

## **Title of Proposal - Chances Plain Solar Farm**

# **Section 1 - Summary of your proposed action**

Provide a summary of your proposed action, including any consultations undertaken.

### **1.1 Project Industry Type**

Energy Generation and Supply (renewable)

### **1.2 Provide a detailed description of the proposed action, including all proposed activities.**

#### **PROJECT SUMMARY**

juwi Renewable Energy (juwi) is developing the proposed Chances Plain Solar Farm Project (the Project), which is located approximately 10kms north-east of Chinchilla in Queensland and covers an area of up to 240 hectares.

The Project will comprise the construction and operation of a large scale solar farm with an installed export capacity of approximately 100 Megawatts (MW). The Project will connect to an existing 132kV transmission line which crosses the site. An area for future solar battery storage is designated next to the Project's substation and switchyard. The battery storage will allow the ancillary exportation of electricity into the grid at selected times. The Project also includes an upgrade to the intersection of Chances Plain - Wondai Road and Hartwigs Road to allow the safe transportation of Project components to site.

The Project site is cleared agricultural land, which is currently used for cropping. There is no remnant native vegetation within the Project site. There are two dwellings and associated farm buildings in the northern part of the property, which will not be impacted by the Project. A Plan showing the preliminary Project layout is attached.

#### **PV SOLAR PANELS**

The Project will utilise photovoltaic (PV) solar panels mounted on single axis trackers which follow the sun during the day in an east-west direction to maximise exposure to sunlight. The trackers will be fixed to the tracking system, which will be mounted on piles that are driven into the ground to a minimum depth of one metre. The piles will sit approximately one metre above ground level. At maximum tilt (60°) the solar panels will sit 0.36 metres above the ground with the top of the panel being approximately two metres above ground level.

#### **INVERTER STATIONS**

The electricity from the PV solar panels will be directed to inverter stations via underground electrical cabling. Inverter stations convert the DC electricity that is generated from the solar panels to AC electricity for export to the electricity grid. Inverter stations are housed in small buildings similar to shipping containers, which are approximately 2.5 x 12 metres and 3 metres in height. Approximately 20 inverter stations will be required for the Project. The electricity from

the inverters will be “stepped up” in voltage by transformers, which are also located in the inverter stations. The AC electricity is then sent to the on-site substation via underground cables.

## OPERATION AND MAINTENANCE

There will be an Operation and Maintenance (O&M) facility located near the site entrance. The O&M facility will contain a site office, which will include a control room, storage space, kitchenette and staff facilities. There will also be an O&M storage shed next to the site office, which will store maintenance equipment for the Project. There will be a small car park within the O&M facility for staff and site visitors, which will accommodate approximately five vehicles and will include a disabled parking bay.

## ELECTRICAL INFRASTRUCTURE

The on-site substation and switchyard will be located adjacent to the transmission line easement and will be housed in an area approximately 70 x 50 metres. The area will be fenced with high chain link fencing with safety signage to secure the high voltage area. The electricity from the Project is sent to the substation, where the voltage is increased to 132kV. The electricity is then sent through the switchyard to be fed into the 132kV transmission line for export to the electricity grid. An area for future solar battery storage is designated next to the Project’s substation and switchyard. The battery storage will allow for the efficient storage of solar generated electricity 24 hours a day, so the electricity generated can be available when most required.

## PROJECT CONSTRUCTION SUMMARY

Project construction will begin with site preparation, which will include slashing ground cover, grading access tracks and inverter areas, installing stormwater drainage and sediment controls, and erecting the site perimeter fence. No major earthworks are required during construction of the Project as the site is flat and the solar panels can be installed to follow the topography of the land. Following the site preparation, rows of piles will be driven into the ground using specialist equipment and then the steel mounting structures of the solar trackers will be attached to the piles. The solar panels will then be attached to the trackers, with approximately 90 solar panels per tracker.

In parallel to the installation of the solar farm infrastructure, construction of the on-site substation and switchyard will be undertaken. The inverter stations will also be installed within the solar farm. Underground DC cabling will be installed connecting the solar panels to the inverters stations, and then underground AC cabling will be installed connecting the inverters stations to the on-site substation. Once construction is complete the Project will undergo testing and commissioning before being connected to the electricity grid to allow the export of the renewable energy.

The intersection of Chinchilla-Wondai Road and Hartwigs Road will also be upgraded to allow for the safe transport of project infrastructure during construction. The kerbs will be widened at the intersection to allow A-Double vehicles to turn in and out of Hartwigs Road. The northern shoulder of Chinchilla - Wondai Road will be widened and sealed by 3.5m to allow east travelling through traffic to pass vehicles turning south into Hartwigs Road. The total area of the

intersection upgrades is approximately 0.25 hectares.

