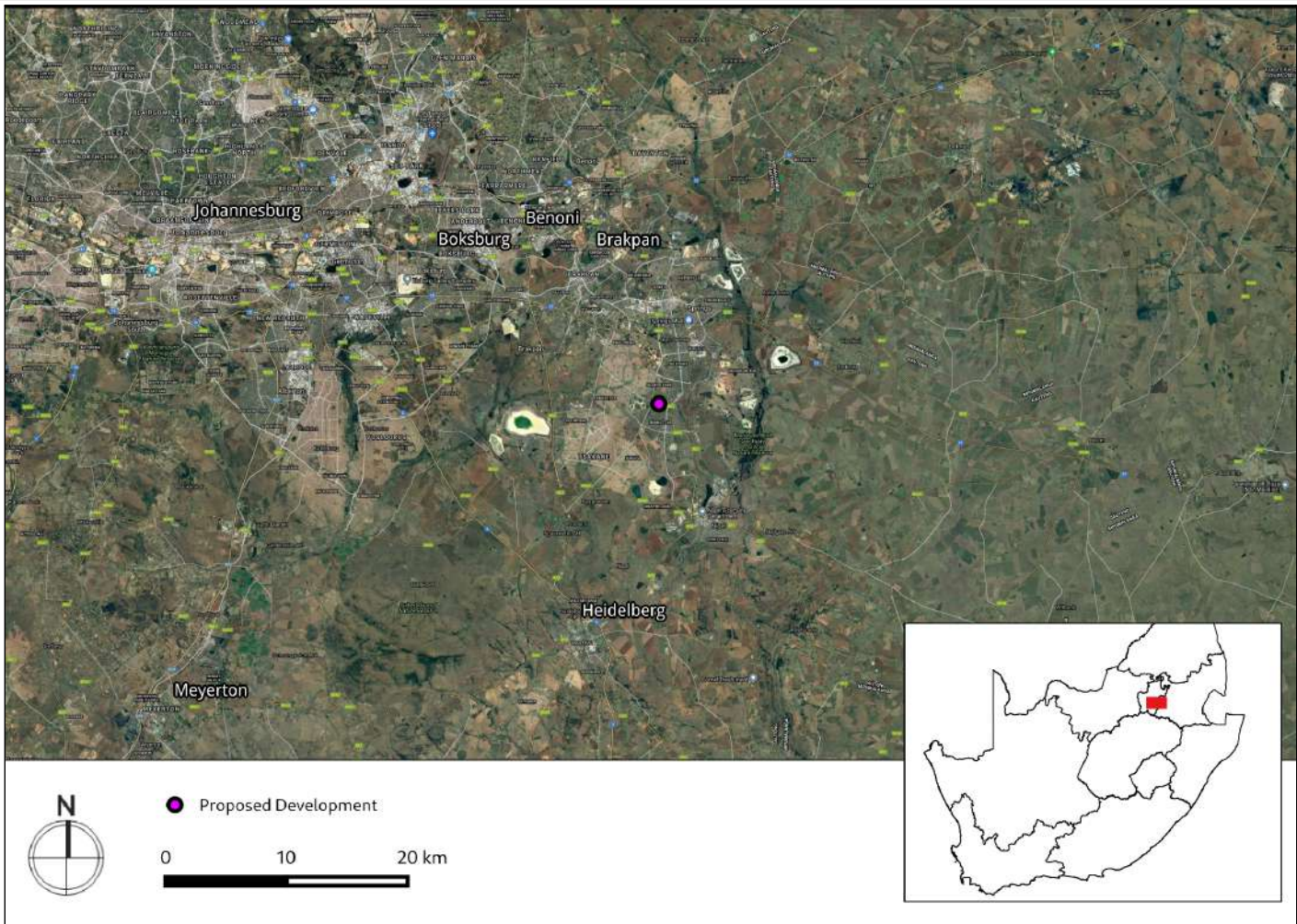


# MarchHERITAGE SCREENER

CTS Reference Number:	<b>CTS21_055</b>	
SAHRIS Ref Number		
Client:	<b>Thembeke</b>	
Date:	<b>April 2021</b>	
Title:	<b>Proposed development of Langaville Sewerage Line near Nigel, Gauteng</b>	
Recommendation:	<p><b>RECOMMENDATION</b>          Based on the available information, the proposed development is not likely to impact on significant cultural landscape, built environment, archaeological or palaeontological heritage resources and as such, it is recommended that no further studies in terms of section 38 of the NHRA are required.</p>	

