

**PROPOSED *IN-SITU* HOUSING DEVELOPMENT,  
COTTONLANDS, ETHEKWINI MUNICIPALITY,  
KWAZULU-NATAL**

**Phase 1 Heritage Impact Assessment**

**30 April 2021**

**FOR: ENVIROPRO  
Dustin Bell**

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## EXECUTIVE SUMMARY

The Cottonlands informal settlement is situated in the suburb of Hazelmere and is neighboured by the suburbs of Barns, Inanda Nu, Gwala and Belvedere North. These suburbs form part of either the Tongaat, Redcliffe, Osindisweni or Hazelmere District. The property is located within Ward 58 and 60 of the eThekweni Metropolitan Municipality.

The project will be implemented as an *in-situ* upgrade comprising the construction of low-income housing. Current owner/occupiers of existing homes that do not meet the standard will be selected as beneficiaries. All new houses will be constructed with the boundary provided. Open space will be utilised as much as possible. There will also be the construction of new sewer infrastructure as well as improvements to both existing water and road infrastructure.

The total area for the project will be 220Ha hence it triggers sections 41 (1)(c)(i) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018) which lists developments or activities that may require an HIA. Section 41 (1)(c) refers to any development or other activity which will change the character of a site– (i) exceeding 5000 m<sup>2</sup> in extent.

An inspection of the Cottonlands settlement took place on 16 April and 20 April 2021. Visibility was, in general, good but there were areas of very dense vegetation that restricted visibility and could not be accessed. The area is disturbed by large number of residences, access roads, paths and informal farming.

A study of early aerial images of the Cottonlands settlement area shows that the area has been occupied since 1937 which is the date of the earliest aerial image found. The image shows several kraals/homesteads, a number of access roads as well as cultivated lands. The 1942 topographical map supports this and also shows that much of the area was under cultivation. By 1978, the aerial image shows Hazelmere Dam and the settlement of Cottonlands above and north-east of the dam wall.

During the site inspection, numerous graves and burial grounds / cemeteries were found, the positions of which have been provided to the Environmental Assessment Practitioner. Many of the graves found were located close to dwellings; some were well maintained whilst others were overgrown with vegetation. Some of the graves were unmarked but others were marked with headstones, wooden crosses and/or outlined with stone or cinderblocks.

Several structures were also found that could possibly be over 60 years hence protected by section 37 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018, which refers to the protection of structures older or reasonably expected to be older than 60 years.

The fossil sensitivity map indicates that the settlement falls into a largely moderate zone of palaeontological sensitivity whilst the western section of the settlement falls into an area of low fossil sensitivity. An area of moderate fossil sensitivity requires that a desktop palaeontological study be undertaken; an area of low fossil sensitivity requires no further studies but that a protocol for fossil finds is provided. Due to the very disturbed environment of much of the settlement, it is recommended that no further palaeontological studies are undertaken; however, a protocol for chance fossil finds has been included in Chapter 10 of this report. It is recommended that this protocol is included in the Environmental Management Programme used during the construction of the *in-situ* housing.

In terms of section 39 (1) of the KwaZulu-Natal Amafa and Research Institute Act, graves or burial grounds older than 60 years or deemed to be of heritage significance by a heritage authority may not be damaged, altered, exhumed, inundated, removed from its original position, or otherwise disturbed without the prior written approval of the Institute having been obtained. Many of the graves identified during the site inspection are over 60 years and therefore protected by the above Act. Many of the graves are below 60 years and therefore are not protected by the Act. However, graves are highly significant to many people and there are many sensitivities and norms concerning the relocation of graves hence the removal of graves is not advised. However, because of the high number of grave/s in the settlement, removal of some graves may be unavoidable. This needs to be done with a high degree of consultation and sensitivity and the application process as stipulated Section 4 of the KwaZulu-Natal Heritage Regulations of 2012 must be followed.

It should be noted that it is unlikely that all graves were found during the site inspections. Some properties were fenced off and access could not be gained; in other instances, residents were unaware of graves in their area and due to the dense vegetation cover, it is likely that some grave sites were missed. It is therefore recommended that once the *in-situ* housing upgrade begins, the contractor is made aware that there are many graves in the settlement and that prior to any activities taking place, the presence and location of graves is established with the owner / residents of the dwellings to be replaced.

Several large burial grounds were pointed out to the specialist. All of the sites are overgrown with dense vegetation and it is recommended that these areas be cleared to ascertain the veracity of the information and the extent of the burial ground / cemetery.

There are several structures in the study area that appear to be older than 60 years. Structures older than 60 years are protected in terms of section 37 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act. The specialist who undertook this study is not a built heritage specialist and cannot definitively confirm the age of these structures. If these structures are to be altered or demolished, then a built heritage specialist will need to confirm the age of the structures before written application is made to the Institute for permission to demolish in terms of the procedure stipulated in Section 2 of the KwaZulu-Natal Heritage Regulations, 2012.

The assessment of significance of impacts on heritage resources indicate that if the mitigation measures provided are in place during the *in-situ* housing process, then the impact on graves will be medium and on protected structures, the impact should be low. Both the developer, contractor and construction workers must be made aware that there are a large number of graves in the settlement and that these sites must be treated with respect. The recommendations included in this report and the mitigation measures provided in this report must be adhered to and implemented where necessary.

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I, Jean Beater, act as an independent specialist for this project and I do not have any vested interest either business, financial, personal or other, in the proposed activity other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014.

