



**PHASE I ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT
ASSESSMENT SPECIALIST REPORT FOR THE PROPOSED ACACIAVALE
HOUSING PROJECT ON PORTION OF THE REMAINDER OF ERF 1,
LADYSMITH NO. 5695 WITHIN ALFRED DUMA LOCAL MUNICIPALITY OF
UTHUKELA DISTRICT, KWAZULU-NATAL**

September, 2020

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DECLARATION

ABILITY TO CONDUCT THE PROJECT

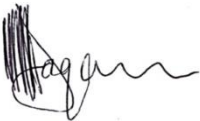
Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and a Master's degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for southern African Professional Archaeologists (ASAPA) and Amafa aKwaZulu-Natali. Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), Historical Association of South Africa (HESA); Anthropology Southern Africa (ASnA); International Association for Impact Assessment (IAIAsa); International Council on Monuments and Sites (ICOMOS) and the International Council of Archaeozoology (ICAZ). He has more than fifteen years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed hundreds Archaeological Impact Assessments (AIA) for developmental projects situated in several provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

INDEPENDENCE

I, Munyadziwa Magoma declare that this report has been prepared independently of any influence as may be specified by all relevant department, institution and organization. I act as the independent specialist in this application, and will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favorable to the applicant. I declare that there are no circumstances that may compromise my objectivity in performing such work, I vow to comply with all relevant Act, Regulations and applicable Legislation. Furthermore, Vhubvo Consultancy Cc, which is a company I represent in this application, is an independent service provider and apart from fair remuneration for services rendered, it has no financial interest or vested interest in the proposed project.

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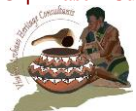
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EXECUTIVE SUMMARY

Introduction

Vhubvo Consultancy Cc (Vhubvo) has been appointed by Nature and Development Group of Africa Environmental Consultants to conduct an Archaeological and Cultural-Heritage Impact Assessment study for the proposed Acaciavale housing project on portion of the remainder of ERF 1, Ladysmith No. 5695 within Alfred Duma Local Municipality of uThukela District municipality. The main aim of the study was to outline the archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed development. Further, the study aims to advise on mitigation measure should any sites be impacted, these mitigations will, in turn, assist the developer in making decision on the most appropriate option (s) in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). The findings of this cultural study have been informed by desktop study and field survey that was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments, and also for researches that have been carried out in the broader area of Ladysmith which is the closest town to the proposed area.

The story of the proposed area dates for thousands of years ago, when the area was constituted of rolling grasslands and open plains with tributaries cutting the area, we now call Ladysmith or ‘Lady Smith’. Its first inhabitants, the San, were hunter gatherers, living off the land and hunting freely on the quiet flood plains. Nevertheless, over the years Bantu speaking people will arrive and settle there. In the course of time, the rising Zulu nation spread towards the Drakensberg mountains, claiming land and driving away other tribes. After a visit by the great King Shaka, the area was named ‘Emnambithi’. In Zulu the word for something tasty is “namibitheka” and this is how he described the sweet water of the Klip River. In 1847, King Mpande had negotiation with member of the Afrikaners community, and that mark the beginning of Afrikaners community in the area. They named their new ‘home’ the Republic of Klip River, which is still reflected in the car license plates for vehicles registered in Ladysmith. The republic was proclaimed a township in 1850, and was to be known as Windsor. However, in the same year, the name was changed again on the 11th of October 1850. This new area will soon become known as Ladysmith after Juana Maria de los Dolores de Leon Smith. The wife of the Spanish Sir Harry Smith, who served as the British general governor of the Cape Colony and High Commissioner in South Africa from 1847 to 1852. Ladysmith became world famous during the Anglo-Boer War of 1899-1901 when it was besieged by Boers from 2 November 1899 until 28 February 1900. Ghandi, Smuts and Churchill are figures of international significance who were also present during the siege of Ladysmith. Several of the most celebrated battles of the war were fought around Ladysmith. These include the Battles of Elandslaagte, Spionkop, Wagon Hill, Caesars Camp, Lombards Kop and Umbulwana Hill.



Background and Need of the Project

The proposed development is primarily a low-income residential township. This development is in accordance with the strategic development plans of the Alfred Duma Municipality as detailed in its Integrated Development Plan (IDP) and Spatial Development Framework (SDF) and the Housing Sector Plan of the municipality.

Methodology and Approach

The study method refers to the SAHRA Policy Guidelines for impact assessment, 2012. As part of this impact assessment; the following processes were followed:

- Literature Review: To understand the background archaeology of the area, a background study was undertaken and relevant institutions were consulted. These studies entail the view of archaeological and heritage impact assessment studies that have been conducted around the proposed area thorough SAHRIS. In addition, E-journal platforms such as J-stor, Google scholars and History Resource Centre were searched. The University of Pretoria's Library collection was also pursued;
- The field survey was conducted on the **11th of September 2020**, this also includes oral interviews;
- The final step involved the recording and documentation of relevant archaeological resources, as well as the assessment of resources in terms of the heritage impact assessment criteria and report writing, as well as mapping and useful recommendations.

The applicable maps, tables, and figures, are included as stipulated in the NHRA (no 25 of 1999), the National Environmental Management Act (NEMA) (no 107 of 1998) and the Minerals and Petroleum Resources Development Act (MPRDA) (28 of 2002).

Brief History of the Area

The history of the area began some thousands of years before the establishment of Ladysmith. This started with the Early Stone Age (from 2.5 million to 250 000 years ago), the Middle Stone Age (the period from 250 000 to 22 000 years ago) and the Late Stone Age (from 22 000 years ago to 200 years ago). More than sixty sites are recorded in the data base of the KwaZulu-Natal Museum. These include Early Stone Age, Middle Stone Age sites, Later Stone Age sites (including rock paintings and rock engraving), as well as Later Iron Age and historical period sites. The majority of the Later Iron Age and historical period sites are characterized by stone walling.

Restrictions and Assumptions

This study was only limited to cultural heritage assessment and did not include any studies pertaining to risks associated with underground pillar extraction and vibration analysis, considering that there is surrounding heritage sites in the precinct. It is important to note that the Social Impact Assessment and the Public Participation Process (PPP) were not part of this study. However, it is assumed that the above study and the



PPP might also result in the identification of sites, features and objects, including sites of intangible heritage potential in the site or line and that these then will also have to be considered in the selection of the preferred site or line.

Survey Findings and Discussions

The main aim of the survey was to evaluate potential heritage resources that would occur within the boundaries of the proposed area (s), as well as to determine if there is any hamartia that may prevent the proposed development from taking place in any of the proposed study areas. The Phase I Archaeological and Cultural Heritage Impact Assessment for the proposed housing development identified no significant cultural or archaeological impacts in the footprint of the proposed development that will need to be mitigated prior construction. Despite that no archaeological materials were identified on the footprint of the proposed site; a cemetery of historical importance had been noted in the area adjoining that which is proposed for housing. This cemetery is protected by the National Heritage Resource Act (Act 25 of 1999). Burial sites and its contents are accorded the highest heritage accolades in South Africa, and elsewhere, principally by their relation with human being. Burial sites are often the focus of emotional and ethical sentiments to people. Dealing with human remains thus requires the highest ethical standards, Section 36 of the National Heritage Resources Act (3) states that, no person may, without a permit issued by SAHRA or a provincial heritage resources authority: destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. If the grave is less than 60 years of age, it is protected against any damage, altering or exhumation by the Human Tissue Act (Act 65 of 1983) and to local regulations.

This finding must be understood within the context of the proposed development. As aforesaid, the development proposal will entail construction of houses, and involves digging and stamping, which subsequently will cause dust, and commotion. Furthermore, the movement of machinery and contractors will be common in the area, and it is possible that the proposal may negatively affect the cemetery nearby. It must be noted that the proposed site and the cemetery are separated by an access road, meaning chances that the proposed development may negatively affect the cemetery is high considering that the cemetery is within the buffer zone (30m) of the proposed development. Note must be taken that there is no consensus regarding the meaning, purpose, nature and extent of the buffer zone of Burial Cultural Landscape. The buffer zone of the listed property is not clearly defined and various institutions, interested and affected parties and other stakeholders have different conceptualisations of what constitute the Burial Cultural Landscape buffer zone. Although 30m is generally accepted as a standard buffer zone for project of this nature, it is regrettably not possible in this proposal. The only attainable buffer zone in this proposal is 16m, and will be acceptable on condition that the recommendations in this report are strictly observed. These recommendations are given in consideration of the entire context of the proposed development, and are not only limited to the footprint of the proposed development.