**Figure 1a.** Satellite map indicating the location of the proposed development in the Gauteng Province



## 1. Proposed Development Summary

The City of Ekurhuleni (CoE) has identified the requirement for a bulk water and sewer line to be designed and costed for implementation for the Langaville Ext. 12 proposed development. The proposed Langaville Ext.12 development consists of a mixed residential type of housing units planned for the lower income housing market. The internal infrastructure design was tended to by MDCC Consulting Civil and Structural Engineers in a previous appointment by the Human Settlements Department.

The following bulk water and sewer reticulation lines and proposed diameters have been identified as part of the design requirement for this IPW: -

### 1. Bulk Water Line:

- Installation of 4000m x 400/450mm Ø parallel reinforcement pipeline
- Installation of 800m x 250mm Ø parallel reinforcement pipeline
- Installation of 1050m x 250mm Ø pipeline
- Installation of 100m x 160mm Ø pipeline

### 2. Bulk Sewer Line:

- Installation of 315mm Ø pipeline
- Installation of 250mm Ø pipeline

The above-mentioned water and sewer pipelines will be the basis of the design for the new bulk water and sewer systems to be designed. This design will be carried out according to the City of Ekurhuleni's guidelines, standards and requirements.

## 2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	DEFF

## 3. Property Information

Latitude / Longitude	26°00' 12.86" South and 28°13' 44.52" East
Erf number / Farm number	TBA
Local Municipality	City of Ekurhuleni
District Municipality	City of Ekurhuleni
Province	Gauteng
Current Use	Vacant



## 4. Nature of the Proposed Development

Total Surface Area	Approximately 6km long
Depth of excavation (m)	TBA
Height of development (m)	NA

## 5. Category of Development

x	<b>Triggers: Section 38(8) of the National Heritage Resources Act</b>
	<b>Triggers: Section 38(1) of the National Heritage Resources Act</b>
x	1. Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
	2. Construction of a bridge or similar structure exceeding 50m in length.
	3. Any development or activity that will change the character of a site-
x	a) exceeding 5 000m <sup>2</sup> in extent
	b) involving three or more existing erven or subdivisions thereof
	c) involving three or more erven or divisions thereof which have been consolidated within the past five years
	4. Rezoning of a site exceeding 10 000m <sup>2</sup>
	5. Other (state):

## 6. Additional Infrastructure Required for this Development

TBA
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## 7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)



