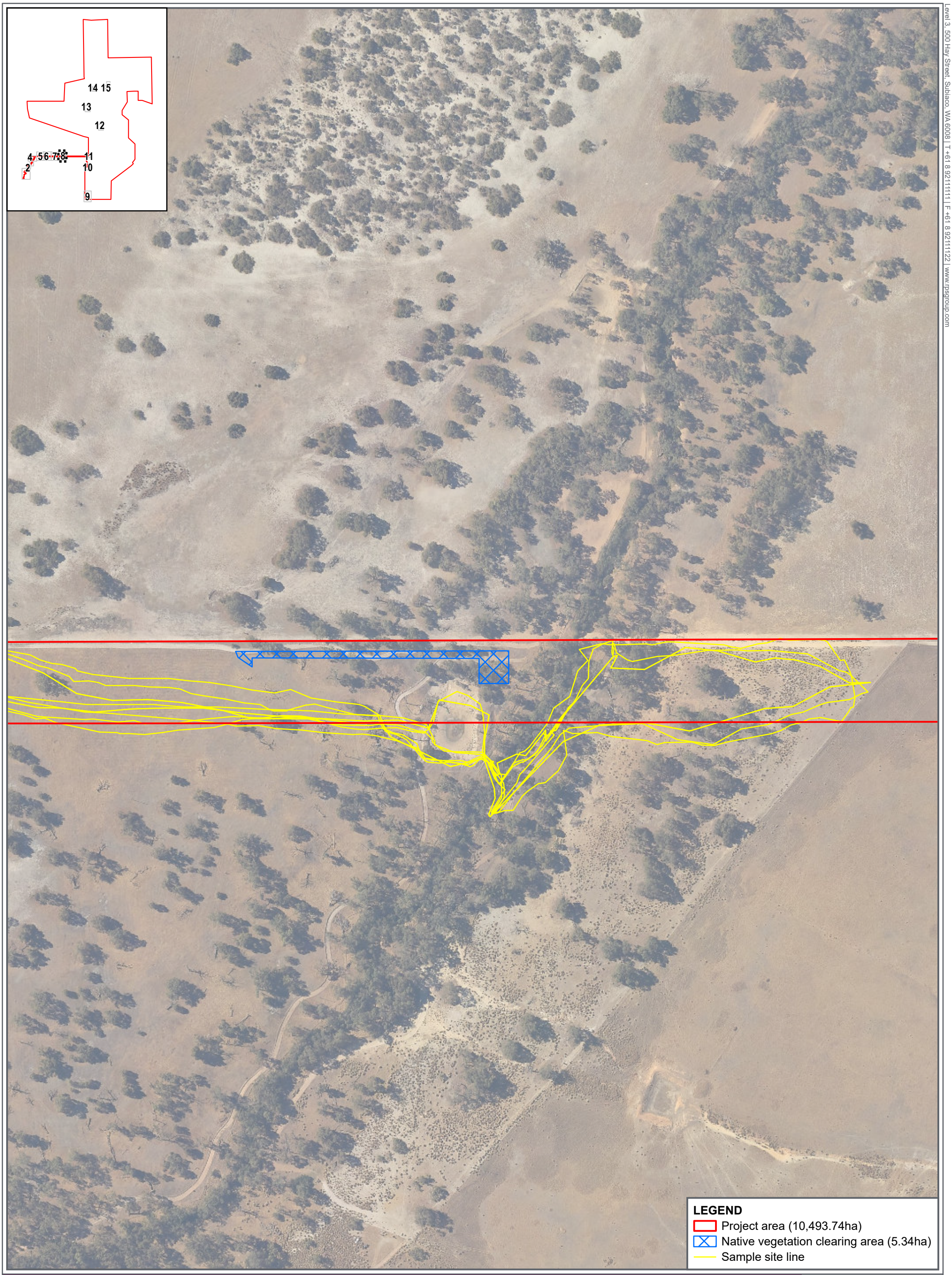


Figure A
Page 8 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

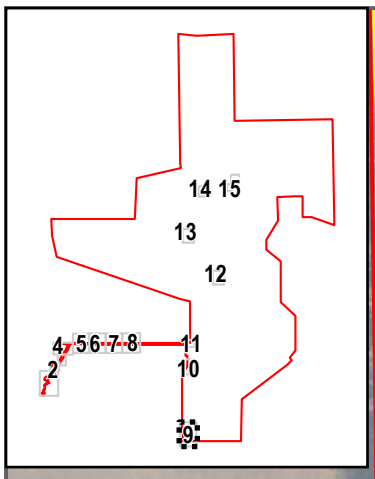
0 45 90 180 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:3,000 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

rps
A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Figure A
Page 9 of 16

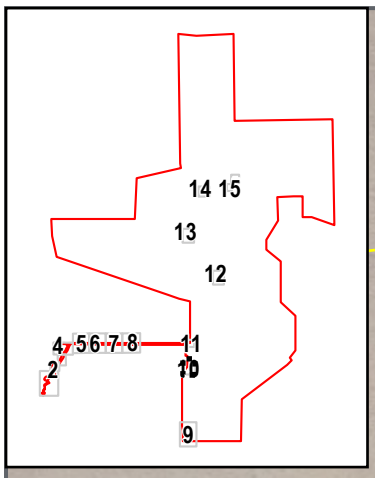
Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 45 90 180 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:3,000 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

LEGEND

- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Figure A
Page 10 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 30 60 120 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:2,000 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

