

Our Ref: AW:RA:23716

20 February 2024

Heritage Branch  
Department of Environment and Science  
GPO Box 2454  
BRISBANE QLD 4001

By Email:



Dear Ms Nichols

**HERITAGE REGISTER NUMBER (HRN): 650282**  
**ATHERTON ARBORETUM**  
**47-67 MAUNDS ROAD, ATHERTON - SUBMISSION**

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We act for Savannah Seven Pty Ltd, the owner of land at 47-67 Maunds Road, Atherton (the **Premises**).

Our client's property is the subject of an application by Ms Gemma Horner and Ms Megan Gixti for entry into the Queensland Heritage Register (the **Application**).

The Queensland Heritage Council has invited our client to make a submission on the application.

This submission is provided on behalf of our client.

## 1. Context and Background

Our client purchased the Premises late last year, on 3 November 2023, from the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

After the purchase of the Premises, our client became aware that during the sales process, Ms Horner actively lobbied the Commonwealth Government to protect the arboretum on the Premises and raised concerns regarding the redevelopment of the Premises, if it was sold.

In response to Ms Horner's concerns, the Commonwealth wrote to Ms Horner and advised: *"The CSIRO is taking steps to ensure these values are protected in the action of the proposed sale. This includes ensuring that the marketing material for the sale includes information for potential purchasers on their heritage obligations, including requirements for investigations and discussions with the Queensland Heritage Council, and ensuring the contract of sale includes a covenant expressly requiring the purchaser to engage with the Queensland Heritage Council."* (underlining added)

At the time of purchasing the Premises, our client was aware that the CSIRO had a desire for any incoming purchaser to liaise with the Queensland Heritage Council about whether the arboretum should be protected under Queensland heritage requirements.

The sales contract for the Premises contained the following special condition:

*The Buyer acknowledges the existence of an historical and significant arboretum on the Land and agrees and warrants to the Seller that the Buyer must contact and liaise with Queensland Heritage Council about the arboretum, including whether it will or should be protected under Queensland Heritage requirements or legislation. The Buyer further warrants that it will comply in all respects with the requirements of Queensland Heritage in respect of the arboretum. This special condition is an essential condition of this Contract and will not merge at Settlement but will endure for the benefit of the Seller.*

In relation to the special condition, we make the following observations:

- a) The special condition left it up to our client to discuss with the Queensland Heritage Council the extent to which the Premises warranted heritage protections. The CSIRO did not require any particular parts to be protected.
- b) The CSIRO did not require our client to make an application for heritage listing and the CSIRO did not advise our client that the Premises would meet the heritage listing criteria.
- c) The CSIRO *could have* made the heritage application itself, prior to the sale. This would have given an incoming purchaser more certainty in relation to the parts of the Premises intended to be protected and would have allowed an incoming purchaser to more accurately consider

potential future uses for the property. The CSIRO did not do this, and instead left it up to the incoming purchaser to consider these issues for themselves and to liaise with the Queensland Heritage Council about them.

A short while after settlement, on 28 November 2023, the subject Application was lodged by Ms Horner and Ms Grixti, without our client's consent and without consultation with our client.

Ms Horber and Ms Grixti's application covers a significant proportion of the Premises, including areas within the building complex (but excluding the actual building).

Ms Horber and Ms Grixti's application covers areas that are devoid of vegetation.

Ms Horber and Ms Grixti's application covers trees planted circa 2014 that could not reasonably qualify as containing "heritage values".

Our client purchased the Premises *because of* the astounding vegetation attributes on the property and wants to preserve it. However, our client wishes to fairly assess which parts of the Premises ought to be preserved under a heritage listing, while leaving the remainder of the site that does not reasonably contain heritage values unaffected.

Given that this application relates to our client's property, she wishes to participate in and be fully engaged throughout this assessment process.

## 2. Summary of Submission

The **attached** map divides the Premises into 4 areas.

In summary, our client objects to the listing of the Premises on the Heritage Register on the grounds that:

- a) Area A does not satisfy criteria (a), (c), (d) or (h) in s 35 of the *Queensland Heritage Act 1992* (Qld);
- b) Area B does not satisfy criteria (a), (c), (d) or (h) in s 35 of the *Queensland Heritage Act 1992* (Qld);
- c) Area C does not satisfy criteria (a), (c), (d) or (h) in s 35 of the *Queensland Heritage Act 1992* (Qld), and the information contained in the application does not reliably support the heritage listing;
- d) For Area D, the application does not reliably demonstrate satisfaction of criteria (a), (c), (d) or (h) in s 35 of the *Queensland Heritage Act 1992* (Qld).

## 3. Description of Areas

Each area is shown on **attachment 1** and described as follows:

<b>Area A</b>	Attachment E in the Application shows a map dividing the Premises into tiles, and contains a list of species said to have been planted in those locations, from the 80s to early 2000s.
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	<p>Area A is generally made up of tiles 225, 226, 227, 242, 243, 244, 276 and 277 in close proximity to the reception building, within the built environment of the Premises.</p> <p>The Application contains no evidence about whether the specimens listed in Attachment E remain in those locations. For tile 244, no plants are recorded as having been planted in that location.</p> <p>The species listed in these tiles appear to be small plants/shrubs, with varying degrees of distribution across Queensland, a number of which are commonly used for landscape planting in gardens.</p> <p>Our client is not a botanist and is unable to say whether or not the plants listed for these tiles actually remain in that location.</p>
<b>Area B</b>	<p>Area B is a highly modified environment made up of pockets of trees surrounded by maintained lawns. Large parts of Area B contain no trees, shrubs or the like – instead it is mowed lawn and/or weeds. With reference to the tiles plan in Annexure E of the Application, Area B contains a number of tiles that have no record of any plantings (including tiles 108, 109, 145, 180, 181, 216, 217, 252, 253, 288, 289, 325, 360, 219, 255, 286, 358, 321, 357, 355, 354 and 353).</p> <p>Other tiles in Area B that do have records of plants are now maintained grassed areas.</p> <p>There is no evidence of which trees listed in the schedule in Annexure E actually remain on-site. A detailed site survey of all trees is required.</p> <p>This demonstrates that the schedule of plants in Attachment E is unreliable to determine what plants currently remain on the site.</p> <p>Some trees in that location include common eucalyptus and melaleuca species that have wide distributions and that are widely available for horticulture and landscape planting. Some of these plants, such as in plot 359, were planted less than 10 years ago.</p> <p>Some plants listed in Area B were part of the original landscape planting.</p>
<b>Area C</b>	<p>There is no evidence of what is actually located in Area C.</p> <p>These trees are in close proximity to the building. Our client is concerned about storm and bushfire risks arising from those trees.</p> <p>In the absence of any evidence regarding what plants are actually in this location and an assessment of their specific cultural heritage values, our client's preference is that this area remains off the Register to ensure adequate storm and fire management protocols can be put</p>

	in place (eg pruning or removal of plants, should it be required to manage storm and bushfire risks).
<b>Area D</b>	Area D is vegetated and makes up the remainder of the Premises that is the subject of the Application.

#### 4. Assessment against Heritage Criteria

The Application relies on four registration criteria in s 35(1) of the *Queensland Heritage Act 1992 (QH Act)*, set out below:

##### **35 Criteria for entry in register**

*(1) A place may be entered in the Queensland heritage register as a State heritage place if it satisfies 1 or more of the following criteria—*

*(a) the place is important in demonstrating the evolution or pattern of Queensland’s history;*

...

*(c) the place has potential to yield information that will contribute to an understanding of Queensland’s history;*

*Example of a place for paragraph (c)— a place that has potential to contain an archaeological artefact that is an important source of information about Queensland’s history*

*(d) the place is important in demonstrating the principal characteristics of a particular class of cultural places;*

...

*(h) the place has a special association with the life or work of a particular person, group or organisation of importance in Queensland’s history.*

Guidance on these criteria is provided in the guideline titled “Assessing cultural heritage significance: Using the cultural heritage criteria” (the **Guideline**).

In relation to the Guideline, Her Honour Judge Kefford said, in *Scenic Rim Regional Council v Queensland Heritage Council* [2022] QPEC 42:

“The Guideline offers a model for professional assessment of historical cultural heritage significance in Queensland. It provides a methodology for identifying and assessing places eligible for entry in the Queensland heritage register. That said, the parties agree that the Court is not bound to consider the Guideline, nor can the Guideline modify the plain words of the *Queensland Heritage Act 1992*.”

(footnotes omitted)

Our client's submissions on the above listed criteria are set out below.

