GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8987/1
Permit Holder:	Telstra Corporation Limited
Duration of Permit:	From 5 January 2021 to 5 January 2029

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

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear native vegetation for the purpose of installing an underground optical fibre cable.

2. Land on which clearing is to be done

Lot 12887 on Deposited Plan 219810, Pinjar

3. Clearing authorised

The permit holder must not clear more than 2.03 hectares of native vegetation within the combined areas cross-hatched yellow in Figure 1, Figure 2 and Figure 3 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any native vegetation after 5 January 2026.

5. Type of clearing authorised

The permit holder may clear native vegetation for the activities described in condition 1 of this permit to the extent that the permit holder has the power to carry out works involving clearing for those activities under the *Telecommunications Act* 1997 or any other written law.

PART II – MANAGEMENT CONDITIONS

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

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

preference:

(a) avoid the clearing of native vegetation;

(b) minimise the amount of native vegetation to be cleared; and

(c) reduce the impact of clearing on any environmental value.

7. Weed and dieback management

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

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known dieback or weed-affected soil, mulch, fill, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. Revegetation and rehabilitation – retention of vegetative material and topsoil

The permit holder must:

(a) retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared;

(b) within three months following clearing authorised under this permit, *revegetate* and *rehabilitate* the area that are no longer required for the installation of an underground optical fibre cable by:

(i) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area(s); and

(ii) undertake weed control activities on an 'as needed' basis to reduce weed cover within the cleared areas to no greater than the weed cover within the surrounding five metres of uncleared land.

PART III - RECORD KEEPING AND REPORTING

9. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared;

No.	Relevant matter	Specifications
		(d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 6; and (f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 7.
2.	In relation to *revegetation* and *rehabilitation* pursuant to condition 8.	(a) the size of the area *revegetated* and *rehabilitated*; (b) the date(s) on which the area *revegetation* and *rehabilitation* was undertaken; and (c) the boundaries of the area *revegetated* and *rehabilitated* (recorded digitally as a shapefile).

10. Reporting

The permit holder must provide to the *CEO* the records required under condition 9 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

Term	Definition
rehabilitate / rehabilitated / rehabilitation	means actively managing an area containing native vegetation to improve the ecological function of that area
revegetate / vegetated / revegetation	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

END OF CONDITIONS

Meenu Vitarana
A/Manager
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

11 December 2020

Schedule 1

The boundary of the area authorised to be cleared is shown in the maps below (Figures 1-3)

