

Assessment Report 102

Assessment by referral information

Department of Infrastructure, Planning and Logistics

Holtze Development Area

July 2023

This assessment report has been prepared by the Northern Territory Environment Protection Authority (NT EPA) pursuant to section 64 of the *Environment Protection Act 2019* (NT) (EP Act). It describes the outcomes of the NT EPA's assessment of the Holtze Development Area.

The proposal is an urban development of 202 hectares of land approximately 1.8 km north of the Palmerston central business district in the Litchfield local government area. The NT EPA's method for assessment of the proposal is by referral information.

The assessment report documents potential environmental impacts and risks identified during the environmental impact assessment process, focusing on those that could be significant, and the measures and recommended conditions required to address potentially significant impacts.

In accordance with section 65 of the EP Act, the assessment report is for the Northern Territory Minister for Environment to consider when making a decision about whether to approve the action under the EP Act.



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NT EPA Chairperson

21 July 2023

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Summary

This assessment report has been prepared by the Northern Territory Environment Protection Authority (NT EPA) pursuant to section 64 of the *Environment Protection Act 2019* (EP Act). This Assessment Report and the draft Environmental Approval are provided to the Minister for Environment (Minister) for consideration in deciding whether to grant an environmental approval for the Holtze Development Area (proposal).

The NT Department of Infrastructure, Planning and Logistics (proponent) proposes an action for urban development of 202 hectares (ha) of land approximately 1.8 km north of the Palmerston central business district in the Litchfield local government area. The proposal includes land clearing of approximately 116 ha (57% of proposal area), construction of infrastructure, and subdivision of two vacant Crown land lots (Section 4231 and 4229 Hundred of Bagot) and one freehold lot (NT Portion 2295), to develop land for residential, commercial, public space and community purposes. Enabling infrastructure is proposed on five sections / land titles.

The construction phase includes site establishment, installation of erosion and sediment controls, clearing, construction of roads and stormwater drainage, utilities and services installation (water and sewer mains, power, telecommunications, street lighting) building construction, and landscaping. The operational phase includes residential living, community recreation, public and private transport access, asset management of services and roads, and irrigation of parks and verges.

The NT EPA assessed the proposal by referral information in accordance with the EP Act. The environmental impact assessment examined the potential for significant direct, indirect and cumulative environmental impacts on the environment.

The NT EPA identified and examined potential significant impacts on the following four environmental factors:

1. Terrestrial ecosystems
2. Inland environmental water quality
3. Community and economy
4. Culture and heritage.

To address potential significant impacts of the proposal on the key environmental factors, the NT EPA has recommended conditions for the Minister to consider in deciding whether to grant or refuse an environmental approval for the proposal. The proponent and statutory decision makers were consulted on the draft environmental approval as required by regulation 160 of EP Regulations.

The NT EPA's assessment concludes that the proposal can be implemented and managed in a manner that is environmentally acceptable and therefore recommends that environmental approval be granted, subject to the recommendations and conditions detailed in the draft Environmental Approval (Appendix 1).

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1. Introduction

This assessment report has been prepared by the Northern Territory Environment Protection Authority (NT EPA) in accordance with section 64 of the *Environment Protection Act 2019* (NT) (EP Act). It provides an evaluation of the potential significant environmental impacts of the Holtze Development Area (proposal).

The proponent is the Northern Territory (NT) Department of Infrastructure, Planning and Logistics (DIPL). The NT EPA assessed the proposal by referral information in accordance with the EP Act and Environment Protection Regulations 2020 (EP Regulations).

On completion of its environmental impact assessment, the NT EPA provides this assessment report (including the draft Environmental Approval at Appendix 1) to the Minister for Environment (Minister) for consideration in deciding whether to grant environmental approval to the proponent.

2. Proposal

2.1. Overview

The proponent proposes to subdivide two vacant Crown land lots (Section 4231 and 4229 Hundred of Bagot) and one freehold lot (NT Portion 2295) for residential, commercial, public space and community purposes. Utilities and services infrastructure are proposed on Sections 273, 3373, 4231 and 5623 Hundred of Bagot (refer to Table 2-2 of the referral). The proposal is on 202 hectares (ha) of land located 1.8 km north of the Palmerston central business district in the Litchfield local government area (Figure 1).

The proposal consists of an area for development of residential land allotments, a local commercial centre, public open space, drainage, road reserves and provision of services. Infrastructure constructed would also support the future expansion of ancillary health uses on the Palmerston Health Precinct.

The construction phase includes site establishment, installation of erosion and sediment controls, clearing, construction of roads and stormwater drainage, utilities and services installation (water and sewer mains, power, telecommunications, street lighting) building construction, and landscaping.

The operational phase includes residential living, community recreation, public and private transport access, asset management of services and roads, and irrigation of parks and verges.

The key characteristics of the proposal are summarised in Table 1. A detailed description of the proposal is provided in section 3 of the referral report.

Table 1 Proposed extent of physical elements

Component	Approximate footprint	Estimated clearing extent
<i>Development infrastructure</i>		
Urban development area	76 ha	76 ha
Sub-arterial/collector roads	7 ha	7 ha
Open space and drainage	65 ha	6.5 ha

Component	Approximate footprint	Estimated clearing extent
Other (remaining area north of proposed Gunn Pt arterial)	45 ha	2 ha
Total development area	193 ha	91.5 ha
Existing disturbance area (hospital site)		9 ha
Development clearing extent (including 9 ha existing disturbance)		100.5 ha
Ancillary works		
Sewer main pipeline	11.85 ha (5,925 m x 20 m)	5 ha
Water main pipeline	8 ha (4,000 m x 20 m)	6.8 ha
Water booster pump station and groundwater storage tank	9 ha	9 ha
Mains power transmission line and access road	0.7 ha (680 m x 10 m)	0.7 ha
Temporary stormwater basins	3 ha	3 ha
Total ancillary works area	32.55	24.5 ha
Total clearing required (excluding 9 ha existing disturbance)		116 ha
Total disturbance footprint (including 9 ha existing disturbance)		125 ha

2.2. Local context

The proposal is one of four potential development areas (Holtze, Kowandi, Holtze North and Howard Springs North) within the Greater Holtze Area included in the Holtze to Elizabeth River Subregional Land Use Plan 2022 (HESLUP), which provides a framework for future land use in the area. The proposal area is zoned for rural living (RL) (44 ha), future development (FD) (120 ha), community purpose (CP) (18 ha) and proposed main road (PM) (20 ha) as shown in Figure 2-3 of the referral report.

