

case ID 1351



# mineral resources

Department:  
Mineral Resources  
REPUBLIC OF SOUTH AFRICA

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First Floor, Liberty Corner, 29-31 Curry Street, Kimberley 8301

**From:** Directorate: Mineral Regulation: Northern Cape    **Date:** 01 November 2010  
**Enquiries:** Ms. Linah Tshikororo    **E-Mail:** Tshisikhawe.Tshikororo@dmr.gov.za  
**Ref:** NC 30/5/1/3/3/2/1/1972 EM

The Director  
South African Heritage Resources Agency  
PO Box 4637  
CAPE TOWN  
8000

**Attention: Mary Leslie**

**CONSULTATION IN TERMS OF SECTION 40 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 2002, (ACT 28 OF 2002) FOR THE APPROVAL OF AN ENVIRONMENTAL MANAGEMENT PLAN FOR MINING PERMIT ON REMAINDER OF ERF 675, ERF 1271, VAALKOP, FARM 114 (TAAIBOSLAAGTE), FARM VETVLAKTE NO. 139, FARM RIETFONTEIN 140 (ARUNDEL), SITUATED IN THE MAGISTERIAL DISTRICT OF PIXLEY KA SEME, NORTHERN CAPE REGION.**

**APPLICANT: SOUTH AFRICAN NATIONAL ROAD AGENCY LIMITED.**

Attached herewith, please find a copy of an EMP received from the above-mentioned applicant for your comments.

It would be appreciated if you could forward any comments or requirements your Department may have to this office and to the applicant before the **30<sup>th</sup> November 2010** as required by the Act.

Consultation in this regard has also been initiated with other relevant State Departments. In an attempt to expedite the consultation process please contact **Linah Tshikororo** of this office to make arrangements for a site inspection or for any other enquiries with regard to this application.

Your co-operation will be appreciated.

  
.....  
**REGIONAL MANAGER: MINERAL REGULATION  
NORTHERN CAPE REGION**



**TELEFAX TRANSMISSION**

To : DMR

Attention : Linah Tshikororo

Fax No. : 053 832 5631

From : CCA Environmental

Date : 01 November 2010

No. of pages (incl. cover) : 1

**SUBJECT : COLESBERG BORROW PITS**

Good day Linah

As discussed telephonically, herewith the information as requested:

Eight borrow pits are being proposed by SANRAL for the rehabilitation and upgrading of Section 7 of the N9 between Wolwefontein and Colesberg. The project would involve the rehabilitation of the existing road surface, repairs to structures and minor ancillary works (km 63.63 to km 94.84) as well as the addition of 2.5 m surfaced shoulders from km 63.63 to km 81.20. The project would also entail the construction of a new grade separated interchange to improve safety at the N1/N9 intersection at Colesberg. The Department of Environmental Affairs issued an Environmental Authorisation for the road project on 6 July 2010. I have sent you locality maps to show you the extent of the road project via e-mail.


Borrow pits 1 to 4 are proposed on land administered by the Umsobomvu Local Municipality (previously known as Colesberg Local Municipality). Umsobomvu Municipality falls under the Pixley Kaseme District Municipality. Borrow pits 5 to 8 are proposed on privately-owned land to the south of Colesberg along Section 7 of the N9 (refer to the borrow pit locality maps in the EMP).

The property numbers and landowners of the borrow pits are summarised below:

Borrow Pit Number	Property Number	Landowner
1, 2 and 3	Remainder of Erf 675	Umsobomvu Local Municipality
4	Erf 1271	Umsobomvu Local Municipality
5	Vaalkop, Farm 114 (Taaiboslaagte)	Mrs Hester Hugo
6	Vetvlakte, Farm 139	Mrs MMW van der Merwe
7 and 8	Rietfontein, Farm 140 (Arundel)	Mr HAJ Wium

I hope the above information has addressed your queries. If you require any further information in this regard, please let me know. I have also sent this document to you via e-mail.

Regards



Eloise Costandius



CCA ENVIRONMENTAL (Pty) Ltd • Consulting Services

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Directors: J Crowther F Fredericks • Reg No 2003/019026/07





REGISTRATION NO. 1998/009584/06

**REHABILITATION AND UPGRADING OF  
SECTION 7 OF NATIONAL ROUTE 9  
BETWEEN WOLWEFONTEIN AND COLESBERG  
ENVIRONMENTAL MANAGEMENT PROGRAMME  
FOR EIGHT BORROW PITS**

Prepared for:

**Department of Minerals and Energy  
Private Bag X6093  
KIMBERLEY  
8300**

On behalf of:

**South African National Road Agency Limited (SANRAL)  
Private Bag X19  
Bellville  
7530**

Prepared by:

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REGISTRATION NO. 1998/009584/06

**REHABILITATION AND UPGRADING OF  
SECTION 7 OF NATIONAL ROUTE 9  
BETWEEN WOLWEFONTEIN AND COLESBERG  
ENVIRONMENTAL MANAGEMENT PROGRAMME  
FOR EIGHT BORROW PITS**

