G & A Heritage

Heritage Management Consultants

CAMDEN ASH HERITAGE IMPACT ASSESSMENT

ADDENDUM I

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Vorster Street 38 A, Louis Trichardt, 0920, South Africa

PO Box 522, Louis Trichardt, 0920

Tel +27 15 516 1561 Cell +27 73 752 6583

G&A Heritage

Heritage Management Consultants

ADDENDUM I

G&A Heritage completed a Heritage Impact Assessment for the proposed Camden Ash Disposal Facilities during 2011. The findings of this study was given in the report titled Phase ***1 Heritage Impact Assessment, First Phase Heritage Impact Assessment for the Proposed Extension to the Camden Ash Disposal Facilities (03/12/2011)***.

During this study several alternative sites were investigated for the placement of the Ash Disposal Facility. As part of the on-going environmental management process, a Heritage Management Plan (HMP) was commissioned for the development in 2015. During the course of fieldwork for the HMP, Eskom reported two sites with possible graves. These sites were obscured by high grass during the original study, so was not reported on. During documentation of the second site a further seven graves were identified close to Site 2, these were uncovered due to the area having been subjected to a veld fire and was designated Site 3. Investigation of a buffer zone also indicated a Late Iron Age structure close to the current reservoir (Site 5), although this area is not earmarked for development. This Addendum to the original report gives the location of these sites as well as management recommendations. A western style ruin is located at Site 6, however it was found not to be of heritage significance.

Vorster Street 38 A, Louis Trichardt, 0920, South Africa

PO Box 522, Louis Trichardt, 0920

Tel +27 15 516 1561 Cell +27 73 752 6583

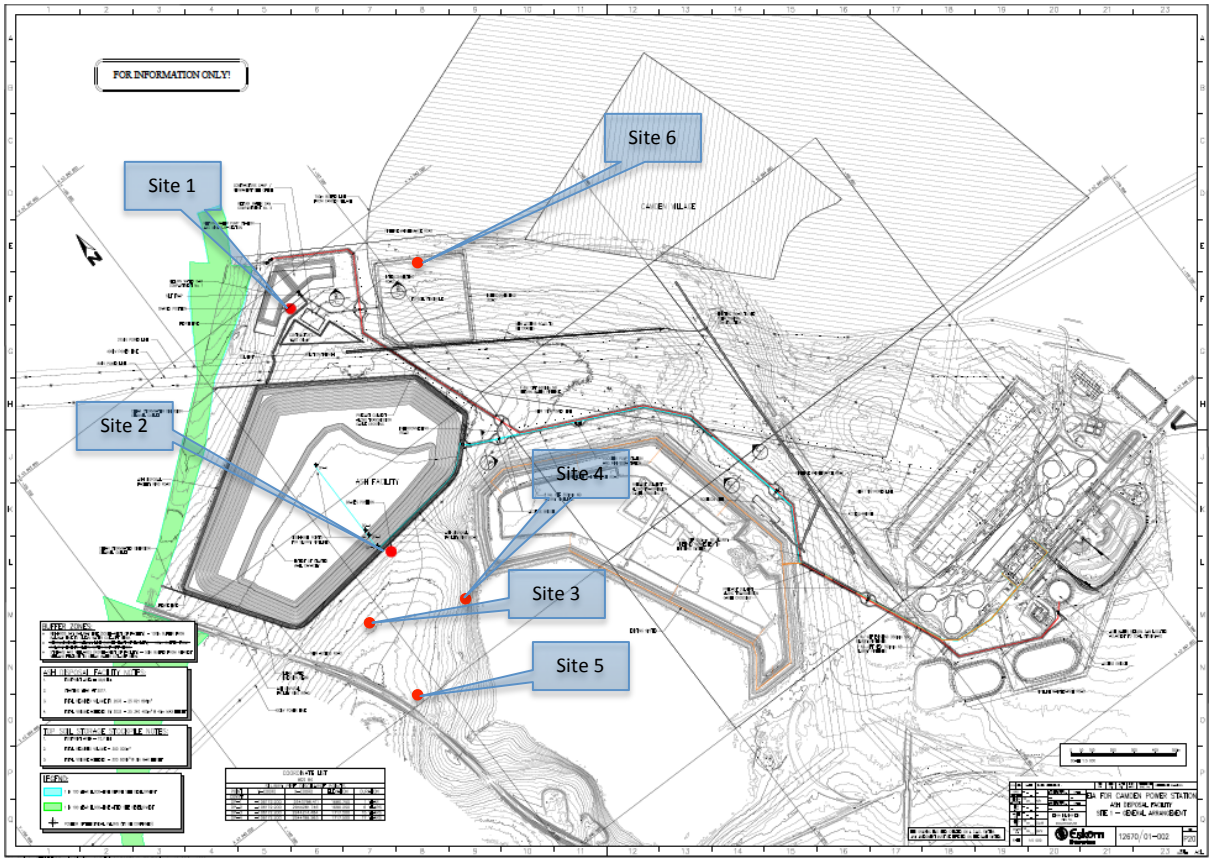

Figure 1. Location of graves and sites in relation to the proposed development

Site 001

GPS S26° 35' 40"
E30° 04' 10"