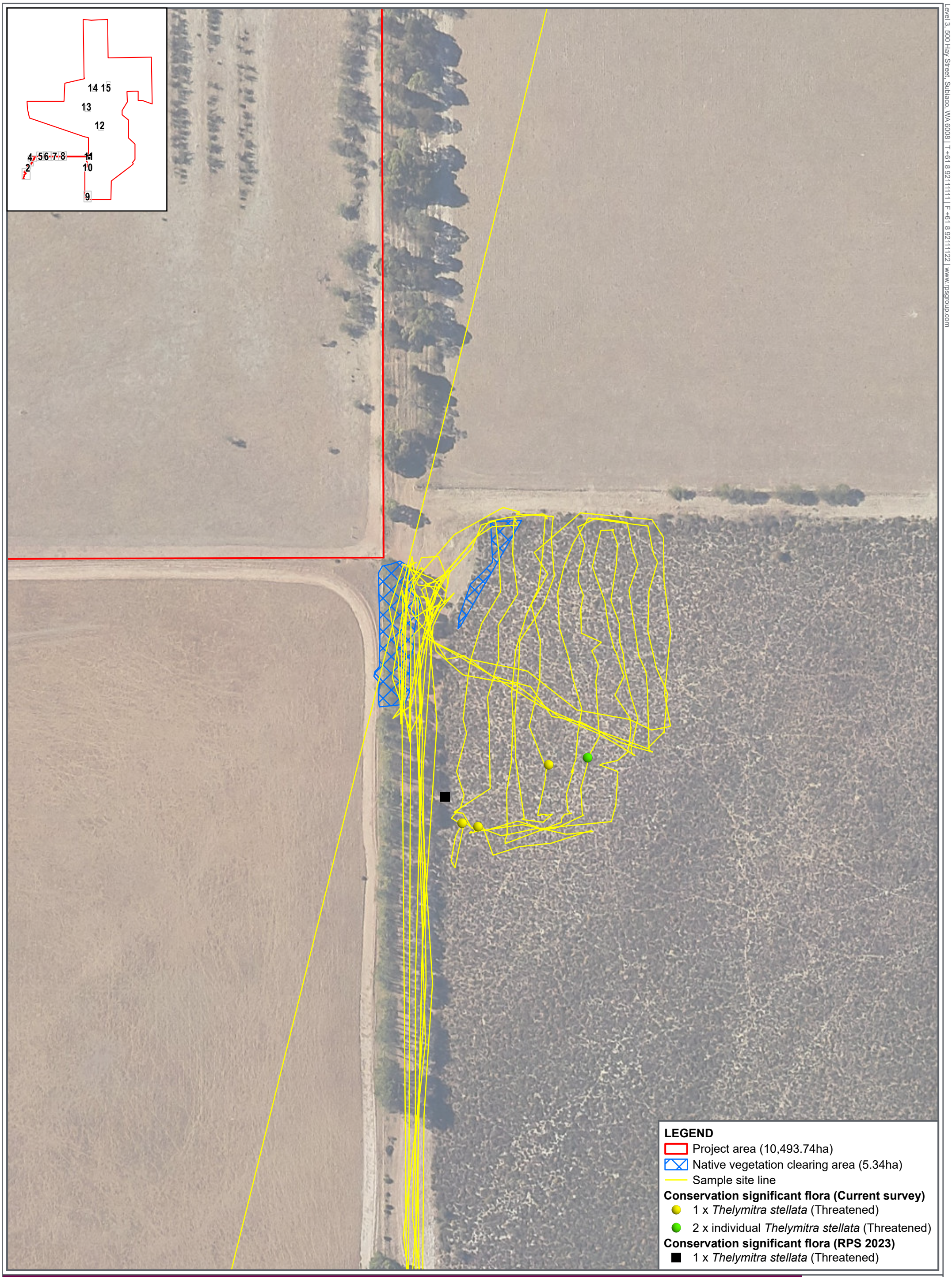


Figure A
Page 11 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 15 30 60 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,100 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

Figure A
Page 12 of 16

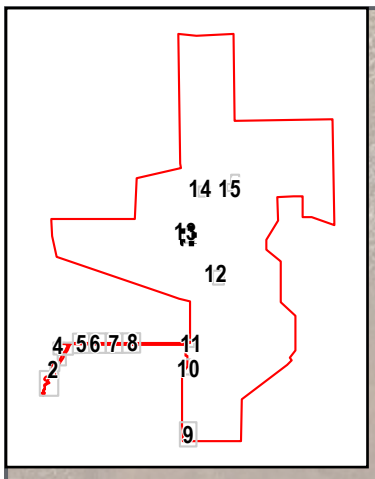
Star sun-orchid (*Thelymitra stellata*) records

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,900 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND
- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Figure A
Page 13 of 16

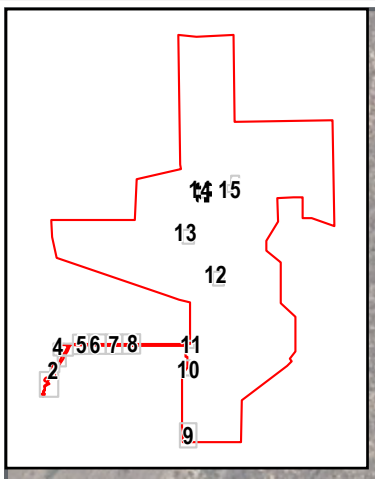
Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 30 60 120 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,900 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

LEGEND

- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Figure A
Page 14 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 25 50 100 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,800 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