Recommendations and Discussions

Recommendations are given from a heritage point of view and considering the nature of the proposed project and the cultural significance of the heritage resources in the vicinity of the proposed area. The following are the recommendations based on the above findings:

- ❖ A Heritage Management Plan (HMP) must be developed to ensure the following:
 - ✓ Guide the developer and relevant stakeholders in addressing concerns related to the identified cemetery; and
 - ✓ Develop a monitoring programme to facilitate effective implementation of the HMP.

It is recommended that a Heritage Management Plan and Monitoring Plan be compiled before construction resume. These plans must be compiled by a professional archaeologist and be tailored made to ensure protection of the cemetery which is within the buffer zone (16m) of the proposed development. This management must aim to preserve the site from damage or destruction, either be by accident or ill-informed. Furthermore, it must be designed to retain the significance of the cemetery, and ensure that the enhancement, presentation and maintenance of the cemetery is deliberately and thoughtfully designed to protect the heritage values of the place. Other sensitive issues that must be addressed in the HMP are the following:

- ✚ Ensuring that the descendant (community members in this instance) of the graves are sought, and notified about this proposed development which might have an impact (directly or indirectly) on their grave. This can be done by means of public participation or placing of placards in the township;
- ✚ Aspects related to dumping of construction material within this buffer zone and stone robbing or removal of any material should be addressed;
- ✚ Issue of a reasonable buffer zone around the cemetery must also be addressed; and
- ✚ Labor-intensive workers should be notified about this cemetery, and the developer should avoid conveying duty during the time when the graveyard is active (that's mostly Saturday morning).

Pre-construction education and awareness training

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;
- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);
- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.



If any chance archaeological or previously unknown grave (s), be exhumed or discovered during the course of construction work, activities on the proposed development area should be deactivated, and a heritage specialist monitoring the project be notified immediately. In the meantime, construction activities must be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer should induct field worker about archaeology, and steps that should be taken in the case of exposing archaeological materials.

Conclusions

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. It is recommended that the developer proceed with the project subject to the recommendations given above.



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ACRONYMS AND ABBREVIATIONS

AIA	Archaeological Impact Assessment
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
MIA	Middle Iron Age
EIA	Early Iron Age
HMP	Heritage Management Plan
LSA	Late Stone Age
MSA	Middle Stone Age
ESA	Early Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency



GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

Archaeological Material: remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.

Artefact: Any movable object that has been used modified or manufactured by humans.

Conservation: All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: “the combined works of nature and man” and demonstrate “the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.

Cultural Resources Management (CRM): the conservation of cultural heritage resources, management, and sustainable utilization and present for present and for the future generations

Cultural Significance: is the aesthetic, historical, scientific and social value for past, present and future generations.

Chance Finds: means Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during



Proposed Acaciavale Housing Project

cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Compatible use: means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a place so as to retain its cultural significance.

Expansion: means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

Grave: A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place.

Heritage impact assessment (HIA): Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Historic Material: remains resulting from human activities, which are younger than 100 years, but no longer in use, including artifacts, human remains and artificial features and structures.

Impact: the positive or negative effects on human well-being and / or on the environment.

In situ material: means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.



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Interested and affected parties Individuals: communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

Interpretation: means all the ways of presenting the cultural significance of a place.

Late Iron Age: this period is associated with the development of complex societies and state systems in southern Africa.

Material culture means buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

Mitigate: The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Place: means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Protected area: means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

Public participation process: A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.

Setting: means the area around a place, which may include the visual catchment.

Significance: can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (i.e. biophysical, physical cultural, social and economic).



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Site: a spatial cluster of artefacts, structures, and organic and environmental remains, as residues of past human activity.



1. Introduction

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2. Sites Location and Description

Acaciavale is a township located on portion of the remainder of ERF 1, Ladysmith no. 5695 within Alfred Duma Local Municipality of Uthokela District Municipality, KwaZulu-Natal Province. The township is located northern part of ward 20 and surrounded by a railway line on the south west, Klip River on the north-west and north-east, as well as the cemetery on the eastern side. Currently, the area of study is vacant, and concentrated of grass and bush encroachment. The proposed topography of the area proposed for housing development is fairly flat, and characterized by access roads. The footprint of the development will cover an area of 58 hectares of land (See Figure 1).



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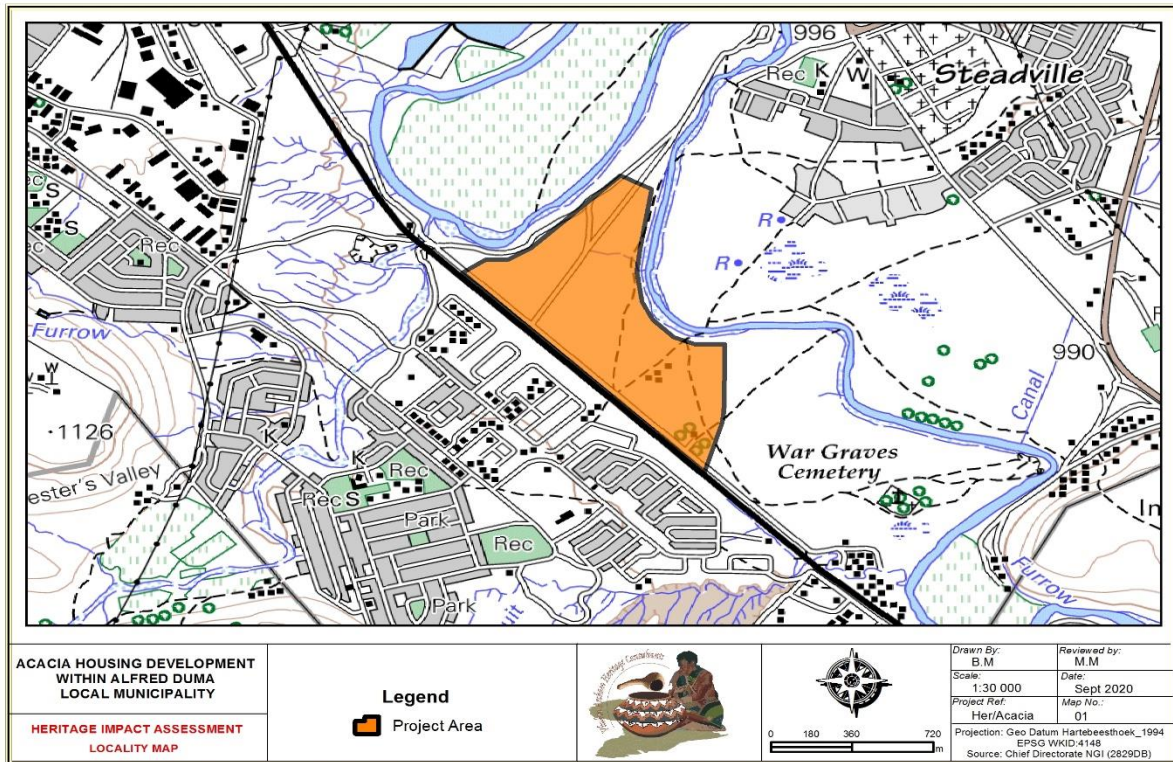


Figure 1: An overview of the topographical map of the area proposed for development.

