




Form for the referral of a proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*

Referrer information			
Who is referring this proposal?		<input type="checkbox"/> Proponent <input type="checkbox"/> Decision-making authority <input checked="" type="checkbox"/> Community member/third party	
Name (print) Susan (Sue) Brand		Signature 	
Position	Senior Environmental Scientist	Organisation	Natural Area Consulting Management Services
Email	Sue.brand@naturalarea.com.au		
Address	1/164	Barrington Street	
	Bibra Lake	WA	6164
Date	23 March 2020		
Does the referrer request that the EPA treat any part of the proposal information in the referral as confidential? <i>Provide confidential information in a separate attachment.</i>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Referral declaration for organisations, proponents and decision-making authorities: I, Susan Catherine Brand....., (<i>full name</i>) declare that I am authorised to refer this proposal on behalf of Mr Ivan Yujnovich..... and further declare that the information contained in this form is true and not misleading.			
Part A: Proponent and proposal description			
Proponent information			
Name of the proponent/s (including Trading Name if relevant)		Mr Ivan Yujnovich	
Australian Company Number(s) <input type="checkbox"/>		N/A - individual	
OR			
Australian Business Number(s) <input type="checkbox"/>			
Contact for the proposal (if different from the referrer) <i>Please include: name, physical address, phone, and email.</i>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

<p>Does the proponent have the legal access required for the implementation of all aspects of the proposal? <i>If yes, provide details of legal access authorisations / agreements / tenure.</i> <i>If no, what authorisations / agreements / tenure is required and from whom?</i></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Mr Yujnovich is the owner of the property and has done so for more than 60 years.</p>
<p>Proposal type</p>	
<p>What type of proposal is being referred? For a change to an approved proposal please state the Ministerial Statement number/s (MS No./s) of the approved proposal For a derived proposal please state the Ministerial Statement number (MS No.) of the associated strategic proposal</p>	<p><input checked="" type="checkbox"/> significant – new proposal <input type="checkbox"/> significant – change to approved proposal (MS No./s: _____) <input type="checkbox"/> proposal under an assessed planning scheme <input type="checkbox"/> strategic <input type="checkbox"/> derived (Strategic MS No.: _____)</p>
<p>For a significant proposal:</p> <ul style="list-style-type: none"> Why do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA? 	<p>The site has been in Mr Yujnovich's ownership for more than 60 years and remains in a vegetated state, the same as when it was acquired. Accordingly, it contains remnant bushland with no buildings or other infrastructure present. The bushland now meets the definition of the threatened ecological community Banksia Woodland of the Swan Coastal Plain. Banksia Woodland's are known preferred food sources for endangered black cockatoo species.</p> <p>The DBCA Wetlands of the Swan Coastal Plain dataset indicates the presence of a conservation category wetland; note that the wetland designation has been questioned, and its presence is questioned in relation to this proposal.</p> <p>The land is zoned urban, and when developed will result in the clearing of a maximum 45 ha (the entire site) of native vegetation that includes the area designated as a CCW and 38 ha of Banksia Woodland.</p>
<p>For a proposal under an assessed planning scheme, provide the following details:</p> <ul style="list-style-type: none"> Scheme name and number <p>For the Responsible Authority:</p> <ul style="list-style-type: none"> What new environmental issues are raised by the proposal that were not assessed during the assessment of the planning scheme? How does the proposal not comply with the assessed scheme and/or the environmental conditions in the assessed planning scheme? 	<p>Has been referred to the WAPC for assessment, decision pending.</p>

Proposal description	
Title of the proposal	Proposed subdivision of Lot 123 Mortimer Road Casuarina
Name of the Local Government Authority in which the proposal is located.	City of Kwinana
Location: a) street address, lot number, suburb, and nearest road intersection; or b) if remote the nearest town and distance and direction from that town to the proposal site.	Lot 123 (#165) Mortimer Road Casuarina; nearest intersection – Nicolas Drive
Proposal description – including the key characteristics of the proposal <i>Provide as an attachment to the form</i>	Refer to Attachment 1
Have you provided electronic spatial data, maps and figure in the appropriate format? <i>Refer to instructions at the front of the form</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
What is the current land use on the property, and the extent (area in hectares) of the property?	Remnant bushland (45 ha)
Have you had pre-referral discussions with the EPA at DWER Services? If so, quote the reference number and/or the DWER contact.	Yes, Teresa Bryant and Liesl Rohl
Part B: Environmental impacts	
Environmental factors	
What are the likely significant environmental factors for this proposal?	<input type="checkbox"/> Benthic Communities and Habitat <input type="checkbox"/> Coastal Processes <input type="checkbox"/> Marine Environmental Quality <input type="checkbox"/> Marine Fauna <input checked="" type="checkbox"/> Flora and Vegetation <input type="checkbox"/> Landforms <input type="checkbox"/> Subterranean Fauna <input type="checkbox"/> Terrestrial Environmental Quality <input checked="" type="checkbox"/> Terrestrial Fauna <input checked="" type="checkbox"/> Inland Waters <input type="checkbox"/> Air Quality <input type="checkbox"/> Social Surroundings <input type="checkbox"/> Human Health
<i>For each of the environmental factors identified above, complete the following table, or provide the information in a supplementary report</i>	
Potential environmental impacts	
1	EPA Factor Refer attachment 2
2	EPA policy and guidance - What have you considered and how have you applied them in relation to this factor?

3	Consultation – Outline the outcomes of consultation in relation to the potential environmental impacts	
4	Receiving environment – Describe the current condition of the receiving environment in relation to this factor.	
5	Proposal activities – Describe the proposal activities that have the potential to impact the environment	
6	Mitigation – Describe the measures proposed to manage and mitigate the potential environmental impacts.	
7	Impacts – Assess the impacts of the proposal and review the residual impacts against the EPA objective.	
8	Assumptions - Describe any assumptions critical to your assessment e.g. particular mitigation measures or regulatory conditions.	