**Figure 1b Overview Map.** Satellite image (2019) indicating the proposed development area





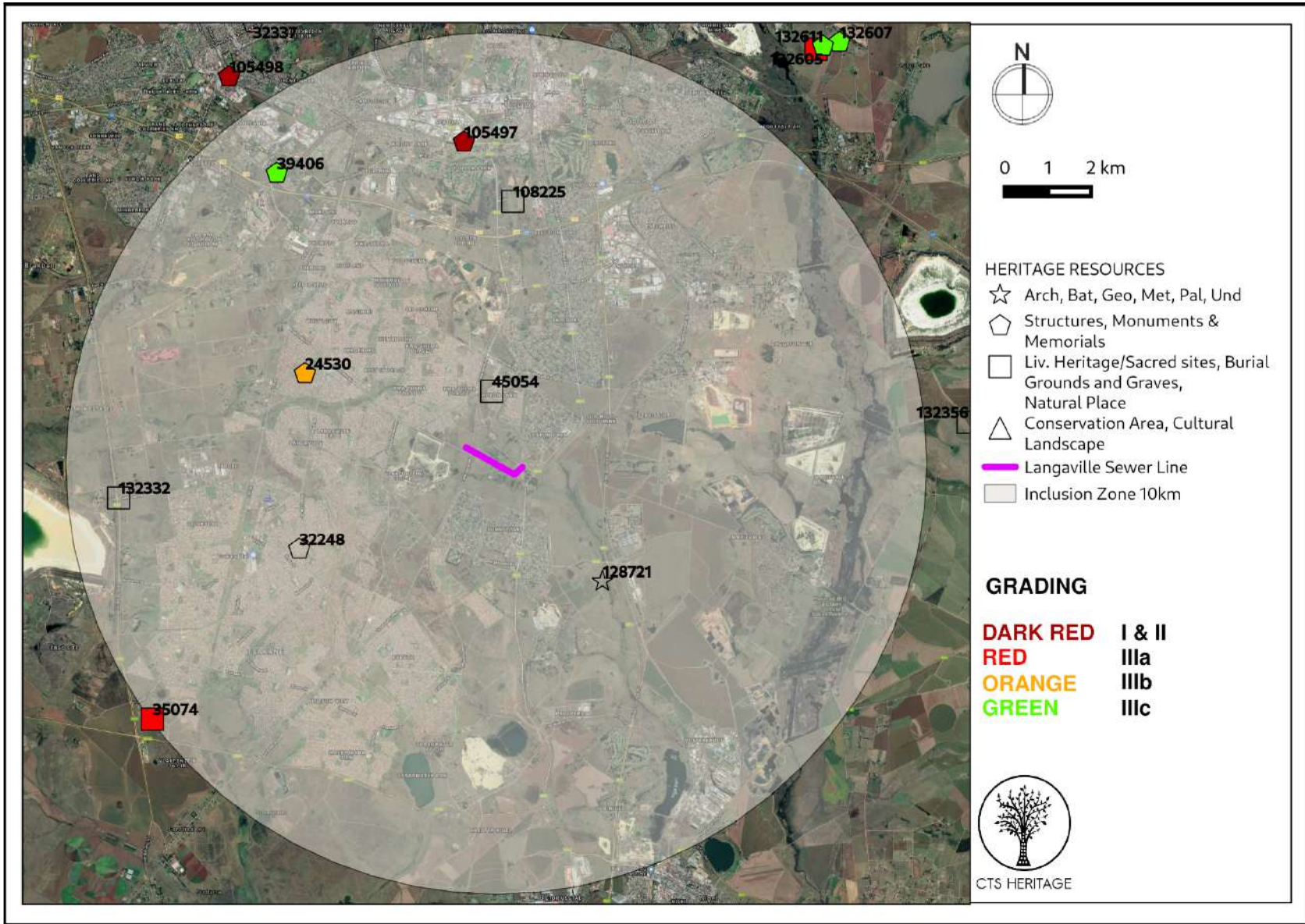
**Figure 1c. Overview Map.** Satellite image (2019) indicating the proposed development area at closer range.







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**Figure 3. Heritage Resources Map.** Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

