



Australian Government

Department of the Environment and Water Resources

## Referral of proposed action

### What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) protects matters of national environmental significance (NES), and the environment, in relation to Commonwealth actions, and actions on (or impacting upon) Commonwealth land. The purpose of a referral is to determine whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister for the Environment and Water Resources' decision as to whether approval is necessary and, if so, the type of assessment that will be taken. These decisions are made within 20 business days.

### When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on matters protected by Part 3 of the EPBC Act:

- World Heritage (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Marine environment (sections 23 and 24A)
- Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
- Protection of the environment from Commonwealth actions (section 28)

OR

- actions that may have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land)
- actions taken on Commonwealth land that may have a significant impact on the environment generally
- actions by Commonwealth Authorities that are likely have a significant impact on the environment require approval.

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure.

To help you decide whether or not your proposed action requires approval (and, therefore, if you should make a referral), read the following documents, available from the Department web site:

- the Policy Statement titled *Principle Significance Guidelines 1.1 – Matters of National Environmental Significance*. Additional sectoral guidelines are also available.
- the Policy Statement titled *Principle Significance Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies*.
- the interactive map on the web site—enter a location to obtain a report on what matters of NES may occur in that location.

### A staged or component action

An action that is a component of a larger action may not be accepted separately and may require referral of the larger action for consideration under the EPBC Act. Refer to *Fact Sheet 6: Staged Developments/Split Referrals*.

If you want to make a referral for a staged or component referral, contact the EPBC Act Referrals Section (1800 803 772).

### Permits

Some activities may also require a permit under other sections of the EPBC Act, whether or not approval is required. Information is available on the Department web site.

### Completing the referral form

Completing this form will help ensure that you submit the information required by the EPBC Regulations.

All referrals MUST be published on the Department's web site for public comment (the Department will arrange this) and should generally be:

- readily understood by the public
- no longer than 25 A4-sized, single-sided pages
- typed (main text no smaller than 11 points)
- have clearly legible maps and diagrams
- supplied unbound or electronically.

Provide supporting documentation, such as environmental reports or surveys, as attachments. However, the referral form must contain the core information, so that it provides an adequate basis for public comment and decision-making.

Provide coloured maps, figures or photographs to help explain the project and its location. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

### Using the MS Word file to enter your information

You can complete your referral by entering your information into this Word file.

Instructions are provided in green text. If you do not see the instructions you need to reveal 'hidden' text. A toolbar with buttons to turn the instructions on and off should be visible when you open the file.

Normally the instruction text will not print. (If you wish to print a copy of the form with the instructions you will need to select the Options button in the Print dialog and select Hidden text.)

### Submitting the referral form

#### By mail to

EPBC Act Referrals Section  
Environment Assessment Branch  
Department of the Environment and  
Water Resources  
GPO Box 787  
CANBERRA ACT 2601

#### By fax to 02 6274 1789

- Referrals must be of sufficiently clear quality to be scanned into electronic format.
- Address the fax to the mailing address, and clearly mark it as a 'Referral under the EPBC Act'.
- Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

#### By email to [epbc.referrals@environment.gov.au](mailto:epbc.referrals@environment.gov.au).

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- To ensure file sizes are not too large (below two megabytes), enclose maps and figures as separate files if necessary. If unsure, send a question to the email address.
- Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

### What happens next?

The Department will write to you at the end of the 20 business day period to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is needed. There are three types of decisions about the referral.

**The proposed action is NOT LIKELY to be significant and does NOT NEED approval**

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any state or local government requirements).

**The proposed action is NOT LIKELY to be significant IF undertaken in specified manner**

The specified manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the specified manner to the Department.

**The proposed action is LIKELY to be significant and does NEED approval**

The proposed action is subject to a public assessment process before it can be considered for approval. The level of assessment will be decided at the same time. (Further information about the levels of assessment and basis for deciding the approach are available on the web site.)

If the action is likely to be significant it is called a *controlled action* and the particular matters upon which the action may have a significant impact (such as World Heritage or threatened species) are known as the *controlling provisions*.

#### Compliance audits

The Department may audit your project at any time to ensure that it was completed in accordance with the information provided in the referral or the stated particular manner. If the project changes, such that the degree of significance could vary, you should write to the Department to advise of the changes, and likely significance, or discuss with the EPBC Act Referrals Section (1800 803 772).

### For more information

- call the Department of the Environment and Water Resources Community Information Unit on 1800 803 772 or
- visit the web site [www.environment.gov.au/epbc](http://www.environment.gov.au/epbc)

All the information you need to make a referral, including documents referenced in this form, can be accessed from this web page.

## Referral of proposed action

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**Project title**

Pacific Pines

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### 1 Contacts

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1.1 Referring party

Michael Chessells  
Cardno (QLD) Pty Ltd  
PO Box 388  
Toowong Qld 4066  
Email: [michael.chessells@cardno.com.au](mailto:michael.chessells@cardno.com.au)  
Mobile: 0419772011  
Phone: (07) 3369 9822  
Fax: (07) 3369 9722

Cardno is acting on behalf of the proponent

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1.2 Responsible party

PETRAC Pty Limited  
PO Box 3910  
South Brisbane QLD 4101  
Phone: (07) 3004 7400  
Fax: (07) 3004 7401

Contacts:

Mr Luke Whistler  
Mr Mark Spedding

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1.3 Proponent

As above in Section 1.2

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## 2 Summary of proposed action

NOTE: You must attach an A4 size map/plan(s) showing the location and approximate boundaries of the area in which the project is to occur. The summary below should encompass any alternative locations, timeframes or activities that are listed in Section 3.2.