Part C: Other approvals and regulation

State and Local Government approvals

Is rezoning of any land required before the proposal can be implemented?

Yes

No

If yes, please provide details.

If this proposal has been referred by a decision-making authority, what approval(s) are required from you?

N/A

Please identify other approvals required for the proposal:

Proposal activities e.g. clearing, dewatering, mining, processing, dredging	Land tenure/access e.g. Crown land, Mining lease, specify legislation for access if relevant	Type of approval e.g. Native Vegetation Clearing Permit, licence, mining proposal,	Legislation regulating the activity e.g. <i>EP Act 1986 – Part V, RiWI Act 1914, Mining Act 1979</i>
N/A			

Commonwealth Government approvals

Does the proposal involve an action that may be or is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)?

Yes

No

Has the proposed action been referred? If yes, when was it referred and what is the reference number (EPBC No.)?

Yes

No

Date: 21 December 2018

EPBC No.: 2018/8379 _____

If referred, has a decision been made on whether the proposed action is a controlled action? If 'yes', check the appropriate box and provide the decision in an attachment.

Yes

No

Decision – controlled action (refer Attachment 3)

Decision – not a controlled action

If the proposal is determined to be a controlled action, do you request that this proposal be assessed under the bilateral agreement or as an accredited assessment?

Yes - Bilateral

No

Yes - Accredited

Is approval required from other Commonwealth Government/s for any part of the proposal?

Yes

No

If yes, describe.

Approval:

Attachment 1: Key Project Characteristics

Lot 123 Mortimer Road is a 45 ha vegetated lot zoned urban development, with the change from rural to urban occurring through Amendment 1117/33 that was referred to the EPA in February 2006, who deferred their decision to formally assess their site. Thus, as a legacy site in private ownership for more than 60 years, consideration of the environmental values on Lot 123 has not previously been considered by the EPA or any other state agency. The aim of this referral is to serve as a vehicle to have the values formally assessed at the site to guide future planned urban development, either by the current owner or by others. In the first instance, a 'superlot' subdivision will occur, subdividing Lot 123 into two Lots (Figure 1). The size and location of the two Lots is arbitrary, with both Lots expected to undergo development for urban use at some future stage. Outcomes of the assessment process will:

- provide some quantification of the environmental values present that will need to be considered in future subdivision design processes
- provide some certainty to potential future owners of the Lot that may consider purchase with a few undertaking its urban development
- guide future subdivision design processes.

The site remains in much the same vegetated state as it was when purchased by Mr Yujnovich more than 60 years ago. The vegetation present is Banksia Woodland, and which in recent years has been recognised as a threatened ecological community under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) and as priority three listed ecological community under the *Biodiversity Conservation Act 2016* (WA), which superseded the *Wildlife Conservation Act 1950* (WA).

Banksia Woodlands are recognised as preferred food sources for the endangered black cockatoos listed at both State and Commonwealth levels. While some evidence of feeding was noted during site assessment activities, Lot 123 does not appear to be a major feeding area, this is probably due to the presence of additional remnant vegetation retained in ten Bush Forever sites within 5 km of the site.

The DBCA Wetlands of the Swan Coastal Plain dataset indicates the presence of a conservation category wetland, portions of two resource enhancement wetlands, and a multiple use category wetland within Lot 123. Dr Peter Keating from Bioscience has undertaken thorough investigations relating to the presence of the conservation category wetland, presenting information that supports the conclusion that the designated wetland area does not currently meet the accepted 'wetland' definition. Thus, despite that work being carried out, the continued designation of the conservation category wetland within Lot 123 means it must be considered during any environmental assessment process, along with any potential impacts to it.

Future subdivision design will be determined according to the outcome of this assessment process, with three outcomes possible:

1. the urban development proceeds with the maximum area of the site, 45 ha, being able to be developed, with POS requirements as per the Planning and Development Act 2005 (WA)
2. all designated wetland areas are to be protected and retained, with the subdivision development area being reduced to a maximum of 35.5 ha, or approximately 79% of the site – an indicative concept plan is provided to represent what might be possible under this scenario (Figure 2)
3. a balance between these minimum and maximum potential development areas being agreed during the assessment process.

This referral assumes that the maximum clearing could occur to accommodate the future urban development of the site (45 ha), and thus will represent the 'worst case scenario' for approval conditions and any offset requirements.



Figure 1: Subdivision Plan, Lot 123



Figure 2: Indicative concept plan based on 35.5 ha development area

Attachment 2: Potential Environmental Impacts

Based on the current situation, the key environmental factors for the site are:

- flora and vegetation
- terrestrial fauna
- inland waters.

Each of these factors is discussed in Section 4.0, and specifically Section 4.2 (Flora and Vegetation), Section 4.3 (Terrestrial Fauna) and Section 4.4 (Inland Waters – Wetlands) of the Environmental Review Document prepared by Natural Area in October 2019. Information is summarised here for convenience. Note that we are working on the assumption that the maximum clearing for the development will be the entire Lot, or 45 ha, but also recognise that this may change during negotiation processes with regulators.

1. Flora and Vegetation

Policy and guidance documents relevant to this factor are:

- *Environmental Factor Guideline – Flora and Vegetation* (EPA, 2016a)
- *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)*, (EPA, 2018a)
- *Instructions on how to prepare an Environmental Review Document* (EPA, 2018b)
- *Perth and Peel @3.5 Million – Environmental Impacts, Risks and Remedies* (EPA, 2015)
- *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016b)
- *Statement of Environmental Principles, Factors and Objectives* (EPA, 2018c).