**(a) Section 35(1)(a) – Is the Premises important in demonstrating the evolution or pattern of Queensland's history?**

For criteria (a), in *Scenic Rim Regional Council v Queensland Heritage Council*, the Court said:

[47] The Guideline recognises that it is necessary to consider to what extent a place demonstrates historical significance. It recognises that a place may not fully demonstrate the evolution or pattern of Queensland's history in the fabric. It specifically acknowledges that a place may be significant because it combines with other sources of historical information to demonstrate an aspect of the past that has made a strong, noticeable, or influential contribution to Queensland's history.

[48] According to the Guideline, a place may be significant if it:

(a) is the product, result or outcome of an event, phase, movement, process, activity, or a way of life that has made a strong, noticeable, or influential contribution to the evolution or pattern of development of our society or of our environment; or

(b) is an example of a process or activity that has made a strong, noticeable, or influential contribution to the evolution or pattern of development of our society or of our environment; or

(c) was influenced by an event, phase, movement, process, activity, or way of life that has made a strong, noticeable, or influential contribution to the evolution or pattern of development of our society or of our environment; or

(d) has influenced an event, phase, movement, process, activity, or way of life that has made a strong, noticeable, or influential contribution to the evolution or pattern of development of our society or of our environment; or

(e) is the site of, or is associated with, an event, phase, movement, process, activity, or way of life that has made a strong, noticeable, or influential contribution to the evolution or pattern of development of our society or of our environment; or

(f) has a symbolic association with an event, phase, movement, process, activity, or way of life that has made a strong, noticeable, or influential contribution to the evolution or pattern of development of our society or of our environment.

[49] The Guideline states that the notion of thresholds, or levels and degrees of significance, is implied in the discussion of significance. It says that the level of significance of the importance of a place in demonstrating the evolution or pattern of Queensland's history may be identified through the application of one or more threshold indicators, including earliness, representativeness, regional importance, distinctiveness or exceptionality, rarity, or some other quality of the place.

[50] With respect to the "regional importance" threshold indicator, the Guideline explains that places with regional historical significance can be important to our understanding of the development of a state as vast and as diverse in topography, climate, vegetation, land use, population, and social custom as is Queensland.

[51] With respect to the "rarity" threshold indicator, the Guideline explains that phrases such as "the last surviving", "the only remaining", "important surviving evidence", and "rare early evidence of" are

often employed in statements of historical significance when a place is significant because little else survives to illustrate a particular aspect of Queensland's history.

(underlining added, footnotes omitted)

Looking at the threshold indicators further, with respect to “representativeness”, the Guideline explains that places that represent, or are a good example of an aspect of our past that has been important in shaping our present, implying there is a reasonable degree of intactness and integrity.

Area	Assessment against criteria (a)
Area A (Tiles 225, 226, 227, 242, 243 and 244; 276 and 277)	<p>Our client repeats and relies on the Area Description provided above.</p> <p>The Application contains no direct evidence about how the plants in Area A is the site of an activity or process that that has made a strong, noticeable, or influential contribution to knowledge relating to Queensland's natural environment. There is no evidence that these plants led to the development of the tree identification manuals referred to in the Application.</p> <p>With respect to the threshold indicators, there is no evidence that the plants within Area A:</p> <ol style="list-style-type: none"> <li>1. Represent a good example of a tropical forest;</li> <li>2. Are important to our understanding of tropical flora;</li> <li>3. Are a highly distinctive or exceptional mix of plants;</li> <li>4. Are the only remaining or important surviving plants of that type.</li> </ol> <p>In summary, there is insufficient evidence to demonstrate why the plants within Area A meet criteria (a).</p>
Area B	<p>Our client repeats and relies on the Area Description provided above.</p> <p>The Application contains no direct evidence about how the plants in Area B is the site of an activity or process that has made a strong, noticeable, or influential contribution to knowledge relating to Queensland's natural environment. There is no evidence that these plants led to the development of the tree identification manuals referred to in the Application.</p> <p>With respect to the threshold indicators, there is no evidence that the plants within Area B:</p> <ol style="list-style-type: none"> <li>1. Represent a good example of a tropical forest;</li> <li>2. Are important to our understanding of tropical flora;</li> <li>3. Are a highly distinctive or exceptional mix of plants;</li> </ol>

	<p>4. Are the only remaining or important surviving plants of that type.</p> <p>In summary, there is insufficient evidence to demonstrate why the plants within Area B meet criteria (a).</p>
<b>Area C</b>	<p>Our client repeats and relies on the Area Description provided above.</p> <p>In the absence of any evidence regarding what plants are actually in this location and an assessment of their specific cultural heritage values, our client's preference is that this area remains off the Register to ensure adequate storm and fire management protocols can be put in place (eg pruning or removal of plants, should it be required to manage storm and bushfire risks).</p> <p>In addition, our client repeats and relies upon the observations made below for Area D.</p>
<b>Area D</b>	<p>The Application contains insufficient evidence to demonstrate that criteria (a) has been met.</p> <p>Ms Horber and Ms Gixti's qualifications are not disclosed in the application.</p> <p>The material relied upon in the application is second hand.</p> <p>The application does not include a report prepared by a suitably qualified expert to assess the site and provide reliable opinions regarding the satisfaction of criterion (a), such as from an ecologist, heritage expert and/or historian.</p> <p>There is no evidence of what is actually located in Area D.</p> <p>The material in the application does not include a copy of the tree identification manuals relied upon by the applicants to demonstrate satisfaction of criterion (a).</p> <p>The material in the application does not include first-hand statements from the personnel described in and relied upon in the application. It does not attach material relied upon to demonstrate the extent to which the arboretum was relied upon in relation to the successful inscription of the Wet Tropics into the UNESCO World Heritage Site. The Application references an email from a senior scientist for the Wet Tropics Management Authority, but does not include a copy of that email or other evidence to demonstrate the significance or otherwise of the Premises.</p> <p>Extracts from the reference list are not provided and so there is no evidence about the extent to which the arboretum on the Premises is referred to or discussed in that material. For example, was the</p>



	<p>Premises the only place upon which research was based to prepare the tree identification manuals, or was it one of many? Was the Premises the primary information point, or was it a secondary area for the planting of reference species? Were other sources used to prepare the tree identification manuals or to support the Wet Tropics World Heritage Listing? That information is relevant to assess the importance of the Premises. An up to date tree survey is also required to assess consistency with the plantings schedule and to demonstrate the required degree of intactness.</p> <p>The material provided in the application is inadequate and does not demonstrate satisfaction of criterion (a).</p>
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**(b) Section 35(1)(c) – Does the Premises have potential to yield information that will contribute to an understanding of Queensland’s history?**

The Guideline states that a place will meet criterion (c) if it can be demonstrated that something in the place, or in the combination of the place and associated documentary materials or artefacts and objects, may, with further examination or research, reveal information that will contribute to our understanding of Queensland’s past. The Guideline goes on to say that criterion (c) helps principally in determining the scientific significance or research potential of a place. Places may possess scientific (research) significance when there is no alternative source of information, or where alternative and supplementary documentary sources of information do not reveal a sufficiently detailed historical picture.

The Guideline contains threshold indicators to determine whether a place satisfies criterion (c).

Significance indicators include the potential to contribute to new knowledge or lead to a greater understanding of a particular aspect of Queensland’s history.

Threshold indicators include earliness, rarity, extensiveness and intactness.

Area	Assessment against criteria (c)
Area A (Tiles 225, 226, 227, 242, 243 and 244; 276 and 277)	<p>The Application contains no evidence about how the plants in Area A have the potential to yield information that will contribute to an understanding of Queensland’s history, having regard to the threshold indicators. There is no evidence regarding the scientific significance of plants in Area A. In fact, there is no reliable evidence to identify what plants are even located in Area A.</p> <p>With respect to the threshold indicators, there is no evidence that the plants within Area A:</p> <ol style="list-style-type: none"> <li>1. Are a principal surviving record of Queensland’s natural environment;</li> <li>2. Are rare;</li> </ol>

	<p>3. Are an intact example of a tropical forest.</p> <p>In summary, there is insufficient evidence to demonstrate why the plants within Area A meet criterion (c).</p> <p>Our client is concerned that the plants in Area A are more consistent with the usual landscaping of buildings.</p>
<b>Area B</b>	<p>Area B is a modified area with vast areas of lawn.</p> <p>The Application contains no direct evidence about how the plants in Area B have the potential to yield information that will contribute to an understanding of Queensland’s history, having regard to the threshold indicators. There is no evidence regarding the scientific significance of plants in Area B. There is no evidence that can be used to identify what plants are actually currently located within Area B.</p> <p>Many plants stated to have been planted in Area B are found in their naturally occurring environments. For that reason, there are alternative sources of information that could be gleaned from trees in Area B. There is no evidence that the trees in Area B have the potential to contribute new knowledge or lead to a better understanding of Queensland’s history.</p> <p>With respect to the threshold indicators, there is no evidence that the plants within Area B:</p> <ol style="list-style-type: none"> <li>1. Are important from an earliness threshold;</li> <li>2. Are rare; or</li> <li>3. Are intact representations of tropical forests.</li> </ol> <p>In summary, there is insufficient evidence to demonstrate why the plants within Area B meet criterion (c).</p>
<b>Area C</b>	<p>With respect to the threshold indicators, there is no evidence that the plants within Area C:</p> <ol style="list-style-type: none"> <li>1. Are important from an earliness threshold;</li> <li>2. Are rare; or</li> <li>3. Are intact representations of tropical forests.</li> </ol> <p>There is no evidence that the trees in Area C hold particular significance.</p> <p>On balance, it is submitted that our client retains the ability to maintain land within Area C should it be required for storm or bushfire resilience.</p>