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### **SPECIALIST DETAILS**

| <b>Name</b> | <b>Qualification</b>                                    | <b>Professional Registration</b>   |
|-------------|---|--|
| Jean Beater | MA (Heritage Studies)<br>MSc (Environmental Management) | Member of Association of South African Professional Archaeologists (No. 349)<br>Member of IAIAAsa (No. 1538) |

## 1. INTRODUCTION

The Cottonlands informal settlement is situated in the suburb of Hazelmere and is neighboured by the suburbs of Barns, Inanda Nu, Gwala and Belvedere North. These suburbs form part of either the Tongaat, Redcliffe, Osindisweni or Hazelmere District. The property is located within Wards 58 and 60 of the eThekweni Metropolitan Municipality.

The project will be implemented as an *in-situ* upgrade comprising the construction of low-income housing. Current owner/occupiers of existing homes that do not meet the standard will be selected as beneficiaries. All new houses will be constructed with the boundary provided. Open space will be utilised as much as possible. There will also be the construction of new sewer infrastructure as well as improvements to both existing water and road infrastructure.

The Phase I Heritage Impact Assessment (HIA) was undertaken to assess whether any heritage resources will be impacted by the proposed *in situ* housing development.

## 2. LEGISLATIVE BACKGROUND

The total area of the settlement is 220Ha hence it triggers sections 41 (1)(c)(i) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018) which lists developments or activities that may require an HIA. Section 41 (1)(c) refers to: “any development or other activity which will change the character of a site– (i) exceeding 5000 m<sup>2</sup> in extent”.

The project may also impact graves, structures, archaeological and palaeontological resources that are protected in terms of sections 37, 38, 39, and 40 of the above Act.

In terms of section 3 of the National Heritage Resources Act (Act No. 25 of 1999), heritage resources are:

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including—
  - (i) ancestral graves;



- (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;
  - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) of significance relating to the history of slavery in South Africa;
- (i) movable objects, including:
- (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - (ii) objects to which oral traditions are attached or which are associated with living heritage;
  - (iii) ethnographic art and objects;
  - (iv) military objects;
  - (v) objects of decorative or fine art;
  - (vi) objects of scientific or technological interest; and
  - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

### 3. LOCATION

The Cottonlands informal settlement, also known as Kwasumubi / eMahlabathini, is situated in the suburb of Hazelmere and has, as neighbours, the suburbs of Barns, Inanda Nu, Gwala, as well as Belvedere North. The property is located within Ward 58 and 60 of the eThekweni Metropolitan Municipality and is situated north east of and above Hazelmere Dam and about 7km north of Verulam. The settlement is located on both sides of Vincent Dickenson Road (**Figure 1**).



Figure 1: Cottonlands settlement outlined in pink

#### **4. TERMS OF REFERENCE**

Undertake a Phase 1 HIA in order to determine the possible existence of heritage resources, as listed above, that could be impacted by the proposed construction of the *in-situ* housing project. Provide mitigation measures to limit or avoid the impact of the proposed project on heritage resources (if any).

Submit the HIA report to the provincial heritage resources authority, the KwaZulu-Natal Amafa and Research Institute (hereafter referred to as the Institute), for their assessment and comment.

#### **5. METHODOLOGY AND CONSTRAINTS**

A survey of literature, including other heritage impact assessment reports that have been completed for the larger area, was undertaken in order to ascertain the history of the area and what type of heritage resources have or may be found in the area of development.

In addition, historical aerial images and topographic maps of the project area were consulted. These images and maps were obtained from the Department of Rural Development and Land Reform's CDNGI Geospatial Portal ([www.cdngiportal.co.za](http://www.cdngiportal.co.za)).

An inspection of the settlement took place on 16 April and 20 April 2021. Visibility was, in general, good but there were areas of very dense vegetation that restricted visibility and could not be accessed. The area is disturbed by large number of residences, access roads, paths and informal farming.

A local resident, Ms Nozipho Gwala, accompanied the specialist and provided assistance with finding heritage sites in discussion with many residents.

## **6. HISTORICAL BACKGROUND OF PROJECT SITE AND SURROUNDING AREA**

According to Prins (2017:3), the greater eThekweni Municipality, including the greater Verulam, has been relatively well surveyed for archaeological heritage sites. The available evidence indicates that this area contains a wide spectrum of archaeological sites covering different time-periods and cultural traditions. These range from Early Stone Age, Middle Stone Age, and Later Stone Age to Early Iron Age, Middle and Later Iron Age sites as well as historical sites relating to the rise of the Zulu Kingdom and the subsequent colonial period.

Around 1 700 years ago an initial wave of Early Iron Age people settled along the inland foot of the sand dunes on sandy but humus rich soils which would have ensured good crops for the first year or two after they had been cleared. The communities seem to have been small groups of perhaps a few dozen slash-and burn cultivators, moving into a landscape sparsely inhabited by Later Stone Age San hunter-gatherers. By 1500 years ago another wave of Iron Age migrants entered the area and farmed the area (Prins 2017:3).

According to Prins (2017:5), the town of Verulam, situated about 7km from Cottonlands, was the third settlement, after Durban and Pietermaritzburg, to be established in the former British Colony of Natal. In 1850 a party of 400 Methodists settled there and formed the town. The town was then named after the Earl of Verulam, patron of the British immigrants who settled there. According to Bulpin (undated:148), a handful of houses and shacks were established on a hillslope running down to the bend in the river where the nucleus of the village was planned.