Flora surveys have been carried out by Natural Area (2018), along with Bioscience (2015) and an earlier survey, with both complying with current versions of *EPA Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment*. None of these surveys recorded the presence of species listed as threatened or priority under the *Biodiversity Conservation Act 2016* (WA), or its predecessor, the *Wildlife Conservation Act 1950* (WA), and/or listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth). The Natural Area survey confirmed:

- 219 species from 51 families, of which 178 are native species
- three vegetation types are present, of which the Banksia Woodland is dominant
- the vegetation is primarily in excellent condition
- the Banksia Woodland present on site is consistent with that designated as a threatened ecological community under the EPBC Act 1999 (Priority 3 under the *Biodiversity Conservation Act 2016* (WA)).

The *Perth and Peel @3.5 Million – Environmental Impacts, Risks and Remedies* (EPA, 2015) represents a broad assessment of several environmental factors that are applicable to urban development, infrastructure and transport corridors, and the extraction of basic raw materials within the Perth metropolitan area and the Peel region. The strategic assessment approach was jointly implemented by the Australian Government and the Western Australian Government, allowing a ‘big-picture’ approach to environmental matters within the region and the conditions under which they would be allowed. Despite that process not being finalised, it did recognise that the ongoing need for development to accommodate an increasing population would result in negative impacts or even the loss of environmental values. That was recognising the loss of some vegetated areas and other associated environmental values would be required to allow urban development to proceed. The Perth Peel region includes Lot 123 Mortimer Road and recognises that it is in a location zoned urban development, which could be interpreted as providing an implicit ‘approval’ for the urban development of the site.

Consultation activities relating to flora and vegetation are limited due to the availability of guidance material. It was discussed at preliminary meetings held with DWER and the DPLH.

The **receiving environment** and **proposal activities** are described in this document and in the ERD prepared by Natural Area.

Mitigation relates to the various means of reducing impacts to one or more environmental values through strategies including avoidance, minimisation, rehabilitation, and implementation of offsets. Application of the various mitigation strategies to the proposal are provided in the following table.

Mitigation Option	Application to Lot 123	Residual Impact	Comment
Avoidance	<ul style="list-style-type: none"> ▪ Lot is vegetated and has been since the present owner acquired it more than 60 years ago, with vegetation consistent with that at the time of purchase ▪ Lot is zoned urban development, and has been for more than 10 years ▪ Several documents support the zoning of the Lot, including the WAPC Amendment 1117/33 referred to the EPA in 2006, City of Kwinana Town Planning Scheme No. 2, City of Kwinana Local Planning Policy 6 – Guidelines for Structure Planning, the Metropolitan Regional Scheme, the South Metropolitan Peel Sub-regional Planning Framework (DPLH), and Perth and Peel @ 3.5 Million – Environmental Impacts, Risks, and Remedies ▪ Avoiding development of the site will: <ul style="list-style-type: none"> ▪ effectively remove it as an urban development location as identified during various planning activities undertaken by State and Local Government decision makers ▪ make the Lot ‘unusable’ and ‘unsaleable’ ▪ continue to be a financial burden to the owner in terms of rates, insurance and maintenance, thus significant outgoings with no income to offset those costs and little opportunity to sell or develop the Lot to recoup ongoing costs due to limited future uses 	Yes	<ul style="list-style-type: none"> ▪ The nature of the proposed development mean that impacts cannot be avoided
Mitigation	<p>It is recognised that the environmental values at Lot 123 are ‘high’, or likely to be ‘significant’. However, factors mitigating their loss include:</p> <ul style="list-style-type: none"> ▪ planning activities undertaken by decision-makers, as outlined above, have designated Lot 123 as an area approved for urban development, thus recognising that there will be some level of unavoidable impacts associated with that process, with the maximum impact being the loss of all environmental 	Yes	<ul style="list-style-type: none"> ▪ The nature of the proposed development means that mitigation factors including the previous planning and the retention of significant areas of remnant bushland within 5 km that is similar to that

Mitigation Option	Application to Lot 123	Residual Impact	Comment
	<p>values of the site due to clearing of all 45 ha of remnant vegetation</p> <ul style="list-style-type: none"> while the loss of all environmental values is not the ideal situation, consideration of the surrounding environment values indicates that there are 10 Bush Forever sites with similar vegetation complex that have a cumulative area of more than 2000 ha (approximately 45 times the area of Lot 123) having some measure of ongoing protection; thus the clearing of Lot 123 represents less than 2.2% of bushland retained within the immediate area there may be the possibility to retain some bushland in POS areas required by the planning process 		found on Lot 123 needs to be considered during the assessment process
Rehabilitation	If Lot 123 is cleared to accommodate urban development, then there will be no real opportunity for rehabilitation activities on site.	Yes	<ul style="list-style-type: none"> The nature of the proposed development means that rehabilitation options to onsite vegetation are unlikely to be feasible
Offset	Given that the high level planning undertaken by others has resulted in the zoning of Lot 123 as urban development, and that process acknowledges the presence of various environmental values, an environmental offset is probably the only feasible method of balancing the loss of the bushland and other environmental values of the site to enable the urban development of the site to proceed	No	<ul style="list-style-type: none"> An environmental offset of some description is probably the most feasible option to accommodate the urban development of Lot 123

Impacts associated with the clearing of the flora and vegetation present within Lot 123 are outlined in Section 4.2.6 of the ERD. In summary, clearing of the entire 45 ha site will result in:

- the loss of a maximum of 0.39% of the pre-European Extent of the Bassendean Complex – Central and South vegetation complex present on the Swan Coastal Plain and a maximum of 2.6% remaining within the City of Kwinana
- the loss of a portion of the Banksia Woodlands of the Swan Coastal Plain ecological community that has been listed as endangered under the EPBC Act 1999 (Cwlth) and priority 3 under the *Biodiversity Conservation Act 2016 (WA)*
- no loss of flora species listed as threatened or priority under the *Biodiversity Conservation Act 2016 (WA)* or threatened under the EPBC Act 1999 (Cwlth)
- impacts to fauna species associated with the flora and vegetation of the site, utilising it to fulfil their various stages of their lifecycle, such as for feeding, sheltering and breeding.

