

**Heritage impact assessment for the
PROPOSED WIDENING OF THE CONRAD DRIVE BRIDGE AND EROSION
PROTECTION MEASURES, BRAAMFONTEIN SPRUIT, BLAIRGOWRIE,
JOHANNESBURG DISTRICT MUNICIPALITY, GAUTENG PROVINCE**

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CONRAD DRIVE BRIDGE AND EROSION PROTECTION MEASURES,
BRAAMFONTEIN SPRUIT, BLAIRGOWRIE, JOHANNESBURG DISTRICT
MUNICIPALITY, GAUTENG PROVINCE**

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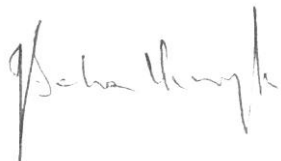
ASAPA Registration No.: 168

Principal Investigator: Iron Age, Colonial Period, Industrial Heritage

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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
June 2015

EXECUTIVE SUMMARY

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED WIDENING OF THE CONRAD DRIVE BRIDGE AND EROSION PROTECTION MEASURES, BRAAMFONTEIN SPRUIT, BLAIRGOWRIE JOHANNESBURG DISTRICT MUNICIPALITY, GAUTENG PROVINCE

Envirolution Consulting (Pty) Ltd has been requested to conduct a Basic Assessment for the proposed widening of the Conrad Drive Bridge and the construction of a storm water management measures in Blairgowrie, City of Johannesburg District Municipality, Gauteng.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

From the survey it was determined that, although the Conrad Drive Bridge does not exhibit any remarkable construction techniques, nor can it be linked to any event or person, few, if any similar bridges are still to be found in the larger region. In addition, it is older than 60 years and therefore enjoys general protection under the National Heritage Act. From the above the following statement can be made:

- The Conrad Road Bridge is judged to have high significance on a regional level.

When considering the impact of the proposed development, the following principle should be considered: **heritage informs design**. It is therefore proposed that:

- The bridge should be retained as is and that any development at the bridge should be done in sympathy with the bridge in order to retain it for posterity. This was done very successfully for example during the construction of the Gautrain Rapid Rail System.

Therefore, from a heritage point of view we recommend that the proposed development can continue on condition of acceptance of the above mitigation measures. Furthermore, we request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk
Heritage Consultant
June 2015

TECHNICAL SUMMARY

Property details						
Province	Gauteng					
Magisterial district	Randburg					
District municipality	City of Johannesburg					
Topo-cadastral map	2628AA					
Closest town	Johannesburg					
Farm name	Klipfontein 203IQ					
Coordinates	Centre point (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	S 26.11426	E 28.01944			

Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	No
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

Development	
Description	Widening of an existing bridge and construction of erosion protection
Project name	Conrad Bridge Upgrade

Land use	
Previous land use	Urban
Current land use	Urban

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	III
TECHNICAL SUMMARY	IV
TABLE OF CONTENTS	V
LIST OF FIGURES.....	V
GLOSSARY OF TERMS AND ABBREVIATIONS	VI
1. INTRODUCTION.....	1
2. TERMS OF REFERENCE	1
3. HERITAGE RESOURCES	2
4. STUDY APPROACH AND METHODOLOGY	3
5. PROJECT DESCRIPTION.....	5
6. DESCRIPTION OF THE AFFECTED ENVIRONMENT	5
7. SITE SIGNIFICANCE AND ASSESSMENT	8
8. CONCLUSIONS.....	10
9. REFERENCES.....	11
APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES	12
APPENDIX 2. RELEVANT LEGISLATION	13
APPENDIX 3. SPECIALIST COMPETENCY.....	14

LIST OF FIGURES

	Page
Fig. 1. Track log of the field survey.	4
Fig. 2. Layout of the proposed development	5
Fig. 3. The study area in regional context.....	6
Fig. 4. The study area as indicated on the 1939 version of the 1:50 000 cadastral map	6
Fig. 5. Bridge elements	8

GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 and 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED WIDENING OF THE CONRAD DRIVE BRIDGE AND EROSION PROTECTION MEASURES, BRAAMFONTEIN SPRUIT, BLAIRGOWRIE JOHANNESBURG DISTRICT MUNICIPALITY, GAUTENG PROVINCE