**1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.**

Area	Point	Latitude	Longitude
Chances Plain Solar Farm Site	1	-26.70127313225	150.73352076532
Chances Plain Solar Farm Site	2	-26.701273132249	150.73353149416
Chances Plain Solar Farm Site	3	-26.722319250139	150.73031284334
Chances Plain Solar Farm Site	4	-26.72065180348	150.71733095171
Chances Plain Solar Farm Site	5	-26.712103360008	150.71894027712
Chances Plain Solar Farm Site	6	-26.712438793095	150.72183706285
Chances Plain Solar Farm Site	7	-26.709851140829	150.72221257212
Chances Plain Solar Farm Site	8	-26.710167412594	150.72546340944
Chances Plain Solar Farm Site	9	-26.709467779936	150.7255385113
Chances Plain Solar Farm Site	10	-26.705231556152	150.71983077051
Chances Plain Solar Farm Site	11	-26.705049452502	150.71985222818
Chances Plain Solar Farm Site	12	-26.70127313225	150.73352076532
Intersection Upgrade Area	1	-26.694004151359	150.7348557094
Intersection Upgrade Area	2	-26.693994566019	150.73475914988
Intersection Upgrade Area	3	-26.693891523563	150.73477792534
Intersection Upgrade Area	4	-26.6938244261	150.73473232779
Intersection Upgrade Area	5	-26.693783688335	150.73465186152
Intersection Upgrade Area	6	-26.693754932257	150.73457407745
Intersection Upgrade Area	7	-26.693747743236	150.73450702223
Intersection Upgrade Area	8	-26.693939450298	150.73354142698

Area	Point	Latitude	Longitude
Area			
Intersection Upgrade	9	-26.693855578498	150.73352533373
Area			
Intersection Upgrade	10	-26.693742950556	150.73407786879
Area			
Intersection Upgrade	11	-26.693563224885	150.73511856588
Area			
Intersection Upgrade	12	-26.693510505301	150.73562282118
Area			
Intersection Upgrade	13	-26.693589584668	150.7356281856
Area			
Intersection Upgrade	14	-26.69368304203	150.73502468857
Area			
Intersection Upgrade	15	-26.693705807274	150.73497104439
Area			
Intersection Upgrade	16	-26.693748941406	150.73492812904
Area			
Intersection Upgrade	17	-26.69380046271	150.73489594254
Area			
Intersection Upgrade	18	-26.693857974836	150.73487046155
Area			
Intersection Upgrade	19	-26.693908297923	150.73485973271
Area			
Intersection Upgrade	20	-26.694004151359	150.73485168609
Area			
Intersection Upgrade	21	-26.694004151359	150.7348557094
Area			

**1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).**

The Project will be established on a freehold rural property located approximately 10kms north-east of Chinchilla Queensland in the Western Downs Regional Council (WDRC). The Project will cover an area of up to 240 hectares, including the Chinchilla - Wondai Road intersection upgrade.

**1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?**

Total Project area (including intersection) is approximately 240 hectares. Disturbance footprint is approximately 200 hectares.

**1.7 Is the proposed action a street address or lot?**

Lot

**1.7.2 Describe the lot number and title.** Lot 125 Crown Plan LY607

**1.8 Primary Jurisdiction.**

Queensland

**1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?**

No

**1.10 Is the proposed action subject to local government planning approval?**

Yes

**1.10.1 Is there a local government area and council contact for the proposal?**

Yes

**1.10.1.0 Council contact officer details**

**1.10.1.1 Name of relevant council contact officer.**

Kate Swepson

**1.10.1.2 E-mail**

Kate.Swepson@wdrc.qld.gov.au

**1.10.1.3 Telephone Number**

(07) 4679 4000

**1.11 Provide an estimated start and estimated end date for the proposed action.**

Start date 06/2020

End date 06/2021

**1.12 Provide details of the context, planning framework and State and/or Local government requirements.**

PLANNING ACT 2016

The Development Application for the Project was lodged with WDRC in July 2018 in accordance

with the requirements of *Planning Act 2016* (the Planning Act). The Project was considered a 'Material Change of Use' as defined in Schedule 2 of the Planning Act as 'the start of a new use of the premises', and also met the definition of a 'code assessment' development under Section 45(3) of the Planning Act.

WDRC requested further information in support of the Development Application, which was provided in August 2018. In October 2018 WDRC issued a decision notice refusing the Development Application on the grounds of impacts to Class A Agricultural Land.

juwi appealed the decision in the Planning and Environment Court and was granted an approval for the Project in June 2019.

## STATE PLANNING POLICY

The State Planning Policy (SPP) sets out a framework for State interests relevant to land use planning and assessing development applications. The Western Downs Planning Scheme has integrated all relevant State interests set out in the SPP, therefore the Project was assessed against the Planning Scheme.

## DARLING DOWNS REGIONAL PLAN

The Project site is located within the area subject to the Darling Downs Regional Plan (DDRP), which identifies the State's interests in land use planning for the region. The DDRP states that a development application is to be assessed against the Regional Plan to the extent the Regional Plan is not appropriately reflected in the Western Downs Planning Scheme. The Minister has identified that the Western Downs Planning Scheme, specifically the Strategic Plan, appropriately advances the Darling Downs Regional Plan, therefore the Project was assessed against the Planning Scheme.

## STATE DEVELOPMENT ASSESSMENT PROVISIONS

A review of the State Development Assessment Provisions and consultation with the State Assessment Referral Agency (SARA) determined there were two State provisions for the Project;

- 1) Development in a state-controlled road environment; and
- 2) All or part of the lot is subject to an easement.

The Development Application was referred to SARA under Schedule 10 of the Planning Regulation 2017 for assessment. SARA referred the Development Application to the Department of Transport and Main Roads (TMR) and Powerlink Queensland for assessment. Both TMR and Powerlink Queensland provided advice and draft conditions for the Project.