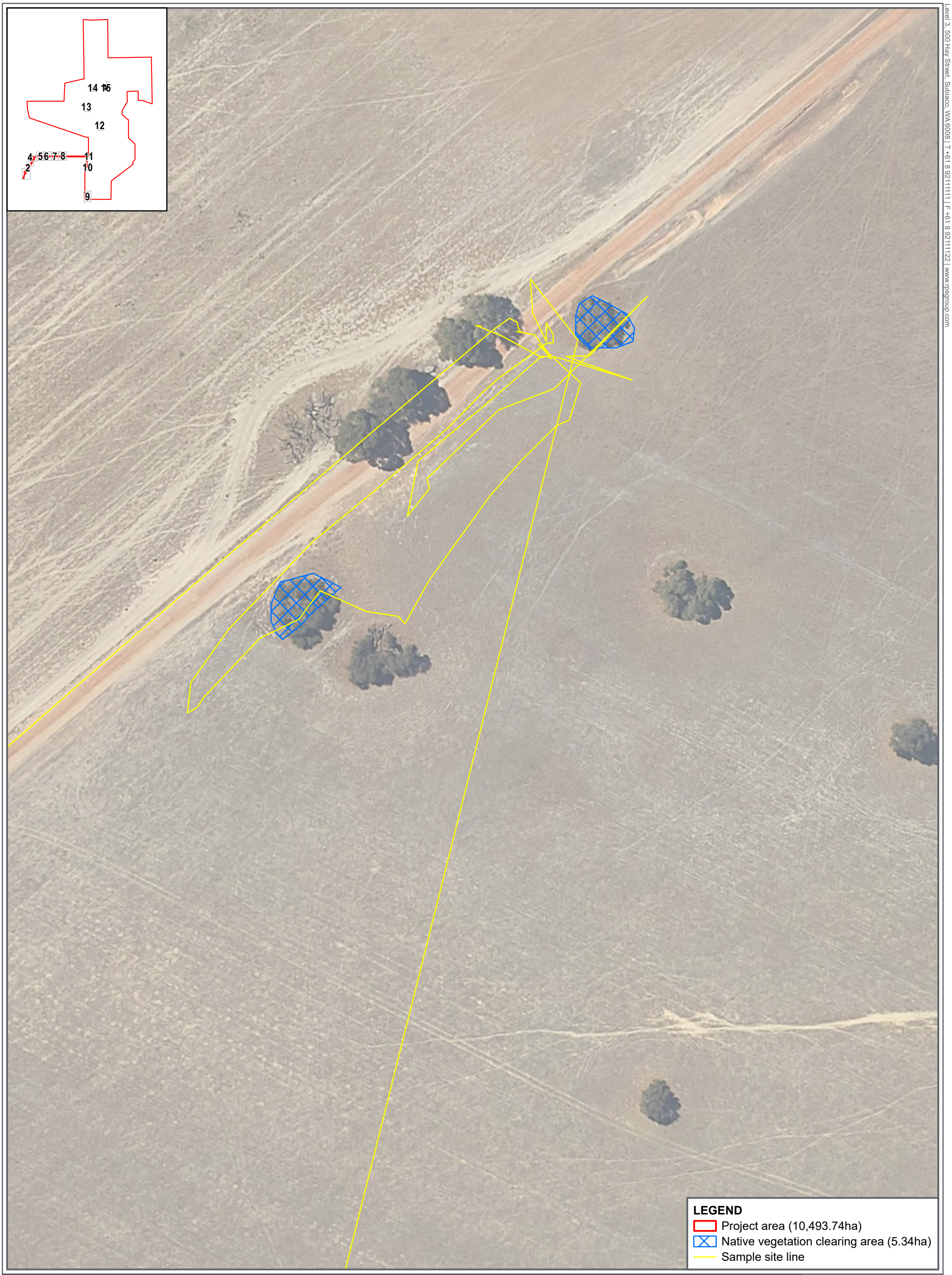


Figure A
Page 15 of 16

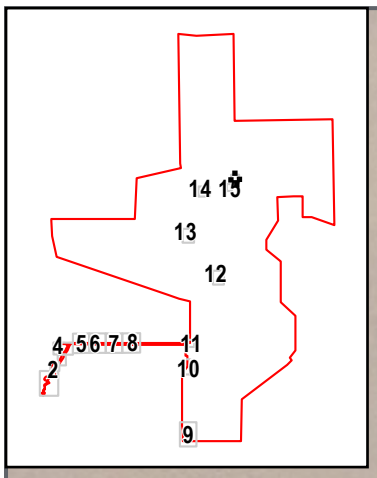
Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

0 12.5 25 50 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:900 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY



LEGEND

- Project area (10,493.74ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

Conservation significant flora (Current survey)

- 1 x *Thelymitra stellata* (Threatened)
- 2 x individual *Thelymitra stellata* (Threatened)
- 3 x individual *Thelymitra stellata* (Threatened)

Conservation significant flora (RPS 2023)

- 1 x *Thelymitra stellata* (Threatened)
- 2 x individual *Thelymitra stellata* (Threatened)
- 3 x individual *Thelymitra stellata* (Threatened)
- 5 x individual *Thelymitra stellata* (Threatened)

Figure A
Page 16 of 16

Star sun-orchid (*Thelymitra stellata*) records

GDA2020 MGA Zone 50

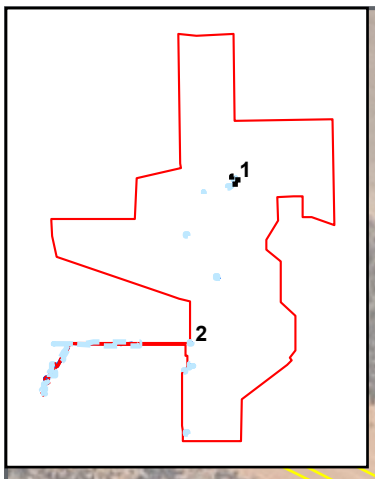
0 20 40 80 m

APRX: OEENVPER17403_OrchidSurvey
OEENVPER17403_A3_MB_FigA_StarSunOrchidRecords
Date exported: 25/03/2025
Scale: 1:1,400 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

- Project area (10,493.74ha)
- Targeted orchid survey area (83.46ha)
- Native vegetation clearing area (5.34ha)
- Sample site line

GPS accuracy buffers

- GPS60 (3m buffer)
- GPS700i (3.65m buffer)
- GPSMAP66i (3.65m buffer)
- GPSMAP67i (3.65m buffer)

Conservation significant flora (Current survey)

- 1 x *Thelymitra stellata* (Threatened)
- 2 x individual *Thelymitra stellata* (Threatened)
- 3 x individual *Thelymitra stellata* (Threatened)

Conservation significant flora (RPS 2023)

- 1 x *Thelymitra stellata* (Threatened)
- 2 x individual *Thelymitra stellata* (Threatened)
- 3 x individual *Thelymitra stellata* (Threatened)
- 5 x individual *Thelymitra stellata* (Threatened)

Figure B
Page 1 of 2

GPS locations with accuracy buffer

GDA2020 MGA Zone 50

0 15 30 60 m

APRX: OEENVPER17403_OrchidSurvey
Name: OEENVPER17403_A3_MB_FigB_GPSLocsAccuracy
Date exported: 25/03/2025
Scale: 1:1,000 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