Cottonlands, an area to the immediate east of Verulam, was earmarked for a cotton farming industry. However, this initiative was unsuccessful and the area was later used for sugar cane and banana farming (Prins 2017:5). According to Bulpin (undated:253), George Marcus, who came to Natal in 1849 from Ceylon, started a cotton farm in the area between Verulam and the Thongathi River before the village of Tongaat had been established. It is possible that the settlement under discussion could have been named because of the cotton farming initiatives undertaken in the area.

Hazelmere Dam was established in 1977 and its primary purpose is to supply water for irrigation and domestic use.

## 7. RESULT OF SITE INSPECTION

A study of early aerial images of the Cottonlands settlement area shows that the area has been occupied since 1937 which is the date of the earliest aerial image found. The relevant section, as can be seen in **Figure 2**, shows several kraals/homesteads, a number of access roads as well as cultivated lands.

The 1942 topographical map (2931CA) supports this as seen in **Figure 3** which depicts the project area. This map also shows that much of the area was under cultivation (especially the area north of Vincent Dickenson Road) that was interspersed with trees and bushes.

By 1978, the aerial image of that year (see **Figure 4** below) clearly shows Hazelmere Dam and the settlement of Cottonlands above and north-east of the dam wall. The image shows more structures in the project area as well. Today, the Cottonlands settlement is densely covered with dwellings.

During the site inspection, numerous graves and burial grounds / cemeteries were found, the location of which is attached in **Appendix 1** of this report. An overall image of the project site with the identified heritage resources can be seen in **Figure 5** below. The areas that contain large numbers of graves are outlined in cerise as polygons with the overall project area outlined in pink.

During the inspection, several large areas were identified by local residents as old burial grounds / cemeteries. All of the sites are heavily overgrown with vegetation and could not be accessed. In order to establish the extent and location of the graves within these areas, they will need to be cleared of vegetation prior to such an inspection and before any construction work. Polygons outlining these areas that need to be investigated further and possibly avoided by the proposed upgrade has been supplied to the Environmental Assessment Practitioner.

The graves found during the site inspections were often located close to dwellings and some were well maintained whilst others were overgrown with vegetation. Some of the graves were unmarked but others were marked with headstones, wooden crosses and outlined with stone or cinderblocks (see **Figures 6 to 11**).

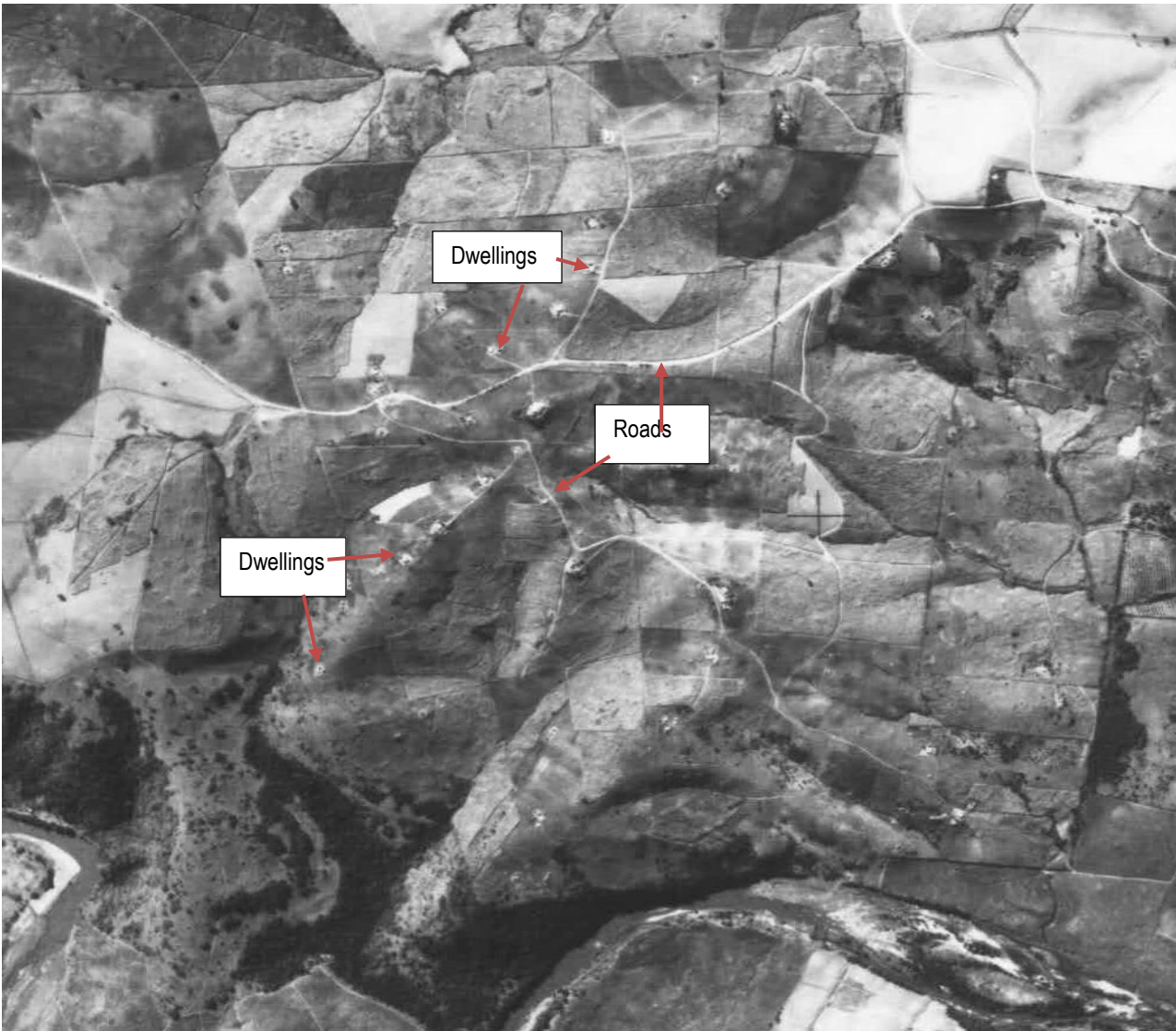


Figure 2: 1937 aerial image of project area shows dwellings, roads and cultivated lands