<p><b>Area D</b></p>	<p>The Application contains insufficient evidence to demonstrate that criteria (a) has been met.</p> <p>Ms Horber and Ms Grixti’s qualifications are not disclosed in the application.</p> <p>The material relied upon in the application is second hand.</p> <p>The application does not include a report prepared by a suitably qualified expert to assess the site and provide reliable opinions regarding the satisfaction of criterion (a), such as from an ecologist, heritage expert and/or historian.</p> <p>There is no evidence of what is actually located in Area D.</p> <p>The material in the application does not include a copy of the tree identification manuals relied upon by the applicants to demonstrate satisfaction of criterion (a).</p> <p>The material in the application does not include first-hand statements from the personnel described in and relied upon in the application. It does not attach material relied upon to demonstrate the extent to which the arboretum was relied upon in relation to the successful inscription of the Wet Tropics into the UNESCO World Heritage Site. The Application references an email from a senior scientist for the Wet Tropics Management Authority, but does not include a copy of that email or other evidence to demonstrate the significance or otherwise of the Premises.</p> <p>Extracts from the reference list are not provided and so there is no evidence about the extent to which the arboretum on the Premises is referred to or discussed in that material. For example, was the Premises the only place upon which research was based to prepare the tree identification manuals, or was it one of many? Was the Premises the primary information point, or was it a secondary area for the planting of reference species? Were other sources used to prepare the tree identification manuals or to support the Wet Tropics World Heritage Listing? That information is relevant to assess the importance of the Premises. An up to date tree survey is also required to assess consistency with the plantings schedule and to demonstrate the required degree of intactness.</p> <p>In addition, there is no assessment of whether the tree combinations can still be found at their primary sources and are these primary sources able to yield the information that might be found at the Premises. For example, would scientific information found on the Premises be more appropriately sought from primary sources, for example, an area within the Wet Tropics World Heritage Area? There is no identification of what new or unique</p>
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	<p>information can be sourced from the Premises additional to the naturally occurring rainforests.</p> <p>The material provided in the application is inadequate and does not demonstrate satisfaction of criterion (c).</p>
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**(c) Section 35(1)(d) – Is the Premises important in demonstrating the principal characteristics of a particular class of cultural places**

For criterion (d), the Guideline states that it is important to adopt a common understanding of class of cultural places and principal characteristics.

For class of cultural places, the Guideline goes on to say that:

For the purposes of the interpretation of criterion (d), ‘class’ may be equated with ‘group’ or ‘type’, and ‘cultural place’ as any place associated with cultural (i.e. human) activity as distinct from a ‘natural place’ (meaning the natural environment).

(underlining added)

Criterion (d) is concerned with cultural (ie human) activity rather than natural places.

The arboretum is representative of the natural environment.

The Premises is privately owned and is not open for leisure to the general public.

The Premises is not associated with cultural activities.

Criterion (d) is not relevant to the registration of the arboretum.

**(d) Section 35(1)(h) – Does the Premises have a special association with the life or work of a particular person, group or organisation of importance in Queensland’s history**

The Guideline states that criterion (h) is concerned with historical significance of a person, group or organisation. Criterion (h) does not require the special association to be demonstrated in the fabric of the place.

On the meaning of historical significance, the Guideline states:

The sense of history embodied in the fabric of a place or object can be an important component of historical significance. If the fabric offers a tangible understanding of historical activity, events or processes, then the place or object may be important in demonstrating an aspect of the past and consequently be of historical significance.

Our client does not possess the knowledge or expertise to provide an opinion in relation to the historical significance of Dr Geoff Stocker, Dr Bernard Hyland or others listed in the Application for criterion (h).

However, having regard to the comments made for areas A, B, C and D in relation to criteria (a) and (c), our client is of the view that there is insufficient evidence contained in the application to

demonstrate that the Premises has a special association with the work of Dr Geoff Stocker, Dr Bernard Hyland or others listed in the Application, or the CSIRO more broadly. The Guideline states that the extent of demonstration of the association in the artefacts or fabric must be substantial. There is insufficient evidence that Areas A, B, C and D are strongly associated with the work of Dr Geoff Stocker, Dr Bernard Hyland or others listed in the Application. No assessment is made as to whether the primary source rainforest areas within which plants on the Premises were sourced were more widely used by Dr Geoff Stocker, Dr Bernard Hyland or others in their work. An assessment of their work would be required in order to properly assess the significance of the Premises. That information ought to be included in the application, or report on by an appropriately qualified person.

## 5. Conclusion

In summary, our client raises an objection to the inclusion of land on the Premises within the Heritage Register on the basis that the material in the application does not demonstrate satisfaction of criteria in s35(1)(a), (c), (d) or (h).

Our client asks that they be informed of any progress relating to the application. Our client would be pleased to discuss this matter further.

Yours faithfully

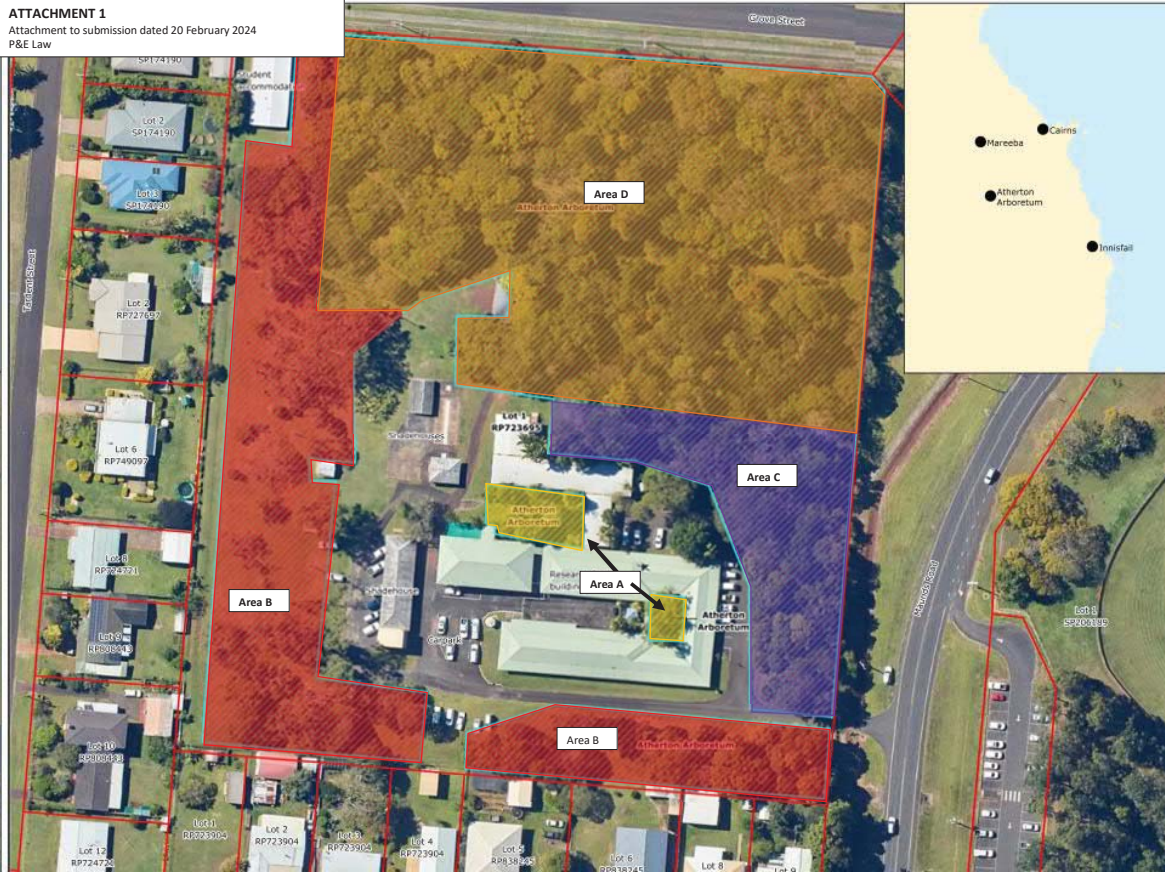
[Redacted signature]

**Renee Ansen** LLB BEnvMan  
Senior Associate - Brisbane Office

e [Redacted email address]

3452-0079-0571, v. 1

**ATTACHMENT 1**  
Attachment to submission dated 20 February 2024  
P&E Law





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2 February 2024

Department of Environment and Science  
GPO Box 2454  
Brisbane QLD 4001

Attn: Kaitlin Nichols - [REDACTED]

Dear Kaitlin

**APPLICATION TO ENTER ATHERTON ARBORETUM IN THE QUEENSLAND HERITAGE REGISTER AS A STATE HERITAGE PLACE**

Thank you for the opportunity to provide a response in relation to the application to enter the Atherton Arboretum in the Queensland Heritage Register as a State Heritage Place on Lot 1 RP723695 at 46-47 Maunds Road, Atherton.