A TETRA TECH COMPANY

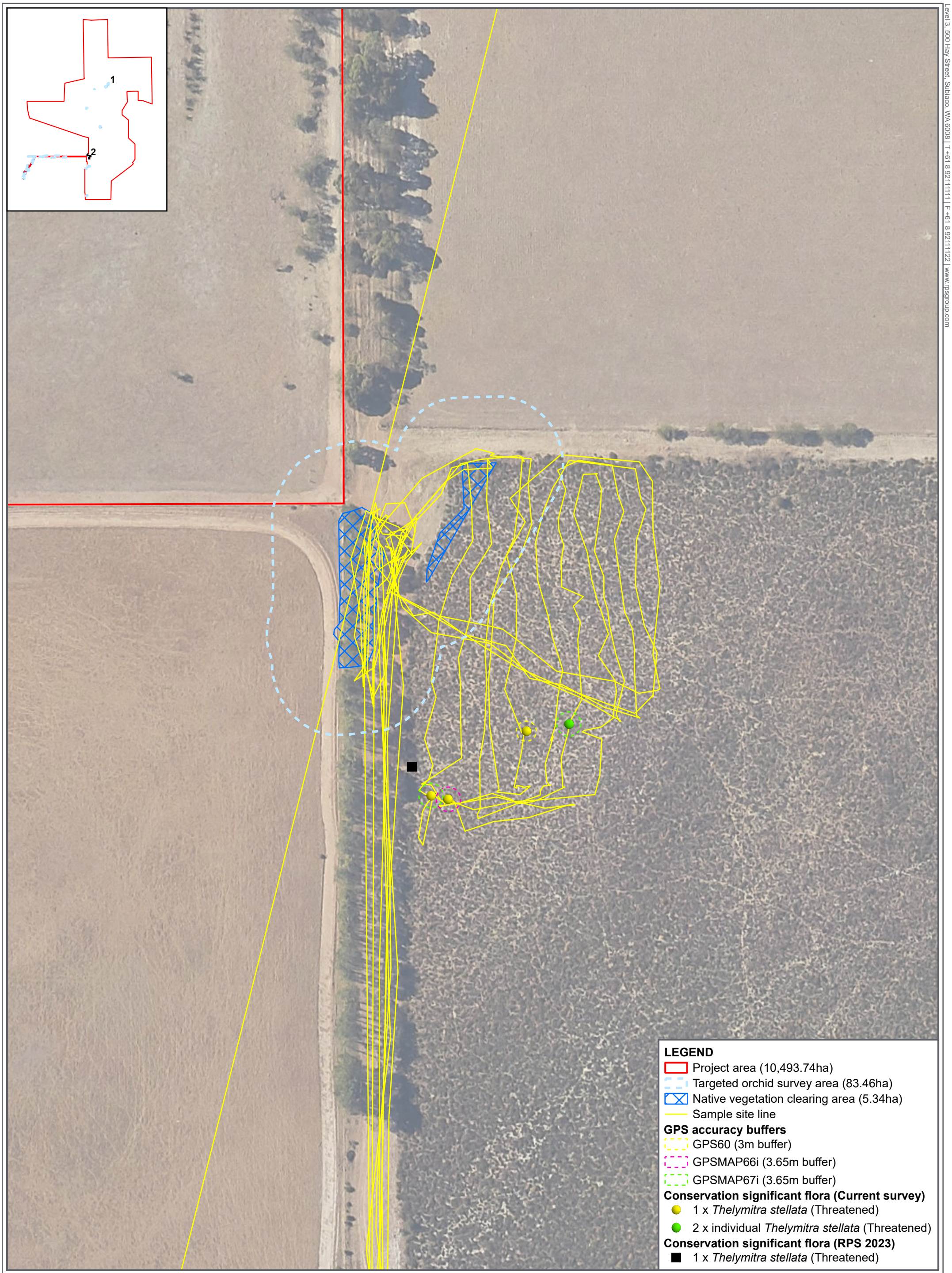


Figure B
Page 2 of 2

GPS locations with accuracy buffer

GDA2020 MGA Zone 50

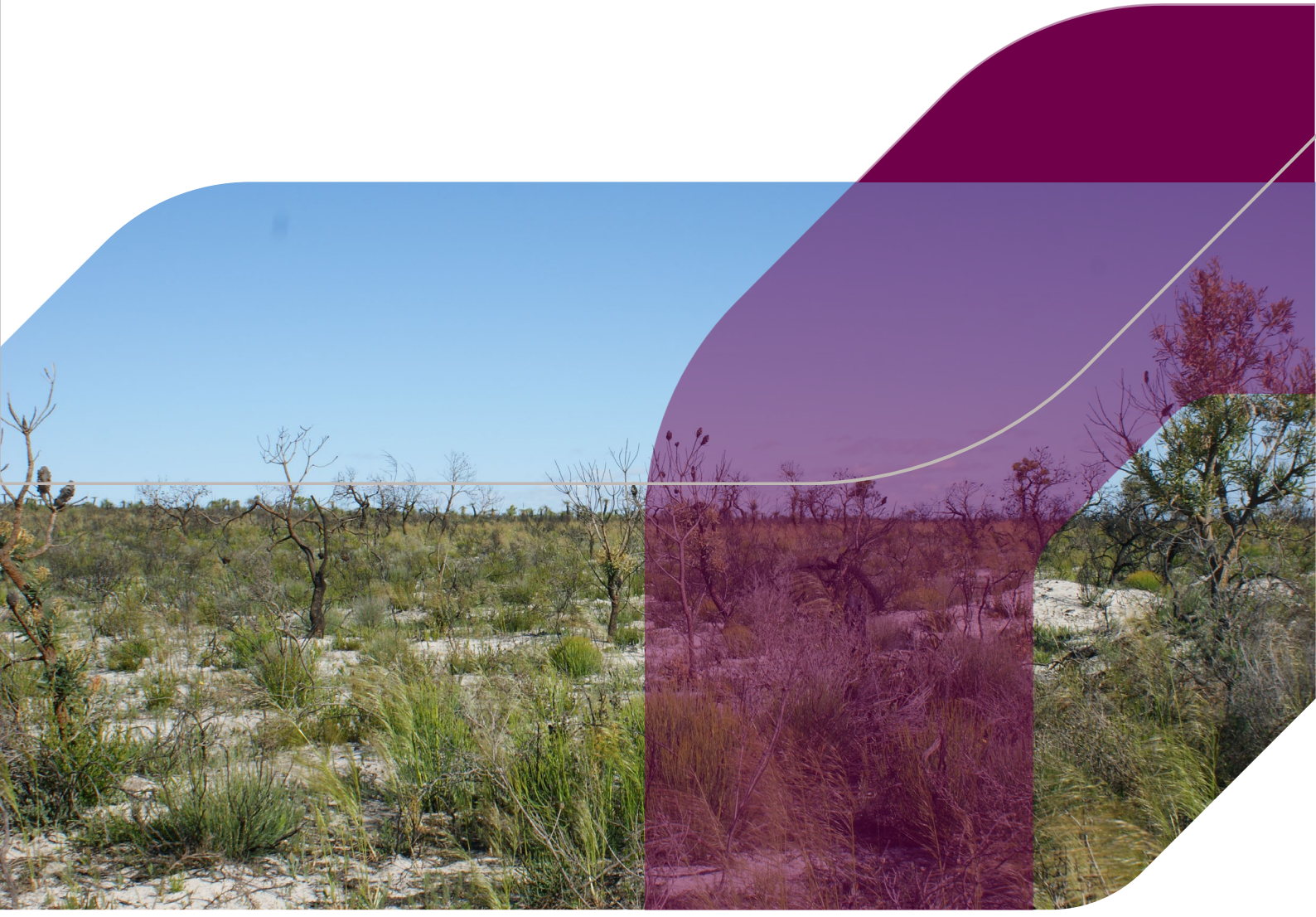
0 15 30 60 m

APRX: OEENVPER17403_OrchidSurvey
Name: OEENVPER17403_A3_MB_FigB_GPSLocsAccuracy
Date exported: 25/03/2025
Scale: 1:1,000 @ A3
Created by: CLARE.THATCHER
Source: Landgate / SLIP

rps
A TETRA TECH COMPANY

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

Appendix A:
Proposed star-sun orchid and sandplain duck orchid targeted search scope



MEMO

Our ref	AU213001749.003
Date:	16 July 2024
To:	Cameron Craigie Department of Climate Change, Energy and the Environment and Water
From:	Giles Glasson
Pages:	18 inc. this page
Regarding:	Waddi Wind Farm

Level 3, 500 Hay Street
Subiaco, WA 6008
T +61 8 9211 1111

Proposed star-sun orchid and sandplain duck orchid targeted search scope

Background

Waddi Wind Farm Pty Ltd is proposing to construct and operate the Waddi Wind Farm, which will consist of up to 18 wind turbines and generate enough combined renewable energy to power 68,000 homes per year. The 10,491-hectare (ha) Project Area, within which the Waddi Wind Farm will be constructed and operated, is located approximately 12 kilometres (km) north-west of the Dandaragan town site in Cooljarloo, Western Australia.

The Waddi Wind Farm was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in August 2023. On 13 November 2023, a delegate of the Minister for the Environment and Water decided that the proposed action is likely to have a significant impact on matters protected under the EPBC Act, specifically threatened species and communities and migratory birds, and hence a controlled action. It was determined that the proposed action would be assessed by preliminary documentation.

Feedback from DCCEEW on the preliminary documentation indicated that additional targeted searches for star-sun orchid and sandplain duck orchid are still required to be undertaken to determine the unlikely presence of orchid individuals within and proximate to the native vegetation clearing area (i.e. area of permanent loss/direct impact).

Study approach

Star sun-orchids grow over sand, gravel and lateritic loam soils and flowers yellow and brown around October–November (Western Australian Herbarium 1998–)[1].The star sun-orchid has a restricted distribution within the Project Area with all 16 records detected by RPS' (2023)[2] targeted searches within proteaceous heath vegetation.

[1] Western Australian Herbarium. 1998–. FloraBase—the Western Australian Flora. Accessed June 2024 https://florabase.dbca.wa.gov.au/.

[2] RPS. 2023. Reconnaissance flora and vegetation assessment. Waddi Wind Farm. Unpublished report prepared for Tilt Renewables.