If the entire Lot is cleared to support urban development, then the impacts referred to above will also be the residual impacts. While the aim of the EPA objectives is to retain flora and vegetation, the EIA and planning processes recognise that some losses will occur, and which need to be balanced against the need

for development and environmental protection. With respect to Lot 123, there will be a nett negative impact to the environmental values present on the site, but these will be counterbalanced by those remaining in the vicinity, as well as through the application of an offset of some description, such as a monetary cost, the rehabilitation of a designated area, or the purchase of an offset site that is kept in perpetuity for the conservation of flora, vegetation and wildlife.

Assumptions associated with the development of Lot 123 include:

- planning processes carried out by the DPLH, the City of Kwinana and others provide a tacit acceptance that environmental values will be negatively impacted on Lot 123 by zoning it urban development
- the type and extent of flora and vegetation retained in Bush Forever sites located within 5 km of Lot 123 is a mitigation against the loss that will occur on site.

2. Terrestrial Fauna

Policy and guidance documents relevant to this factor are:

- *Environmental Factor Guideline – Terrestrial Fauna* (EPA, 2016c)
- *Technical Guidance – Sampling Methods for Terrestrial Vertebrate Fauna* (EPA, 2016d)
- *Technical Guidance – Terrestrial Fauna Surveys* (EPA, 2016e)
- *EPBC Act Referral Guidelines for Three Threatened Black Cockatoo Species: Carnaby’s Cockatoo, Baudin’s Cockatoo and Forest Red-tailed Black Cockatoo* (Department of Sustainability, Environment, Water, Population and Communities, 2012).

The key fauna species that need to be considered in relation to Lot 123 relates to the presence of habitat suitable for use by the Carnaby’s Cockatoo (*Calyptorhynchus latirostris*) and the Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksia naso*) which are listed as threatened under the *Biodiversity Conservation Act 2016* (WA) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth). Natural Area undertook an assessment of habitat suitable for these species during the flora and vegetation survey carried out in 2018 that updated the assessment carried out by Bioscience in 2015. Assessment activities associated with the presence of the black cockatoos were carried out in accordance with the *EPBC Act Referral Guidelines for Three Threatened Black Cockatoo Species* (DSEWPAC, 2012).

The black cockatoo habitat assessment within Lot 123 Mortimer Rd, Casuarina confirmed:

- evidence of foraging by the threatened Carnaby’s Cockatoo (*Calyptorhynchus latirostris*) (Endangered) and the Forest Red-tailed Black Cockatoos (*Calyptorhynchus banksii naso*) (Vulnerable) was recorded at six locations within the site, suggesting that its use as a feeding location is limited (i.e.: a secondary or tertiary feeding source rather than a primary feeding source)
- a total of 28 trees with hollows that are of a suitable size to be utilised for nesting and a further 12 trees that were suitable roosting trees for black cockatoos, with no evidence of use for either of these purposes.

Opportunistic sightings of the Priority 4 Western Brush Wallaby (*Macropus irma*) and diggings of the Priority 4 Southern Brown Bandicoot (*Isodon fusciventer*) were also recorded during the 2018 spring flora and habitat survey. The bandicoot is likely to evidence of a permanent population while the wallaby is likely to be a transient visitor. These two conservation significant species are listed under the *Biodiversity Conservation Act 2016* (WA).

Consultation activities relating to terrestrial fauna are limited due to the availability of guidance material. It was discussed at preliminary meetings held with DWER and the DPLH.

The **receiving environment** and **proposal activities** are described in this document and in the ERD prepared by Natural Area.

Mitigation relates to the various means of reducing impacts to one or more environmental values through strategies including avoidance, minimisation, rehabilitation, and implementation of offsets. Application of the various mitigation strategies to the proposal are provided in the following table.

Mitigation Option	Application to Lot 123	Residual Impact	Comment
Avoidance	<ul style="list-style-type: none"> ▪ Lot is vegetated and has been since the present owner acquired it more than 60 years ago, with vegetation consistent with that at the time of purchase ▪ Lot is zoned urban development, and has been for more than 10 years ▪ Several documents support the zoning of the Lot, including the WAPC Amendment 1117/33 referred to the EPA in 2006, City of Kwinana Town Planning Scheme No. 2, City of Kwinana Local Planning Policy 6 – Guidelines for Structure Planning, the Metropolitan Regional Scheme, the South Metropolitan Peel Sub-regional Planning Framework (DPLH), and Perth and Peel @ 3.5 Million – Environmental Impacts, Risks, and Remedies ▪ Avoiding development of the site will: <ul style="list-style-type: none"> ▪ effectively remove it as an urban development location as identified during various planning activities undertaken by State and Local Government decision makers ▪ make the Lot ‘unusable’ and ‘unsaleable’ ▪ continue to be a financial burden to the owner in terms of rates, insurance and maintenance, thus significant outgoings with no income to offset those costs and little opportunity to sell or develop the Lot to recoup ongoing costs due to limited future uses 	Yes	<ul style="list-style-type: none"> ▪ The nature of the proposed development mean that impacts cannot be avoided
Mitigation	<p>It is recognised that the environmental values at Lot 123 are ‘high’, or likely to be ‘significant’. However, factors mitigating their loss could include:</p> <ul style="list-style-type: none"> ▪ planning activities undertaken by decision-makers, as outlined above, have designated Lot 123 as an area approved for urban development, thus recognising that there will be some level of unavoidable impacts associated with that process, with the maximum impact being the loss of all environmental values of the site due to clearing of all 45 ha of remnant vegetation 	Yes	<ul style="list-style-type: none"> ▪ The nature of the proposed development means that mitigation factors including the previous planning and the retention of significant areas of remnant bushland within 5 km that is similar to that found on Lot 123 needs to be considered during

