

# **ARCHAEOLOGICAL SURVEY OF THE PROPOSED HOTLZE URBAN AREA**

**(Sections 3281, 4229 and 4231 Hundred of Bagot)**



**A report for EcOz Environmental Consultants**

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Cover photo: Holtze Urban Area (off Taylor Road) looking towards Palmerston.

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## **EXECUTIVE SUMMARY**

EcOz Environmental Consultants contracted Ellengowan Enterprises to undertake an archaeological survey for Sections 3281, 4229 and 4231 Hundred of Bagot (the survey area), which is to be the site of the proposed Holtze Urban Area. The archaeological survey was undertaken to comply with current Northern Territory heritage legislative obligations. The survey, which this study reports on, was conducted in October 2014. No Aboriginal Cultural Heritage was found in the survey area, but several concrete structures were found, which may relate to occupation of the area by the military during WWII.

### **Summary of recommendations:**

- There is a low likelihood that significant archaeological material survives in the study area.
- The concrete slabs should be avoided, as they are highly likely to relate to events in the Northern Territory during WWII.

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## 1.0 INTRODUCTION

### 1.1 Background and consultancy brief

A proposed site for a new urban area has been chosen at Holtze, adjacent to Palmerston, 20kms south of Darwin. This report details the results of an archaeological survey for the area. The survey area is approximately 2.2km<sup>2</sup> in area.

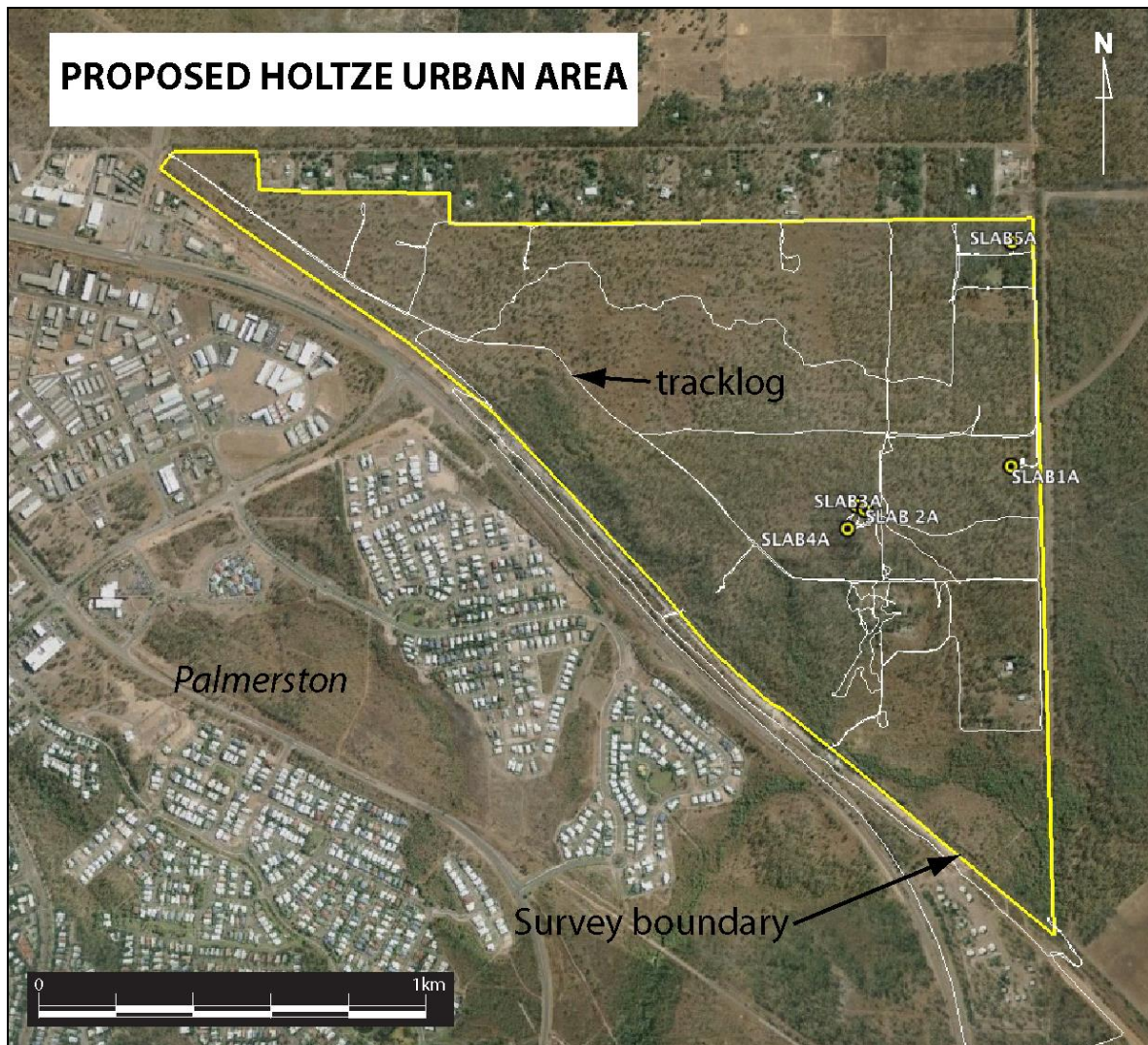
The survey was conducted for one day on 29 October 2014 by an archaeologist (author). The consultancy brief was to:

- Identify any prescribed archaeological objects or places as defined under the Northern Territory *Heritage Act (2014)*, and any archaeological sites located within the survey area.
- Assess the nature, distribution and significance of these objects or places and discuss possible constraints to the works posed by the presence of archaeological and historic sites and an indication of what sites are likely to be the most sensitive in this respect.
- Present a final report including a summary of survey results, determination of significance of sites and the likely impact of the proposed development, and recommendations regarding management strategies or mitigation procedures as appropriate under the Northern Territory *Heritage Act (2014)*.