MEMO

Our ref AU213001749.003
Date: 16 July 2024
Regarding: Waddi Wind Farm

Sandplain duck orchids occur on grey sand over granite and flowers yellow–brown around October to January (Western Australian Herbarium 1998–). There is no underlying granite in the soil landscape systems associated with Project Area. No sandplain duck orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2023; Ecologia Environment 2016[3]; Outback Ecology 2014[4]; Outback Ecology 2010[5]).

To address the unlikely presence of additional orchid individuals within and proximate to the native vegetation clearing targeted searches for star-sun orchid and sandplain duck orchid will be undertaken within the 5.5 ha native vegetation clearing area and a 20 m buffered extent of the native vegetation clearing area. The spatial extent of the 38-ha buffered targeted search area is presented in Figure A.

The targeted searches for star-sun orchid and sandplain duck orchid will be undertaken during October to November to accord with the flowering time of these two species and involve the following:

- A reconnaissance visit to a known star-sun orchid population (13 records adjacent to Waddi Road; Figure A) and/or liaison with DBCA flora officers to determine the suitability of survey timing for the spring 2024 survey season
- Systematic grid-based foot-traverses at 5 m to 10 m spacings across the full extent of 38 ha buffered targeted search area
- Survey track logs of the foot traverses will be recorded on a hand-held GPS
- Weather and climate conditions will be recorded for prior to and specifically for each day of the targeted searches.

For any individuals observed during the search the following will be recorded:

- Location – UTM GDA94 datum coordinates on a hand-held GPS
- Number of individuals
- Health of population
- Photographs of each population and individuals for taxonomic determination.

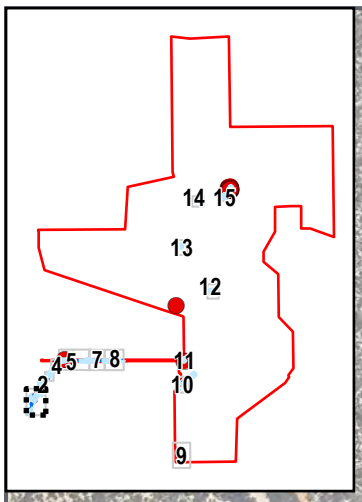
The targeted searches are proposed to be implemented by a suitably qualified botanist.

att: Figures

[3] Ecologia Environment. 2016. Supplementary Flora, Vegetation and Fauna Survey. Unpublished report prepared for Waddi Wind Farm Pty Ltd

[4] Outback Ecology. 2014. Waddi Wind Farm Spring Flora and Vegetation Survey and Black Cockatoo Habitat Survey. Unpublished report prepared for RPS

[5] Outback Ecology. 2010. Waddi Wind Farm Spring Flora and Vegetation Survey and Black Cockatoo Habitat Survey. Unpublished report prepared for RPS



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

LEGEND

- Native vegetation clearing area (5.34ha)
- Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

- *Thelymitra stellata* (Threatened)

Figure A
Page 1 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

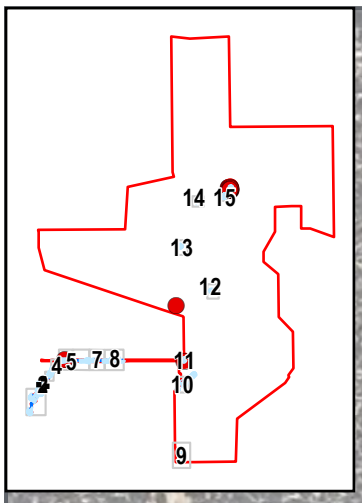
0 50 100 200 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:3,100 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 2 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

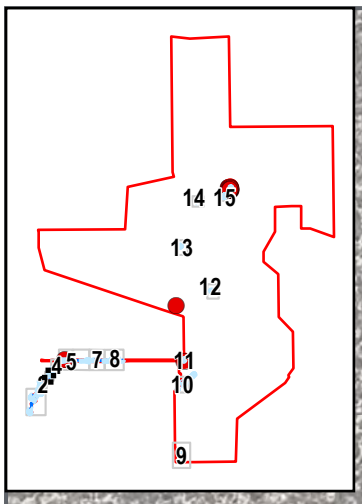
0 20 40 80 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,300 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 3 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

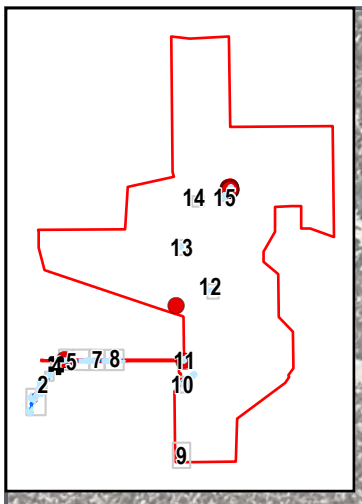
0 20 40 80 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,400 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

- Native vegetation clearing area (5.34ha)
- Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

- *Thelymitra stellata* (Threatened)

Figure A
Page 4 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

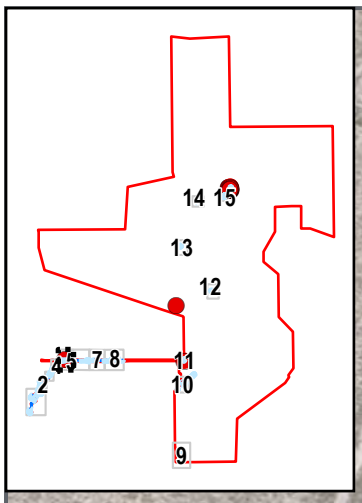
0 25 50 100 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,600 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 5 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

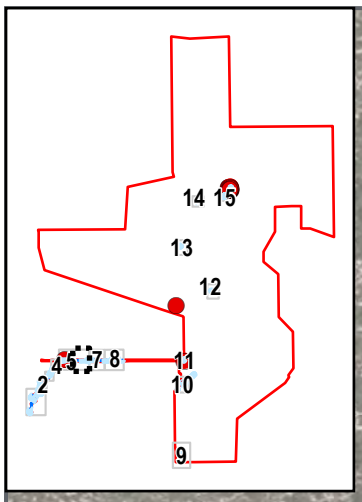
0 37.5 75 150 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:2,400 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

- Native vegetation clearing area (5.34ha)
- Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

- *Thelymitra stellata* (Threatened)

Figure A
Page 6 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

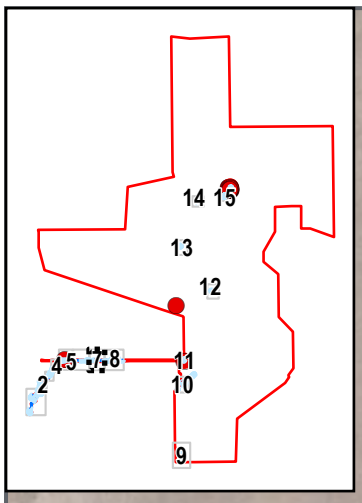
0 40 80 160 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:2,700 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 7 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