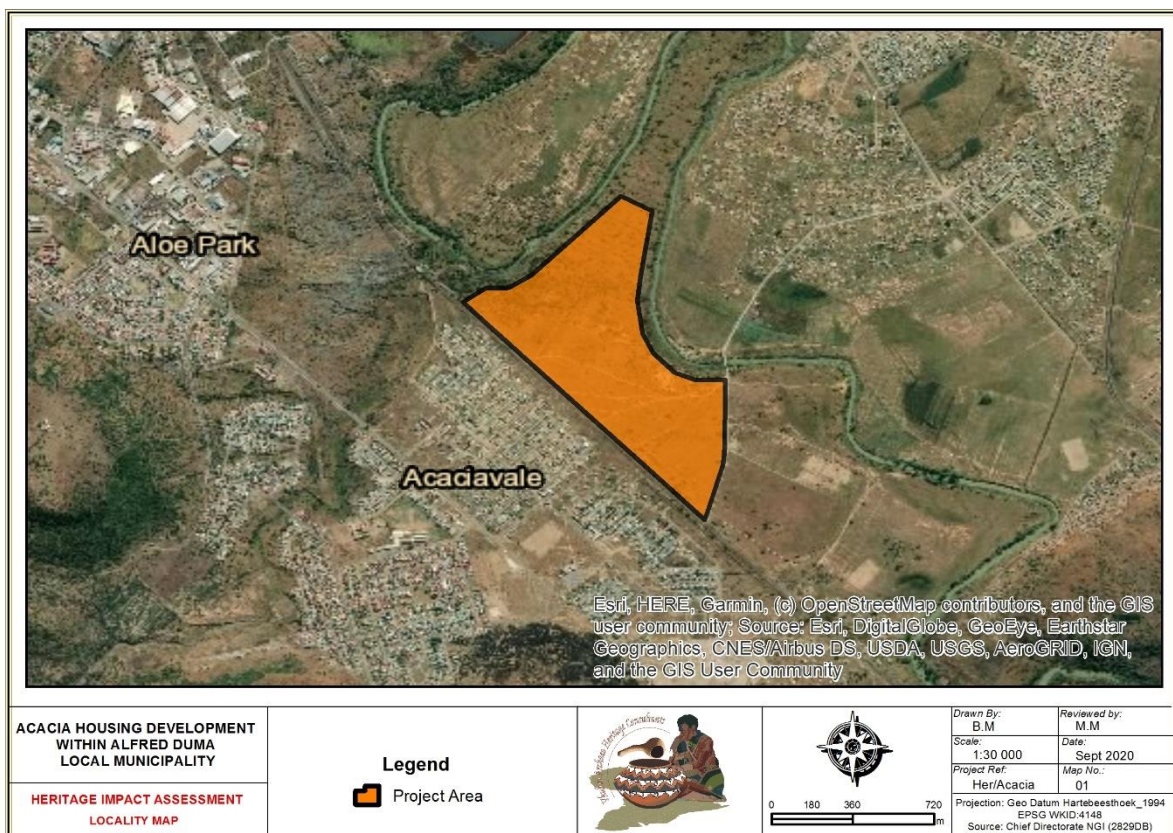


Figure 2: An overview of the earth map of the area proposed for development.



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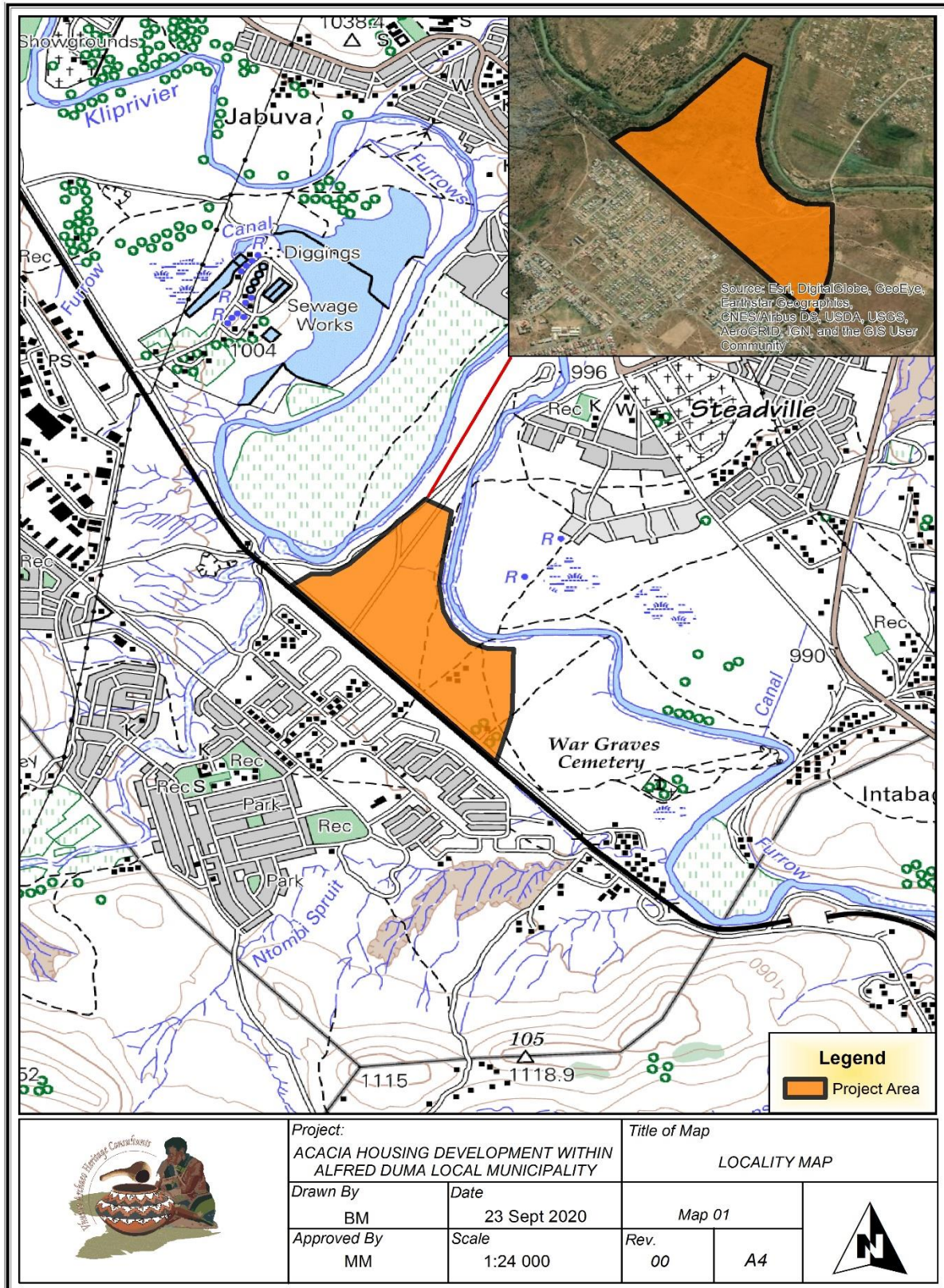


Figure 3: View of the map of the area proposed for Acaciavale housing in topo and earth map area proposed



Proposed Acaciavale Housing Project



Figure 4: An overview of the area proposed for development. Note the access roads within the proposed area.



Figure 5: View of the eastern section of the area proposed for development.



Proposed Acaciavale Housing Project



Figure 6: View of the area where the proposed conveyor will transverse.



Figure 7: View of some of the western section of the area proposed for housing.





Figure 8: View of the road that separate the proposed site and the cemetery.

3. Nature of the Proposed Project

The proposed development is primarily a low-income residential township. This development is in accordance with the strategic development plans of the Alfred Duma Municipality as detailed in its Integrated Development Plan (IDP) and Spatial Development Framework (SDF) and the Housing Sector Plan of the municipality. The proposed housing development will involve a phased construction process where phase one will entail the establishment of basic infrastructure such as internal roads, water and sewer pipes, and the establishment of platforms where houses will be constructed. Phase two will commence with the construction of residential erven after infrastructure has been established. The development will be implemented strictly according to the final layout which will be approved at the EIA stage. The layout plan for the proposed development is shown in Figure 1.4 and in Map 2 of Appendix 1. From the layout plan, the activities detailed in Table 1.3 have been identified to be included in the development.

Table 1: Activities Included in the Proposed Development.

PROPOSED ACTIVITIES INCLUDED IN DEVELOPMENT			
	No. of Units	Area (Ha)	% of Area Occupied
Residential	957	35.5968	61.4
Community (Secondary School)	1	5.0736	8.7521



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Community (Primary School)	1	2.7847	4.8037
Community (Creché)	1	0.3006	0.5185
Community (Worship)	1	0.3006	0.5185
Community (Hall)	1	0.337	0.5813
Business	1	0.5199	0.9
Roads		7.9731	13.7
Public Open Space	2	5.0836	8.8
TOTAL	959	57.9699	100

Table 2: The activities that have been listed above have associated infrastructure described below.