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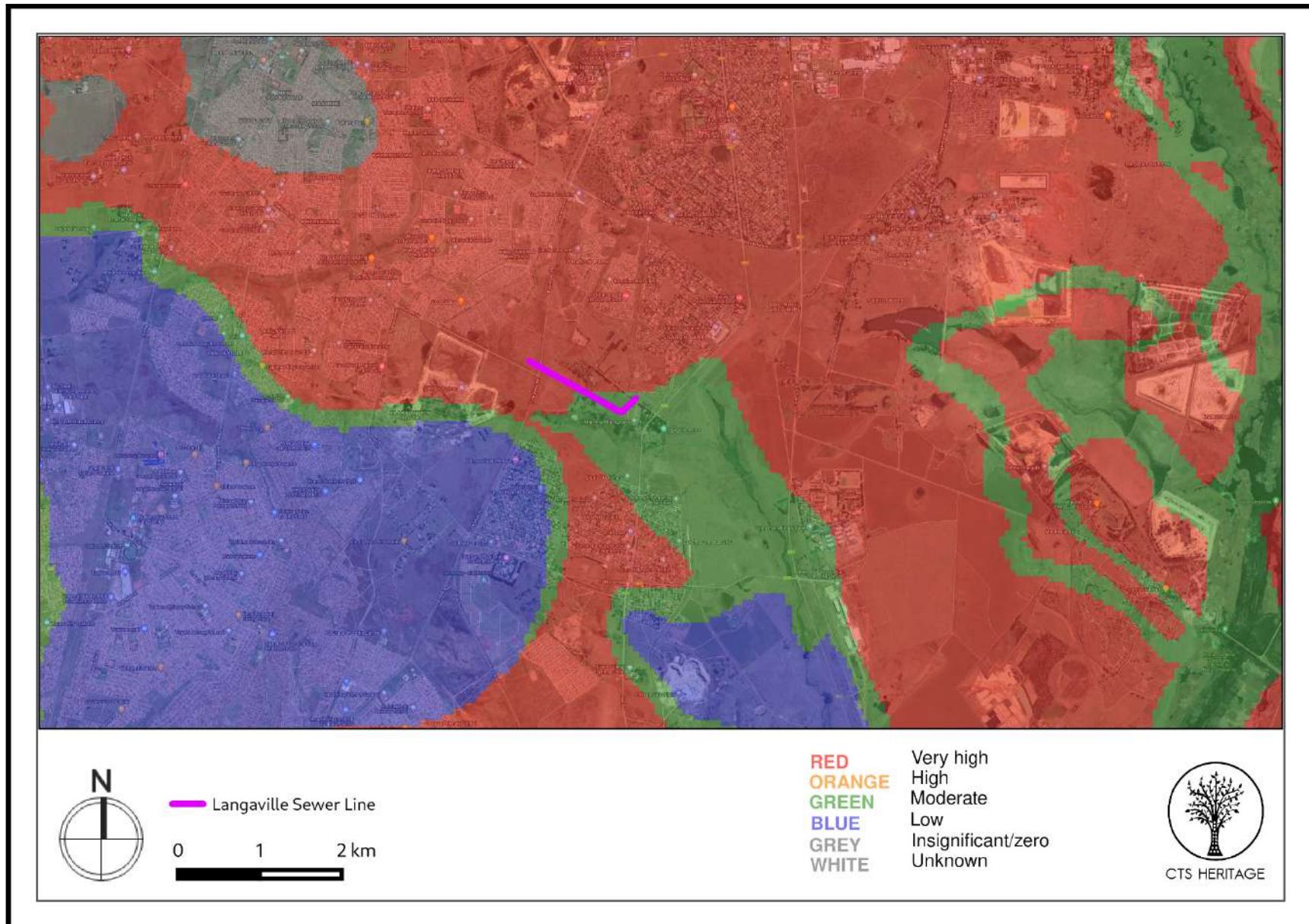
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**Figure 4. Palaeosensitivity Map.** Indicating varied fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

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**Figure 5. Geology Map.** Extract from the Council for GeoScience East Rand Map 2628 indicating that the area proposed for development is underlain by Pv: Vryheid Formation and C-Pd: Dwyka Formation of the Ecca Group

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## 8. Heritage statement and character of the area

The area proposed for development is located in the rural agricultural landscape situated approximately 10km north east of Nigel in Gauteng, on the edge of the East Rand. The town of Nigel grew around a mine established on the farm Varkensfontein after gold was discovered here in 1886. In general, the East Rand has a rich history of both mining and colonial expansion, however there are no known resources associated with historic mining practices or with colonial expansion in the area proposed for development. According to Gailgher (2013, SAHRIS NID 131952), “the cultural landscape for this area is richly associated with the colonial period as well as its violent past. A unique stone architectural heritage was established in the Eastern Highveld from the second half of the 19th century well into the early 20th century. During this time period stone was used to build farmsteads and dwellings, both in urban and in rural areas. Although a contemporary stone architecture also existed in the Karoo and in the Eastern Free State Province of South Africa a wider variety of stone types were used in the Eastern Highveld. These included sandstone, ferricrete (ouklip.), dolerite (blouklip.), granite, shale and slate.” However, no such structures are located within the area proposed for development. As such, it is unlikely that the proposed development will negatively impact heritage associated with mining, highveld stone architecture or colonial expansion in this area.