Prepared for:  
**Department of Mineral Resources**

On behalf of:  
**South African National Roads Agency Limited (SANRAL)**

Prepared by:  
**CCA Environmental (Pty) Ltd**

Approved by:

Date of Approval:



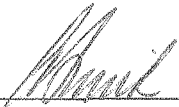




## Undertaking

I, Mr N Brink, representing the applicant South African National Road Agency Limited, hereby declare that the information contained in this document is true, complete and correct. I undertake to implement the measures as described herein. I understand that this undertaking is legally binding and that failure to give hereto will render me liable for prosecution in terms of Section 98 (b) and 99 (1)(g) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002). I am also aware that the Regional Manager may, at any time but after consultation with me, make such changes to this plan as he/she may deem necessary.

Signed on this *21<sup>st</sup>* day of *September 2010* 2010 at Cape Town.



\_\_\_\_\_  
Signature of Applicant



## PROJECT INFORMATION

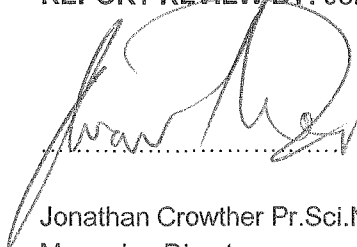
TITLE	Rehabilitation and upgrading of Section 7 of National Route 9 between Wolwefontein and Colesberg – Environmental Management Programme for Eight Borrow Pits
APPLICANT	South African National Roads Agency Limited (SANRAL)
ENVIRONMENTAL CONSULTANTS	CCA Environmental (Pty) Ltd
REPORT REFERENCE	UWP/01/COL/EMP
REPORT DATE	20 October 2010

**REPORT COMPILED BY:** Eloise Costandius



Eloise Costandius Pr.Sci.Nat.  
Environmental Scientist

**REPORT REVIEW BY:** Jonathan Crowther



Jonathan Crowther Pr.Sci.Nat.; CEAPSA  
Managing Director



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PART A

GENERAL INTRODUCTION





## PART A GENERAL INTRODUCTION

### A1 INTRODUCTION

The South African National Roads Agency Limited (SANRAL) is proposing to extend eight existing borrow pits in order to obtain various materials for the rehabilitation and upgrading of Section 7 of the N9 between Wolwefontein and Colesberg. The project would involve the rehabilitation of the existing road surface, repairs to structures and minor ancillary works (km 63.63 to km 94.84) as well as the addition of 2.5 m surfaced shoulders from km 63.63 to km 81.20. The project would also entail the construction of a new grade separated interchange to improve safety at the N1/N9 intersection.

Five borrow pits have been identified along Section 7 of the N9 to the south of Colesberg and the remaining three have been identified around the town of Colesberg. The locations of the eight borrow pits are illustrated in Figures 1 and 2. Six of the eight borrow pits have been identified as necessary while two have been included as alternative sources. SANRAL is, however, applying for approval of all eight borrow pits.

SANRAL has appointed UWP Consulting and BergStan South Africa to undertake the engineering design for the proposed road upgrade and associated borrow pits. UWP, in turn, appointed CCA Environmental (Pty) Ltd (CCA) to act as an independent environmental consultant to compile an Environmental Management Programme (EMP) for the proposed borrow pits.

### A2. STRUCTURE OF REPORT

This report consists of five parts, the contents of which are outlined below.

<b>Part A</b>	<b>General Introduction</b> Provides the background to the project; the structure to the report; the study approach and methodology for the EMP; a description of the proposed project; and a general description of the surrounding environment.
<b>Part B</b>	<b>Project Description</b> Provides an overall project description, motivation for the proposed project and general characteristics of the receiving environment.
<b>Part C</b>	<b>Borrow Pits</b> Provides a description of the surrounding environment and impact assessment for the eight borrow pits.
<b>Part D</b>	<b>Environmental Management Programme</b> Presents the EMP for all eight proposed borrow pits.
<b>Part E</b>	<b>Appendices to the Report</b>
Appendix 1	Public Participation Information
Appendix 2	Convention for Assigning Significance Ratings to Impacts
Appendix 3	Specialist Report: Vegetation
Appendix 4	Specialist Report: Archaeology/Heritage
Appendix 5	Specialist Report: Palaeontology

### **A3. APPROACH AND METHODOLOGY**

This section provides a description of the legislative framework within which this EMP was compiled and outlines the methodology and public participation process followed in the study.

#### **A3.1 LEGISLATIVE FRAMEWORK**

This section provides a description of the legislation of direct relevance to the project.

##### **A3.1.1 Mineral and Petroleum Resources Development Act (No. 28 of 2002)**

The Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA) provides for the control of mining activities such as the development of borrow areas and prevents any mining activity without the appropriate right and/or permit as issued by the Minister of Mineral Resources. Such right and/or permit may only be issued once there has been compliance with the regulations promulgated in terms of the MPRDA.