No Aboriginal Heritage sites were found, but 5 concrete slabs occur in the centre and near the eastern boundaries of the survey area. A limitation of this study is to actually identify who made these structures and when, but the materials and techniques used in their construction indicates that they may have been made during World War II, and that that they were modified during subsequent occupation, post-war.

### 1.2 Location of the study areas

The proposed Holtze Urban Area lies adjacent to the Stuart Highway on the eastern side of Palmerston. The site is bounded by Wallaby Holtze Road to the north and Taylor Road to the east. It tapers to an access track to the west, of the intersection of Tulagi and Wallaby Holtze Roads. Numerous tracks run through the area, several of which provide access from Taylor Road. Figure 1 shows the study area, the archaeological survey tracklog and the location of slab sites.



*Figure 1. Location of the proposed Holtze Urban Area (After GoogleEarth).*

### 1.3 Environmental setting – brief description

The southeastern sector of the site is heavily dissected with numerous small streams. It is essentially a drainage area for the surrounding country. Several gravel pits occur there and there is a track on either side of the main creek channel. No water sources were seen during the survey, but during the wet season the area is quietly likely to be flooded.

The northern and northeastern sector is flat with gentle undulations. One of the slab sites occurs on the edge of the plateau, facing the creek gully. The vegetation on the flat country is typically open woodland with pandanus stands and palms in the low-lying creek areas.

## 2.0 HERITAGE LEGISLATIVE FRAMEWORK

### 2.1. Northern Territory legislation

There are two kinds of heritage sites protected under the Northern Territory *Heritage Act (2014)*, declared and prescribed places and objects. The Act places legal constraints on owners of private property, local government and the Crown:

- Places or objects listed on the Northern Territory Heritage Register are declared heritage places and objects that are protected under section 33 of the Act, and
- Prescribed archaeological places and objects, which may or may not be declared, are protected under sections 29 and 39 of the Act.

It is an offence under the *Act* to damage, destroy, alter or carry out work of any sort on declared or prescribed sites without the written consent of the Minister or Minister's delegate. If considered appropriate, the Heritage Branch may on occasion utilise the discretion available in the *Act* to give permission for small-scale disturbance (such as the relocation of isolated stone artefacts) without the need for a formal application. The discretion is allowed under s148 of the *Act*, which in effect says that a heritage officer (such as an archaeologist) may undertake actions (or authorize actions), not construed as an offence.

#### 2.1.1. Declared heritage places and objects

Categories, which describe the status of each site on the Northern Territory Heritage Register database, are listed in Table 1.

**Table 1. Site status on the Northern Territory Heritage Register database**

Status	Description
<b>D</b>	Declared heritage place.
<b>NR</b>	Not recommended. HC* determined that the place did not meet heritage assessment criteria and did not hold sufficient value to warrant declaration under the act.
<b>RF</b>	Refused by the Minister. HC* recommended for declaration and Minister refused to do so.
<b>P</b>	Proposed. HC* has determined that the place warrants declaration under the Act but has not yet made its recommendations to the minister.
<b>RV</b>	Revoked. Declaration as a heritage place pursuant to Section 26(1) of the Act is revoked.
<b>N</b>	Nominated. HC* has yet to complete its assessment of the heritage value of the place.

\*Heritage Council

The Northern Territory Heritage Register contains places that possess special significance for the Northern Territory and have been recognized for a wide range of natural and cultural values. As a result it includes places that have been deemed significant because of their environmental and/or cultural characteristics. For the purposes of the current report, only places of historic or archaeological significance have been included. A search of the register indicates that no sites are listed in Heritage Register, in the proposed Holtze Urban Area.

#### 2.1.2. Prescribed archaeological places and objects

Most archaeological places and objects are listed in the *Heritage Conservation Regulations (1999)* as prescribed places and objects. The Heritage Branch, Department Lands, Planning and Environment

(DLPE), formerly the Department of Natural Resources Environment and the Arts (NRETAS) hold the Archaeological Sites Register. Included in this register are the protected prescribed sites that consist of all archaeological sites and objects pertaining to the past occupation by Aboriginal people. Any historic sites listed on this register do not indicate that these sites are protected or hold legal significance under the Northern Territory *Heritage Act (2014)*.

## 2.2. Constraints

### 2.2.1 Ground Integrity (GI)

Assessing ground surface integrity provides an indicator of whether or not the landscape under study has been modified, and if so the degree of disturbance encountered. It then becomes possible to gauge the degree to which modification has influenced the environmental context within which artefacts and/or places of cultural and/or scientific interest are located. Ground surface integrity must also be assessed from the perspective of the current legislation.

The *Aboriginal Cultural Heritage Act 2003* (in Queensland, but equally applicable to the Northern Territory) provides a definition for GI that includes the removal of native vegetation as inferring the ground has been subjected to ‘significant ground disturbance’. Under these criteria of modification, therefore, the *Act* assumes that archaeological integrity and significance is greatly reduced, is negligible, or even extinguished completely.

Contrary to this however, archaeologists are continually finding evidence that important cultural heritage material and/or places regularly survive not only land clearing activities but also invasive farming techniques such as ploughing.

Combined with this is the fact that, regardless of levels of GI, significant Aboriginal objects and/or significant Aboriginal areas can be defined on entirely cultural grounds, by Traditional Owners, not requiring any assessment of ground surface integrity.

Levels of GI are determined using a percentage range between 0-100% where 0% indicates all GI is gone, and 100% represents excellent preservation of the original context. Zero – 0%; Poor – 1-25%; Moderate- 26-50 %; Fair – 51-75 %; Good – 76-85%; Excellent 86-100%.