2.1	<b>Short description</b>	Petrac proposes the urban development of land located at Hutley Drive, Lennox Head in accordance with a proposed Concept Plan, which consists of:						
		<ul style="list-style-type: none"> <li>• a subdivision providing approximately 757 residential allotments including 120 medium density housing sites and 261 retirements units;</li> <li>• a neighbourhood centre/facilities;</li> <li>• sporting facilities; and</li> <li>• open space parkland.</li> </ul>						
2.2	<b>Latitude and longitude</b>	Latitude			Longitude			
		location point	degrees	minutes	seconds	degrees	minutes	seconds
		N/W corner	28	48	10.0	153	34	48.1
		S/W corner	28	48	38.4	153	34	53.7
		Southern tip	28	48	52.5	153	35	12.5
		N/E corner	28	48	25.2	153	35	25.5
2.3	<b>Locality</b>	The project site is in the Ballina Shire Council Local Government Area and is located approximately 1 km to the south-west of the Lennox Head village, in northern New South Wales. Annexure A presents the location of the project area with respect to the Lennox Head village and surrounding locality.						
2.4	<b>Size of the development footprint or work area (hectares)</b>	The project site is an irregular shaped, undulating parcel of land encompassing approximately 80 ha. Approximately 13 ha of the project site will be retained as open space parkland.						
2.5	<b>Street address of the site</b>	Hutley Drive, Lennox Head						
2.6	<b>Lot description</b>	Lot 234 DP1104071						
2.7	<b>Local Government Area and Council contact (if known)</b>	Ballina Shire						
2.8	<b>Project life</b>	The construction phase of development in accordance with the proposed Concept Plan is anticipated to occur in stages over a 7-8 year period, with the anticipated year of completion being 2015.						
2.9	<b>Alternatives</b>	√	No					
			Yes, complete section 3.2					
2.10	<b>State assessment</b>		No					
		√	Yes, complete Section 3.5					
2.11	<b>Component of larger action</b>	√	No					
			Yes, complete Section 3.6					

### 3 Detailed project description

NOTE: The proposal described here is the action(s) on which ALL subsequent decisions under the EPBC Act will be made, including decisions on significance, level of assessment (if needed) and approval (if needed). It is therefore important that the description is complete and includes all components and activities associated with the action, as well as any specific alternatives to be assessed. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in Section 3.6.

#### 3.1 Description of proposal

Petrac proposes urban development of the project site in general accordance with a Concept Plan application, which consists of:

- a subdivision providing approximately 757 residential allotments including 120 medium density housing sites and 261 retirements units;
- a neighbourhood centre/facilities;
- sporting facilities; and
- approximately 13ha of Public Open Space parkland.

A copy of the proposed Concept Plan is provided as Annexure B.

With reference to Annexure B, the proposed action would involve the following.

1. Selective clearance of vegetation and minor modification of landforms to facilitate the construction of buildings and other infrastructure.
2. The construction of roadways, services, residential and retirement allotments, a neighbourhood commercial centre and other infrastructure.
3. The establishment of public open space, which will encompass approximately 16% of the project site. This parkland incorporates the central-western part of the project site that adjoins coastal wetlands of recognised conservation significance included in the Ballina Nature Reserve.
4. Implementation of relevant management plans, which would provide specifications designed to minimise any potential for recognised Matters of National Environmental Significance (NES) that occur within and adjoin the project site to be adversely impacted upon during the detailed design, construction and occupational phases of the proposed urban development of the project site.

#### 3.2 Alternative locations, time frames or activities that form part of the referred action

N/A

#### 3.3 Previously considered alternatives and the 'do nothing' case

##### Previously considered alternatives

In 2003, a Master Plan was submitted for approval under the provisions of the NSW Government's State Environmental Planning Policy No. 71 – Coastal Protection (SEPP 71). The Master Plan was adopted by the State Government in 2006. The SEPP71 Master Plan provided for:

- a residential subdivision to create approximately 600 allotments;
- a neighbourhood retail/community centre;
- sporting facilities; and
- approximately 8.7ha of Public Open Space parkland.

Petrac are currently seeking an Approval from the NSW Government under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979* for a revised Concept Plan for urban development for the site.

Three planning approvals, issued by Ballina Shire Council, exist for a range of specific works on the project site. These are:

1. Development Consent 1999/248, which provided consent for a previous stage of the Pacific Pines Estate and included consent for bulk earthworks on the project site to cut material from the north-eastern hill for use to fill the central portion of the project site.

2. Development Consent 2002/333, which provided approval for the excavation of a Water Quality Control Pond in the central-western part of the project site, with the excavated material used to provide fill for residential development on the project site and for playing fields on the adjoining site. The Water Quality Control Pond, which has already been constructed, forms an integral part of the Concept Plan's stormwater run-off management strategy.
3. Development Consent 2002/686, which was granted for a fourteen lot subdivision adjoining the southern side of the project site. This subdivision has already been constructed and does not form part of the Adopted Master Plan or the current proposed Concept Plan.