Development Type	Associated Infrastructure Type
Residential	According to the engineering report, uThukela District Municipality has confirmed that waterborne sewerage infrastructure is available in the area and therefore, water borne sanitation will be provided for the project. Sewer infrastructure will consist of a 160mm gravity pipeline to an existing sewer pump station.
Community (Secondary School)	Ablution facility consisting of portable water, sewer infrastructure, and access road
Community (Primary School)	Ablution facility consisting of portable water, sewer infrastructure, and access road.
Community (Creché)	Ablution facility consisting of portable water, sewer infrastructure, and access road.
Community (Worship)	Ablution facility consisting of portable water, sewer infrastructure, and access road.
Community (Hall)	Ablution facility consisting of portable water, sewer infrastructure, and access road.
Business	Ablution facility consisting of portable water, sewer infrastructure, and access road.
Roads	Three categories of gravel roads will be constructed with V-Drains along each road type
Public Open Space	None



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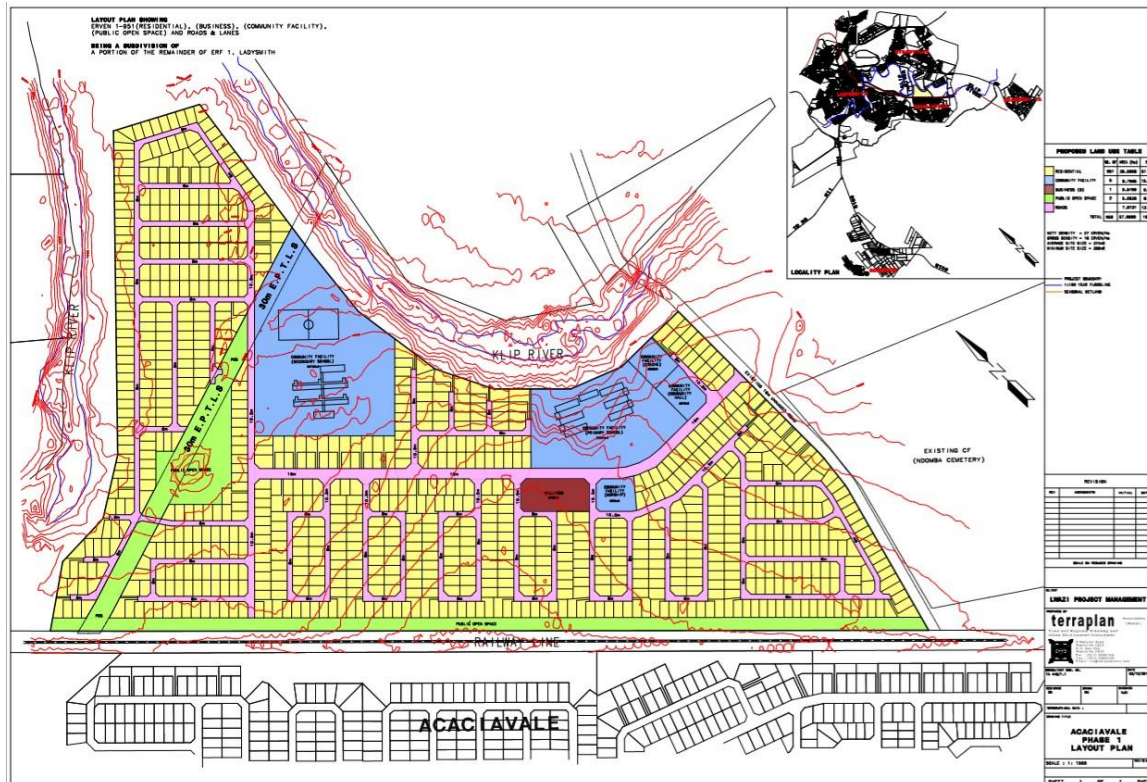


Figure 9: View of the layout plan

Residential and Social Structures (Ervens)

The project is classified as a Greenfield project (this implies development of an open space where no residential structures exist). The proposed development will comprise of the construction of housing structures, house portable water connections, the provision of internal roads, and provision of water borne sanitation. Preparation of the preliminary layout plan considered existing development constraints within the area including servitudes (power line and railway line), flood lines. The existing Railway Line bordering the project area has a 20.00m building line restriction. The 30,0m wide Electrical Power Transmission Line Servitude (E.P.T.L.S.) traversing the project area has also been accommodated. The proposed development comprises 957 residential erven. The current gross density is 16 erven/ha with the nett residential density being 27 erven/ha. The minimum residential erf size is 350m² and the average erf size is 374m². The Layout Plan also proposes new land uses and these are related to the number of new erven that has been planned. These include 5 Community Facility Erven (Secondary School, Primary School, Crèche, Community Hall and Worship). One Business Erf and 2 Public Open Space Erven have also been included in the layout.



Proposed Acaciavale Housing Project

Proposed Road Infrastructure

The road infrastructure for the proposed development is shown in Figure 10. The road hierarchy for the proposed development is indicated in Tables 1 and 2. The design of these roads includes 16m and 10.5m taxi collector roads to serve the project area. These roads tie into an existing 16m unnamed gravel road to the south east of the proposed development (Figure 10). The existing 16m unnamed gravel road linking the Ndomba Cemetery and the proposed project area to Mandela Drive has a single lane bridge over the Klip River (refer to Figures 10 and 11). All other proposed 16m, 10,5m and 8m access roads are indicated on the Layout Plan which will provide access to the residential and other community facilities.

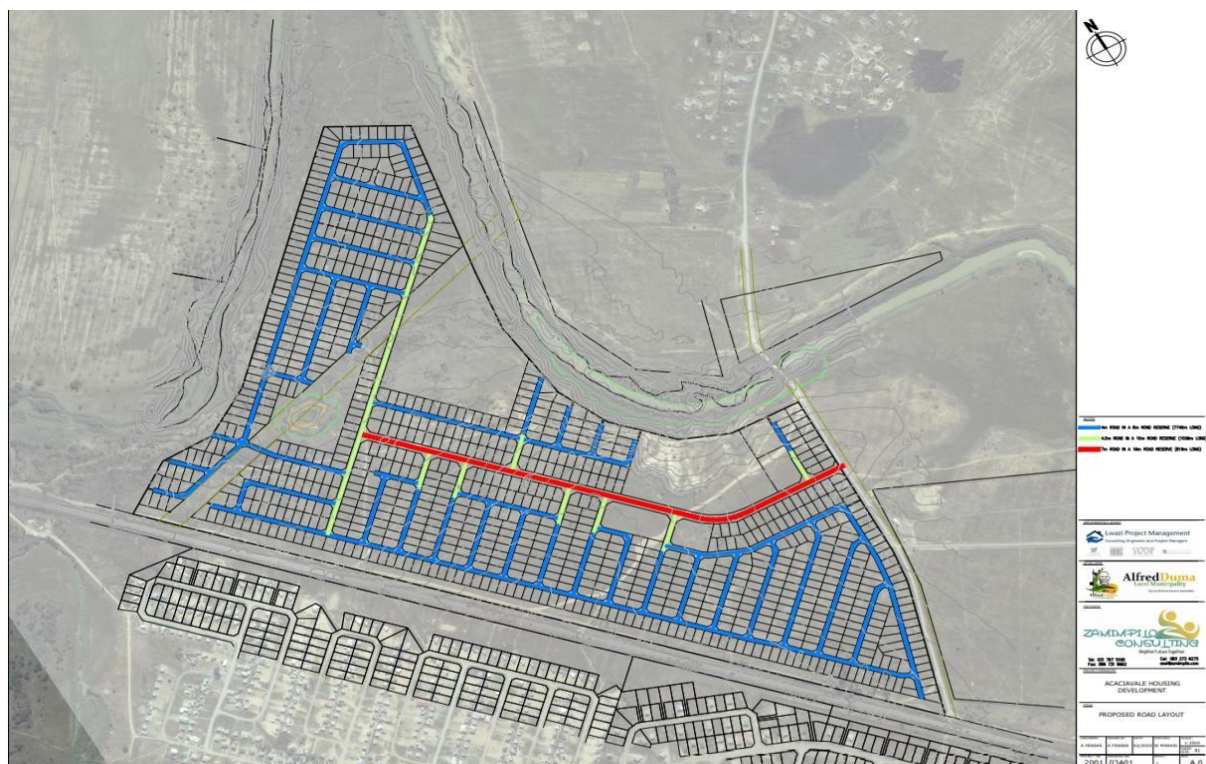


Figure 10: Proposed Road Infrastructure.

Sewer Infrastructure

Existing infrastructure in the project area include (refer to Figure 11):

- A bulk sewer line located along the southern boundary of the site
- The Marula Pump Station located at the south eastern most tip of the site
- There is a bulk sewer line from the Marula Pump Station to existing Ladysmith WWTW
- The existing Ladysmith Waste Water Treatment Works about 3.4 km from the existing Marula Pump Station.



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Proposed Sewer Infrastructure

The following sewer infrastructure are proposed (refer to Figure 11):

Owing to the fact that the whole development gravitates towards the Klip River, the sewerage will have to be pumped to the closest sewerage outfall pipeline. As a result, a pump station is proposed at the site. The sewer will gravitate to the existing pump station, from where the sewage will be pumped to the Ladysmith WWTW located about 3.4 km from the site.