The East Rand is known to conserve archaeological resources from the Early, Middle and Later Stone Age. According to Gaigher (2013, SAHRIS NID 131952); “The Late Stone Age in this area also contains sites with rock art from the San and Khoi San cultural groups. Early to Middle Stone Age sites are uncommon in this area, however rock-art sites and Late Stone Age sites are much better known.” Furthermore, Gaigher (2013, SAHRIS NID 131952) notes that “Although the Early Iron Age is not known from this specific area (EIA sites are known from Lydenburg and Bambata), several Late Iron Age sites of Sotho and Ndebele origin is found here Stone walled sites are also spread out along the range of hills running from Randfontein in the west through Johannesburg to Heidelberg in the east. These sites are associated with the ancestors of the Sotho-Tswana peoples.” There are no known Stone Age or Iron Age resources known from this property (Figure 3), however this is likely due to there having been no archaeological field assessment conducted of this area. The majority of known heritage resources located within 20km of the study area are burial grounds and graves or the ruins of settlements. That being said, the area proposed for development has been extensively disturbed in the past (Figure 1c). As such it is unlikely that the proposed pipeline development will negatively impact on any significant archaeological heritage resources.

According to the SAHRIS Palaeosensitivity Map (Figure 4a), the area proposed for development is underlain by sediments of very high and moderate palaeontological sensitivity. According to the CGS Map for the East Rand, the sediments underlying the study area include the Dwyka Formation (moderate) and the Vryheid Formation of the Ecca Group (very high). The Vryheid Formation is coal-bearing and has influenced the evolution of this landscape through coal mining impacts. The Vryheid Formation is known for its abundant plant fossils of Glossopteris and other plants as well as trace fossils. This includes rich fossil plant assemblages of the Permian Glossopteris Flora (lycopods, rare ferns and horsetails, abundant glossopterids, cordaitaleans, conifers, ginkgoaleans), rare fossil wood and diverse palynomorphs as well as abundant, low diversity trace fossils, rare insects, possible conchostracans, non-marine bivalves and fish scales (SAHRIS Fossil Heritage Browser). However, due to the limited excavation associated with this proposed development, it is very unlikely that any fossiliferous sediments will be impacted and as such, impact to significant fossil heritage is very unlikely. It is recommended, however, that the attached Chance Fossil Finds protocol be adopted during any excavation activities in the unlikely event that fossil material is encountered.

### RECOMMENDATION

**Based on the available information, the proposed development is not likely to impact on significant cultural landscape, built environment, archaeological or palaeontological heritage resources and as such, it is recommended that no further studies in terms of section 38 of the NHRA are required.**





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### APPENDIX 1: List of heritage resources within 10km of the development area

Site ID	Site no	Full Site Name	Site Type	Grading
32248	Comet Ext. 14	Comet Ext. 14	Building	
39406	ERGO-01	Ergo Road 01	Building	Grade IIIc
35074	VLAK1	Vlaklaagte 1	Burial Grounds & Graves	Grade IIIa
24530	AMAF3414	ST DOMINIC	Building	Grade IIIb
105497	NZASM_RT_001	Culvert Springs Geduld	Transport infrastructure	Grade II
45054	VLAK01	Vlakfontein 103 IR 01	Burial Grounds & Graves	
108225	Portion of the Remainder of Portion 93 of the Farm Rietfontein 128-IR	Portion of the Remainder of Portion 93 of the Farm Rietfontein 128-IR	Place	
128721	Kwathema to Grundlingh WWTW Bulk Outfall Sewer		Archaeological	
132332	TSK01	Tsakane Entrance Burial	Burial Grounds & Graves	

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## APPENDIX 2: Reference List

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
4890	AIA Phase 1	Udo Kusel	01/04/2007	Cultural Heritage Resources Impact Assessment of the Farm Vlaklaagte 161 Tsakane Benoni Gauteng
4944	AIA Phase 1	Johnny Van Schalkwyk, M Naude	01/04/1995	A Survey of Cultural Resources Along the proposed Pwv 16 Road Corridor, Brakpan District
4945	AIA Phase 1	Johnny Van Schalkwyk	08/10/2004	Heritage Impact Assessment: Vlakfontein Ptn 35 & 36
5081	AIA Phase 1	Polke Birkholtz	14/01/2008	Heritage Impact Assessment Proposed Selcourt Ext 5 Residential Development on Portion 3 of the Farm Vlakfontein 103 IR, Ekurhuleni Metropolitan Municipality, Gauteng Province
5269	AIA Phase 1	Jaco van der Walt	15/04/2008	Archaeological Impact Assessment: Sluice Gate Upgrade at the Marrievale Nature Reserve, Nigel, Gauteng
7915	AIA Phase 1	Jaco van der Walt	06/08/2008	Archaeological Impact Assessment for the Proposed Simunye Primary School, Simunye Extension 2, Gauteng Province
8091	AIA Phase 1	Jaco van der Walt	06/08/2008	Archaeological Impact Assessment for the Proposed Tsakane Primary School, Tsakane Extension 9, Gauteng Province
8291	AIA Phase 1	Thomas Huffman, HD van der Merwe	01/11/1993	Archaeological Survey of Withoekspruit, Brakpan
121930			08/04/2013	DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED NEW TONK METER ROAD GLB+ / CLASS B WASTE DISPOSAL FACILITY AT RIETFONTEIN, SPRINGS
121932			08/04/2013	DEIAR FOR THE PROPOSED NEW TONK METER ROAD GLB+ / CLASS B WASTE DISPOSAL FACILITY AT RIETFONTEIN, SPRINGS