### 2.2.2 Ground Surface Visibility (GSV)

Assessments of ground surface visibility provide an indication of how much of the ground surface can actually be seen.

Ground surface visibility (GSV) is most commonly inhibited by vegetation but other inhibitors may include concrete, gravel and bitumen. Levels are determined using a percentage scale similar to that used for the calculation of Ground Integrity (GI), in that 0% represents zero visibility and 100% represents maximum visibility (bare ground). Zero – 0%; Poor – 1-25%; Moderate – 26-50 %; Fair – 51-75 %; Good – 76-85%; Excellent – 86-100%. The better the visibility, the more potential there is for locating cultural/archaeological material.

### 3.0 PREVIOUS RESEARCH

#### 3.1 Literature review

A search of the archaeological database at the Heritage Branch, Northern Territory Government, revealed that no previously recorded archaeological sites were reported. No previous archaeological studies were conducted in the survey area. A reference study of previously recorded WWII concrete slabs in the Darwin region, however, indicates a common construction technique of thick slabs, which probably kept the structures dry during heavy rains in the wet season. An example of these massive slabs is shown in Figure 2, a workshop slab at the flying boat base in East Arm.

Dunn (2004) records that the 808<sup>th</sup> Engineer Aviation Battalion US Army Corps Of Engineers (USACE) was stationed at the 11 Mile during WWII, constructing the airstrips around the area. That unit may have built the slabs in the survey area, but further research is needed to verify this hypothesis.

Aerial photography of the site, taken between 1969 and 1970, shows that the northern sector was cleared. The southern sector, however, showed no indication of the slabs at that time. Perhaps they were buried in leaf litter, or obscured by trees. One image, taken later in 1974, does show at least two of the slabs (Appendix 1.).

A Sidney Williams hut was found on a neighboring property near one of the slabs in the northeastern sector (Fig. 3). These huts were prefabricated and built by the army during WWII (Museum and Art Gallery of the Northern Territory, n.d.).



*Figure 2. Concrete slab at No. 20 Squadron RAAF flying boat base, East Arm, Darwin Harbour.*



*Figure 3. Sidney Williams shed near Site 3.*

## 4.0 METHODS

### 4.1 Survey method

The area of the highest probability of finding Aboriginal Heritage sites is in the dissected southeast with creeks and drainage channels. Pedestrian surveys were conducted along the creeks and creek banks. Vehicle transects were conducted in the flat areas, with spot checks in any stoney rises which may have been occupied by people in the past.

All archaeological finds are to be recorded using GPS, photographed and some basic diagnostics are noted, such as artefact type, raw material and the density of artefacts per site. Isoliths are to be recorded in the same way. Artefacts are to be left in situ.

#### 4.1.1 Identification of archaeological material

Stone artefacts, including tools and debitage, the by-product of manufacture, are identified on the following criteria after McCarthy (1976), Holdaway and Stern (2004):

- Bulb of percussion
- Ercure scar (on the ventral surface)
- Point of force application (PFA) and associated ring crack
- Termination types (eg. feathered, stepped, hinged, plunge)
- Flake scars (dorsal scars and ridges)
- Cores (identified by the presence of negative flake scars)
- Hammer stones (identified by the presence of end-crushing on pebble stones)
- Retouch (reworking of flake margins)
- Raw material type
- Grinding stones (very smooth wear on upper surface)

List of artefact type abbreviations:

- A – axe
- C – core
- CP – core piece
- F – flake
- FP – flake piece
- RTF – retouched flake

List of artefact type abbreviations:

- F – Flake
- SC – Single platform core
- RTF – Retouched flake
- F – flake
- FP – flake piece
- RTF – retouched flake
- GS – Grindstone/Grinding plate

- X – Axe/wasted cobble
- CT – Core tool
- CF – Core fragment
- A – Adze
- B – Blade
- S – Scraper
- M – Manuport
- An – Anvil
- TS – Topstone
- HS – Hammerstone
- Z – Other eg, ceremonial

#### 4.1.2 *Definition of archaeological sites*

##### 4.1.2.1 *Historical Sites*

Historical sites in north Australia are those that have physical evidence of European and non-European activities. These range from Macassan sites to military sites of WWII. These sites may overlap with Aboriginal heritage sites.

##### 4.1.2.2 *Aboriginal Heritage Sites*

Aboriginal archaeological sites can be classified by six main types: 1) stone knapping sites, including quarries, 2) background scatters, including isoliths, 3) stone arrangements, such as mounds, walls, fish traps or stone motifs, 4) shell middens, 5) burials, 6) scarred trees and 7) rock art sites.

Burke and Smith (2004:63) define an archaeological site as ‘any place that contains the physical evidence of past human activity. Australia, however, has what has been referred to as a background scatter of stone artefacts, which refers to low-density artefact scatters that either represent singular knapping events (‘dinner-time’ camps or ‘hunting camps’), or larger sites that have been buried or disturbed. To differentiate this site type from larger sites that may contain thousands of artefacts, the term Archaeological Site (AS) is used to describe home-camps or quarries i.e., places where people have been returning to for millennia, as opposed to sites that have very low artefact densities that represent sporadic visits i.e. background scatters (BS).

## 5.0 RESULTS

### 5.1 Archaeology

EcOz Environmental Consultants had indicated that they discovered five concrete slabs in the survey area. The location for these slabs is listed in Table 2, including other features found during this survey. The slabs were the only cultural features found. GSV was less than 5% in the low-lying creek areas with spear grass over three metres tall (Fig. 4). The area had not been burnt during the previous dry season.

The five slabs actually correspond to three different building sites. The slabs have been group as: Site 1 (Slab 1), Site 2 (Slabs 2 – 4) and Site 3 (Slab 5).