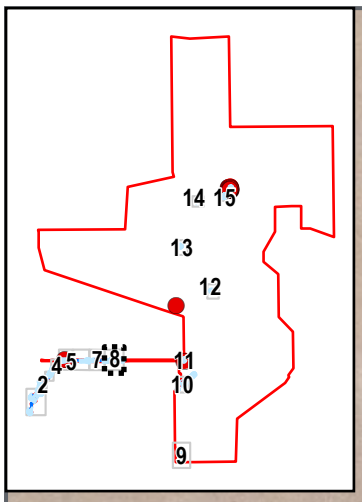
0 40 80 160 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:2,500 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 8 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

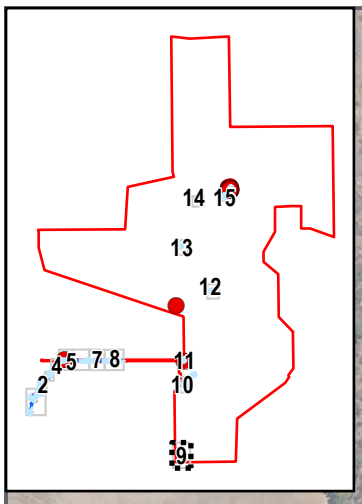
0 50 100 200 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:3,100 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 9 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

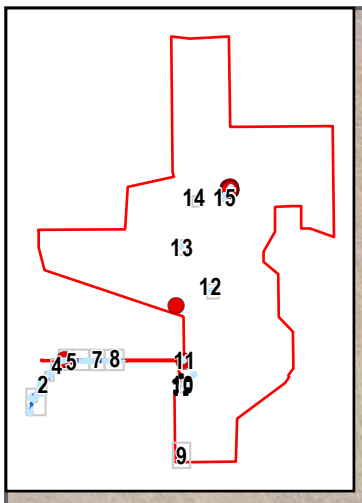
0 45 90 180 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:3,000 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 10 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

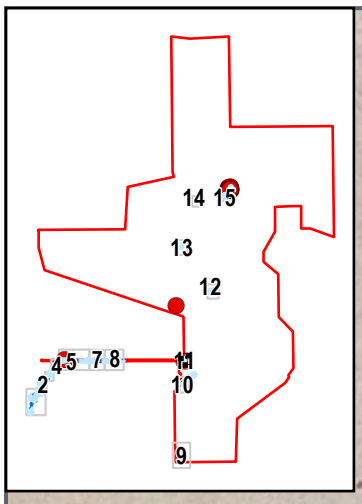
0 30 60 120 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:2,000 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 11 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

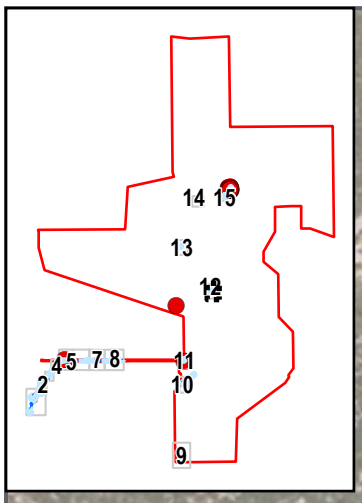
GDA2020 MGA Zone 50

0 15 30 60 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,100 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 12 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

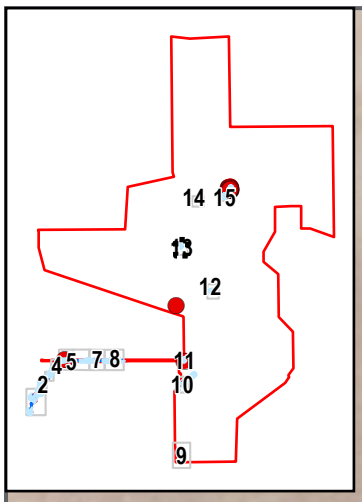
GDA2020 MGA Zone 50

0 30 60 120 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,900 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx



Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com

LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 13 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

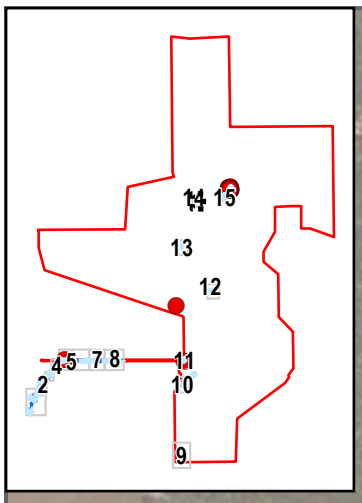
0 30 60 120 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,900 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

- Native vegetation clearing area (5.34ha)
- Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

- *Thelymitra stellata* (Threatened)

Figure A
Page 14 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

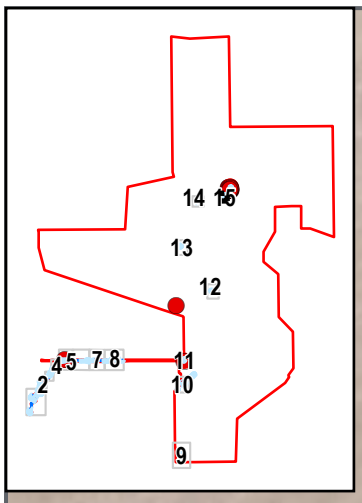
0 25 50 100 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,800 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 15 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

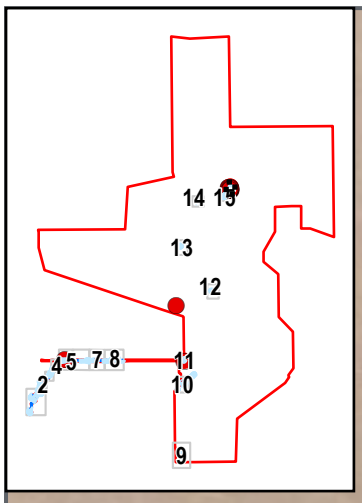
0 12.5 25 50 m

Job Number: AU213001749.003
Date: 5/07/2024
Map 1:900 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Level 3, 500 Hay Street, Subiaco, WA 6008 | T +61 8 92111111 | F +61 8 92111122 | www.rpsgroup.com



LEGEND

Native vegetation clearing area (5.34ha)

Star sun-orchid (*Thelymitra stellata*) survey area (37.99ha)

Conservation significant flora (RPS 2023)

Thelymitra stellata (Threatened)