Council considered the application at its Ordinary Meeting of 25 January 2024 and resolved to;

*“delegate authority to the Chief Executive Officer to respond in writing to the Department of Environment and Science to the listing on the Queensland Heritage Register of the Atherton Arboretum (formerly part of the CSIRO Tropical Research Centre) at 47-67 Maunds Road, Atherton, legally described as Lot 1 on RP723695 advising that Council objects to the proposal as it unnecessarily constraints the potential future development opportunities of the premises and places undue legislative burden on adjacent landowners”.*

Given the above resolution, Tablelands Regional Council objects to the application on the grounds that it unnecessarily constraints the potential future development opportunities of the premises and places undue legislative burden on adjacent landowners (in relation to development on lots that share a common boundary with another lot that is or contains a Queensland heritage place under the Planning Regulation 2017).

If you have any queries in relation to this response, please contact me on [REDACTED] or by email at [REDACTED].

Yours faithfully,



**SEAN LISLE**  
**EXECUTIVE MANAGER DEVELOPMENT SERVICES**



## **Submission supporting the Heritage Listing of the Atherton Arboretum, HRN 650282**

### **Criterion A: The place is important in demonstrating the evolution or pattern of Queensland's history**

Queensland has a proud record of scientific advancement and this arboretum stands in testament to this. The development of modern multi-entry, multifactorial identification keys has its genesis at this institution. While the computing technology which is now a world standard (Lucid) was developed elsewhere in Queensland it was the scientific collation of data and conceptual development which occurred here at the CSIRO site in Atherton which was vital in its development. Prior to the development of the original computer card key, developed here by taxonomist Bernie Hyland, any multi-entry identification keys were really a compilation of multiple traditional step by step, bifurcating keys which fail once a contingent piece of information is absent. Some polyclave keys had been developed elsewhere but the punch card key which arose here in Atherton took this idea to a new level through the breadth of detail available to the user. This was possible because of the collecting efforts of the CSIRO team, the work of the greenhouse staff and the mapping skills of the ecologists working out of this site. These trees were planted from the specimens grown on in the greenhouse to provide the seedling data and so demonstrate a clear link to this outstanding achievement.

#### ***A brief history of the project:***

Foresters, timber cutters, scientists and naturalists struggle with the diversity of trees in the rainforests of the Wet Tropics. Bernie Hyland, with the production of the first polyclave card key in 1971 allowed these people to access the identification of 584 species by using bark and leaf characters. Extending this with the second edition in 1972, adding geographic range and plant family data the key reached the limit of the contemporary technology with 799 species included.

Adding nearly another 500 taxa for the third edition, Hyland and Whiffen went computerised in 1993. Three printed volumes plus the computerised key now incorporated features of the flowers, fruit and seedlings. This was based on data collected by many scientists, both professional and amateur, stored in the herbarium, glasshouse and arboretum at Maunds Road Atherton. For those of us for whom the rainforests were a place of joy, that delight was expanded by the knowledge which was now much more freely available without decades of personal study.

Now the key in its seventh edition covers a greater geographic range and almost 3 000 taxa. It is available on line and as an app for field work.

More than 500 plants comprise the living collection in the Atherton Arboretum. Some of these are derived from the original collection of the species and some may represent the only specimens living in cultivation despite the huge upsurge in interest in growing our endemic flora. Both these things are important to Queensland's cultural and scientific heritage.

The loss of this arboretum would be equivalent to the bulldozing of Bletchley Park.

### **Criterion C: The place has potential to yield information that will contribute to an understanding of Queensland's history;**

As the original submission states, "The Atherton Arboretum contains the most comprehensive and well-documented living collection of Queensland's tropical flora with particular focus on the Wet



Tropics and Cape York Peninsula rainforests, representing 50 years of tropical forest research. During this time the living collection supported research by scientists and students from around Australia and the world. Its extensive living collection supported by herbarium voucher specimens and detailed collection information has made a strong contribution to the evolution of the Queensland forestry industry and our understanding of tropical rainforest flora and has the potential to continue to yield new information to support research in this field.”

The 130 species of Myrtaceae growing on the grounds provide the opportunity for research into the invasive *Puccinia psidii*, Myrtle Rust, to be carried out, potentially saving much loss and angst.

Being represented by vouchered specimens of themselves and often their immediate antecedents, the plants growing in the Atherton Arboretum are wonderfully placed to provide further information about our amazing rainforest flora. The search for bioactive natural products from which we derive many medicines could be facilitated here.

**Criterion D: The place is important in demonstrating the principal characteristics of a particular class of cultural places:**

This arboretum is unparalleled and hence truly deserves the application “unique”! The comprehensive documentation and background data including vouchered specimens, now held at the Australian Tropical Herbarium makes this an exemplar of how arboreta should be formed.

**Criterion F: The place is important in demonstrating a high degree of creative or technical achievement at a particular period;**

Lucid polyclave keys are now the world standard. These trees stand in testament to that achievement, to the extraordinary work done at and from the CSIRO station in Atherton, and what those combined efforts have established.

**Criterion H: The place has a special association with the life or work of a particular person, group or organisation of importance in Queensland’s history.**

Data produced from the CSIRO research facility in Atherton was instrumental in the Wet Tropics meeting all four of the natural history criteria for the World Heritage listing of the Wet Tropics. In particular it was able to be demonstrated that the area has an amazingly complete representation of the development of a modern flora from the ancient pteridophytes, through to seed bearing plants (cycads and conifers) to modern flowering plants. Of the ancient flowering plant families most are present in the Wet Tropics and many are represented in the Atherton Arboretum.

The facility was established by **Dr Geoff Stocker** (Officer in Charge / Principal Research Scientist - TFRC, 1971-1985). His distinguished career included not only the facilitating of this site but he was later Professor and Head of the Forestry School at the University of Technology, Lae, from 1989 to 1992 and Director of the Forest Institute from 1993 to 1996). Returning to Australia, Stocker served as a Councillor in the Eacham Shire and then in the Tablelands Regional Council (TRC) and was Deputy Mayor of TRC from 2014 until he retired in 2016.

Dr Bernard (‘Bernie’) Patrick Matthew Hyland is the Australian botanist who contributed most substantially to our knowledge of Australia tropical flora taxonomy. It was here at the TFRC that he developed the ground breaking Rainforest Key. His revision of two of the dominant families of the

rainforest and of numerous other species in various genera and families were outstanding works for their scope and depth of understanding. Even after his retirement in 2002 Hyland continued to provide advice and council as a CSIRO Honorary Research Fellow.

Other notable contributions to the arboretum collection were made by: **Anthony Irvine** (Technical Officer TFRC, 1971-1981 who contributed greatly to educating the public), **Geoff Tracey** (Technical Officer TFRC, 1980-1991 who with Dr Len Webb developed a mapping system and classification of rainforests which has only been displaced in common usage by the adoption of national regional ecosystems), **Alick Dockrill** (Technical Officer TFRC, 1971-1980 of Australian and New Guinea orchid fame) and **Andrew Ford** (Technical Officer / Researcher TFRC,1994-2021 who is not only a great collector from remote areas but a very thorough and competent botanist). These men are at least local heroes and are deserving of wider recognition. The retention of this arboretum will stand to honour those mentioned above and their ground breaking work. Also honoured will be the other scientists and technicians who worked on the site or out of the facilities adjacent to the Atherton Arboretum, contributing to the development of our Queensland society.

Alan Gillanders



23/12/2023

**From:** Alan House  
**Sent:** Tuesday, 16 January 2024 4:10 PM  
**To:** Heritage  
**Subject:** HRN 650282 Atherton Arboretum

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I offer these comments in support of the Queensland Heritage Register application for the Atherton Arboretum (650282) made by Gemma Horner and Megan Grixti on 28 November 2023. This place has served many researchers and amateur botanists over many years, and remains a unique collection of Australia's tropical flora - there is no equivalent collection anywhere.