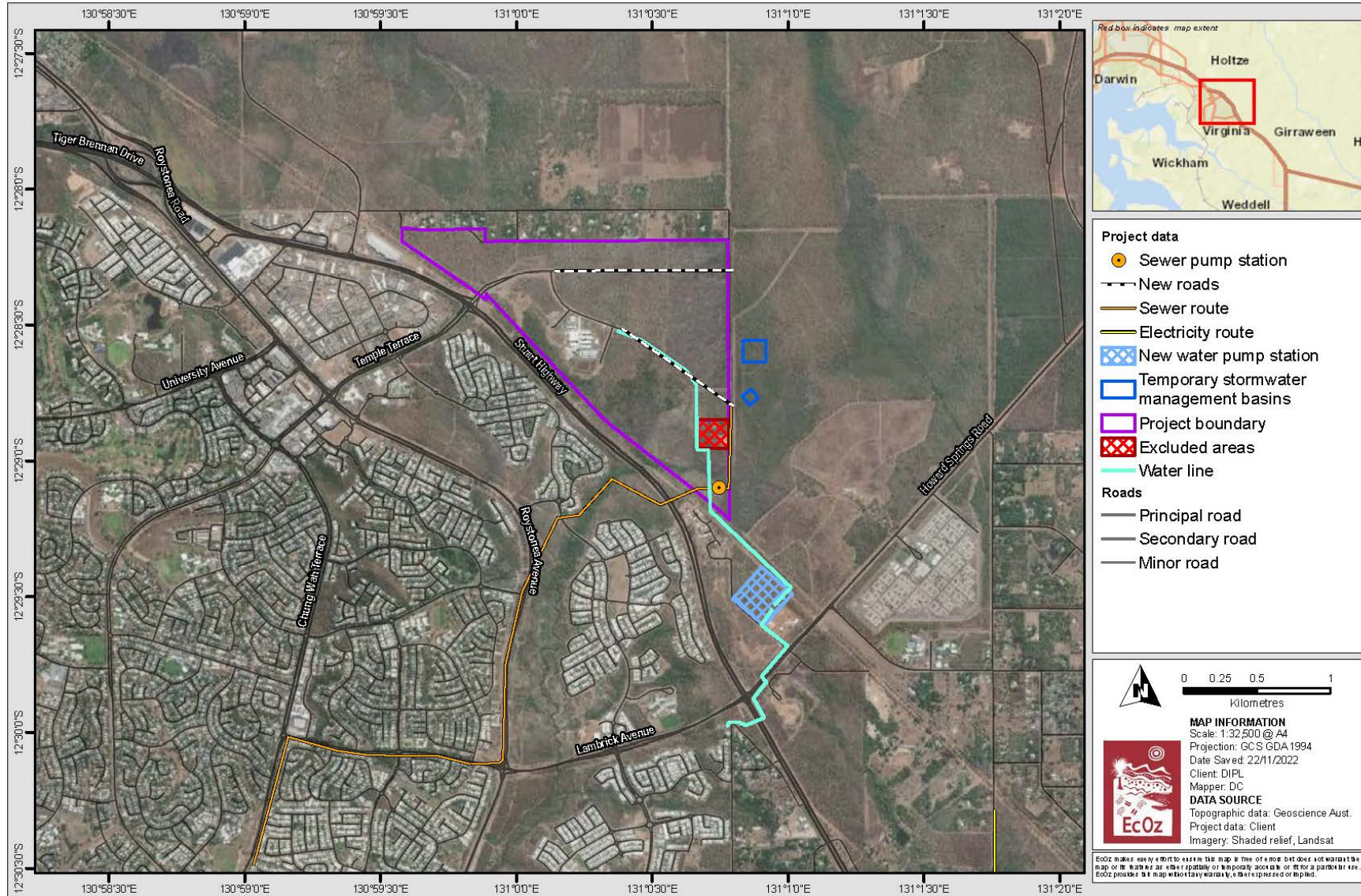


Figure 1 Location and footprint of proposal including enabling infrastructure

3. Strategic context

The proponent's planning for the proposal is in line with the draft Integrated Strategic Land Use and Planning (ISLUP) framework under the NT Planning Scheme (NTPS), the HESLUP and the Greater Holtze Area Plan which is currently under development.

The NT government has developed a draft land supply strategy to meet demand for new residential land as the population of the Greater Darwin region increases. The proposal would provide residential land to support the growing population of Greater Darwin.

The proposal is consistent with the following NT Government strategies and plans:

- Top End Region Economic Growth Plan 2022 – 2030
- NT Compact Urban Growth Policy 2015
- Darwin Regional Land Use Plan 2015
- Holtze to Elizabeth River Subregional Land Use Plan 2022
- Strategic Plan 2022-25 Department of Infrastructure, Planning and Logistics.

3.1. Proposal benefits and alternatives

The referral indicates the proposal will contribute to meeting demand for new residential land and contribute to achieving NT Government economic and social objectives. The residential development is predicted to support 577 direct jobs and 1,314 indirect jobs over the infrastructure, subdivision and residential construction period of the project. This is equivalent to approximately 38 direct jobs and 48 indirect jobs annually for 15 years and result in \$12.9 million in value added to the Territory economy.

4. Statutory context

The proposal requires assessment by the NT EPA under the EP Act. The NT Minister for Environment, Climate Change and Water Security is the approval authority.

If an environmental approval under the EP Act is granted, it will prevail over other statutory authorisations that the proponent may be required to obtain. It is the responsibility of the proponent to obtain all relevant statutory authorisations which may include, but are not limited to:

- development permit(s) under the *Planning Act 1999*
- authority certificate(s) under the *Northern Territory Aboriginal Sacred Sites Act 1989*
- approval(s) to carry out work on a heritage place or object under the *Heritage Act 2011*.

4.1. Mandatory matters for consideration

In preparing this assessment report, the NT EPA considered the referral information and submissions received on the referral information and draft environmental approval, in accordance with regulation 157 of the EP Regulations:

In carrying out its assessment, the NT EPA took into account the purpose of the environmental impact assessment process under section 42 of the EP Act including consideration of:

- the objects (EP Act, section 3)

- the principles of ecologically sustainable development (EP Act, Part 2 Division 1)
- the environmental decision-making hierarchy (EP Act section 26)
- the waste management hierarchy (EP Act section 27)
- ecosystem-based management
- impacts of a changing climate.

Refer to section 8 for further detail about matters that the NT EPA has taken into account during its assessment.

5. Consultation

The NT EPA invited public and government authority comment on the proponent's referral information during the consultation period from 4 January to 1 February, 2023. Submissions from seven government authorities were received. No public submissions were made.

The NT EPA considered the accepted referral information and submissions received, and on 7 March 2023 decided that the proposal would require an assessment by referral information under the EP Act.

In preparing this assessment report, matters raised in the submissions were considered in relation to the potential significant environmental impacts of the proposal. The issues raised in submissions are discussed in section 6.

The NT EPA consulted with the proponent and statutory decision-makers who the NT EPA consider may have a view on the draft environmental approval, in line with EP Regulation 160. Submissions were received from the proponent and a delegate under the *Planning Act 1999*. The NT EPA considered the submissions in finalising its advice and recommendations to the Minister.

The proponent conducted its own consultation in relation to the proposal. The issues raised and the responses and outcomes are detailed in section 6 of the referral report, and Appendix F to the referral report.

The consultation process has been appropriate and reasonable steps have been taken to inform and consult with the community and stakeholders about the potential impacts and benefits of the proposal. Relevant significant environmental issues identified from this process were taken into account by the NT EPA during its assessment of the proposal.

6. Assessment of key environmental factors

6.1. Overview

The NT EPA identified that the proposal has the potential to have a significant impact on environmental values associated with four key environmental factors¹ (**Table 2**).

¹ [NT EPA Environmental factors and objectives](#)

Table 2 Key environmental factors

THEME	FACTOR	ENVIRONMENTAL OBJECTIVE
LAND	Terrestrial ecosystems	Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.
WATER	Inland water environmental quality	Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
PEOPLE	Community and economy	Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.
	Culture and heritage	Protect culture and heritage.

The NT EPA considered other environmental factors during its environmental impact assessment; however, the impact on those factors was not considered to be significant.

6.2. Terrestrial ecosystems

6.2.1. Environmental values

The proposal is located in the upper reaches of the Mitchell Creek catchment. Eucalypt forest and woodland is the dominant vegetation in well-drained areas of the proposal footprint, and woodland/shrubland of grevillea and pandanus are dominant where soils are seasonally waterlogged.

Most of the proposal area contains intact native vegetation, with some evidence of previous disturbance. Approximately 90 ha in the northern portion of the proposal area was historically cleared and now comprises regrowth vegetation.

The proponent's *Ecological Values Assessment for Holtze Residential Urban Development Report* (included as Appendix I to the referral report) (EcOz 2021) found that two threatened flora species listed under the *Territory Parks and Wildlife Conservation Act 1976* (TPWC Act) occur in the proposal area:

- Darwin cycad (*Cycas armstrongii*) listed as vulnerable under the TPWC Act, is present in varying densities throughout woodland habitats in the proposal area; the highest (400+ per ha) occurring in the proposed public open space area (Figure 3 of Appendix 1)
- Typhonium (*Typhonium praetermissum*) listed as vulnerable under the TPWC Act, has been recorded in and surrounding the proposal area (Figure 2). Typhonium plant occurrences occur primarily in two patches (northeast of the Palmerston hospital and in the western section of the Holtze site) and are considered part of the Greater Holtze subpopulation (Cuff and Green 2019).

Typhonium is a geophytic perennial herb that produces a single inflorescence and is found in open woodland habitats. The species is locally endemic with the global population range restricted to the Greater Darwin region. The NT Government is preparing a Typhonium conservation strategy to identify priority areas for protection and to ensure that adequate spatial representation and genetic diversity of the population is maintained.

Flora surveys did not identify any threatened flora species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The referral identified that suitable habitat for four threatened fauna species (Black-footed tree-rat, Common brushtail possum, Northern quoll and Merten's water monitor) has the potential to be present in the proposal area. Several records of Merten's water monitor and Black-footed

tree-rat occur in the area surrounding the proposal. Targeted surveys of threatened species detected one Black-footed tree-rat and one Common brushtail possum in the southern area of the proposal.

Figure 1 above indicates the proposed sewer route traverses Mitchell Creek - a minor ephemeral stream which flows from the south-east corner of the project boundary in a southerly direction through Palmerston before discharging into Elizabeth River. Significant and sensitive (riparian) vegetation is likely present in proximity to Mitchell Creek.

6.2.2. Consultation

The submissions on the referral information raised the following key issues in relation to terrestrial ecosystems:

- the need to retain very high density and high density occurrences of Darwin Cycad
- the need to for a conservation strategy to retain and protect an appropriate proportion of the 'sub-population' of *T. praetermissum* within the Greater Holtze area so as to maintain the spatial and genetic diversity of the species across its range
- the importance of securing important patches of *T. praetermissum* through use of the conservation land classification (outside of that already zoned) within planning, rather than multi-use land use classifications, such as 'open space' or 'green corridors'
- the need for a formal arrangement for *T. praetermissum* conservation management specific to the proposal
- eight threatened fauna species may occur within 5 km of the proposal area
- field studies confirmed the Black-footed tree-rat occurs within the proposal area
- the potential for future cumulative impacts on woodland reliant species from this proposal in combination with future development proposed in the HESLUP and Greater Holtze Area Plan, and encroaching extractive tenements
- concern about relying on the retention of open space to mitigate against loss of habitat for threatened species, when the definition of open space and how it would be managed in the future is not clear
- concern that modification of open space for recreational purposes would decrease its value in relation to conservation of habitat for threatened species
- concern about the long-term value of proposed passive open space as viable habitat for threatened species and as a wildlife corridor for biodiversity.

