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PHASE 1 HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED BORROW PIT SITE IN GA-MASEMOLA VILLAGE ASSOCIATED WITH THE PROPOSED 5.3K ROAD WITHIN MAKHUDUTHAMAGA LOCAL MUNICIPALITY OF SEKHUKHUNE DISTRICT OF LIMPOPO PROVINCE.



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Executive Summary

Magisterial Authority: Sekhukhune District Municipality

Developer: Road Agency Limpopo (RAL)

Type of Development: Borrow Pit.

Status of the Report: Final Report

Date of field work: 13 February 2020

Date of report: February 2020

Purpose of the Study: The purpose of this study is to identify heritage resources within a proposed development area, assess their significance, the impact of the development on the heritage resources and to provide relevant mitigation measures to alleviate impacts to the heritage resources. An assessment of impacts on heritage resources defined in section 3 of the NHRA, heritage assessment is required in terms of section 38 of the NHRA.

Vhufa Hashu Heritage Consultants was appointed by Mamadi and Company (Pty) Ltd to undertake a phase 1 Heritage Impact Assessment for a borrow pit in Ga-Masemola village within Makhuduthamaga Local Municipality of Sekhukhune District, Limpopo Province, in compliance with Section 38 of the National Heritage Resources Act 25 of 1999.

The Heritage Impact Assessment (HIA) therefore serves to identify these heritage resources (if any) which may be impacted on by the proposed project. If any resources are found, mitigation measures and recommendations for the protection of such resources are provided. The HIA report will be submitted to the relevant heritage authority for comment as per the National Heritage Resources Act 25 of 1999 (Act No 25 of 1999).

The objectives were to:

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Assess the significance of the cultural resources in terms of their archaeological or historical, scientific, social, religious, aesthetic and tourism value;
- Evaluate the potential impacts of the structures on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

Methodology

(i) Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources consulted in this regard are indicated in the bibliography.

(ii) Field Survey

The assessment was conducted according to generally accepted HIA practices. The location of all sites, features and objects are determined by means of a Global Positioning System (GPS) and photographs.

(iii) Documentation

All sites, objects, features and structures identified are documented according to the general minimum standards accepted by the South African Heritage Resources Agency (SAHRA). This report was prepared according to reporting requirements.

Legal Framework

The applicable legislation is the National Heritage Resources Act 25 of 1999. Section 34(1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant heritage resources authority, they are protected under the NHRA. Structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Protected Structures are those that are over 60 years old.

Findings

There is no heritage or archaeological sites identified during the survey within the proposed borrow pit site.

Summary Recommendations

The phase 1 Heritage Impact Assessment study (HIA) did not identify any archaeological sites within the proposed borrow pit site. We recommend that workers should be workshopped about the importance of heritage resources.

Conclusions

The proposed borrow pit can be utilized and we recommend to the heritage authority to approve the project as planned.

Acknowledgements:

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EXPLANATION OF ABBREVIATIONS USED IN THIS DOCUMENT

AIA	Archaeological Impact Assessment
ASAPA	South African Archaeological Professional Association
BRM	Bedrock Mortar
CMP	Conservation Management Plan
EIA	Early Iron Age
EMP	Environmental Management Plan
ESA	Early Stone Age
GPS	Geographical Positioning System
HIA	Heritage Impact Assessment
HMP	Heritage Management Plan
ICOMOS	International Council of Monuments and sites
LIA	Late Iron Age
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Agency
OSBP	One Stop Border Post
PRHA	Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VHHC	Vhufa Hashu Heritage Consultants

DEFINITIONS

“Aesthetic value” Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

„Alter” any action affecting the structure, appearance or physical properties of a place or object, whether by a way of structural or other works, by painting plastering or other decoration or any other means;

“Conservation” in relation to heritage resources, includes protection maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance

“Conservation Management Plan” A policy aimed at the management of a heritage resource and that is approved by the Heritage Resources Authority setting out the manner in which the conservation of a site, place or object will be achieved

“Cultural Significance” As defined in the NHRA means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

“Development” means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future wellbeing, including-

- (a) construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (b) carrying out any works on or over or under a place;
- (c) subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- (d) construction or putting up for display signs or hoardings;
- (e) any change to the natural or existing condition or topography of land; and
- (f) any removal or destruction of trees, or removal of vegetation or topsoil.