My background is in tropical plant ecology. My association with the Arboretum dates from 1981 when I first visited Atherton and the CSIRO research station on Maunds Road, and began work on my PhD. Staff at CSIRO (principally Tony Irvine, Geoff Tracey, Geoff Stocker, Keith Sanderson, Bruce Gray and Bernie Hyland) assisted me with plant identifications, and allowed me use of both the herbarium and the arboretum to further my studies. Without access to these two world class facilities I doubt I would have been able to complete my work. The Herbarium has moved to Cairns, but the Arboretum remains as a lasting legacy to some of the most important work in Australia on tropical rainforest ecology and taxonomy. It would be devastating if it were lost.

A. The place is important in demonstrating the evolution or pattern of Queensland's history;

Yes, definitely. The collection contains valuable material from the Wet Tropics World Heritage rainforests, widely acknowledged as one of Australia's biodiversity hotspots, and a critical record of Gondwana's evolutionary history.

B. The place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage;

Yes. There are only a few arboreta in Queensland and the only one in the wet tropics.

C. The place has potential to yield information that will contribute to an understanding of Queensland's history;

Yes. Arboreta have immense value for botanical and taxonomic research. They complement museum collections (in herbaria) and provide a living source of information of critical importance to germplasm conservation, understanding of impacts of environmental change and disease resistance – use refs

D. The place is important in demonstrating the principal characteristics of a particular class of cultural places;

Yes. As far as I know, the Atherton Arboretum is one of only three in Queensland (the others being Sherwood and Pechey), and the only one dedicated to tropical flora conservation. Botanical gardens, with their broader mandate to showcase and conserve regional floras generally, cannot by definition match the specialised role that arboreta play in housing trees. They are especially important in regions where the dominant lifeform is trees, such as the tropical rainforests of Far North Queensland.

E. The place is important because of its aesthetic significance;

~~F. The place is important in demonstrating a high degree of creative or technical achievement at a particular period;~~

~~G. The place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;~~

H. The place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history

Yes! Rather than having an association with a single person, the Atherton Arboretum is connected to a significant group of past researchers and plant enthusiasts who pioneered the study of tropical rainforests, and without which the nomination of the region for Worlds Heritage status would not have been successful. The Arboretum (and the associated Herbarium and research facilities in Atherton, have supported and inspired a generation of ecologists and taxonomists both in Australia and overseas. The contribution to science made by CSIRO and all the students and visiting scientists over the years is immeasurable – and the Arboretum has been a key part of this.

Alan House  
Principal Ecologist

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Red Gum Ecology

ABN 56 310 039 229



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**From:** Sigrid Heise-Pavlov  
**Sent:** Sunday, 21 January 2024 1:35 PM  
**To:** Heritage  
**Subject:** Submission to HRN 650282

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## **Submission to the application for the entry of the Atherton Arboretum, 47-67 Maunds Road, Atherton, into the Queensland Heritage Register Heritage Register Number (HRN): 650282**

I fully support the registration of the Atherton Arboretum into Queensland's Heritage Register. Based on the criteria for a registration, this Arboretum clearly meets criteria A, C, D and H.

As a lecturer at the Centre for Rainforest Studies at the School for Field Studies, I would welcome this entry for several reasons:

1. It will demonstrate Australia's care for its natural heritage.
2. It will demonstrate Australia's acknowledgement of the work of pioneers who intended to preserve examples of Australia's tropical vegetation for future generations.
3. It will potentially provide teaching opportunities for local schools.
4. It will potentially contribute to research on impacts of climate change on our plant species.

Thank you,

Kind regards,

Sigrid Heise-Pavlov

---

Sigrid Heise-Pavlov, PhD  
Lecturer for Rainforest Ecology and Fauna  
Centre for Rainforest Studies  
School for Field Studies  
Yungaburra, Qld, Australia



**Public Submission in support of listing on the**

**Qld. Heritage Register**

**Application Number 650282**

**Atherton Arboretum**

- **Location:** 47-67 Maunds Road, Atherton
- **Application Number 650282:** [Atherton Arboretum \(PDF, 16 MB\)](#)
- **Public Notice:** [Atherton Arboretum](#)
- **Submission period:** closing 22 January 2024

**Submission in support of the Application for listing on the Queensland Heritage Register, addressing Heritage Criteria A, C, D and H.**

The submission is written and submitted by

**Dr Greg Unwin** *PhD, MSc, BSc (For), MIFA*

Adj. S/Lecturer (Forest Ecosystems/Agroforestry/  
Wilderness Ecology and Management)

College of Science and Engineering

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**David S. Cassells** *MSc, BSc (For)*

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**Dr Kevin Harding** *PhD, BSc(For), FIFA, GAICD*

Adj. Res. Professor, Forests Industries Research Centre,  
University of the Sunshine Coast.

81 Hughes Road, Topaz, Qld 4885

Email: [REDACTED]

Mobile: [REDACTED]

## About the authors of this submission

**Greg Unwin** was employed as forest ecologist and senior research scientist at the Commonwealth Government's Queensland Regional Station, Atherton, site of the Atherton Herbarium, during 18 years of its creation and development from 1974 to 1991. Dr Unwin led the forest ecology and physiology group under the direction of Dr Geoff Stocker as OIC, with Dr Bernie Hyland (Botanist) of the research station, which later became the CSIRO Tropical Forest Research Centre (TFRC). Greg's doctorate provided a synthesis of his field research on the dynamics and environmental relations of North Queensland rainforests and adjoining eucalypt forests. In 1992, Greg moved to University of Tasmania to lecture in Forest Ecosystems and Agroforestry, where he also coordinated the Wilderness Ecology and Management degree program (including cultural heritage management) until his retirement and adjunct appointment in 2014. He maintains an active interest in the ecology and growth physiology of moist tropical forests of northeastern Australia.

**David Cassells** is an environmental scientist with more than 50 years' management, research and policy development experience. He started his career in 1974 in the rainforests of the Queensland wet tropics. This was followed by a period as a lecturer in ecosystem management at the University of New England (1984-89) and Director of Parks with the Townsville City Council (1989-90) where, amongst other things, he was responsible for the management of Townsville's Botanic Gardens. David has subsequently had wide international forest conservation and management experience and has held leadership positions with the International Tropical Timber Organization (Japan, 1991-93), the Iwokrama International Centre for Rain Forest Conservation and Development (Guyana, 1997-2001), the World Bank (Washington, 1993-2005) and The Nature Conservancy (Asia-Pacific Region, 2005-2011). He has since fulfilled numerous other peak international roles in Tropical Forest Conservation and Sustainable Forest Management. He currently serves as an Adjunct Associate Professor in the College of Business, Law and Governance at the James Cook University in North Queensland.

**Kevin Harding** also shares a lasting interest in tropical forest management and research in Queensland, including to the present day in community and farm forestry on the Atherton Tablelands where he and his wife manage their own vigorous and diverse patch of tropical rainforest. His professional roles include Forestry Research Scientist in plantation wood quality and tree improvement since 1979 (1982-2012 with the Queensland Government and private consultancy work, 2013 – ongoing). Dr Harding served as President and Director of Australian Forest Growers (2013-2019), and Vice-President and Director, Forestry Australia (2019-2022). His contributions were recently recognised by his being elevated to Fellow status of Forestry Australia. He is a member of the Steering Committee of the North Queensland Forestry Hub that aims to support sustainable forest industry in North Queensland, an active member of TREAT (Trees for the Evelyn and Atherton Tablelands), Malanda Landcare and Malanda Chamber of Commerce (as volunteer grant writer).

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## Summary

1. The **Atherton Arboretum** has been and remains a highly significant, important and essential driver of the evolution and history of forest science and forest conservation management in Queensland. Accordingly, the arboretum has contributed immensely to the regional, national and international identity of tropical Australia as well as to changing policy and practice in forest conservation and management in Queensland. **(Criterion A.)**
2. The Atherton Arboretum is systematically designed, intact, rare, indeed unique, and as a significant biological database, is representative of an extensive natural resource across a broad region of northern Queensland and northern Australia as a whole. It is beyond doubt, a living museum to a period of pioneering rainforest research in North Queensland.

The Arboretum therefore has exceptionally strong scientific significance and unique potential to yield important biological information on an on-going basis, in pursuit of further understanding and management of a highly valuable part of Queensland's natural history. **(Criterion C.)**

3. The particular characteristics of the Atherton Arboretum which have been elaborated in detail here and in the original Application define a unique class of *'cultural place'* (in all senses of the term *'culture'*, both social and biological).