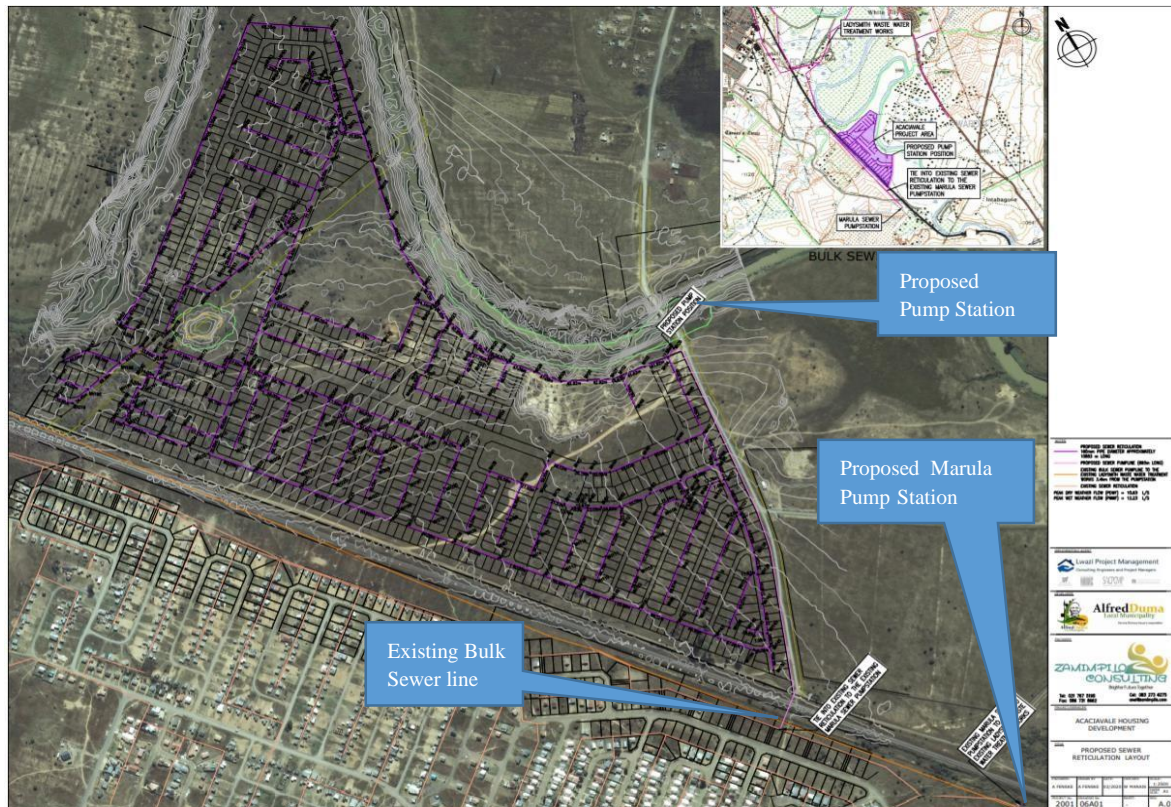


Figure 11: Existing and Proposed Sewage Infrastructure.

Stormwater Infrastructure

No stormwater infrastructure currently exists on the site.

As indicated earlier, the site slopes gently towards to Klip River and therefore drains to the river. Preliminary investigation showed that the difference between the pre-development and post development runoff will have to be attenuated in two small structures which will be located in the natural drainage paths. The area where the proposed roads will cross these drainage paths and the road embankment will then serve as well as well as at the edge of the development area before the runoff will reach the Klip River system. A minimum pipe diameter of 450 mm diameter will be installed along the roads to drain stormwater from the western side of the development to the discharge outlets. The stormwater discharge outlet structures will be designed to meet the required



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storage capacity and have a controlled discharge. The stormwater discharge outlets will also be designed to ensure that the post development peak flow conditions and runoff discharge from the development area does not exceed the pre-development conditions.

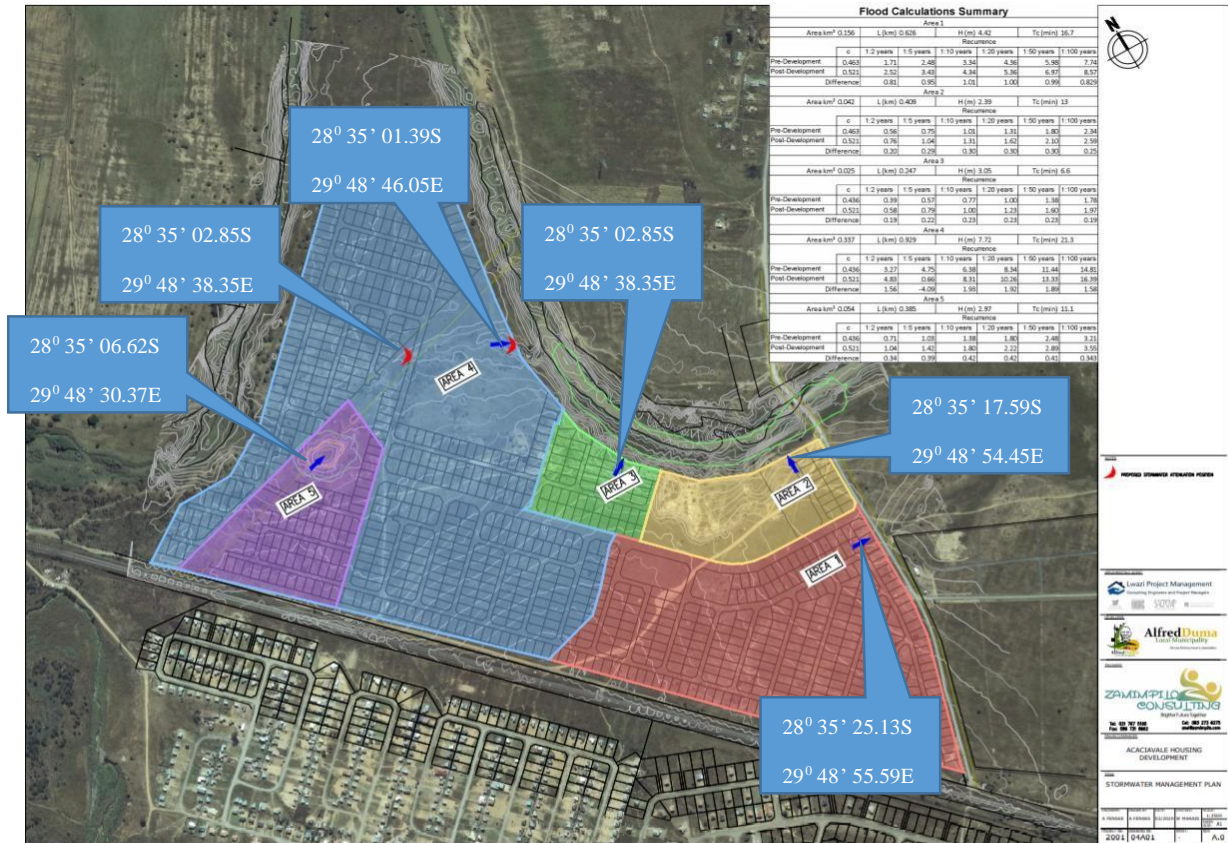


Figure 12: Stormwater Infrastructure.

4. Purpose of the Cultural Heritage Study

The purpose of this Archaeological and Cultural Heritage study is to entirely identify and document archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed housing project, these will, in turn, assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). Impact assessments highlight many issues facing sites in terms of their management, conservation, monitoring and maintenance, and the environment in and around the site. Therefore, this study involves the following:

- Identification and recording of heritage resources that may be affected by the proposed housing;



- Providing recommendations on how best to appropriately safeguard identified heritage sites. Mitigation is an important aspect of any development on areas where heritage sites have been identified.

5. Methodology and Approach

Background study introduction

The methodological approach is informed by the 2012 SAHRA Policy Guidelines for impact assessment. As part of this study, the following tasks were conducted: 1) literature review, 2), consultations with the developer and appointed consultants, 3), completion of a field survey and 4), analysis of the acquired data, leading to the production of this report.

Physical survey

The field survey was conducted on the **11th of September 2020**. Two archaeologists from Vhubvo conducted the survey.

Documentation

The general project area was documented. This documentation included taking photographs using cameras a 10.1 mega-pixel Sony Cybershort Digital Camera. Plotting of finds was done by a Garmin etrex Venture HC.

Oral interview

Oral interview was not initiated due to the nature of the survey.

Restrictions and Assumptions

The sign of sites of heritage potential expected in the proposed area are mostly historical houses and graves. Although no remains of Stone/ Iron Age sites are expected in the proposed area, the proposed sites could still contain camps and some areas with suitable substrates that could have been used as quarries for material to produce tools.