“Heritage agreement” means an agreement referred to in section 42,

“Heritage Impact Assessment” A report compiled in response to a proposed development that must meet the minimum requirements set out in the NHRA and should be submitted to a heritage resources authority for consideration.

“Heritage site” means a place declared to be a national heritage site by SAHRA or site declared to be a provincial Heritage site by a PHRA

“Historic value” Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

“Improvement” in relation to heritage resources includes repair, restoration and rehabilitation of a place protected in terms of this Act.

“Interested and Affected Parties” Individuals, organisations or communities that will either be affected and/or have an interest in a development or the resulting impacts of a development.

“Management” in relation to heritage resources includes the conservation, presentation and improvement of a place protected in terms of this Act.

“Scientific value” Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period.

“Social value” Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

“Rarity” Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

“Representivity” Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

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1. INTRODUCTION

Road Agency Limpopo (RAL) commissioned studies for the proposed borrow pit in Gamasemola Village within Makhuduthamaga Local Municipality of Sekhukhune District, Limpopo Province. Mamadi and Company (Pty) Ltd was appointed to handle the Environmental Management and monitoring of the proposed project. They appointed Vhufashu Heritage Consultants to conduct Phase 1 Heritage Impact Assessment Scoping surveys to establish the presence of archaeological and heritage materials and to evaluate heritage resources for a borrow pit.

The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (section 34), archaeological sites and material (section 35) graves and burial sites (section 36). In order to comply with the legislations, the Applicant requires information on the heritage resources, and their significance that occur in the demarcated area. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

2. TERMS OF REFERENCE

The terms of reference for the study were to conduct heritage impact assessment for the proposed borrow pit within Ga-Masemola village.

- ❖ the identification and mapping of all heritage resources in the area affected;
- ❖ an assessment of the significance of such resources in terms of heritage assessment criteria set out in regulations;
- ❖ an assessment of the impact of the development on heritage resources;
- ❖ an evaluation of the impact of the development on heritage resources relative to the interested parties regarding the impact of the development on heritage resources;
- ❖ if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- ❖ plans for mitigation of any adverse effects during and after completion of the proposed development.

3. DESCRIPTION OF THE AFFECTED AREA

The proposed borrow pit site is situated on the eastern side of Ga-Masemola Police Station along road R579 and north of road R579 from Lebowa Kgomo to Jane Furse. The proposed site is proposed within the agricultural fields where community used to practice subsistence farming GPS (S24.574141 E29.686567). The proposed Borrow Pit site was previously used for gravel material during the construction of Road R579. The site can be accessed through road R579 from Lebowa Kgomo or from Jane Furse.



Figure 1: Locality map.



Figure 2: General View of the proposed Borrow Pit.



Figure 3: View of the borrow pit to the east.



Figure 4: View of a Borrow Pit and road R579 where the cars are parked.

4. LEGISLATIVE REQUIREMENTS

Two sets of legislation are relevant for the study with regards to the protection of heritage resources and graves. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

4.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- Archaeological artifacts, structures and sites older than 100 years
- Ethnographic art objects (e.g. Prehistoric rock art) and ethnography
- Objects of decorative and visual arts
- Military objects, structures and sites older than 75 years
- Historical objects, structures and sites older than 60 years
- Proclaimed heritage sites
- Grave yards and graves older than 60 years
- Meteorites and fossils
- Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

- 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 features of cultural significance
- Geological sites of scientific or cultural importance
- Sites of Archaeological and palaeological importance
- Graves and burial grounds
- Sites of significance relating to the history of slavery
- Movable objects (e.g. Archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- A construction of a bridge or similar structure exceeding 50m in length
- Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- Re-zoning of a site exceeding 10 000 m²
- Any other category provided for in the regulations of SAHRA or a provincial heritage authority.