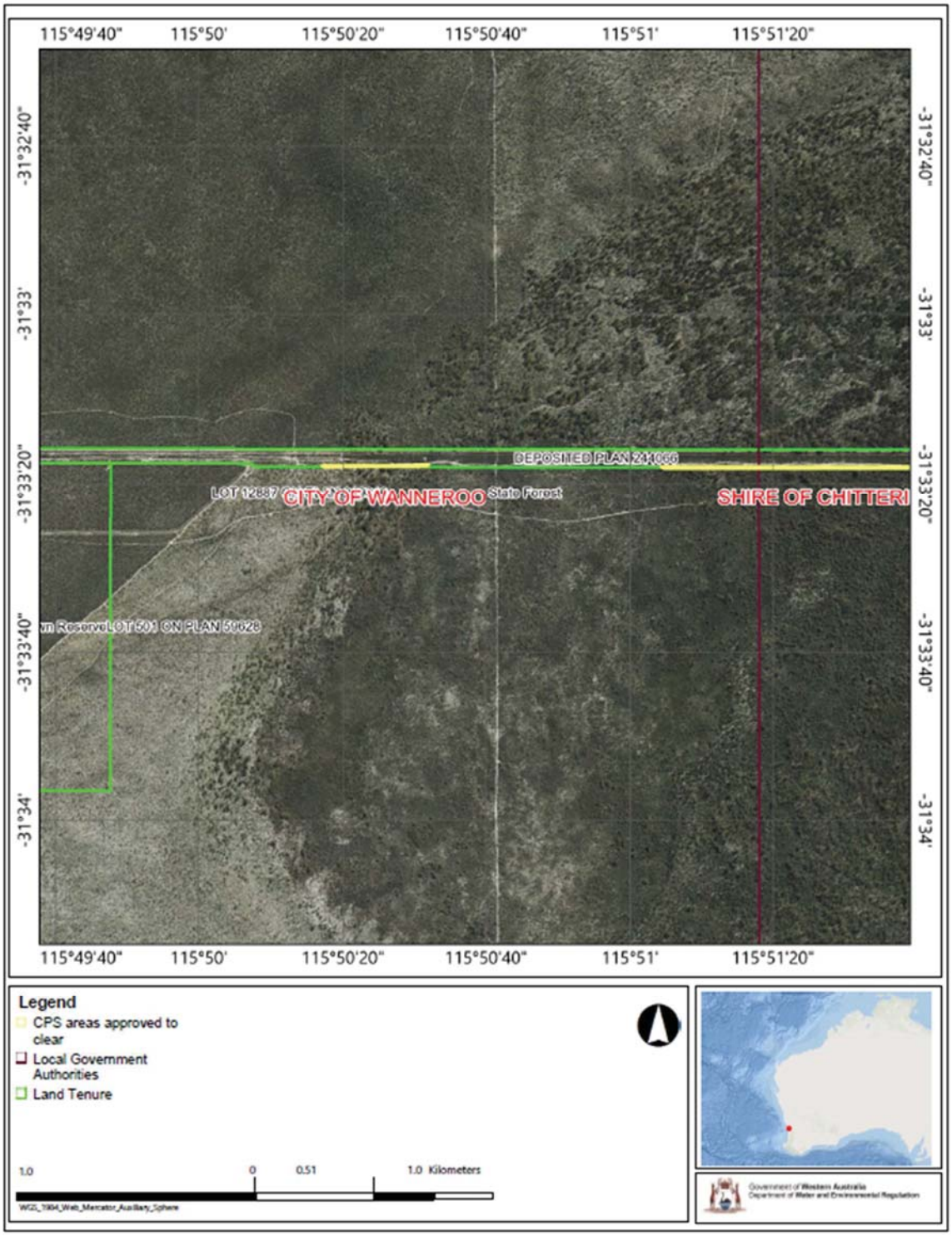


Figure 1: Map of the boundary of the area within which clearing may occur

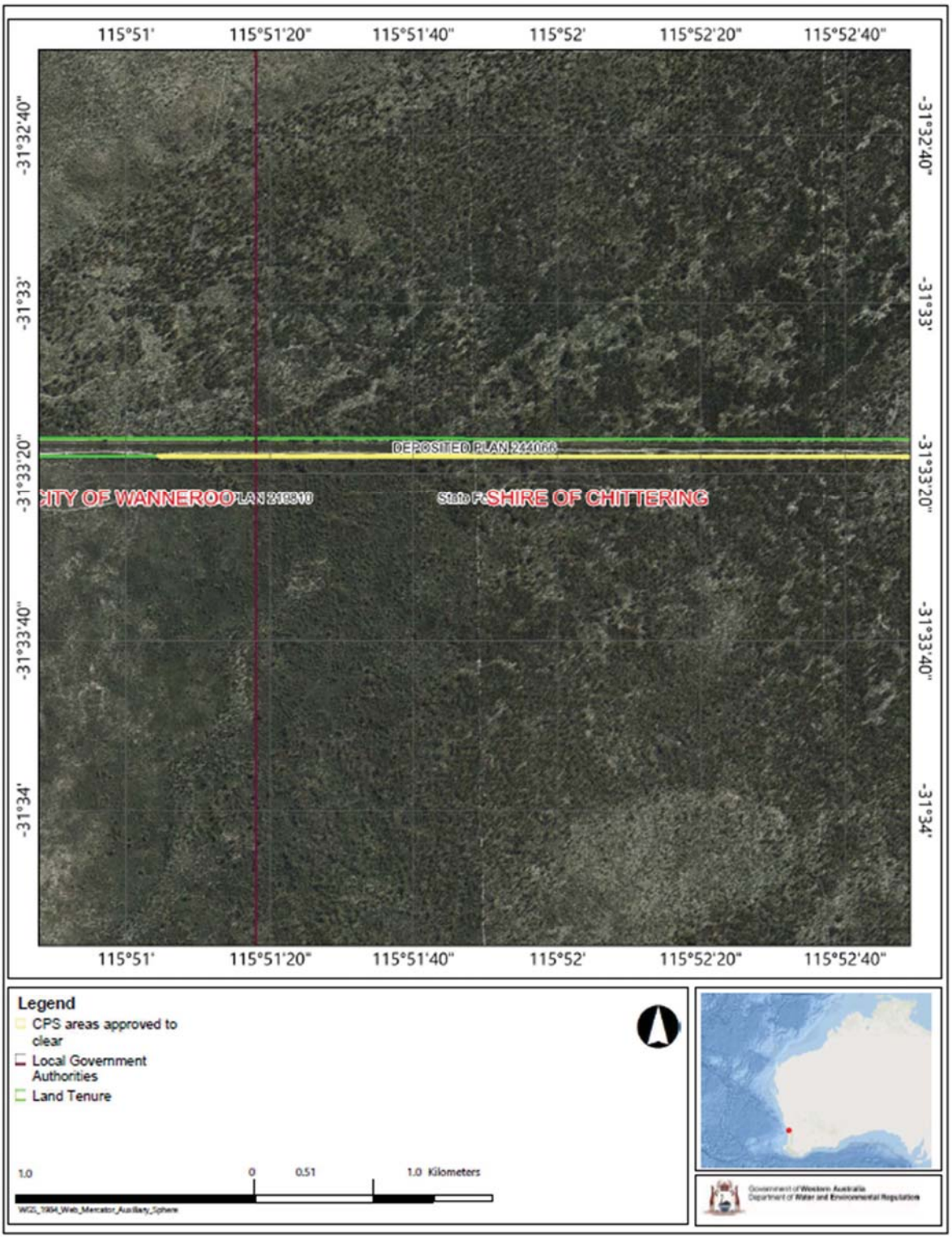


Figure 2: Map of the boundary of the area within which clearing may occur

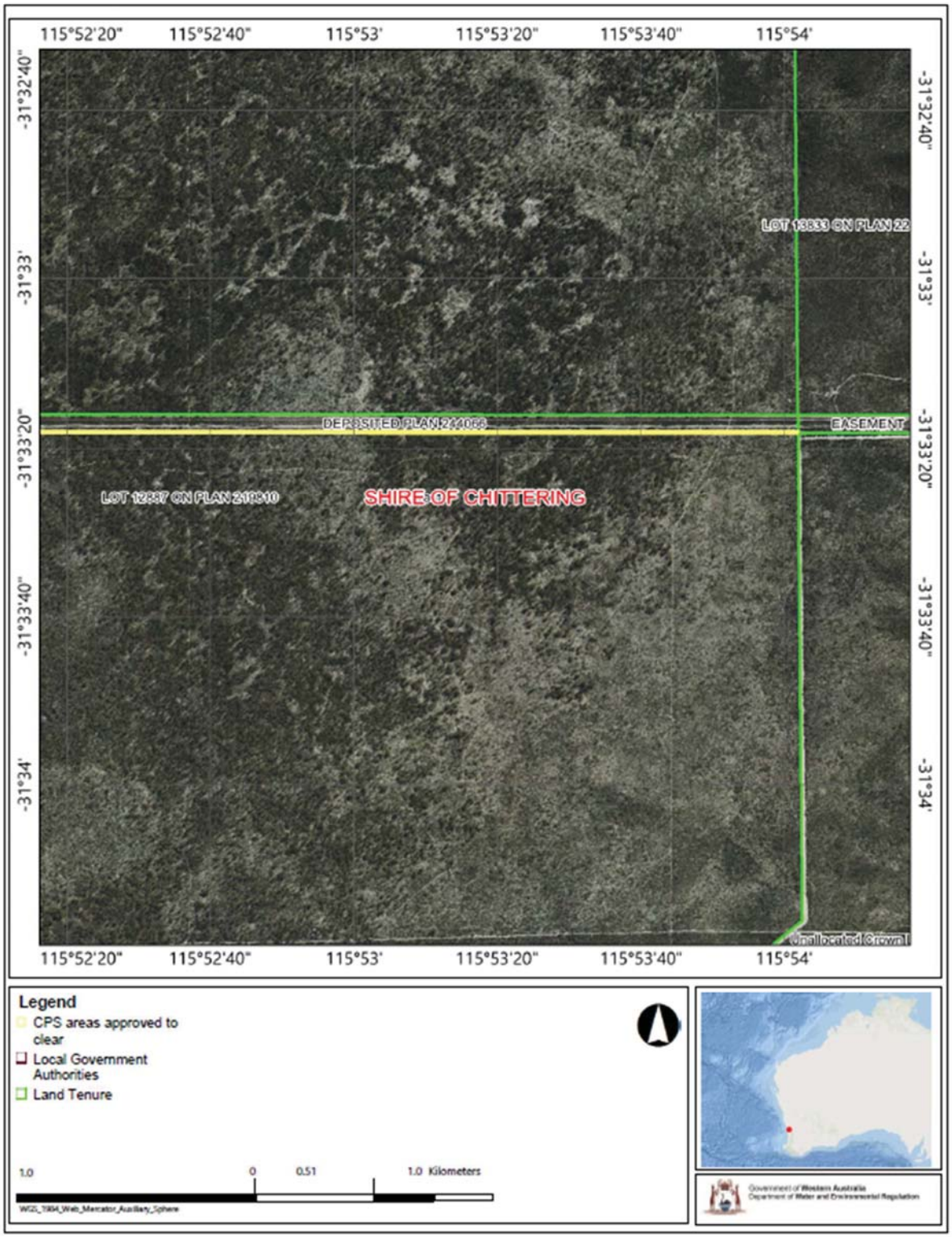


Figure 3: Map of the boundary of the area within which clearing may occur

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	CPS 8987/1
Permit type:	Purpose permit
Applicant name:	Telstra Corporation Limited
Application received:	28/07/2020
Application area:	2.03 hectares (ha) of native vegetation
Purpose of clearing:	Utilities – Water/gas/cable/pipeline/power installation
Method of clearing:	Mechanical Removal
Property:	Lot 12887 on Deposited Plan 219810
Location (LGA area/s):	City of Wanneroo and Shire of Chittering
Localities (suburb/s):	Pinjar

1.2. Description of clearing activities

The vegetation applied to be cleared is a long, linear strip, approximately 4 metres wide and 6 km long (see Figure 1, Section 1.5).

The application was revised during the assessment process in response to a request for further information. The changes are outlined below:

- reduction in the amount of clearing from 4.11 hectares to 2.03 hectares to avoid and minimise the clearing impacts (see Section 3.1 for further details)