### **1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.**

Prior to lodging the Development Application, juwi identified neighbouring landowners within two

kilometres of the Project boundary and sent letters introducing the proposed Project. juwi has since had several follow up discussions with landowners that wished to find out more about the Project.

juwi is committed to keeping an open dialogue with all neighbours and the local community during the development, construction and operation of the Project, and will provide regular updates to local residents. During the detailed design stage, juwi will host a community information session, which will give the wider community an opportunity to ask questions and find out more about the Project. This will also be an opportunity for local businesses to register their interest in construction of the Project.

juwi has prepared a Preliminary Stakeholder Engagement Plan (SEP), which was informed by the Queensland Solar Farm Guidelines. The SEP identifies Project stakeholders and provides a strategy to ensure engagement during all stages of the Project development, construction and operation. The SEP is attached.

An Aboriginal cultural heritage due diligence assessment has been undertaken for the Project site in accordance with the *Aboriginal Heritage Act 2003* and the Cultural Heritage Duty of Care Guidelines (the Guidelines). The Project site meets the criteria for Category 4 of the Guidelines, which is an area that has previously been subject to 'Significant Ground Disturbance' therefore the likelihood the Project will harm Aboriginal cultural heritage is very low.

There is no cultural heritage party or body registered for the Project site location.

#### **1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.**

The Project is not subject to an environmental impact assessment under Commonwealth or State legislation.

The following environmental assessments were undertaken in support of the Project Development Application.

#### **ECOLOGY ASSESSMENT**

An ecological assessment was undertaken by specialist consultants Ecology and Heritage Partners to determine potential ecological impacts associated with the proposed Project. The ecological assessment was undertaken for the Project site and also the roadside vegetation at the intersection of Chinchilla-Wondai Road and Hartwigs Road.

The ecological assessment confirmed the proposed Project site is located within a highly disturbed agricultural landscape, which has been cleared of native vegetation, and is mapped as "Category X Vegetation" under the *Vegetation Management Act 1999* (VM Act). Category X vegetation is non-regulated and is exempt from requiring assessment and development approval for removal.

The assessment also concluded that no significant flora or fauna species have previously been recorded within the study area or are likely to occur due to the lack of suitable habitat on site.

The assessment of the roadside vegetation at the intersection of Chinchilla-Wondai Road and Hartwigs Road confirmed the vegetation is mapped as "Category B Remnant Vegetation" under the VM Act. A search of Regional Ecosystem (RE) mapping maintained by the Queensland Department of Environment and Heritage Protection (DEHP) also shows the roadside vegetation mapped as the following:

- RE 11.3.1 – Brigalow *Acacia harpophylla* and/or Belah *Casuarina cristata* open forest on alluvial plains (VM Act Status – Endangered); and,
- RE 11.9.6 – *Acacia melvillei* +/- *A. harpophylla* open forest on fine-grained sedimentary rocks (VM Act Status – Endangered).

The remnant roadside vegetation will not be impacted by the Project. The preliminary intersection upgrade design has confirmed the works can be undertaken without impacting the mapped vegetation.

The Queensland Department of Natural Resources Mines and Energy (DNRME) reviewed the Development Application and ecological assessment report and confirmed the Project did not require State referral as the roadside vegetation will be protected and not impacted during construction.

## CULTURAL HERITAGE

A search of the Aboriginal and Torres Strait Islander Cultural Heritage Database and Register confirmed there are no registered Aboriginal cultural heritage sites within the Project site.

A search of the Queensland Heritage Register confirmed there are no registered European Heritage sites within the Project site or in the vicinity.

juwi engaged a specialist archaeology consultant to undertake a due diligence study of the Project site in accordance with the *Aboriginal Heritage Act 2003* and the Cultural Heritage Duty of Care Guidelines (the Guidelines). The site was assessed for Aboriginal cultural heritage, levels of disturbance across the area, and for areas containing increased likelihood for the presence and preservation of Aboriginal cultural heritage. No Aboriginal cultural heritage items, landscapes or features were identified during the assessment.

Significant ground disturbance was observed across the entire site, which has had native vegetation removed by disturbing root systems and exposing underlying soil. The topsoil has been continually ploughed and cropped since prior to 1959. Dam construction, cropping activities, access tracks and fence-lines have disturbed the topsoil across the entirety of the Project site area.

The Project site was considered to meet the criteria of Category 4 of Guidelines, which is an area that has previously been subject to significant ground disturbance. It is generally unlikely that the Project will harm Aboriginal cultural heritage due to the significant ground disturbance, therefore will comply with the *Aboriginal Heritage Act 2003* and the Guidelines.



**1.15 Is this action part of a staged development (or a component of a larger project)?**

No

**1.16 Is the proposed action related to other actions or proposals in the region?**

No

## Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The [interactive map tool](#) can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

- [Profiles of relevant species/communities](#) (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#);
- [Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies](#).