**Table 2. Location data for cultural features in the survey area**

Format: UTM M/D/Y H:M:S 9.50 hrs Datum[121]: WGS 84						
ID	Name	Comment	Zone	Zone	Easting	Northing
W	SLAB1		52	L	718719	8619962
W	SLAB2		52	L	718315	8619846
W	SLAB3		52	L	718293	8619858
W	SLAB4		52	L	718267	8619794
W	SLAB5		52	L	718729	8620591
W	TANK STAND		52	L	718260	8619796
W	44-gallon drum 1		52	L	718248	8619799
W	44-gallon drum 2		52	L	718251	8619790
W	PIT		52	L	718369	8619669
W	RAMPS		52	L	717915	8619632
W	SIDNEY WILLIAMS		52	L	718655	8620466

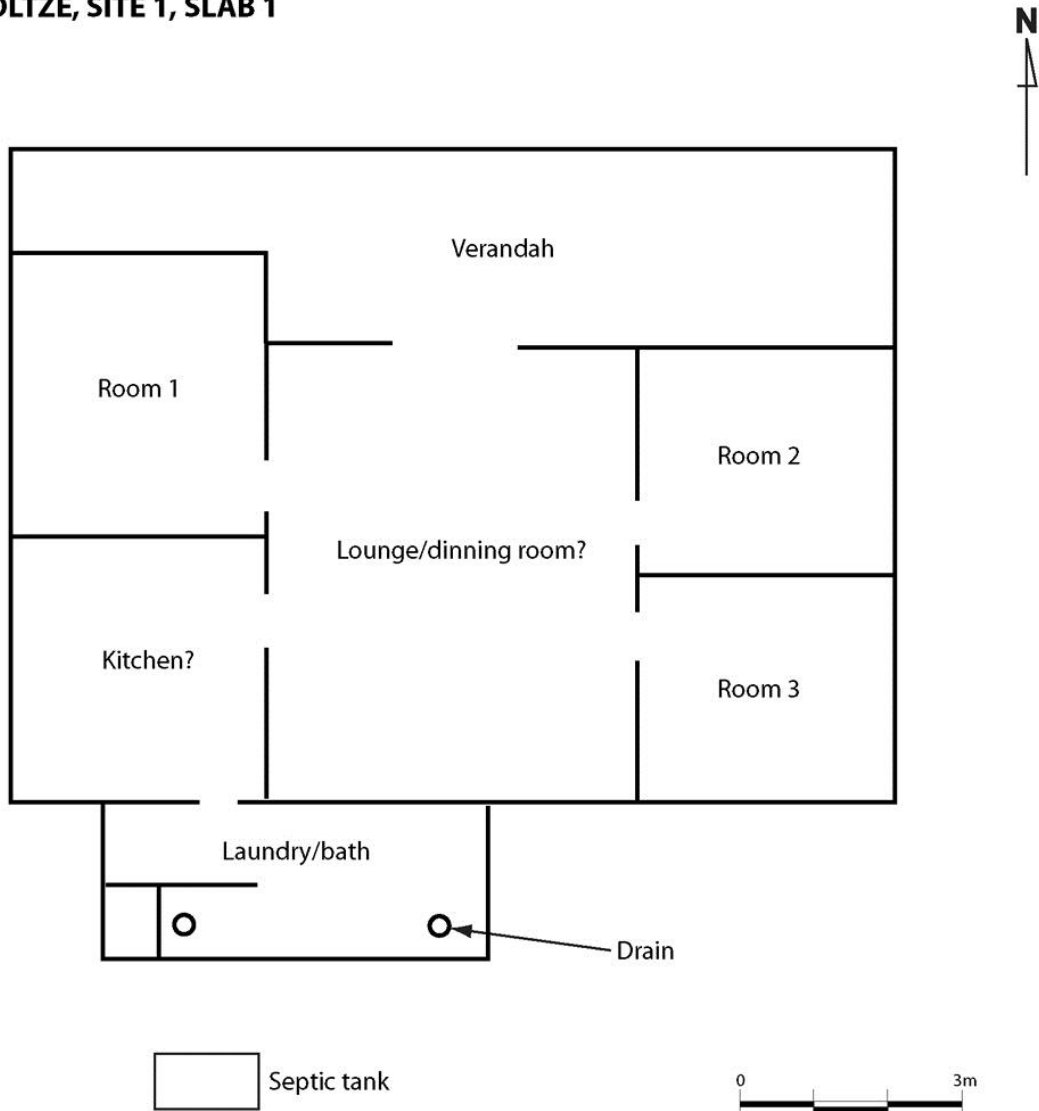


*Figure 4. Spear grass in the southeast sector of the survey area.*

5.1.1 Site 1 – Slab 1

Of all the slab sites, Slab 1 is quite likely to be the most recent as its construction is quite different from the others. It lies a short distance off Taylor Road. It is low on the ground and has numerous rooms (Fig. 5 and Fig. 6). The site is strewn with asbestos (not seen on the other sites) and has relatively modern fittings. PVC plumbing in the septic tank indicates that the site (if it is from the 1940s) had been modified (Fig. 7 and Fig. 8).