This site has 21 graves. Grave dressings consist of rocks packed in oval shapes or rectangles. Some graves are only outlined with rocks while others have complete stone cairns on top.

Originally it was thought that the site contained no more than 15 graves, however after clearing of the site it was determined that it contained 21 graves.

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Figure 2. Graves at Site 001

Figure 3. Irregular grave dressings at Site 001

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Site 002

GPS S26° 36’ 19”
E30° 03’ 59”

This is a burial site with two distinct graves indicated by stone cairns. The site is found within the power distribution line servitude.

Figure 4. Grave cairns at Site 002

Site 003

GPS S26° 36’ 25,5”
E30° 03’ 47,5”

This is a possible extension of Site 002 and contains 9 graves with stone cairns. The site is abandoned and not kept.

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Figure 5. Graves at Site 003

Site 004

GPS S26° 36' 30,1"
E30° 03' 59,9"

This site shows some stone features, which could be connected with the Late Iron Age (LIA). Most significantly is a large circular stone walled feature of around 7metres in diameter. While only the foundation stones of this feature are left, it is thought that it previously had above ground stonewalls.

Some stone platform foundations are also found inside of the stone circle. No ash deposits could be identified within the structure.

It is important to note that this site does not fall within the proposed development footprint and as such will not be affected.

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The site will be cordoned with barrier tape during the development phase.

Figure 6. Stone foundations

Site 005

GPS S26° 36’ 40,5”
E30° 03’ 48,1”

A cemetery site with five possible graves. Graves are indicated by stone cairns.

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Figure 7. Graves at Site 5

Site 006

GPS S26° 35' 49,1"
E30° 04' 32,3"

A rectangular stone ruin is located here.

Two historic maps sets were available for this area, the 1968 and 1985 maps. The structure is clearly visible on the 1985 map, however it is not found on the 1968 map. This suggests that the structure is not older than 1968 and therefore is not protected under the NHRA. The structure is also a generic version of many such buildings in the area and taking into consideration the dilapidated state of the building it's heritage significance is very low and it may be demolished.