**2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?**

No

**2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?**

No

**2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?**

No

**2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?**

Yes

### 2.4.1 Impact table

Species	Impact
The following Regional Ecosystems (RE) were confirmed within the road reserve of Chinchilla Wondai Road: - RE 11.3.1 Brigalow Acacia	Potential impacts are limited to works associated with the intersection upgrade to allow for the safe transport of Project

Species	Impact
<p>harpophylla and/or Belah Casuarina cristata open forest on alluvial plains (VM Act status Endangered); - RE 11.9.6 Acacia melvillei +/- A. harpophylla open forest on fine-grained sedimentary rocks (VM Act status Endangered). The following nationally significant fauna species have a moderate likelihood of occurrence within the road reserve vegetation: Painted Honeyeater (EPBC status Vulnerable) Grey-headed Flying-fox (EPBC status Vulnerable)</p>	<p>infrastructure during construction. The kerbs will be widened at the intersection of Chinchilla - Wondai Road and Hartwigs Road to allow A-Double vehicles to turn in and out of Hartwigs Road. The northern shoulder of Chinchilla -Wondai Road will be widened and sealed by 3.5m to allow east travelling through traffic to pass vehicles turning into Hartwigs Road. - Potential impacts may include: Damage and/or disturbance to roadside vegetation (including potential habitat for listed species) during widening of road kerbs; Fauna disturbance, injury or mortality during intersection upgrade works; and introduction or spread of weed and/or pests into roadside vegetation during upgrade works. The preliminary road and intersection upgrade design indicates impacts to roadside vegetation (including potential habitat for listed species) can be avoided.</p>

#### 2.4.2 Do you consider this impact to be significant?

No

#### 2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No

#### 2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

#### 2.7 Is the proposed action to be taken on or near Commonwealth land?

No

#### 2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

#### 2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

**2.10 Is the proposed action a nuclear action?**

No

**2.11 Is the proposed action to be taken by the Commonwealth agency?**

No

**2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?**

No

**2.13 Is the proposed action likely to have ANY direct or indirect impact on any part of the environment in the Commonwealth marine area?**

No

## Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

### 3.1 Describe the flora and fauna relevant to the project area.

The Project site is located on a flat cleared cropping paddock and covers an area of approximately 240 hectares. The Project also includes a proposed intersection upgrade of Chinchilla-Wondai Road and Hartwigs Road to allow the transport of project infrastructure (the Road Reserve Study Area). The Project ecology assessment report is attached.

#### PROJECT SITE

The Project site is located within an intensive cropping area, which is the primary land use across the broader region. This has resulted in the loss of most of the remnant native vegetation across the Project site and wider locality.

No significant flora or fauna species have been recorded within the Project site. The proposed development area is located within a highly disturbed agricultural landscape where native vegetation exists only as small patches within paddocks or linear strips within surrounding road reserves. The Project site area is comprised of cleared agricultural paddocks and dams.

#### ROAD RESERVE STUDY AREA

Two nationally significant fauna species are considered to have a moderate likelihood of occurrence within the road reserve study area, namely Painted Honeyeater and Grey-headed Flying-fox. Given the availability of similar and higher quality habitats within the surrounding landscape, the above noted species are unlikely to make significant use of the road reserve study area or be significantly impacted by the proposed activity. Based on habitat present within the road reserve study area, landscape context and the proximity of previous records, no additional significant species of flora or fauna are considered likely to inhabit or make significant use of the road reserve study area.

Regional Ecosystem mapping maintained by DEHP indicates that 1.15 hectares of remnant RE 11.3.1 Brigalow *Acacia harpophylla* and/or Belah *Casuarina cristata* open forest on alluvial plains, and RE 11.9.6 *Acacia melvillei* +/- *A. harpophylla* open forest on fine-grained sedimentary rocks, occurs within the road reserve of Chinchilla-Wondai Road. The remaining sections of the road reserve area are mapped as supporting non-native vegetation.

The site survey confirmed that native vegetation within the road reserve only corresponds with RE 11.3.1, and only 0.69 hectares of the mapped RE within the road reserve study area is remnant.

#### COMMONWEALTH SIGNIFICANT FLORA SPECIES

No EPBC Act listed flora species have been recorded within the study area. The Wildlife Online (DEHP) and Atlas of Living Australia databases contain records of four EPBC Act listed flora species previously recorded within 20 kilometres of the study area:

- Queensland White Gum *Eucalyptus argophloia* (Vulnerable);
- Belson's Panic *Homopholis belsonii* (Endangered);
- *Xerothamnella herbacea* (Endangered);
- *Denhamia parvifolia* (Vulnerable).

The EPBC Act Protected Matters Search Tool (PMST) nominated an additional five nationally significant flora species which have not been recorded in the locality but have the potential to occur. Based on habitat present within the study area, landscape context and the proximity of previous records, nationally significant flora species are considered unlikely to occur within the study area.

#### STATE SIGNIFICANT FLORA SPECIES

No state significant flora species have been recorded within the study area.

The Wildlife Online and Atlas of Living Australia databases contain records of two Queensland *Nature Conservation Act 1992* (NC Act) listed flora species previously recorded within 20 kilometres of the study area:

- *Rutidosia lanata* (Near Threatened);
- *Fimbristylis vagans* (Endangered).

Based on habitat present within the study area, landscape context and the proximity of previous records, state significant flora species are considered unlikely to occur within the study area.

#### COMMONWEALTH SIGNIFICANT FAUNA SPECIES

No EPBC Act listed fauna species have been recorded within the study area.