Figure A
Page 16 of 16

Star sun-orchid (*Thelymitra stellata*) survey area

GDA2020 MGA Zone 50

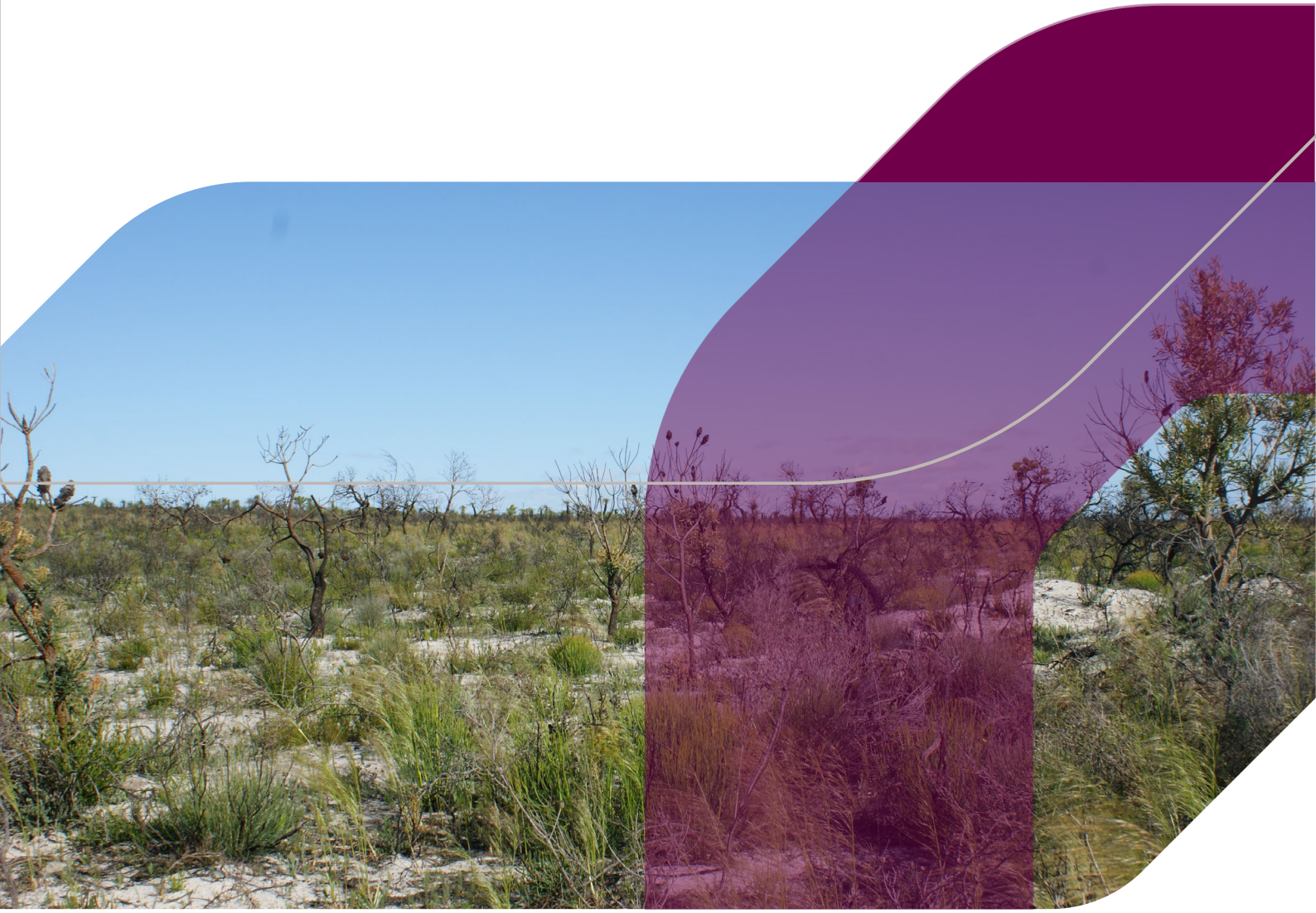
0 20 40 80 m

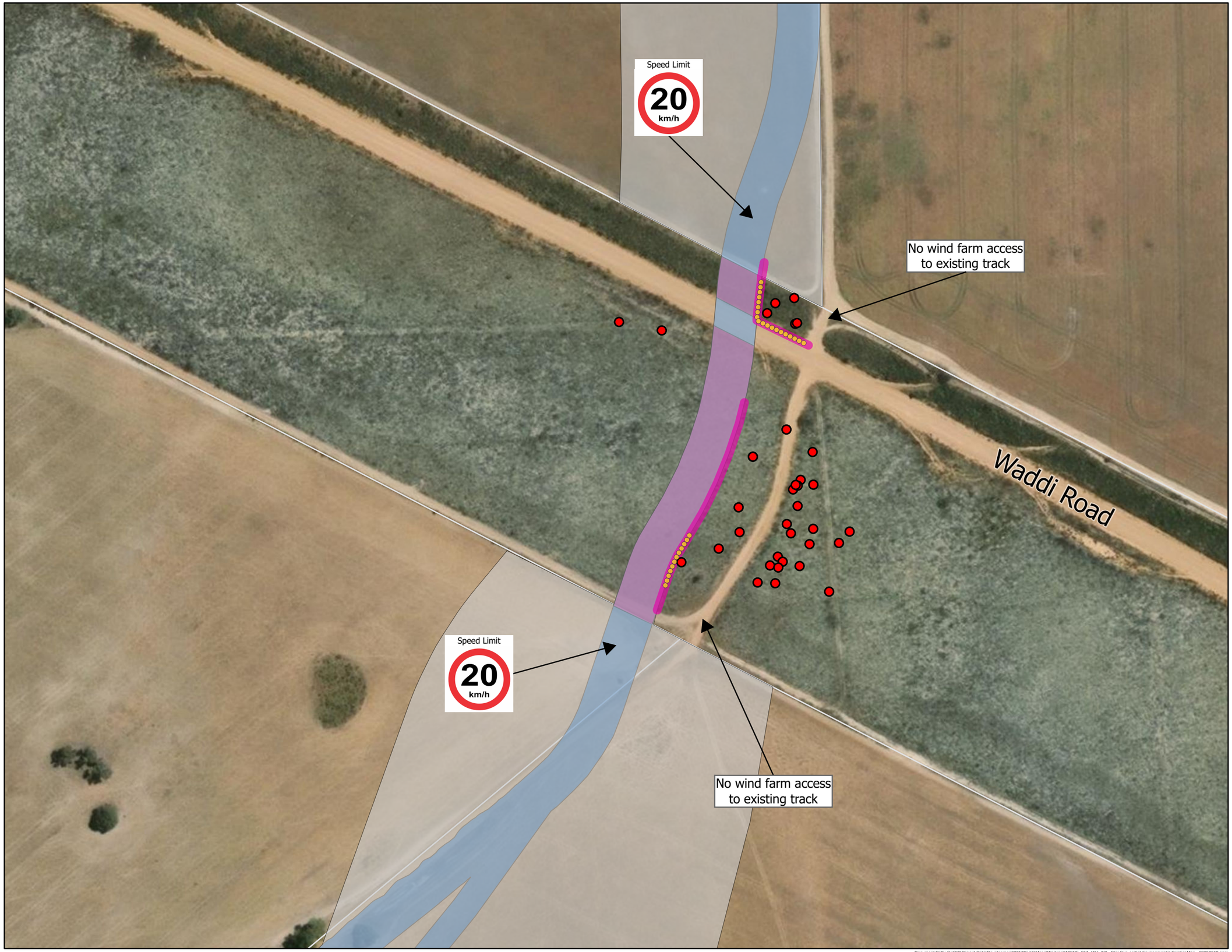
Job Number: AU213001749.003
Date: 5/07/2024
Map 1:1,400 @ A3
Created by: Clare.Thatcher
Source: Orthophoto - Landgate, 2024