4.2. The National Heritage Resource Act (25 of 1999)

This act established the South African Heritage Resource Agency (SAHRA) and makes provision for the establishment of Provincial Heritage Resources Authorities (PHRA). The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources and the implementation of a three tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage

resources. The Act defines cultural significance, archaeological and palaeontological sites and material (Section 35), historical sites and structures (Section 34), graves and burial sites (Section 36) which falls under its jurisdiction. Archaeological sites and material are generally those resources older than a hundred years, while structures and cultural landscapes older than 60 years, including gravestones, are also protected by Section 34. Procedures for managing grave and burial grounds are clearly set out in Section 36 of the NHRA. Graves older than 100 years are legislated as archaeological sites and must be dealt with accordingly.

Section 38 of the NHRA makes provision for developers to apply for a permit before any heritage resource may be damaged or destroyed.

4.3. The human tissues act (65 OF 1983)

This Act protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Heritage Authorities.

Graves 60 years or older fall under the jurisdiction of the National Heritage Resources Act as well as the Human Tissues Act, 1983.

5. METHODOLOGY

5.1. Source of information

5.1.1. Survey of Literature

The methodological approach used for the study is aimed at meeting the requirements of the relevant heritage legislation. As such a desktop study was undertaken followed by a survey of the impact areas. Most of the information was obtained through the site visit made on the 13 February 2020. In practice, most archaeological and historical sites are found through systematic survey of the target landscapes. The survey therefore, sought to identify cultural heritage sites including graves, burial grounds and contemporary religious or sacred ceremonial sites associated with the proposed borrow pit. VHC heritage specialists conducted the reconnaissance survey and impact assessment by transecting the affected landscape on foot looking for indicators of archaeological and any other cultural materials in the affected areas. In part the field officer also inspected soil profiles for

potential archaeological materials that may still be trapped *in situ* in an area disturbed by human activities as well the burrowing animals.

5.1.1.2. Field Survey

Standard archaeological observation practices were followed; Visual inspection was supplemented by relevant written sources, and oral communications with local communities from the surrounding area. In addition, the site was recorded by hand held GPS Garmin Oregon 65 and plotted on 1:50 000 topographical map. Archaeological/historical material and the general condition of the terrain were photographed with a Garmin Oregon 65 Camera.

The field assessment section of the study was conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of archaeological significance in the area of the proposed development.

5.1.1.3. Documentation

All sites, objects and features identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS).The information is added to the description in order to facilitate the identification of each locality.

6. RESULTS OF THE FIELDWORK

The survey identified archaeological and heritage features within the borrow pit site.

7. CHRONOLOGICAL SEQUENCE OF THE STONE AND IRON AGE

The Stone Age is the period in human history when lithics (or stone) was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is important to note that these dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age is as follows:

Early Stone Age (ESA):	Predominantly the Acheulean hand axe industry complex dating to + 1Myr yrs-250 000 yrs. Before present.
Middle Stone Age (MSA):	Various lithic industries in SA dating from ±250 000 yr.- 30 000 yrs. before present.
Late Stone Age (LSA):	The period from ±30 000-yr.to contact period with either Iron Age farmers or European colonists.

There are no known Stone Age sites in the area including rock art. No Stone Age sites or objects were recorded during the assessment of the area.

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts:

Early Iron Age (EIA):	Most of the first millennium AD
Middle Iron Age:	10 th to 13 th centuries AD
Late Iron Age (LIA):	14 th century to colonial period. The entire Iron Age represents the spread of Bantu speaking peoples.

8. ASSESMENT CRITERIA

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites were based on the following criteria:

- The unique nature of a site
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc.)
- The wider historic, archaeological and geographic context of the site.
- The preservation condition and integrity of the site
- The potential to answer present research questions.

8.1. Archaeological

No Archaeological materials were found within the proposed borrow pit.

8.2. Historical

No Historical sites/materials found on site.

8.3. Burial grounds and graves

No graves were identified on site

The legislation also protects the interests of communities that have an interest in the graves: they should be consulted before any disturbance takes place. The graves of victims of conflict and those associated with the liberation struggle are to be identified, cared for, protected and memorials erected in their honor.

Graves older than 60 years, but younger than 100 years, fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissue Act (Act 65 of 1983)

and are under the jurisdiction of the South African Heritage Resources Agency (SAHRA). The procedure for Consultation regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administered by a local authority. Graves in the category located inside a formal cemetery administered by a local authority will also require the same authorization as set out for graves younger than 60 years, over and above SAHRA authorization.

In terms of the Section 36 (3) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) no person may, without a permit issued by the relevant 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 or 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.