It is assumed that the Social Impact Assessment and the Public Participation Process might also result in the identification of sites, features and objects, including sites of intangible heritage potential in the corridors and that these then will also have to be considered in the selection of the preferred alternatives.



6. Applicable Heritage Legislation

Several legislations provide the legal basis for the protection and preservation of both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include:

- (a) *the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) *the construction of a bridge or similar structure exceeding 50 m in length; and*
- (c) *any development or other activity which will change the character of an area of land, or water -*
 - (i) *exceeding 5 000 m² in extent;*
 - (ii) *involving three or more existing erven or subdivisions thereof; or*
 - (iii) *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) *the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;*
- (d) *the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) *any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (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 by in terms of the Human Tissue Act,1983 (Act No. 65 of 1983)*
- (h) *Sites of significance relating to the history of slavery in South Africa*
 - (i) *moveable objects, including -*
 - (i) *objects recovered from the soil or waters of South Africa, including archaeological and paleontological 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*



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(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 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Other sections of the Act with a direct relevance to the AIA are the following:

Section 34(1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority:

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside formal cemetery administered by a local authority; or
- bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

7. Degree of Significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance, as it is unique for the region. The following table is used to grade heritage resources.

Table 1: Grading systems for identified heritage resources in terms of National Heritage Resources Act (Act 25 of 1999)

Level	Significance	Possible action
National (Grade I)	Site of National Value	Nominated to be declared by SAHRA
Provincial (Grade II)	Site of Provincial Value	Nominated to be declared by PHRA
Local Grade (IIIA)	Site of High Value Locally	Retained as heritage
Local Grade (IIIB)	Site of High Value Locally	Mitigated and part retained as heritage
General Protected Area A	Site of High to Medium	Mitigation necessary before destruction
General Protected Area B	Medium Value	Recording before destruction



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General Protected Area C	Low Value	No action required before destruction
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Significance rating of sites

(i) High

(ii) Medium

(iii) Low

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking, the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

High

- This is a 'do not touch' situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele resided.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when the appropriate



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heritage authority has issued a permit. The following table is used to determine rating system on the receiving environment.

Table 3: Rating System

NATURE		
Including a brief description of the impact of the heritage parameter being assessed in the context of the project. This criterion includes a brief written statement of the heritage aspect being impacted upon by a particular action or activity.		
TOPOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.		
1	Site	The impact will only affect site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		
This describes the chance of occurrence of an impact		
1	Unlikely	The chance of the impact occurring is extremely low (Less than 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than 75% chance of occurrence).



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REVERSIBILITY

This describes the degree to which an impact on a heritage parameter can be successfully reversed upon completion of the proposed activity.

1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and mitigation measures exist.

IRREPLACEABLE LOSS OF RESOURCES

This describes the degree to which heritage resources will be irreplaceably lost as a result of proposed activity

1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resource	The impact will result insignificant loss of resources.
4	Complete loss of resource	The impact is result in a complete loss of all resources.

DURATION

This describes the duration of the impact on the heritage parameter. Duration indicates the lifetime of a result of the proposed activity.



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1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in span shorter than the construction phase (0-1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0-2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2-10 years).
3	Long term	The impact and its effects will continue or last for entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10-50 years).
4	Permanent	The only class of the impact that will non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).
CUMULATIVE EFFECT		



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This describes the cumulative effect of the impacts on the heritage parameter. A cumulative effect/impact is an effect, which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from similar or diverse activities as a result of the project activity in question.

1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects.
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative Impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects.

MAGNITUDE

Describes the severity of an impact.

1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).



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3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapsed).Rehabilitation and remediation often impossible .If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.

SIGNIFICANCE

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on heritage parameter.

8. Discussion of (Pre-) History of the Area

South Africa has one of the most prolonged sequences of human development in the world. The prehistory and history of South Africa span the entire known life span of human on earth. It is thus difficult to determine precisely where to begin, and a possible choice could be the development of genus Homo millions of years ago. South African scientists have been actively involved in the study of human origins since 1925 when Raymond Dart identified the Taung child as an infant halfway between apes and humans. Dart called the remains *Australopithecus africanus*, southern ape-man, and his work ultimately changed the focus of human evolution from Europe



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and Asia to Africa, and it is now widely accepted that humankind originated in Africa (Robbins et al. 1998). In many ways, this discovery marked the birth of palaeoanthropology as a discipline. Nonetheless, the earliest form of a culture known in South Africa is the Stone Age. This prehistoric period during which humans widely used stone for tool-making, stone tools were made from a variety of different sorts of stone. For example, flint and chert were shaped for use as cutting tools and weapons, while basalt and sandstone were used for ground stone. The Stone Age period is divided into Early, Middle and Late, and it is argued that there is two transitional period. Noteworthy that the time frame used for Stone Age period is an approximate and differ from one researcher to the next (see Korsman & Meyer 1999, Mitchell 2002, Robbins et al. 1998). Environmental conditions played an important role in influencing past human settlements in KwaZulu-Natal. KwaZulu-Natal has a wide spectrum of archaeological sites covering different time-periods. Hence, we can conclude that the archaeology of KwaZulu-Natal spans three archaeological periods: The Stone Age, Iron Age and Historical/ Colonial period.

Stone Age period

Although a long history of research on the Early Stone Age period of southern Africa has been conducted (Mason 1962, Sampson 1974, Klein 2000, Chazan 2003), it remains a period where little is known about. This may be due to many factors which include, though not limited to retrieval techniques used, and the fact that few faunae from this period has been analysed (Chazan 2003). According to Robbins et al. (1998), the Stone Age is the period in human history when a stone was mainly used to produce tools. This period began approximately 2.5 million years ago and ended around 20 000 years ago. During this period human beings became the creators of culture and was hunters and gatherers and large stone artefacts identify this area. Few Early Stone Age sites have been documented in this Province. Although Early Stone Age sites reliance on secondary, at times unknown sources occur at various locations in KZN none of them are in context and occur mostly in open-air situations, or in dongas close to water with little in-situ material. Stone Age sites in the area around of uThukela District Municipality occur in open air contexts, mostly exposed by erosion. According to Pris (2015), these tools were most probably made by early hominid and date back to between 300 000 and 1.7 million years ago. Apart from stone artefacts, no preserved archaeological remains have been preserved dating back to this period. Oliver Davies a pioneer archaeologist being the only person to research ESA period in KwaZulu-Natal has recognized different traditions of Early Stone Age. All these traditions are characterized by heavy tools made from cores such as scrappers and picks, hand axes and cleavers (Davies 1976; Mazel 1989). Several MSA have been documented in KZN, and these sites include



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Sibudu Cave, Holley Shelter, Umbeli Belli Shelter, Umhlatuzana Cave, and Border Cave (Mazel 1989). All these sites provided impressive evidence for fine resolution data and detailed stratigraphy (Wadley 2001; Wadley 2005; Wadley & Jacobs 2006). The presence of the first anatomically modern people (i.e. *Homo sapiens sapiens*) in the area is indicated by the presence of a few Middle Stone Age blades and flakes. These most probably dates back to between 40 000 and 200 000 years ago. The Late Stone Age (LSA) sites occur throughout the province. The later Stone Age flakes and various rock painting sites identified in the area are associated with the San (Bushmen) and their direct ancestors. These most probably dates back to between 200 and 20 000 years ago. These sites are well documented and preserved, most of these sites are located in caves, plains and hills and contain sites with rock art from the San and Khoi San cultural groups. The region is renowned for the prolific LSA San rock painting sites concentrated in the areas such as Giants Castle, Ukhahlamba and Kamberg in the Drakensberg Mountains were rock shelters suitable for occupation are plentiful. It is important to note that rock art sites do occur outside the Drakensberg such as rock art sites documented in the areas around Escourt, Mooi River and Dundee, however, these sites have not been afforded similar research attention as those sites occurring in the Drakensberg (Mazel 1989).