The Atherton Arboretum was created and designed to be a permanent and unique scientific resource in a class all of its own. As established elsewhere in this submission, it is irreplaceable. The longer its protection is provided through such measure as Heritage Registration, the more valuable and more scientifically significant this unique class of cultural place becomes to the State of Queensland, and also nationally and internationally. **(Criterion D.)**

4. Historically, the Arboretum represents a lasting and living legacy of the organisational associations and collaborative research commitments which prevailed in the second half of the twentieth century, but which no longer exist. **(Criterion H.)**

In the first decade or two, it was not only the roots of the Arboretum which were established, but the makings of a tight-knit group of forest researchers. Together they created the Atherton Arboretum. They sowed the seeds of cultural impetus for an ever expanding scientific and social understanding of the region's tropical rainforests and their significance to Queensland and the rest of the World.

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### **Vic Stockwell's Puzzle**

An interesting living legacy of the cooperative relationships between research scientists and field workers who spent their days in the rainforest is embodied in the Atherton Arboretum: The above specimen is the rare species *Stockwellia quadrifida* – commonly known as Vic Stockwell's puzzle.

The species was discovered in 1971 when a forester of the Queensland Department of Forestry, Atherton, Keith Gould, was using aerial photographs to identify the tree stocking characteristics of the rainforests. He noticed a small area of what appeared to be very tall emergent trees in the Boonjee area on the western slopes of Mt. Bartle Frere, near Topaz.

Keith sent one of his experienced rangers Victor Stockwell to investigate and he found patches of very tall trees that looked somewhat like eucalypt trees. Victor could not identify the tree and sought help from the research station's botanist Dr Bernie Hyland. Taxonomic investigations revealed that it was a close but anciently separated relative of the eucalypts and a new genus and species were described<sup>1</sup>.

It is estimated that only some 400 individual trees still exist in the wild and that they are now threatened by the presence of Myrtle Rust fungal disease that has been introduced to North Queensland from South America in the early 2000s<sup>2</sup>.

## Introduction

As forest scientists we share a long-term interest and involvement in the research and management of North Queensland rainforests and associated forest types, and in teaching or researching cultural and heritage management in North Queensland's Wet Tropics, also in subtropical and southern temperate forests of eastern Australia, and in global tropical forests generally. We feel both compelled and privileged to offer this submission in strong support of Qld. Heritage Register Application # 650282, towards listing of the Atherton Arboretum. As outlined above, each of us shares a different but complementary perspective on the background and history of the Atherton Arboretum, variously from its inception in 1971 to the present day. None of us contributed directly to the content of this Heritage Application, though we have been supportive of its creation. Our submission here is not intended to duplicate the excellent detail and discussion which are provided in the Application. Our views and the commentary expressed here in this public submission therefore constitute our own independent and considered argument in support of the Application.

We are mindful that the Atherton Arboretum has strong relevance to most, though not all of the eight criteria listed for the Heritage Register assessment process (eg. Criteria A, C, D, F and H). As outlined in the *Guideline: Assessing Cultural Heritage Significance*, there is considerable overlap among prescriptive elements of some of these criteria. For clarity in this submission, we have chosen to address in turn, each of those four criteria (A, C, D and H) on which the original Application No. 650282 (the Application) is based, bearing in mind that our argument in regard to some criteria may also apply to others.

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### **Criterion A. The place is important in demonstrating the evolution or pattern of Queensland's history.**

***State Significance*** (*italics from the Heritage Register Guideline, p. 26-27*)

*A place may be significant if it:*

- is the product, result or outcome of an event, phase, movement, process, activity or way of life that has made a strong, noticeable or influential contribution to the evolution or pattern of development of our society or of our environment*
- is an example of a process or activity that has made a strong, noticeable or influential contribution to the evolution or pattern of development of our society or of our environment*
- was influenced by an event, phase, movement, process, activity or way of life that has made a strong, noticeable or influential contribution to the evolution or pattern of development of our society or of our environment*
- has influenced an event, phase, movement, process, activity or way of life that has made a strong, noticeable or influential contribution to the evolution or pattern of development of our society or of our environment*

- *is the site of, or is associated with, an event or activity that has made a strong, noticeable or influential contribution to the evolution or development of our society or of our environment*
- *has a symbolic association with an event, phase, movement, process, activity or way of life that has made a strong, noticeable or influential contribution to the evolution or pattern of development of our society or of our environment.*

### **Thresholds (27-28)**

*Earliness, Representativeness, Regional importance, Distinctiveness/exceptionality, Rarity*

### **Our Submission (ref. Criterion A)**

**The Atherton Arboretum** is a priceless living collection of approximately 1200 trees across 539 tree species and other woody life forms, consisting mostly of rainforest species from the Wet Tropics World Heritage area of northeast Australia. The Arboretum also includes species from Clarke Range (west of Mackay) and Cape York Peninsula, the Gulf of Carpentaria and the Northern Territory. It was first established more than 50 years ago by eminent botanists and field staff of the then Commonwealth Forest Research Institute (a part of the former Forestry and Timber Bureau and Commonwealth Department of National Development), working in collaboration with research and operational staff of the Queensland Dept. of Forestry (QDF). The original collection sites of all botanical source material in the collection are georeferenced and cross-linked with voucher specimens in the Australian Tropical Herbarium in Cairns, and replicated in associated herbaria in Kew Gardens (London) and Leiden (The Netherlands).

During the early 1970s, the Atherton Arboretum was established as a permanent extension of the adjoining Queensland Regional Station (QRS) whose herbarium formed part of the Australian National Herbarium. Together, the Arboretum and herbarium have supported tens of thousands of hours of botanical, taxonomic and ecological research by many highly regarded scientists and technicians, both nationally and internationally. The Atherton research station (QRS) was also gifted the Qld. Government Atherton Forestry Office herbarium collection of authenticated rainforest species when this office ceased operation.

As outlined in detail in the Application (refer Criteria A and C), this Atherton facility has provided a key foundation of our contemporary understanding, scientific interest and cultural appreciation of the value of Australia's tropical forests (especially rainforests and related forest types) in regional, national and international contexts. It is imperative to retain lasting access to the future research and educational opportunities provided by this 50-year-old floristic treasure, especially as it provides a living scientific benchmark to the future understanding and management of the nation's most diverse forests. The '*fabric*' of this place, the Arboretum, is a living (biological) entity which not only is rare, distinctive and regionally representative (of a large part of the tree flora of northern Australia), it is unique in Australia, and arguably the southern hemisphere. The Atherton Arboretum is the evolutionary product of dedicated scientific research over a span of more than 50 years. The Arboretum is indeed a living library of often rare and distinctively remote native tree flora, a living library whose pedigree is underpinned and indexed by the original voucher specimens from the QRS herbarium collection which is now part of the Australian Tropical Herbarium at James Cook University in Cairns. [For

reference, a more detailed history of the Arboretum is well documented in the Application, Criterion A.]

**The Atherton Arboretum has been and remains a highly significant, important and essential driver of the evolution and history of forest science and forest conservation management in Queensland. Accordingly, the Arboretum has contributed immensely to the regional, national and international identity of tropical Australia as well as to changing policy and practice in forest conservation and management in Queensland.**

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### **Criterion C. The place has potential to yield information that will contribute to an understanding of Queensland's history.**

#### ***State Significance (39-40)***

*A place may be significant if it has:*

- *potential to contribute new knowledge about Queensland's history*
- *potential to contribute knowledge that will lead to a greater understanding of particular aspects of Queensland's history*
- *potential to contribute knowledge that will assist in comparative analysis of similar places.*

**Thresholds (40)**      *Earliness, Rarity, Extensiveness, Intactness*

#### ***Our Submission (ref. Criterion C)***

The Atherton Arboretum is a living legacy of decades of extended scientific endeavours to understand the rainforest ecosystems that have underpinned the development of North Queensland from the early days of timber exploitation and historic forest conversion to support closer settlement and agricultural development, through to today's conservation-based tourist economy.

This extremely valuable Arboretum includes close to 1200 mature individual specimens of woody plants from northeastern Australian rainforests and associated forest types. For 50 years, (1971-2021), seeds and other propagules have been sourced from carefully documented botanical field collections. Botanical expeditions were often made in remote, poorly accessible coastal and highland forests stretching from Mackay to Cape York and across the Gulf of Carpentaria, to tropical monsoon forests of the Northern Territory and beyond, even where necessary by Army helicopter eg. across Cape York Pen. (I was there, GU). The mature Arboretum consists mostly of established trees within a now closed canopy, plus shrubs, palms, ferns and vines. The living collection of 1193 individual specimens includes 539 tropical species of 262 genera and 86 taxonomic families. As such, the Arboretum represents the single most diverse and fully documented regional assemblage of rainforest trees and related life forms sourced from moist tropical forest biome(s) of northern Australia, from coastal, riparian and highland forests of the seasonally wet tropics and beyond.