While these approvals do not specifically form part of the Adopted Master Plan or the current proposed Concept Plan, they have influenced the design of the Adopted Master Plan and the current proposed Concept Plan.

#### The "do nothing case"

The do nothing case for the project site would involve either:

- the continuation of existing land use practices (i.e. livestock grazing); or
- abandonment of the land and subsequent regrowth of existing vegetation and invasion by weed species.

Both scenarios do not provide any certainty for the long-term persistence of Hairy Joint Grass (*Arthraxon hispidus*) populations within the project site. Hairy Joint Grass is listed as *Vulnerable* pursuant to the *EPBC Act* and is the Matter of National Environmental Significance that is the subject of this referral.

### **3.4 Context, planning framework and state/local government requirements**

The project site is zoned 2(b) – Village Zone under the *Ballina Local Environmental Plan 1987*, with a very small area of land zoned 7(a) Environment Protection – Wetland Zone located on the south-western boundary. The proposal does not involve any urban development in this 7(a) zoned land.

Petrac are currently seeking an Approval from the NSW Government under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979* for a revised Concept Plan for urban development for the site. As part of the process, the NSW Department of Planning (DoP) issued the Director General's Environmental Assessment Requirements (DGRs) for the environmental assessment of the Concept Plan. It is relevant to note that DGR's state:

*"The Commonwealth Government has accredited the NSW environmental assessment process for assessing any impacts on matter of NES."*

With regard to the above, if it is determined that an approval is required under the *EPBC Act* supplementary DGRs may be issued.

### **3.5 Environmental impact assessments under Commonwealth, state or territory legislation**

The site has previously been subject to an application to the NSW Department of Planning (DoP) for endorsement of a Master Plan under clause 18 of SEPP 71. As part of this application a detailed Flora and Fauna Assessment report was prepared by James Warren and Associates Pty Ltd in November 2003. The JWA Report did not identify any matters of National Environmental Significance on or adjacent to the site.

The NSW DoP issued the Director General's Environmental Assessment Requirements (DGRs) for assessment of the Petrac's current Concept Plan application on the 18 May 2007. As part of the DGRs the Department required an updated ecological assessment, to be undertaken in accordance with the draft Guideline for Threatened Species Assessment. Ballina Council advised that, as part of that updated assessment, targeted surveys should be undertaken for Hairy Joint Grass. Such a survey was undertaken by GeoLINK, and populations of the species were detected around an existing spring in the central portion of the site and also in a low-lying area in the north-western sector. A plan illustrating the location and extent of Hairy Joint Grass individuals and populations is provided as Annexure C.

### **3.6 A staged development or component of a larger project**

NOTE: The Minister for the Environment and Water Resources may not accept a referred action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the *EPBC Act* (Section 74A, *EPBC Act*).

If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the *EPBC Act* Referrals Section (1800 803 772).

## 4 Affected environment

NOTE: You must attach a map(s)/plan(s) clearly showing the location of the action in relation to any matters of national environmental significance

### 4.1 Matters of national environmental significance

#### 4.1 (a) World Heritage Properties

None

#### 4.1 (b) National Heritage Places

None

#### 4.1 (c) Wetlands of International Significance (Ramsar)

None

#### 4.1 (d) Listed threatened species and ecological communities

*Arthraxon hispidus* (Hairy Joint Grass), which has a *Vulnerable* status pursuant to the *EPBC Act*.

The location and extent of Hairy Joint Grass populations on the project site is provided as Annexure C.

#### 4.1 (e) Listed migratory species

None

#### 4.1 (f) Nuclear actions

None

#### 4.1 (g) Commonwealth marine areas

None

### 4.2 Important or unique aspects of the environment, if relevant

#### 4.2 (a) Soil and vegetation characteristics

The soils and geology on the site have been described in the JWA Flora and Fauna Report as follows.

1. Tyagarah soil landscape consisting of sediment basins of mixed Aeolin origin forming level to gently undulating plains. Relief is <3m, elevation <5m and slopes <1%. Geology is Quaternary estuarine alluvium overlain by and/or mixed with Quaternary sands.
2. Disputed plain soil landscape consisting of Basalt derived valley in-fills and alluvial fans forming gently inclined slopes. Relief is 10-30m, slopes 1-3%. Geology is generally fine-grained sediments derived from Lismore basalts.
3. Bangalow soil landscape consisting of low rolling hills on basalt. Relief is 40-100m, elevation 100-150m, slopes are 15-25%. Geology is Lamington volcanics: Lismore basalts – tertiary basalts with bore and minor agglomerate.

Major vegetation communities existing on the site have been mapped by GeoLINK and a copy of this mapping is provided as Annexure D. With reference to this Annexure, the majority of the site has been subject to extensive vegetation clearance and currently supports degraded paddocks used for livestock grazing. There are a number of rainforest species scattered across the balance of the site, namely Rough-shelled bush nut (*Macadamia tetraphylla*), White laceflower (*Archidendron hendersonii*), Red lillipilly (*Syzygium hodgkinsoniae*), Moreton Bay Fig (*Ficus macrophylla*), Tuckeroo (*Cupaniopsis anarcuroides*), Guioa (*Guioa semiglaucā*), Quassia sp. Moonee Creek, Arrow head vine (*Tinospora tinosporoides*) and Pinkheart (*Medicosma cunninghamii*). Three remnants of the pre-existing native vegetation communities have also been identified on the site, namely

- Swamp oak floodplain forest;
- Swamp sclerophyll forest on coastal floodplain; and
- Littoral rainforest in the NSW North Coast bioregion.

