

METHODOLOGIES EMPLOYED TO DETERMINE SIGNIFICANCE OF IMPACTS

EAP AND SPECIALIST METHODOLOGY USED, UNLESS SPECIFIED BELOW

Nature of the impact: This is an appraisal of the type of effect (positive or negative) the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected.

Extent of the impact: Extent defines the physical extent or spatial scale of the impact. The impact could:

- **Site specific:** limited to the site.
- **Local:** limited to the site and the immediate surrounding area (1-10km)
- **Regional:** covers an area that includes an entire geographic region or extends beyond one region to another.
- **National:** across national boundaries and may have national implications.

Duration of the impact: The specialist should indicate whether the lifespan of the impact would be:

- **Short term:** 0-5 years.
- **Medium term:** 5-15 years.
- **Long term:** beyond the operational phase, but not permanently).
- **Permanent:** where mitigation either by natural processes or by human intervention will not occur in such a way or in such time span that the impact can be considered transient.

Consequence of Impact: Indicate how the activity will affect the environment.

Probability of occurrence: Probability describes the likelihood of the impact occurring. The likelihood can be described as:

- **Improbable/unlikely:** low likelihood of the impact occurring.
- **Probable:** distinct possibility the impact will occur.
- **Highly probable:** most likely that the impact will occur.
- **Definite:** impact will occur regardless of any prevention measures.

Irreplaceable loss of resources: Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be **no loss of resources, marginal loss, significant loss or complete loss of resources.**

Reversibility: This refers to the degree to which an impact can be reversed.

- **Fully reversible:** where the impact can be completely reversed.
- **Partly reversible:** where the impact can be partially reversed.
- **Irreversible:** where the impact is permanent.

Indirect impacts: Indirect impacts are secondary impacts and usually occur at a different place or time. Specialists will need to elaborate on any indirect or secondary impacts of proposed activities. If there are no indirect impacts specialist will need to briefly explain so.

Cumulative impact: An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. Cumulative impacts prior to and post mitigation must be assessed. The cumulative effect can be:

- **Negligible:** the impact would result in negligible to no cumulative effect.
- **Low:** the impact would result in insignificant cumulative effects.
- **Medium:** the impact would result in minor cumulative effects.
- **High:** the impact would result in significant cumulative effects.

Degree to which impact can be avoided: This indicates the degree to which an impact can be avoided. The degree of avoidance can either be **high** (impact is completely avoidable), **moderate** (impact is avoidable with moderate mitigation), **low** (the impact is difficult to avoid and will require significant mitigation measures) or **unavoidable** (the impact is cannot be avoided even with significant mitigation measures).

Degree to which impact can be managed: This indicates the degree to which an impact can be managed. The degree of management can either be **high** (impact is completely manageable), **moderate** (impact is manageable with moderate mitigation), **low** (the impact is difficult to manage and will require significant mitigation measures) or **unmanageable** (the impact is cannot be managed even with significant mitigation measures).

Residual impacts: Residual impacts are those impacts that remain following the implementation of mitigation measures. Residual impacts must be identified and discussed. If there are no residual impacts, the specialist will need to briefly explain that the activity will have no residual impacts.

Degree to which an impact can be mitigated: This indicates the degree to which an impact can be reduced. The degree of mitigation can either be **high** (the impact can be **fully** mitigated), **moderate** (the impact can be **partly mitigated**) or **not mitigated at all**.

Significance: Based on a synthesis of the information contained in the above-described procedure, the significance of the potential impacts can be assessed (prior and post mitigation) in terms of the following significance criteria:

- **No impact.**
- **Low negative:** where it would have negligible effects and would require little or no mitigation.
- **Low positive:** the impact will have minor positive effects.
- **Medium negative:** the impact will have moderate negative effects and will require moderate mitigation.
- **Medium positive:** the impact will have moderate positive effects.
- **High negative:** the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact.
- **High positive:** the impact will have significant positive effects.
- **Very high negative:** the impact will have highly significant effects and are unlikely to be able to be mitigated adequately.
- **High positive:** the impact will have highly significant positive effects.

HERITAGE

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.

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
- 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.

The compilation of the Heritage Screener will not include any field assessment. The Heritage Screener will be submitted to the applicant within 24 hours from receipt of full payment. **If the 24-hour deadline is not met by CTS, the applicant will be refunded in full.**