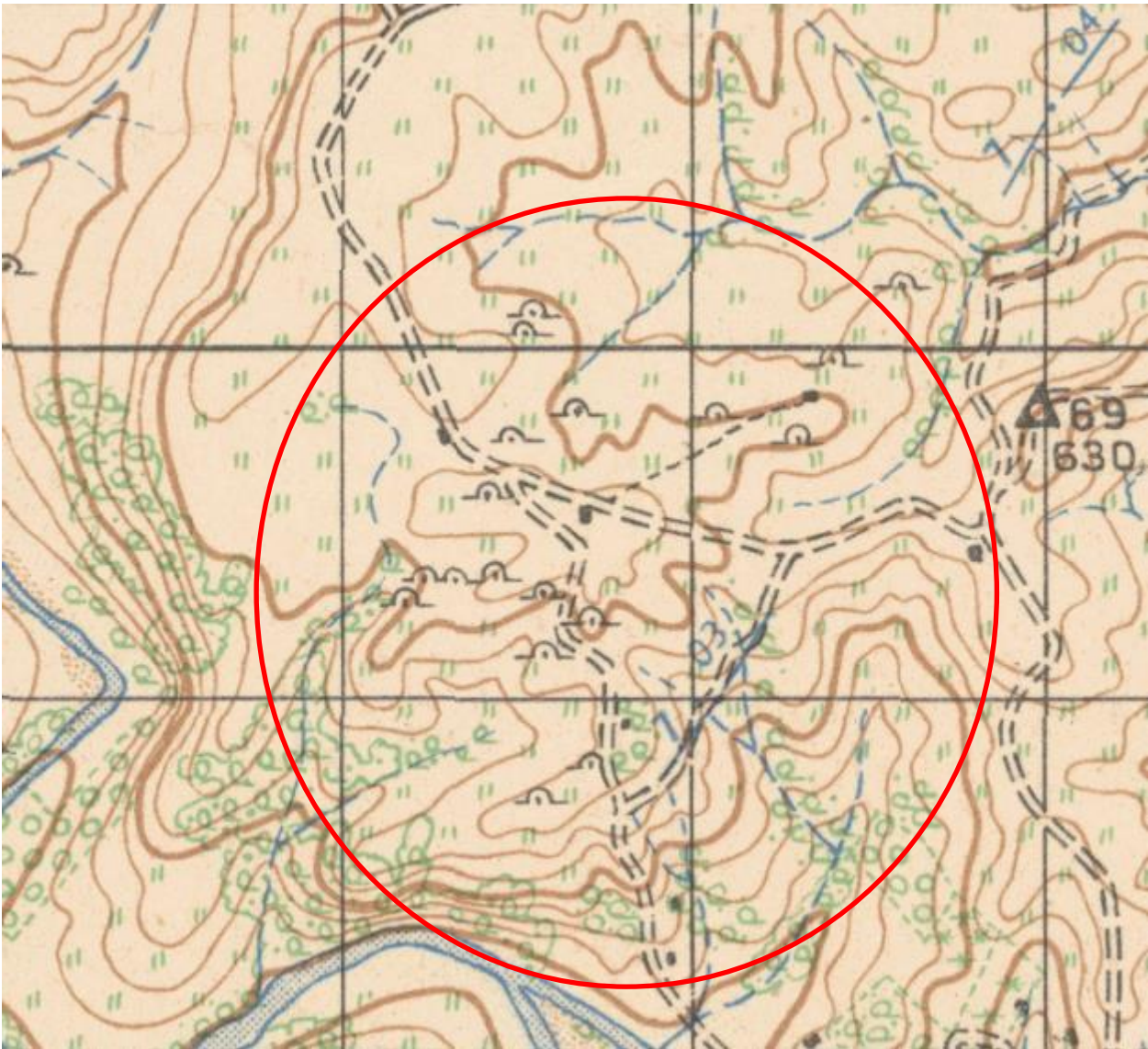


Figure 3: Project area outlined read show kraals, roads and cultivated lands



**Figure 4: 1978 aerial image with project area outlined in red**

Several structures were also found that could possibly be over 60 years hence protected by section 37 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018, which refers to the protection of structures older or reasonably expected to be older than 60 years.







**Figure 6: Grave with headstone**



**Figure 7: Grave with headstone and granite cross**



Figure 8: Grave with cross



Figure 9: Two graves



**Figure 10: Grave indicated with wooden cross**



**Figure 11: Grave covered with concrete**



**Figure 12: Structure potentially older than 60 years**



**Figure 13: Dwelling potentially >60 years**



**Figure 14: Compound for workers now used as residences**



**Figure 15: Corrugated iron house possibly >60 years**

The fossil sensitivity map of the South Africa indicates that the project area falls into a largely moderate zone of palaeontological sensitivity as indicated with the green colour in **Figure 16**. The western section of the study area falls into an area of low fossil sensitivity indicated by the blue colour. An area of moderate fossil sensitivity requires that a desktop palaeontological study be done; an area of low fossil sensitivity requires no further studies but that a protocol for fossil finds is provided.