The proponent and the DEPWS Flora and Fauna Division delivered a presentation to the NT EPA on the proposal and development of a regional strategy for conservation to manage impacts to *T. praetermissum* in February 2023.

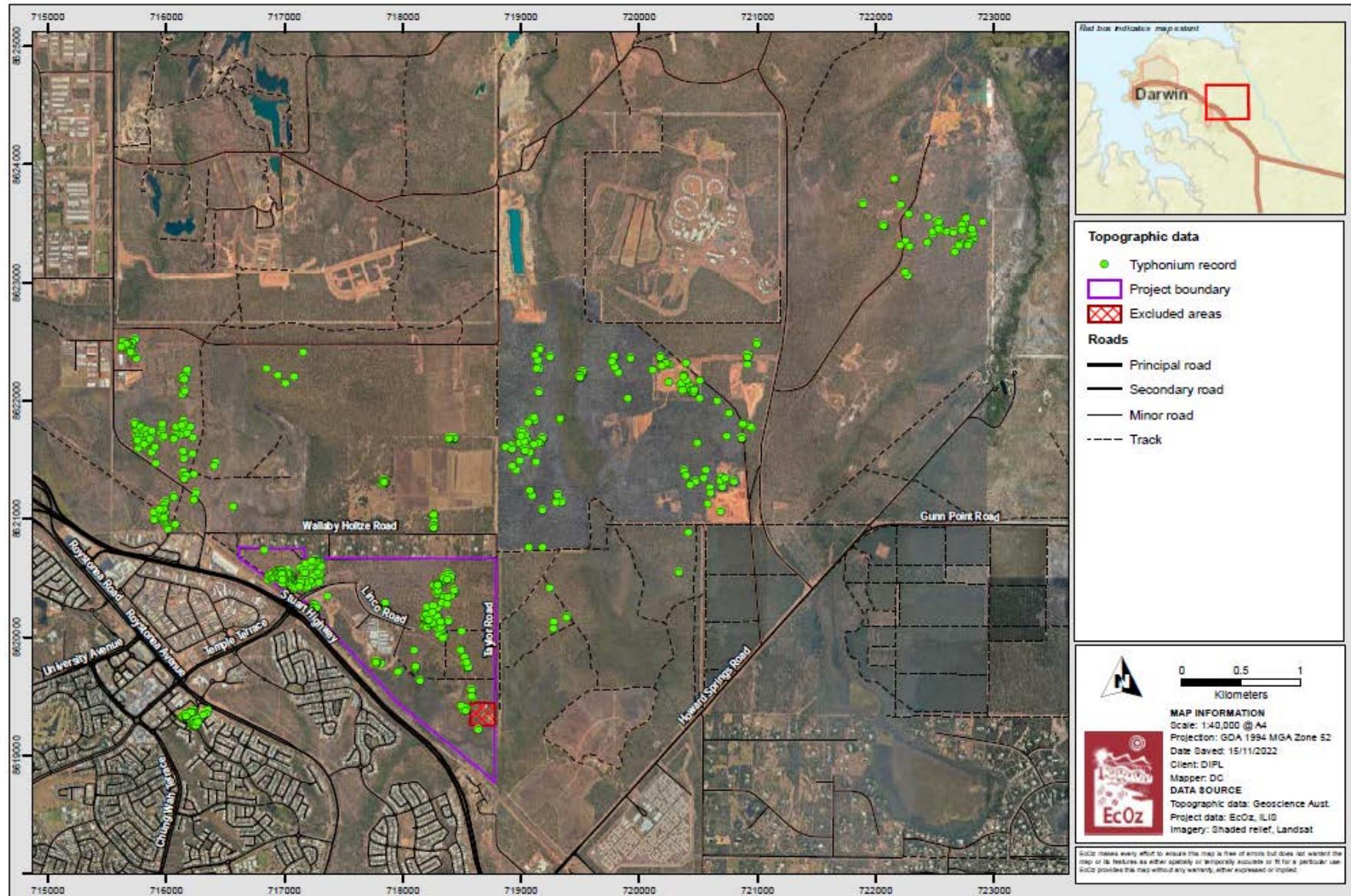


Figure 2 Typhonium praetermissum records within the Greater Holtze subpopulation

6.2.3. Factor assessment and recommended regulation

In assessing whether the residual impacts of the proposal will meet the NT EPA environmental factor and objective, and whether reasonable and appropriate regulatory conditions can be imposed, the assessment findings, recommendations, and recommended conditions of approval are presented in Table 3.

Table 3 Assessment for terrestrial ecosystems, recommendations and conditions of approval

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
<p>Flora</p> <p>Terrestrial ecosystem values have the potential to be impacted through:</p> <ul style="list-style-type: none"> Land clearing to the extent that it would cause habitat loss Loss of <i>T. praetermissum</i> and <i>C. armstrongii</i> habitat Clearing or disturbance of significant and sensitive (riparian) vegetation Cumulative impacts in the Darwin Region from loss of <i>T. praetermissum</i> and 	<p>The proponent proposed the following measures to minimise impacts:</p> <ul style="list-style-type: none"> Implement the action consistent with any Darwin Regional Conservation and Offset Strategy (conservation strategy) for <i>T. praetermissum</i> Retain and protect an important patch of <i>T. praetermissum</i> within a fenced protection area Avoid clearing in high and very high density areas of Darwin cycads Design proposed public open space so that habitat values are maintained Weed and fire management during 	<p>Reduction of vegetation and woodland communities, and impacts to threatened species and habitat, including riparian zones.</p>	<ul style="list-style-type: none"> Clearing of 116 ha of native vegetation is proposed There is potential for significant impact to two threatened flora species that occur in the proposal area, <i>T. praetermissum</i> and <i>C. armstrongii</i> listed as Vulnerable under the TPWC Act Retaining and protecting the north-west patch of <i>T. praetermissum</i> individuals is considered sufficient security to the sub-population, in the context of the large patches of individuals in the Greater Holtze areas also being retained. <i>T. praetermissum</i> impacts would be mitigated to an acceptable level by retaining and protecting the northwest patch, managing threatening processes, monitoring the condition of habitat in the protection area and being consistent with the 	<p>Regulated through recommended conditions.</p> <p>Condition 1: Limitation and extent</p> <ul style="list-style-type: none"> Limitations and extent to limit the area of land clearing. <p>Condition 2: Terrestrial ecosystems</p> <ul style="list-style-type: none"> No clearing of of <i>T. praetermissum</i> within the Typhonium protection area as shown at Figure 2 of Appendix 1. No clearing in areas where the stem density of Darwin cycads is >400 per hectare as shown at Figure 3 of Appendix 1. Monitoring and assessment of <i>T. praetermissum</i> habitat quality and condition within the proposed protection area Management of threatening processes Avoid clearing significant and sensitive (riparian) vegetation to the maximum extent practicable.

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
<i>C. armstrongii</i> individuals	<p>construction and operation</p> <ul style="list-style-type: none"> Water-sensitive urban stormwater drainage design to reflect pre-construction hydrological conditions. 		<p>proposed regional conservation strategy</p> <ul style="list-style-type: none"> Very high and high density stems of <i>C. armstrongii</i> are important for genetic density and function as source populations which are important for maintaining the species <i>C. armstrongii</i> impacts would be mitigated to an acceptable level by retaining areas of very high density stands of mature individuals, managing threatening processes and managing the cycads in accordance with the government management plan. The proposal will contribute to cumulative impacts on woodland species and loss of <i>Typhonium</i> and cycad occurrences in the Darwin Region. The Darwin Regional Conservation Strategy is important for the long term protection of woodland species from any future cumulative impacts. 	
<p>Fauna</p> <p>Terrestrial ecosystem values have the</p>	<ul style="list-style-type: none"> Design proposed public open space so that 	Reduction of vegetation and woodland communities, and	<ul style="list-style-type: none"> Four threatened fauna species are known to occur within or near the proposal. Significant impacts to these species are 	<p>Regulated through recommended conditions.</p> <p>Condition 1: Limitation and extent</p>

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
<p>potential to be impacted through:</p> <ul style="list-style-type: none"> Land clearing to the extent that it would cause habitat loss Loss of habitat for Black-footed Tree-rats, Common Brushtail Possum (northwest), Northern Quoll Changes to habitat for Mertens' Water Monitor 	<p>habitat values are maintained</p> <ul style="list-style-type: none"> Weed and fire management during construction and operation Water-sensitive urban stormwater drainage design to reflect pre-construction hydrological conditions Voluntary pre-clearing surveys and use of a fauna catcher/spotter. 	<p>impacts to threatened species and habitat, including riparian zones.</p>	<p>unlikely from a regional perspective.</p> <ul style="list-style-type: none"> Flora and Fauna Division of DEPWS agrees that the proposal is unlikely to have significant impacts on the Black-footed tree-rat, Common brushtail possum (north western) and risk to the Northern Quoll and Merten's monitor are low. 	<ul style="list-style-type: none"> Limitations and extent to limit the area of land clearing. <p>Condition 2: Threatened fauna</p> <ul style="list-style-type: none"> Management of threatening processes

6.2.4. Conclusion against the NT EPA objective

The *T. praetermissum* Conservation Strategy will provide for the long-term protection of *T. praetermissum* from future cumulative impacts. It is essential the strategy is developed prior to, and to inform, any future Greater Holtze Development and protection measures.