These three communities are recognised as Endangered Ecological Communities pursuant to the NSW *Threatened Species Conservation Act 1995*.

#### 4.2 (b) Water flows, including rivers, creeks and impoundments

The low-lying area in the central portion of the site supports an existing spring. This spring is in a degraded state owing to the history of native vegetation clearance and livestock grazing.

There is also a large constructed water quality treatment pond along the south-western boundary of the site and a modified natural channel that traverses the north-western corner of the site.

The modified natural channel and existing spring drain into North Creek and associated wetlands to the south-west of the site.

#### 4.2 (c) Outstanding natural features, including caves

The site does not support any outstanding natural features.

#### 4.2 (d) Gradient

The site has a westerly aspect, with land occurring at elevations of around 50m AHD in the north-eastern and eastern sectors, around 20m AHD in the far north-western corner and less than 5m AHD in the central and north-western portions. The elevated areas have a moderate slope of between 10-15%, while the lower-lying sections of the site are generally flat.

#### 4.2 (e) Buildings or other infrastructure

Apart from the constructed water quality treatment pond there are no buildings or infrastructure on the site.

#### 4.2 (f) Marine areas

The site is situated approximately 1km west of the Lennox Head coastline. The only other marine area that is within closer proximity to the site is North Creek, which is tidally influenced and currently supports Mangrove wetlands.

#### 4.2 (g) Kinds of fauna

The fauna surveys completed by JWA identified an array of common fauna species utilising habitat resources on the site, including:

- Amphibians – Green tree frog (*Litoria caerulea*), Bleating tree frog (*Litoria dentata*), Rocket frog (*Litoria nasuta*), Common froglet (*Crinia signifera*) and the introduced cane toad (*Bufo marinus*);
- Reptiles – Carpet python (*Morelia spilota*), Red-bellied black snake (*Pseudechis porphyriacus*), Eastern brown snake (*Pseudonaja textilis*) and Delicate skink (*Lampropholis delicata*);
- Birds – Torresian crow (*Corvus orru*), Willy wagtail (*Rhipidura leucophrys*), White ibis (*Threskiornis aethiopicus*), Magpie (*Gymnorhina tibicen*) and Brown honeyeater (*Lichmera indistincta*); and
- Mammals – Swamp wallaby (*Wallabia bicolor*), Northern brown bandicoot (*Isodon macrourus*), Swamp rat (*Rattus lutreolus*), Southern freetail bat (*Mormopterus planiceps*) and the introduced House mouse (*Mus musculus*).

Fauna surveys conducted by JWA also detected the following wildlife species of recognised significance pursuant to the *EPBC Act* utilising habitat resources on the site –

- **Vulnerable species** – Grey-headed flying fox (*Pteropus poliocephalus*); and
- **Migratory species** – White-throated needle tail (*Hirundapus caudacutus*), Latham's snipe (*Gallinago hardwickii*) and Black-shouldered kite (*Elanus notatus*).

Observations of these made during the surveys conducted by JWA indicate that these species utilise suitable habitat on the site as a temporary stop-over during broader movements throughout the locality. Furthermore, the site is unlikely to constitute more permanent habitat for these species owing to the disturbed nature of the site, the relatively small size of fragmented native vegetation on the site and the close proximity of larger tracts of higher quality habitat held within Reserve (i.e. Ballina Nature Reserve, Richmond River Nature Reserve and Broken Head Nature Reserve) in the locality.

#### 4.2 (h) Current state of the environment

The copy of the nature and extent of major vegetation communities on the site as mapped by GeoLINK is provided as Annexure D. With reference to this Annexure, the majority of the site has been cleared of native vegetation and currently supports degraded cow paddocks that support a variety of pastoral plants and weed species. Isolated remnants of the pre-existing native vegetation communities remain scattered across the site including small fragments of Endangered Ecological Communities (EEC), namely:

- Swamp oak floodplain forest in the southern portion;
- Swamp sclerophyll forest on coastal floodplain in the central portion; and
- Littoral rainforest in the NSW North Coast Bioregion in the northern, north-eastern and south-eastern sectors.

#### 4.2 (i) Commonwealth Heritage Places and places on the Register of the National Estate

None

#### 4.2 (j) Known Indigenous heritage values

A Cultural Heritage Assessment over the Pacific Pines Estate was prepared for Petrac by Everick Heritage Consultants in July 2007. This assessment concluded that:

- the consultation process with the Aboriginal community did not result in the identification of any site or areas to which any cultural heritage significance is attached or cultural heritage values that would be adversely impacted upon by the proposed development; and
- archeological assessments did not identify any sites or areas of significance on the project site.

However, the assessment also concluded that recommendations made by the Jali Local Aboriginal Land Council in 2003 to preserve native food sources and the natural spring have been incorporated through the retention of these areas in the Green Network (or Open Space Reserve) of the current Concept Plan proposed by Petrac.