**Figure 16: Fossil sensitivity of Cottonlands settlement**

Due to the very disturbed environment of much of the settlement through the establishment of residences-, small- and large-scale farming and access roads, it is recommended that no further palaeontological studies are undertaken; however, a protocol for chance fossil finds has been included in Chapter 10 of this report. This protocol must be included in the Environmental Management Programme (EMPr) used during the construction of the *in-situ* housing.

## 8. ASSESSMENT OF SIGNIFICANCE

The assessment of significance of impacts on heritage resources identified during the Phase 1 HIA study has been undertaken in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high).
- The **duration**, wherein it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5;
- The **magnitude**, quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** of occurrence, which shall describe the likelihood of the impact occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- The **status**, which will be described as either positive, negative or neutral.
- The degree to which the impact can be mitigated.



The following formula was applied to calculate the impact significance after the factors were ranked for each impact:  $SP = (\text{magnitude} + \text{duration} + \text{scale}) \times \text{probability}$ .

The significance weightings for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- >60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

**Table 1: Significance of impact on graves and burial grounds**

| <b>Nature: Alteration, damage, destruction of graves</b>  |                           |                        |
|---|---------------------------|------------------------|
|   | <b>Without mitigation</b> | <b>With mitigation</b> |
| <b>Extent</b>   | Local (1)                 | Local (1)              |
| <b>Duration</b>   | Permanent (5)             | Permanent (5)          |
| <b>Magnitude</b>  | High (8)                  | Moderate (6)           |
| <b>Probability</b>  | Highly probable (4)       | Probable (3)           |
| <b>Significance</b>   | <b>56 (Medium)</b>        | <b>36 (Medium)</b>     |
| <b>Status (positive or negative)</b>  | Negative                  | Negative               |
| <b>Reversibility</b>  | None                      | Low                    |
| <b>Irreplaceable loss of resources</b>  | Yes                       | Yes                    |
| <b>Can impacts be mitigated?</b>  | Yes                       |                        |
| <b><u>Mitigation measures</u></b>   |                           |                        |
| <ul style="list-style-type: none"> <li>• 5m buffer around grave/s in which no construction activities may take place</li> <li>• The buffer area must be clearly demarcated</li> <li>• If grave/s are damaged during construction, then work must stop in the immediate vicinity and the grave must be rehabilitated to its previous condition. If the grave/s is &gt;60 years, then the Institute must be informed and the necessary permits obtained from the Institute for the repair to the grave/s.</li> <li>• If it is decided that grave/s are to be moved, then the procedure stipulated in Section 4 of the KwaZulu-Natal Heritage Regulations, 2012 must be adhered to. Section 4 refers to the application process to be undertaken for the damage, alteration, exhumation or removal from its original position or any other disturbance of a grave in a traditional burial place or not located in a formal cemetery</li> </ul> |                           |                        |
| <b>Cumulative impacts:</b> Low-medium   |                           |                        |

**Table 2: Significance of impact on protected structures**

| <b>Nature: Alteration, damage, destruction of protected structures</b>  |                           |                        |
|---|---------------------------|------------------------|
|   | <b>Without mitigation</b> | <b>With mitigation</b> |
| <b>Extent</b>   | Local (1)                 | Local (1)              |
| <b>Duration</b>   | Permanent (5)             | Permanent (5)          |
| <b>Magnitude</b>  | High (8)                  | Moderate (6)           |
| <b>Probability</b>  | Probable (3)              | Improbable (2)         |
| <b>Significance</b>   | <b>Medium (42)</b>        | <b>24 (Low)</b>        |
| <b>Status (positive or negative)</b>  | Negative                  | Negative               |
| <b>Reversibility</b>  | None                      | Low                    |
| <b>Irreplaceable loss of resources</b>  | Yes                       | Yes                    |
| <b>Can impacts be mitigated?</b>  | Yes                       |                        |
| <b>Mitigation measures</b>  |                           |                        |
| <ul style="list-style-type: none"> <li>• Prior to the destruction of any structures that could be &gt;60 years, a built heritage specialist must assess the structure to confirm it's age.</li> <li>• If the structure is &gt;60 years and if it is possible, it should be left intact. However, if this is not possible, then written application must be made to the Institute according to the procedure stipulated in Section 2 of the KwaZulu-Natal Heritage Regulations that refers to applications for the demolition, alteration or addition to a structure which is, or which may reasonably be expected to be older than 60 years.</li> <li>• The in-situ housing project must not damage structures &gt;60 years. If a structure is damaged, then all work must stop in the immediate vicinity, the Institute informed and a qualified specialist appointed to repair the building once all necessary permits obtained from the Institute</li> </ul> |                           |                        |
| <b>Cumulative impacts:</b> Low - medium   |                           |                        |

## 9. DISCUSSION AND RECOMMENDATIONS

In terms of section 39 (1) of the KwaZulu-Natal Amafa and Research Institute Act, graves or burial grounds older than 60 years or deemed to be of heritage significance by a heritage authority- (a) not otherwise protected by the above Act and (b) not located in a formal cemetery managed or administered by a local authority, may not be damaged, altered, exhumed, inundated, removed from its original position, or otherwise disturbed without the prior written approval of the Institute having been obtained on written application to the Institute.

Many of the graves identified during the site inspection are over 60 years and therefore protected by the above Act. Many of the graves are below 60 years and therefore are not protected by the Act. However, graves are highly significant to many people and there are many traditional, cultural and personal sensitivities and norms concerning the relocation of graves hence the removal of

graves is not advised. However, because of the high number of grave/s in the settlement, removal of some graves may be unavoidable. This needs to be done with a high degree of consultation and sensitivity. If graves are to be removed then the application process as stipulated Section 4 of the KwaZulu-Natal Heritage Regulations of 2012 must be followed.