With the implementation of the proponent's proposed management measures, commitments, recommendations, and conditions for avoidance, monitoring, and mitigation of impacts identified in the draft environmental approval (Appendix 1), the NT EPA considers that the proposal can be conducted in such a manner that its objective for terrestrial environmental quality is likely to be met.

6.3. Inland water environmental quality and hydrological processes

6.3.1. Environmental values

The southern part of the proposal area drains into Mitchell Creek, a minor ephemeral stream which flows from the south-east corner of the proposal in a southerly direction through Palmerston before discharging into Elizabeth River. The catchment has been significantly degraded due to recent urbanisation. The northern portion of the proposal area is in the headwaters of Kings Creek, draining into an ephemeral stream about 1 km north of the boundary which joins King Creek approximately 10 km downstream before discharging into Shoal Bay. The landscape surrounding the proposal features seasonally waterlogged areas with ephemeral wetlands.

In the NT, beneficial uses or values have been set for major aquifers and river catchments. These values are then used to set water quality targets. The proposal is within the Darwin Harbour Region declared beneficial use area for water quality management under the *Water Act 1992*. The beneficial uses for this area are agriculture, environment, cultural, and rural stock and domestic. The corresponding water quality targets are defined in the Water Quality Objectives for the Darwin Harbour Region Background Document, and the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000).

6.3.2. Consultation

The submissions on the referral information raised the following key issues in relation to inland water environmental quality:

- the need to manage soil erosion during the construction phase to prevent water pollution and environmental harm
- the need for erosion and sediment control measures (including sediment basins) to be installed and maintained consistent with best practice guidelines
- there are some areas of existing hydrocarbon contamination
- The risk of significant impact to water quality from stormwater entering waterways and the need for stormwater management to be designed to maintain water quality to support natural water dependent ecosystems and maintain natural water regimes.

6.3.3. Factor assessment and recommended regulation

In assessing whether the residual impacts of the proposal will meet the NT EPA environmental factor and objective, and whether reasonable and appropriate regulatory conditions can be imposed, the assessment findings, recommendations, and conditions of approval are presented below in Table 4.

Table 4 Assessment for Inland water environmental quality and recommended conditions

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
Soil erosion and sedimentation of waterways leading to reduced downstream water quality.	Develop and implement an erosion and sediment control plan (ESCP) requiring controls to be installed and maintained in line with best practice erosion and sediment control guidelines.	Soil erosion would be controlled such that the residual impact to downstream water quality would be limited.	The environmental outcome is likely to be consistent with the NT EPA's objective for this factor, subject to limitations on the proposal footprint and the development, implementation and maintenance of erosion and sediment controls for the duration of soil disturbance.	<p>Regulation through recommended conditions:</p> <p>Condition 3 Inland water environmental quality:</p> <ul style="list-style-type: none"> Erosion and sediment controls must be installed and appropriately maintained to minimise water pollution, in line with an ESCP developed in accordance with best practice guidelines (International Erosion Control Association Best Practice Erosion and Sediment Control document). <p>Condition 9 Staging, combining and updating plans or programs</p> <ul style="list-style-type: none"> Condition to allow plans to be developed for stages, combined and updated as required during construction and operation. <p>Regulation through other statutory decision-making processes:</p> <ul style="list-style-type: none"> Under the <i>Planning Act 1999</i> a Development Permit will be required.
Existing hydrocarbon contamination leading	Detailed site investigation and audit	Residual impacts would be managed within the	The environmental outcome is likely to be consistent with the NT EPA's	Should there be any ongoing contamination issues, the

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
to surface water and groundwater quality impacts.	by an accredited contaminated site auditor and remediation of existing contamination. Remediation of existing contamination (Remediation Action Plan) of existing contamination prior to construction.	contaminated sites framework, through investigation and remediation of contamination.	objective for this factor, subject to the remediation of existing contamination.	remediation process could be adequately managed under the <i>Waste Management and Pollution Control Act 1998</i> .

6.3.4. Conclusion against the NT EPA objective

With the implementation of the proponent’s proposed management measures, commitments, recommendations, the conditions for avoidance, monitoring, and mitigation of impacts identified in the draft environmental approval (Appendix 1), and regulation under the *Planning Act 1999*, the NT EPA considers that the proposal can be conducted in such a manner that its objective for inland water environmental quality is likely to be met.

6.4. Community and economy

6.4.1. Environmental values

The proposal is adjacent to the Palmerston Regional Hospital and rural residential properties. The referral identified the potential for a loss of amenity due to noise and dust emissions during the construction phase, and residential noise and traffic during the residential land use phase. The proponent did not assess the existing noise environment. The proponent considered feedback from the community and designed the proposal to minimise impacts to existing residents.

6.4.2. Consultation

The submissions on the referral information raised the following key issues in relation to the community and economy factor:

- potential loss of amenity for existing residents due to noise and dust that would be generated during construction
- the need to avoid creation of biting insect habitat
- the NT Planning Commission has consulted with the community about the proposal and the Greater Holtze Development and is considering feedback in its preparation of a final draft area plan for the development

The proponent's consultation processes identified the following issues:

- Concern from existing residents about:
 - the change in land use from rural residential to higher density residential
 - potential loss of biodiversity values due to land clearing and development, and degradation of Mitchell Creek
 - the use of local water resources and potential impacts on water availability
 - increased traffic and pressure on local roads and services.

6.4.3. Factor assessment and recommended regulation

The NT EPA has considered the potential significant impacts of the proposal on the community and economy. In assessing whether the residual impacts of the proposal will meet the NT EPA environmental factor and objective, and whether reasonable and appropriate regulatory conditions can be imposed, the assessment findings, recommendations, and conditions of approval are presented below in Table 5.

Table 5 Assessment for Community and economy, recommendations and conditions of approval

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
Construction activity generating dust and noise at a level that causes nuisance to receptors at Palmerston Regional Hospital and adjacent residential properties.	<ul style="list-style-type: none"> A Construction Environmental Management Plan (CEMP) would be implemented to avoid and mitigate impacts Construction and operation in accordance with regulatory guidelines for noise and dust, including the NT EPA Noise Management Framework Guideline 2018. Use of water for dust suppression during construction. 	<p>Residual dust impacts would be minimised through implementation of an ESCP and dust suppression methods.</p> <p>Residual noise impacts would be limited to comply with the NT EPA Noise Management Framework Guideline 2018.</p> <p>Any residual noise or dust impacts are unlikely to be significant.</p>	The environmental outcome is likely to be consistent with the NT EPA's objective for this factor, subject to the recommended conditions in Appendix 1.	<p>Condition 3 Inland water environmental quality:</p> <ul style="list-style-type: none"> Erosion and sediment controls installed and maintained in accordance with best practice guidelines would minimise wind erosion and dust generation. <p>Condition 4 Community and economy</p> <ul style="list-style-type: none"> Noise levels during construction must be managed to comply with the NT EPA Noise Management Framework Guideline 2018. Air quality measures specified in the referral must be implemented to minimise potential impacts on sensitive receptors. <p>Should there be any ongoing noise or dust issues, these could be adequately managed under the <i>Waste Management and Pollution Control Act 1998</i>.</p>

6.4.4. Conclusion against the NT EPA objective

With the implementation of the recommended conditions for avoidance, monitoring, and mitigation of impacts identified in the draft environmental approval (Appendix 1), and regulation under the WMPC Act, the NT EPA considers that the proposal can be conducted in such a manner that its objective for community and economy is likely to be met.

6.5. Culture and heritage

6.5.1. Environmental values

The Larrakia people are the traditional owners of the Darwin region where the proposal is located. The Litchfield local government area within the region has cultural heritage values of importance to the Larrakia people. There are no known sacred sites within the proposal area; however, there are sacred sites nearby within the Greater Holtze Area. While there are also no known Aboriginal archaeological sites within the proposal area; there are known sites on adjacent land to the south of the proposal.