The Arboretum, the most comprehensive living database representing the nation's most diverse arboreal gene pool, is in ready and regular reach of science practitioners, researchers, students and naturalists, locally, nationally and internationally. Furthermore, it is the only such facility with strong potential for further research, underpinned by a broad base of past, present and definitely future study and investigation, as it has been from its inception. The Arboretum therefore possesses unparalleled scientific, botanical and cultural heritage value. Not only is it rare, it is unique, it cannot be replaced, it alone represents a botanically certified living library and information database of native rainforest trees and shrubs, many of which are endemic to the tropical region. Flowering, fruiting and vegetative specimens are readily accessible to scientists and researchers at the Atherton Arboretum, whereas some of the species are very difficult and expensive to access in their very remote native habitats (e.g. Cape York Pen., slopes of Mt Bartle Frere etc). The coordinated scientific endeavour which created the fabric of this living place over decades is not likely to ever be repeated. (Indeed, Australia's prime national research body, CSIRO, has recently sold out of such responsibility.)

The present and likely future structure and institutional environment for forest research and education (principally in postgraduate University study) will increasingly rely on this priceless living asset for both fundamental and applied research in the region.

**The Atherton Arboretum is systematically designed, intact, rare, indeed unique, and as a significant biological database, is representative of an extensive natural resource across a broad region of northern Queensland and northern Australia as a whole. It is beyond doubt, a living museum to a period of pioneering rainforest research in North Queensland.**

**The Arboretum therefore has exceptionally strong scientific significance and unique potential to yield important biological information on an on-going basis, in pursuit of further understanding and management of a highly valuable part of Queensland's natural history.**

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## **Criterion D. The place is important in demonstrating the principal characteristics of a particular class of cultural places.**

### ***State Significance (42-44)***

*A place may be significant if it exemplifies or illustrates:*

- a way of life that has made a noticeable contribution to the pattern or evolution of Queensland's history*
- a custom that has made a noticeable contribution to the pattern or evolution of Queensland's history*
- the impact of an ideology, value or philosophy on Queensland's history*
- a process that has made a strong contribution to the pattern or evolution of Queensland's history*
- a land use that has made a strong contribution to the pattern and evolution of Queensland's history and heritage.*

- a function that has been an important part of the pattern of Queensland's history
- variations within, or the evolution of, or the transition of, the principal characteristics of a class of cultural places

**Thresholds (47-48)**

*Intactness/integrity, Earliness, Rarity/uncommonness, Exceptionality*

### ***Our Submission (ref. Criterion D)***

The strength and justification of the State Significance of the Atherton Arboretum follow directly from much of the argument and discussion already presented in the previous two sections of this submission (with regard to Heritage Criteria A and C respectively). Such discussion eg. second paragraph of the previous section, is also relevant to Criterion D.

At the risk of some repetition, this extremely valuable Arboretum includes close to 1200 mature individual specimens of woody plants representing a significant portion of the entire rainforest tree species diversity of northeastern Australian, that is, approaching 50% of species present in the wild, across 86 plant families, including a significant number of species which are listed as critically endangered, endangered, vulnerable or threatened.

As stated in the Application, the '*place type*' here is the Arboretum itself and its '*fabric*' or physical entity is made up of the living assemblage of certified botanical (whole plant) specimens which grow together according to a systematic design and carefully considered scientific objectives. There is none other in the fair State of Queensland which has been so well designed, documented and supported scientifically, from plant material so painstakingly garnered from the nation's most diverse forests and made available for the future as a living botanical museum. As such, this arboretum is highly and scientifically significant to Queensland's natural history and cultural heritage.

**The particular characteristics of the Atherton Arboretum which have been elaborated in detail here and in the original Application define a unique class of '*cultural place*', in all senses of the term '*culture*', both social and biological.** This cultural place is both a human fabrication and a living natural resource which with proper care, has grown and thrived as designed. It is not only an '*arboretum in Queensland*' according to the generic class type proposed, but this is an arboretum with a very significant scientific twist, on account of the research objectives which led to its successful creation and management over 50 years, and the irreplaceable and on-going potential for investigation and analysis of past, present and future botanical and ecological information.

**The Atherton Arboretum was created and designed to be a permanent and unique scientific resource in a class all of its own. As established elsewhere in this submission, it is irreplaceable. The longer its protection is provided through such measure as Heritage Registration, the more valuable and more scientifically significant this unique class of cultural place becomes to the State of Queensland, and also nationally and internationally.**

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**Criterion H. The place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.**

***State Significance (64)***

*A place may be significant if it:*

- *has a special association with a person (or group of people) who has/have made an important or notable contribution to the evolution or development of our society or of our physical environment*
- *has a special association with an organisation that has made an important or notable contribution to the evolution or development of our society or of our physical environment*

***Thresholds (65)***

*Importance of the person, group or organisation in Queensland's history*

*Degree or extent of the association*

*Length of association*

*Influence of the association*

***Our Submission (ref. Criterion H)***

The Arboretum was first established on the 4.5 ha forest research site at Maunds Rd. Atherton, Qld. in 1971, with painstaking field collection, identification, planting and maintenance during the following five decades, always by a dedicated, close-knit research group of up to 20 or more professionals and support staff. From the beginning, the Arboretum was established as an integral part of the research program of the Commonwealth Forest Research Institute (Qld. Regional Station – QRS, 1971-75). QRS later became the CSIRO Tropical Forest Research Centre (TFRC, 1975-2021) under the various auspices of CSIRO Divisions of Forest Research (1975-1985), Wildlife and Rangelands Research (1985-1987), Wildlife and Ecology / Sustainable Ecosystems / Ecosystems Sciences (1987-2000-2011-2014), Plant Industry / Centre for Plant Biodiversity Research (1985-1993-2007), and Land and Water (2014-2021), respectively.

A defining factor historically, and one which reflects a strong association in organisational terms, is the institutional sponsorship of forest research by Commonwealth and State Government agencies which led to the creation and operation of the Qld. Regional Station (QRS) and hence the Arboretum. This historically important phase of organisational culture which provided significant public investment in forest research across Australia during the decades of QRS operation has now passed. Governments both State and Federal across Australia have largely divested or eliminated entirely their previous departmental forest research divisions and the associated commitment to collaborative long-term research, including in Atherton, from CSIRO.

Lasting research infrastructure and scientific expertise came together as a result of collaboration of the Commonwealth (QRS) and Queensland State Department of Forestry (QDF) to create the Arboretum in Atherton. This juxtaposition of organisational objectives is an unlikely prospect ever again, now or in the foreseeable future. Both levels of government

across Australia have in recent times ceased to support the decentralised but well provisioned research divisions and regional field stations which are necessary to develop such a lasting legacy and long-term biological asset. This historic shift in public policy away from departmental investment in publicly funded forest research adds significantly to the importance and significance of the past organisational association which produced the Arboretum.

The respective contributions of Dr Geoff Stocker and Dr Bernie Hyland are outlined in detail in the Application. The research programme was from the outset capably managed by OIC and Principal Research Scientist Dr Geoff Stocker (1971-1985) and Botanist/PRS Dr Bernie Hyland (1971-2002), leading a team of 16 forest researchers, field technicians and support staff in what were then three integrated researched groups labelled Botany, Ecology and Soils.

In present context, it is important to recognise that these were days of non-digital communications, no GPS, no computer screens for data collection, data processing and systems modelling. Every task in the field and laboratory was performed manually, and often slowly, in arduous, remote field conditions in what today would be deemed impossible circumstances. Staff regularly would drive several hundred kilometres north up Cape York Peninsula, often on boggy, poorly formed tracks and off-road, to access remote field sites and sample plots, or to Townsville and back with literally a carload of (analogue) computer punch cards to enter basic floristic field data from botanical observations and long-term forest plots.

We mention these snapshots only to demonstrate one of many organisational drivers which bound staff together as a special, resilient group of field researchers. For many years, research staff and field technicians found themselves in what was then a remote forest research environment. In collaboration with QDF staff in Atherton, they were the only forest researchers, locally or otherwise, who operated in the region's magnificent forests and were committed to fundamental scientific investigation of these most diverse of Australian native forest types. Into this microcosm of scientific research was borne the Atherton Arboretum, literally on the backs of researchers and field staff who trudged the highlands, gullies and riverine swamps of Far North Qld. and beyond, (the leeches, the sandflies, the snakes, wild pigs and dare we mention, crocs), in the pursuit of basic and applied, botanical and ecological, research.

Today, the scientific work of these and other research and support staff who followed in establishing and maintaining the Arboretum is widely recognised to be of significant cultural and scientific value in itself. Such work is also highly significant as a harbinger of the subsequent cultural shifts which have prevailed in forest policy, management and practice, not only regionally and in Queensland as a whole, but nationally and internationally.