Therefore, in addition to the formal protection of culturally significance graves, all graves which are older than 60 years and which are not already located in a cemetery (such as ancestral graves in rural areas), are protected. Communities, which have an interest in the graves, must be consulted before any disturbance can take place. The graves of victims of conflict and those associated with the liberation struggle will have to be included, cared for, protected and memorials erected in their honor where practical. Regarding graves and burial grounds, the NHRA distinguishes between the following:

- 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
- Other human remains, which are not covered in terms of the Human Tissue Act, 1983 (Act No.65 of 1983).

8.4. Significance valuation Burial Ground, Historic Cemeteries and Graves

The significance of burial grounds and gravesites is closely tied to their age and historical, cultural and social context. Nonetheless, every burial should be considered as of high significance. Should any grave previously unknown be identified during construction, every effort should be made not disturb them. The alignment should be shifted to ensure the grave or burial ground is not disturbed.

8.5. Previously unidentified burial sites/graves –

Although the possibilities of this occurring are very limited, should burial sites outside the NHRA be accidentally found during the proposed development, they must be reported to the nearest police station to ascertain whether or not a crime has been committed. If there is no evidence for a crime having been committed, and if the person cannot be identified so that their relatives can be contacted, the remains may be kept in an institution where certain conditions are fulfilled. These conditions are laid down in the Human Tissue Act (Act No. 65 of 1983). In contexts where the local traditional authorities give their consent to the unknown remains to be re-buried in their area, such re-interment may be conducted under the same regulations as would apply for known human remains.

9. THE SIGNIFICANCE OF GRAVES AND BURIAL SITES

The significance of burial grounds or graves has been indicated by means of stipulations derived from the National Heritage Resources Act (Act No 25 of 1999)

Heritage Significance	:	GP.A; High/Medium Significance
Impact	:	Negative
Impact Significance	:	High
Certainty	:	Probable
Duration	:	Permanent
Mitigation	:	C

- *Informal graves and Formal grave yards (Cemeteries)*

Informal and formal grave yards (Cemeteries) can be considered to be sensitive remains of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (no 25 of 1999) this act applies whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regards to graves includes those which apply

when graves are exhumed and relocated, namely the Ordinance on exhumation (Ordinance no 12 of 1980) and the Human Tissue Act (Act no 65 of 1983 as amended).

9.1 Site significance

The site significance classification standards as prescribed and endorsed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used as guidelines in determining the site significance for the purpose 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)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	Grade 4C	Low Significance	Destruction

Grading and rating systems of heritage resources

9.2. Impact rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or cultural) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and /or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (e.g. farmers) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by the public or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are real, but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people living some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a certain formation may be regarded as severe from a geological perspective, but is of NO SIGNIFICANCE in the overall context.

9.3 CERTAINTY

DEFINITE : More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

PROBABLE : Over 70% sure of a particular fact, or of the likelihood of an impact occurring.

POSSIBLE : Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.

UNSURE : Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

9.4 DURATION

SHORT TERM : 0 – 5 years

MEDIUM : 6 – 20 years

LONG TERM : more than 20 years

DEMOLISHED : site will be demolished or is already demolished

9.5 MITIGATION

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be classified as follows:

- **A** – No further action necessary
- **B** – Mapping of the site and controlled sampling required
- **C** – Preserve site, or extensive data collection and mapping required; and
- **D** – Preserve site

10. CONCLUSIONS AND RECOMMENDATIONS

No further studies / Mitigations are recommended given the fact that within the proposed borrow pit site and its surrounding there are no archaeological or place of historical significance to be impacted by the gravel extraction process. The developer is reminded that unavailability of archaeological materials and fossils on the ground surface does not mean absentee, archaeological material mostly buried under the soil and as such the construction workers should take precautions during construction, they should always consider possible presence of unmarked burials, archaeological materials, historical materials that might be discovered during construction/development activities. However, should any chance archaeological or any other physical cultural resources be discovered subsurface, heritage authorities should be informed. From an archaeological and cultural heritage resources perspective, there are no objections to the proposed borrow pit associated with gravel road upgrade project and we recommend to the Provincial Heritage Resource Agency, South African Heritage Resource Agency to approve the project as planned.

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