Phase 1 Heritage Impact Assessment for the Proposed Development of the ERPM Mine Village, Boksburg, Gauteng.

Prepared For

W&L Consultants

By

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2006

In Association with

Polke Birkholtz
And
Mauritz Naude

VERSION 1.1

23 MAY 2012

ACKNOWLEDGEMENT OF RECEIPT

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I, Jaco van der Walt as duly authorised representative of Heritage Contracts and Archaeological Consulting CC, hereby confirm my independence as a specialist and declare that neither I nor the Heritage Contracts and Archaeological Consulting CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which W&L Consultants was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

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EXECUTIVE SUMMARY

Site name and location: The old ERPM Mine Village is located north-west of the Boksburg CBD and is situated 1.5 km from the Boksburg Civic Centre. It is located in the triangle formed by Rondebult Road (R21) on the eastern boundary and Commissioner Street (M46) as the southern boundary.

1:50 000 Topographic Map: 2628 AB.

EIA Consultant: W&L Consultants.

Developer: Ekurhuleni Municipality.

Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).

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Date of Report: 08 May 2012

Findings of the Assessment:

This report attempted to give an account of the history of the study area and general surrounds. By consulting various databases, maps, archival and secondary sources, it was possible to compile a brief history regarding human settlement and mining history in the area. Sites that are most sensitive to the development are the built environment and cultural landscape that will require extensive mitigation. No sites of archaeological significance were identified.

This report represents the results of the Heritage Impact Assessment undertaken in terms of the development of the old ERPM Mine Village. The results are based on an archival and historical desktop study as well as a field survey that was undertaken during October 2011.

This document includes the comments and recommendations made by the projects architectural historian.

Disclaimer:

Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.

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Table of Contents

Appendices

ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (2 million to 300 000 years ago)

Middle Stone Age (300 000 to 30 000 years ago)

Late Stone Age (30 000 years ago until recent)

Historic (approximately AD 1840 to 1950)

Historic building (over 60 years old)

Lithics: Stone Age artefacts

1. INTRODUCTION

Heritage Contracts and Archaeological Consulting CC was contracted by W&L Consultants to conduct a Heritage Impact Assessment for the proposed development of approximately 4000 new residential dwellings within the old ERPM Mine Village in Boksburg. The proposed project is located on the farm Driefontein 85-IR, Ekurhuleni Metropolitan Municipality, Gauteng Province. The HIA forms part of the EIA for the proposed project.

The aim of the study is to identify all heritage sites, document, and assess their importance within Local, Provincial and national context. To assess the impact of the proposed project on non-renewable heritage resources and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes in Phase 1: Information collection from various sources and consultations; Phase 2: Physical surveying of the area on foot and by vehicle; and Phase 3: Reporting the outcome of the study.

General site conditions and features on sites were recorded by means of photos, GPS location, and description. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must now be submitted to the Boksburg Historical Association for their comments and input. Subsequently, the report must be submitted to the Gauteng PHRA and SAHRA APM Unit for peer review.

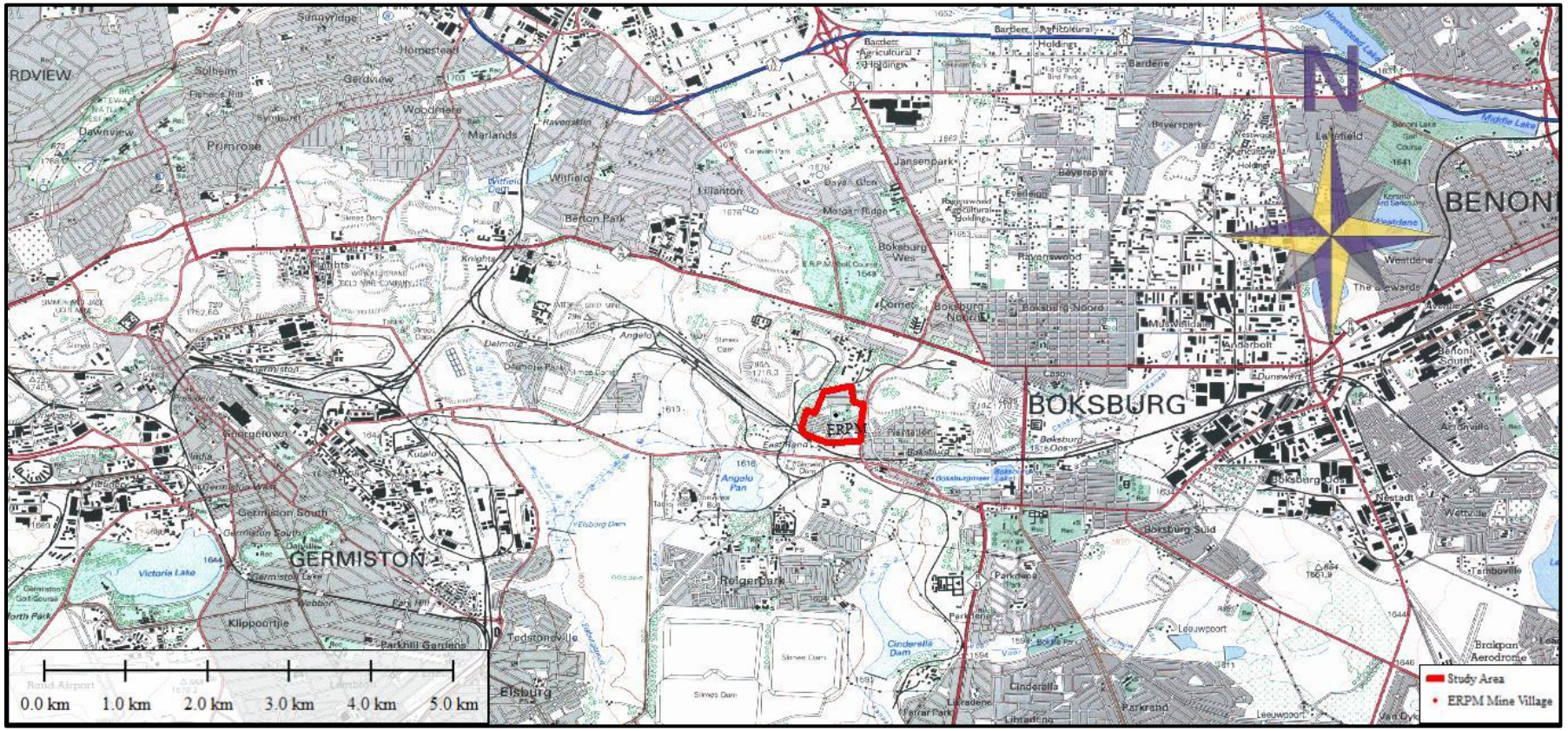

Figure 1: Locality map showing study area in red

1.1 Terms of Reference

The scope of work comprises the heritage evaluation of the old ERPM mine town in Boksburg as per figure 1. In order to compile an impact assessment of the proposed development on heritage resources this assessment includes the services of an archaeologist, historian and conservation architect. It is important to note that as per the scope of work this report only deal with the Phase 1of the HIA and does not include any mitigation work in order for the development to proceed.

In order to achieve the successful completion of the project the following phased approach was used.

Desktop study:

The desktop study was done to review of available literature, previous heritage studies and other relevant information sources. Gather data and compile a background history of the area. Identify all known and recorded archaeological and cultural sites; and determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.

Conduct a field study to:

Systematically survey the proposed project area to locate, identify record, photograph and describe sites of archaeological, historical or cultural interest; and record GPS points of significant areas identified. Determine the levels of significance of the various types of heritage resources recorded in the project area;

Reporting

In the reporting we aim to identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources for all 3 phases of the project, i.e. construction, operation and decommissioning phases. Consider alternatives should any significant sites be impacted adversely by the proposed project. Ensure that all requirements of the local South African Heritage Resources Agency (SAHRA) are met. To assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

1.2. Approach and methodology

The aim of the study is to cover archaeological databases and historical sources to compile a background history of the study area followed by field verification; this was accomplished by means of the following phases (the results hereof are represented in section 4 of this report).

1.3 Phase 1 - Desktop Study

The first phase comprised a desktop study, gathering data to compile a background history of the area in question. It included scanning existing records for archaeological sites, historical sites, graves and architecture of the area. This phase utilised data stored in the archaeological database at Wits, previous CRM reports done in the area (mostly by the authors of this report)) and a search in the National archives, museums and ERPM database. The database of the Genealogical Society of South Africa was consulted to collect data on any known graves in the area.

1.4 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the study area of 40 ha was conducted over a period of one day. The study area was surveyed by means of vehicle and foot surveys by a team comprising two archaeologists, a historian as well as a architectural historian on the 11thOctober 2011.

All sites discovered inside the proposed development area was plotted on 1:50 000 maps and their GPS co-ordinates noted. Digital photographs were taken at all the sites.

1.5. Restrictions and Limitation

This study was undertaken in terms of the following assumptions and restrictions:

- Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey. Low archaeological visibility of parts of the study area is due to extensive development, and the possible occurrence of unmarked graves and other cultural material cannot be excluded. Only the footprint areas were surveyed as indicated in the location map, and not the entire farm. This study did not include a palaeontological or intangible heritage assessment or public participation. Although Heritage Contracts and Archaeological Consulting CC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.
- This heritage impact assessment was focussed solely on a special development framework. At the time of writing this report no detailed information with regard to the re-use of the buildings that are earmarked for preservation, are available. As such, these aspects must be addressed as part of the Conservation Management Plan of the Project.

2. NATURE OF THE DEVELOPMENT

The development will comprise a residential township which will be divided into 13 stands (refer Appendix A), each of which will comprise the following approximate extents and approximate unit numbers:

- Erf 1 (2.83 hectares, with 283 units)
- Erf 2 (3.40 hectares, with 340 units)
- Erf 3 (2.98 hectares, with 298 units)
- Erf 4 (1.39 hectares, as a place of public worship)
- Erf 5 (3.42 hectares, with 342 units)
- Erf 6 (1.99 hectares, as a private open space)
- Erf 7 (2.92 hectares, with 292 units)
- Erf 8 (3.44 hectares)
- Erf 9 (3.73 hectares, with 746 units)
- Erf 10 (4.20 hectares, with 840 units)
- Erf 11 (2.84 hectares, with 568 units)
- Erf 12 (2.74 hectares)
- Erf 13 (3.23 hectares, with 323 units)

The remainder of the township will consist of internal streets. The required related services include:

- roads and access
- storm water reticulation
- reticulation for sewerage

3. DESCRIPTION OF STUDY AREA

The study area is extensively developed and derelict buildings are found in the area. Almost no natural vegetation occurs here and some of the undeveloped spaces are covered by Eucalyptus trees. Refer to main EIA report for geographical, environmental and demographic issues. The study area forms part of an even larger residential mining development that evolved over a period of more than 100 years due to the development and expansion of the activities of the East Rand Proprietary Mines (ERPM) on the outskirts of Boksburg (Gauteng Province). Only some portions of the original settlement is included in this survey while several ‘villages’ have evolved in the portion forming part of this investigation. During this time several clusters or villages were designed and erected adjacent to the original village consisting of residential units. One of these village was designed and constructed in a large rectangle (see diagram) but later divided by the construction of the main arterial route to Boksburg. In the process, half of the village was demolished and the remaining half now falls within the study area.

4. OVERVIEW OF THE THREE PRECINCTS FROM WITHIN THE STUDY AREA

Based on the general character of the built fabric and nature of the layout of the entire village, the study area was subdivided into three precincts in order to make reporting easier. Refer Figure 2 below. In the section that follows the three precincts will be discussed, and the information obtained by way of the historical and archival desktop study as well as the field work will be used to defined and outline these precincts.

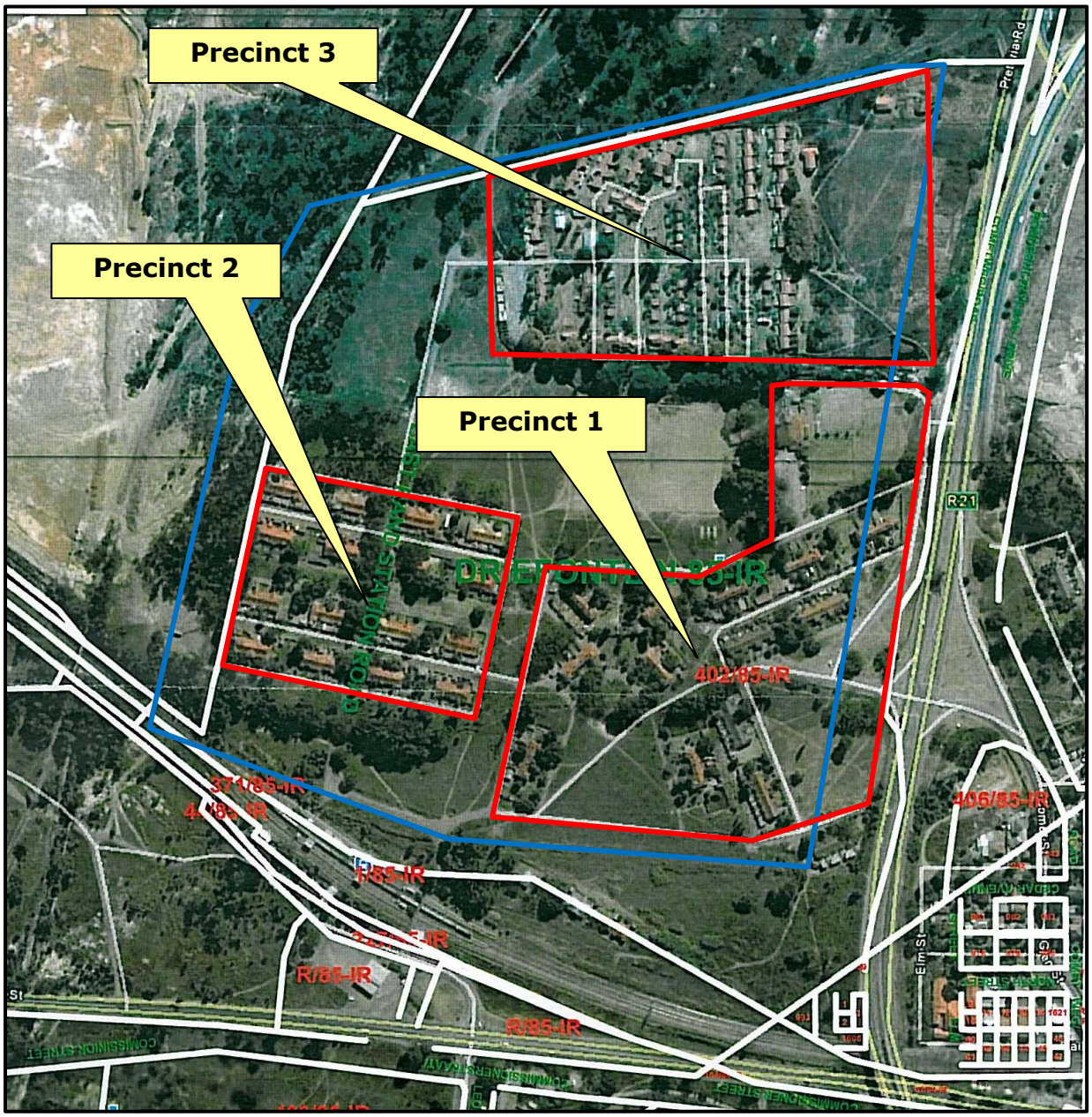

Figure 2: Google Earth image depicting the study area and identified precincts

4.1. Precinct 1

Precinct 1 contains the remains of the original rectangular village with single storey semi-detached dwelling units arranged along the periphery of a central open space.

Larger double storey semi-detached dwelling units are arranged directly behind these units. These double storey units were associated with the architectural firm of Baker & Masey (Sir Herbert Baker).

A unique aspect of this precinct is the placing of four dwelling units with a side gable of each facing towards a central open space.

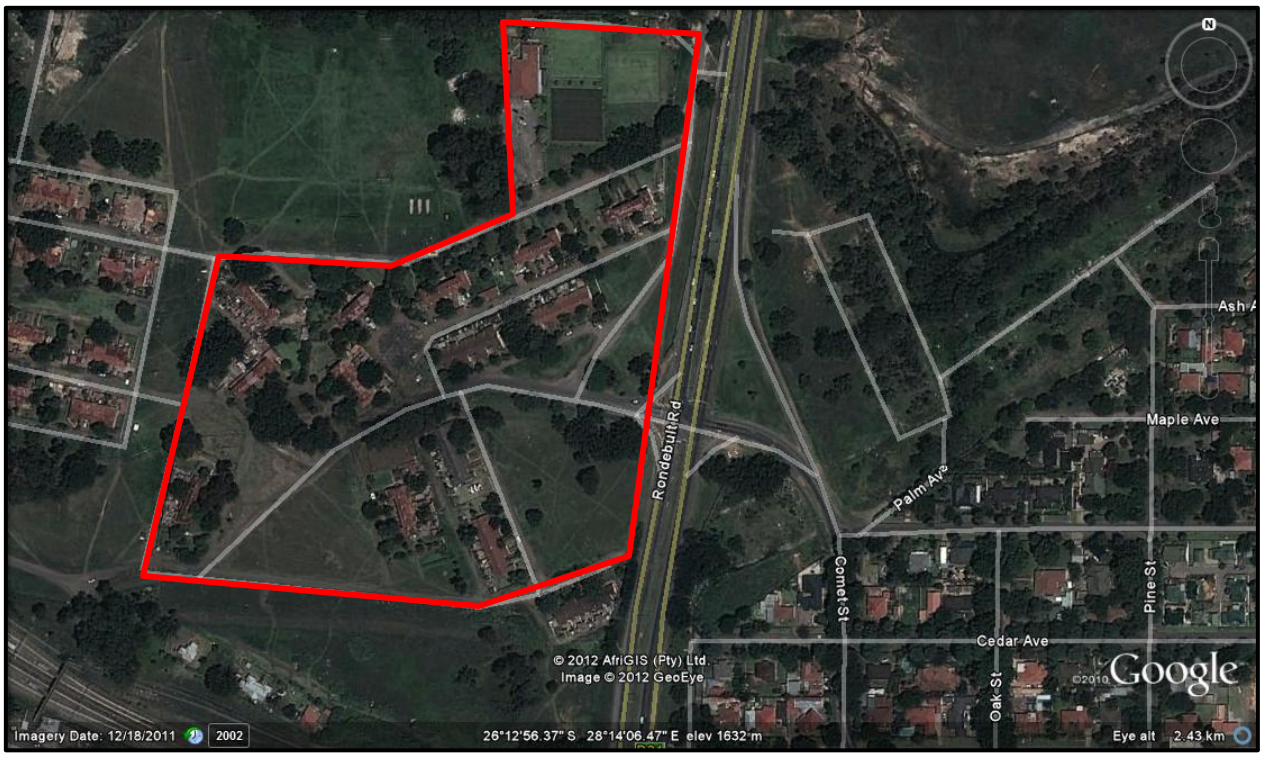

Figure 3: Google Earth image with Precinct 1 depicted on it.