The Wildlife Online and Atlas of Living Australia databases contain records of 11 EPBC Act listed fauna species previously recorded within 20 kilometres of the study area:

- Regent Honeyeater *Anthochaera phrygia* (Critically Endangered);
- Australasian Bittern *Botaurus poiciloptilus* (Endangered);
- Red Goshawk *Erythrotriorchis radiatus* (Vulnerable);
- Squatter Pigeon *Geophaps scripta scripta* (Vulnerable);
- Painted honeyeater *Grantiella picta* (Vulnerable);

- Swift Parrot *Lathamus discolor* (Endangered);
- Southern Black-throated Finch *Poephila cincta cincta* (Endangered);
- Australian Painted Snipe *Rostratula australis* (Endangered);
- Plains-wanderer *Pedionomus torquatus* (Critically Endangered);
- Koala *Phascolarctos cinereus* (Vulnerable);
- Grey-headed Flying-fox *Pteropus poliocephalus* (Vulnerable).

The PMST nominated an additional 13 nationally significant fauna species which have not been recorded in the locality but have the potential to occur. Of the species predicted to occur in the region, there is suitable habitat within the road reserve study area for the Painted Honeyeater and Grey-headed Flying-fox.

Given the availability of similar and higher quality habitats within the surrounding landscape, the above noted species are unlikely to make significant use of the study area or be significantly impacted by the proposed activity.

#### STATE SIGNIFICANT FAUNA SPECIES

No state significant fauna species have been recorded within the study area. The Wildlife Online and Atlas of Living Australia databases contain records of five NC Act listed fauna species previously recorded within 20 kilometres of the study area:

- Grey Snake *Hemiaspis damelii* (Endangered);
- Golden-tailed Gecko *Strophurus taenicauda* (Near Threatened);
- Glossy Black-cockatoo *Calyptorhynchus lathami lathami* (Vulnerable);
- Grey Falcon *Falco hypoleucos* (Vulnerable);
- Pale Imperial Hairstreak *Jalmenus eubulus* (Vulnerable).

Based on habitat present within the study area, landscape context and the proximity of previous records, state significant fauna species are considered unlikely to occur within the Project site.

#### ESSENTIAL HABITAT

No essential habitat mapped by DNRME is located within the study area.

#### MIGRATORY SPECIES

The PMST identified 11 bird species listed as migratory under the EPBC Act that have been previously recorded or are predicted to occur within 10 kilometres of the Project site.

The study area would not be classed as 'important habitat' for migratory species as defined under the EPBC Act Policy Statement 1.1 Principal Significant Impact Guidelines (DoE 2013). The proposed Project is not located between, or in close proximity to, either migratory bird feeding areas or important regularly used feeding and roosting sites, hence the likelihood of migratory birds moving through the study area when moving between wetlands in the local area is considered to be low.

### **3.2 Describe the hydrology relevant to the project area (including water flows).**

No referable wetlands or wetland protected areas have been identified within the Project site.

No watercourses or drainage features as defined under the Queensland *Water Act 2000* are mapped within proximity of the study area however, one 'yet to be mapped' feature was mapped within the Project site. On 18 August 2018 the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) confirmed that the 'yet to be mapped' feature was mapped in error at the location of the Project site. No fish habitat will be impacted and the Project development application does not trigger assessment for constructing or raising waterway barrier works.

A stormwater assessment was undertaken for the Project site in June 2018. The assessment concluded the Project site has been laser levelled with drainage channels and contour banks directing water into a gully dam on the western side of the Project site. The south-west corner of the Project site has the highest elevation which is approximately 322 metres. The lowest elevation is approximately 314 metres on the western side of the gully dam. The main drainage path of the Project site transects the centre of the site discharging into Charleys Creek, located approximately 1.8 km west of the Project site. When the site is used for growing cotton the site utilises flood irrigation, which relies upon the flat topography and designated channels and contour banks to irrigate the cotton.

DNRME Flood Check mapping was obtained for the stormwater assessment. Flood maps for the Chinchilla region were available for the 2%, 1%, and 0.2% Annual Exceedance Probability (AEP) regional flood events, which correspond to the 50 year, 100 year and 500 year Average Recurrence Interval (ARI) events respectively. The mapping showed that the Project site is not flood affected from regional flooding. Copies of the DNRME Flood Check maps are provided in the attached stormwater assessment report.

### **3.3 Describe the soil and vegetation characteristics relevant to the project area.**

#### **SOILS**

An agricultural land assessment was undertaken for the Project in May 2018. The desktop review included an assessment of the Australian Soil Resource Information System (ASRIS) database and mapping, which found the northern portion of the site had been mapped as Ferrosols. Ferrosols are soils with B2 horizons which are high in free iron oxide, and which lack strong texture contrast between A and B horizons.

The remainder of the site was mapped as Vertosols. Vertosols are clay soils (generally 35%



clay) with shrink-swell properties that exhibit strong cracking when dry. The assessment recognised that the ASRIS soil classification is derived from broad-scale land resource mapping and is not necessarily accurate on a smaller scale (i.e. less than 1:250,000).

Following the desktop assessment a field survey was undertaken to confirm the Project site soil types. The soil profiles encountered at all the test sites was consistent with Vertosol soil only, and no Ferrosol soil was encountered.

Typical soil profiles encountered at the test sites comprised of the following:

- Topsoil layer, consisting of mostly light to medium clay, generally dark brown and very dark brown to a depth ranging from 0.1m to 0.3m; and
- Subsoil layer, consisting mostly of very dark grey/brown soft heavy clay with pale grey mottles (<10% of clay matrix).