It should be noted that it is unlikely that all graves were found during the site inspections. Some properties were fenced off and access could not be gained to establish the presence and location of graves. Some residents were unaware of graves in their area and, due to the dense vegetation cover, it is likely that some grave sites were missed. It is therefore recommended that once the *in-situ* housing upgrade begins, the contractor is made aware that there are many graves in the settlement and that prior to any activities taking place, the presence and location of graves is established with the owner / residents of the dwellings to be replaced.

Several large burial grounds were pointed out to the specialist. All of the sites are overgrown with dense vegetation and it is recommended that these areas be cleared to ascertain the veracity of the information and the extent of the burial ground / cemetery. Locational data of these sites has been provided to the Environmental Assessment Practitioner.

There are several structures in the study area that appear to be older than 60 years. Structures older than 60 years are protected in terms of section 37 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act. The specialist who undertook this study is not a built heritage specialist and cannot definitively confirm the age of these structures. If these structures are to be altered or demolished, then a built heritage specialist will need to confirm the age of the structures before written application is made to the Institute for permission to demolish in terms of the procedure stipulated in Section 2 of the KwaZulu-Natal Heritage Regulations, 2012, that refers to the application process to be undertaken for the demolition, alteration or addition to a structure which is, or which may reasonably be expected to be, older than 60 years.

## **10. CONCLUSION**

The assessment of significance of impacts on heritage resources indicate that if the mitigation measures provided are in place during the *in-situ* housing process, then the impact on graves will be medium and protected structures should be low. The medium assessment after mitigation for the impact on graves is largely due to the fact that the large number of graves in the project area indicates that it is possible that graves could be impacted by the proposed development.

Therefore, the developer, contractor and construction workers must be made aware that there are a large number of graves in the settlement and that these sites must be treated with respect. The recommendations included in this report and the mitigation measures provided both in **Tables 1 and 2** and in **Chapter 11** of this report must be adhered to and implemented where necessary.

## 11. MITIGATION MEASURES

- For any chance heritage finds (graves, etc.), all work must cease in the area affected and the Contractor must immediately inform the Project Manager. A registered heritage specialist must be called to site to inspect the finding/s. The relevant heritage resource agency (the Institute) must be informed about the finding/s.
- The heritage specialist will assess the significance of the resource and provide guidance on the way forward.
- Permits must be obtained from the Institute if heritage resources are to be removed, destroyed or altered.
- Under no circumstances may any heritage material be destroyed or removed from site unless under direction of a heritage specialist.
- Should any recent remains be found on site that could potentially be human remains, the South African Police Service as well as the Institute must be contacted. No SAPS official may remove remains (recent or not) until the correct permit/s have been obtained.
- In terms of a Chance Fossil Find Protocol, the following should be adhered to:
  - When construction activities begin, any rocks disturbed during this process must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (trace fossils, plants, insects, bone, and coal) should be put aside in a suitably protected place.
  - Photographs of possible fossils should be sent to a palaeontologist for preliminary assessment.
  - If there is any possible fossil material found by the environmental officer/miners then the qualified palaeontologist must be sub-contracted in order for them to visit the site to inspect the selected material and check the dumps where feasible.
  - Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site, permit must be obtained from the Institute. Annual reports must be submitted to the Institute as required by the relevant permits.

## 12. REFERENCES

Bulpin, T.V. *Undated. To the shores of Natal.* Cape Town: Howard B. Timmins

Department of Rural Development and Land Reform's CDNGI Geospatial Portal  
([www.cdngiportal.co.za](http://www.cdngiportal.co.za))

Prins, F. 2017. *First Phase Heritage Impact Assessment of the proposed DTP Cottonlands Industrial Park, Verulam, eThekweni Municipality.*