1. INTRODUCTION

Envirolution Consulting (Pty) Ltd has been requested to conduct a Basic Assessment for the proposed widening of the Conrad Drive Bridge and the construction of a storm water management measures in Blairgowrie, City of Johannesburg District Municipality, Gauteng.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

2.1 Scope of work

The aim of this HIA, broadly speaking, is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to widen the existing bridge and construct storm water management measures.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied; and
- A visit to the proposed development area.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources; and
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 Limitations

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

3. HERITAGE RESOURCES

3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
 - ancestral graves;
 - royal graves and graves of traditional leaders;
 - graves of victims of conflict;
 - graves of individuals designated by the Minister by notice in the Gazette;
 - historical graves and cemeteries; and
 - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
 - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - objects to which oral traditions are attached or which are associated with living heritage;
 - ethnographic art and objects;
 - military objects;

- objects of decorative or fine art;
- objects of scientific or technological interest; and
- books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in 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; and
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 3 and 4.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted.

- Information of a very general nature was obtained from these sources.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in adjacent areas.

4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

4.2.2 Field survey

The area that had to be investigated was identified by **Envirolution Consulting** by means of maps. The site was visited on 19 June 2015 (see Fig. 1). As this is an urban environment, the archaeological visibility was good.

The *kml* file indicating the alignment of the bridge upgrade was loaded onto a Nexus 7 tablet. This was used in Google Earth during the field survey to access the area.

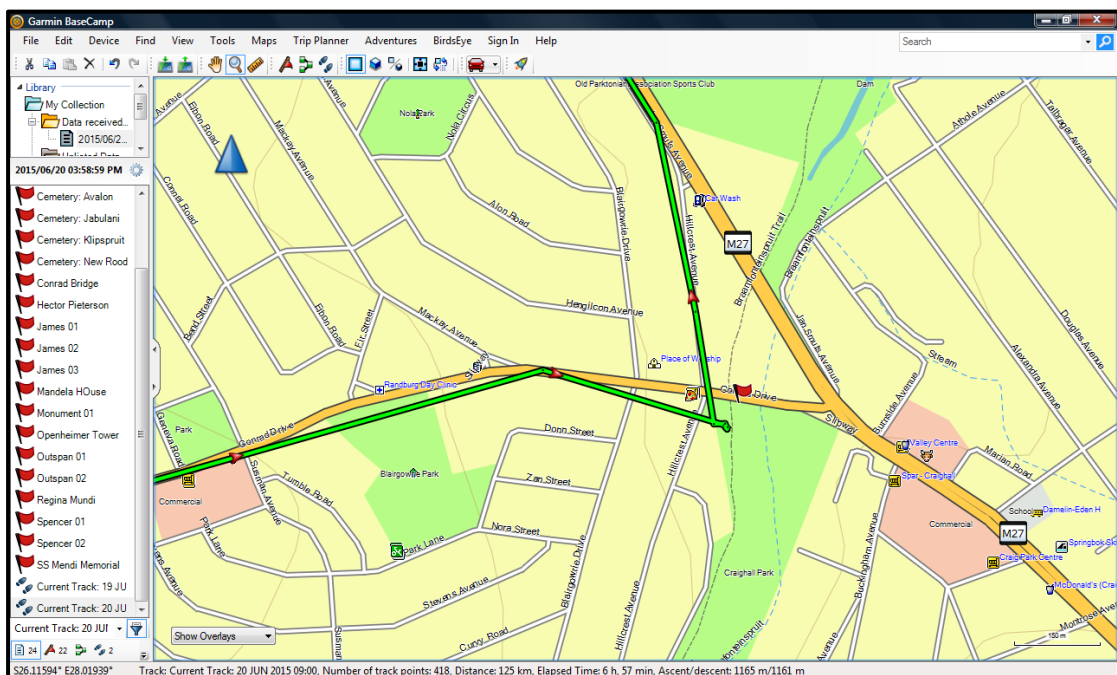


Fig. 1. Track log of the field survey.

4.2.3 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are determined by means of the *Global Positioning System* (GPS) and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

5. PROJECT DESCRIPTION

Due to increased traffic volumes in the region, it is proposed to widen the Conrad Drive Bridge and upgrade the storm water management measures (See Fig. 2).



Fig. 2. Layout of the proposed development (Map supplied by EnviroLution)

6. DESCRIPTION OF THE AFFECTED ENVIRONMENT

6.1 Site location and description

The proposed project is planned for Conrad Drive where it crosses the Braamfontein Spruit in Blairgowrie. For more information, please see the Technical Summary presented above (p. iv).