#### 4.2 (k) Other important or unique values of the environment

The south-western boundary of the site adjoins the Ballina Nature Reserve, which includes areas of significant wetlands protected under *State Environmental Planning Policy No. 14 - Coastal Wetlands*. More specifically, SEPP 14 Wetland No. 88 occurs to immediate south-west of the site.

The north-western corner of the site occurs within the 100m buffer zone to a SEPP No. 26 Littoral Rainforest, namely SEPP 26 - Littoral Rainforest No. 39.

#### 4.2 (l) Tenure of the action area (eg freehold, leasehold)

Freehold

#### 4.2 (m) Existing land uses

Grazing of livestock.

As detailed in Section 3.3, NSW government planning approvals exist for urban development of the site.

#### 4.2 (n) Proposed land uses

Petrac proposes an urban development of the project site in accordance with a proposed Concept Plan (refer Annexure B), which consists of:

- a subdivision providing approximately 757 residential allotments including 120 medium density housing sites and 261 retirements units;
- a neighbourhood commercial centre/facilities;
- sporting facilities; and
- open space parkland.

## 5 Nature and extent of likely impacts

### 5.1 Likely impacts on matters of national environmental significance (NES)

#### 5.1 (a) Likely impact on the world heritage values of a declared World Heritage property

None

#### 5.1 (b) Likely impact on the heritage values of a listed National Heritage place

None

#### 5.1 (c) Likely impact on the ecological character of a declared Ramsar wetland

None

#### 5.1 (d) Likely impact on the members of a listed threatened species or ecological community, or their habitat

The only matter of NES that is likely to be impacted by the proposed plan of urban development for the site is the Hairy Joint Grass (*Arthraxon hispidus*), which has a Vulnerable status pursuant to the *EPBC Act*. The *EPBC Act Policy Statement 1.1 Significant Impact Guidelines* specify criteria to be used in determining whether or not an action is likely to have a significant impact on a Vulnerable species. An important aspect of the significant impact criteria for a Vulnerable species is the concept of an "important population" which is defined as:

*An 'important population' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:*

- key source populations either for breeding or dispersal;
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species range.

With reference to these criteria the following assessment is provided.

Criteria, is there is a real chance or possibility that the proposed urban development of the site will:	Assessment
<ul style="list-style-type: none"> <li>• lead to a long-term decrease in the size of an important population of a species</li> </ul>	<p>A review of the current and available information on Hairy Joint Grass is provided as a Species Profile in Annexure E. Based on the information presented in this Species Profile, the Hairy Joint Grass individuals that occur on the site are not considered to form or belong to an important population of this species.</p>
<ul style="list-style-type: none"> <li>• reduce the area of occupancy of an important population</li> </ul>	<p>The proposed action <u>would</u> result in a localised reduction in the extent of habitat currently occupied by Hairy Joint Grass.</p> <p>Notwithstanding that assessment, it is noted that:</p> <ul style="list-style-type: none"> <li>• the specimens of Hairy Joint Grass that occur on the site do not form part of an important population (refer Annexure E);</li> <li>• based on recent survey information Hairy Joint Grass appears to be wide spread and relatively abundant within the Lennox Head locality; and</li> <li>• the potential exists to extend the area of suitable habitat for Hairy Joint Grass within the proposed open space dedications via implementation of appropriate vegetation management practices as discussed in the Species Profile provided as Annexure E.</li> </ul>

<ul style="list-style-type: none"> <li>fragment an existing important population into two or more populations</li> </ul>	<p>With regard to the above, it is pertinent to recognise that the majority Hairy Joint Grass populations within the Lennox Head locality have been recorded on land that is subject to urban development applications. Contributing to this observed pattern of distribution are the following facts and circumstances:</p> <ul style="list-style-type: none"> <li>most targeted surveys for the species are being undertaken as part of the formal land development assessment process;</li> <li>broader-scale searches for the species on land that is not subject to a development application are lacking;</li> <li>the cryptic nature and the similarity in physical features between Hairy Joint Grass and sympatric species, make identification in the field relatively difficult without targeted search efforts.</li> </ul> <p>With regard to the above, it is anticipated that more populations of Hairy Joint Grass would be found areas that do not have 'urban' land-use designation if targeted surveys were undertaken during the growing season of the species. It is further noted that the current body of knowledge concerning the life-cycle and ecology of Hairy Joint Grass has been generated through research and monitoring of populations that are located on land subject to development applications.</p> <p>In summary, the proposed action would not result in the fragmentation of an <u>existing important population</u> of Hairy Joint Grass into two or more populations.</p>
<ul style="list-style-type: none"> <li>adversely affect habitat critical to the survival of a species</li> </ul>	<p>The proposed action would not adversely affect habitat critical to the survival of Hairy Joint Grass. In this respect it is noted that:</p> <ul style="list-style-type: none"> <li>based on recent survey information Hairy Joint Grass appears to be wide spread and relatively abundant within the Lennox Head locality; and</li> <li>the area of existing habitat that would be affected by the proposed development is small in comparison to the extent of suitable habitat available in the local area and in the species natural range which extends from the Coffs Harbour region in the south, the Daintree region of Queensland in the north, and the NSW northern tablelands and Carnarvon regions in the west.</li> </ul>
<ul style="list-style-type: none"> <li>disrupt the breeding cycle of an important population</li> </ul>	<p>The proposed action would not disrupt the breeding cycle of an important population of Hairy Joint Grass. In this respect it is noted that:</p> <ul style="list-style-type: none"> <li>available information indicates that the life cycle of Hairy Joint Grass occurs on a very localised scale (refer Annexure E); and</li> <li>on-site specimens of Hairy Joint Grass are unlikely to make any contribution to the breeding cycle of other local populations of this species that occur throughout the Lennox Head area.</li> </ul>
<ul style="list-style-type: none"> <li>modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</li> </ul>	<p>It is considered that the proposed action would not modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline due to the following:</p> <ul style="list-style-type: none"> <li>the wide geographical distribution of Hairy Joint Grass;</li> <li>the extent of suitable habitat throughout its range; and</li> <li>the apparent abundance of Hairy Joint Grass in areas where targeted surveys for the species in suitable habitat have been carried out (e.g. the Lennox Head area).</li> </ul>