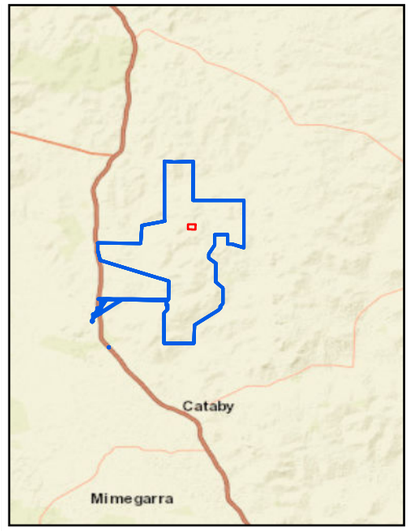
A TETRA TECH COMPANY

Document Path: C:\Users\clare.thatcher\OneDrive - RPS Group\Waddi_Waddi_Farm\Projects\AU213001749_003_EPBCAct_Set3\AU213001749_003_EPBCAct_Set3.aprx

Appendix B:
Proposed engineering controls plan







Legend

- Star Sun Orchid *(Thelymitra stellata)* (GPS accuracy +/- 3.65m)
- Ring lock fencing and wind break netting (NB: signage to be installed at 10m intervals: Flora Protection Area - No Access)
- Silt Sock (or similar) to be deployed during use of water carts
- Stabilised Aggregate
- Indicative Disturbance Area
- Indicative Works Area
- Project Boundary
- Cadastre

NB: No wind farm access via Waddi Road. All wind farm vehicles to access site via Mullering Road

Date: 24/03/2025
Version: B

N

0 25 50 100
Metres
1:2,000

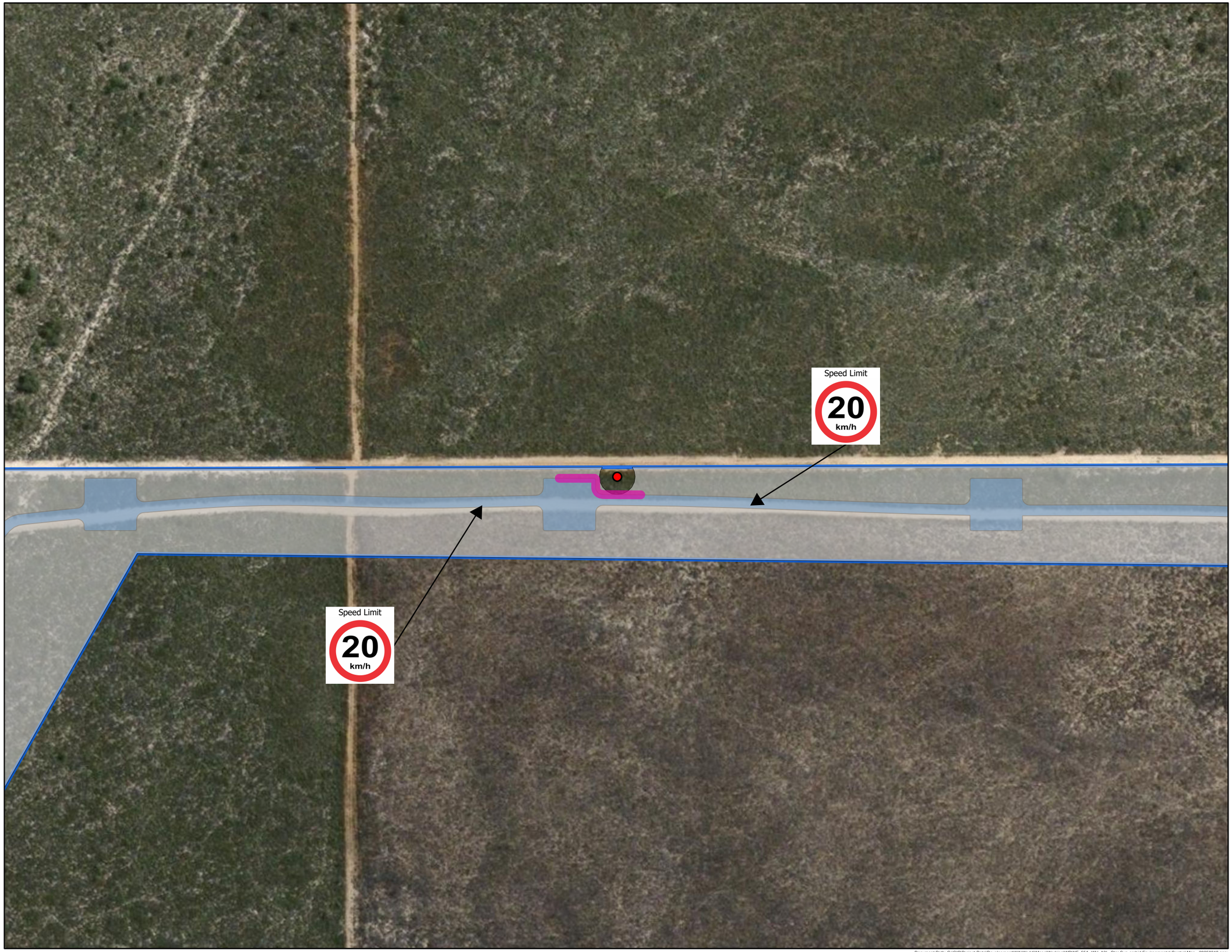
GDA2020 MGA Zone 50

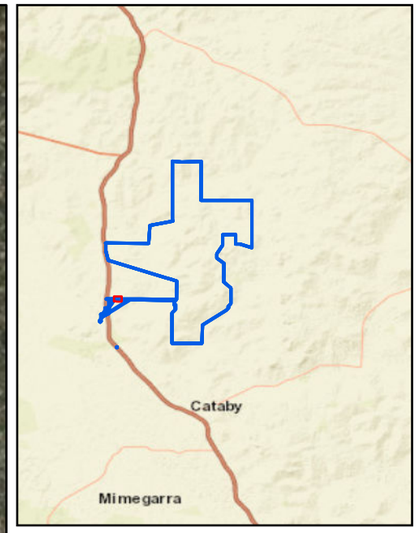
Document Path: G:\GIS\Project Data\Development\WA\Waddi\Maps\Working\WDWF_55A_WV_A3L_Star Sun-orchid Environmental Control Map_ 20250318.aprx

Waddi Wind Farm

Star Sun-orchid (*Thelymitra stellata*) Environmental Control Map

renewables





Legend

- Star Sun Orchid (*Thelymitra stellata*) (GPS accuracy +/- 3.65m)
- Ring lock fencing and wind break netting (NB: signage to be installed at 10m intervals: Flora Protection Area - No Access)
- Indicative Disturbance Area
- Indicative Works Area
- Project Boundary
- Cadastre

Date: 24/03/2025
Version: B

N

0 25 50 100

Metres

1:2,000

GDA2020 MGA Zone 50

Document Path: G:\GIS\Project Data\Development\WA\Waddi\Maps\Working\WDWF_55A_WV_A3L_Star Sun-orchid Environmental Control Map_ 20250318.aprx

Waddi Wind Farm

Star Sun-orchid (*Thelymitra stellata*) Environmental Control Map

renewables