**HOLTZE, SITE 1, SLAB 1**



*Figure 5. Site 1, Slab 1. Plan.*



*Figure 6. Site 1 – Slab 1. Foundations and slab. Scale in 20cms.*



*Figure 7. Site 1 – Slab 1. Septic tank. Scale in 20cms.*

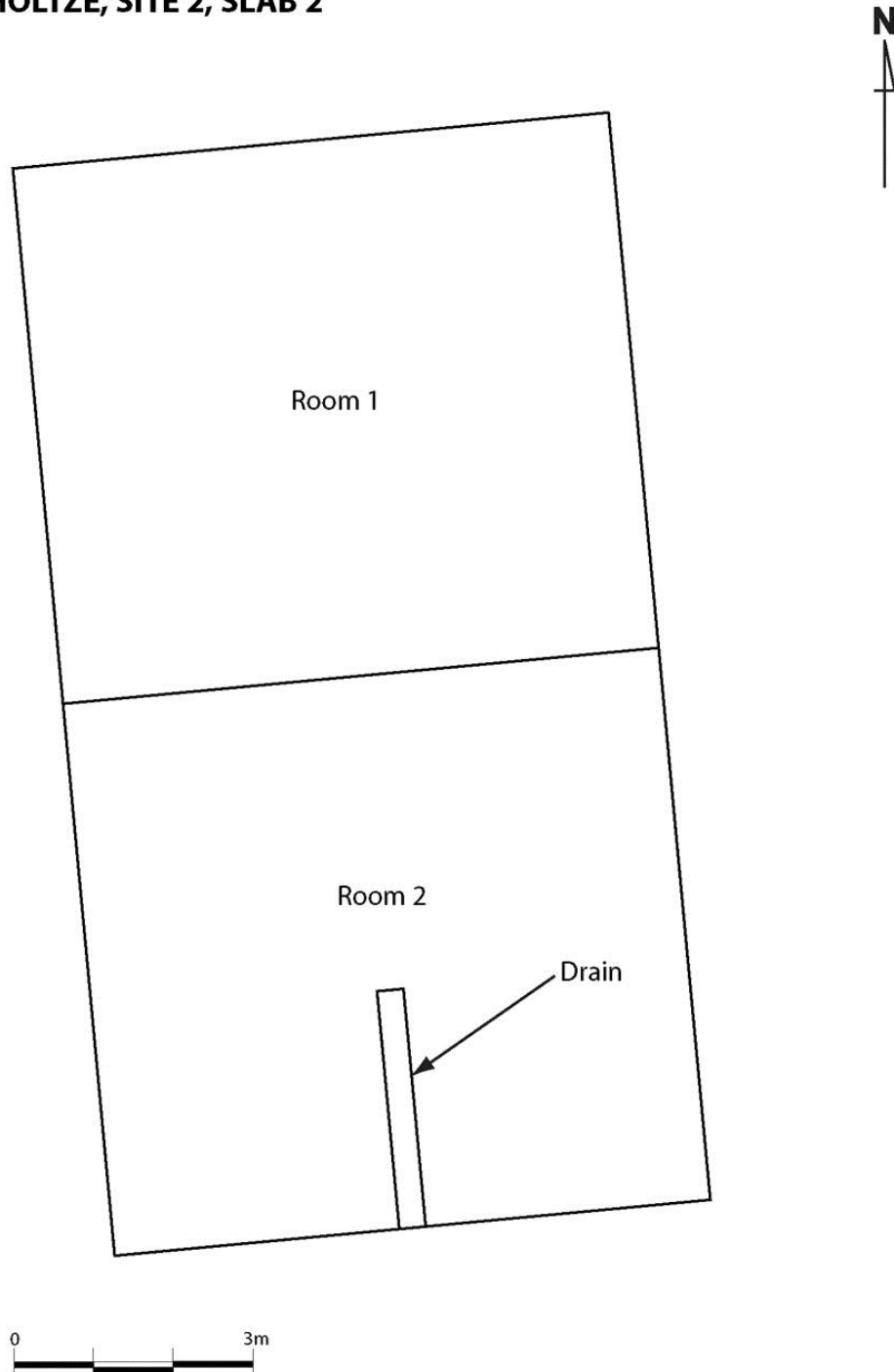


*Figure 8. Site 1 – Slab 1. Septic tank PVC plumbing.*

### 5.1.2 Site 2 – Slab 2

Site 2 consists of three slabs, Slab 2 is the largest on the site. It is a two room structure with one of the rooms being a wet area, as attest by a drain running through the middle (Fig. 9). The slab is approximately 60cms thick. The site has been used for a dump, and it is difficult to differentiate between artefacts associated with the building, or which ones had been brought in. Shellfish species (long-bums) were seen together with abandoned vehicles (Fig. 10). Radio sets were seen, but fittings were of modern plastics, not Bakelite as per WWII era equipment.

#### HOLTZE, SITE 2, SLAB 2



*Figure 9. Site 2 – Slab 2. Plan.*



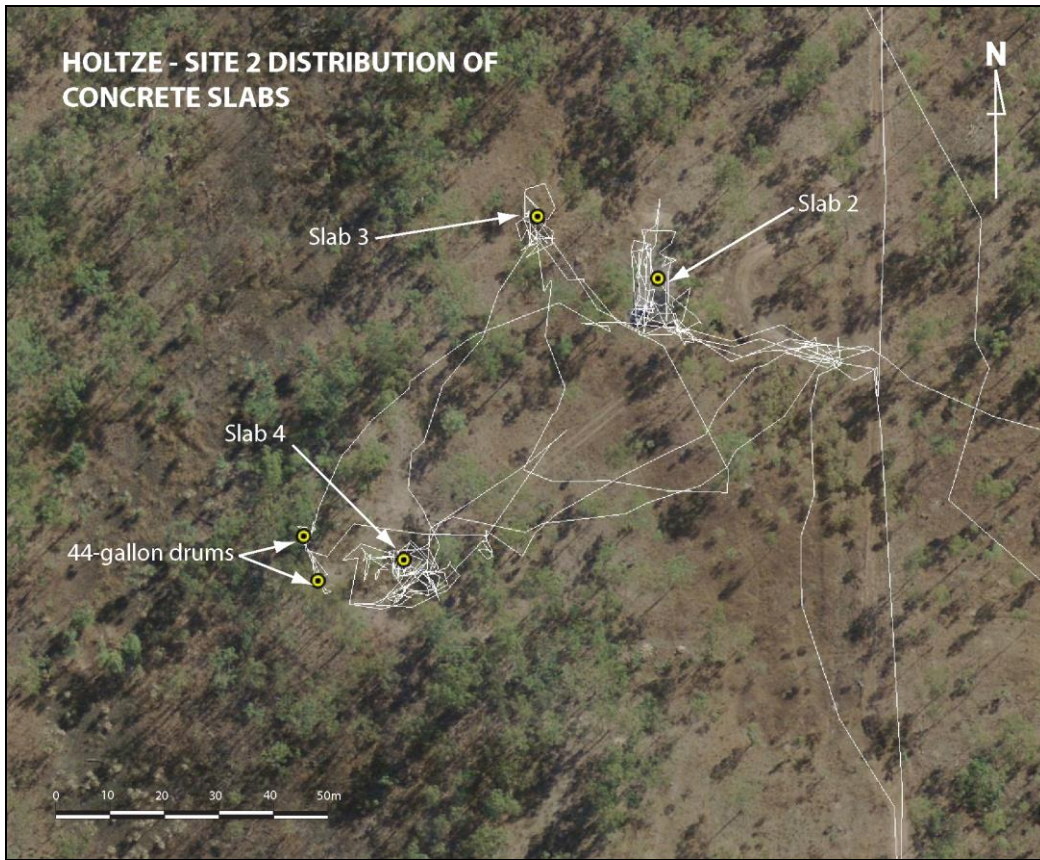
*Figure 10. Site 2. Context view showing abandoned vehicles.*