<ul style="list-style-type: none"> <li>result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</li> </ul>	<p>Urban development of the site is not likely to result in invasive species that are harmful to a vulnerable species becoming established in Hairy Joint Grass in the site locality. It is recognised that appropriate vegetation management practices, such as those described in the attached Species Profile, are required to preserve Hairy Joint Grass in areas that have previously been cleared and subject to livestock grazing. Relevant vegetation management measures will be implemented in areas of suitable Hairy Joint Grass contained within Open Space Reserves as part of the proposed urban development of the site.</p>
<ul style="list-style-type: none"> <li>introduce disease that may cause the species to decline</li> </ul>	<p>There is no available evidence to suggest that Hairy Joint Grass is susceptible to any known diseases that may be introduced by urban development of the site.</p>
<ul style="list-style-type: none"> <li>interfere substantially with the recovery of the species</li> </ul>	<p>Currently there are no State or Commonwealth based recovery plans in place, or being developed, for Hairy Joint Grass. Urban development of the site is not likely to interfere with any future recovery plans for of Hairy Joint Grass due to the small extent of habitat that would be affected.</p>

**5.1 (e) Likely impact on the members of a listed migratory species or their habitat**

None

**5.1 (f) Likely impact on the environment in part of the Commonwealth marine area**

None

**5.2 Likely impacts for nuclear actions, actions affecting Commonwealth land or actions taken by the Commonwealth**

None

## 6 Measures to avoid or reduce impacts

It is Petrac's intention to provide or contribute to conservation measures and/or recovery strategies in order to mitigate against any loss of, or adverse effects on Hairy Joint Grass populations resulting from urban development of the project site. In this regard, Petrac proposes the following mitigation measures that:

- clearly form part of this referral;
- are concrete and prescriptive; and
- are clearly effective in mitigating or avoiding significant impacts on Hairy Joint Grass populations on the project site.

### Mitigation Measure 1

The retention and appropriate management of Hairy Joint Grass habitat located within the proposed on-site Open Space Reserve. In addition, site based monitoring and/or research will be conducted that will contribute to the development of management strategies that can be applied on a wider scale.

This measure will effectively contribute to the immediate *in situ* conservation and enhancement of Hairy Joint Grass populations within the project site. Much of the current and available knowledge of the life-cycle and habitat requirements of this species has come from research and monitoring of Hairy Joint Grass populations within the Koala Beach development site (Benwell, 2003). Similar research conducted within the project site populations will add to the existing body of knowledge and essentially contribute to effective management plans for the species on a wider scale.

Monitoring and research of Hairy Joint Grass would be implemented prior to the commencement of works and it is envisaged that close monitoring of the populations would continue until they have reached a stable and self-sustaining state.

### Mitigation Measure 2

Petrac proposes to offset for the loss of any Hairy Joint Grass individuals through:

- the translocation of seedlings from the development footprint to suitable areas of on-site Open Space Reserves; and
- contributing to the *ex situ* conservation of populations through the collection and provision of viable seed to suitable botanic gardens, regional gardens or nurseries.

This measure will effectively offset for any loss of individuals within the development footprint on the project site, whilst allowing for the enhancement of populations retained within on-site Open Space Reserves and within off-site Public Open Space Reserves. Benwell (2003) reported that Hairy Joint Grass seedlings at Koala Beach were successfully transplanted from the existing populations into pots, raised under glasshouse conditions for approximately two months and then replanted in the field, with an 80 - 90% survival rate. It is anticipated that a translocation program can be employed in this instance with a similarly high survival rate.

Construction works within areas of Hairy Joint Grass habitat will need to be timed in a manner that does not interfere with components of the Hairy Joint Grass life-cycle that involve the production of seed and emergence of seedlings (refer Annexure E). More specifically, construction works within Hairy Joint Grass habitat will need to be delayed from spring through to winter to allow for:

- sufficient numbers of seedlings to emerge in spring;
- the translocation of seedling cohorts of an appropriate age; and
- remaining seedlings in the field to mature into adults and produce seed for collection.

In addition to the above, the potential also exists for Petrac to further compliment the aforementioned mitigation measures through more general strategies such as:

- the provision of monetary contributions to external bodies to conduct research on Hairy Joint Grass populations external to the site; and
- the provision monetary contributions towards surveying and mapping programs within the Lennox Head area.