Iron Age

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers arrived in what is now South Africa. The Iron Age is the name given to the period of human history when metal was mainly used to produce artefacts. Recently, they have been a debate about the use of the name. Other archaeologists have argued that the word “Iron Age” is problematic and does not precisely explain the event of what happened in southern Africa, as such, the word farming communities has been proposed (Segobye, 1998). Nonetheless, in South Africa this period can be divided into two phases. Early (200 - 1000 A.D) and Late Iron Age (1000 - 1850 A.D). Huffman (2007) has indicated that a Middle Iron Age (900 - 1300 A.D) should be included. According to Huffman (2007), until the 1960s and 1970s most archaeologists had not yet recognised a Middle Iron age. Instead, they began the Late Iron Age at AD 1000. The Middle Iron Age (AD 900–1300) is characterised by extensive trade between the Limpopo Confluence and the East Coast of Africa. This has been debated, with other researchers, arguing that the period should be restricted to Shashe-Limpopo Confluence. Iron Age occupation in KwaZulu Natal was during the Early and Late Iron Age. The archaeological evidence of the Iron Age people in the region is represented through distinct ceramic traditions, stone walls and other structural features such as grain bins and



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hut floor remain, kraal remains, iron implements, slugs, bellows and furnaces (Huffman 2007; Maggs 1984a, 1989; Mitchell 2002). Earliest agricultural sites in KwaZulu-Natal date to between AD 400 and 550. Extensive research in the province of this period led to it being divided in the following time lines according to ceramic styles (Maggs, 1989; Huffman 2007): Msuluzi (AD 500-700); Ndondondwane (AD 700-800); and Ntshekane (AD 800-900). Evidence of Central Cattle Pattern (CCP) settlement pattern shows that KZN was occupied by Nguni-speaking group (Huffman 2007; Whitelaw & Davis 1974). Majority of Early Iron Age sites in the Ugu District Municipality belong to these traditions (Maggs, 1989; Huffman, 2007). These sites characteristically occur on alluvial or colluvial soil adjacent to large rivers below the 1000m contour. Later Iron Age communities in KwaZulu-Natal were the direct ancestors of the Zulu-speaking people (Huffman 2007). Many African groups moved through the study area due to the period of tribal turmoil as caused by the expansionistic policies of king Shaka Zulu in the 1820's and subsequent civil wars in Zululand to the north. over the years Bantu speaking people will arrive and settle there. In the course of time, the rising Zulu nation spread towards the Drakensberg mountains, claiming land and driving away other tribes. After a visit by the great King Shaka, the area was named 'Emnambithi'. In Zulu the word for something tasty is "namibitheka" and this is how he described the sweet water of the Klip River. In 1847, King Mpande had negotiation with member of the Afrikaners community, and that mark the beginning of Afrikaners community in the area. They named their new 'home' the Republic of Klip River, which is still reflected in the car license plates for vehicles registered in Ladysmith. The republic was proclaimed a township in 1850, and was to be known as Windsor. However, in the same year, the name was changed again on the 11th of October 1850. This new area soon became known as Ladysmith after Juana Maria de los Dolores de Leon Smith. The wife of the Spanish Sir Harry Smith, who served as the British general governor of the Cape Colony and High Commissioner in South Africa from 1847 to 1852.

Historical period

The Portuguese explorer Vasco de Gama named Natal in 1497. The colonial history of the area starts around 1820 when early English ivory traders established themselves at Port Natal (Durban), at the time when Shaka, King of the Zulu was firmly in charge of the hinterland. They made almost no attempt to develop the interior, whose inhabitants had been decimated by the Zulu chief Shaka. During 1837 the Dutch descendants (i.e. Voortrekkers) entered the area through the Drakensberg passes, and defeated the Zulus at the Battle of Blood River in 1838 and thereafter established a short-lived Boer republic called Natalie. However, by 1845 Natal became a British colony. Between 1860 and 1911 shiploads of Indians brought in by British arrived to work in the coastal sugar



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plantations (www.sahistory.org.za; www.zulu.org). Northern and central KwaZulu-Natal is strewn with sites of battles between the Zulu, Boer and British during the 1800's and 1900's. In 1879 the British finally conquered the Zulu in the Anglo-Zulu War and acquired the Zululand (the area north of the Tugela River). The lands north of the Buffalo River were added in 1902. These conflicts are now collectively known as the South African War. A result of these conflicts was the construction of many forts in the area. Several colonial buildings, gravesites, monuments, stone Cairns and statues dating from the later 19th century as well as subsequent periods abound in the province. A number of battles, particularly those linked to the Anglo-Boer War (South African War) were fought around Ladysmith. These include the Battles of Elandslaagte, Spionkop, Wagon Hill, Caesars Camp, Lombards Kop, Talana Hill, Hlangwane Hill, Hills of Monte Cristo, Harts Hill, Wynnes Hill, Pieters Hill and Railway Hill and Umbulwana Hill. Besides this rich military history, some of the renowned people like Ghandi and Churchill are amongst those who were in town during the siege of Ladysmith. The siege, which lasted for 118 days, began when the Afrikaaner cut the railway and telegraph lines. A number of people were affected by this, presumed to be well over 21, 000 people. They were to suffer the ravages of diseases and starvation on an unprecedented scale. In addition to the human contingent, there were over 4580 horses, oxen and mules that where affected.

9. Findings and Discussions

The main aim of the survey was to evaluate potential heritage resources that would occur within the boundaries of the proposed area (s), as well as to determine if there is any hamartia that may prevent the proposed development from taking place in any of the proposed study areas. The Phase I Archaeological and Cultural Heritage Impact Assessment for the proposed housing development identified no significant cultural or archaeological impacts in the footprint of the proposed development that will need to be mitigated prior construction. Despite that no archaeological materials were identified on the footprint of the proposed site; a cemetery of historical importance had been noted in the area adjoining that which is proposed for housing (See Figure 13 and 14). This cemetery is protected by the National Heritage Resource Act (Act 25 of 1999). Burial sites and its contents are accorded the highest heritage accolades in South Africa, and elsewhere, principally by their relation with human being. Burial sites are often the focus of emotional and ethical sentiments to people. Dealing with human remains thus requires the highest ethical standards, Section 36 of the National Heritage Resources Act (3) states that, no person may, without a permit issued by SAHRA or a provincial heritage resources authority: destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial



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ground older than 60 years which is situated outside a formal cemetery administered by a local authority. If the grave is less than 60 years of age, it is protected against any damage, altering or exhumation by the Human Tissue Act (Act 65 of 1983) and to local regulations.

This finding must be understood within the context of the proposed development. As aforesaid, the development proposal will entail construction of houses, and involves digging and stamping, which subsequently will cause dust, and commotion. Furthermore, the movement of machinery and contractors will be common in the area, and it is possible that the proposal may negatively affect the cemetery nearby. It must be noted that the proposed site and the cemetery are separated by an access road, meaning chances that the proposed development may negatively affect the cemetery is high considering that the cemetery is within the buffer zone (30m) of the proposed development. Note must be taken that there is no consensus regarding the meaning, purpose, nature and extent of the buffer zone of Burial Cultural Landscape. The buffer zone of the listed property is not clearly defined and various institutions, interested and affected parties and other stakeholders have different conceptualizations of what constitute the Burial Cultural Landscape buffer zone. Although 30m is generally accepted as a standard buffer zone for project of this nature, it is regrettably not possible in this proposal. The only attainable buffer zone in this proposal is 16m, and will be acceptable on condition that the recommendations in this report are strictly observed. These recommendations are given in consideration of the entire context of the proposed development, and are not only limited to the footprint of the proposed development.