Mitigation Option	Application to Lot 123	Residual Impact	Comment
	<ul style="list-style-type: none"> ▪ evidence of feeding by endangered black cockatoos was confined to six locations on site, indicating limited use as a feeding location ▪ while the loss of all environmental values is not the ideal situation, consideration of the surrounding environment values indicates that there are 10 Bush Forever sites with similar vegetation complex that have a cumulative area of more than 2000 ha (approximately 45 times the area of Lot 123) having some measure of ongoing protection; thus the clearing of Lot 123 represents less than 2.2% of bushland retained within the immediate area ▪ there may be the possibility to retain some bushland in POS areas required by the planning process 		<p>the assessment process</p> <ul style="list-style-type: none"> ▪ These other vegetated areas provide alternative habitat areas and feeding sources for black cockatoos, and which are probably their preferred feeding location based on the limited evidence of their presence within Lot 123 ▪ There is the potential to trap and relocate the bandicoot and reptile populations ahead of clearing
Rehabilitation	If Lot 123 is cleared to accommodate urban development, then there will be no real opportunity for rehabilitation activities on site.	Yes	<ul style="list-style-type: none"> ▪ The nature of the proposed development means that rehabilitation options to onsite vegetation are unlikely to be feasible
Offset	Given that the high level planning undertaken by others has resulted in the zoning of Lot 123 as urban development, and that process acknowledges the presence of various environmental values, an environmental offset is probably the only feasible method of balancing the loss of the bushland and other environmental values of the site to enable the urban development of the site to proceed	No	<ul style="list-style-type: none"> ▪ An environmental offset of some description is probably the most feasible option to accommodate the urban development of Lot 123

Impacts associated with the presence of the terrestrial fauna, particularly black cockatoo species, includes the clearing of a maximum 45 ha of the flora and vegetation present within Lot 123, which will impact on the black cockatoo species via:

- the loss of a secondary or tertiary feeding source, rather than a primary feeding source
- the loss of up to 28 trees with hollows of suitable size to be used by black cockatoos (no evidence of use)
- the loss of an additional 12 trees that were suitable roosting trees (no evidence of use).

Impacts to other fauna species include:

- the loss of a bandicoot population (potential to be relocated ahead of any clearing)
- the loss of resident reptile and amphibians (potential to be relocated ahead of any clearing)
- impacts to the wallaby are likely to be negligible.

If the entire Lot is cleared to support urban development, then the impacts referred to above will also be the residual impacts. While the aim of the EPA objectives is to retain enough suitable habitat to support fauna species, the EIA and planning processes recognise that some losses will occur, and which need to be balanced against the need for development and environmental protection. With respect to Lot 123, there will be a net negative impact to the environmental values present on the site, but these will be counterbalanced by those remaining in the vicinity, the potential for fauna relocation ahead of clearing, as well as through the application of an offset of some description, such as a monetary cost, the rehabilitation of a designated area, or the purchase of an offset site that is kept in perpetuity for the conservation of flora, vegetation and wildlife.

Assumptions associated with the development of Lot 123 include:

- planning processes carried out by the DPLH, the City of Kwinana and others provide a tacit acceptance that environmental values will be negatively impacted on Lot 123 by zoning it urban development
- the type and extent of flora and vegetation retained in Bush Forever sites located within 5 km of Lot 123 is a mitigation against the loss that will occur on site and will provide suitable habitat for those fauna species noted during survey activities.

3. Inland Waters - Wetlands

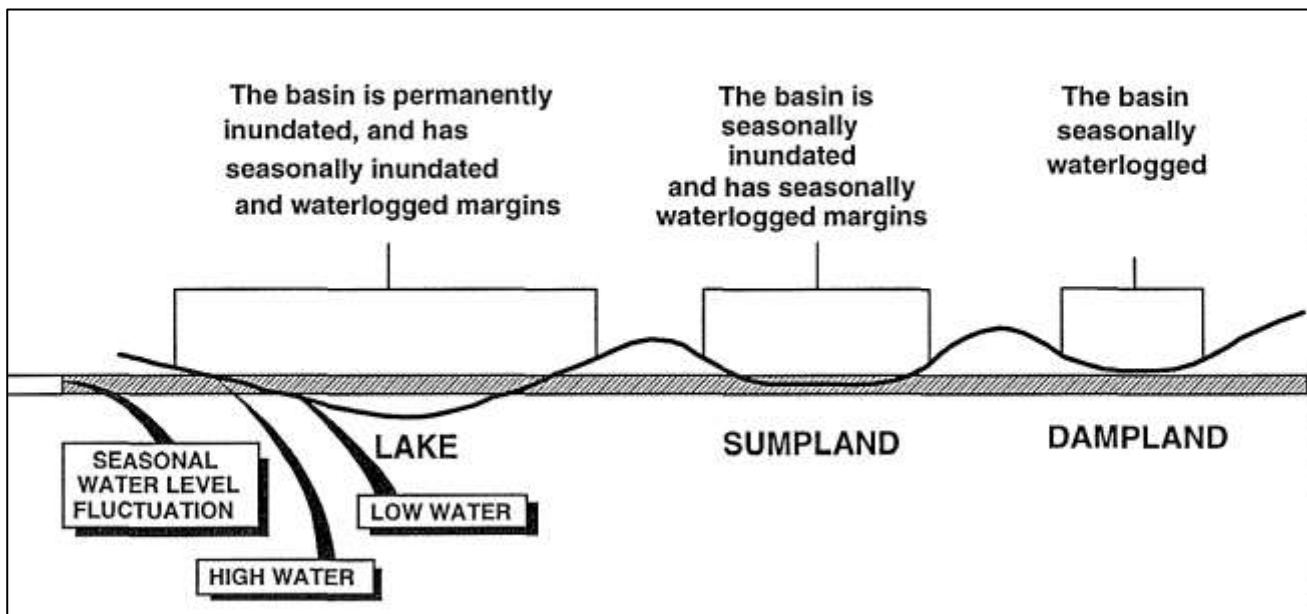
Policy and guidance documents relevant to this factor are:

- *Environmental Factor Guideline – Inland Waters* (EPA, 2018f)
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).

At present, the Geomorphic Wetlands of the Swan Coastal Plain Dataset indicates the presence of one designated wetland that occurs within the Lot 123 boundary, two that extend a short distance into the Lot from the west, and one that is no longer considered to be a wetland:

Unique Feature ID (UFI)	Landform	Wetland Type	Management Category	Area (ha)	Approx. Extent within Lot (ha)
6690	Basin	Dampland	Resource Enhancement	4.22145	0.34638
13969	Basin	Dampland	Resource Enhancement	7.596212	0.53837
6679	Basin	Dampland	Conservation	2.566374	2.566374
15862	Not a wetland	Not a wetland	N/A	0.894903	0.89475
Totals				15.278939	4.345874

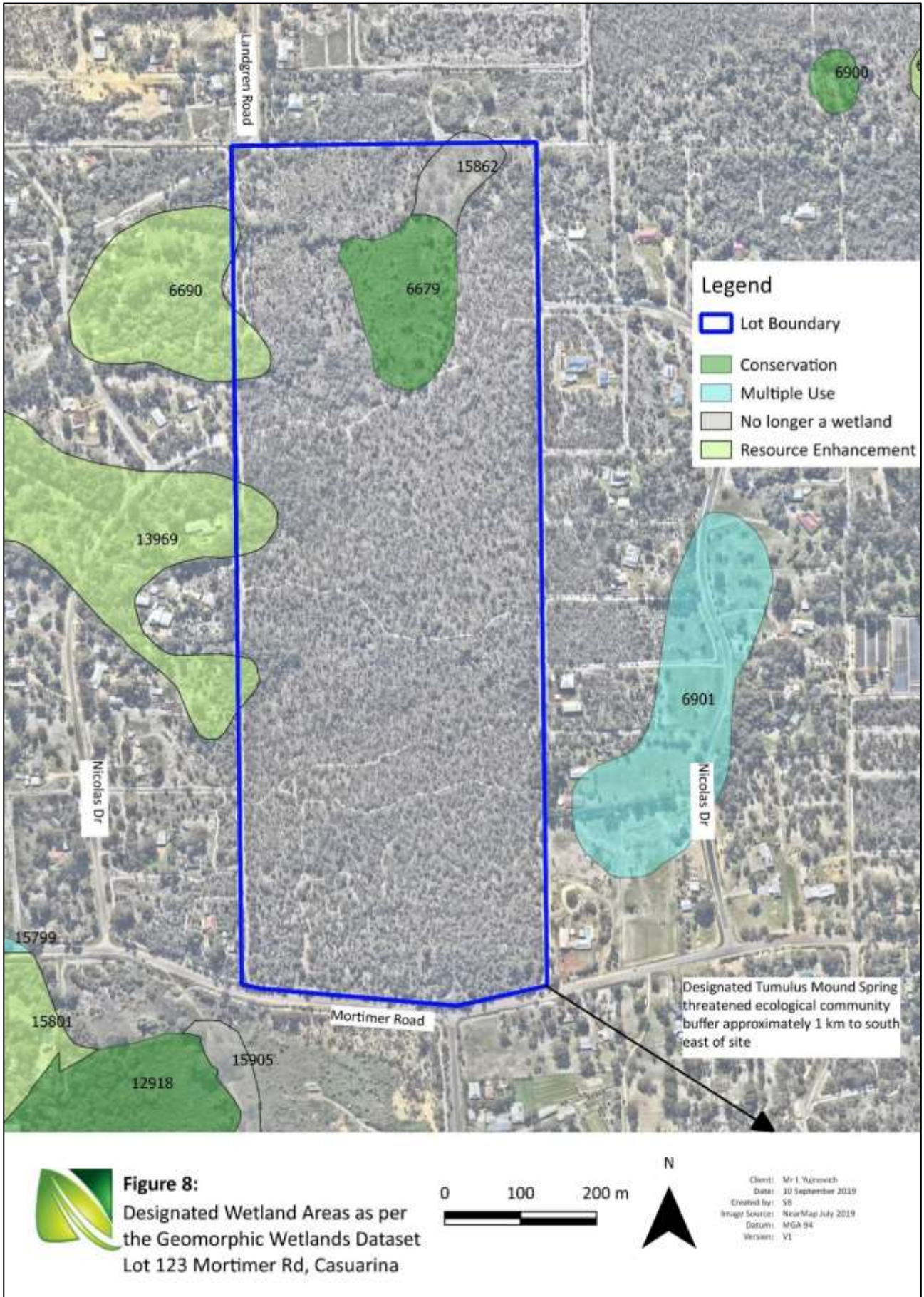
All are described as damplands, which are seasonally waterlogged areas that are saturated with water without the presence of seasonal surface water. This type of wetland is subject to the natural rise and fall of groundwater between warmer and cooler months, with maximum groundwater levels typically occurring around September – October after winter rainfall has infiltrated into the aquifer, bringing the groundwater table close the natural ground level.