## 7 Conclusion on the likelihood of significant impacts

NOTE: Under the EPBC Act, you must identify in the referral whether or not you believe significant impacts on the matters protected under the Act are likely. If you identify that significant impacts are likely, you must identify the relevant protected matters in section 7.2.

Do you **THINK** your proposed action is likely to have significant impacts?

- No, complete section 7.1  
 Yes, complete Section 7.2

### 7.1 Proposed action is NOT LIKELY to have significant impacts

The proposed action is not likely to have a significant impact on the Vulnerable grass species – *Arthraxon hispidus* given that:

- the material and evidence provided in the Species Profile (refer Annexure E) demonstrates that Hairy Joint Grass populations on the project site does not constitute an "important population" pursuant to the *EPBC Act*;
- the proposed action has been assessed against the 'Significant Impact Criteria for Vulnerable Species' provided in the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines* (refer Section 5.1d herein), and this assessment determined that the proposed action is not likely to have a significant impact on Hairy Joint Grass populations on the project site; and
- as detailed in Section 6 herein, Petrac proposes to implement a number of mitigation measures to offset for any adverse effects on Hairy Joint Grass populations on the project site.

Notwithstanding the above, it is recognised that if all of the beneficial impacts of the proposed action are disregarded as required for the purposes of section 75(2)(b) of the *EPBC Act*, there is some uncertainty concerning the likelihood of significant impacts occurring to the listed threatened species, *Arthraxon hispidus*, as a consequence of the proposed development. As such Petrac is of the view that it would be appropriate for the Commonwealth to make a determination that the proposed development constitutes a controlled action under the *EPBC Act*.

### 7.2 Proposed action is LIKELY to have significant impacts

Matters likely to be impacted

- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | sections 12 and 15A (World Heritage)   |
| <input type="checkbox"/> | sections 15B and 15C (National Heritage places)  |
| <input type="checkbox"/> | sections 16 and 17B (Wetlands of international importance)                                   |
| <input type="checkbox"/> | sections 18 and 18A (Listed threatened species and communities)                              |
| <input type="checkbox"/> | sections 20 and 20A (Listed migratory species)   |
| <input type="checkbox"/> | sections 21 and 22A (Protection of the environment from nuclear actions)                     |
| <input type="checkbox"/> | sections 23 and 24A (Marine environment)   |
| <input type="checkbox"/> | sections 26 and 27A (Protection of the environment from actions involving Commonwealth land) |
| <input type="checkbox"/> | section 28 (Protection of the environment from Commonwealth actions)                         |

Key reasons

## 8 Assessment approach under the EPBC Act

NOTE: If a decision is made that a proposal needs approval under the Act, the Minister will also decide the assessment approach needed to satisfy the objectives of the Act. While the information you have provided in this referral will be taken into account in making this decision, the final decision rests with the Minister.

### Level of assessment

<input type="checkbox"/>	Bilateral Agreement applies
<input type="checkbox"/>	Accredited assessment
<input type="checkbox"/>	Assessment on referral information
<input type="checkbox"/>	Preliminary information
<input type="checkbox"/>	Public Environment Report
<input type="checkbox"/>	Environmental Impact Statement
<input type="checkbox"/>	Commission of Inquiry
<input type="checkbox"/>	No comment/Not sure

### Key reasons

## 9 Environmental history of the responsible party

NOTE: The EPBC Act Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach for actions that need approval under the Act.

	Yes	No
<p>9.1 Does the party taking the action have a satisfactory record of responsible environmental management.</p> <ul style="list-style-type: none"> <li>If Yes, provide details</li> </ul> <p>Petrac are a Major Corporate Member of the Australian Green Development Forum and have a track-record of adopting a balance between urban design and conserving the natural environmental values of a site. By example, the Noosa North Shore Eco-tourism Portal was designed to assist with the protection of Noosa North Shore's natural attributes, its character and its open space roles by:</p> <ol style="list-style-type: none"> <li>absorbing some of the impacts that would otherwise place pressure on the Great Sandy National Park and other fragile areas of wilderness on Noosa's North Shore;</li> <li>providing a nodal point for visitor accommodation and services;</li> <li>contributing to better opportunities for interpretation and education of visitors; and</li> <li>protecting the ecological values and processes of the site.</li> </ol> <p>These objectives were achieved through the development of the Noosa North Shore Eco-tourism Portal Development Code that ensured development of the site:</p> <ul style="list-style-type: none"> <li>adopts best practice environmental management techniques; and</li> <li>is integrated with the site's landform and landscape, respecting and responding to its location and setting.</li> </ul> <p>In 2006, Petrac was awarded the 'Sunshine Coast Environmental Council Environmental Award for Water Quality and Conservation' for the Noosa North Shore Development.</p>	X	
<p>9.2 Is the party taking the action subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?</p> <ul style="list-style-type: none"> <li>If Yes, provide details</li> </ul>		X
<p>9.3 For an action for which a person has applied for a permit under the EPBC Act, is the person making the application subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?</p> <ul style="list-style-type: none"> <li>If Yes, provide details</li> </ul>		X
<p>9.4 If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?</p> <ul style="list-style-type: none"> <li>If Yes, provide details of environmental policy and planning framework</li> </ul>		X

## 10 Information sources and attachments

### 10.1 References

A copy of relevant reference documents are provided in Annexure F.