An outline of the built environment of Precinct 1 follows herewith.

4.1.1 The Old Married Quarters

The oldest complex of married quarters from this area was designed by an unknown architect. It was constructed between 1902 and 1905 and originally comprised a rectangular layout of 12 buildings, with four buildings on the northern and southern ends and two buildings each on the eastern and western ends. Each of these buildings contained six units intended for the use of a married couple and their children. This means that as a whole the complex provided accommodation for 72 individual families. Five of the buildings are still located within the study area. The layout of the buildings was such that it had a large green or communal open space in its centre. While

the section of this open space still existing to the west of Rondebult Road is essentially covered in grass with a number of trees toward the sides, the available archival maps indicate that especially the sides of this open area used to be covered with far more trees than is the situation at present.

The original units had stone foundations with a plinth elevated to a height of about 500-600mm above the ground and were probably not painted at first. During the later extensions the same architectural solution was discarded in favour of more commercial foundations that were subterranean.

The original buildings had a simple gable roof spanning the entire length of a single building without firewalls between the various dwelling units. A narrow veranda may have existed along the front facades of these buildings. All later additions can be identified by the location of lean-to roof porches and rooms.

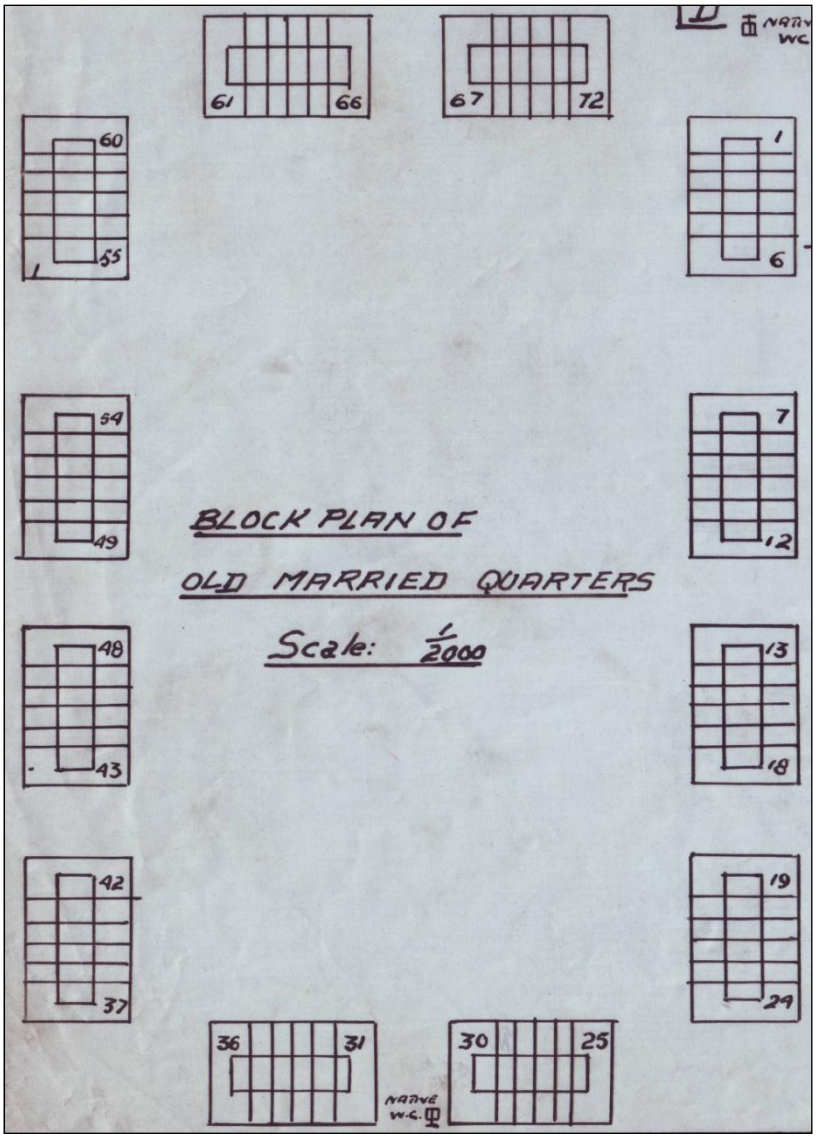

Figure 4: Diagram of the layout and numbering of the old married quarters. North is to the top left.

Figure 5: A section of the old married quarters is visible in the back with the open space in front.

Some of the units found to the west of Rondebult Road still have corrugated sheets on its walls. The use of corrugated iron at first is supported by an archival map which depicts the old married quarters as brick-lined iron buildings. At a later stage the walls of the dwellings were constructed with face brick and left unpainted. This rule of thumb was altered over time and all the buildings were covered with paint without plastering the original brick exterior walling.

The available archival maps also indicate that during the early years each unit was quite small and had parallel sides. A comparison of the undated archival map depicted as Figure 4 and a later undated layout plan depicted under Figures 6 and 7 below indicates that the original units comprised a pantry, kitchen, bathroom, dining room, two bedrooms and a possible veranda.

Closer scrutiny of the five remaining buildings still existing to the west of Rondebult Road confirms the fact that the small rectangular units indicated on the archival maps are still intact but that the original floor plans have been altered extensively over the years when lean-to's and several new rooms were added along the back and front facades of each (refer Figure 6). Although these plans are undated, they are believed to be from the 1960s or early 1970s. They reveal that the corner units had three bedrooms, one lounge, one dining room, one kitchen, one bathroom, one toilet and one veranda. It is evident therefore that the difference between the original units and a later modified version is two bedrooms, a lounge and an inside toilet.

In terms of the individual stands, some of the old maps indicate that during the early years each unit had rectangular stands on it's in- and outsides. It is also worth noting that the corner units had larger stands. As stated above each stand originally had an outside toilet. In later years the corner stands also contained two garages, a 'servant's room', an outside toilet, a fowl run and a shed.

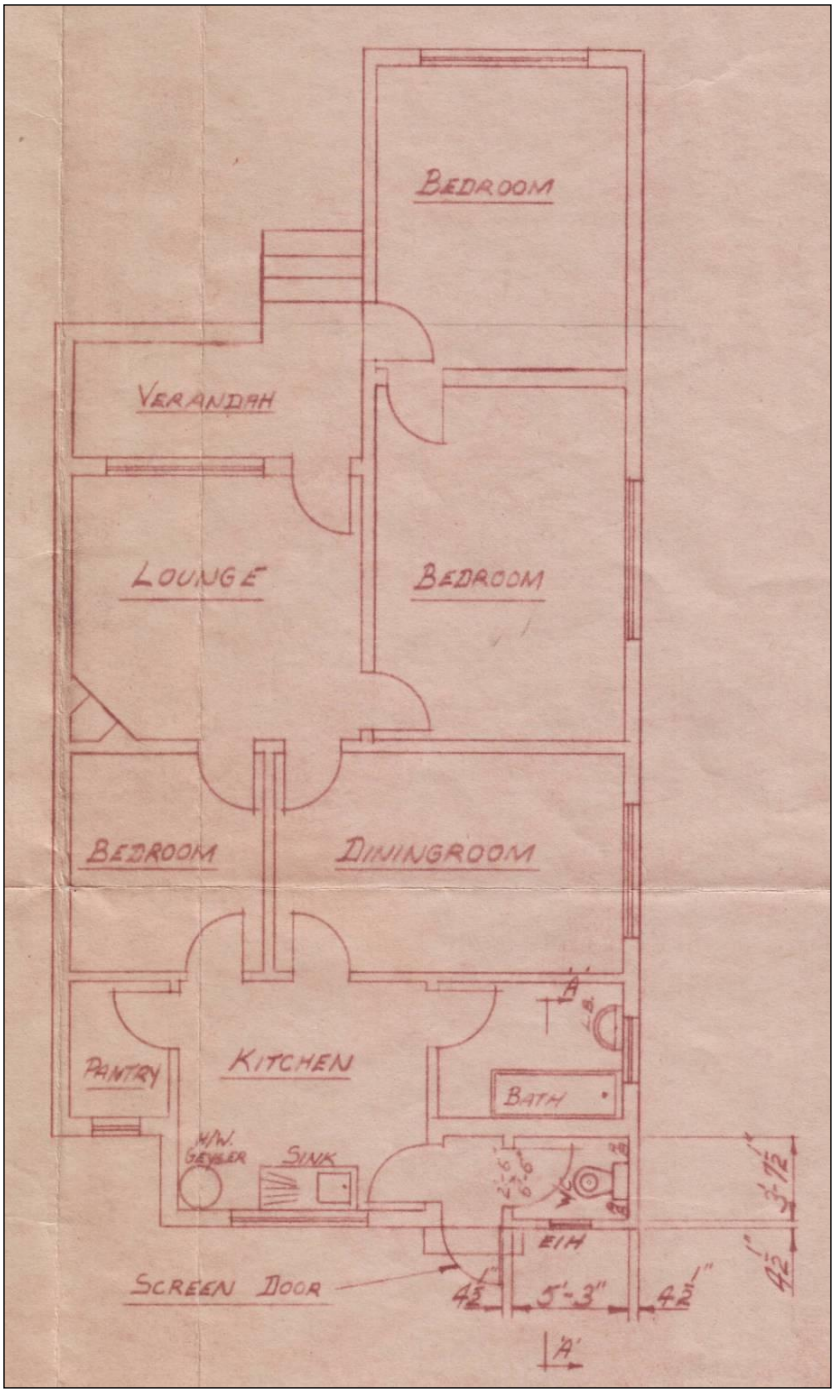

Figure 6: Enlarged section of an undated archival map depicting the layout of the old married quarters' Unit 55. The map dates from the 1960s or early 1970s.

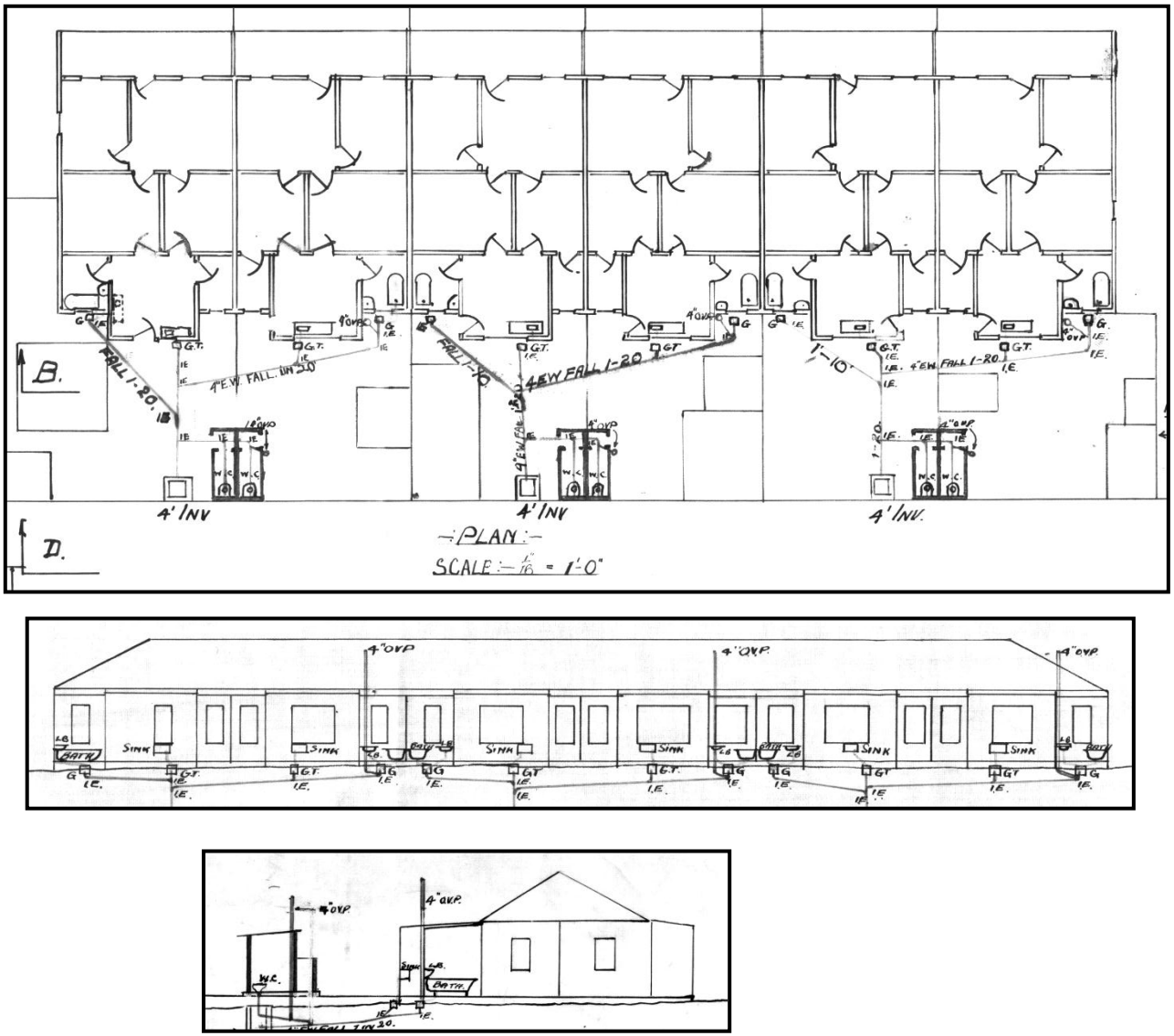

Figure 7: An undated archival plan depicting the layout as well as the side and front elevations of the old married quarters

Figure 8: Side elevation of one of the existing buildings from the old married quarters. The enlarged image (bottom) clearly shows the original stone foundation. The stone foundation is marked in red.

Figure 9: The front elevation and garden of one of the existing units from the old married quarters. This unit is number 22.

Figure 10: The front elevation and garden of another one of the existing units from the old married quarters. This unit is number 32, with unit 31 to the left.

Figure 11: The front veranda of one of the existing units from the old married quarters. This unit is number 39. The corrugated iron sheeting on the walling next to the door can clearly be seen. As discussed elsewhere the corrugated sheeting must have formed part of the original structure.

Figure 12: A section of the front elevation of another existing unit from the old married quarters. The original structure's corrugated iron sheeting and stone foundation can clearly be seen.

4.1.2 The Second Married Quarters Complex

The second Complex of Married Quarters was constructed between 1910 and 1911 and was designed by Sir Herbert Baker. After completion in 1911 the new married quarters comprised a total of 13 individual buildings of which nine are located within the study area.

These buildings were large double storey residential units known as terrace housing. Five individual units were accommodated within each building. This means that with the completion of the new married quarters a total of 65 individual accommodation units for married couples and their children were created.

In terms of layout four of these buildings (see numbers 1 - 4 below) were constructed in a straight line within the study area along its boundary with the Vogelfontein Plantation area. These buildings are located east of the present study area. Three buildings (see numbers 5 - 7 below) were constructed between the bowling green and the northern end of the old married quarters, while four other buildings (see numbers 8 – 11 below) were constructed in an 'X' on the north-western end of the old married quarters. One of the remaining two buildings (see number 12) was constructed to the west of (and parallel with) the western end of the old married quarters while the thirteenth building (see number 13) was constructed further west.

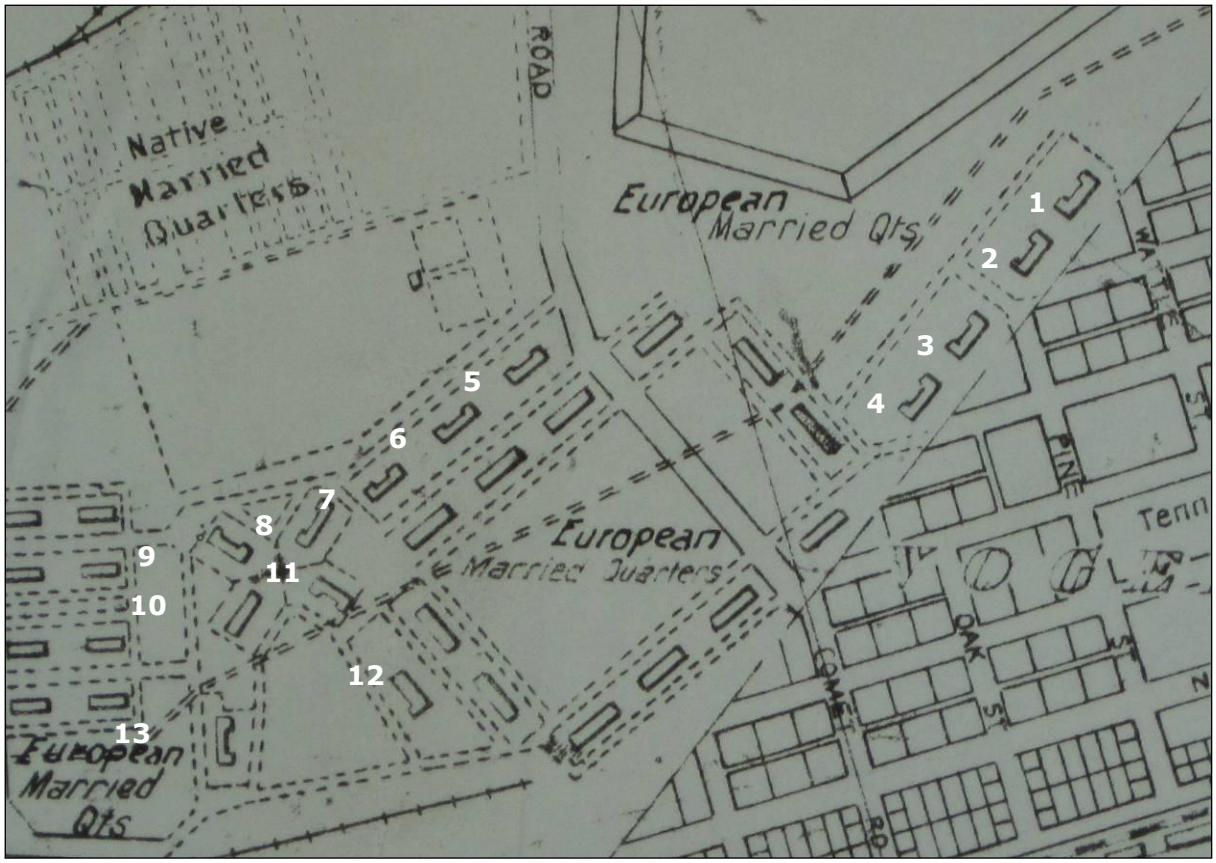

Figure 13: Enlarged section of a map that was produced on 19 June 1958. The thirteen buildings comprising the new married quarters are marked.

