



**HERITAGE STATEMENT**

**FOR**

**ESKOM TRANSMISSION DIVISION -**

**ROODEPOORT STRENGTHENING**

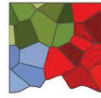
**PROJECT**

**FOURTH ELEMENT**

**AUGUST 2012**

Digby Wells & Associates (Pty) Ltd. Co. Reg. No. 1999/05985/07. Fern Isle, Section 10, 359 Pretoria Ave Randburg Private Bag  
X10046, Randburg, 2125, South Africa  
Tel: +27 11 789 9495, Fax: +27 11 789 9498, [info@digbywells.com](mailto:info@digbywells.com), [www.digbywells.com](http://www.digbywells.com)





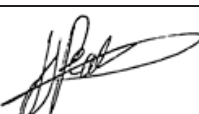
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\*Non-Executive


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**Report Title:** Heritage Statement for the Roodepoort Strengthening Project

**Project Number:** PBA 1076

Name	Responsibility	Signature	Date
Natasha Higgitt <i>Archaeologist</i>	Specialists Report Writers and		14 August 2012
Justin Du Piesanie <i>Archaeologist</i>			14 August 2012
Shahzaadee Karodia <i>Archaeologist</i>			14 August 2012
Johan Nel <i>Unit Manager: CRM</i>	Specialist and 1 <sup>st</sup> Reviewer		14 August 2012
Jan Perold <i>Manager: Social Sciences</i>	2 <sup>nd</sup> Reviewer		14 August 2012

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## EXECUTIVE SUMMARY

Digby Wells Environmental (Digby Wells) was contracted by Fourth Element Consulting (Pty) Limited to prepare a Heritage Statement examining the proposed route options and substation sites for new transmission lines in the Roodepoort area of Gauteng. This Heritage Statement forms part of the Basic Assessment Report.

The Heritage Statement consisted of a background literature review, archival and database survey, aerial imagery and cartographic survey, consultation of relevant previous impact assessments from the area, and a site visit.

During the background research for the Heritage Statement, 22 heritage resources were identified within the project area. In addition, eight heritage resources were identified during the site survey. They consist of the following:

- Graveyards;
- Iron Age Stone walled sites;
- Stone Age sites; and
- Historical sites; and
- The Cradle of Humankind World Heritage Site).

Areas and sites of potential heritage value were identified during the site visit such as undisturbed fields, river banks, rocky outcrops and historical dwellings. A sensitivity map was produced depicting each route and substation option with identified heritage resources. Preliminary recommendations are stated to aid the planning process. These include:

- Option 1 and Option 2 are of low to medium sensitivity are considered as the preferred routes;
- Option 4 and Option 5 are of medium heritage sensitivity are should only be considered as options after consideration of Option 1 and Option 2; and
- Option 3 and Option 6 are of high sensitivity and should not be considered as options for the proposed power lines due to the close proximity to the Cradle of Humankind World Heritage Site.
- Substation options A – D are of low – to medium sensitivity with Option A, B, and D being the preferred options.

## GLOSSARY OF ABBREVIATIONS AND TERMS

ASAPA	Association of South African Professional Archaeologist
CE	Common Era
<i>Celtis africana</i>	White Stinkwood tree
COH WHS	Cradle of Humankind World Heritage Site
EIA	Environmental Impact Assessment
ESA	Early Stone Age
Heritage Statement	This is also known as a Heritage Scoping Report and forms part of the overall Scoping report for the EIA.
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
LSA	Late Stone Age
MSA	Middle Stone Age
MYA	Million years ago
NEMA	National Environmental Management Act, 1998, (Act No. 36 of 1998)
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEMPA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
<i>Olea capensis</i>	Wild Olive tree
SAHRA	South African Heritage Resources Agency
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHC	World Heritage Committee