6.5.2. Consultation

The submission on the referral information from the Heritage Branch of the Department of Territory Families, Housing and Communities raised the following key issues in relation to the culture and heritage factor:

- archaeological surveys undertaken by the proponent to date were conducted in very low visibility conditions (5%) and further archaeological survey in the southern part of Lot 4321 is recommended under better ground surface visibility conditions
- there are a number of concrete slabs that were potentially constructed during World War II (WWII) and one Sidney Williams Hut (a typical structure found in the Darwin region during WWII) in the proposal area
- the proponent should develop and implement an unexpected archaeological finds procedure as a mitigation measure.

6.5.3. Factor assessment and recommended regulation

The potential significant impacts of the proposal on the culture and heritage factor have been considered. In assessing whether the residual impacts of the proposal will meet the NT EPA environmental factor and objective, and whether reasonable and appropriate regulatory conditions can be imposed, the assessment findings, recommendations, and conditions of approval are presented below in Table 5.

Table 6 Assessment for Community and economy, recommendations and conditions of approval

Potentially significant impact	Avoidance and mitigation of impacts	Residual impact to environmental value	Assessment finding	Recommended conditions and regulation by other statutory decision-makers
<p>Land clearing leading to:</p> <ul style="list-style-type: none"> Disturbance of unexpected heritage places or objects 	<ul style="list-style-type: none"> The CEMP would include a procedure for managing unexpected heritage finds, including a 'stop work' procedure. The proponent committed to ongoing consultation with Aboriginal stakeholders. The proponent consulted with the Heritage Branch about potential heritage impacts. Field assessment undertaken with a qualified archaeologist. 	<p>Residual heritage impacts would be minimised through implementation of an unexpected heritage finds procedure during land clearing and ground disturbing activities.</p>	<p>The environmental outcome is likely to be consistent with the NT EPA's objective for this factor, subject to the recommended conditions for further archaeological survey.</p>	<p>Condition 5 Culture and heritage</p> <ul style="list-style-type: none"> The approval holder must undertake further archaeological survey within section 4321. <p>Should there be any ongoing requirement for the approval holder to manage impacts to heritage places or objects, this could be managed and regulated under the <i>Heritage Act 2011</i>.</p>

6.5.4. Conclusion against the NT EPA objective

With the implementation of the recommended conditions for avoidance, monitoring, and mitigation of impacts identified in the draft environmental approval (Appendix 1), and regulation under the WMPC Act, the NT EPA considers that the proposal can be conducted in such a manner that its objective for culture and heritage is likely to be met.

7. Whole of environment considerations

The NT EPA assessed the impacts of the proposal against the key environmental factors and environmental values individually in the key factor assessments above. Given the links between terrestrial ecosystems, inland water environmental quality, community and economy and culture and heritage, the NT EPA also considered connections and interactions between them to inform a holistic view of impacts to the whole of environment.

There is a high level of connectivity between the environmental factors of terrestrial ecosystems and inland water environmental quality. Avoiding and minimising any significant turbidity effects from soil erosion and sedimentation, and therefore maintaining the quality of inland waters is also important for the protection of terrestrial ecosystem health. This in turn supports other environmental values and beneficial uses for terrestrial ecosystems, which rely on good water quality. The NT EPA also considers that by limiting the extent of land clearing, the proponent has avoided significant environmental impacts to terrestrial ecosystems and inland water environmental quality.

Terrestrial flora and vegetation provides habitat for threatened fauna species. Surface water flows ensure the health of vegetation growing in association with watercourses, and this riparian vegetation provides long, uninterrupted vegetation cover along drainage lines that provide connectivity for fauna across the landscape. The NT EPA considers that the proposed mitigation and management measures, and recommended conditions for impacts to threatened flora will also mean the inter-related impacts to other environmental factors, including the values associated with terrestrial fauna and inland waters, will be consistent with the NT EPA's environmental factor objectives.

There is a direct link between Aboriginal cultural heritage and the physical or biological aspects of the environment. Areas of cultural importance including heritage places and objects may be affected through impacts to terrestrial ecosystems and inland water environmental quality. The NT EPA considers that the proposed mitigation and management measures and recommended conditions for impacts to terrestrial ecosystems and inland water environmental quality will also mean the interrelated impacts to culture and heritage will likely be consistent with the NT EPA environmental factor objectives.

When the separate environmental factors and values potentially affected by the proposal were considered together in a holistic assessment, the NT EPA considered that the impacts from the proposal would not alter the NT EPA's views about consistency with the NT EPA's factor objectives as assessed in section 6.

8. Matters taken into account during the assessment

Matters taken into account during the assessment	Consideration
Objects of the EP Act	
To protect the environment of the Territory	The proponent's referral and this assessment report, including the NT EPA's recommended conditions for an environmental approval, provide detail about how the environment of the Territory would be protected from potentially significant environmental impacts that could occur as a result of implementation of the proposal.
To promote ecologically sustainable development so that the wellbeing of the people of the Territory is maintained or improved without adverse impact on the environment of the Territory	Consideration of the principles of ecologically sustainable development in relation to the proposal is addressed below.
To recognise the role of environmental impact assessment and environmental approval in promoting the protection and management of the environment of the Territory	<p>The NT EPA recognises the importance of environmental impact assessment and approval processes in the protection and management of the environment of the Territory.</p> <p>The NT EPA has assessed the potential environmental impacts of the proposal to inform an environmental approval decision by the Minister that, in the NT EPA's view, promotes protection and management of the Territory.</p> <p>The proponent's commitment to retain, protect, and maintain the condition and quality of, the north west patch of Typhonium and avoiding very high and high density stems of Darwin Cycads, reinforced through recommended conditions for an environmental approval, promotes protection.</p>
To provide for broad community involvement during the process of environmental impact assessment and environmental approval	<p>The referral indicates the proponent undertook consultation over a six month period (including a combination of targeted stakeholder consultation and broader community consultation), and that feedback was considered in development of the proposal.</p> <p>The NT EPA's public consultation undertaken during its assessment of the proposal provides for community involvement during the environmental impact assessment process. Submissions received in relation to the proposal have been taken into account in the NT EPA's assessment and the preparation of the recommended conditions for an environmental approval.</p>
To recognise the role that Aboriginal people have as stewards of their country as conferred under their traditions and recognised in law, and the importance of participation by	<p>The NT EPA recognises the role of Aboriginal people as stewards of their country and the importance of participation by Aboriginal people and communities in environmental decision-making.</p> <p>The public consultation process provided an</p>

Matters taken into account during the assessment	Consideration
<p>Aboriginal people and communities in environmental decision-making processes.</p>	<p>opportunity for interested persons to make a submission in relation to the proposal.</p> <p>The proponent consulted with the Aboriginal Areas Protection Authority (AAPA) and the Heritage Branch of the Department of Territory Families, Housing and Communities, in relation to Aboriginal sacred sites and cultural heritage. The proponent committed to ongoing consultation with Aboriginal stakeholders throughout construction.</p>
Principles of ecologically sustainable development	
<p>Decision-making principle</p> <ol style="list-style-type: none"> 1. Decision-making processes should effectively integrate both long-term and short-term environmental and equitable considerations. 2. Decision-making processes should provide for community involvement in relation to decisions and actions that affect the community. 	<p>The NT EPA has considered the decision-making principle in its assessment and has had particular regard to this principle in its assessment of terrestrial ecosystems.</p> <p>The NT EPA notes the interconnectedness between environmental factors and recognises that the mitigation measures to avoid and minimise impacts on the factors listed above may also reduce the significance of impacts on other environmental factors.</p> <p>The NT EPA has recommended conditions for environment protection outcomes to be achieved through design, construction, and ongoing management.</p> <p>The NT EPA considers that its environmental impact assessment and recommended conditions (that protect the north-west patch of Typhonium and the very high density occurrences of Cycads) have identified and mitigated both short-term and long-term environmental impacts.</p> <p>The community has been provided the opportunity for involvement in the environmental impact assessment process during public consultation on the proposal, and the submissions received have been taken into account in the preparation of this report and the recommended conditions to inform the Minister's decision on environmental approval.</p>
<p>Precautionary principle</p> <ol style="list-style-type: none"> 1. If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. 2. Decision-making should be guided by: <ol style="list-style-type: none"> (a) careful evaluation to avoid serious or irreversible 	<p>This principle was considered by the NT EPA when assessing the impacts of the proposal on the key environmental factors.</p> <p>The proponent has identified measures to avoid or minimise impacts on the environment. The NT EPA has considered these measures during its assessment, and has recommended conditions for environment protection. From its assessment of this proposal the NT EPA has concluded that the environmental values will be protected provided its recommended conditions, and the proponent's commitments, are implemented.</p>