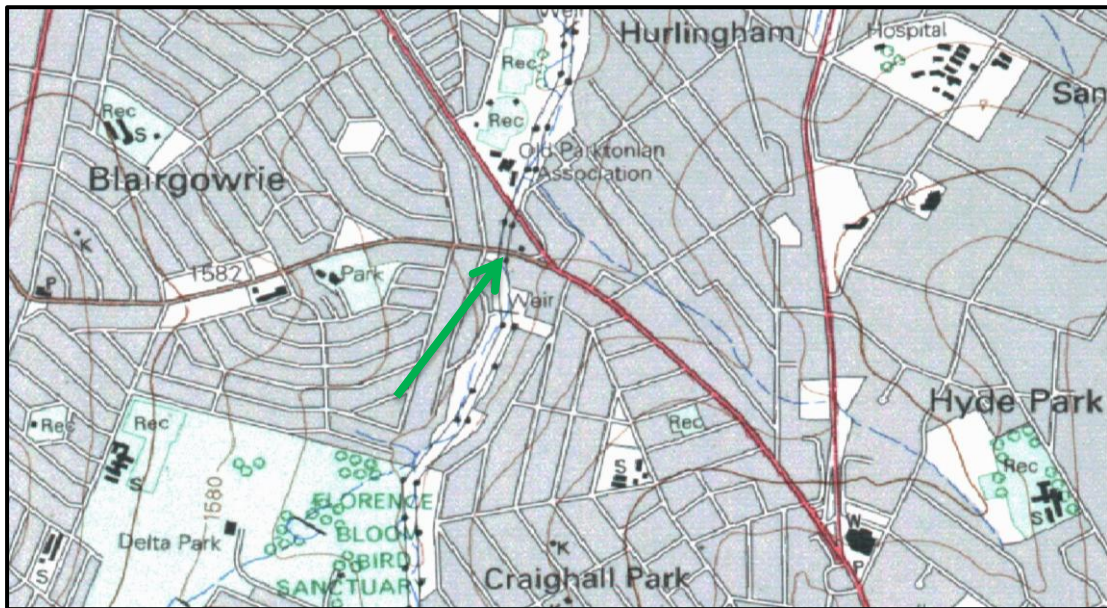


Fig. 3. The study area in regional context
(Map 2628AA: Chief Surveyor General)

From the 1939 topocadastral map it can be seen that very little development existed in the region of the study area (Fig. 4 below). However, a bridge is clearly shown across the Braamfontein Spruit at this point.



Fig. 4. The study area as indicated on the 1939 version of the 1:50 000 cadastral map
(Map 2628AA: Chief Surveyor-General)

Currently, the bridge is used as a public road and the area below it forms part of a walking and cycling trail. During the site visit a significant number of mountain-bike riders used the trail, passing below the bridge.

6.2 Overview

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity – see Section 3.2 and Appendix 1 for more information.

The Conrad Drive Bridge lies at the edge of three suburbs: Blairgowrie, Craighall Park and Hurlingham.

- Blairgowrie: was developed on the farm Klipfontein 203IQ; laid out in the period 1939-1940 and proclaimed on 20 August 1941.
- Craighall Park: was developed on the farm Klipfontein 203IQ; laid out 1904 and proclaimed c. 1911.
- Hurlingham: was developed on the farm Zandfontein IQ; proclaimed in 1938. Named after a polo field of the same name in England. Located in the Sandton Municipality.

From this it is deduced that the bridge in its current form was constructed between c. 1910 and 1940. As the use of cast concrete became popular between the two World Wars, it is deduced that the bridge, being constructed from dressed granite, probably dates to the earlier period.

The Bridge can be classified as a **two span** bridge as the spanning superstructure extends from one vertical support, called abutment, to another, being supported by a single column.

The abutment walls and columns are constructed from dressed granite blocks. The column is set at a right angle to the bridge deck in order to be parallel to the stream bed. The column is boat shaped in order to accommodate the flow of the water. At present the foundation of the column is below water level and could not be determined.

The bridge deck is made of steel beams that were riveted and bolted together. The top layer of the bridge deck consists of concrete, which is also part of the construction of the bridge and is then covered with a layer of tarmac.

This bridge does not have a pylon (a monumental vertical structure marking the entrance to a bridge or forming part of a gateway).