## VEGETATION CHARACTERISTICS

The Project site is within the Brigalow Belt Bioregion, which contains mixed eucalypt woodland, Brigalow scrub and open Mitchell grasslands.

Due to past land clearing and intensive farming the Project site is mapped as Category X vegetation under the VM Act. Category X vegetation is generally exempt from requiring assessment and development approval for removal under Queensland vegetation management laws.

The road reserve study area vegetation is mapped as Category B remnant vegetation under the VM Act. The ecological assessment confirmed the road reserve vegetation is representative of 'RE 11.3.1 Brigalow *Acacia harpophylla* and/or Belah *Casuarina cristata* open forest on alluvial plains' with the canopy dominated by Poplar Box *Eucalyptus populnea*. Shrubs dominate the mid-layer understorey with Wilga *Geijera parviflora* and False Sandalwood *Eremophila mitchellii* being the dominant species, with Brigalow *Acacia harpophylla* also scattered throughout the area. Exotic grasses dominate the ground layer and are particularly prevalent on the edge of the vegetation. Native species are generally scattered throughout the understorey.

### **3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.**

There are no outstanding natural features, or other important or unique values, within or nearby to the Project site.

### **3.5 Describe the status of native vegetation relevant to the project area.**

Pre-clearance vegetation mapping by Queensland Globe (DNRME) shows the Project site historically contained the following vegetation:

- Broad Vegetation Group (BVG) 25 - *Acacia harpophylla* (brigalow) sometimes with *Casuarina*

*cristata* (belah) open forests to woodlands on heavy clay soils;

- RE 11.3.1 Brigalow *Acacia harpophylla* and/or Belah *Casuarina cristata* open forest on alluvial plains; and

- RE 11.9.6 *Acacia melvillei* +/- *A. harpophylla* open forest on fine-grained sedimentary rocks.

As discussed in Section 3.3, the Project site has previously been cleared of native vegetation, is mapped as Category X under the VM Act, and is an active cropping paddock.

### **3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.**

The Project site is generally flat with an elevation range of 314 metres to 322 metres. The average slope of the site is 1.2% with the maximum slope being 4%.

### **3.7 Describe the current condition of the environment relevant to the project area.**

Due to past land clearing for agriculture the Project site does not contain any remnant vegetation. The site is currently used for cropping and is intensively farmed for irrigated cotton and other crops.

There is one linear patch of mapped Category B remnant vegetation within the road reserve of Chinchilla-Wondai Road. This remnant vegetation will not be impacted by the Project or the intersection upgrade works.

### **3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.**

There are no Commonwealth Heritage Places or other places recognised as having heritage values within or nearby to the Project site.

### **3.9 Describe any Indigenous heritage values relevant to the project area.**

An Aboriginal cultural heritage duty of care assessment was undertaken for the Project in August 2018. The assessment was commissioned to investigate the cultural heritage requirements of the construction and operation of the proposed Project in accordance with the *Aboriginal Cultural Heritage Act 2003* and the *Duty of Care Guidelines 2004* (the Guidelines).

A search of the Aboriginal and Torres Strait Islander Cultural Heritage Database and Register revealed that there are no registered Aboriginal cultural heritage objects or places and no designated Aboriginal landscapes or features within the Project area.

No cultural heritage parties or bodies were identified for the Project site location.

Assessment of historical aerial photography through time has demonstrated that the whole Project site had been cleared of native vegetation by 1990.

The Project site was assessed for Aboriginal cultural heritage items and levels of disturbance across the area, and for areas containing increased likelihood for the presence and preservation of Aboriginal cultural heritage. Significant ground disturbance was observed across the entirety of the Project site as the property has had native vegetation removed by disturbing root systems and exposing underlying soil. The topsoil has been continually ploughed and cropped since prior to 1959. Dam construction, cropping activities, access tracks and fence-lines have disturbed the topsoil across the entirety of the Project site.

The Project site is considered to meet the criteria of Category 4 of the Guidelines, which is an area that has previously been subject to significant ground disturbance. It is generally unlikely that the activity will harm Aboriginal cultural heritage and the Project will comply with the *Aboriginal Cultural Heritage Act 2003* and the Guidelines.

No Aboriginal cultural heritage items, Aboriginal landscapes, or features were identified during the assessment.

### **3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.**

The tenure of the Project site is Freehold.

### **3.11 Describe any existing or any proposed uses relevant to the project area.**

The Project site is currently an active farming property. The location of the proposed Project is a cropping paddock (cotton and other crops) and the balance of the property (outside the Project area) is used for cropping and cattle and sheep grazing.

A 132kV transmission line easement dissects the property and forms the northern boundary of the Project site.

## **Section 4 - Measures to avoid or reduce impacts**

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

### **4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.**

#### POTENTIAL IMPACTS

There will be no impacts to matters protected by the EPBC Act, State significant matters, remnant vegetation, essential habitat, or significant species within the Project site.