Matters taken into account during the assessment	Consideration
<p>damage to the environment wherever practicable; and</p> <p>(b) an assessment of the risk-weighted consequences of various options.</p>	<p>The proposal may result in some irreversible impacts associated with loss of vegetation from clearing, however those residual impacts are not considered significant.</p>
<p>Principle of evidence-based decision-making</p> <p>Decisions should be based on the best available evidence in the circumstances that is relevant and reliable.</p>	<p>The NT EPA has considered the available evidence during the course of its assessment of the proposal, and this scientific evidence provides the foundation for its decision making and recommended conditions. This includes best available information on the presence of threatened species.</p> <p>In its assessment of the proposal, where the NT EPA considered that further evidence is required to inform the management of potentially significant impacts terrestrial ecosystems, community and economy, and culture and heritage, the NT EPA has recommended conditions requiring the proponent to undertake additional work to provide further evidence about how the impact would be effectively avoided and/or mitigated.</p>
<p>Principle of intergenerational and intragenerational equity</p> <p>The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of present and future generations.</p>	<p>It is important to protect the threatened species and heritage values for the benefit of future generations. The NT EPA considers that the recommended conditions for an environmental approval would provide an appropriate degree of protection for these values.</p> <p>The NT EPA has considered the principle of intergenerational equity and intragenerational equity in its assessment. From the assessment of this proposal the NT EPA has concluded that the environmental values will be protected and that the health, diversity and productivity of the environment will be maintained for the benefit of future generations.</p>
<p>Principle of sustainable use</p> <p>Natural resources should be used in a manner that is sustainable, prudent, rational, wise and appropriate.</p>	<p>The NT EPA has considered the importance of sustainable development and use of resources and this principle during the environmental impact assessment process. The NT EPA considers that this principle is closely linked to the principles of intergeneration and intragenerational equity, and conservation of biological diversity and ecological integrity.</p>
<p>Principle of conservation of biological diversity and ecological integrity</p> <p>Biological diversity and ecological integrity should be conserved and maintained.</p>	<p>This principle was considered when assessing the impacts of the proposal on the environmental values, particularly in relation to terrestrial ecosystems. The assessment of these impacts is provided in this report.</p> <p>Biological diversity and ecological integrity are likely to be conserved due to the avoidance, minimisation and mitigation measures that will be implemented by the proponent and the conditions recommended by the NT EPA.</p>

Matters taken into account during the assessment	Consideration
<p>Principle of improved valuation, pricing and incentive mechanisms</p> <ol style="list-style-type: none"> 1. Environmental factors should be included in the valuation of assets and services. 2. Persons who generate pollution and waste should bear the cost of containment, avoidance and abatement. 3. Users of goods and services should pay prices based on the full life cycle costs of providing the goods and services, including costs relating to the use of natural resources and the ultimate disposal of wastes. 4. Established environmental goals should be pursued in the most cost-effective way by establishing incentive structures, including market mechanisms, which enable persons best placed to maximise benefits or minimise costs to develop solutions and responses to environmental problems. 	<p>This principle was considered by the NT EPA when assessing the impacts of the proposal. The NT EPA notes that the proponent would bear the costs relating to containment of contaminants, avoidance and abatement of pollutants to the terrestrial, aquatic and air environment.</p>
<i>Environmental decision-making hierarchy</i>	
<ol style="list-style-type: none"> 1. In making decisions in relation to actions that affect the environment, decision-makers, proponents and approval holders must apply the following hierarchy of approaches in order of priority: <ol style="list-style-type: none"> (a) ensure that actions are designed to avoid adverse impacts on the environment; (b) identify management options to mitigate adverse impacts on the environment to the greatest extent practicable; (c) if appropriate, provide for environmental offsets in accordance with this Act for residual adverse impacts on the environment that cannot be avoided or mitigated. 	<p>The extent to which the proponent has applied the environmental decision-making hierarchy in its design of the proposal and the proposed measures to avoid and then mitigate significant impacts has been considered.</p> <p>Where the NT EPA was not satisfied that this hierarchy had been applied, it has recommended conditions requiring that the proponent take reasonable measures to avoid and/or mitigate impacts.</p> <p>The NT EPA has had regard to this hierarchy during the assessment of the proposal and did not identify any significant residual impacts that would require offsetting.</p>
<ol style="list-style-type: none"> 2. In making decisions in relation to actions that affect the environment, decision-makers, proponents and approval holders must ensure that the potential for actions to enhance or restore 	<p>The proposal is located in an area where some prior clearing and land disturbance has taken place and there are known areas of contamination. The proponent has committed to remediating contaminated land which would improve the</p>

Matters taken into account during the assessment	Consideration
<p>environmental quality is identified and provided for to the extent practicable.</p>	<p>environmental quality of the site if undertaken successfully. Active management and protection of retained <i>Typhonium praetermissum</i> and <i>Cycas armstrongii</i> provides opportunity to enhance the condition of the habitat.</p>
Waste management hierarchy	
<ol style="list-style-type: none"> 1. In designing, implementing and managing an action, all reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment. 2. For subsection (1), waste should be managed in accordance with the following hierarchy of approaches in order of priority: <ol style="list-style-type: none"> (a) avoidance of the production of waste; (b) minimisation of the production of waste; (c) re-use of waste; (d) recycling of waste; (e) recovery of energy and other resources from waste; (f) treatment of waste to reduce potentially adverse impacts; (g) disposal of waste in an environmentally sound manner. 	<p>The referral states that contractors and prospective developers are incentivised to make sustainability commitments, including recycling and waste management (in line with the waste hierarchy), as part of their respective submissions. Any commitments made by contractors and the successful developer will form part of their respective contracts, against which their performance will be assessed</p> <p>The referral also commits to disposing of waste generated at an appropriately licensed management facility.</p>
Ecosystem-based management	
<p>Management that recognises all interactions in an ecosystem, including ecological and human interactions.</p>	<p>The NT EPA considered the importance of ecosystem-based management for achieving both sustainable development and biodiversity protection goals.</p> <p>With consideration of the link between terrestrial ecosystems, inland water environmental quality, and community and economy, the NT EPA also considered the connections and interactions between parts of the environment to inform a holistic view of impacts to the whole environment.</p> <p>The NT EPA formed the view that the impacts from this proposal can be managed to be consistent with the NT EPA's environmental factors and objectives.</p>
The impacts of a changing climate	
<p>The effects of a changing climate on the proposal and resilience of the proposal to a changing climate</p>	<p>The effects of a changing climate on the proposal are not anticipated to significantly impact the construction phase of the proposal.</p> <p>The effects of a changing climate are relevant to the individual housing and commercial development of the proposal. Land owners and developers should</p>

Matters taken into account during the assessment	Consideration
	<p>be encouraged to consider this in the design and operation.</p> <p>The NT EPA considered that specific conditions did not need to be recommended to address this requirement.</p>

9. Conclusion and recommendation

The NT EPA has considered the Holtze Development Area proposal by DIPL. The NT EPA's assessment of the proposal identified potentially significant environmental impacts associated with the key environmental factors.

The NT EPA considers that the proposal can be implemented and managed in a manner that is environmentally acceptable and therefore recommends that environmental approval be granted subject to the conditions recommended in Appendix 1.

The *T. praetermissum* Conservation Strategy under development will provide for the long term protection of Typhonium from future cumulative impacts. It is essential the strategy is developed prior to, and to inform, any future Greater Holtze Development and protection measures.

Appendix 1 – Draft Environmental Approval

Draft Environmental Approval

PURSUANT TO SECTION 69 OF THE ENVIRONMENT PROTECTION ACT 2019

Approval number	EP2022/022 – 001
Approval holder	Chief Executive Officer of the NT Department of Infrastructure, Planning and Logistics
Australian Business Number (ABN)	84 085 734 992
Registered business address	Floor 5, Energy House, 18-20 Cavenagh Street, Darwin, Northern Territory 0800
Action	Holtze Development Area

Action description

Urban development of 202 ha, approximately 1.8 km north of Palmerston central business district including:

- **land clearing** of up to 116 (ha) of native vegetation
 - construction of enabling infrastructure (sewerage, water supply, power, communications, roads and drainage infrastructure)
 - subdivision of two vacant Crown land lots (Section 4231 and 4229 Hundred of Bagot) and one freehold lot (Portion 2295) for residential, commercial, public space and community development purposes.
-

Advisory notes

Approval is granted under section 69 of the EP Act for the action to be undertaken in the manner described, including with implementation of the environmental management measures, commitments and safeguards documented in the **referral**. If there is an inconsistency between the **referral** and this environmental approval, the requirements of this environmental approval prevail.

Submission of all notices, reports, documents or other correspondence required to be provided to the CEO or **Minister** as a condition of this approval must be provided in electronic form by emailing environmentalregulation@nt.gov.au

Address of action	NT Portion 2295 Sections 273, 3373, 4229, 4231 and 5623 Hundred of Bagot
NT EPA Assessment Report number	102
Person authorised to make decision	Hon Lauren Jane Moss MLA, Minister for Environment, Climate Change and Water Security

Signature

NOT FOR SIGNING

Date of decision

NOT FOR APPROVING

Environmental approval conditions

1 Limitations and extent of action

- 1-1 When implementing the action, the approval holder must ensure the action does not exceed the following extent:

Action element	Context	Limitation or maximum extent
Land clearing	Figure 1	No more than 116 ha in total to be cleared within the approved extent shown at Figure 1 . Avoid clearing significant and sensitive vegetation within the approved extent , to the maximum extent practicable.
Direct disturbance of <i>Typhonium praetermissum</i>	Figure 2	All individual <i>Typhonium praetermissum</i> plants within the Typhonium protection area shown at Figure 2 must be retained and protected.
Direct disturbance of <i>Cycas armstrongii</i>	Figure 3	No clearing of very high density or high density occurrences of <i>Cycas armstrongii</i> as shown at Figure 3 .