*Figure 11. Site 2 – Slab 2. Scale in 20cms.*

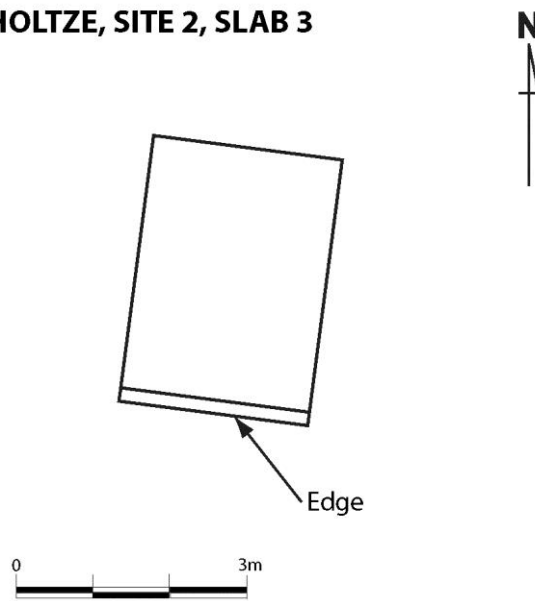
### 5.1.3 Site 2 - Slab 3

The second slab (Slab 3) on Site 2 is only a short distance from the main slab (Fig. 12 – Fig. 14). Some interesting features on this slab are wooden stakes, almost certainly not original (Fig. 15). Some original fittings may have been wall support structures (Fig. 16).



*Figure 12. Holtze – Site 2 distribution of concrete slabs.*

### HOLTZE, SITE 2, SLAB 3



*Figure 13. Site 2 – Slab 3. Plan.*



*Figure 14. Site 2 – Slab 3. Scale in 20cms.*



*Figure 15. Site 2 – Slab 3. Wood formwork. Scale in 1cms.*

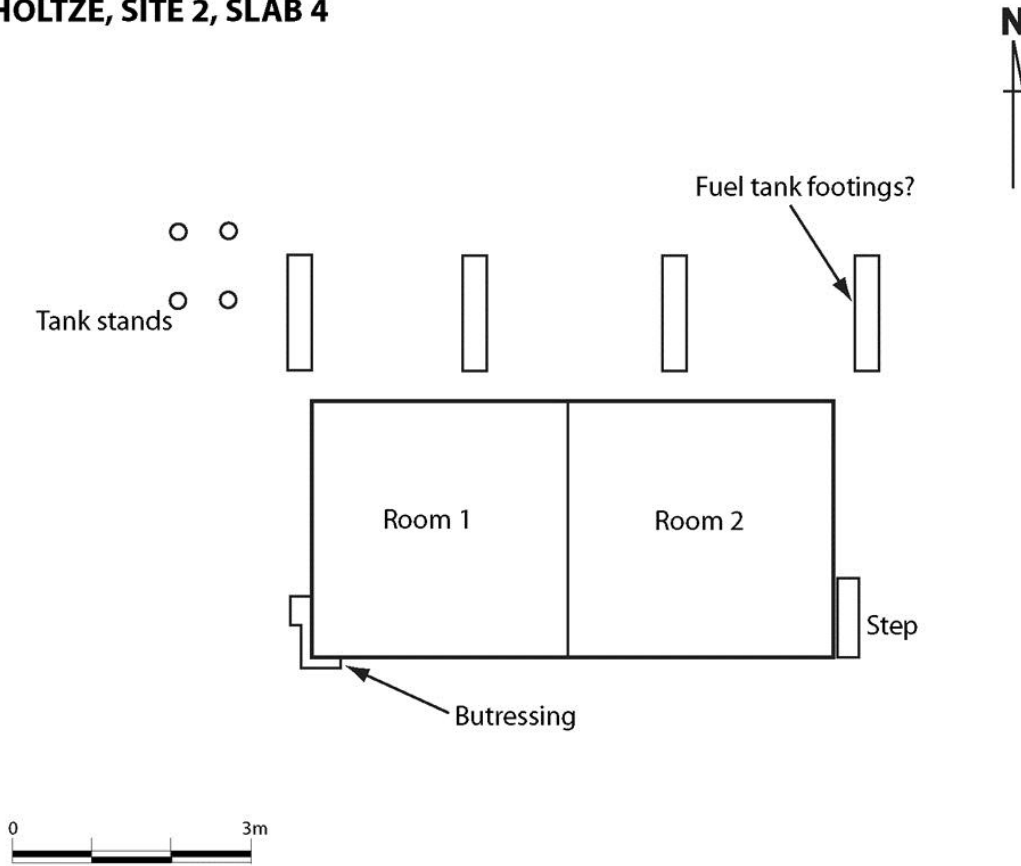


*Figure 16. Site 2 – Slab 3. Metal tie-down. Scale in 1cms.*

5.1.4 Site 2 - Slab 4

The most complicated structure in Site 2 is Slab 4 (Fig. 17 – Fig. 20). The slab is situated on the edge of a ridge, overlooking the gully below and across to Palmerston. The slab was probably used as a utility shed, which may have accommodated a generator. The structure was also used to collect water (Fig. 21). Nearby are two 44-gallon drums, which may have been used as latrines (Fig. 22).