# **APPENDIX 1**

## **HERITAGE RESOURCES FOUND DURING SITE INSPECTION**

| Waypoints | Co-ordinates                | Discription   | Name     |
|-----------|-----------------------------|---------------|----------|
| 194       | S 29°35'07.7" E 31°03'02.0" | 3 graves      | Mthethwa |
| 195       | S 29°35'10.0" E 31°03'04.8" | 2 graves      | Nxumalo  |
| 196       | S 29°35'10.0" E 31°03'04.9" | 2 graves      | Nxumalo  |
| 197       | S 29°35'11.7" E 31°02'59.6" | 3 graves      | Gwala    |
| 198       | S 29°35'14.0" E 31°02'58.3" | 2 graves      | Kunene   |
| 199       | S 29°35'14.1" E 31°02'58.2" | 2 graves      | Kunene   |
| 200       | S 29°35'17.0" E 31°02'59.1" | 1 grave       | Ceshe    |
| 201       | S 29°35'15.1" E 31°02'58.7" | 1 grave       | Sibisi   |
| 202       | S 29°35'15.3" E 31°02'58.5" | 1 grave       | Sibisi   |
| 203       | S 29°35'14.5" E 31°02'59.5" | 1 grave       | Cele     |
| 204       | S 29°35'16.5" E 31°03'01.2" | 3 graves      | Ndlovu   |
| 205       | S 29°35'14.9" E 31°03'02.1" | 1 grave       |          |
| 206       | S 29°35'16.3" E 31°03'05.3" | 1 grave       | Chili    |
| 207       | S 29°35'16.0" E 31°03'06.0" | 1 grave       | Chili    |
| 208       | S 29°35'15.6" E 31°03'06.4" | 2 graves      | Khuswayo |
| 209       | S 29°35'14.2" E 31°03'06.0" | 1 grave       | Ndlovu   |
| 210       | S 29°35'15.9" E 31°03'11.7" | 1 grave       | Ndlovu   |
| 211       | S 29°35'15.9" E 31°03'10.6" | 5 graves      | Ndlovu   |
| 212       | S 29°35'15.6" E 31°03'10.1" | 5 graves      | Ndlovu   |
| 213       | S 29°35'19.1" E 31°03'09.7" | 1 grave       | Magwaza  |
| 214       | S 29°35'19.8" E 31°03'09.9" | Shembe Temple |          |
| 216       | S 29°35'21.7" E 31°03'08.2" | 2 graves      | Dlamini  |
| 217       | S 29°35'21.1" E 31°03'07.4" | 2 graves      | Ndlovu   |
| 218       | S 29°35'21.6" E 31°03'07.2" | 1 grave       | Zulu     |
| 219       | S 29°35'21.6" E 31°03'07.3" | 5 graves      | Ndlovu   |
| 220       | S 29°35'21.3" E 31°03'07.1" | 1 grave       | Ndlovu   |
| 221       | S 29°35'21.3" E 31°03'07.1" | 1 grave       | Ndlovu   |
| 222       | S 29°35'19.7" E 31°03'08.7" | 1 grave       | Nshele?  |
| 223       | S 29°35'26.7" E 31°02'58.7" | 1 grave       |          |
| 224       | S 29°35'26.3" E 31°02'58.1" | 1 grave       | Zungu    |
| 225       | S 29°35'26.1" E 31°02'58.2" | 1 grave       | Zungu    |
| 226       | S 29°35'26.7" E 31°02'56.3" | 1 grave       | Miya     |

| Waypoints | Co-ordinates                | Discription             | Name      |
|-----------|-----------------------------|-------------------------|-----------|
| 227       | S 29°35'30.6" E 31°02'53.7" | 1 grave                 | Langa     |
| 228       | S 29°35'29.1" E 31°02'54.0" | 1 grave                 | Mthethwa  |
| 229       | S 29°35'28.9" E 31°02'54.2" | 1 grave                 | Mthethwa  |
| 230       | S 29°35'34.0" E 31°03'10.0" | Old house               |           |
| 231       | S 29°35'33.8" E 31°03'08.0" | Old house               |           |
| 232       | S 29°35'37.9" E 31°02'50.7" | 2 graves                | Gumede    |
| 233       | S 29°35'33.5" E 31°02'49.9" | Many graves             |           |
| 235       | S 29°35'41.5" E 31°02'58.3" | Cemetery very overgrown |           |
| 236       | S 29°35'37.6" E 31°02'53.2" | 1 grave                 | Zungu     |
| 237       | S 29°35'35.9" E 31°02'54.9" | Memorial                |           |
| 238       | S 29°35'35.2" E 31°02'54.5" | 2 graves                | Ndlovu    |
| 239       | S 29°35'35.4 E 31°02'54.0"  | 1 grave                 |           |
| 240       | S 29°35'35.5 E 31°02'53.9"  | 1 grave                 | Ndlovu    |
| 241       | S 29°35'34.4 E 31°02'55.8"  | 2 graves                |           |
| 242       | S 29°35'33.6 E 31°02'56.1"  | 4 graves                | Ngobese   |
| 243       | S 29°35'31.9 E 31°02'54.7"  | 1 grave                 | Ngobese   |
| 244       | S 29°35'37.1 E 31°02'55.3"  | 1 grave                 | Ndlovu    |
| 245       | S 29°35'36.3 E 31°02'56.3"  | Old house               |           |
| 246       | S 29°35'33.6 E 31°03'01.4"  | 1 grave                 | Kambula   |
| 247       | S 29°35'30.7 E 31°02'59.3"  | 1 grave                 | Dladla    |
| 248       | S 29°35'34.1 E 31°03'06.1"  | 1 grave                 | Mervia    |
| 249       | S 29°36'55.2 E 31°03'55.6"  | 1 grave                 | Nyalo     |
| 250       | S 29°35'29.2 E 31°03'18.0"  | 1 grave                 | Nyalo     |
| 252       | S 29°35'28.3 E 31°03'21.1"  | 2 graves                | Ngcobo    |
| 253       | S 29°35'28.1 E 31°03'28.2"  | 1 grave                 | Ndimande  |
| 254       | S 29°35'40.3 E 31°03'18.2"  | 1 grave                 | Ntethe    |
| 255       | S 29°35'39.9" E 31°03'17.6" | 1 grave                 | Zomazimba |