Potential impacts are limited to roadside Category B remnant vegetation associated with the intersection upgrade of Chinchilla-Wondai Road and Hartwigs Road to allow for the safe transport of project infrastructure during construction. The kerbs will be widened at the intersection to allow A-Double vehicles to turn into and out of Hartwigs Road. The northern shoulder of Chinchilla - Wondai Road will be widened and sealed by 3.5m to allow east travelling through traffic to pass turning vehicles. A preliminary Plan showing the intersection upgrade is attached.

The preliminary intersection upgrade design indicates impacts to Category B remnant vegetation at the intersection can be avoided.

#### MITIGATION MEASURES.

Measures to minimise impacts to the Category B remnant vegetation are outlined in the attached ecology assessment report, and will include the following:

- The extent of retained native vegetation along Chinchilla-Wondai Road will be demarcated and fenced off with barrier tape. All construction contractors will be made aware of the location of remnant vegetation within the road reserve through a site induction to ensure that unintentional impacts do not occur;
- Appropriate erosion and sediment control strategies will be implemented to prevent impacts to the remnant vegetation;
- Weed and pest monitoring and control will be undertaken during and after the intersection upgrades to prevent new weed or pest outbreaks and control existing infestations if present; and

- Appropriate speed limits will be implemented within the vicinity of the vegetation along Chinchilla-Wondai Road to limit dust generation and the risk of fauna mortality.

If during the detailed design it is identified that some remnant roadside vegetation will need to be removed or trimmed, the relevant local and State approvals will be sought. Any disturbance will be kept to a minimum. Once the intersection upgrades have been completed regular inspections of the roadside vegetation will be undertaken to ensure there are no residual impacts and any issues are managed accordingly.

A Construction Environmental Management Plan (CEMP) will be prepared and implemented for the Project to manage any potential environmental impacts during construction. The CEMP will include sediment and erosion, stormwater, roadside native vegetation management, cultural heritage, hazardous materials, waste, and pests and weed management. The CEMP will ensure the Project is delivered in accordance with all relevant environmental legislation and guidelines.

Potential impacts to Aboriginal cultural heritage will be managed by the CEMP and will include contractor inductions outlining obligations under the *Aboriginal Cultural Heritage Act 2003* and the procedure to be followed in the event cultural heritage items are located during construction.

**4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.**

The overall environmental outcome for the activity will be no impacts to matters protected by the EPBC Act through the implementation of the mitigation measures described in Section 4.1, including the implementation of a Project CEMP.

## **Section 5 – Conclusion on the likelihood of significant impacts**

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

### **5.1.1 World Heritage Properties**

No

### **5.1.2 National Heritage Places**

No

### **5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)**

No

### **5.1.4 Listed threatened species or any threatened ecological community**

No

### **5.1.5 Listed migratory species**

No

### **5.1.6 Commonwealth marine environment**

No

### **5.1.7 Protection of the environment from actions involving Commonwealth land**

No

### **5.1.8 Great Barrier Reef Marine Park**

No

### **5.1.9 A water resource, in relation to coal/gas/mining**

No

### **5.1.10 Protection of the environment from nuclear actions**

No

#### **5.1.11 Protection of the environment from Commonwealth actions**

No

#### **5.1.12 Commonwealth Heritage places overseas**

No

### **5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.**

The proposed Project is located on a site that has been cleared of native vegetation and is currently used for intensive farming.

Assessments for ecology, Aboriginal cultural heritage, stormwater, transport, and agricultural land were undertaken for the proposed Project, which did not identify any remnant vegetation, significant flora and fauna species, essential habitat, or Matters of National Environmental Significance (MNES) within the Project site.

An assessment of the remnant vegetation within the road reserve of Chinchilla - Wondai Road was undertaken and it was determined the vegetation has minimal habitat value for significant flora and fauna species that may frequent the area, namely the Grey-headed Flying-fox and Painted Honeyeater. The preliminary design of the intersection upgrade indicates the remnant vegetation will not be disturbed by the works and impacts can be avoided.

A CEMP will be implemented for the Project that will manage and mitigate any potential impacts during construction of the Project and intersection upgrade.

For the reasons stated above, juwi believe the proposed action is not likely to have a significant impact on any matters protected under the EPBC Act and therefore is not a controlled action.

## **Section 6 – Environmental record of the person proposing to take the action**

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

### **6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.**

juwi Renewable Energy Pty Ltd has a strong record of responsible environmental management across its projects in Australia. juwi implements environmental management plans for all of its construction and operational projects ensuring all of its activities are undertaken in a responsible manner and works comply with all development approval conditions.

Although juwi is not a corporation, as noted in Section 6.3, it has implemented a global Environmental Policy which outlines the successful long-term vision for economic, social, and environmental sustainability for the company's business and project developments.

### **6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.**

There have been no proceedings under Commonwealth, State or Territory law against juwi Renewable Energy Pty Ltd in regard to the protection of the environment or the conservation and sustainable use of natural resources in Australia.