**HOLTZE, SITE 2, SLAB 4**



*Figure 17. Site 2 – Slab 4. Plan.*



*Figure 18. Site 2 – Slab 4. Step. Scale in 20cms.*



*Figure 19. Site 2 – Slab 4. Central post-hole and wall footing. Scale in 20cms.*



*Figure 20. Site 2 – Slab 4. Central post-hole and wall footing, close up. Scale in 1cms.*



*Figure 21. Site 2 – Slab 4. Tank stand. Scale in 20cms.*



*Figure 22. Site 2 – Slab 4. One of two 44-gallon drums. A latrine? Scale in 20cms.*

5.1.5 Site 3 - Slab 5

Slab 5 is also a thick slab of about 40cm and appears to be a 1940s structure, a short distance off Taylor Road (Fig. 23 and Fig. 24). The structure has only one room, with a large open area, which may have been enclosed in mesh. It was, however, extensively re-used. PVC plumbing was found in the wet areas and a second exterior brick veneer was added. Bricks are stamped with 'B B Bricks', which may be from the Bull Bridge Brick Company in Ambergate, Belper, Derbys, England, which ceased to operate in 1899 (Fretwell 2014) (Fig. 25).

HOLTZE, SITE 3, SLAB 5

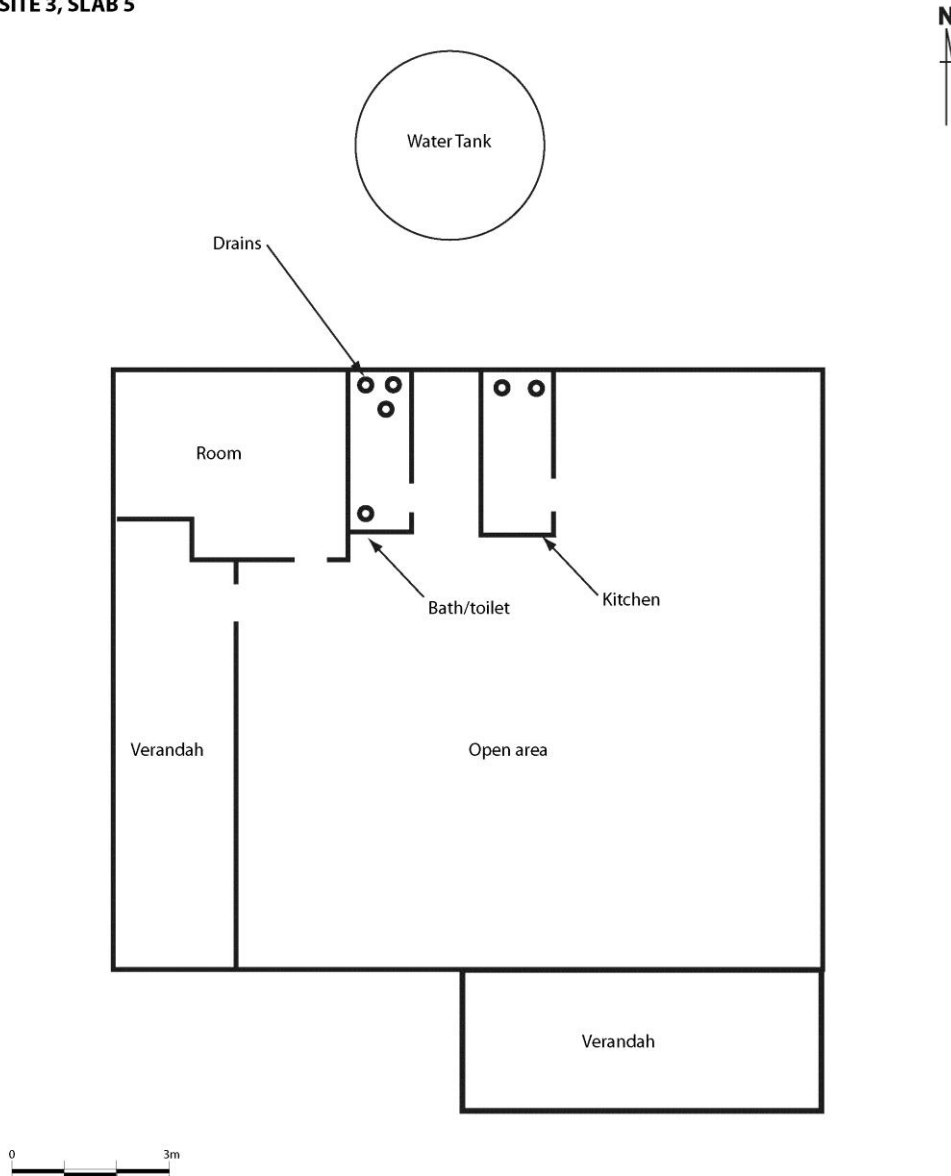


Figure 23. Site 3 – Slab 5. Plan.