- Removal of conservation category wetland area and location of priority 2 flora population from the proposed clearing area.

1.3. Decision on application and key considerations

Decision:	Granted
Decision date:	11 December 2020
Decision area:	2.03 hectares (ha) of native vegetation as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 28 July 2020. DWER advertised the application for public comment and no submissions were received.

In undertaking their assessment, and in accordance with section 51O of the EP Act, the Delegated Officer has given consideration to the Clearing Principles in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (see Section 3).

In particular, the Delegated Officer has determined that:

- the applicant has suitably demonstrated avoidance and minimisation measures (see Section 3.1);
- the implementation of a suitable weed and dieback management condition is appropriate to mitigate the impact of spreading weeds and dieback into adjacent vegetation (see Section 3.2.4); and

The Delegated Officer also took into consideration the purpose of the clearing is to extend the optical fibre cable network to provide telecommunication services.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

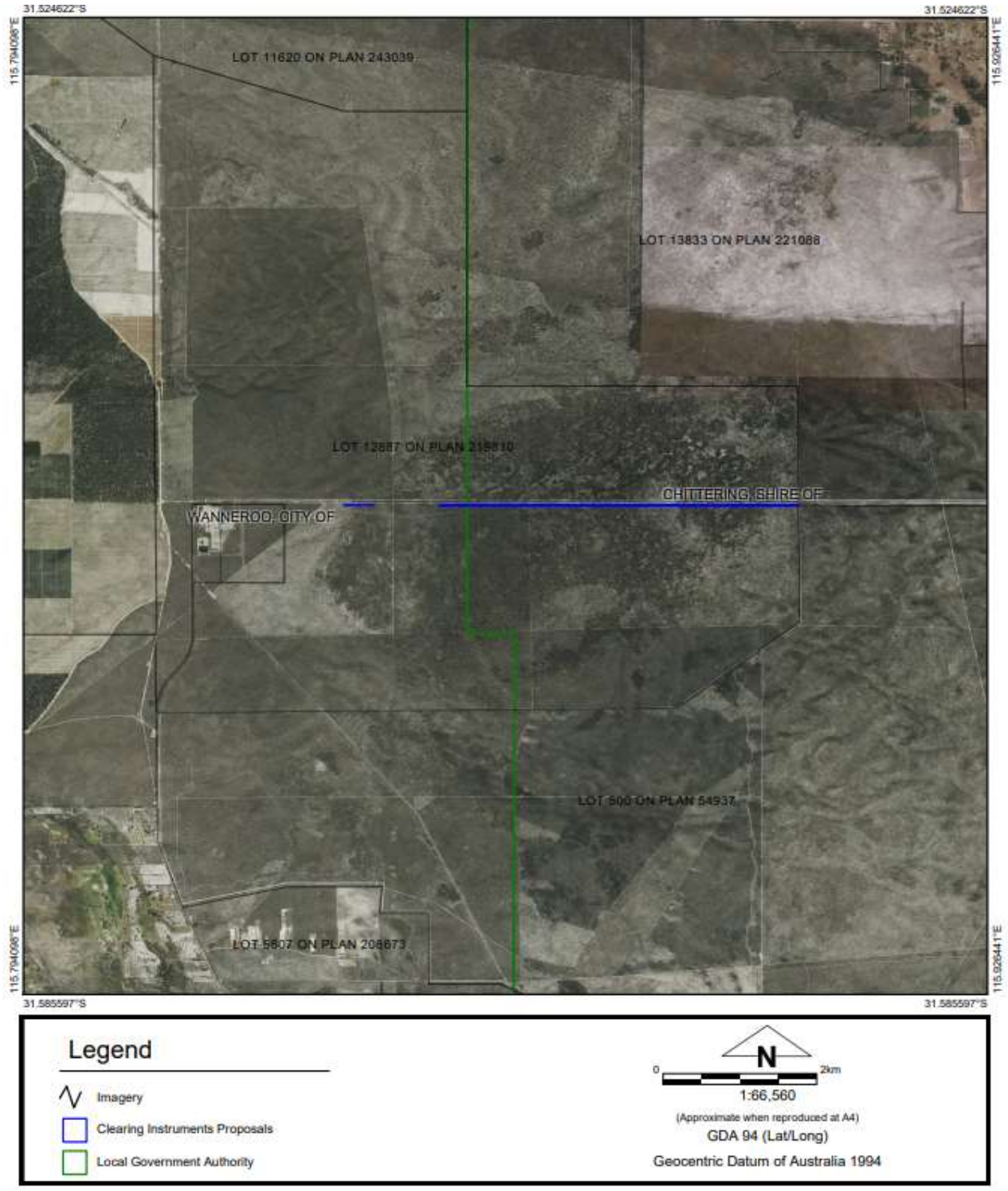


Figure 1. Map of the application area.