### **6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?**

No

### **6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**

No



## Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

### 7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Chances Plain Solar Farm Ecology Assessment Report (Ecology & Heritage Partners. February 2018).	High - assessment was undertaken by qualified specialists. Information contained in the report is current and reliable and includes both Commonwealth and State desktop investigations and site based assessments.	Roadside vegetation assessment was undertaken outside of Spring flowering season.
Chances Plain Solar Farm Cultural Heritage Duty of Care Assessment Report (NGH Environmental. August 2018).	High - assessment was undertaken by qualified specialists. Information contained in the report is current and reliable, and includes Queensland Register searches, desktop investigations and a site base duty of care assessment.	None
Chances Plain Solar Farm Access and Transport Assessment Report (PSA Consulting. August 2018).	High - assessment was undertaken by qualified specialists. Information contained in the report is current and reliable, and includes State and local considerations, desktop investigations and a site base assessment.	None
EPBC Act Protected Matters Report (July 2019)	High - Protected matters report was undertaken in July 2018 and includes a 1 km buffer from the Project site boundary.	None
Chances Plain Solar Farm Stormwater Assessment Report (Water Modelling. June 2018).	High - assessment was undertaken by qualified specialists. Information contained in the report is current and reliable, and includes State and local	None

Reference Source	Reliability	Uncertainties
Chances Plain Solar Farm Agricultural Land Assessment Report (PSK Environmental May 2018)	flooding considerations, desktop investigations and a site base assessment of stormwater and surface flow. High - assessment was undertaken by qualified specialists. Information contained in the report is current and reliable, and includes desktop investigations, site surveys, and laboratory soil testing.	None

## **Section 8 – Proposed alternatives**

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

### **8.0 Provide a description of the feasible alternative?**

The Chances Plain Project site was selected during an extensive Queensland site investigation process, which identified almost 100 potential solar farm sites.

During the investigation process, the Chinchilla 132kV transmission line was identified as a suitable location to connect a solar farm. An assessment of land parcels adjacent to the transmission line was undertaken to identify suitable locations (minimal vegetation, good access, cleared flat land etc.). From the initial desktop assessment six land parcels were short listed along this transmission line.

The Project site was finally selected as the landowners were interested in developing a potential solar farm, and a site inspection confirmed the property was suitable due to its proximity to the transmission line, good local road access, no remnant vegetation, flat topography, and no close neighbours.

No other alternatives were proposed following the investigation process and selecting the Project site.

### **8.1 Select the relevant alternatives related to your proposed action.**

#### **8.27 Do you have another alternative?**

No

## **Section 9 – Contacts, signatures and declarations**

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

### **9.0 Is the person proposing to take the action an Organisation or an Individual?**

Organisation

#### **9.2 Organisation**

##### **9.2.1 Job Title**

Managing Director

##### **9.2.2 First Name**

Cameron

##### **9.2.3 Last Name**

Garnsworthy

##### **9.2.4 E-mail**

cameron.garnsworthy@juwi.com

##### **9.2.5 Postal Address**

PO Box 13106

George St  
Brisbane QLD 4003  
Australia

##### **9.2.6 ABN/ACN**

ABN

42159228145 - JUWI RENEWABLE ENERGY PTY LTD

##### **9.2.7 Organisation Telephone**

07 3107 0908

**9.2.8 Organisation E-mail**

cameron.garnsworthy@juwi.com

**9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:**

Not applicable

**Small Business Declaration**

I have read the Department of the Environment and Energy’s guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

**9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations**

No

**9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made**

**Person proposing the action - Declaration**

I, \_\_\_\_\_, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... Date: .....

I, \_\_\_\_\_, the person proposing the action, consent to the designation of \_\_\_\_\_ as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date: .....

**9.3 Is the Proposed Designated Proponent an Organisation or Individual?**

Organisation

**9.5 Organisation**

**9.5.1 Job Title**

Managing Director

**9.5.2 First Name**

Cameron

**9.5.3 Last Name**

Garnsworthy

**9.5.4 E-mail**

cameron.garnsworthy@juwi.com

**9.5.5 Postal Address**

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**9.5.6 ABN/ACN**

ABN

42159228145 - JUWI RENEWABLE ENERGY PTY LTD

**9.5.7 Organisation Telephone**

07 3107 0908

**9.5.8 Organisation E-mail**

cameron.garnsworthy@juwi.com

**Proposed designated proponent - Declaration**

I, \_\_\_\_\_, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:..... Date: .....

## **9.6 Is the Referring Party an Organisation or Individual?**

Organisation

### **9.8 Organisation**

#### **9.8.1 Job Title**

Managing Director

#### **9.8.2 First Name**

Cameron

#### **9.8.3 Last Name**

Garnsworthy

#### **9.8.4 E-mail**

cameron.garnsworthy@juwi.com

#### **9.8.5 Postal Address**

PO Box 13106

George Street  
Brisbane QLD 4003  
Australia

#### **9.8.6 ABN/ACN**

ABN

42159228145 - JUWI RENEWABLE ENERGY PTY LTD

#### **9.8.7 Organisation Telephone**

07 3107 0908

#### **9.8.8 Organisation E-mail**

cameron.garnsworthy@juwi.com

### **Referring Party - Declaration**

I, \_\_\_\_\_, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and

correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date: .....



## **Appendix A - Attachments**

The following attachments have been supplied with this EPBC Act Referral:

1. Chances Plain Solar Farm Ecology Assessment.pdf
2. Chances Plain Solar Farm Stormwater Assessment.pdf
3. Chances Plain Solar Farm\_Development Permit.pdf
4. Chances Plain Solar Farm preliminary intersection design.pdf
5. Chances Plain\_intersection\_layout.zip
6. Preliminary Project Layout.zip
7. Preliminary SEP.pdf
8. Protected Matters Report\_08072019.pdf