*Figure 24. Site 3 overview. Scale in 20cms.*



*Figure 25. Site 3 brick with 'B.B. Brick' imprint. Note: double brick wall. Scale in 20cms.*

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Conclusions

An archaeological survey at the proposed site for Holtze Urban Area found no Aboriginal Heritage sites or objects. Areas where such sites were expected to be found, associated with water sources, were found to have very low GSV and quite likely to be flooded during the wet season. Conditions were, therefore, not conducive to site preservation, if such site existed at all.

EcOz Environmental Consultants located five concrete slabs during their site surveys, which in this report, were found to relate to three site structures. The main site, Site 2, consists of a complex of structures, almost certainly military in origin. Given that Darwin and its surrounding environs are dotted with WWII structures, it is highly probable that the military occupied the area in the past. A typical structure found in the Darwin area during WWII was the ‘Sidney Williams hut’.

On the basis of the results of this survey, the proposed Holtze Urban Area site is cleared for works to continue. The concrete slabs are well away from the cleared area.

### 6.2 Recommendations

#### 6.2.1 *Recommendation 1 – avoidance*

- Additional historical research is needed to determine previous ownership of the three sites. As a result of this lack of data, and as a precaution that significant sites may be destroyed, it is recommended that all of the slabs are avoided.

#### 6.2.2 *Recommendation 2 – destruction of Site 1 (Slab 1)*

- Site 2 (Slabs 2 – 4) is quite likely to date to WWII, together with Site 3 (Slab 5). Site 1 (Slab 1) is possibly more recent and is contaminated with asbestos. Site 1 could be destroyed, but only after addressing the lack of historical data in Point 1 above.

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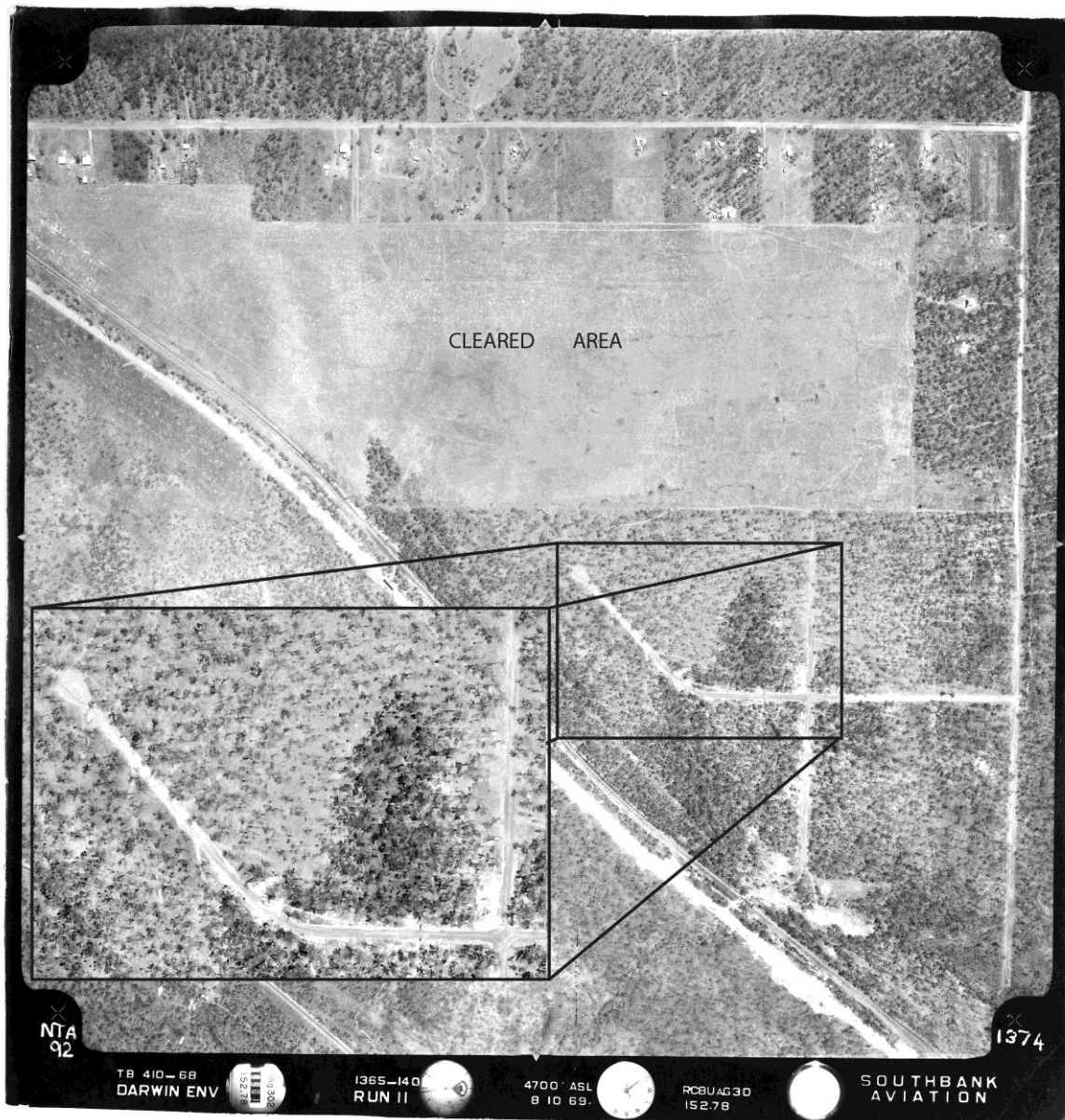
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## APPENDIX 1. AERIAL PHOTOGRAPHY (Northern Territory Library)

Aerial view (8-10-1969)



Frame Project: 1970 Darwin Environs

Film: NTc92

Frame: 1374

Aerial view (7-6-1974)



Frame project: 1974 Darwin 10000

Film: NTc302

Frame: 5423