2. Legislative context

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

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.3), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

1. the precautionary principle;
2. the principle of intergenerational equity;
3. the principle of the conservation of biological diversity and ecological integrity; and

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating avoidance measures undertaken:

- Existing tracks along the existing service corridor will be used as much as possible to reduce the amount of clearing required.
- Design and construction changes have been made to reduce the need for clearing of native vegetation.
- Alignment of the cable has been moved into existing track where possible.
- The cable will be installed by directional drilling at a minimum depth of 1.2 m below the ground level to avoid clearing of wetland vegetation and the population of a priority 2 flora species located within the eastern end of the original application area.
- Review of the equipment to be used has identified that a smaller cable layering machine can be sourced to allow the application to reduce the footprint of works from 5 meter to 4 meter width.
- The applicant is planning to mark all 22 mature trees that are in close proximity to the application area and enter them into the construction plan so they will not be disturbed.
- The Telstra Environment Handbook has been provided to DWER, which outlines key environmental risks and appropriate management strategies across Telstra projects. Risks identified include impacts to soil, flora and fauna, waterways and waterbodies, weeds and pests, and erosion and sedimentation.
- Given there was no evidence of dieback, a low level of weeds, and the surrounding vegetation is in conservation estate, in addition to the strategies outlined in the Telstra Environmental Handbook the proponent has advised that a separate dieback and weed management plan will be prepared and implemented for this project.
- The applicant is also proposing to use a mechanical mulcher to clear the vegetation which will reduce the disturbance of vegetation within the cable footprint. Mulched material will then be respread over the cleared area and left to naturally regenerate.

Through the avoidance measures undertaken above the applicant:

- reduced the amount of clearing within a Bush Forever site from 1.79 hectares to 0.31 hectares;
- avoided the clearing of wetland vegetation from 0.43 hectares to 0 hectares;
- reduced the amount of clearing of the Commonwealth EPBC Act listed Threatened Ecological Community (TEC) Banksia Woodlands of the Swan Coastal Plain from 1.7 hectares to 0.3 hectares;
- avoided the clearing of a population of Priority 2 flora species (*Leucopogon squarrosa subsp. Trigynus*); and
- reduced the amount of clearing of foraging habitat for threatened black cockatoo species from 4.01 hectares to 2.03 hectares.

This adequately demonstrated that all reasonable efforts had been taken to avoid and minimise potential impacts of the clearing on environmental values.

3.2. Assessment of environmental impacts

In assessing the application in accordance with section 51O of the EP Act, the Delegated Officer has examined the application and site characteristics (Appendix B) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix C.

This assessment identified that the clearing may pose a risk to the environmental values of biological values, significant remnant vegetation and conservation areas, and land and water resources, and that these required further consideration. The detailed consideration and assessment of the clearing impacts against the specific environmental values is provided below. Where the assessment found that the clearing presents an unacceptable risk to environmental values, conditions aimed at controlling and/or ameliorating the impacts have been imposed under sections 51H and 51I of the EP Act. These are also identified below.

3.2.1. Environmental value: biological values (flora) – Clearing Principles (a), (c) and (d)

Assessment:

The flora, fauna and vegetation survey of the application area and adjacent vegetation noted 140 flora species within the survey area, of which eight were weed species (Astron Environmental, 2020). Due to the survey timing, it was determined that ephemeral species were underrepresented in the survey results (Astron Environmental, 2020). Vegetation condition ranged from good to excellent (Keighery, 1994). Three conservation significant flora species were observed during the flora and vegetation survey:

- *Leucopogon squarrosa* subsp. *trigynus* – Priority 2
- *Styphelia filifolia* – Priority 3
- Tripterococcus sp. Brachylobus (A.S. George 14234) – Priority 4

Through modification of the proposed clearing area, the applicant has avoided all individuals of *Leucopogon squarrosa subsp. trigynus* (P2) and therefore it is not considered for this species to be impacted by the proposed clearing.

*Styphelia filifolia (*P3) occurs sporadically from north of Eneabba to Harvey and grows on sandy soils of the coastal plain, usually in Banksia or Jarrah woodland in low lying situations (WA Herbarium, 1998-). A total of 30 individuals were recorded within the flora survey. Approximately 5 of these individuals will be impacted by the proposed clearing (Astron Environmental, 2020). Given the wide distribution of this species and that only five individuals out of 30 will be cleared, it is not considered for this species to be significantly impacted by the proposed clearing.

Tripterococcus sp. *Brachylobus* (P4) is an erect, multi-stemmed shrub that occurs sporadically from Walpole in the south to Moore River National Park in the north along the coastal plain in seasonal wetlands, winter-wet flats, grey sand and clay (Western Australian Herbarium 2020). Due to a lack of flowering material on the collected specimen, it was not able to be identified to species level with confidence, however, is considered very likely to be this species. Five individuals were recorded from one location, on a regrown track and will be impacted by the proposed clearing (Astron Environmental, 2020). It is noted that this species grows within disturbed habitats, as several previous collections have been made from cleared infrastructure corridors (Western Australian Herbarium 2020). The proposed clearing of five individuals of this species is not considered to significantly impact the occurrence of this species given its widespread distribution.

A total of nine vegetation types were recorded during the survey, including three inferred priority ecological communities and vegetation consistent with EPBC listed Threatened Ecological Community (TEC) Banksia Woodlands of the Swan Coastal Plain. A total of 0. 3 hectares of this TEC occurs within the application area.

The total mapped occurrence of this TEC is 321,728 hectares. Noting that the 0.3 hectares proposed for clearing represents approximately 0.000009 per cent of the TEC's mapped occurrence, the proposed clearing of 0.3 hectares along a long and linear area is unlikely to significantly impact on this community.

The proposed clearing may cause degradation of the adjoining patch of TEC through the introduction and spread of weeds and dieback. Weed and dieback management measures would reduce this risk.