The nine buildings from this complex located within the study area face largely north-northwest and are set in stands that later became large front gardens. They are characterized by wall additions and later extensions. The general architectural character of the existing buildings has been stripped of any elements or architectural detailing associated with the original designs of Baker. The buildings have been stripped of all Arts and Crafts elements and detailing except for the brickwork along the rims of the chimney stacks. Another obvious element to be questioned is the occurrence of steel frame windows in all the buildings. The loss of the casement windows is also referred to by architectural historian Denis Radford. Steel frame windows were only used from the 1920s onward and these buildings are much older than this date. It implies that the original wooden casement windows and probably also the door frames were replaced with steel frames during the 1920s or later. It is also possible that the original exterior walls or some parts of the exterior were constructed with face bricks. All the walls have been plastered – an original feature of the Baker design. However, after the replacement of the casement windows the plastered walls tend to render these buildings quite sterile and seem to reflect the 'clean' character typical of the Modernist movement of the 1940s-1950s. It is also assumed that the roof sheets have been replaced with new corrugated iron sheeting and that all the guttering and down pipes were replaced several times after the roof was altered.

A photograph was located in the images collection of Museum Africa in Johannesburg (Museum Africa, Images Collection, PH2007-34201) which provides one with at least some idea of what the original terrace houses designed by Herbert Baker would have looked like before all of the abovementioned alterations and changes were put in place. While this image (refer Figure 14) is in actual fact of the ERPM Central Workshops, and enlargement of a section of the background clearly shows a number of the terrace buildings located to the west of the present study area. While this photograph is undated, motor vehicles parked amongst the buildings allow one to suggest that the photograph was likely taken during the 1930s.

While the buildings themselves were designed by Sir Herbert Baker, Denis Radford makes the argument that the entire layout of the new married quarters was also designed by Baker. He adds that the double storey dwelling units at ERPM are the '..most common form of the terrace …' type, designed by Baker's office. In the words of Radford: *'The most common form of the terrace was the double storey one of five units in length. This type was extensively used at E.R.P.M. and Geldenhuys Deep. The ones built at E.R.P.M. still survive but not with the original windows. In plan they are similar to the semi-detached units but the end units are brought forward and treated as pavilions to give the terrace a slightly more formal quality. They are probably the most directly English in inspiration of all Baker mining house work and relate very much to the model working class housing of the era in form, plan and detail'.*

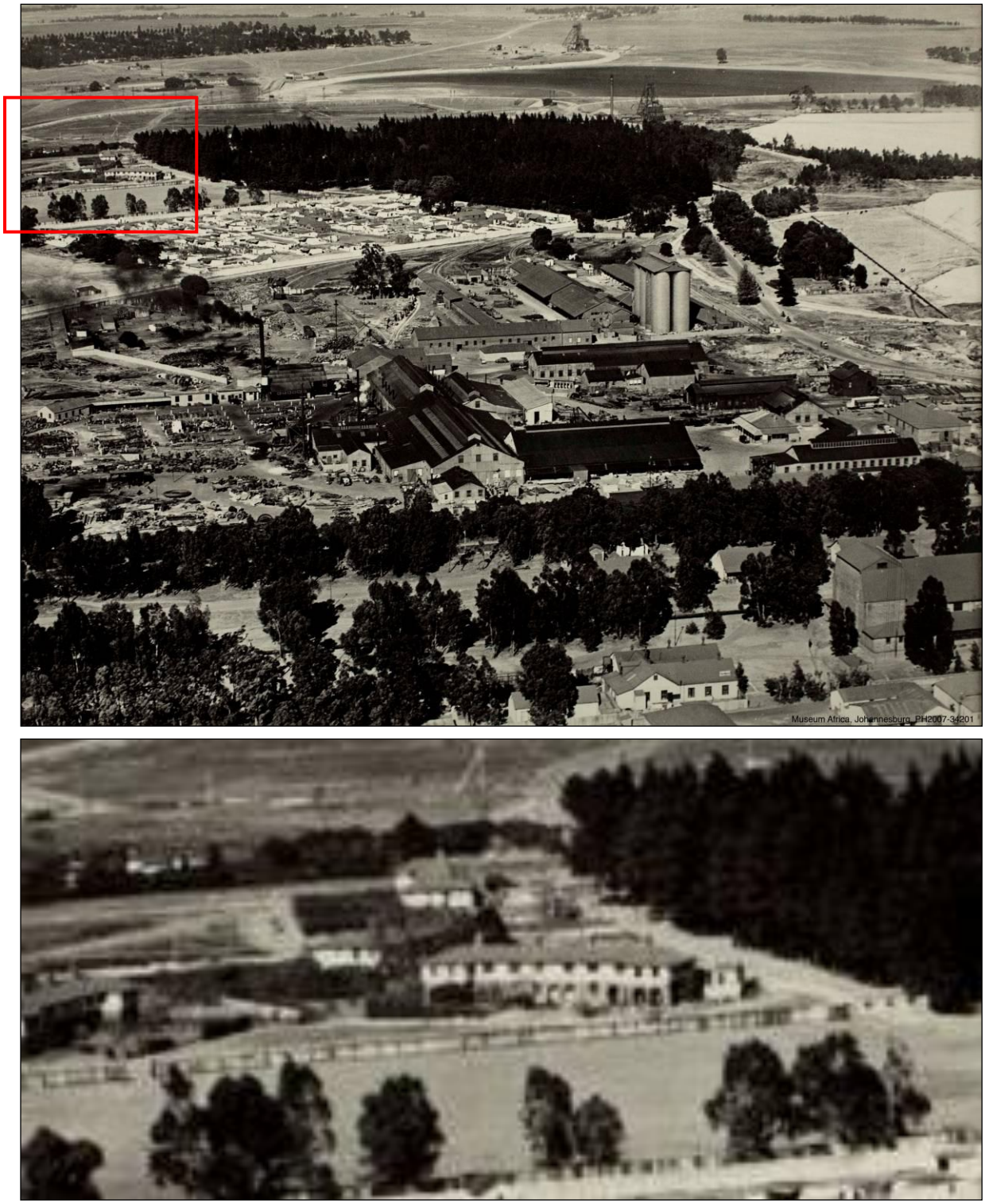

Figure 14: Historic image of the ERPM workshops. Although the photograph is not dated, it likely dates from the 1930s. In the top left hand corner (see enlarged photograph below) three of the terrace houses designed by Sir Herbert Baker can be seen. As such, this image provides a valuable glimpse into the general appearance of the terrace houses in the way Baker designed them and before they were modified and altered in later years.

Two other elements typical of Baker's work was the use of buttresses and arches. The buttresses were used to reinforce the walls while also serve as an aesthetic detail as it would break-up the flat surfaces of the walls visually, thus providing some variety. At ERPM, buttresses were introduced at the corners of the main facades almost to ceiling height but they do not dictate or dominate the general appearance of the facades.

Radford also mentioned the occurrence of the chimneys as they tend to be a trademark element on the terrace and single storey units. They were used both as functional and aesthetic elements in order to fit the balance and symmetry of the design and to add some aesthetic value to an otherwise functional element.

Figure 15: This photograph of ladies playing bowls at the E.R.P.M. Bowling Club was taken by David Goldblatt during 1979/1980 (www.michaelstevenson.com). One of the terrace buildings is visible in the background. Closer inspection of this image shows that the appearance of the terrace buildings during 1979/1980 was very much the same as it is today.

Figure 16: View from Rondebult Road towards the southern elevation (back elevation) of one of terrace buildings located to the west of the aforementioned road.

Figure 17: General view of the northern elevation of one of the units indicating the new steel frame windows that replaced the casement windows of Baker.

Figure 18: A similar pattern emerges in Baker's work with the simple rectangular floor plan pushed backwards by adding a pavilion at each side of the front elevation - here applied at the Union Buildings but also applied at the ERPM housing units in minute scale.

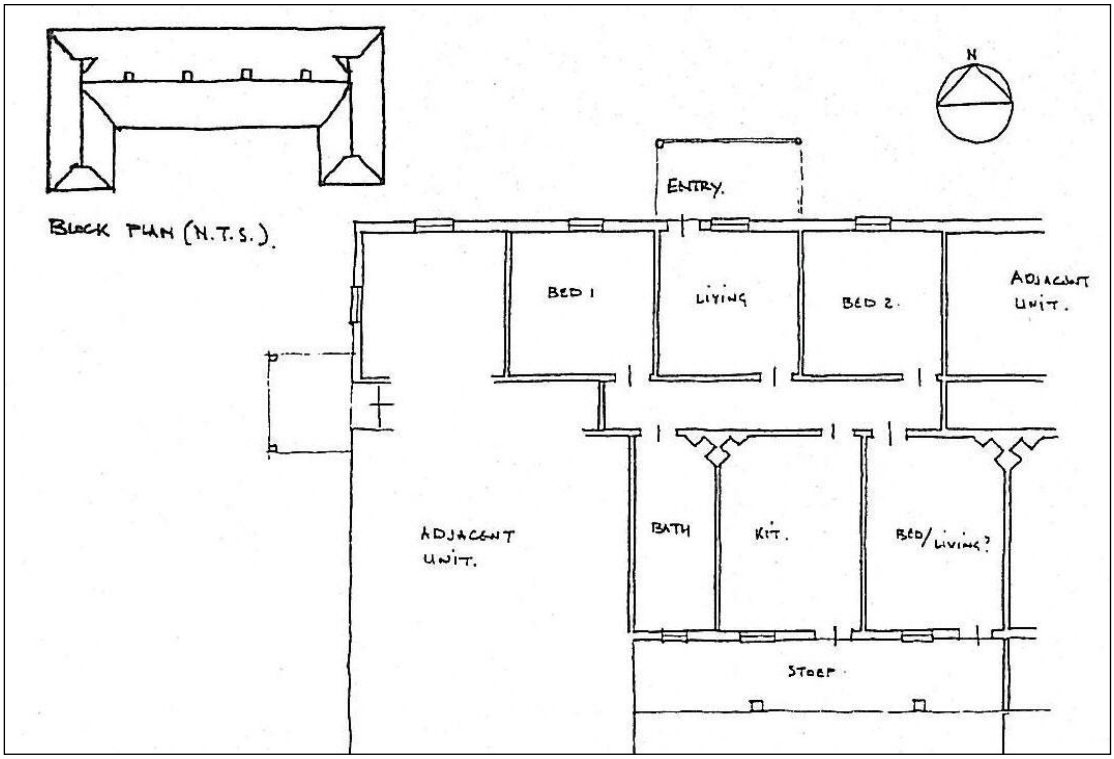

Figure 19: General roof plan of double storey housing units at ERPM (Radford, 1990).

Figure 20: Second generation steel frame windows (left) are replaced by the current residents.

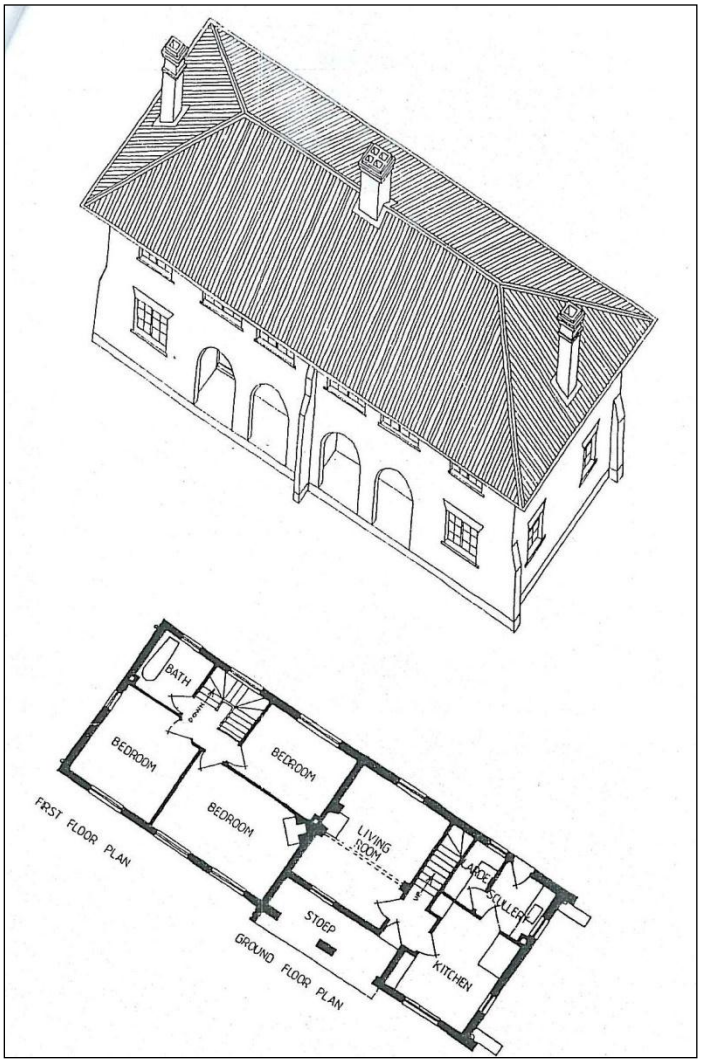

Figure 21: Example of ERPM doubles storey units not represented on this site. Note the presence of the small buttresses on the corners (Radford, 1990).

Figure 22: Corner elevation of one of the terrace buildings at ERPM with a slightly protruding pavilion and small buttressing element at its corner.

Figure 23: Simple though stylish chimneys as seen at the terrace housing from ERPM are typical of the design of the architectural firm of Baker &Masey.

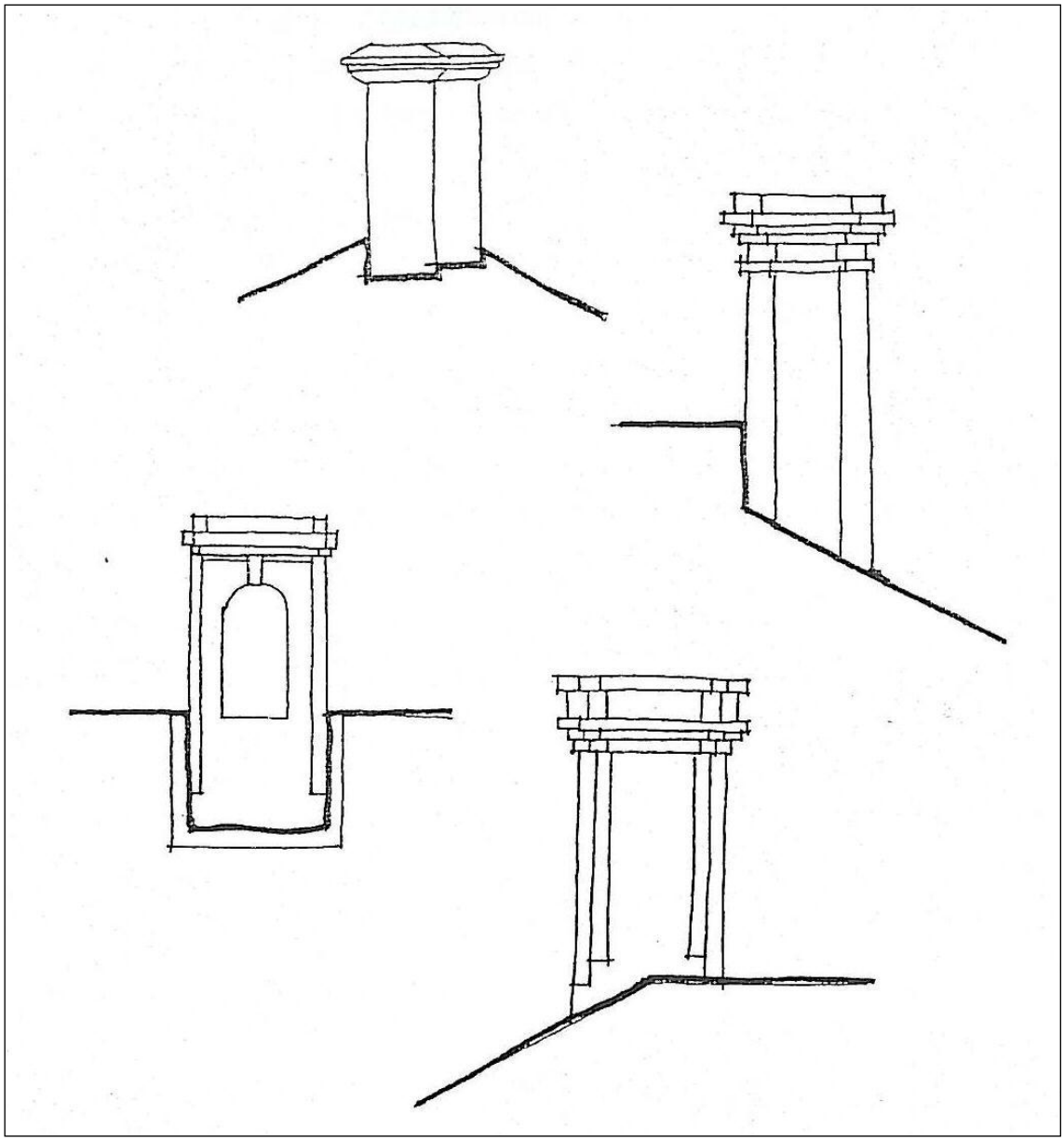

Figure 24: Typology of chimneys favoured by Baker's firm and used in the design of mining housing complexes (Radford 1990).

Another aspect of mining housing complexes is the treatment of spatial elements such as the backyards. At ERPM ample backyards were allowed behind the terrace housing and services and amenities such as toilets and showers were accommodated in the corrugated iron outbuildings located on the extreme periphery away from the backdoors. Wooden doors and windows were also installed in these buildings although most of these have since been replaced with steel frame windows. Some original windows were discovered in isolated outbuildings giving some indication of the type, style and form of these windows.