Wetland zones in relation to water level fluctuation
 (Source: Hill, Semeniuk, Semeniuk and Del Marco, 1996)

In addition to the wetlands located within Lot 123, there are several located within 500 m of the site, with most shown in Figure 8 from the Local Water Management Strategy prepared by Natural Area (2019) (provided overleaf for convenience). A review of the wetland type and management category, indicates the area of designated wetlands beyond the Lot 123 boundary is 46.837226 ha in addition to the 10.933065 ha highlighted in the table on the previous page, or 57.770291 ha and more than 13 times the area of wetlands indicated within Lot 123. In summary, these wetland areas are as follows:

Unique Feature ID (UFI)	Landform	Wetland Type	Management Category	Area (ha)
6900	Basin	Dampland	Conservation	0.429461
6899	Basin	Dampland	Resource Enhancement	8.445878
6901	Basin	Sumpland	Multiple Use	6.045045
15799	Basin	Sumpland	Multiple Use	4.239706
15801	Basin	Sumpland	Resource Enhancement	3.721927
12918	Basin	Sumpland	Conservation	19.633454
15798	Basin	Sumpland	Multiple Use	0.943626
6903	Basin	Sumpland	Conservation	0.66422
15976	Basin	Dampland	Multiple Use	2.713909
Totals				46.837226



Key to the applicability of this factor is whether those areas currently designated as wetlands on the dataset are, in fact, wetlands. Extensive investigations of the conservation category wetland have been carried out by Dr Peter Keating from Bioscience, looking at a range of hydrological features including depth

to groundwater, vegetation present, soil profile, amongst others. Additional supporting information from the Perth Groundwater Map (DWER, 2019) indicates the depth of the water table is 2 m below the surface, and Department of Water long term monitoring bores maintained by the then Department of Environment indicated a trend of increasing depth to groundwater over time. Given the accepted description of a dampland is a wetland that is subject to seasonal waterlogging, it is questionable that this definition can apply on the basis of the known depth to groundwater as determined by Bioscience (2011; Keating 2019), and which is consistent with DWER (2019) data. Keating's reports are included as appendices in the ERD.

The data collected by Dr Keating was provided to the DBCA in 2006 and 2011 with a request to remove the wetland classification on the basis of a minimum depth to groundwater of 1.5 m below the surface and other information to support the assertion that there is no wetland present at the site. This depth to groundwater is three times the minimum distance of 500 mm to allow a suitable clearance between the finished floor level the 100 ARI storm event (Department of Water, 2004 – 2007; Natural Area, 2019). The assessment process carried out by Bioscience resulted in a modification to the accepted boundary of the conservation category wetland reducing its extent, with the area no longer considered to be a wetland designated UFI 15862.

It is also questionable as to whether the presence of those portions of the designated resource enhancements indicated within Lot 123 is accurate. Resource enhancement wetlands are described as those that may have been partially modified but still support substantial ecological attributes and functions (Department of Biodiversity, Conservation and Attractions, 2019b). The Geomorphic Wetlands of the Swan Coastal Plain Dataset indicates that the eastern extremities of two wetlands identified by Hill et al (1996) are present along the western boundary of Lot 123. The resource enhancement designation indicates that the wetlands have been modified, but 'substantial' ecological attributes and functions are present. For those portions of UFIs 6690 and 13969 located within Lot 123, there has been significant modification to the areas within the accepted boundaries as indicated on the database due to the requirement to comply with the requirements of the *Bushfires Act 1954 (WA)* to have a cleared firebreak of at least 3 m around the perimeter of the Lot; modifications to the wetland values have also occurred on neighbouring properties to the west through clearing to support rural residential development.

Observations during site assessment activities carried out by Natural Area (2018, 2019) suggest that the resource enhancement category assigned to the wetlands considered to extend into Lot 123 along the western boundary are no longer applicable due to the extent of modifications that have occurred through clearing and other development activities. The vegetation within Lot 123 is Marri, which can tolerate moist but not wet conditions with them typically being located adjacent to seasonal damplands, indicating a transition area between wetland and dryland conditions. No formal assessment of the extent of the resource enhancement wetland areas (UFI 6690 and 13969) has been undertaken, thus there has been no formal request to the DBCA to modify their extent and/or classification.

Based on previous discussions with the Wetlands Branch of the DBCA and indications in Volume 2a of Wetlands of the Swan Coastal Plain – Wetland Mapping, Classification and Evaluation (Hill, Semeniuk, Semeniuk and Del Marco, 1996), it was indicated the wetland assessment process carried out relied heavily on interpretation of aerial imagery with some ground-truthing of wetland areas, particularly those in publicly accessible areas. Given that Lot 123 is privately owned, it is unlikely that ground-truthing of the wetlands within its boundaries occurred. Add to this the difficulty of accurately interpreting aerial imagery without ground-truthing the information, and the original classification of the wetlands is much less certain in this instance.

If the science provided by the investigations carried out by Keating in relation to the designated conservation category wetland, and the observations of Natural Area in relation to the designated resource enhancement wetlands are accepted as providing sufficient evidence for the absence of wetlands within Lot 123, then impacts to inland waters will not be an issue. In contrast, if that evidence is not considered sufficient to argue the absence of the designated wetlands, then their presence as defined by their inclusion on the dataset must be considered in the impact assessment process.

Consultation activities relating to inland waters are limited to consultations with officers from the Wetlands Branch of the DBCA and the previous requests to modify the Geomorphic Wetlands of the Swan Coastal Plain dataset undertaken by Dr Peter Keating from Bioscience. The situation with the wetlands was highlighted during the preliminary meetings held with DWER and the DPLH.