The applicant proposes to mulch the vegetative material during clearing and respread the mulch once the cable has been laid. The clearing area will than be left to naturally revegetate.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions (see below) in relation to this environmental value.

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Weed and dieback management

- Revegetation, post clearing

3.2.2. Environmental value: biological values (fauna) – Clearing Principle (b)

Assessment: Based on the level of remnant vegetation adjacent to the application area it was determined that the proposed clearing is not likely to comprise significant habitat for common species.

Given the broad distribution and conservation status of quenda (*Isoodon fusciventer*) (P4), the black-striped snake (*Neelaps calonotos*) (P3), and the Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma sigillatum*) (P3), and the linear nature of the clearing, it was determined that the proposed clearing is not considered significant habitat for these species.

There was some feeding evidence present of jarrah and marri nuts, potentially by forest red-tailed black cockatoos (*Calyptorhynchus banksii naso*), listed as Vulnerable under the BC Act and EPBC Act (Astron Environmental, 2020). However, as the application area was determined to have low quality foraging values (Astron Environmental, 2020) and falls outside of the core habitat for this species it was determined that the proposed clearing is not significant habitat for forest red-tailed black cockatoos.

Carnaby's black cockatoo (*Calyptorhynchus latirostris*), listed as Endangered under the BC Act and EPBC Act were noted feeding during the site inspection, particularly at the eastern end of the application area, with evidence of feeding throughout the site (Astron Environmental, 2020). Based on the vegetation type, confirmed breeding sites located less than 6 km from the application area and roosting sites less than 1.5 km away, the foraging value of the 2.03 ha area proposed to be cleared was determined to be very high (Astron Environmental, 2020). Of the approximately 31,100 ha of remnant vegetation within the local area, 28,800 ha had been mapped as foraging habitat for black cockatoos. The application area represents 0.006 per cent of the foraging habitat in the local area. Given this and the long linear nature of the proposed clearing, it is not considered for the clearing to impact on significant foraging habitat for this species.

The environmental survey recorded 22 mature trees within or just outside of the survey area, all of which were considered to represent current or potential future breeding habitat (Astron Environmental, 2020). Three trees had hollows of a suitable size to support black cockatoo breeding, however no evidence of use by these species was observed (Astron Environmental, 2020). All potential breeding habitat trees occur outside of the 4m proposed clearing area and are not being cleared.

Douglas Broad Headed Bee (*Hesperocolletes douglasi*) is listed as Critically Endangered under the BC and EPBC Act. This species, the only representation of the *Hesperocolletes* genus, was initially collected on Rottnest Island in 1938, however was presumed extinct until the collection of a specimen within remnant Banksia Woodland in 2015 (Arnold *et al.* 2019). This collection is approximately 3.5 km from the application area and lies within the same patch of remnant vegetation. While the application area may provide suitable habitat for this species, it is not considered likely for the bee to occur, given its rarity and the relatively small and linear area of the proposed clearing.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions in relation to this environmental value.

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Weed and dieback management

3.2.3. Environmental value: significant remnant vegetation and conservation areas – Clearing Principles (e) and (h)

Assessment: The proposed clearing includes approximately 0.3 ha of area within Bush Forever site 380 (Rosella Road Bushland, Bullsbrook). In addition, 1.7 ha of the application area occurs within the Gnangara-Moore River State Forest.

The proposed clearing is adjacent to and within an area that has been previously disturbed and is part of a corridor for the Dampier to Bunbury Natural Gas Pipeline and existing Western Power infrastructure. It is also part of an almost 77,000 ha patch of intact, connected vegetation that is made up of Bush Forever and state forest. Given this, the proposed clearing is not considered to significantly impact the values of these conservation areas through direct removal of native vegetation.

However, due to the linear nature of the application area the perimeter to area ratio of the proposed works is high. This increases the risk of indirect impacts on adjacent land. These risks include the introduction and spread of weeds and dieback and accidental clearing outside of the approved area. Based on the flora and vegetation survey the current condition of the vegetation indicated that there is minimal weed invasion and no evidence of dieback (Astron Environmental, 2020). The applicant has indicated that a dieback hygiene and weed plan will be implemented in

addition to the measures outlined in the Telstra Environmental Handbook to minimise the introduction and spread of weeds and dieback.

The applicant has also advised that the cleared vegetative material from the proposed cleared area will be mulched and respread over the application area once the installation of the cable is finalized.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions in relation to this environmental value.

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Weed and Dieback management.
- Revegetation, post clearing.

3.2.4. Environmental value: land and water resources – Clearing Principles (f), (g), (i) and (j)

Assessment:

The application area is adjacent to a conservation category wetland (CCW). CCWs are wetlands that support a high level of wetland attributes and functions and the objective is to preserve and protect the existing conservation values of these wetlands (EPA, 2008).

The proposed clearing may introduce and spread weeds and dieback into this wetland area.

The applicant has indicated that a dieback hygiene and weed plan will be implemented in addition to the measures outlined in the Telstra Environmental Handbook to minimise the introduction and spread of weeds and dieback.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions in relation to this environmental value.

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Weed and dieback management

3.3. Relevant planning instruments and other matters

The authority under the *Telecommunications Act 1997* had been exercised to access the land and undertake the proposed activities.

The City of Wanneroo have advised that they are not aware of any development applications lodged within the site relating to the clearing of native vegetation and have advised that the application is referred to the Department of Lands and Heritage (DPLH) for advice (City of Wanneroo, 2020).

Comments received from DPLH indicate an offset in accordance with *State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region* is required to offset the impacts of the proposed clearing on Bush Forever (DPLH, 2020). As discussed in section 3.2.3, the applicant reduced the amount of clearing within Bush Forever from 1.79 hectares to 0.3 hectares and will undertake weed management and revegetation of the cleared area, post clearing. Therefore, it is considered an offset is not warranted.

The application area occurs within a Priority 1 Gnangara Underground Water Pollution Control Area Public Drinking Water Source Area (PDWSA), which supplies drinking water to the Perth Integrated Water Supply System. The proposed clearing is not within any wellhead protection zones. DWER Water Source Protection Planning section advised energy unfractured such as optical fibre cable can be compatible within P1 Zoned areas and that the proposed clearing is not likely to have any impacts to the drinking water source. According to the department's Water Quality Protection Not 83, infrastructure corridors within these areas should avoid sensitive environmental features, minimise land clearing and avoid disturbance to surface water bodies and that the applicant should refer to DWER's WQPN 83: Infrastructure corridors for advice on best management practices to be undertaken during both the clearing and the installation of the cable to ensure the drinking water source is protected.(DWER, 2020).