Figure 25: Exterior of backyard walling and small timber and iron outbuilding.

Figure 26: The original wooden window from an old corrugated iron outbuilding.

4.1.3 The Bowling Green and Clubhouse

The available information indicates that the ERPM Bowling Green was officially opened during 1915. While it cannot be said for certain, the assumption can be made that the clubhouse would have been constructed at roughly the same time.

4.2 Precinct 2

Figure 27: Google Earth image depicting Precinct 2

Precinct 2 comprises a cluster of 16 semi-detached units with each unit having its own yard and allowing each tenant to garden his/her own space. Central to this cluster is a wide boulevard that divides the village into two portions. Dwellings along the boulevard face towards each other irrespective of the north-south orientation. The fact that each of the buildings comprises four individual units means that 64 families resided in this complex. At least two distinctly different buildings were identified here.

The complex as a whole was built before 1910.

Figure 28: General view of the front and side facades of the first type of dwelling building in Precinct 2.

Figure 29: General view of the front and façade of the second type of dwelling building in Precinct 2.

Figure 30: Some of the outbuildings from Precinct 2.

Figure 31: Another view of more outbuildings from Precinct 2.

4.3 Precinct 3

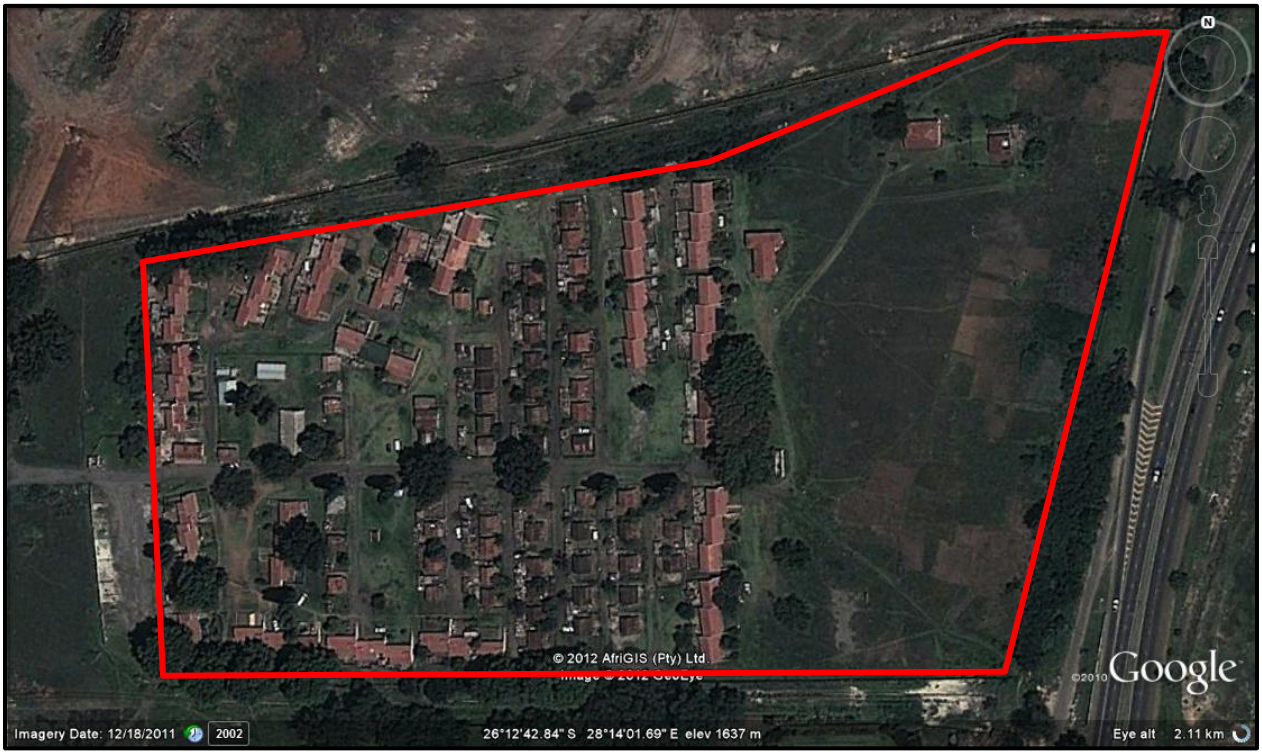

Figure 32: Diagram depicting Precinct 3

Precinct 3 consists of a complex of married quarters from within the study area that was constructed for Black married employees of ERPM. Sections of it were already in existence during 1910. This is the most extensively built cluster containing the oldest and simplest types but also the most contemporary types of dwellings. The village also contains the remains of a school and two churches including a corrugated iron Methodist church.

Figure 33:

One of the two dwelling types representing some of the earliest buildings from Precinct 3. This type comprises a corrugated iron core over which a cement mixture was plastered.

Figure 34: One of the two dwelling types representing some of the earliest buildings from Precinct 3. This type comprises unplastered red face-brick walls.

Figure 35: The Comet Methodist Church, which is also one of the earlier buildings from Precinct 3 and is certainly older than 60 years and may even be older than that.

5. HISTORIC OVERVIEWS OF THE LANDSCAPE AND STUDY AREA

5.1 Historic Overview of the Surrounding Landscape

DATE	DESCRIPTION
2.5 million to 250,000 years ago	The Earlier Stone Age is the first and oldest phase identified in South Africa's archaeological history and comprises two technological phases. The earliest of these is known as the Oldowan which is associated with crude flakes and hammer stones and dates to approximately 2 million years ago. The second technological phase is known as the Acheulian and comprises more refined and better made stone artefacts such as the cleaver and bifacial hand axe. The Acheulian phase dates back to approximately 1.5 million years ago.
250,000 to 40,000 years ago	The Middle Stone Age is the second oldest phase identified in South Africa's archaeological history. It is associated with flakes, points and blades manufactured by means of the prepared core technique.
40,000 years ago to the historic past	The Later Stone Age is the third phase identified in South Africa's archaeological history. It is associated with an abundance of very small stone artefacts known as microliths.
September 1886	Pieter Killian discovered gold-bearing reefs on the farms Leeuwpoort and Vogelfontein. In March 1887 the two farms were proclaimed as public diggings (Boksburg Town Council, n.d.).
July 1887	The new village which appeared as a result of the gold discoveries on the two farms was named Boksburg in honour of the State Secretary of the *Zuid-Afrikaansche Republiek*, Dr. W.E. Bok (Boksburg Town Council, n.d.).
December 1887	Coal was discovered by J.L. Gauf on the eastern end of Boksburg. The meant that the severe shortage of fuel which hampered the early development of gold mining activities in Boksburg, could be solved (Boksburg Town Council, n.d.).
1889	A number of gold mining companies were established in the Boksburg area including *Blue Sky, Cinderella Gold Mining Company*, *Agnes Munro Gold Mining Company*, *Comet Main Reef Gold Mining Company*, *St. Angelo Gold Mining Company* and the *Driefontein Gold Mining Company* (Letcher, 1936).
November 1890	The Boksburg Goldfields were proclaimed a separate administrative unit with Montagu White as it's first Mining Commissioner. During the two years that White filled this post he constructed the Boksburg Lake and also planted some 40,000 trees north-west of the lake (Boksburg Town Council, n.d.).
1892	Sir George Farrar and his associate Carl Hannau bought large quantities of shares in struggling gold mining companies during this time, including Cinderella, Agnes Munro, Comet, St. Angelo and Driefontein (Letcher, 1936).

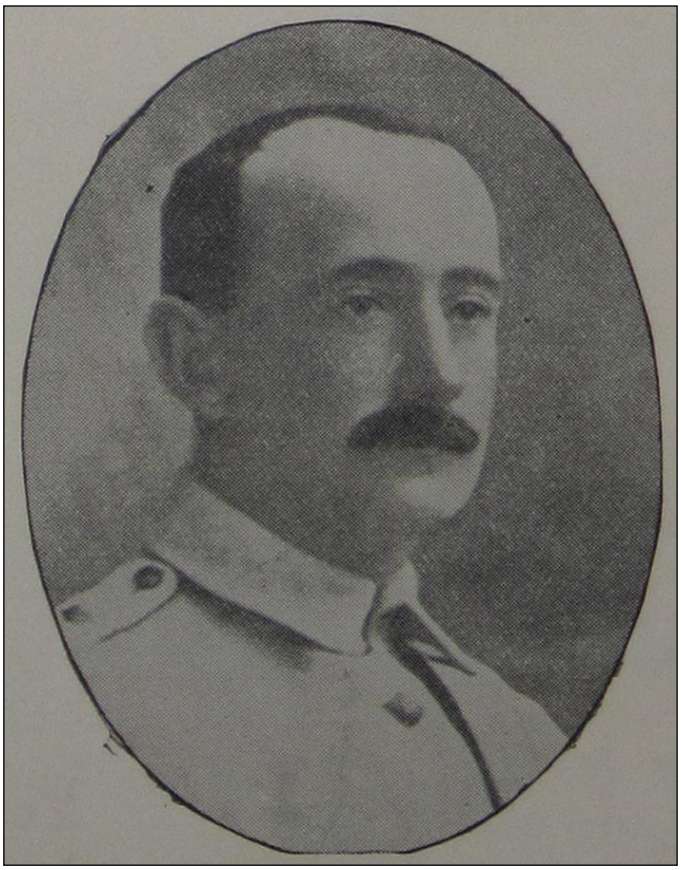

Figure 36:

Sir George Farrar (1859 – 1915)

September 1892	The shares acquired by Farrar and Hannau were ceded to the H.F. Syndicate (Letcher, 1936).
May 1893	During this time these shares in the mining companies were taken over by the newly established East Rand Proprietary Mines (or ERPM) (Letcher, 1936). This company was established on 8 May 1893 with Sir George Farrar as chairman and C.S. Goldmann, Lionel Phillips, J.C.A. Henderson and S.W. Jameson as directors.
1894 - 1895	ERPM reconstructed the Comet, Driefontein and St. Angelo mines through the provision of working capital and land. The latter mine was re-established as the *Angelo Gold Mining Company Limited*. By the mid 1890s ERPM held great sway across the Boksburg goldfields.
1899 – 1902	The South African War between Great Britain and the two Boer republics of the Zuid-Afrikaansche Republiek and the Free State. By the time that hostilities commenced on 11 October 1899, a massive exodus of British subjects from the Witwatersrand had already started. This exodus was supported by large numbers of black mineworkers who returned to their homes. Although the mining companies tried to stem the flood by offering attractive bonuses and salary increases, this had little effect. Before long all the gold mines along the Witwatersrand were forced to shut down. While the government of the *Zuid-Afrikaansche Republiek* intervened by appointing a State Board to carry on with mining activities on some of the mines, this proved a losing battle. During

	roughly the last two years of the war (a period known as the guerrilla phase) a number of the gold mines in the vicinity of Boksburg were attacked by Boer Commandoes. For example, the New Kleinfontein Gold Mine on the farm Driefontein was attacked by a Boer force under General Piet Viljoen. The mine manager E.J. Way was taken prisoner, but released on the same day. Another attack took place at the Moddefontein Mine as well. These attacks led to the establishment of a British force known as the Rand Rifles Mine Division to protect the mines. The force repulsed a number of attacks on the mines along the Witwatersrand. During November 1901 the mines were declared safe from attack and the unit was disbanded (Lang, 1986).
22 June 1904	After years of debate and deliberation, the first group of Chinese mine workers finally arrived at the East Rand Station (directly south of the present study area) to start working at the New Comet mine (Lang, 1986). A large number of other gold mines followed suit and by the end of 1904 the number of Chinese workers employed on the Witwatersrand gold mines stood at 21,000. By the end of the following year increased to 47,000 (Von Ketelhodt, 2007).

Figure 37: The arrival of the first Chinese mine workers at East Rand Station. This station is located directly south of the present study area (Lang, 1986).

1909	The Anglo-French Group under chairmanship of Sir George Farrar undertook the reconstruction of the East Rand Proprietary Mines as an amalgamated entity. The amalgamation entailed the absorption of a number of smaller mining companies by ERPM, including *Driefontein Consolidated Mines Limited*, *Angelo Gold Mines Limited*, *New Comet Gold Mining Company Limited*, *Cason Gold Mines Limited*, *New Blue Sky Gold Mining Company Limited*, *Hercules Company Limited*, *Angelo Deep Gold Mines Limited* and the *H.F. Company*

	Limited. At the end of the reconstruction process ERPM held some 4,000 mining claims, several water rights and a few mining stands. ERPM was now one of the largest gold mines in the world.
March 1910	The last of the Chinese mineworkers left the Witwatersrand gold mines to return back home (Chilvers, 1932).
1914-1918	The First World War took place during this time, and was essentially a war between Great Britain and Germany. It had a significant negative impact on the gold mines of the Witwatersrand in that it did not only result in a rise of mining cost, but also led to a shortage of skilled European workers with many of them responding to the call to fight. However, apart from these one aspect which specifically had a very detrimental effect on the financial position of the gold mines along the Witwatersrand was the fact that all these mines had signed an agreement in 1914 that all the gold produced in South Africa would be sold for the duration of the war to the Bank of England at a fixed price of £3 17s 9d. Although this agreement initially looked very attractive, as the war carried on the rising cost of mining made the fixed price increasingly unprofitable (Cartwright, 1968).
1915	ERPM came under the control of the Central Mining and Investment Corporation (Lang, 1986).
1926	ERPM acquired the Cinderella Gold Mining Company (Cartwright, 1968). Through this acquisition a considerable body of payable ore became available to ERPM.
28 December 1932	On this day South Africa abandoned the gold standard (www.sahistory.org.za). This resulted in the price of gold shooting up by an incredible 66% to £7.10 per ounce (wwwpamodzigold.co.za). A boom in gold mining shares was the result with everyone buying shares in South Africa's gold mines.
November 1955	Underground workings at ERPM reached a depth of 10,000 feet (Cartwright, 1968).
May 1958	A winze at ERPM reached a depth of 11,000 feet. This meant that ERPM was officially the deepest mine in the world (Cartwright, 1968), a record it held until 2008.

5.2 Historic Overview of the Study Area with Special Emphasis on the Built Environment

DATE	DESCRIPTION
Before 1886	Nothing is known about the study area during the period before the discovery of gold in Boksburg, Once can assumed that the study area would have formed part of a farm and would have been largely undeveloped.

1886 -1899	As mentioned above, verious gold mining companies were established during the 1880s and early 1890s. In 1893 the East Rand Proprietary Mines were established. A map published during the mid-1890s suggests that at the time ERPM owned the property on which the study area was located. While no information is known on any accommodation-related buildings from within the study area during this time, it is certain that if such buildings did exist it would have been in the form of boarding houses. During the period before the South African War (1899-1902), white people working on the various mining properties across the Witwatersrand were mostly single unmarried men from overseas. They often resided in boarding houses, where they would rent a room to stay in. The situation was described by James Ramsay Macdonald in October 1902 as follows: "*…his (a workman's) home is only a bedroom, which he generally shares with a fellow workman…family life…may be said hardly to exist amongst great sections of the population. Men rent beds, not houses, in the Golden City*" (Van Onselen, 2001:31). It is therefore unlikely for any of the married quarters for white employees from within the study area would have been built before the South African War.

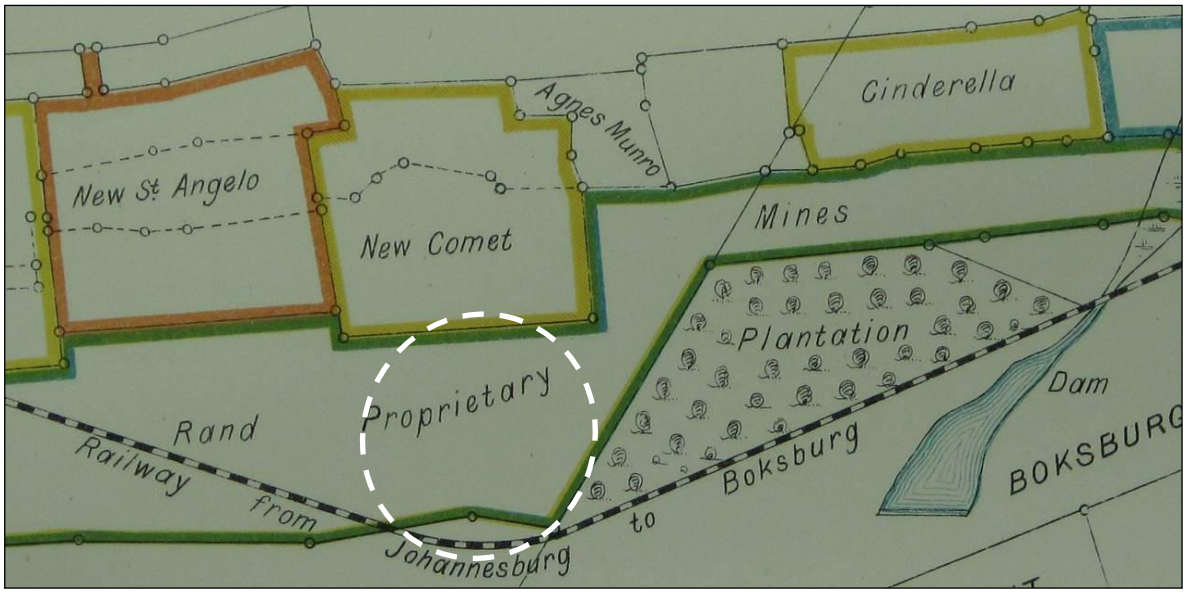

Figure 38: This map was published in C.S. Goldmann's South African Mines (1895/6). The approximate position of the study area is marked with a white circle.

1902 - 1905	After the cessation of hostilities and the return of the white mineworkers back to their workplace, it became evident that the pre-war situation characterised by far more men than women has remained unaffected. During mid-1903 concerted efforts were made to increase the number of white females along the Witwatersrand (Van Onselen, 2001). The idea behind this was that the Transvaal colony required a stable population of white working class men who as individual families would be more inclined to settle permanently along the Witwatersrand as would have been the case with single men. This was in clear contrast to the pre-war situation where single men came to the Rand from overseas and only stayed for a short period of time before returning home.

Between 1902 and 1905 the mining companies Rand Mines, Consolidated Gold Fields and East Rand Proprietary Mines spent approximately £400,000 on the construction of housing for married employees (Van Onselen, 2001). In terms of ERPM specifically, this period saw £100, 780 spent on the erection of married quarters. At the time a single family cottage could be built for £400 while two semi-detached cottages could be built for £720 (Fraser & Jeeves, 1977). This means that between 140 (if using the figure of £720 for a two semi-detached cottages) and 252 (if using the figure of £400 for a cottage) units were constructed during this time. It also means that accommodation for some 250 to 300 individual families would have been created.