The **receiving environment** and **proposal activities** are described in this document and in the ERD prepared by Natural Area.

Mitigation relates to the various means of reducing impacts to one or more environmental values through strategies including avoidance, minimisation, rehabilitation, and implementation of offsets. If the investigations carried out by Bioscience are accepted as providing evidence of the lack of wetland within Lot 123, then there will be no need to apply the mitigation hierarchy.

In contrast, if the evidence provided by Bioscience is not accepted, then the presence of the designated wetland will need to be considered during the environmental approvals process, with application of the mitigation hierarchy provided below. The degree to which the wetland area may be impacted is dependent on future subdivision design, with the maximum potential impact being the loss of the entire wetland due to the clearing of all of Lot 123 to accommodate urban development. The minimum impact will involve protection of the wetland area; with the decision making and approvals process being used to guide future subdivision design.

Mitigation Option	Application to Lot 123	Residual Impact	Comment
Avoidance	If the entire site is to be cleared to accommodate the urban development process, then it will not be possible to avoid impacts to the wetland.	Yes	<ul style="list-style-type: none"> The nature of the proposed development mean that impacts cannot be avoided
Mitigation	<p>As the main wetland area is considered to be a conservation category wetland, its environmental value will be considered to be 'high', or likely to be 'significant'. However, factors mitigating the loss wetland areas could include:</p> <ul style="list-style-type: none"> planning activities undertaken by decision-makers, as outlined above, have designated Lot 123 as an area approved for urban development, thus recognising that there will be some level of unavoidable impacts associated with that process, with the maximum impact being the loss of all environmental values of the site due to clearing of all 45 ha of remnant vegetation and the all areas currently designated as wetlands some or all of the wetland areas can be retained in POS while the loss of all environmental values is not the ideal situation, consideration of the surrounding environment values indicates that there are 9 wetlands with 500 m of the Lot 123 boundary with an area more than 13 times of those designated within the site 	Yes	<ul style="list-style-type: none"> The nature of the proposed development means that mitigation factors including the previous planning and the retention of additional wetland areas within 500 m those found within Lot 123 needs to be considered during the assessment process Retention of some areas of wetland within designated POS areas Trapping and relocation of the bandicoot population which was noted within the vicinity of the wetland area, along with any other

Mitigation Option	Application to Lot 123	Residual Impact	Comment
	<ul style="list-style-type: none"> drainage design will be undertaken in accordance with accepted guidelines, ensuring impacts from drainage within the development area can be effectively managed Lot 123 is located outside the Priority 2 drinking water source protection area to the north 		fauna species present
Rehabilitation	If all wetland areas within Lot 123 are retained within the development area, then there will be no real opportunity for rehabilitation activities on site as the vegetation present is largely in Excellent condition with a high diversity of flora species.	Yes	<ul style="list-style-type: none"> The nature of the proposed development means that rehabilitation options to onsite wetland areas may not be feasible
Offset	Given that the high level planning undertaken by others has resulted in the zoning of Lot 123 as urban development, and that process acknowledges the presence of various environmental values, including wetland areas, an environmental offset is probably the only feasible method of balancing any loss of the wetland area and other environmental values of the site to enable the urban development of the site to proceed	No	<ul style="list-style-type: none"> An environmental offset of some description is probably the most feasible option to accommodate the urban development of Lot 123

Impacts associated with the presence of the designated wetland areas include:

- potential loss of some or all wetland areas as currently mapped by the DBCA
- secondary impacts to terrestrial fauna species utilising the wetland areas for habitat

If the entire Lot is cleared to support urban development, then the impacts referred to above will also be the residual impacts. While the aim of the EPA objectives is to retain enough suitable habit to support fauna species, the EIA and planning processes recognise that some losses will occur, and which need to be balanced against the need for development and environmental protection. With respect to Lot 123, there will be a nett negative impact to the environmental values present on the site, but these will be counterbalanced by those remaining in the vicinity, the potential for fauna relocation ahead of clearing, as well as through the application of an offset of some description, such as a monetary cost, the rehabilitation of a designated area, or the purchase of an offset site that is kept in perpetuity for the conservation of flora, vegetation and wildlife.

Assumptions associated with the development of Lot 123 include:

- the assumptions below assume the Bioscience data is considered by decision making authorities to be insufficient in proving the absence of wetland areas within Lot 123
- planning processes carried out by the DPLH, the City of Kwinana and others provide a tacit acceptance that environmental values will be negatively impacted on Lot 123 by zoning it urban development
- the type and extent of wetland areas within 500 m of Lot 123 is a mitigation against the loss that will occur on site.

Attachment 3: EPBC Act Decision



**Notification of
REFERRAL DECISION AND DESIGNATED PROPONENT – controlled action
Residential Development, Lot 123 Mortimer Road, Casuarina, WA (EPBC 2018/8379)**

This decision is made under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

proposed action	To clear native vegetation for the purposes of residential development including activities associated with site preparation, construction of facilities and infrastructure on Lot 123 Mortimer Road, Casuarina, Western Australia [See EPBC Act referral 2018/8379].
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decision on proposed action	The proposed action is a controlled action. The project will require assessment and approval under the EPBC Act before it can proceed.
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relevant controlling provisions	<ul style="list-style-type: none">Listed threatened species and communities (sections 18 & 18A)
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designated proponent	Ivan Yujnovich - Individual
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assessment approach	To be advised.
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Decision-maker

Name and position	Declan O'Connor-Cox Acting Assistant Secretary Assessments (WA, SA, NT) and Post Approvals Branch
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Signature	
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date of decision	2 April 2019
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