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155180	Heritage Impact Assessment Specialist Reports	Anton van Vollenhoven	01/11/2013	REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR A PROPOSED SHOPPING MALL DEVELOPMENT CLOSE TO SPRINGS, GAUTENG PROVINCE
160459	HIA Phase 1	Nkosinathi Godfrey Tomose	10/02/2014	A HERITAGE IMPACT ASSESSMENT STUDY FOR THE PROPOSED FORTUNE METALIKS SOUTH AFRICA NIGEL STEEL PROCESSING PLANT, PRETORIUSSTAD, NIGEL, EKURHULENI METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE, SOUTH AFRICA.

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## APPENDIX 3 - Keys/Guides

### Key/Guide to Acronyms

<b>AIA</b>	Archaeological Impact Assessment
<b>DARD</b>	Department of Agriculture and Rural Development (KwaZulu-Natal)
<b>DEFF</b>	Department of Environment, Forest and Fisheries (National)
<b>DEADP</b>	Department of Environmental Affairs and Development Planning (Western Cape)
<b>DEDEAT</b>	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
<b>DEDECT</b>	Department of Economic Development, Environment, Conservation and Tourism (North West)
<b>DEDT</b>	Department of Economic Development and Tourism (Mpumalanga)
<b>DEDTEA</b>	Department of economic Development, Tourism and Environmental Affairs (Free State)
<b>DENC</b>	Department of Environment and Nature Conservation (Northern Cape)
<b>DMR</b>	Department of Mineral Resources (National)
<b>GDARD</b>	Gauteng Department of Agriculture and Rural Development (Gauteng)
<b>HIA</b>	Heritage Impact Assessment
<b>LEDET</b>	Department of Economic Development, Environment and Tourism (Limpopo)
<b>MPRDA</b>	Mineral and Petroleum Resources Development Act, no 28 of 2002
<b>NEMA</b>	National Environmental Management Act, no 107 of 1998
<b>NHRA</b>	National Heritage Resources Act, no 25 of 1999
<b>PIA</b>	Palaeontological Impact Assessment
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SAHRIS</b>	South African Heritage Resources Information System
<b>VIA</b>	Visual Impact Assessment

### Full guide to Palaeosensitivity Map legend

	<b>RED:</b>	VERY HIGH - field assessment and protocol for finds is required
	<b>ORANGE/YELLOW:</b>	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
	<b>GREEN:</b>	MODERATE - desktop study is required
	<b>BLUE/PURPLE:</b>	LOW - no palaeontological studies are required however a protocol for chance finds is required
	<b>GREY:</b>	INSIGNIFICANT/ZERO - no palaeontological studies are required
	<b>WHITE/CLEAR:</b>	UNKNOWN - these areas will require a minimum of a desktop study.

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## APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Sites identified and mapped during research projects will also be considered.

### DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

### DETERMINATION OF THE PALAEOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

### DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.

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**Low coverage** will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

**Medium coverage** will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

**High coverage** will be used for

- reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

## RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

**(1) The heritage resources in the area proposed for development are sufficiently recorded** - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed

**(2) The heritage resources and the area proposed for development are only partially recorded** - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.

This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area
- compilation of a report for a component of a heritage impact assessment not already undertaken in the area

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- undertaking mitigation measures requested in previous assessments/records of decision.

**(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.**

**Note:**

The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.

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