The need for these construction activities can be seen from the minutes of the eighth Annual General Meeting of the East Rand Proprietary Mines which took place on 31 March 1904. At the meeting the company's chairman Sir George Farrar indicated that the mine had 682 white employees. He added that many of these employees had their families living with them on the mine so that the total number of white men, women and children living at the mine stood at 1 072. He went further to indicate that this number was expected to increase to approximately 2 000 men, women and children in the subsequent eighteen months (East Rand Express, 1904).

A 1903 map was found which clearly indicates that a section of the construction activities undertaken at ERPM between 1902 and 1905 comprised the first cluster of married quarters associated with the study area. As can be seen from the figure, the southern four buildings of the cluster were already in existence in 1903. The other eight buildings were proposed at the time.

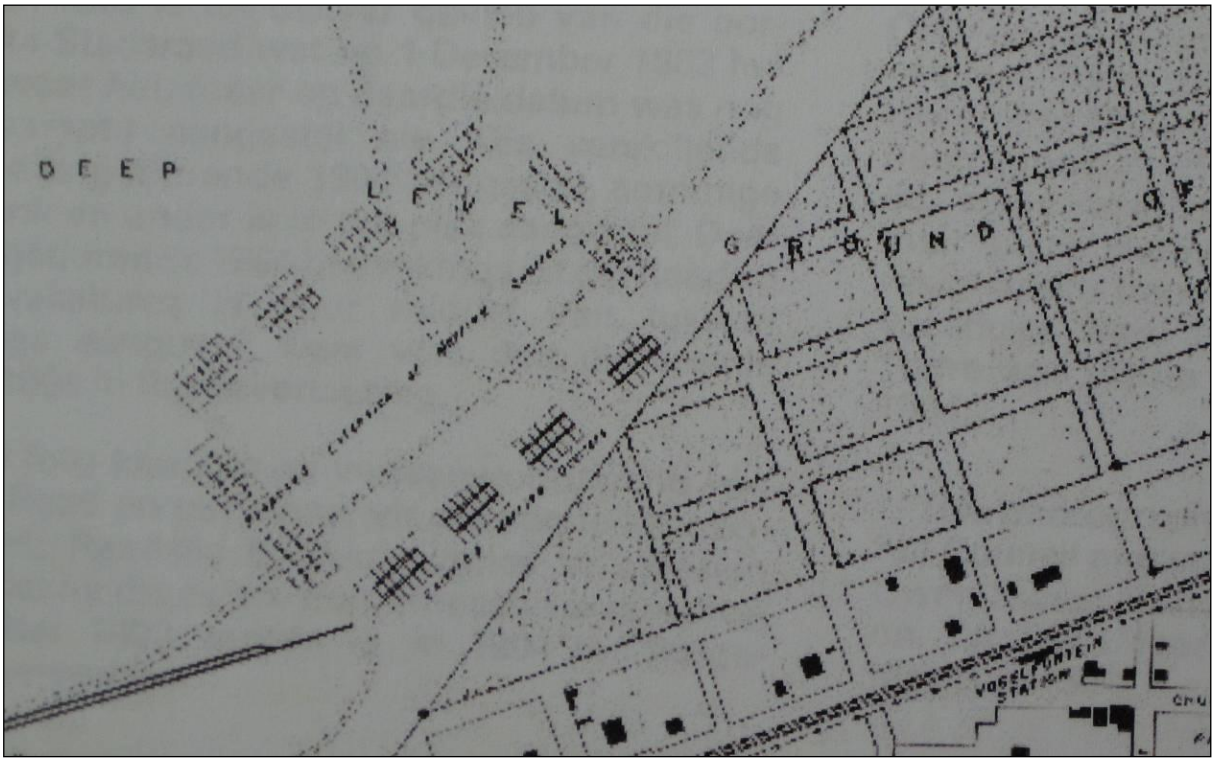

Figure 39: This map appeared in a book published by the Boksburg Town Council (1978/9). All that is known about the map is that it dates to 1903.

1904 - 1906	During roughly this period, the 16 buildings from Precinct 2 were also constructed. Although they are depicted on earlier undated maps, their first appearance on a dated plan is the one titled the 'General surface Plan of the New Comet Gold Mine'. While the map was surveyed on 30 June 1907, it was revised annually for the subsequent three years. The last revision was undertaken on 30 June 1910. At the latest the buildings from Precinct 2 were constructed during 1910, but this seems unlikely when viewed against the available (though undated) cartographic evidence. The same map also depicts the start of the black and Indian location along the western end of the area referred to in this report as Precinct 3. A total of 32 individual buildings are already depicted here at this early date.

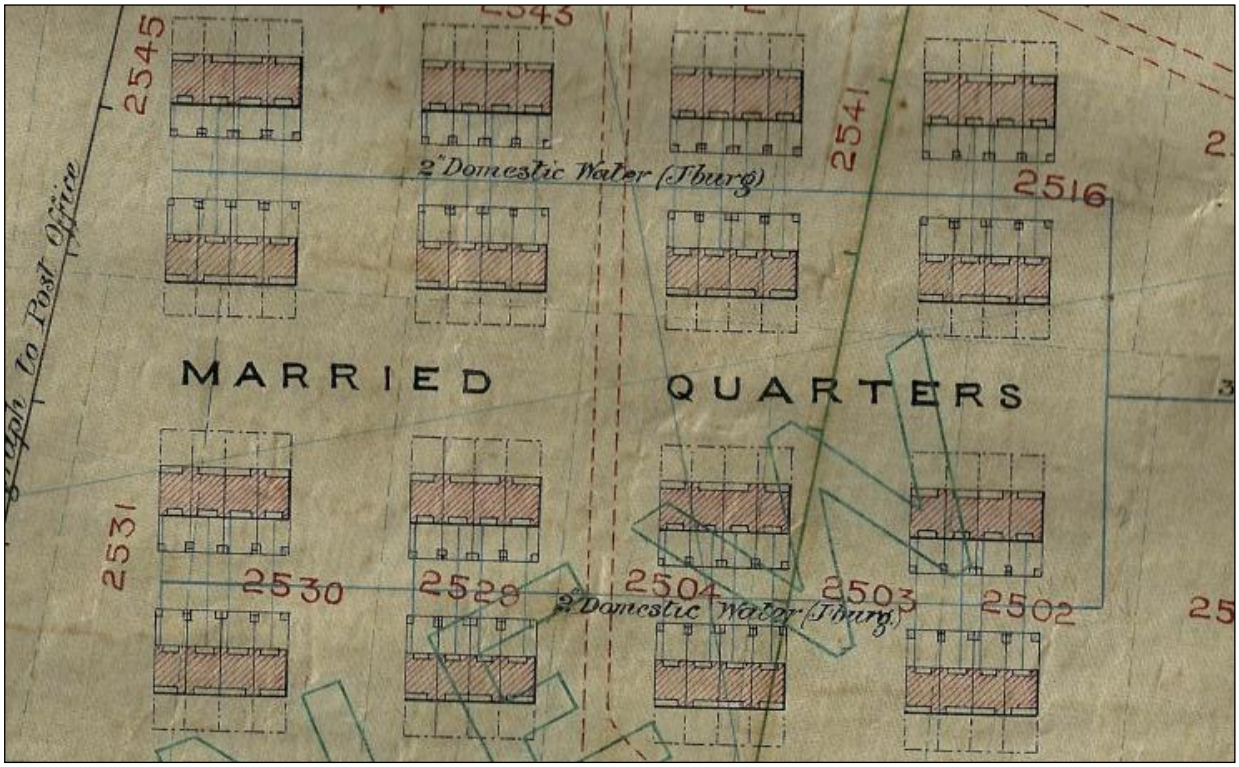

Figure 40: Undated and untitled map from c. 1906 which depicts the buildings in Precinct 2.

1906 - 1912	During the latter part of the first decade of the 20th century a second wave of construction activities were proposed by ERPM in terms of married quarters for its white employees. In a letter dated 16 August 1909 and addressed to the Boksburg Mining Commissioner, the Financial Manager of ERPM indicated that the mine had received more than 150 applications for married quarters from its employees and that they were proposing to construct a hundred married quarters followed by another hundred. The area proposed for the construction of these married quarters appears to have been the Vogelfontein Plantation as well as a small section of land falling to the east of the present study area. As the government had not yet approved any extension to Vogelfontein Township, this proposal was not approved. The notification indicating that the proposed development was not to be approved was written during August 1909 (MMB, 145, MCK1398/09).

	This refusal to approve the proposed married quarters indicates that no such accommodation was constructed before August 1909. It also seems very unlikely that additional married quarters would have been constructed within the remainder of 1909. During the Annual General Meeting of East Rand Proprietary Mines undertaken in March 1910, the chairman Sir George Farrar indicated that a sum of £300,000 had already been spent on housing. As there was still a shortage in housing, another 100 cottages and additions to staff quarters were planned for the following year (East Rand Express, 1910). If one considers the application to erect married quarters that was refused during August 1909, it seems apparent that the £300,000 which had been spent by March 1910 must have included all the married quarters ever constructed at the mine. On 30 August 1910 an application was made by ERPM to the Acting Mining Commissioner of Boksburg, for proposed married quarters at Cason, Plantation (near the Central Offices) and near Vogelfontein Plantation as well as single quarters proposed for the vicinity of the Central Workshops (MMB, 167, MCK927/10). The proposed new married quarters near Vogelfontein Plantation comprised four buildings containing married quarters located directly east of the study area. According to Radford (1989) the well known architect Sir Herbert Baker had received three commissions at East Rand Proprietary Mines. While his first two commissions were constructed between 1908 and 1909 (and included additions and alterations to the club house as well as the construction of 14 cottages for married quarters) these were all located away from the study area. However, Baker's third commission from the mine comprised a total of 80 married quarters which comprised terrace, semi-detached, single story and double story buildings. These buildings were constructed in three different areas, with six at Plantation, nine at Cason and 65 at Angelo Mines. It is known that the construction of the 80 married quarters was undertaken by Forsyth & Reid, that the buildings were constructed at a cost of £475.0.0 each and thirdly that they were constructed between September 1910 and July 1911. In another article undertaken a year later, Radford (1990) indicates that Baker was responsible for the addition of 65 units to an existing mine village layout at ERPM. This addition was in the form of 13 double storied terrace buildings each of which contained five individual units for use by married European employees of the mine. These 13 buildings referred to by Radford include nine buildings located within the present study area, as well as the four demolished buildings which were located east of the study area. It therefore seems evident that the double storey married quarters located within Precinct 1 of the study area were designed by Sir Herbert Baker and constructed by Forsyth & Reid.
1915	The available information indicates that the ERPM Bowling Green was officially opened during 1915. While it cannot be said for certain, the assumption can be made that the clubhouse would have been constructed at roughly the same time.

Late 1920s – 1930s	An undated aerial photograph was located in the images collection at Museum Africa in Johannesburg (Museum Africa, Images Collection, PH2007-34201). While this photograph is mainly of the Central Workshops of ERPM, the black married quarters in the then location area can be seen in the background. A comparison of this depiction with the previously mentioned map from c. 1906 which depicted a total of 32 buildings here, clearly shows how this area has expanded in the previous two to three decades.

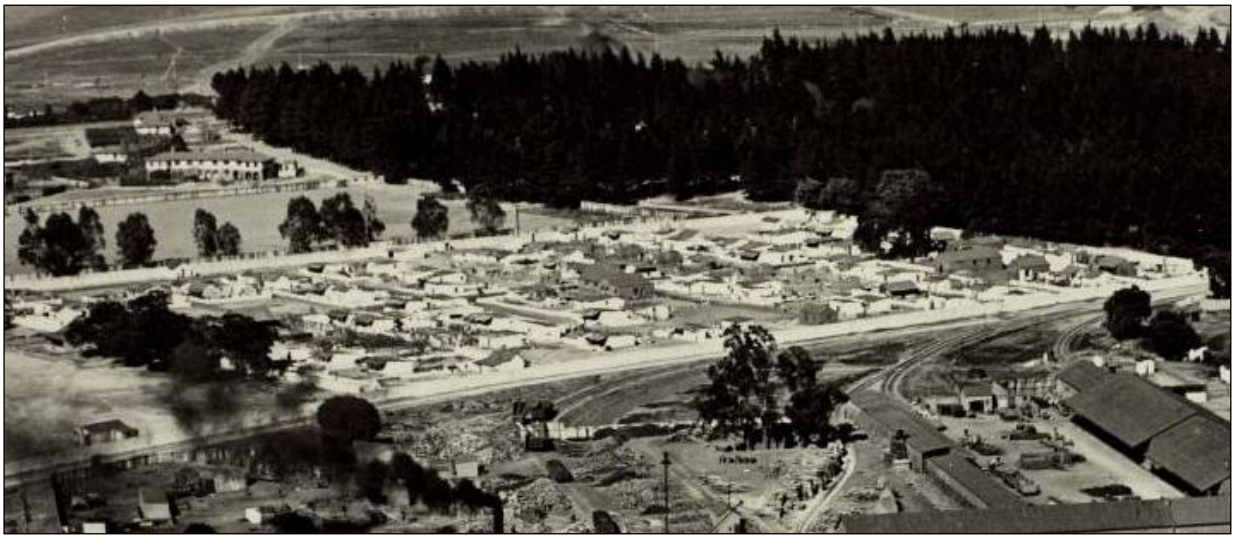

Figure 41: Undated photograph from the 1920s and 1930s. A close-up of the background of the photograph depicts the black and Indian residential area.

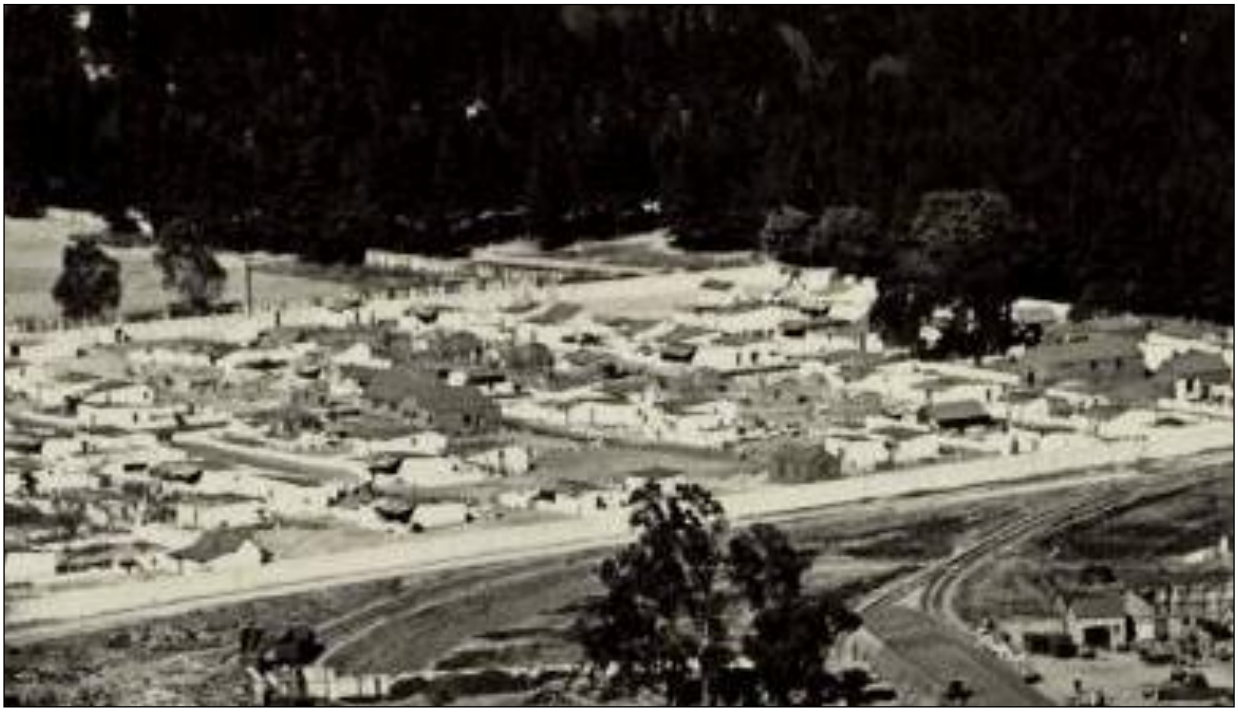

Figure 42: A close-up view of a section of the former location area.

6. FIELDWORK FINDINGS

This section deals with the results of the fieldwork undertaken of the study area. The discussion on the fieldwork findings will be undertaken within the context of each of the pre-defined precincts. As such this section links up with the previous section and expands into the different heritage sites located within each precinct.

6.1 Precinct 1

This precinct reflects a two phase development with one represented by semi-detached single storey dwelling units arranged around a large rectangular open field. Half of these dwellings have been demolished while the remaining half is located inside the study area for this investigation. The second phase is represented by large double story units located in a seemingly haphazard pattern along the western and northern periphery of the first single story units. Closer investigation determined that a more complex but probably more humane and aesthetically pleasing approach determined the logic when the layout for these units was determined. The latter units were designed by the architectural firm of Baker & Masey and are of exceptional architectural significance.

Nr	Type	Photograph	Rating
1.	Single storey semi-detached dwelling units. These units were designed and built for the married white mine employees and their families. Five examples of this type were identified within the precinct.		medium
2.	Double storey semi-detached married quarters for white married staff, now inhabited by black tenants. These units were designed by the architectural firm of Baker & Masey. Eight examples of this type were identified within the precinct.		high

		  	
3.	Club house and grounds that are still used for cricket and bowling and are secured from the remaining portion of the village by fences and electric gates. One example of this type was identified within the precinct.		medium

		 	
4.	Ruins of ablution facilities located directly adjacent to the soccer field and clubhouse. All doors, windows as well as the roof have been removed and vandalized. One example of this type was identified within the precinct.	 	low

5.	Ruins of ablution facilities located directly adjacent to the soccer field and club house. All doors, windows as well as the roof have been removed and vandalized. One example of this type was identified within the precinct.		low
6.	Red face brick transformer building with cast concrete roof. The building is still used for this purpose. One example of this type was identified within the precinct.		low
7.	Original soccer field still used by local residents of the village. One example of this type was identified within the precinct.		low

Character and streetscape:

Two sets of 'logic' have been applied. In both these sets the streets followed this pattern and defined the movement and also served as connecting arterials serving each household. In the first cluster, the principal urban element is the large open space or open field with the dwelling units arranged along the periphery of the field. All the dwellings face towards this open field irrespective of the orientation towards the sun or any cosmological logic. This logic is based on a rectangular spatial framework. In the second, the Baker & Masey layout reflects a more complex logic with the dwelling units facing in all directions. In this case the spatial layout is based on a diagonal-cross logic. None of the dwelling units face each other neither do they interface back-to-back. This allows each dwelling unit to have its own unique view towards the horizon and none had a view on the others backyard allowing more visual freedom and individuality, but still relating to the same cluster.