## TABLE OF CONTENTS

1	INTRODUCTION .....	1
2	BACKGROUND INFORMATION OF THE PROJECT .....	1
2.1	PROJECT DETAILS .....	1
2.2	DESCRIPTION OF PROPERTY .....	1
2.2.1	<i>Location Data</i> .....	1
2.2.2	<i>Location Maps</i> .....	2
2.2.3	<i>Site Maps</i> .....	2
2.2.4	<i>Type of development</i> .....	2
2.2.5	<i>Rezoning and land subdivision</i> .....	2
2.2.6	<i>Development context of study area</i> .....	6
2.3	RELEVANT CONTACT DETAILS .....	6
2.3.1	<i>Contact details of the client</i> .....	6
2.3.2	<i>Contact details of the consultant</i> .....	7
2.4	TERMS OF REFERENCE .....	7
2.5	LEGISLATIVE REQUIREMENTS .....	7
2.5.1	<i>Heritage Resources</i> .....	7
2.5.2	<i>National Heritage Resources Act</i> .....	7
2.5.2.1	<i>Section 3 of the NHRA</i> .....	8
2.5.3	<i>Section 27 of the NHRA</i> .....	8
2.5.4	<i>Section 38 of the NHRA</i> .....	8
2.5.5	<i>National Environmental Management Act</i> .....	9
2.5.6	<i>National Environmental Management: Protected Areas Act</i> .....	9
2.5.7	<i>National Environmental Management: Biodiversity Act</i> .....	9
2.5.8	<i>World Heritage Convention Act</i> .....	9
2.5.9	<i>Additional national and international standards and guidelines</i> .....	10
3	CHARACTERISATION OF CULTURAL LANDSCAPE .....	10
3.1	METHODOLOGY .....	10
3.2	RESTRICTIONS, LIMITATIONS AND KNOWLEDGE GAPS .....	11
3.3	LITERATURE REVIEW .....	12
3.3.1	<i>Geological setting</i> .....	12

3.3.2	<i>Fossil sites in the COH WHS</i> .....	15
3.3.3	<i>Stone Age</i> .....	15
3.3.4	<i>Iron Age</i> .....	16
3.3.5	<i>Historic Period</i> .....	17
3.4	RELEVANT DATABASES AND COLLECTIONS.....	18
3.5	DESKTOP CARTOGRAPHIC SURVEY.....	23
3.6	RELEVANT PREVIOUS IMPACT ASSESSMENT REPORTS.....	23
3.7	SCREENING SITE VISIT.....	28
4	SUMMARY OF IDENTIFIED HERITAGE RESOURCES .....	28
4.1	ARCHAEOLOGICAL AND PALAEOLOGICAL SITES .....	28
4.2	BUILT ENVIRONMENT .....	30
4.3	INTANGIBLE HERITAGE .....	32
4.4	SENSITIVITY MAP.....	34
5	POTENTIAL IMPACTS AND SOURCES OF THREATS OR RISK.....	42
6	RECOMMENDATIONS AND CONCLUSION.....	42
6.1	RECOMMENDATIONS .....	42
6.2	CONCLUSION.....	43
7	REFERENCES .....	45
7.1	LITERATURE .....	45
7.2	REPORTS .....	45
7.3	WEBSITES.....	45
7.4	DATABASES.....	45

## LIST OF FIGURES

Figure 1: Bifacial hand axe identified at substation Option D (Site A1) .....	28
Figure 2: Retouched flake identified at substation Option D (Site A1) .....	29
Figure 3: LSA stone tool identified at Option 5 .....	29
Figure 4: House identified on substation Option D (Site 005).....	30
Figure 5: Cape Dutch style house with horse stables identified along Option 4 (Site 004).....	30
Figure 6: Colonial style architecture house identified along Option 6.....	31
Figure 7: Historic house identified along Option 6 .....	31

Figure 8: Monument in Réhobot school grounds identified along Option 6 ..... 32

Figure 9: Open air church demarcated by two circles of stones painted white at the base of a blue gum tree identified at substation Option A ..... 33