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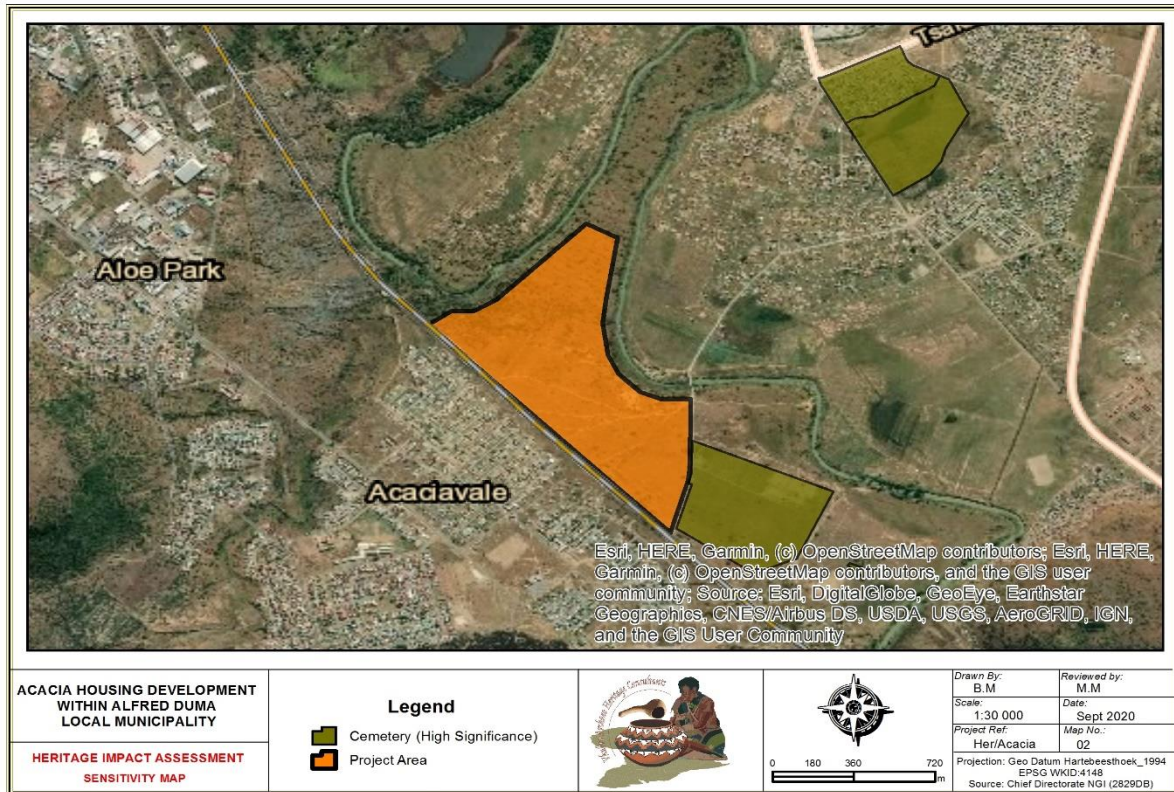


Figure 13: View of the sensitivity map of the area proposed for development.

Table 4: Findings

Recorded Number	GPS	Description
Dr1	s28 35 28.4 e29 48 56.2	A cemetery was noted close to the proposed site (See Figure 14 and 15). This cemetery is approximately 16m form the area proposed for development
<u>Significance: High</u>		

10.1 Impact Assessment

Below is a description of the proposed Acaciavale Housing Project’s related impact ratings. These ratings are for archaeological and cultural heritage sites known to exist in the proposed area, and includes Stone and Iron Age, as well as Graves and Historical era materials. Note that these impacts are assessed as per Table 3 above:



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The proposed topography of the area proposed for housing development is fairly flat, and characterized by access roads. The footprint of the development will cover an area of 58 hectares of land.

Table 5: Anticipated impact rating

Alternatives	Ratings
Nature	Negative
Topographical Extent	The impact will only affect site.
Duration	Short term
Magnitude	Low
Probability	Possible
Reversibility	Irreversible
Irreplaceable Loss	The impact will result in no loss



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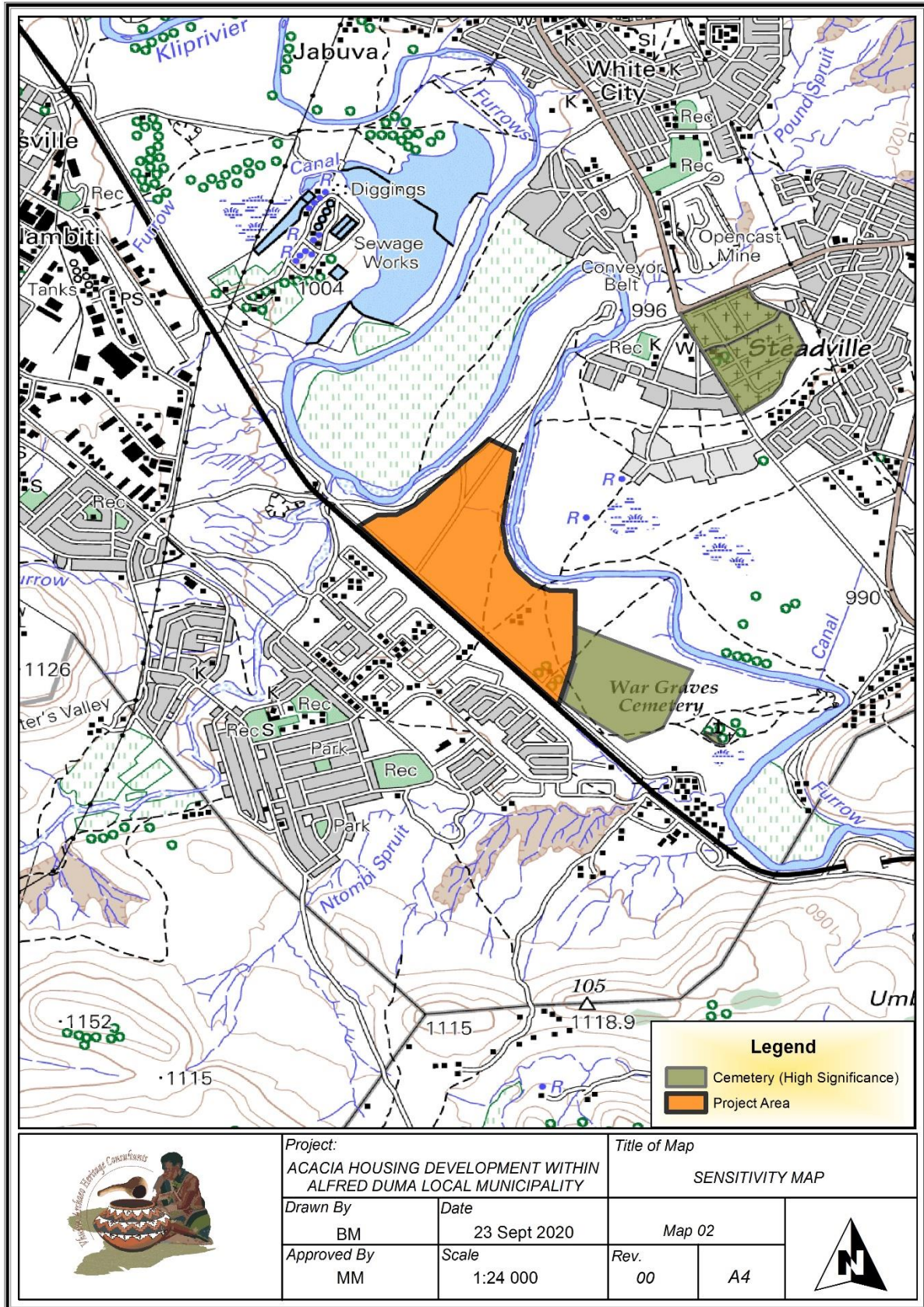


Figure 14: View of the proposed sites in conjunction to the findings.



10. Recommendations

Recommendations are given from a heritage point of view and considering the nature of the proposed project and the cultural significance of the heritage resources in the vicinity of the proposed area. The following are the recommendations based on the above findings:

- ❖ A Heritage Management Plan (HMP) must be developed to ensure the following:
 - ✓ Guide the developer and relevant stakeholders in addressing concerns related to the identified cemetery; and
 - ✓ Develop a monitoring programme to facilitate effective implementation of the HMP.

It is recommended that a Heritage Management Plan and Monitoring Plan be compiled before construction resume. These plans must be compiled by a professional archaeologist and be tailored made to ensure protection of the cemetery which is within the buffer zone (16m) of the proposed development. This management must aim to preserve the site from damage or destruction, either be by accident or ill-informed. Furthermore, it must be designed to retain the significance of the cemetery, and ensure that the enhancement, presentation and maintenance of the cemetery is deliberately and thoughtfully designed to protect the heritage values of the place. Other sensitive issues that must be addressed in the HMP are the following:

- ✚ Ensuring that the descendant (community members in this instance) of the graves are sought, and notified about this proposed development which might have an impact (directly or indirectly) on their grave. This can be done by means of public participation or placing of placards in the township;
- ✚ Aspects related to dumping of construction material within this buffer zone and stone robbing or removal of any material should be addressed;
- ✚ Issue of a reasonable buffer zone around the cemetery must also be addressed; and
- ✚ Labor-intensive workers should be notified about this cemetery, and the developer should avoid conveying duty during the time when the graveyard is active (that's mostly Saturday morning).

Pre-construction education and awareness training

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;



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- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);
- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

If any chance archaeological or previously unknown grave (s), be exhumed or discovered during the course of construction work, activities on the proposed development area should be deactivated, and a heritage specialist monitoring the project be notified immediately. In the meantime, construction activities must be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer should induct field worker about archaeology, and steps that should be taken in the case of exposing archaeological materials.

11. Conclusions

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. It is recommended that the proposed development proceed on condition that the proposed recommendations detailed above are adhered to.



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APPENDIX 1: SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

(b) Aesthetic value

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?



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