Facades and backyards:

In the first cluster all the dwellings face towards the open field allowing an opportunity to enjoy the field and the trees planted along the periphery of the open space. The open field was not designed as a formal square but the arrangement suggests that the logic was the same. The entire design is based on rectangles and the concept of a large rectangular urban form is merely a more friendly version of the 'compound' principle applied in its most crude form as housing for the black mine workers. In the case of the latter the rectangle was closed completely with only a single entrance that also served as security point for all movement in or out of the compound. In the second cluster, the dwellings were arranged along several triangular spaces, defined by driveways serving the gardens and entrances to the individual units. These driveways create garden-like enclosures and small triangular spaces, creating open but private semi-enclosed areas relating closely with each dwelling complex.

Lighting:

This is the only precinct where some of the older street lighting structures have remained in situ. Refer Figure 37 for a photograph of one of the remaining street lamps. This is a unique occurrence as most mining villages have been stripped of this type of service providing installations.

Planted vegetation:

Dominating the precinct are the tall and old trees planted along the periphery of the large open field. In some of the front gardens tall trees have remained intact but the vegetation in the gardens do not define neither dominate this section of the study area. The second cluster of dwelling units had larger gardens and it seems as if the planting of trees and creation of gardens by its tenants were more common resulting in several of these gardens still reflecting some of its former character.

Figure 43: One of the old street lamps still preserved in Precinct 1.

6.2 Precinct 2

This precinct is located about 200m from the first precinct and differs completely in form and layout from any of the other precincts. It has a rectangular form with a central boulevard dividing the rectangle in two division of the exactly the same shape and size. The boulevard is defined by a central strip of parkland planted with trees and two streets serving the dwelling units along the periphery of the precinct. Four rows of dwelling units are arranged in such a way that they are set back to back with a service road in between serving the backyards.

Figure 44: General view along service street running between backyards of residential units.

Nr	Type	Photograph	Rating
1.	These dwelling units typically consist of four households under the same roof and are made up of two u-shaped sections which are attached. The facades on each one of these u-shaped sections is characterised by two protruding rooms on each side of what used to be an open veranda. The verandas were later closed-off to become rooms. A number of modifications to this building type were observed on site. For example, one such modification has a protruding room on the one side, but not on the other end.		medium

	Five examples of this building type were identified within the precinct.		
2.	The building type typically comprises four households sharing the same roof but without an exposed firewall. The façade of each unit consisted of a protruding room with an open veranda along one side. The verandas were later partially closed-off to create another room while entrance to the front door remained open creating a small open porch. A number of modifications to this building type were observed. Eleven examples of this building type were identified within the precinct.	 	medium

Streetscape characteristics:

The prominent feature of the precinct is the central boulevard serving as central open space with two rows of dwelling units facing towards this green strip. Two streets run along the sides of the boulevard serving as arterial linking the units.

A second street serves as service spine between the two rows of dwelling units connecting with the backyards of the dwelling that were arranged back-to-back with each other.

The entire precinct is also served by a central street running from north to south connecting this precinct with Precinct 3. This street is characterized by the number of tall oak trees that define the green character of the street.

Facades and backyards:

None of the dwellings reflect exceptional architectural characteristics. The principle aesthetic element in this precinct is the relationship between the boulevard as urban element with the gardens and dwellings that were slightly set back to allow small gardens in front of each unit. The ‘secondary’ street serving the backyards is of little aesthetic significance but serves as critical element in the precinct. All the outbuildings and support structures to each dwelling unit were erected in the backyards.

Boulevard and streets:

The boulevard is the most significant urban and spatial element of this precinct and the north-south street connecting Precinct 2 with Precinct 3 of secondary (but also significant) value.

Planted vegetation:

Similar to the other precincts little planted vegetation relates to the individual properties or erfs. Most of the mature trees occur along the streets and lanes.

Figure 45: Two mature oak trees located along the north-south street which runs through Precinct 2.

Figure 46: Another view of the tree-lined north-south street which runs through Precinct 2.

6.3 Precinct 3

This precinct is located north-east of Precinct 2. Of the three defined precincts this is the oldest and also the most complex in form and layout. It also contains the largest number and greater variety of architectural fabric.

Nr	Type	Photograph	Rating
1.	Old entrance building used as control point for residents leaving and entering this section of the housing complex. Constructed with plastered brick with flat corrugated iron roof – now vandalized with all window and door frames removed. The building is not used anymore. One example of this type was identified within the precinct.		low
2.	Single storey building resembling the general characteristics of a small shop with verandah supported by plastered brick columns. The building is constructed with plastered brick with low pitch corrugated iron roof. One example of this type was identified within the precinct.		low
3.	Single storey building with hipped corrugated iron roof used as annex to the small shop building across the street. The building is locked but still intact. It is a plastered brick building with closed front stoep. One example of this type was identified within the precinct.		low

4.	Single storey face brick building with low pitched corrugated iron roof forming part of the school grounds. The original function is unknown but could have been used as a tuck shop or office. Three examples of this type were identified within the precinct.	 	low
5.	Pitched roof prefabricated asbestos cement building forming part of the school grounds. One example of this type was identified within the precinct.		low

6.	Single storey plastered brick school building with pitched saddle roof covered with corrugated iron sheets. One example of this type was identified within the precinct.		low
7.	Comet Methodist Church building. It is a single storey timber frame with corrugated iron clad building facing north-south. Contrary to the other corrugated iron buildings in the village it has a forty-five degree pitched corrugated roof. The remains of a small timber structure originally used for the church bell is still in situ but the bell has since been removed. One example of this type was identified within the precinct.	  	high
8.	Semi-detached single storey dwelling units with staggered facades Twelve examples of this type were identified within the precinct.		low

9.	Semi-detached single storey dwelling units probably erected between 1985 and 1995. Nine examples of this type were identified within the precinct.		low
10.	Original old square dwelling units constructed with corrugated iron and timber frames, covered with chicken wire mesh and then sprayed with cement mixture leaving a course cement plaster and left unpainted. Forty-three examples of this type were identified within the precinct.  	 	high

11.	Small independent (detached) housing unit constructed the same as the other dwellings of this cluster but with red face bricks. Four examples of this type were identified within the precinct.		medium
12.	Small independent (detached) housing unit constructed the same as other dwellings in this cluster but with unplastered grey-blue face bricks. Three example of this type were identified within the precinct.		medium
13.	Community centre functioning as concert hall, clinic and any other functions associated with the community. One-and-a-half storey building constructed with face bricks and corrugated iron roof, steel frame windows with typical industrial exposed concrete window and door lintels quite common of mining architecture. One example of this type was identified within the precinct.		high

		 	
14.	Single storey church building constructed with plastered brick walls and with hipped corrugated iron roof on the one end and gable on the other. The building is still used by the local residents. One example of this type was identified within the precinct. 		medium

15.	Small dwelling behind the church building mentioned in 14 (above). It relates directly to the history and function of the church. It is constructed with plastered brick with a simple saddle roof covered with corrugated iron sheeting. One example of this type was identified within the precinct.		low
16.	Ruins of an ablution complex. The roof, doors and window frames have been removed completely. One example of this type was identified within the precinct.		low
17.	Building used as a shop serving the existing and remaining residents of the village. One example of this type was identified within the precinct.		low

18.	Communal ablution facility. One example of this type was identified within the precinct.		low

Streetscape and character:

The most significant street is the arterial route from east to west connecting and dissecting the precinct. However the intimate streetscapes are the secondary streets that run from north to south serving most of the individual dwellings and erfs.

Vegetation:

One of the exceptional aspects of the site is the historic vegetation and tall mature trees that still occur along the streets of the original village and various precincts of the village.

Although these trees are all exotic species they are of historic significance as the most mature examples are older than 100 years or older than 60 years. The most impressive of these trees are the oak trees that have remained in situ and still serve their original purpose as shading and decorative features along the pavements – not as garden vegetation.

Figure 47: The tree-lined main arterial east-west street which runs through Precinct 3.

Figure 48: One of the mature trees fro Precinct 3.

7. HERITAGE SITE SIGNIFICANCE

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the ERPM mine village the entire area demarcated for development was surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. A slightly different set of criteria was used to rate the heritage significance of the built environment based on the NHRA of 1999 and is discussed under section 6.2 of this report. The following criteria are used to establish archaeological site significance:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposits;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined/is known);
- The preservation condition of the sites;
- Potential to answer present research questions.

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) distinguishes nine criteria for places and objects to qualify as 'part of the national estate' if they have cultural significance or other special value. These criteria are:

- Its importance in/to the community, or pattern of South Africa's history;
- Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;

» Sites of significance relating to the history of slavery in South Africa.

6.1. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and approved by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with Section 9 of this report.

FIELD RATING	***GRADE***	***SIGNIFICANCE***	***RECOMMENDED MITIGATION***
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

8 SIGNIFICANCE RATING

8.1. Archaeological sites

No archaeological sites were recorded during the survey. There is however the possibility that historical middens may still be located under the surface of the study area. These will have a field rating of Generally Protected B (GP.B) and will have to be mitigated.

8.2. Built Environment

8.2.1 General

According to the Burra Charter ‘cultural significance’ means ‘aesthetic, historic, scientific or social value for past, present or future generations’. Cultural significance is a concept which helps in estimating the value of places. These terms and their meaning are not mutually exclusive, for example, architectural style has both historical and aesthetic aspects (Burra Charter, 1999). The categorization into aesthetic, historic, scientific and social values is one approach to understanding the concept of cultural significance (Burra Charter, 1999). However, more precise categories may be used as understanding of a particular place may increase. For the purposes of this report such categories are used in tandem with the criteria set out by the National Heritage Resources Act.

While this section will deal with an assessment of the significance of the study area as a whole and the buildings in general, the next section will focus on individual buildings (and specifically those which are older than 60 years).

8.2.2. Significance of the Study Area and Buildings in General

Two sets of criteria are used to determine the historical and cultural significance of a site. The first set is determined by the National Heritage Resources Act and tends to focus on determining the significance of a site on ‘national’ or macro geographic level.

The second set of criteria is a refinement of those set out in the Act and tends to highlight detail aspects of the site (addressing things such as buildings, structures, infrastructural elements, activity areas and planted vegetation). The latter set of criteria is more specific and focuses on detail and determines the ‘local’ cultural significance.

8.2.3. Cultural Significance as defined by the National Heritage Resources Act

1.	***The importance of the site in the community or pattern of South Africa 's history*** The village in its entirety belonged to the same mine and was isolated from the rest of Boksburg municipal area which resulted in the village being a single entity serving the needs of a single community (the mining community and workers of the mine). This aspect makes the village unique as nowhere in South Africa a similar village exists of the same character and architectural fabric. The site is quite extensive in size and complexity and consists of various clusters of dwelling types and housing types. It also reflects various housing policies and housing typologies applied over a period of about 100 years by the same corporate landowner (mine).	***Rating*** medium
2.	***Possession of uncommon, rare or endangered aspects of South Africa's natural and cultural heritage*** Due to the variety of the built fabric of the village it can be considered a 'rare' occurrence and thus needs to be respected and memorialised as a significant historic village (selected areas and buildings to be conserved).	***Rating*** medium
3.	***Potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.*** The layout of the village and the development of the village over a period of 100 years reflect the alteration of housing white mine workers during this period. The various styles, scale of residential units and the intricacy of architectural vocabulary reflects a well-defined layering in the development of housing by this particular mine and also exposes the changes in approaches towards housing as the mine evolved.	***Rating*** medium

4.	***Importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects*** The village and each housing type were designed to serve the needs of a single mine and a particular type of 'urban' environment was created to serve the mine. These characteristics were not based on serving the needs of the private landowner but a corporate image and corporate service confined well into the boundaries of the mine. These workers were isolated from the general public and the general residential needs and amenities of the civil society. It was designed for the workers class family and for individuals (single quarters) based on the norms and standards determined by the mine and not by building and zoning regulations of the local authority. This aspect places the village and the various dwelling and residential unit types into a particular niche – other than the commercial niche commonly assumed in villages where corporate management and company goals and objectives played no part.	***Rating*** high
5.	***Importance in exhibiting particular aesthetic characteristics valued by a community of cultural group.*** Even though the buildings were the result of corporate design principles (often the responsibility of engineers rather than architects) some aesthetic characteristics reflect a sympathetic approach towards creating a residential character that considered the needs and principal aspects of human habitation instead of merely considering the size, scale and aesthetic aspects according to 'cold' clinical engineering principles and tastes. The fact that Herbert Baker or the firm of Baker & Masey was asked to design some of the housing units reflects some sympathy towards and hints of a drive towards creating a style that may suggest a 'new order' or a fresh approach to mining housing.	***Rating*** medium
6.	***Importance in demonstrating a high degree of creative or technical achievement in a particular period.*** The housing units designed by the firm of Baker & Masey can be considered of exceptional significance as the firm was not primarily known for designing mine houses or units for mining housing complexes. Closer investigation of these units reflects a keen sense for designing smaller units for residential purposes and also an exceptional approach to creating	***Rating*** high

	habitable spaces for mine workers and not for the (usual) middle and upper class clients the firm of Baker & Masey has become known for. The use of Kirkness brick fire places and other materials such as dressed granite (foundations) and seemingly excellent building specifications reflect the approach the mine adhered to for its buildings – therefore reflecting on its approach towards serving its staff with habitable residential units and solid buildings	
7.	***Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.*** As the village was a corporate project and designed within the parameters of a corporate policy its association with the mine remains of historic significance. The village will have exceptional value on both emotional and professional levels for the original residents and all the workers who have spent most of their productive lives working for the mine and the children who grew up at the mine and inside the village. The village must have operated and existed as a semi-closed entity as all the workers worked for the same corporate entity binding the staff and all other workers to a single focus. This was further reinforced by workers living in the same village sharing the same and similar housing units almost as if in a 'communal' settlement.	***Rating*** medium
8.	***Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa.*** Herbert Baker has become the most important colonial architect in South Africa during the period 1902 to 1913. Although he has not been associated with the design of mining buildings or mine housing complexes, his company has done extensive work for various mines on the Rand during the early years of the 20th century (as reported by Dennis Radford). If the buildings erected on this site were not designed by Baker himself, they certainly represent the work and contribution of the firm Baker & Masey and add a valuable layer to the history of Herbert Baker and the firm. From a architectural point of view the village, its various components and precincts and the different building typologies applied and occurring in the village represent a valuable period and determines different layers of architectural design for workers housing in the architectural history of	***Rating*** high - only the Baker units

	Gauteng.	
9.	***Are any of the sites of significance, relating to the history of slavery in South Africa***	***Rating***
	Neither the village nor any of the individual sites or buildings represent or relate to the history of slavery in South Africa.	*low*
	However the entire site and every single building represents an important aspect of workers history and the architectural history of workers housing, both at the mine and Gauteng in general.	

8.2.4. Historical (Social) Significance

Historical significance focuses on determining how the site or building fits into the history of a person, group or community. Not only does it relate to events that happened on the site and the people associated with such an event, but also the social context within which the site has gained ‘place’ value and significance in people’s minds and memories.

This type of significance may imply that the building on the site can be of lesser significance than the ‘place’ or ‘event’ value and in exceptional cases may result in the protection of the land (space) rather than the buildings on it (the World Trade Centre is a case in point where the significance of the historic event associated with the site resulted in its protection as an open space rather than being covered with a new building).

1.	***Is the site, or any building(s), structure(s) or planted vegetation associated with an historic person or group.***	***Rating***
	The site, buildings, structures and all the planted vegetation are associated with the history of ERPM; the corporate character of the mine	medium

	and at the social and personal histories of the people who lived and worked for the mine. The contribution of the firm of Baker & Masey in the design of the double story semi-detached dwelling units is also of exceptional significance as examples of these dwelling units have been demolished and have disappeared quickly from the historic landscapes and villages associated with early mining in Gauteng.	high
2.	***Is the site, or building(s), structure(s) or any planted vegetation associated with an historic event or any historic religious, social, economic or political activity.*** Neither site village or any of the sites or buildings are associated with a specific outstanding historical event that had an impact on changing the history of South Africa. However the existence of the mine and the role it played in the lives of those who worked for the mine is immense but cannot be measured in quantifiable terms. The ERPM also contributed to the economic growth and sustainable economic benefits of the larger Boksburg municipal area for more than 100 years.	***Rating*** low medium
3.	***Does the site (as a whole) or any building, structure or any planted vegetation illustrate an historic period.*** The village can be subdivided into several precincts, each with its own characteristics and each representing a particular period. The various architectural styles, building materials and techniques and architectural vocabularies represent a particular period. These periods are represented in the typologies of buildings identified in the report and the recommendations made in the report.	***Rating*** high
4.	***Is the site or any element on the site of archaeological significance.*** This section of the report excludes the identification and mapping of traditional archaeological elements relating to the Stone Age and Iron Age. However, any portion of the village and any manmade structure older than 100 years is considered and categorized as an object or place of	***Rating*** medium

	Archaeological significance. These elements have been indicated in the historical section of the larger report.	
5.	***Is the site or any building, structure or planted vegetation older than 60 years***	***Rating***
	The largest portion of the village is older than 60 years and is therefore protected by the 60 years clause of the national heritage Resources Act.	high
	The bulk of the dwellings and dwelling units are older than 60 years and are also protected by the 60 years clause of the Act. Of special significance is the occurrence of vegetation and mature oak trees that still exist at various locations in the village.	

8.2.5. Architectural (Artefactual) Significance

Architectural significance focuses on the significance of the artefact as a physical object – almost the same way a painting or a sculpture by a well-known artist is treated. Buildings and structures can also be significant for their 'object' value alone. In the case of buildings and structures the boundaries are not always clear as these are not movable objects but relate to the community and environment in which they occur.