| Waypoints | Co-ordinates                | Description   | Name            |
|-----------|-----------------------------|---|-----------------|
| 256       | S 29°35'37.1" E 31°03'14.8" | Old house   |                 |
| 257       | S 29°35'38.8" E 31°03'20.0" | 1 grave   | Mbuyazi         |
| 258       | S 29°35'33.3" E 31°03'21.6" | Old graves  |                 |
| 259       | S 29°35'39.2" E 31°03'20.3" | Old graves  |                 |
| 260       | S 29°35'37.1" E 31°03'25.1" | Reservoir   |                 |
| 261       | S 29°35'44.2" E 31°03'25.8" | Large area in valley housing graves                       |                 |
| 262       | S 29°35'29.6" E 31°03'26.4" | 2 graves; east of the graves is an area of lots of graves | Mfeka and Mjoli |
| 263       | S 29°35'27.4" E 31°03'16.6" | Old house   |                 |
|           | S 29°35'27.1" E 31°03'15.8" | Homestead with several old buildings                      |                 |
| 264       | S 29°35'26.8" E 31°03'15.5" | 1 grave   | Ndimande        |
| 265       | S 29°35'39.5" E 31°03'10.6" | 1 grave   | Ndimande        |
| 267       | S 29°35'35.7" E 31°03'11.0" | 1 grave   | Nzuza           |
| 268       | S 29°35'16.7" E 31°03'17.8" | 3 graves  | Dlovu           |
| 269       | S 29°35'17.8" E 31°03'15.9" | 4 graves  | Mhlongo         |
| 270       | S 29°35'15.4" E 31°03'17.6" | 1 grave   | Zungu           |
| 271       | S 29°35'16.7" E 31°03'02.7" | 5 graves ,  | Dlovu           |
| 272       | S 29°35'07.6" E 31°03'07.1" | 8 graves in homestead complex                             | Dlovu           |
| 273       | S 29°35'07.2" E 31°03'07.5" | 3 graves ,  | Luthuli         |
| 279       | S 29°35'06.8" E 31°03'06.0" | Old house   |                 |
| 280       | S 29°35'10.1" E 31°03'10.9" | Old burial site   |                 |
| 281       | S 29°35'12.5" E 31°03'10.4" | 2 graves  | Khuzwayo        |
| 282       | S 29°34'56.7" E 31°03'05.2" | 2 graves  | Dladla          |
| 283       | S 29°34'56.7" E 31°03'05.1" | 1 grave   | Dladla          |
| 284       | S 29°34'57.4" E 31°03'09.0" | 1 grave   | Mahlasela       |

| Waypoints | Co-ordinates                | Discription                  | Name           |
|-----------|-----------------------------|------------------------------|----------------|
| 285       | S 29°34'55.6" E 31°03'04.8" | 1 grave                      | Mahlobo        |
| 286       | S 29°34'54.7" E 31°03'05.3" | 1 grave                      | Mdluli         |
| 287       | S 29°34'55.0" E 31°03'05.2" | Old house                    |                |
| 288       | S 29°34'57.3" E 31°03'18.4" | 2 graves                     | Ndlovu         |
| 289       | S 29°34'59.6" E 31°03'17.6" | 1 grave                      | Mapiry / Hlope |
| 290       | S 29°34'58.2" E 31°03'23.6" | 1 grave                      | Vezi           |
| 291       | S 29°34'50.4" E 31°03'27.4" | Burial ground around factory |                |
| 292       | S 29°34'58.5" E 31°03'33.4" | 1 grave                      | Nikwe          |
| 293       | S 29°34'57.5" E 31°03'30.2" | 1 grave                      | Copolo         |
| 294       | S 29°34'58.1" E 31°03'30.1" | 1 grave                      | Copolo         |
| 295       | S 29°35'04.8" E 31°03'20.2" | 1 grave                      | Ndlovu         |
| 296       | S 29°35'04.9" E 31°03'20.6" | 1 grave                      | Ndlovu         |
| 297       | S 29°35'05.2" E 31°03'20.2" | 4 graves                     | Ndlovu         |
| 298       | S 29°35'04.6" E 31°03'19.3" | Old house                    |                |
| 299       | S 29°34'59.1" E 31°03'11.6" | 1 grave                      | Sibiya         |
| 300       | S 29°35'00.0" E 31°03'11.0" | graves                       | Mhlangulela    |
| 301       | S 29°35'15.4" E 31°03'27.5" | 1 grave                      | Ntsele         |
| 302       | S 29°35'18.1" E 31°03'28.1" | 1 grave                      | Mtshali        |
| 303       | S 29°35'12.7" E 31°03'40.4" |                              |                |
| 304       | S 29°35'13.2" E 31°03'40.3" |                              |                |





| <b>Mitigation</b>   |
|---|
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure |
| As above  |
| 5 metre buffer around graves  |
| Polygon of area that contains graves  |
| Polygon of cemetery   |
| 5 metre buffer around grave   |
| 5 metre buffer around memorial  |
| 5 metre buffer around graves  |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around graves  |
| 5 metre buffer around graves  |
| Very overgrown, could not see grave   |
| 5 metre buffer around grave   |
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around graves  |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |

| <b>Mitigation</b>   |
|---|
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure   |
| 5 metre buffer around grave   |
| Polygon of area that contains graves  |
| Polygon of area that contains graves  |
| Structure can be demolished if not >60 years  |
| Polygon of area that contains graves  |
| Polygon of area that contains graves  |
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure   |
| If structures are to be demolished then built heritage specialist must ascertain age & worth of structure |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around graves  |
| 5 metre buffer around graves  |
| 5 metre buffer around grave   |
| 5 metre buffer around graves  |
| 5 metre buffer around graves  |
| 5 metre buffer around graves  |
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure   |
| Polygon of area that contains graves  |
| 5 metre buffer around graves  |
| 5 metre buffer around graves  |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |

| <b>Mitigation</b>   |
|---|
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure   |
| 5 metre buffer around graves  |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| Polygon outlining area where graves are located   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around graves  |
| If structure is to be demolished then built heritage specialist must ascertain age & worth of structure   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| 5 metre buffer around grave   |
| Placemarks 303-306 are visible graves within much larger cemetery on eastern boundary of site; this area not to be developed as depicted by polygon |
| Placemarks 303-306 are visible graves within much larger cemetery on eastern boundary of site; this area not to be developed as depicted by polygon |