## LIST OF TABLES

Table 2-1: Affected farm portions per route option ..... 5

Table 2-2: Affected farm portions per substation alternative ..... 5

Table 2-3: Contact details of the client ..... 6

Table 3-1: Cemeteries identified on Option 4 and Option 5 ..... 22

Table 3-2: Summary of heritage resources identified from previous impact assessment reports ..... 25

Table 4-1: A summary of the sensitivity of each heritage resource identified within and around the project area ..... 35

Table 4-2: Summary of sensitivity and findings per route option ..... 38

## LIST OF PLANS

Plan 1: Regional setting of the Roodepoort Strengthening Project area ..... 3

Plan 2: Site map of the Roodepoort Strengthening Project area ..... 4

Plan 3: Cradle of Humankind geology ..... 13

Plan 4: Underlying geology of the Roodepoort Strengthening Project area ..... 14

Plan 5: A sensitivity map of the heritage resources along route Options 1 to 6 and substation Options A to E identified during a desktop study of the project area ..... 40

Plan 6: A heritage sensitivity map of the route Options 1 to 6 and substation Options A to E based on the localities of heritage resources ..... 41

## LIST OF APPENDICES

Appendix A: CVs of Specialists

## 1 INTRODUCTION

Digby Wells Environmental (Digby Wells) has been appointed by Fourth Element to conduct a Heritage Statement for six alternate transmission line routes and three alternate substation sites as part of the Roodepoort Strengthening Project. This Heritage Statement forms part of the Basic Assessment Report (BAR).

## 2 BACKGROUND INFORMATION OF THE PROJECT

### 2.1 Project Details

The aim of the Roodepoort Strengthening Project is to provide a new substation to supply power to the Load Centre (Cosmo City) and surrounds. The new substation (Demeter) will have a capacity of 400/88 kV MTS and be strengthened with a 400 kV Power Line looping in and out of the existing Apollo-Pluto 400 kV line.

Three substation site options (Option A, B and C) and three power line route options (Options 1, 2 and 3) were initially proposed. However, during the public consultation meetings in October and November 2011, three additional route options (Option 4, 5 and 6) and two additional substation options were proposed (Option D and E). Additional studies will therefore address these additional options and re-evaluate the project as a whole based on the further information obtained during these studies.

### 2.2 Description of Property

#### 2.2.1 Location Data

The project area is located approximately 10 km north-east of Krugersdorp (Mogale City) in the Johannesburg Metropolitan Municipality of the Gauteng Province. Surrounding towns include Randburg, Roodepoort and Sandton. The details of each proposed route are as follows:

- **Option 1:** 2 x 400 kV lines will connect to Apollo – Pluto 400 kV lines on Nietgedacht 535 JQ Portion 2 and Zandspruit 191 IQ Portions 4 and 36 at the Lion Park. The lines will loop in and out of substation Option A on these farms. The lines will traverse the Diepsloot Municipal Nature Reserve on farm Rietfontein 532 JQ.
- **Option 2:** 2 x 400 kV lines will connect to Apollo – Pluto 400 kV lines on Rietfontein 532 JQ. The lines will run in a south-westerly direction up to farms Nietgedacht 535 JQ Portion 2 and Zandspruit 191 IQ Portions 4 and 36 at the Lion Park. The lines will then loop in and out of substation Option A, or proceed to Zandspruit 191 IQ Portions 56, 105 and 121 where they will loop in and out of substation Option B.
- **Option 3:** 2 x 400 kV lines will connect to Apollo – Pluto 400 kV lines on Tweefontein 523 JQ. The lines will run south through Zwartkops 525 JC, Driefontein 179 IQ and Rietfontein 189 IQ Portions 3, 53 and 142. The lines will then loop in and out of substation Option C on farm Rietfontein 189 IQ. Option 3, including its servitude, extends 4.6 km into the Cradle of Humankind buffer zone. The end of this option is 15 km from the entrance to the Sterkfontein Caves.
- **Option 4:** 2 x 400 kV lines will connect to Apollo – Pluto 400 kV lines on Rietfontein 532 JQ. The lines will then run south-westerly through Nietgedacht 535 JQ, Bultfontein 533 JQ. The lines will loop in and out at the substation Option D on Nietgedacht 535 JQ, or alternatively proceed to Rietfontein 189 IQ Portions 3, 53, 142 and remainder (Whitestone) and will loop in and