1.	***Are any of the buildings or structures important examples of a building type.***	***Rating***
	<u>Precinct 1</u>:	
	Dwelling units: the most significant housing units are the double storey units designed by the firm of Baker & Masey. They represent the firm's contribution to worker housing in Gauteng and little of these hoses is known or published. Most of these buildings have been demolished making these examples very exclusive and architecturally significant.	high (Baker units)
	<u>Precinct 3:</u>	
	Shops: even though the shops are the only examples of this type in the village they are not unique	low
	Schools: None of the school buildings in Precinct 3 is unique or of outstanding architectural quality.	kow

	Community centre: this building reflects typical characteristics of large buildings designed and erected by mines with its face brick exterior and over-designed concrete door and window lintels. .	high
	Church: the Comet Methodist church is quite unique in the sense that it is one of few examples of a large church building constructed with corrugated sheet iron. However, small churches were often erected at mines as the congregations were small. The use of corrugated iron as ready-made building material was a quick-fix solution for solving the problem of erecting a building for this purpose.	high
2.	***Are any of the buildings or structures an important example of a particular style or period***	***Rating***
	The recording of worker housing and the architectural styles and building traditions associated with this unique niche in the architectural history of Gauteng has not been recorded or debated extensively. No complete or nearly complete typology or sets of typologies on worker housing at mines in Gauteng exists.	medium
	Precinct 1: None of the buildings would classify as classic examples of a particular international style as they were designed as worker housing. The only buildings that would qualify within such a category are the Baker & Masey dwellings – for being Baker & Masey designs with some elements reflecting Arts & Crafts stylistic aspects.	high
	Precinct 2: None of the buildings qualify as examples of a particular style	medium
	Precinct 3: None of the buildings qualify as examples of a particular style. Some buildings do qualify as examples of a particular period and architectural character such as the corrugated iron church, the community centre and the small corrugated iron workers dwellings.	high
3.	***Does any of the buildings or structures contain fine details or reflect exceptional craftsmanship***	***Rating***
	Precinct 1: The original single story dwellings were constructed on neatly dressed granite foundations while the later additions to the same dwellings were done on concrete and brick foundations. The granite foundations extend upwards to a height of approximately 500-600mm. These dwellings were solidly built with quality materials such as Oregon pine for the original doors and windows but most of these were eventually replaced with steel frames.	medium

	The most exceptional buildings in the entire village are the Baker & Masey double story dwelling units. The firm was famous for their quality of materials used and craftsmanship. The use of Kirkness bricks (from the Pretoria brickyard) for fireplaces, exposed face bricks and decorative brickwork were also used here. These bricks were also used for the chimney stacks – now painted. Oregon pine was used for the staircases leading to the top stories.	high
	Precinct 2:	
	These dwellings were solidly built but the brick fireplaces are the only outstanding features of these dwellings.	medium
	Precinct 3:	
	The most outstanding buildings reflecting some level of craftsmanship are the corrugate iron church, the community hall and the small corrugated iron dwellings	high
4.	***Are any of the buildings or structures the work of a major architect, engineer or builder.***	***Rating***
	Several examples of double storey single quarters residential units are associated with the work of the architectural firm of Baker & Masey occur on the site. These buildings are still utilized as residential units. However, many of the examples of mining housing designed by this firm across the Witwatersrand have been demolished.	high
5.	***Are there any buildings or structures that are important examples of an industrial, technological or engineering development.***	***Rating***
	None of the buildings are exceptional examples of an industrial, technological or engineering development.	
	Precinct 3:	
	However the oldest dwellings in Precinct 3 are unique as they have been constructed with corrugated iron sheets and covered with cement clad sprayed over the corrugated iron. The use of corrugated iron itself is not unique and has become a common building material for individual units and shacks commonly found in industrial areas, industrial villages and squatter shack building. In all these cases the corrugated iron is mounted to a vertical frame or superstructure of timber with the sheets mounted vertically and the fluting in the same direction. At this site the sheets were mounted horizontally. The sheets were then covered with wire mesh and finally covered by spraying cement over both the interior and exterior sides. The wire mesh served as reinforcing and also allowed the cement to cling to the otherwise smooth and slippery sides of the corrugated iron.	high

	This is a unique building method and the project architectural historian has not seen this anywhere at a mining housing site before.  	
6.	***What is the structural and architectural integrity of the buildings or structures.*** Most of the buildings are structurally sound (none are in pristine condition and all of them are deteriorating) but the oldest dwelling units constructed with corrugated iron sheeting and clad with cement over wire mesh, have deteriorated along the lower sections of the walls. In most buildings the original wooden window and door frames have been replaced with steel frames resulting in the major loss of architectural integrity and the original intent of the aesthetic character.	***Rating*** medium to low
7.	***Are the buildings and structures still utilized.*** All the residential buildings are still utilized, mostly for residential purposes. Subletting appears to take place across the study area. In isolated cases individual buildings are used as hair dressing saloons and small shops.	***Rating*** medium to high
8.	***Has any of the buildings been altered and are these alterations sympathetic to the original intent of the design.*** All the buildings have undergone changes due to maintenance, upgrading, alterations and extensions. The bulk of these changes were done by the mine as part of maintenance programmes during the lifetime of the mine. These alterations were done to serve a functional purpose and were seldom done to enhance the aesthetic quality of any of the buildings. Structural alterations were minimal except for some buildings where an additional room was added or where a veranda was closed-off to create an additional room. The addition of garages and other outbuildings also became necessary over time and these were designed in a functional and utilitarian manner adding no value to the aesthetics of individual dwellings or units.	***Rating*** medium to low

8.2.6. Contextual (Spatial) Significance

In general all evaluations to determine the significance of anything in the landscape are based on contextual evidence. In this category the significance of the 'place' must be determined according to the spatial or environmental context in which the site and its artefacts were designed, created and functioned over time. This set of criteria will remain difficult due to the fact that spatial context always change and remain in flux and is particularly complex in dense urban environments.

This type of information is of particular value to urban designers and architects who have to design and plan with and around places that have been identified of spatial significance.

1..	***Is the site or any of the buildings or structures a landmark in the city or town.***	***Rating***
	Neither the village nor any of the buildings can be considered a landmark in the Boksburg area. On a social level the ERPM sports grounds and clubhouse may have served this purpose and is still serving this purpose but no outstanding building of any architectural or engineering merit qualifies as a landmark.	low
	The cluster of Baker & Masey residential units may be considered a landmark of historical and architectural significance (academic significance) but they still do not qualify as 'landmarks' – neither as cluster nor as individual buildings.	
2..	***Does the site or any of the buildings or structures contribute to the character of the neighbourhood***.	***Rating***
	In this case the neighbourhood is defined in two ways: (a) the village as a whole being a neighbourhood on its own and (b) each cluster of dwellings that form a single entity based on their date of origin and similarity in style and architectural vocabulary. The mine does not form part of a residential area or part of the municipal area or urban setting. The village is an entity on its own, therefore defines the neighbourhood.	
	In this case the neighbourhood and the village cannot be separated from	

	each other but can also be subdivided into smaller neighbourhoods. The village has been developed into separate precincts based on various income levels and management levels inherent in the management structure of the mine. Clusters of buildings of the same architectural vocabulary occur in these precincts, creating smaller 'neighbourhoods'. These clusters were designed as 'neighbourhoods, each with its distinct street pattern, spatial layout, spatial orientation, street interface, paving, and planted vegetation.	high
3.	***Does the site or any of the buildings or structures contribute to the character of the streetscape or a square***. No formal square occurs in the village but the various neighbourhoods were set apart from each other by creating larger and smaller open spaces in between – some left as open fields and some used as soccer fields – maybe a later or more recent development. Precinct 1: The large rectangular open field serves as a communal open space but not as a square. The dwellings were arranged around the field but none of the individual buildings were designed to celebrate it. The streets were supposed to be lanes that function as connecting arterials and not as urban public spaces with refined paving, walkways and decorated with ornamental or tall trees providing shade. Precinct 2: The most significant open urban space is the well-defined boulevard in the centre of this section of the village. It was not designed to be a formal square but merely an open strip or filed supposed to function as a communal open field. None of the buildings along the boulevard was designed to celebrate the open space. The streets were supposed to be lanes that function as connecting arterials and not as urban public spaces with refined paving, walkways and decorated with ornamental or tall trees providing shade. Precinct 3: In the oldest part of the village in Precinct 3, (former black residential area) the streetscapes are dominated by tiny independent dwelling units each surrounded by a small 'werf' and facing the street, similar to the historic character of Apartheid townships and current RDP townships. In the oldest part of the precinct the narrow streets give sense of connectedness with the dwellings but are narrower than the lanes in the other two precincts.	***Rating*** medium medium medium

	More recent (1975 to 1989) dwelling units are similar in style and design to contemporary housing units common in security villages in white urban areas and these do not reflect any unique character and relationship to the streetscapes. In the residential clusters for white mine workers, single and married quarters looked similar each with a front- and backyard, facing towards the front and back streets. Housing was designed to cluster functions rather to enhance the streetscape, even though gardens and pavements with lawns were provided.	
4.	***Do any of the buildings or structures form part of a significant group or ensemble of buildings***. Several ensembles of buildings exist. These have been identified at the beginning of this document according to the three precincts in which they occur.	***Rating*** high

8.3. Significance of the Individual Buildings Types

In the table below, the building types from each precinct is listed. The numbering used here corresponds to the building type number used earlier in the report, with the addition of the precinct number in front of the building type number.

PRECINCT 1		
Nr	**Type**	**Rating**
1/1	Single storey semi-detached units	medium
1/2	Double storey semi-detached units	high
1/3	Bowling Clubhouse	medium
1/4	Ruins of Ablution Facilities 1	low
1/5	Ruins of Ablution Facilities 2	low
1/6	Transformer House	low
1/7	Soccer Field	low

PRECINCT 2		
Nr	**Type**	**Rating**
2/1	Dwelling Unit 1	medium
2/2	Dwelling Unit 2	medium

PRECINCT 3		
Nr	**Type**	**Rating**
3/1	Entrance Building	low
3/2	Shop 1	low
3/3	Annex to Shop 1	low
3/4	Face Brick School Building	low
3/5	Prefab. Asbestos School Building	low
3/6	Plastered Brick School Building	low

3/7	Comet Methodist Church Building.	High
3/8	Semi-detached Dwelling Units 1	low
3/9	Semi-detached Dwelling Units 2	low
3/10	Square Dwelling Units 1 (Corrugated Iron and Wooden Frames).	high
3/11	Square Dwelling Units 2 (Red Face Bricks).	medium
3/12	Square Dwelling Units 3 (Grey-blue Face Bricks).	medium
3/13	Community Centre	high
3/14	Single Storey Church Building	medium
3/15	Small Dwelling Behind Church	low
3/16	Ruins of an Ablution Complex	low
3/17	Shop 2	low
3/18	Communal Ablution Facility.	low

9. REQUIRED RECOMMENDATIONS AND MITIGATION MEASURES

Considering the current lay out plan as indicated in Appendix A, it will not be possible to retain all the buildings of heritage significance. In order to mitigate the negative impact the development will have on recorded heritage resources the following recommendations are applicable.

9.1 Precinct 1

9.1.1 Precinct 1: Buildings

a) Record each building type that occurs in the precinct prior to any design, development, demolition or re-use.
b) Each dwelling unit indicated to be retained in the approved spatial development plan needs to be investigated individually to determine its structural and architectural integrity prior to making any decision regarding any minor or major demolition, alteration and re-use
c) Retain and re-use (selectively) the single storey semi-detached dwellings that used to form part of the original rectangular design layout.

d) Retain and re-use a selection of the Baker & Masey designed double storey housing units
e) Upgrade and modernize services of all retained housing/residential units
f) Demolish outbuildings
g) Redesign and alter sizes of erfs if and where necessary.
h) Add garages and other services as part of 'new work' projects
i) Retain the historic core building of the sports club (alter and re-use according to needs of the new user)
j) The re-use and redesigning of the Baker & Masey units for future use must be submitted to the Provincial Heritage Resources Agency for approval prior to any demolition, alteration, upgrading or new work.

9.1.2 Precinct 1: Urban design and infra-structure

a) Retain and incorporate the large rectangular urban layout plan that use to form part of the original intent of the spatial design framework.
b) Incorporate sporting facilities such as soccer fields into the open space framework
c) Do not 'decontextualise' the facades of dwelling units by introducing infra-structure such as streets that do not retain the historic interface between dwellings and streetscapes.
d) Upgrade and modernize services of all retained housing units
e) Redesign and alter sizes of erfs if and where necessary
f) Add garages and other services as part of 'new work' projects
g) Retain historic street lights

9.1.3 Precinct 1: Planted vegetation

a) Retain oldest and tallest trees along existing historic lanes and streets
b) Incorporate oldest and tallest trees in the design of avenues, pedestrian walkways, squares, boulevards, parks and any other public open space facility.

9.2 Precinct 2

9.2.1 Precinct 2: Buildings

a) Record each building type, indicated to be retained, that occurs in the precinct prior to any design, development, demolition or re-use.
b) Each dwelling unit identified to be retained, needs to be investigated individually to determine its structural and architectural integrity prior to making any decision regarding demolition and re-use.
c) Retain - selectively- the dwelling units that are structurally and architecturally sound (no design proposal has been submitted yet and until such point in time, no further selection can be made).

d) Upgrade and modernize services of all retained housing units
e) Demolish outbuildings
f) Redesign and alter sizes of erfs if and where necessary
g) Add garages and other services as part of ‘new work’ projects.

9.2.2 Precinct 2: Urban design and infra-structure

a) Do not ‘decontextualise’ the facades of dwelling units by introducing infra-structure such as streets that do not retain the historic interface between dwellings and streetscapes.
b) Retain the boulevard that divides the precinct into two portions
c) Retain the street (south to north) dividing the precinct into two portions

9.2.3 Precinct 2: Planted vegetation

a) Retain oldest and tallest trees along existing historic lanes and streets
b) Incorporate oldest and tallest trees in the design of avenues, pedestrian walkways, squares, boulevards, parks and any other public open space facility.
c) The most significant planted vegetation occurs along the south-north street and must be retained and celebrated right up to the northern boundary in order to create a visual vista and urban spine that can be used as a directive to link the various historic precincts.

9.3 Precinct 3

9.3.1 Precinct 3: Buildings

a) Record each building type in the precinct prior to any design, development (demolition or re-use).
b) Each dwelling unit, identified to be retained, needs to be investigated individually to determine its structural and architectural integrity prior to making any decision regarding final demolition and re-use.
c) Retain and re-use the community centre
d) Retain and restore – the Methodist church building
e) Retain and re-use the second church building
f) Retain, restore and re-use – selectively - some of the dwellings along the west-east road route. If not, an example of each type must be reconstructed at an appropriate location on the site where the public will have access to view and celebrate the historic significance of the site and its history.
g) As this precinct is characterized by very old historic worker units and contemporary housing units resulting in both being classified as of ‘heritage’ significance, they cannot be considered for re-use purposes in an equal manner. The more recent units are constructed with better materials and the design approach is

more relevant to contemporary needs making them easier to convert into upgraded housing units. The older units do not comply with the same qualitative principles but are of higher historic value. However, they have been constructed with timber frame walls that have a corrugated iron core that has been covered with wire mesh and then clad with a cement mixture rendering these buildings to look like plastered brick units. Only one or two of these buildings can be preserved and or re-used. This would also form part of the appropriate memorialisation of the dwelling type but it can only be done selectively.

h) Retain, conserve and re-use – selectively – some of the unplastered brick dwelling units or reconstruct an example at the place of 'appropriate memorialization.

9.3.2 Precinct 3: Urban design and infra-structure

a) Do not 'decontextualise' the facades of dwelling units by introducing infrastructure such as streets that do not retain the historic interface between dwellings and streetscapes.
b) Retain the street (west-east) that serves the central part of the precinct – celebrate this street, streetscape, vegetation and surrounding buildings as part of the appropriate memorialisation of the village.
c) Retain and celebrate the street (south-north) along the eastern façade of the Methodist church that crosses the main arterial route (from west to east).
d) Use the crossing of the above mentioned streets as an urban 'point of memorialisation' in the proposed urban design framework.

9.3.3 Precinct 3: Planted vegetation

a) Retain oldest and tallest trees along existing historic lanes and streets
b) Incorporate oldest and tallest trees in the design of avenues, pedestrian walkways, squares, boulevards, parks and any other public open space facility.

9.4 General recommendations

- This heritage impact assessment was focussed solely on a spacial development framework. At the time of writing this report no detailed information with regard to the re-use of the buildings that are earmarked for preservation, are available. As such, these aspects must be addressed as part of the Conservation Management Plan of the Project.
- Drafting of a Conservation Management Plan for the entire site. This will ensure some coherence in terms of the management of the entire site. This document will also ensure that all future approvals to SAHRA or the PHRA of new work are backed by a prescribed heritage related rationale.

- Drafting of rehabilitation guidelines for all the protected heritage buildings. This will ensure that a tenant/landowner will be guided towards what is considered 'better' or 'preferred' practices in terms of the re-use of historic buildings. Such a document will ensure that any proposals for alterations and additions of historic buildings are executed within the same frame of mind and using the same principles (making approval at SAHRA or the PHRA easier).
- Hard copies of photographs, diagrams and documents produced as part of the mitigation process must be lodged with the SAHRA.
- The developer must sign a document stipulating their responsibilities in terms of the preservation of buildings and landscapes that are to be retained. These may include aspects such as an agreement to follow the architectural guidelines in terms of maintaining a building, providing access for tourists, pupils and any other persons who may be interested in viewing a building (of course such access will have to be undertaken in terms of a procedure that will be prescribed in the heritage management plan) and so forth.
- A portion of land from within the study area must be set aside for the commemoration and memorialisation of aspects (including buildings, equipment and display centre) relating to the history ERPM in general but also examples of the two different types of structures in precinct 3 (labelled as D1 –D8). The most suitable area will be close to building B23 that will be retained. Memorialisation implies that this visiting point or portion of the development is set aside as a place where the public must be informed about the history of the site and all its associations during its period of existence – an 'informal' educational activity indicating the developers responsibility towards the remaining and associated history but also indicates the developers commitment to preserve and present something of the past to the community.
- Whenever possible, architectural detailing on buildings earmarked for demolition must be preserved. Naturally significant architectural detailing on buildings which will be retained must also be preserved. These items will of course be discussed in more detail in the Conservation Management Plans.
- The East Rand is known for unmarked cemeteries containing the remains of Chinese and indigenous people that used to work on the mines. If any remains are exposed during construction operations must be stopped immediately and an archaeologist must be contacted to assess the finds.
- An archaeological watching brief must be implemented during the construction phase of the development to ensure that no human remains or archaeological sites and material are lost due to the construction.