Notice of Adoption of Master Plan (File No. S04/00111 Part 2) issued by NSW Government Department of Planning on the 23<sup>rd</sup> March 2006.

Director General's Environmental Assessment Report - Major Project Assessment: Pacific Pines Estate issued by NSW Government Department of Planning in March 2006.

Director General's Environmental Assessment Requirements for Pacific Pines Estate, Lennox Head – Concept Plan Application and Stage 1 Project Application, issued by NSW Government Department of Planning on the 18<sup>th</sup> May 2007.

Benwell, A (2003). *Population management plan for the threatened grass Arthraxon hispidus at Koala Beach.*

Cardno (QLD) Pty Ltd (11<sup>th</sup> July 2007) *Species Profile - Arthraxon hispidus (Thunb.) Makino, Hairy Joint Grass.* Prepared for Petrac.

EPBC Act Protected Matters Report obtained from the Commonwealth Department of Environment and Water Resources website on the 18<sup>th</sup> July 2007.

Everick Heritage Consultants (July 2007) *Draft Cultural Heritage Assessment at Pacific Pines Estate Lennox Head, NSW.* Prepared for Petrac.

GeoLINK (February 2007) *Pacific Pines Estate Part 3A Concept Plan – Project Description Report.* Prepared for Petrac.

James Warren and Associates (November 2003) *Flora and Fauna Assessment – Pacific Pines Estate.* Prepared for Bob and Judith Pidcock.

### 10.2 Reliability of information

The information presented herein is based on a combination of field surveys, literature searches and investigations carried out by specialist consultants.

The information presented has been collated over a period from November 2003 to July 2007.

The information presented has been subject to peer review in accordance with Cardno (QLD) Pty Ltd's quality management systems. Petrac have also reviewed the information provided. Some elements of the information provided have been assessed by officers in various NSW Government Departments.

There are no specific areas of uncertainty in respect of the information provided, although it is noted that further investigations will be undertaken for the purposes of preparing detailed environmental management plans prior to the commencement of any development works.

### 10.3 Attachments

You must attach	figures, maps or aerial photographs showing the project locality (section 2)	X
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 4)	X
If relevant, attach	copies of any state or local government approvals and consent conditions (section 3.4)	X
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 3.5)	
	copies of any flora and fauna investigations and surveys	X

(section 4)	
technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 4 and 5)	X
report(s) on any public consultations undertaken, including with Indigenous Stakeholders (section 4) Refer – Enquiry By Design Workshop – Summary of Outcomes provided in Annexure F.	X

# 11 Signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (Section 489, EPBC Act).

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**Project title**

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11.1 **Party who prepared the referral** I declare that the information contained in this form is, to my knowledge, true and not misleading. I request that the person named in 11.3 below (if any) be designated as the proponent for the action.

Signature

*M Chessells*

Date

26/7/07

Full name

Michael John Chessells

11.2 **Party who is responsible for action** I declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature

*M Spedding*

Date

26/7/07

Full name

Mark Spedding

11.3 **Proponent (complete only if different from 11.2)** I, being the person nominated in Section 1.3 of this referral form as the nominated proponent (or agent acting on behalf of), agree to be designated as the proponent for the action described above if it is decided that the action requires approval under Part 9 of the EPBC Act.

Signature

Date

Full Name

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If the referring party is a small business (fewer than 20 employees), estimate the time, in hours and minutes, to complete this form (Include your time reading the Instructions, working on the questions and obtaining the information and time spent by all employees in collecting and providing this information).

Hours	Minutes

**Annexure A**

Aerial photograph of Lennox Heads, illustrating the location of the project (subject) site

**Annexure B**

Current Concept Plan

**Annexure C**

GeoLINK Illustration 5.0 – Pacific Pines Hairy Joint Grass Distribution

Project site vegetation mapping - GeoLINK Illustration 2.c – Ecological Constraints

Annexure E

Species Profile *Arthraxon hispidus* prepared by Cardno (QLD) Pty Ltd

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**Annexure F****Copies of relevant reference materials –**

Notice of Adoption of Master Plan (File No. S04/00111 Part 2) issued by NSW Government Department of Planning on the 23<sup>rd</sup> March 2006.

Director General's Environmental Assessment Report - Major Project Assessment: Pacific Pines Estate issued by NSW Government Department of Planning in March 2006.

Director General's Environmental Assessment Requirements for Pacific Pines Estate, Lennox Head – Concept Plan Application and Stage 1 Project Application, issued by NSW Government Department of Planning on the 18<sup>th</sup> May 2007.

Benwell, A (2003). *Population management plan for the threatened grass Arthraxon hispidus at Koala Beach*. Extract of report only.

Everick Heritage Consultants (July 2007) *Draft Cultural Heritage Assessment at Pacific Pines Estate Lennox Head, NSW*. Prepared for Petrac.

GeoLINK (February 2007) *Pacific Pines Estate Part 3A Concept Plan – Project Description Report*. Prepared for Petrac.

James Warren and Associates (November 2003) *Flora and Fauna Assessment – Pacific Pines Estate*. Prepared for Bob and Judith Pidcock.

Petrac (May 2007) *Pacific Pines Estate – Enquiry by Design Workshop – A Summary of Outcomes Brochure*.

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