Figure 8. Stone ruin at Site 006

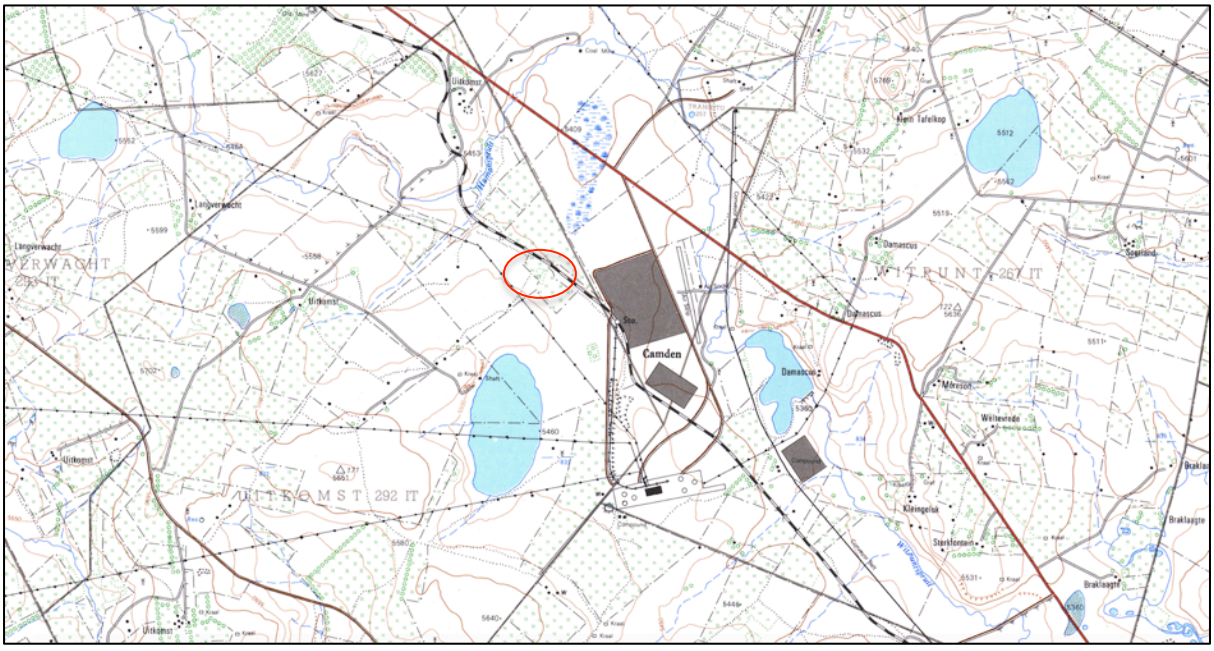

Figure 9. 1968 Map showing no structures at Site 006

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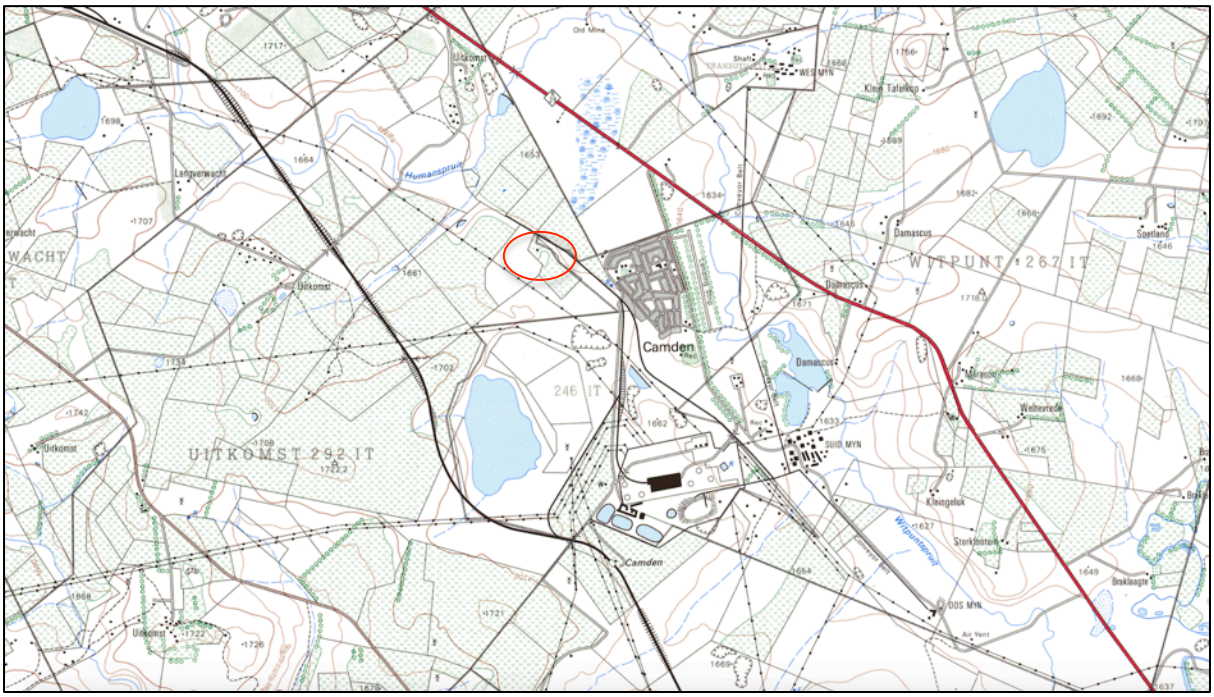

Figure 10. 1985 Map indicating the structure at Site 006

Management Recommendations

Significance Rating

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; National Heritage Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Heritage Sites nomination
Local Significance (LS)	Grade 3A	High	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High	Mitigation with part of site retained in original
Generally Protected A (GP.A)	-	High/Medium	Mitigation before destruction

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Generally Protected B (GP.B)	-	Medium	Recording before destruction
Generally Protected C (GP.C)	-	Low	Destruction

Rating System Used To Classify Impacts

The rating system is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact. Impacts have been consolidated into one rating. In assessing the significance of each issue the following criteria (including an allocated point system) is used:

NATURE		
Including a brief description of the impact of the heritage parameter being assessed in the context of the project. This criterion includes a brief written statement of the heritage aspect being impacted upon by a particular action or activity.		
GEOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.		
1	Site	The impact will only affect the site
2	Local/district	Will affect the local area or district
3	Province/region	Will affect the entire province or region
4	International and National	Will affect the entire country
PROBABILITY		
This describes the chance of occurrence of an impact		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
REVERSIBILITY		
This describes the degree to which an impact on a heritage parameter can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures

2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which heritage resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource.	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.
4	Complete loss of resources	The impact is result in a complete loss of all resources.
DURATION		
This describes the duration of the impacts on the heritage parameter. Duration indicates the lifetime of the impact as a result of the proposed activity		
1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase (0 – 1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 50 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).
CUMULATIVE EFFECT		

Vorster Street 38 A, Louis Trichardt, 0920, South Africa
PO Box 522, Louis Trichardt, 0920
Tel +27 15 516 1561 Cell +27 73 752 6583

This describes the cumulative effect of the impacts on the heritage parameter. A cumulative effect/impact is an effect, which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects
INTENSITY / MAGNITUDE		
Describes the severity of an impact		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/ component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapse). Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
SIGNIFICANCE		
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on the heritage parameter. The calculation of the significance of an impact uses the following formula: **(Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.**		

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The summation of the different criteria will produce a non weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.

Points	Impact Significance Rating	Description
6 to 28	Negative Low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive Low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative Medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive Medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative High impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive High impact	The anticipated impact will have significant positive effects.
74 to 96	Negative Very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive Very high impact	The anticipated impact will have highly significant positive effects.

The four gravesites are classified as ***Grade GP.A*** sites. ***Generally Protected A*** sites which requires mitigation before destruction.

Impact Rating

IMPACT TABLE FORMAT	
Heritage component	*4 Gravesites*
Issue/Impact/Heritage Impact/Nature	*Development of the Proposed Ash Disposal Facility at Camden Power Station*
Extent	*Local (2)*
Probability	*Definite (4)*
Reversibility	*Irreversible (4)*
Irreplaceable loss of resources	*Total loss of resources (5)*
Duration	*Medium term (2)*
Cumulative effect	*Negligible cumulative effect (1)*
Intensity/magnitude	*Very high (4)*

Significance Rating of Potential Impact	*72 points. The impact will have a high negative impact rating.*	
	Pre-mitigation impact rating	Post mitigation impact rating
Extent	2	2
Probability	4	1
Reversibility	4	1
Irreplaceable loss	5	1
Duration	2	2
Cumulative effect	1	1
Intensity/magnitude	4	1
Significance rating	72 (high negative)	8 (low negative)
Mitigation measure	*It is recommended that the gravesites undergo an emergency relocation to a registered local community cemetery.*	

Impact Rating

IMPACT TABLE FORMAT		
Heritage component	*Site 004. LIA Site*	
Issue/Impact/Heritage Impact/Nature	*Development of the Proposed Ash Disposal Facility at Camden Power Station*	
Extent	*Local (2)*	
Probability	*Unlikely (1)*	
Reversibility	*Partly Reversible (2)*	
Irreplaceable loss of resources	*No Loss of Resources (1)*	
Duration	*Medium term (2)*	
Cumulative effect	*Negligible cumulative effect (1)*	
Intensity/magnitude	*Very Low (1)*	
Significance Rating of Potential Impact	*9 points. The impact will have a low negative impact rating.*	
	Pre-mitigation impact rating	Post mitigation impact rating
Extent	2	2
Probability	1	1
Reversibility	2	2
Irreplaceable loss	1	1
Duration	2	2
Cumulative effect	1	1
Intensity/magnitude	1	1
Significance rating	9 (low negative)	9 (low negative)

Mitigation measure	*It is recommended that the site be demarcated with barrier tape and that the site agent and operators of heavy machinery be made aware of its location and importance.*

Management Recommendations

It is recommended that these graves (Sites 001, 002, 003 & 004) undergo relocation to a registered, community or municipal cemetery since their location will impact on safety and security. By law access to burial sites may not be hindered by the developer. Next-of-kin would therefore need to have free access to the site regardless of the security arrangements of the landowner. Due to heavy industry activities on site the safety of such visitors would also be a serious concern. Taking into consideration the severity of possible negative impacts, the safety of the site and visitors, it is recommended that the most responsible approach would be to relocate these graves to a registered cemetery. The design phase for the facility has been completed and it is anticipated that construction will commence sometime in January 2016. It is therefore essential that the necessary social consultation be commenced as soon as possible. To further ensure the safety of the graves it is recommended that they be fenced off with a buffer zone of 25m. Any excavations nearer than 50 metres from the graves should be monitored by a suitably qualified heritage practitioner.

The LIA site at Site 004 falls outside of the development footprint and will not be affected. The site will be cordoned off with barrier tape during the development phase to ensure that it is not affected by any secondary impacts.

The ruin at Site 006 was determined not to have any heritage significance and may be destroyed. There is a slight possibility of unmarked graves in the area and it is recommended that a heritage practitioner monitor any excavation within 50metres of the site.