2 Terrestrial ecosystems

- 2-1 The approval holder must implement the action to meet the following environmental objective:

- (1) Protect terrestrial habitats to maintain flora and fauna values including biodiversity, ecological integrity and ecological functioning.

- 2-2 To support achievement of condition 2-1, the approval holder must implement the action in such a manner that:

- (1) the condition of habitat within the **Typhonium protection area** for *Typhonium praetermissum* is maintained or improved;
- (2) the long-term security of *Typhonium praetermissum* plants within the **Typhonium protection area** is maintained, through implementing measures such as restrictions on land use and access;
- (3) habitat quality and condition within the **Typhonium protection area** is monitored and assessed periodically to measure the viability of the

protection area and its capacity to support conservation of *Typhonium praetermissum* and demonstrate that condition 2-2(1) is achieved;

- (4) is consistent with any *Typhonium praetermissum* regional conservation management strategy developed by the Northern Territory Government;
- (5) the long term security of retained occurrences of **high** and **very high density** *Cycas armstrongii* areas, is maintained through implementing measures such as restrictions on land use and access;
- (6) is consistent with any regional conservation strategy for woodland species developed by the Northern Territory Government; and
- (7) controls the introduction and spread of **declared weeds** and invasive exotic plants.

3 Inland water environmental quality

3-1 The approval holder must prepare an Erosion and Sediment Control Plan (ESCP) prior to **substantial implementation** that:

- (1) has been developed by a Certified Professional in Erosion and Sediment Control (CPESC), in accordance with International Erosion Control Association Australasia (IECA) 2008 [Best Practice Erosion and Sediment Control document](#); and
- (2) provides details of the design, implementation, monitoring, maintenance and removal of erosion, sediment and drainage controls in all exposed soil areas during construction;
- (3) reviewed by a CPESC within 12 months of **substantial implementation**, or at any time if:
 - (a) ongoing monitoring identifies a failure of the ESCP; or
 - (b) an accelerated or changed work program is required.

4 Community and economy

4-1 The approval holder must implement measures, to mitigate construction noise and vibration, that meet:

- (1) construction noise management levels established using the [Northern Territory Noise Management Framework Guideline](#) (NT EPA 2018);
- (2) vibration criteria established using the [Assessing vibration: a technical guideline](#) (NSW Department of Environment and Conservation 2006) (for human exposure);
- (3) BS 7385 Part 2-1993 “Evaluation and measurement for vibration in buildings Part 2” as applicable to Australian conditions; and
- (4) the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage).

4-2 In addition to the performance outcomes, commitments and mitigation measures specified in the **referral**, all reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during the construction and operation of the action.

5 Culture and heritage

5-1 Prior to **substantial implementation**, the approval holder must:

- (1) undertake further archaeological investigation and review within the proposal area in proximity to the headwaters of Mitchell Creek (in the southern part of Section 4231); and
 - (2) implement to the extent practicable, the outcomes of the archaeological investigation and review, including recommendations for measures to avoid or minimise disturbance to Aboriginal heritage places or objects where objects are found to be present.
- 5-2 The scope of works for the further archaeological investigation and review required by condition 5-1(1), must:
- (1) include protocols for the survey, a review of mitigation measures and provisions to recommend new mitigation measures, if required; and
 - (2) be developed in consultation with, and to the satisfaction of, the Heritage Branch of **DTFHC**.
- 6 Commencement of action**
- 6-1 This approval expires five (5) years after the date on which it is granted, unless **substantial implementation** has commenced on or before that date.
- 6-2 Within 10 business days of **substantial implementation** of the action the approval holder must provide notification in writing to the **Minister**.
- 7 Completion of action**
- 7-1 The approval holder must provide notification in writing to the **Minister** within 10 business days of **completion of the action**.
- 8 Change of contact details**
- 8-1 The approval holder must provide notification in writing to the **Minister** of any change of its name, physical address or postal address for the serving of notices or other correspondence within 10 business days of such change.
- 9 Staging, combining and updating plans or programs**
- 9-1 The approval holder may:
- (1) prepare and submit any plan or program required by this approval on a staged basis (if a clear description is provided as to the specific stage and scope of the action to which the plan or program applies, the relationship of the stage to any future stages and the trigger for updating the plan or program);
 - (2) combine any plan or program required by this approval (if a clear relationship is demonstrated between the plans or programs that are proposed to be combined); and
 - (3) update any plan or program required by this approval (to ensure the plans and programs required under this approval are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the action)
- 9-2 Updated plans or programs supersede the previous versions of them and must be implemented in accordance with the conditions of this approval that require the plan or program.

10 Annual compliance reporting

- 10-1 The approval holder must provide an annual compliance report to the **Minister** for the purpose of determining whether the conditions of this environmental approval are being complied with.
- 10-2 Unless a different date or frequency is approved by the **Minister**, the first annual compliance report must be submitted by 30 April addressing the period of the preceding calendar year from 1 January to 31 December, and subsequent reports must be submitted annually from that date.
- 10-3 Each annual compliance report must be endorsed by the approval holder, or a person approved by approval holder to be delegated to sign on the approval holder's behalf.
- 10-4 Each annual compliance report must:
- (1) state whether each condition of this approval has been complied with, including:
 - (a) exceedance of any limits and extents;
 - (b) achievement of environmental objectives;
 - (c) requirements to implement the action;
 - (d) monitoring requirements; and
 - (e) reporting requirements.
 - (2) include the results of monitoring (inclusive of any raw data) in order to demonstrate compliance with the each condition of this approval;
 - (3) provide evidence to substantiate statements of compliance, or details of where there has been a non-compliance;
 - (4) include the corrective, remedial and preventative actions taken in response to any potential non-compliance; and
 - (5) be provided in a form suitable for publication online by the **DEPWS**.

11 Provision of environmental data

- 11-1 All environmental monitoring data required to be collected or obtained under this environmental approval and the approval holder's commitments, standards and management plans must be retained by the approval holder for a period of not less than 10 years commencing from the date that the data is collected or obtained.
- 11-2 The approval holder must, as and when directed by the **Minister**, provide any environmental data (including sampling design, sampling methodologies, empirical data and derived information products such as maps) relevant to the assessment of the action and implementation of this environmental approval, to the **Minister** in the form and manner and at the intervals specified in the direction.

Definitions

The terms used in this approval have the same meaning as the terms defined in the *Environment Protection Act 2019* and *Environment Protection Regulations 2020*.

approved extent	The extent identified in Figure 1 of this approval which includes equipment, plant and structures, whether stationary or portable, and the land on which the action is situated.
completion of the action	The point in time that the approval holder has completed all construction and operational components of the action as described in the referral information.
DEPWS	Department of Environment, Parks and Water Security
DTFHC	Department of Territory Families, Housing and Communities
EP Act	<i>Environment Protection Act 2019</i> .
high density	Between 400 and 699 <i>Cycas armstrongii</i> (Darwin cycad) stems per hectare.
land clearing	The removal or destruction, by any means, of native vegetation on an area of land. Land clearing includes the selective removal of a species of plant, a group of species of plants, a story or group of storeys in whole or in part.
life of action	The period of time from substantial implementation until the issue of a closure certificate under section 213 of the EP Act, or revocation of the environmental approval by the Minister at the request of the approval holder under section 114 of the EP Act.
NT EPA	Northern Territory Environment Protection Authority.
referral	The approval holder's referral to the NT EPA under section 48 of the EP Act .
sensitive or significant and sensitive vegetation	Has the same meaning as in section 6 of the NT Freehold Land clearing guidelines i.e. sensitive or significant vegetation communities such as rainforest, vine thicket, closed forest or riparian vegetation (clause 3.2 of the NTPS). The terms are used in the guidelines to also include mangroves, monsoon vine forest, sandsheet heath and vegetation containing large trees with hollows suitable for fauna habitat.
substantial implementation	The initial works to implement the proposed action defined as any ground disturbing activity relating to the action within the approved extent , including, but not limited to, land clearing , civil works or construction works. Substantial implementation does not include preliminary works such as geotechnical investigations and other pre-construction activities where no land clearing is required.
Typhonium protection area	The area shown at Figure 2 of this environmental approval
very high density	Greater than 700 <i>Cycas armstrongii</i> (Darwin cycad) stems per hectare.

Location and approved extent of action

Spatial data depicting information provided in this environmental approval are held by the Department of Environment, Parks and Water Security as follows:

- NTEPA2022/0178-005: 05 Spatial files - -DIPL – Holtze Development Area.