out of substation Option C on Rietfontein 189 IQ Portions 3, 53,142 and remainder (Whitestone).

- **Option 5:** 2 x 400 kV will connect to Apollo – Pluto 400 kV lines on the farm Lindley 528 JQ. The lines will run underground through the farms Lindley 528 JQ, Bultfontein 533 JQ. At 6th Road, the lines will emerge on the farm Bultfontein 533 LQ. The lines will then loop in and out at substation Option E on the farm Bultfontein 533 JQ. Alternatively, the lines will proceed south-westerly through Nooitgedacht 524 IQ to Rietfontein 189 IQ Portions 3, 53,142 and remainder (Whitestone) and will loop in and out of substation Option C on Rietfontein 189 IQ Portions 3, 53,142 and remainder (Whitestone).
- **Option 6:** 2 x 400 kV power lines will connect to the Apollo – Pluto 400 kV lines on Lindley 528 JQ. The lines will run south through Lindley 528 JQ, Zwartkops 523 JQ and Rietfontein 189 IQ Portions 3, 53,142 and 121. The lines will loop in and out of substation Option C on Rietfontein 189 IQ Portions 3, 53,142 and remainder (Whitestone). The buffer for this option enters the Cradle of Humankind for approximately 40 m.

## 2.2.2 Location Maps

The regional setting of the Roodepoort Strengthening Project area is illustrated in Plan 1.

## 2.2.3 Site Maps

Plan 2 is a site map of the Roodepoort Strengthening Project area. This site map illustrates the proposed Option 1 to Option 6 and substation Option A to Option E.

## 2.2.4 Type of development

The proposed project consists of the following:

- Demeter Substation with a footprint of approximately 500 m x 500 m (25 ha) and a capacity of 3x 315 MVA, 400 kV/88 kV;
- 2 x 400 kV power lines which will loop in and out of the existing 400 kV Apollo – Pluto power line to the proposed Demeter Substation;
  - The power line tower will be a steel structure;
  - The height of the poles will be between 29 m and 32 m from ground surface;
  - The average distance between the poles will be between 300 m and 350 m; and
  - The servitude will be 27.5 m on each side of the pole inside a buffer of 55 m per single line. The total buffer for two lines will thus be 110 m. However, a corridor width of 1000 m including servitude will be assessed in the baseline Heritage Statement in which the sensitivity of each option will be determined.
- Telecommunications tower within the substation yard, approximately 45 m high;
- Access road to the newly proposed substation; and
- Control building and an oil dam.

## 2.2.5 Rezoning and land subdivision

The affected farms per route option are presented in Table 2-1.

# Rooedeport Strengthening Regional Setting

## Legend

- City
  - Major Town
  - Secondary Town
  - Other Town
  - Settlement
  - SUB Substation Sites
  - Main Roads
  - National Roads
  - Rivers
  - Provincial Boundary
  - Municipal Boundaries
- ### Study Corridors
- Route Option 1 Study Corridor
  - Route Option 2 Study Corridor
  - Route Option 3 Study Corridor
  - Route Option 4 Study Corridor
  - Route Option 5 Study Corridor
  - Route Option 6 Study Corridor
- ### Cradle of Humankind
- CoH Site
  - CoH Boundary / Buffer

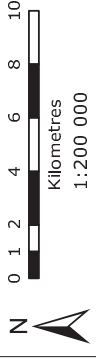


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