There are no registered Aboriginal Sites of Significance within the application area; it is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Appendix A – Additional information provided by applicant

Summary of comments	Consideration of comment
Further information regarding avoidance and minimisation measures and a reduction in the application size, avoiding a CCW and a P2 flora population was provided by the applicant.	This information was included in the consideration of avoidance and minimisation measures (refer to Section 3.1) and within the assessment of environmental values under section 3.2.

Appendix B – Site characteristics

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

1. Site characteristics

Site characteristic	Details
Local context	The proposed clearing area part of an expansive tract of native vegetation in the north and northeast of the Perth Metropolitan Region, with almost 77,000 ha of connected remnant vegetation intact. The proposed clearing area is surrounded by remnant vegetation; however, it is located adjacent to a cleared linear strip associated with the Dampier to Bunbury Natural Gas Pipeline and Western Power infrastructure. Spatial data indicates the local area (10 km radius of the proposed clearing area) retains approximately 57.4% of the original native vegetation cover.
Vegetation description	A flora survey of the application area (Astron Environmental, 2020) indicates the vegetation in the survey area was dominated by *Banksia attenuata – B. menziesii* low woodland, with sections of *Eucalyptus marginata – Corymbia calophylla* woodland, *E. rudis – Melaleuca preissiana – Allocasuarina fraseriana* low woodland and *B. ilicifolia – B. attenuata* low woodland on grey sand. The full survey descriptions are available in Appendix E This is consistent with the mapped vegetation type(s): • Karrakatta Complex-North, which is described as predominantly low open forest and low woodland of Banksia species *Eucalyptus todtiana* (Pricklybark), less consistently open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus todtiana* (Pricklybark) - Banksia species; • Karrakatta Complex-North Transition, which is characterised by a transition complex of low open forest and low woodland of Banksia species - *Eucalyptus todtiana* (Pricklybark) on the transition zone of a series of high sand dunes between Bassendean-North and Karrakatta-North; • Bassendean Complex-Central and South Transition, which is characterised as woodland of *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) with well defined second storey of *Allocasuarina fraseriana* (Sheoak) and *Banksia grandis* (Bull Banksia) on the deeper soils and a closed scrub on the moister sites. The understorey species reflect similarities with the adjacent vegetation complexes; and • Bassendean Complex-North, which is characterised by vegetation ranges from a low open forest and low open woodland of Banksia species *Eucalyptus todtiana* (Pricklybark) to low woodland of Melaleuca species and sedgelands which occupy the moister sites (minor component).
Vegetation condition	Vegetation survey (Astron Environmental, 2020) indicate the vegetation within the proposed clearing area is in Good to Excellent (Keighery, 1994) condition, described as:

Site characteristic	Details
	• Good: vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing. • Excellent: vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species. It was noted that although there was evidence of disturbance from the existing powerline, some of the cleared corridor has regrown and had very little signs of disturbance otherwise. There was no evidence of dieback and very few weeds. The full Keighery condition rating scale is provided in Appendix D, below. Representative photos are available in Appendix F.
Soil description	The soil is mapped as the following: • Bassendean, Jandakot steep Phase (212Bs__Jas); Jandakot dune ridges. Characterised by slopes <15% and usually more than 10m relief. Grey medium sand overlying pale yellow sands generally underlain by humic and iron podsols; *Banksia* spp. low open woodland with sparse shrub layer. • Bassendean, Jandakot Phase (212Bs__Ja); Jandakot low dunes. Characterised by slopes <10% and generally more than 5m relief. Grey sand over pale yellow sands generally underlain by humic and iron podsols; *Banksia* spp. low open woodland with a dense shrub layer. • Bassendean, Gavin Phase (212Bs__G) characterised by flat or gently undulating landscape. Iron-humus podzols and some diatomite deposits. *Banksia* spp. Low open woodland with scattered emergent *Eucalyptus calophylla* and *Melaleuca preissiana* dense shrub layer. • Bassendean, Pinjar Phase (212Bs__P), characterised by extensively flat swampy areas. Sandy surface sometimes with diatomite over organic hardpan below. *E. rudis*, *B. littoralis* and *M. preissiana* around the edges; sedges and reeds with scattered *M. teretifolius* in centre; *Jacksonia furcellata*; and • Bassendean seasonal swamps Phase (212Bs__Ws), characterised by depressions with free water in winter. Humus podzols and peat. Dense *M. preissiana; M. rhaphiophylla* and *E. rudis* around the edges with reeds and sedges in the centre. Both 212Bs_P and 212Bs_Ws form minor components of the mapped soil type within the application area.
Land degradation risk	Some areas proposed to be cleared have a high risk of wind erosion, waterlogging, water repellence, subsurface acidification, phosphorus export.
Waterbodies	The desktop assessment and aerial imagery indicated that the proposed clearing is adjacent to a dampland basin and a conservation category wetland. This wetland is consistent with the mapped soil types associated with wetlands.
Conservation areas	The western 2 km of the proposed clearing area lies within Bush Forever Site 380. Approximately 4 km of the proposed clearing area lies within the Gnangara-Moore River State Forest, an “A Class” State Forest.
Conservation significant flora	A total of 42 conservation significant taxa have been recorded in the local area. Three conservation significant flora were located within, or in close proximity to the application area (Astron Environmental, 2020): • *Leucopogon squarrosa* subsp. *trigynus* – Priority 2 – none of the individuals recorded are within the application area • *Styphelia filifolia* – Priority 3 – 20% of the individuals recorded are within the application area