Pedestrian walkways, in the shape of metal catwalks, were added on both sides. These are separated from the vehicle section by metal railings.



Fig. 5. Bridge elements

7. SITE SIGNIFICANCE AND ASSESSMENT

7.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

7.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all

the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Table 1. Summary of identified heritage resources in the study area.

Identified heritage resources	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
Formal protections (NHRA)	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
General protections (NHRA)	
structures older than 60 years (Section 34)	Yes
archaeological site or material (Section 35)	None
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	None
public monuments or memorials (Section 37)	None
Other	
Any other heritage resources (describe)	None

As no information could be obtained from any source on the construction of the bridge, the following approach was followed to determine its significance:

- A review of the technology and materials used in the construction of the bridge was done.
- The history of the development of the region was reviewed in an effort to determine an approximate date for the construction of the bridge.
- The history of the larger region was reviewed to determine if any event of historical, cultural or political significance could be linked to any of the two bridges.
- A cursory survey of the larger region was done to determine the number of similar structures still in existence.
- In addition, the bridge plays an interesting part in current community practices such as walking and cycling trails.

From the above information it was determined that, although the bridge does not exhibit any remarkable construction techniques, nor can it be linked to any event or person, few, if any similar bridges are still to be found in the larger region. In addition, it is older than 60 years and therefore enjoys general protection under the National Heritage Act. From the above the following statement can be made:

- The Conrad Road Bridge is judged to have high significance on a regional level.

When considering the impact of the proposed development, the following principle should be considered: **heritage informs design**. It is therefore proposed that:

- The bridge should be retained as is and that any development at the bridge should be done in sympathy with the bridge in order to retain it for posterity. This was done very successfully for example during the construction of the Gautrain Rapid Rail System.

8. CONCLUSIONS

The aim of the survey was to evaluate structures of cultural significance found within the area in which the development is proposed.

From the above information it was determined that, although the Conrad Drive Bridge does not exhibit any remarkable construction techniques, nor can it be linked to any event or person, few, if any similar bridges are still to be found in the larger region. In addition, it is older than 60 years and therefore enjoys general protection under the National Heritage Act. From the above the following statement can be made:

- The Conrad Road Bridge is judged to have high significance on a regional level.

When considering the impact of the proposed development, the following principle should be considered: **heritage informs design**. It is therefore proposed that:

- The bridge should be retained as is and that any development at the bridge should be done in sympathy with the bridge in order to retain it for posterity. This was done very successfully for example during the construction of the Gautrain Rapid Rail System.

Therefore, from a heritage point of view we recommend that the proposed development can continue on condition of acceptance of the above mitigation measures. Furthermore, we request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.

9. REFERENCES

9.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa

9.2 Literature

Mason, R.J. 1969. *The Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Mason, R.J. 1986. *Origins of the Black People of Johannesburg and the southern western central Transvaal AD 350-1880*. Occasional Paper No. 16. Johannesburg: Archaeological Research Unit, University of the Witwatersrand.

Praagh, L.V. (ed.) 1906. *The Transvaal and its mines*. London: Praagh & Lloyd.

Raper, P.E. 2004. *South African place names*. Johannesburg: Jonathan Ball Publishers.

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Van Schalkwyk, J.A. 2012b. *Heritage documentation of four bridges on a section of the N11 national route north of Mokopane, Limpopo Province*. Unpublished report 2012/JvS/036.

Van Schalkwyk, J.A. 2014. *Documentation of the Keeromspruit Bridge located between Middleburg and Loskop Dam, Mpumalanga Province*. Unpublished report: 2012/JvS/018.

Van Schalkwyk, J.A. 2015. *Bridging the country: a short history of nearly all South African bridges*. *South African Archaeological Bulletin* in press.

9.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2628AA
Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. Historic value				
Is it important in the community, or pattern of history				
Does it have strong or special association with the life or work of a person, group or organisation of importance in history				
Does it have significance relating to the history of slavery				
2. Aesthetic value				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
3. Scientific value				
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage				
Is it important in demonstrating a high degree of creative or technical achievement at a particular period				
4. Social value				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
5. Rarity				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
6. Representivity				
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects				
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class				
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.				
7. Sphere of Significance		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
8. Significance rating of feature				
1.	Low			
2.	Medium			
3.	High			

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

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

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

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

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

APPENDIX 3. SPECIALIST COMPETENCYJohan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, road-, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.