All coordinates are provided in the Universal Transverse Mercator map projection, Map Grid of Australia Zone 52 (MGA Zone 52) and datum Geocentric Datum of Australia 1994 (GDA94).

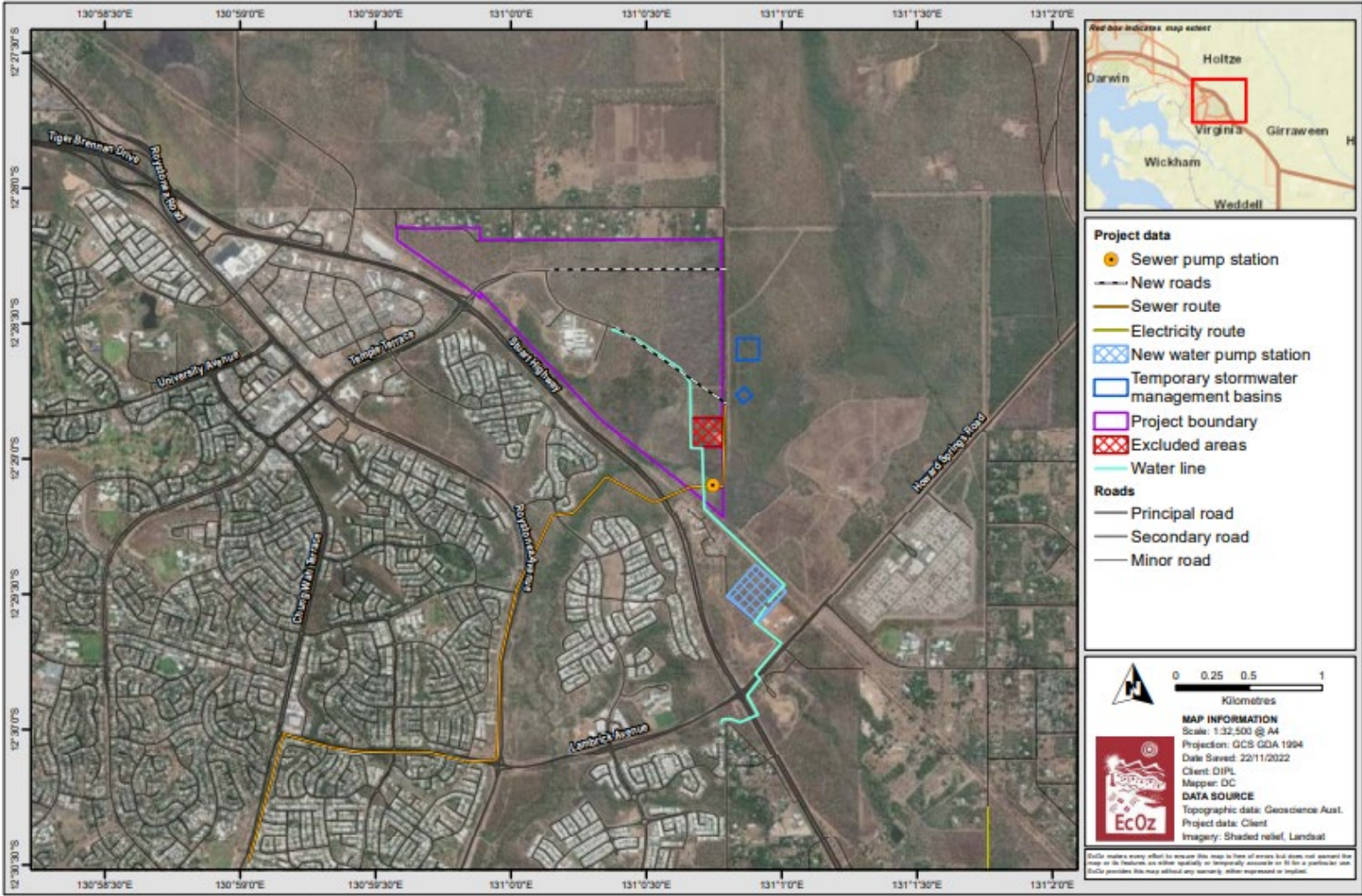


Figure 1 Location and approved extent (includes the project boundary, sewer pump station, sewer route, electricity route, new water pump station, temporary stormwater management basins and water line)

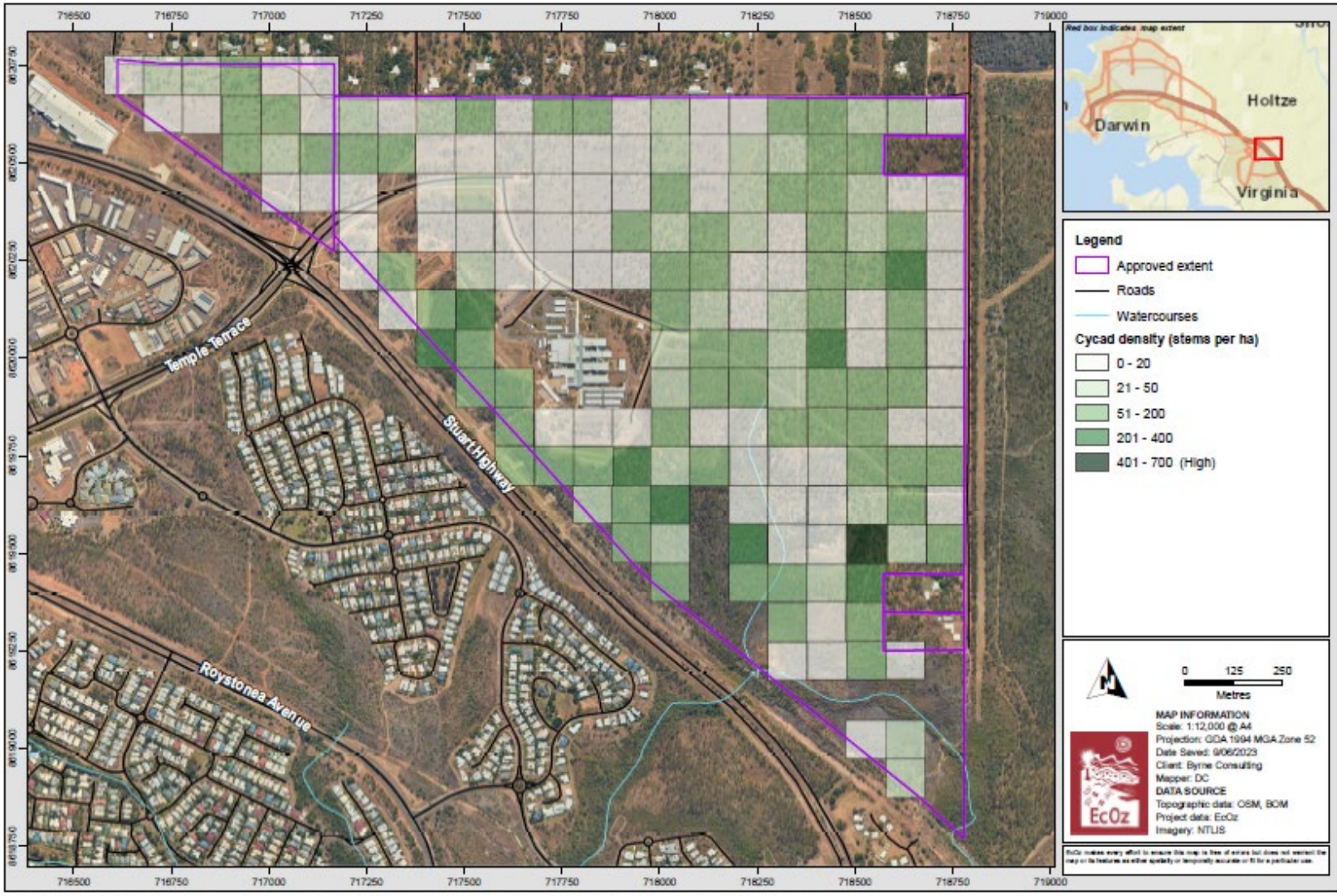


Figure 3 Map of *Cycas armstrongii* (Darwin Cycad) density within approved extent (note one grid square of high density occurrences in dark green)

Appendix 2 – Environmental impact assessment timeline

Date	Assessment stages
22 December 2022	Referral accepted
4 January to 1 February 2023	Consultation submissions period
7 March 2023	NT EPA decided environmental impact assessment required by referral information method
21 April 2023 to 17 July 2023	Consultation with proponent and statutory decision-maker on draft environmental approval (extended period at request of proponent)
24 July 2023	Statutory timeframe for the NT EPA's assessment report to be provided to the Minister for Environment, Climate Change and Water Security (NT EPA extended period)
30 business days after receiving the NT EPA's assessment report	Minister's decision on environmental approval due (if the Minister does not make a decision within 30 business days after receiving the assessment report the Minister is taken to have accepted the NT EPA's recommendation for approval)