Site characteristic	Details
	• *Tripterococcus* sp. Brachylobus (A.S. George 14234) – Priority 4 – 100% of the individuals recorded are within the application area (Astron Environmental, 2020).
Conservation significant fauna	A total of 22 conservation significant fauna species have previously been recorded within the local area. Of these, it was determined that the habitat has a low suitability or very low significance for 17 species. The five species in which the vegetation may provide habitat or significant habitat for are: • Douglas's broad-headed bee (*Hesperocolletes douglasi*) (CR) • Carnaby's cockatoo (*Calyptorhynchus latirostris*) (EN) • Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (VU) • Black-striped snake, black-striped burrowing snake (*Neelaps calonotos*) (P3) • Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma sigillatum*) (P3) • Quenda (*Isoodon fusciventer*) (P4) All the above species are associated with Banksia Woodlands consistent with the application area. Carnaby's Cockatoo were sighted during the site assessment and evidence of feeding noted throughout the application area (Astron Environmental, 2020). Potential evidence of Quenda and Forest red-tailed black cockatoos were also noted within the application area (Astron Environmental, 2020). The presence of conservation significant invertebrates was not considered in the fauna survey.
Conservation significant ecological communities	A total of 16 conservation significant ecological communities have been recorded in the local area. It is was determined that the application area may have consistencies with 1. The flora and vegetation survey within the application area and surrounding vegetation confirmed the presence of a 0.3 hectares of Banksia woodland community within the application area that is listed as Priority 3 under the BC Act and Endangered under the EPBC Act: • Low lying *Banksia attenuata* woodlands or shrublands (SCP21c); In addition, this area has consistencies with Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region, also listed as Priority 3 under the BC Act and Endangered under the EPBC Act.
Climate and landform	The application area ranges between 70 and 100 metres Australian Height Datum (ADH) Climate within the Perth Metropolitan Region is characterised by a Mediterranean climate, with hot dry summers and mild wet winters.

2. Flora, fauna and ecosystem analysis

With consideration for the site characteristics set out above, relevant datasets (see Appendix F), and biological survey information, the following conservation significant flora and fauna species, and ecological communities will or may be impacted by the clearing.

Flora Species	Conservation status	Distance of closest record to application area (kilometres)	Suitable soil type? (flora, ecological community)	Suitable vegetation type? (flora, ecological community)	Are surveys adequate to identify? (Y, N, N/A)
Leucopogon squarrosus subsp. *trigynus*	Priority 2	0.18	Yes	Yes	Confirmed
Styphelia filifolia	Priority 3	0.66	Yes	Yes	Confirmed

Flora Species	Conservation status	Distance of closest record to application area (kilometres)	Suitable soil type? (flora, ecological community)	Suitable vegetation type? (flora, ecological community)	Are surveys adequate to identify? (Y, N, N/A)
Tripterococcus sp. Brachylobus (A.S. George 14234)	Priority 4	9.48	Yes	Yes	Confirmed
Adenanthos cygnorum subsp. *chamaephyton*	Priority 3	2.11	Yes	Yes	Yes, not present
Anigozanthos humilis subsp. *chrysanthus*	Priority 4	9.99	Yes	Yes	No
Hypolaena robusta	Priority 4	6.50	Yes	Yes	Yes, not present
Platysace ramosissima	Priority 3	8.01	Yes	Yes	No
Schoenus griffinianus	Priority 4	8.47	Yes	Yes	No
Verticordia lindleyi subsp. *lindleyi*	Priority 4	8.54	Yes	Yes	Yes, not present
Verticordia serrata var. *linearis*	Priority 3	3.34	Yes	Yes	Yes, not present

3. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	% remaining	Current extent in all DBCA managed land (ha)	% current extent in all DBCA managed land (proportion of pre-European extent)
IBRA bioregion					
Swan Coastal Plain	1,501,209.2	587,889.1	39.16	195,834.9	33.31
Vegetation complexes					
Bassendean Complex-North	79,057.3	56,659.7	71.67	20,506.9	25.94
Bassendean Complex-North Transition	20,856.5	18,552.8	88.95	10,291.9	49.35
Karrakatta Complex-North	44,272.9	19,976.3	45.12	155.5	0.35
Karrakatta Complex-North Transition	5,260.4	4,683.7	89.04	2.6	0.05
Local area					
10 km radius	54,124.1	31,085.0	57.43	-	-

Appendix C – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: the proposed clearing contains conservation significant flora, fauna and a commonwealth listed threatened ecological community and may contain a high level of biological diversity.	May be at variance	Yes Refer to Section 3.2.1 above.
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The proposed clearing area does not contain significant habitat for conservation significant fauna species, given its small size and linear shape.	Not likely at variance	Yes Refer to Section 3.2.2 above.
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The proposed clearing area is not likely to contain flora species listed under the BC Act.	Not likely at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community."* Assessment: State listed threatened ecological communities do not occur within the application area.	Not likely at variance	No
Environmental values: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. Vegetation in the proposed clearing area is not considered to be a significant part of an ecological linkage in the local area.	Not likely at variance	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the intersection of the application area with Bush Forever and State Forest, the proposed clearing is likely to have an impact on the environmental values of the conservation areas.	Is at variance	Yes Refer to Section 3.2.3 above.
Environmental values: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: A small portion of the proposed clearing is adjacent to a conservation category wetland and may introduce weeds into this area.	May be at variance	Yes Refer to Section 3.2.4 above.

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: Although the mapped soil types have a high risk of some land degradation aspects, given the linear nature of the proposed clearing these impacts area likely to be minimal. Additionally, the mitigation measures outlined in the Telstra Environment Handbook are likely to reduce this risk further.	Not likely at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given the linear nature of the application area and the surrounding remnant vegetation the proposed clearing is unlikely to impact on hydrological regimes or surface or ground water quality.	Not likely at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given the linear nature of the application area and the surrounding remnant vegetation the proposed clearing is unlikely to cause or exacerbate flooding.	Not likely at variance	No

Appendix D – Vegetation condition rating scale

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

Measuring Vegetation Condition for the South West and Interzone Botanical Province (Keighery, 1994)

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

Appendix E – Biological survey information excerpts / photographs of the vegetation

The survey area is approximately 6 km in length, with a width of approximately 20 m (to allow for possible deviations) and covers 23.7 ha.

Vegetation Condition:

The survey area follows an existing powerline that occurs in a cleared corridor which has regrown and is adjacent to a narrow, cleared track. Vegetation condition within the survey area ranged from Good to Excellent. The majority of vegetation had very little disturbance. There had been a recent fire approximately 5 years ago around where sites MU05 and MU06 were sampled, the rest is long unburnt. Despite public use of the tracks there was no dumped rubbish or signs of vegetation destruction. Very few weeds were observed, with most occurrences and higher densities at the eastern end of the survey area in the narrow sections of vegetation under the powerlines and between tracks.

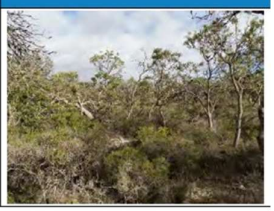
There was no evidence of dieback infestation along the alignment with no areas of suspected Phytophthora related deaths or leading fronts observed. There were occasional old deaths of Banksia and *Adenanthos cygnorum* (woolly bush), restricted to individual trees and shrubs, with adjacent indicator species remaining healthy; this was not considered to be dieback related.