**Historically, the Arboretum represents a lasting but living legacy of the organisational associations and collaborative research commitments which prevailed in the second half of the twentieth century, but which no longer exist.**

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## Conclusion

In the first decade or two, it was not only the roots of the Arboretum which were established, but the makings of a tight-knit group of forest researchers. Together they created the Atherton Arboretum. They sowed the seeds of cultural impetus for an ever expanding scientific and social understanding of the region's tropical rainforests and their significance to Queensland and the World as a whole.

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## Sources

Information used in this submission is sourced from the authors' own experiences and observations as foresters, forest ecologists and silvicultural researchers, both at the Tropical Forest Research Centre in Atherton, Qld. (1974-1991) and from other staff and forest research colleagues associated with the Arboretum during the past 50 years. Information available on-line has been sourced from CSIRO, the Tropical Australian Herbarium, Tablelands Regional Council, James Cook University and other relevant websites. Where indicated, images of the Arboretum were kindly provided by Bronwen Scott ©.

1. Carr, Denis J.; Carr, Stella G. M.; Hyland, Bernie P. M.; Wilson, Peter G.; Ladiges, Pauline Y. (2002). "*Stockwellia quadrifida* (Myrtaceae), a new Australian genus and species in the eucalypt group". *Botanical Journal of the Linnean Society*. **139** (4): 415–421. doi:10.1046/j.1095-8339.2002.00062.
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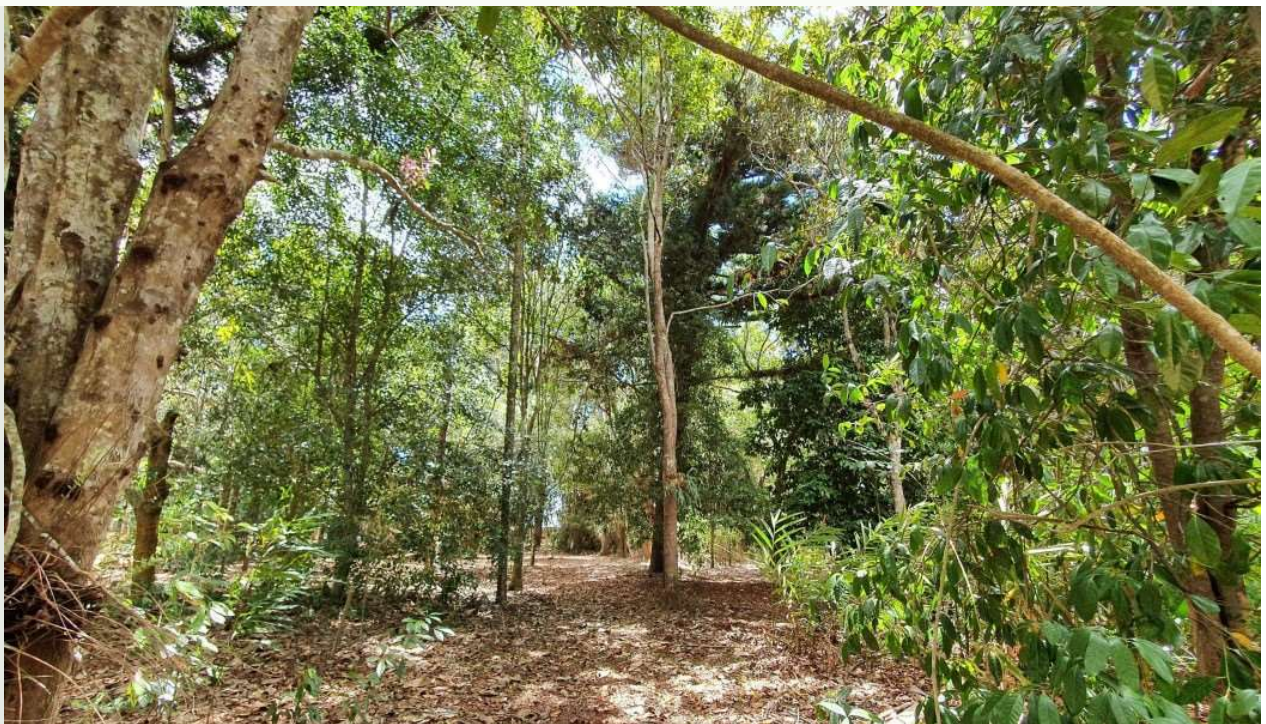




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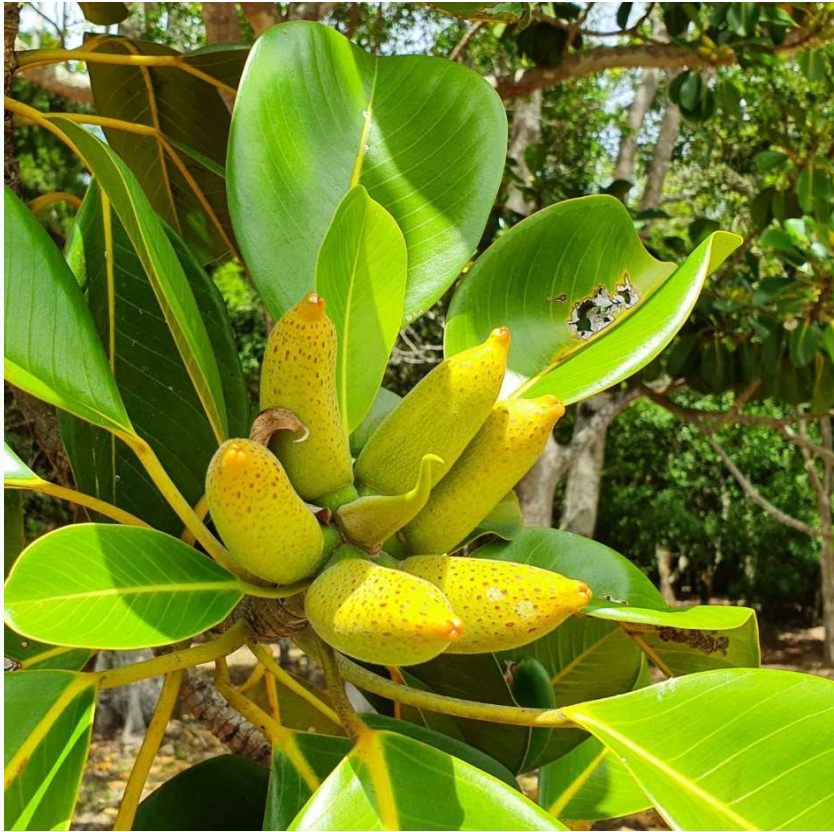


Daintree Penda (*Lindsayomyrtus racemoides*) Atherton Arboretum.  
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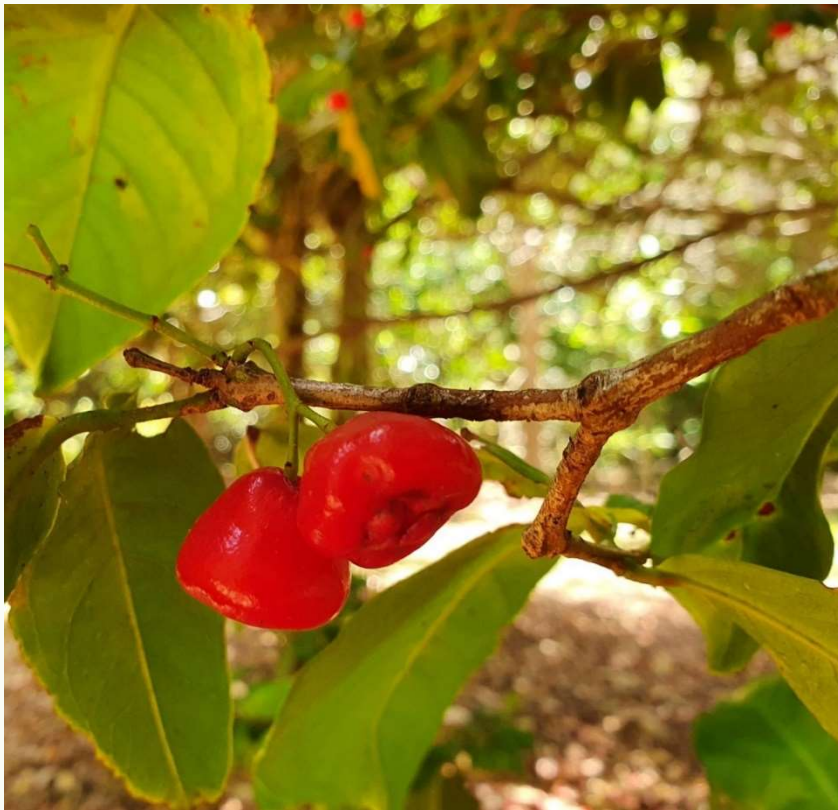


Atherton Arboretum.  
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Banana fig (*Ficus crassipes*)  
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Water Apple (*Syzygium aqueum*).  
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