10. LIST OF PREPARERS

Jaco van der Walt, Accredited CRM archaeologist with ASAPA and SAHRA.

Polke Birkholtz, Historian and Archaeologist

Mauritz Naudé, Architectural Historian

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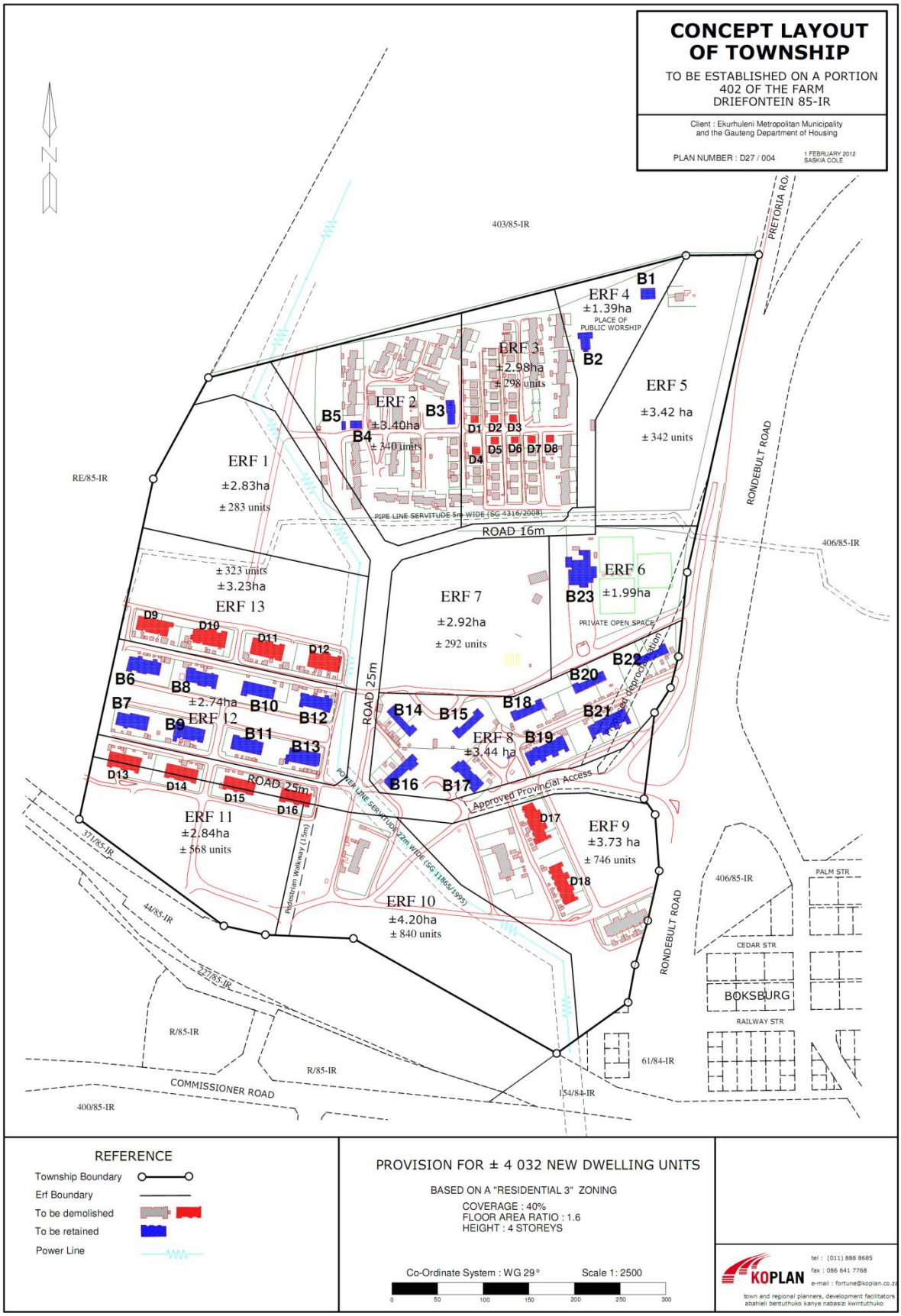
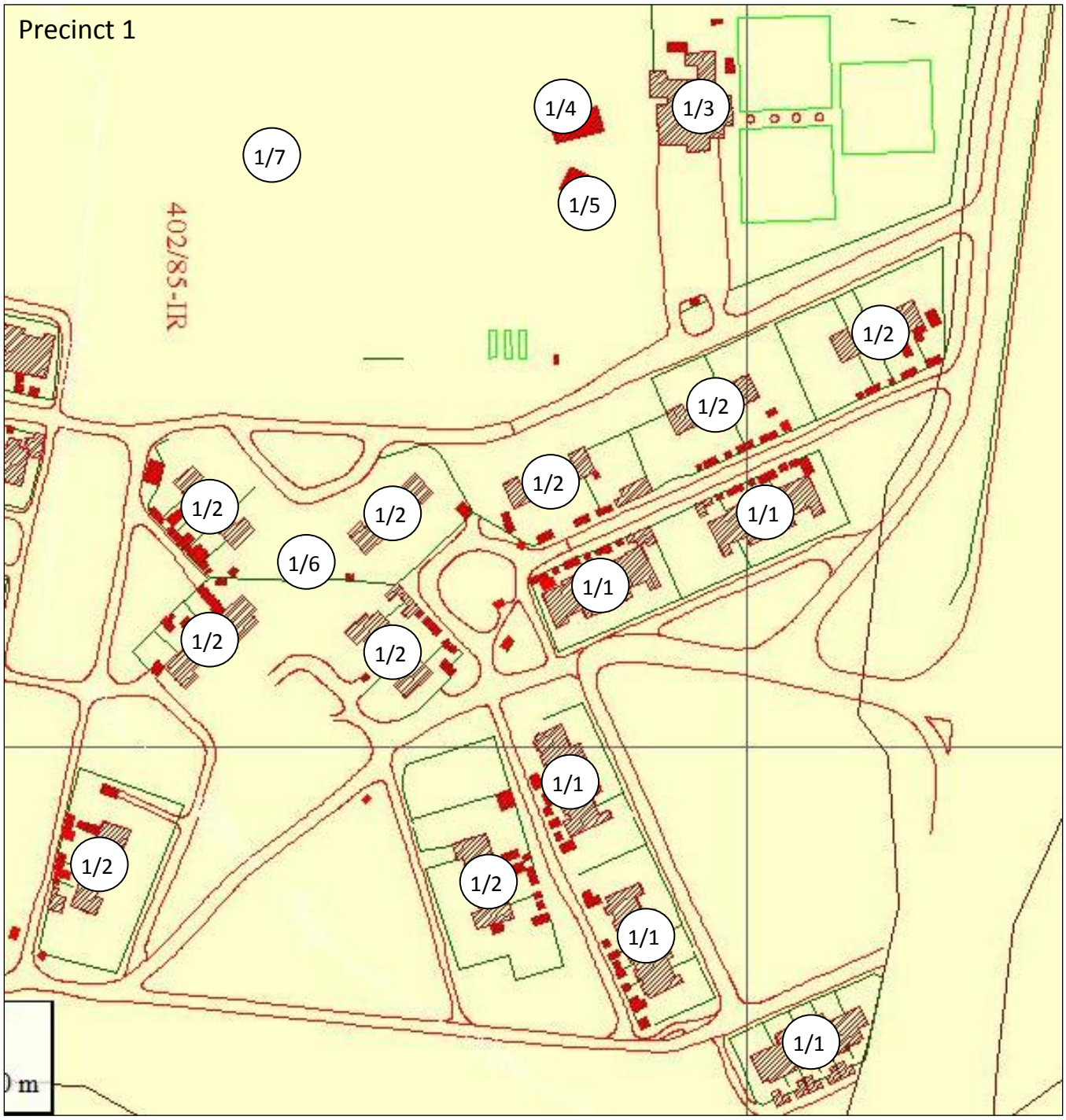
APPENDIX A

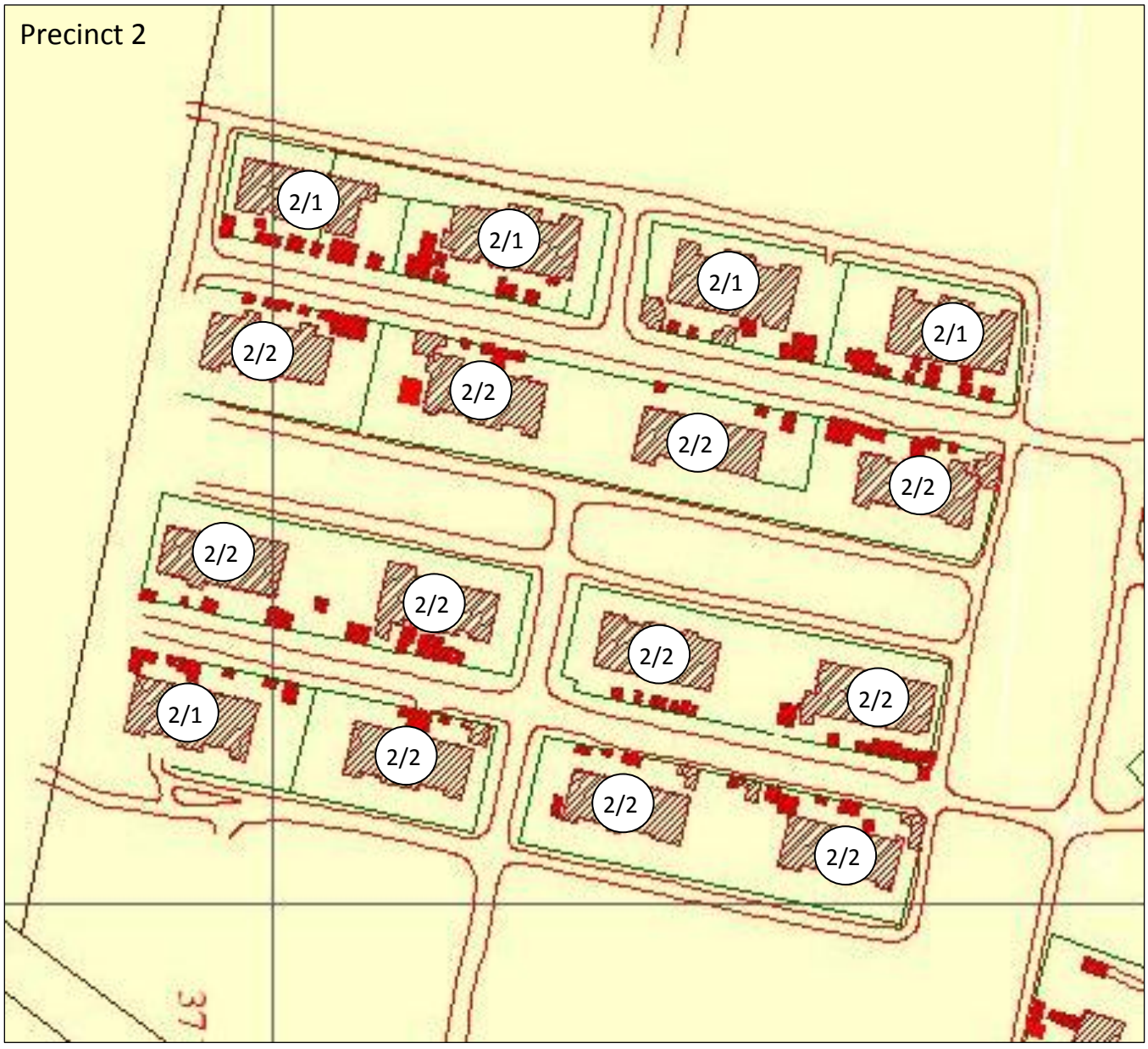
Concept Development Layout Plan


CONCEPT LAYOUT OF TOWNSHIP
TO BE ESTABLISHED ON A PORTION 402 OF THE FARM DRIEFONTEIN 85-IR
Client : Ekurhuleni Metropolitan Municipality and the Gauteng Department of Housing
PLAN NUMBER : D27 / 004
1 FEBRUARY 2012
SASKIA COLE
N
403/85-IR
PRETORIA RD
RONDEBULT ROAD
RE/85-IR
406/85-IR
ERF 1
±2.83ha
± 283 units
ERF 2
±3.40ha
± 340 units
ERF 3
±2.98ha
± 298 units
ERF 4
±1.39ha
PLACE OF PUBLIC WORSHIP
ERF 5
±3.42 ha
± 342 units
ERF 6
±1.99ha
PRIVATE OPEN SPACE
ERF 7
±2.92ha
± 292 units
ERF 8
±3.44 ha
ERF 9
±3.73 ha
± 746 units
ERF 10
±4.20ha
± 840 units
ERF 11
±2.84ha
± 568 units
ERF 12
±2.74ha
ERF 13
± 323 units
±3.23ha
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
B14
B15
B16
B17
B18
B19
B20
B21
B22
B23
D1 D2 D3
D4
D5 D6 D7 D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
PIPE LINE SERVITUDE 5m WIDE (SG 4316/2008)
ROAD 16m
ROAD 25m
ROAD 25m
Approved Provincial Access
Road Reproclamation
POWER LINE SERVITUDE 22m WIDE (SG 11865/1995)
Pedestrian Walkway (1.5m)
371/85-IR
44/85-IR
221/85-IR
R/85-IR
R/85-IR
COMMISSIONER ROAD
400/85-IR
61/84-IR
154/84-IR
406/85-IR
PALM STR
CEDAR STR
BOKSBURG
RAILWAY STR
REFERENCE
Township Boundary
Erf Boundary
To be demolished
To be retained
Power Line
PROVISION FOR ± 4 032 NEW DWELLING UNITS
BASED ON A "RESIDENTIAL 3" ZONING
COVERAGE : 40%
FLOOR AREA RATIO : 1.6
HEIGHT : 4 STOREYS
Co-Ordinate System : WG 29°
Scale 1: 2500
0 50 100 150 200 250 300
KOPLAN
tel : (011) 888 8685
fax : 086 641 7768
e-mail : fortune@koplan.co.za
town and regional planners, development facilitators
abahleli bentuthuko kanye nabasizi kwintuthuko

APPENDIX B

Distribution of Building Types within each Precinct


Precinct 1
1/4
1/3
1/7
1/5
402/85-IR
1/2
1/2
1/2
1/2
1/2
1/1
1/6
1/1
1/2
1/2
1/1
1/2
1/2
1/1
1/1
m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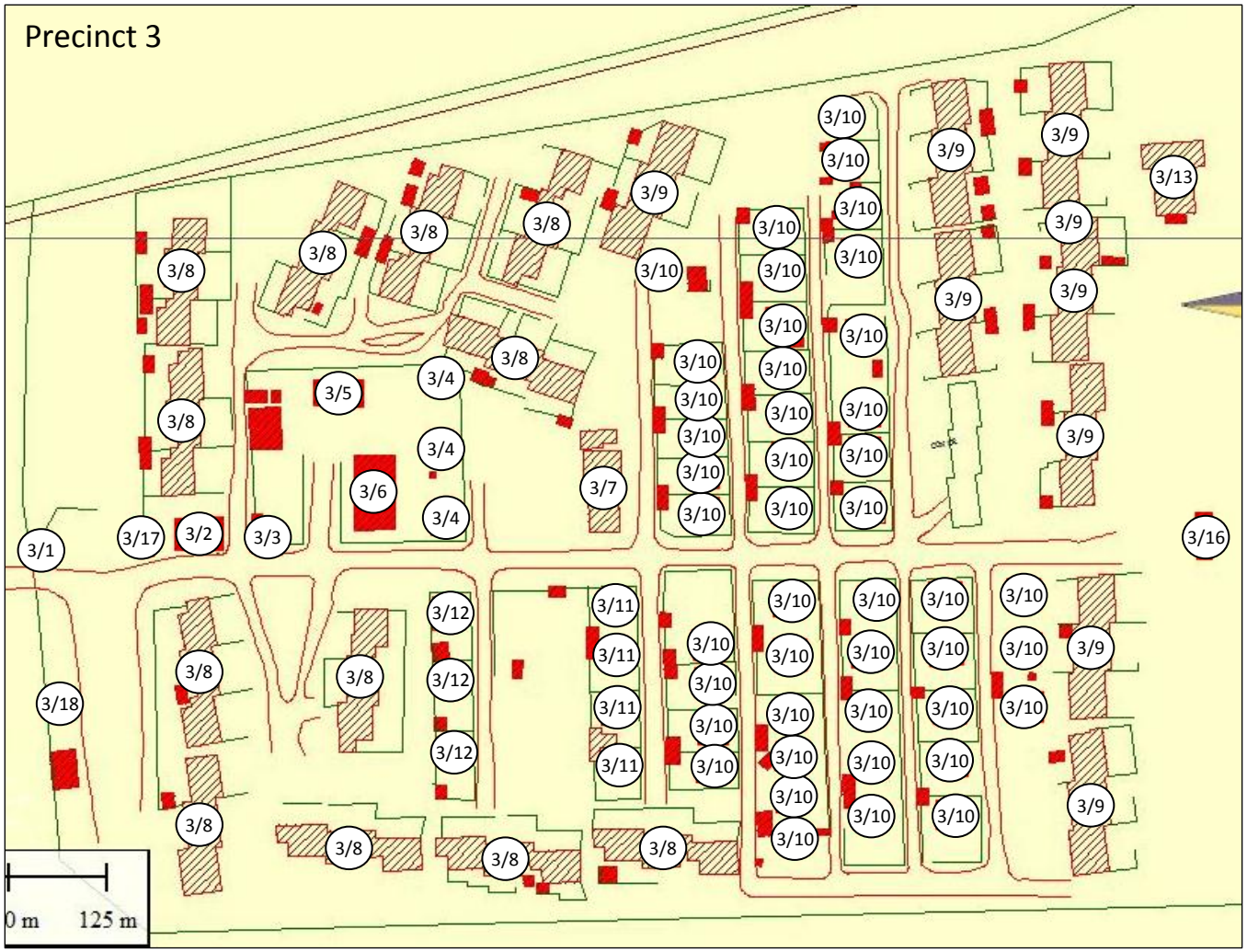
2/1
2/1
2/1
2/1
2/2
2/2
2/2
2/2
2/2
2/2
2/2
2/1
2/2
2/2
2/2
2/2
37


Precinct 3
3/1
3/2
3/3
3/4
3/5
3/6
3/7
3/8
3/9
3/10
3/11
3/12
3/13
3/16
3/17
3/18
0 m
125 m


3/14
3/15