Vegetation Type:

Vegetation in the survey area was dominated by *Banksia attenuata – B. menziesii* low woodland, with sections of *Eucalyptus marginata – Corymbia calophylla* woodland, *E. rudis – Melaleuca preissiana – Allocasuarina fraseriana* low woodland and *B. ilicifolia – B. attenuata* low woodland on grey sand. Based on the structural and floristic composition observed in the field, nine vegetation types were recorded in the survey area. This included seven *Banksia* low woodlands, one *Corymbia calophylla* and *Eucalyptus marginata* woodland and one *Eucalyptus rudis, Melaleuca preissiana* and *Allocasuarina fraseriana* woodland. Vegetation type descriptions and representative photographs are presented below.

Vegetation type and description	Site(s)	Significance of Vegetation	Total area (ha) Proportion of survey area (%)	Representative Photograph
VT1 *Banksia attenuata* and *B. menziesii* low woodland over *Adenanthos cygnorum* subsp. *Cygnorum* and *Scholtzia* sp. Wongonderrah (M.E. & M.R. Trudgen MET 12000) tall open to tall shrubland over *?Regelia inops* or *?Beaufortia elegans, Stirlingia latifolia* and *Verticordia nitens* shrubland over *Styphelia xerophylla, Eremaea pauciflora* var. *pauciflora* and *Boronia purdieana* subsp. *purdieana* or *Stirlingia latifolia* low shrubland.	MU01, MU03	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Act listed TEC Swan Coastal Plain *Banksia attenuata – Banksia menziesii* woodlands (floristic community type 23b) DBCA P3 PEC	2.6 ha (11.1%)	
VT2 *Banksia attenuata* and *B. menziesii* low woodland over *Verticordia nitens* (*?Beaufortia elegans*) open shrubland to shrubland over *Scholtzia involucrata, Eremaea pauciflora* var. *pauciflora* and *Leucopogon conostephioides* or *Hibbertia subvaginata, Stirlingia latifolia* and *E. pauciflora* var. *pauciflora* open low heath.	MU02, MU05	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Act listed TEC Swan Coastal Plain *Banksia attenuata – Banksia menziesii* woodlands (floristic community type 23b) DBCA P3 PEC	2.9 ha (12.3%)	
VT3 *Banksia menziesii, Eucalyptus todtiana* and B. attenuata low woodland over *Adenanthos cygnorum* subsp. *cygnorum, Scholtzia* sp. Wongonderrah (M.E. & M.R. Trudgen MET 12000) and *Jacksonia floribunda* open scrub over *Eremaea pauciflora* var. *pauciflora* and *?Regelia inops* shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Stirlingia latifolia* and *Styphelia xerophylla* low shrubland.	MU04	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Actlisted TEC Swan Coastal Plain *Banksia attenuata – Banksia menziesii* woodlands (floristic community type 23b) DBCA P3 PEC	2.6 ha (11.0%)	
VT4 *Corymbia calophylla* and *Eucalyptus marginata* subsp. *marginata* woodland over *Banksia attenuata, B. menziesii* and *B. ilicifolia* low woodland over *Xanthorrhoea preissii, Macrozamia riedlei* and *Jacksonia floribunda* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Melaleuca trichophylla* and *Stirlingia latifolia* open low heath.	MU06	Riparian/wetland vegetation where patches of sedgeland occur	6.5 ha (27.3%)	

Vegetation type and description	Site(s)	Significance of Vegetation	Total area (ha) Proportion of survey area (%)	Representative Photograph
VT5 *Allocasuarina fraseriana* and *Eucalyptus rudis* subsp. *rudis* woodland over *Banksia attenuata, Melaleuca preissiana* and *B. menziesii* low woodland over *Xanthorrhoea preissii, Regelia ciliata* and *Jacksonia furcellata* (*Kunzea glabrescens*) shrubland over *Stirlingia latifolia* and *Hibbertia subvaginata* low open shrubland.	MU07	Riparian/wetland vegetation	2.5 ha (10.6%)	
VT6 *Banksia attenuata* and *B. grandis* low woodland over *Kunzea glabrescens* and *Adenanthos cygnorum* subsp. *cygnorum* tall open shrubland over *Regelia ciliata* open heath over *Hibbertia subvaginata* low open shrubland.	MU08	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Act listed TEC Low lying *Banksia attenuata* woodlands or shrublands (floristic community type 21c) DBCA P3 PEC	0.8 ha 3.2%	
VT7 *Banksia ilicifolia, B. menziesii* and *B. attenuata* low woodland over *Kunzea glabrescens* and *Jacksonia furcellata* tall shrubland over *Hypocalymma angustifolium* low open shrubland.	MU09	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Act listed TEC *Banksia ilicifolia* woodlands (floristic community type 22) DBCA P3 PEC	0.6 ha (2.3%)	
VT8 *Banksia attenuata* and *B. menziesii* low woodland over *Beaufortia elegans* or *Xanthorrhoea preissii, Eremaea pauciflora* var. *pauciflora* and *Conospermum stoechadis* subsp. *stoechadis* shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Melaleuca clavifolia* and *Scholtzia involucrata* open low heath over *Mesomelaena pseudostygia* very open sedgeland.	MU10	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Act listed TEC Swan Coastal Plain *Banksia attenuata – Banksia menziesii* woodlands (floristic community type 23b) DBCA P3 PEC	2.8 ha (12.0%)	

Vegetation type and description	Site(s)	Significance of Vegetation	Total area (ha) Proportion of survey area (%)	Representative Photograph
VT9 *Banksia attenuata* and *B. menziesii* low woodland over *Hibbertia hypericoides* subsp. *Hypericoides*, *Calothamnus sanguineus* and *Stirlingia latifolia* low shrubland over *Mesomelaena pseudostygia* open sedgeland.	MU11	Banksia Woodlands of the Swan Coastal Plain ecological community EPBC Act listed TEC Swan Coastal Plain *Banksia attenuata* – *Banksia menziesii* woodlands (floristic community type 23b) DBCA P3 PEC	2.4 ha (10.1%)	

Appendix F – References and databases

1. GIS datasets

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Regional Parks (DBCA-026)
- Soil and Landscape Mapping – Best Available

Restricted GIS Databases used:

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

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