Government Notice R762 (GN R762), in terms of Section 106(1) of the MPRDA, exempts any organ of state (such as SANRAL) from applying for such rights and/or permits. However, in terms of Section 106(2), organs of state must submit an EMP for approval by the Minister in terms of Section 39(4). Section 39(3) sets out the minimum required information that must be contained in such an EMP, including baseline information regarding the affected environment, an assessment of the potential impacts of the proposed activity, as well as measures to mitigate and rehabilitate the potential impacts.

This study has been undertaken in accordance with the requirements of the regulations promulgated in terms of the MPRDA.

##### **A3.1.2 National Environmental Management Act (No.107 of 1998)**

The Environmental Impact Assessment (EIA) Regulations, 2010 promulgated in terms of Chapter 5 of the National Environmental Management Act (NEMA) provide for the control of certain activities that are listed in Government Notices (GN) Nos. R544, R545 and R546. Activities listed in these notices must comply with the regulatory requirements listed in GN No. R543, which prohibits such activities until written authorisation is obtained from the competent authority. Such environmental authorisation, which may be granted subject to conditions, will only be considered once there has been compliance with the EIA Regulations, 2010. GN No. R543 sets out the procedures and documentation that need to be complied with in undertaking an EIA. None of the eight borrow pits are considered listed activities in terms of GN Nos. R544, R545 or R546.

The proposed upgrading of Section 7 of the N9, however, constitutes a listed activity and required that a Basic Assessment be undertaken. A Basic Assessment Report was compiled and submitted to the Department of Environmental Affairs (DEA) for decision-making in June 2010. DEA issued an Environmental Authorisation for the project on 06 July 2010.

##### **A3.1.3 National Heritage Resources Act (No. 25 of 1999)**

Section 38(1) of the National Heritage Resources Act (NHRA) (No. 25 of 1999) lists development activities that would require authorisation by the responsible heritage resources authority. The activity applicable to the proposed project is the following:

*“(c) Any development or other activity which will change the character of a site:  
(i) exceeding 5 000 m<sup>2</sup> in extent.”*

The NHRA requires that a person who intends to undertake a listed activity notify the relevant provincial heritage authority at the very earliest stages of initiating such a development. The relevant provincial heritage authority would then in turn, notify the person whether a Heritage Impact Assessment Report should be submitted. However, according to Section 38(8) of the NHRA, a separate report would not be necessary if an evaluation of the impact of such development on heritage resources is required in terms of any other applicable legislation. The decision-making authority should, however, ensure that the heritage evaluation fulfils the requirements of the NHRA and take into account in its decision-making any comments and recommendations made by the relevant heritage resources authority.

An archaeological study has been undertaken in compliance with the NHRA and submitted to the South African Heritage Resources Agency (SAHRA) for comment. Comment was received and included as part of this EMP (refer to Section A3.2.2 below and Appendix 1).

## **A3.2 ENVIRONMENTAL MANAGEMENT PROGRAMME METHODOLOGY**

### **A3.2.1 Site visits and specialist studies**

Ms Eloise Costandius of CCA with specialists Mr Jonathan Kaplan of the Agency for Cultural Resource Management and Dr Paul Malan of the University of the Free State carried out two site visits on 19 March 2008 and 17 November 2008. The site visits were undertaken to familiarise the consultants with the sites and to identify potential impacts associated with the proposed borrow pits. Jonathan Kaplan inspected the sites for archaeological and heritage significance and Paul Malan inspected the sites for botanical significance. A site visit was also undertaken by Dr John Almond to inspect the sites for palaeontological significance.

Potential impacts identified during the site visits were then assessed according to pre-defined rating scales (see Appendix 2), which are based on criteria set out in the EIA Regulations Guideline Document (DEAT, 1998). Specialists also recommended appropriate mitigatory or control measures to minimise potential impacts or enhance potential benefits.

### **A3.2.2 Public Participation Process**

The public participation process undertaken during the preparation of this EMP formed part of the process undertaken for the Basic Assessment of the proposed road rehabilitation and upgrading project.

To date 86 Interested and Affected Parties (I&APs) have been registered on the project database. The I&AP list was compiled by including landowners and local authorities as well as identifying additional I&APs through press advertisements. The list of I&APs and other public participation information are provided in Appendix 1.

Steps taken in the public consultation include:

- Distributing a notification letter and Background Information Document to all identified I&APs on the project database on 29 February 2008 (see Appendix 1);
- Advertisements announcing the proposed project and EIA and EMP processes were placed in Die Volksblad and the Graaf-Reinet & Colesberg Advertiser on 29 February 2008 (see

Appendix 1). The advertisements initially only included four proposed borrow pits. In the advertisements I&APs were also invited to attend an Information-sharing Meeting on 19 March 2008;

- An Information-sharing Meeting was held in the Colesberg Town Hall on 19 March 2008 where the localities of the initial four proposed borrow pits were discussed as well as the greater road upgrade project, EIA and EMP processes;
- Site notices were erected at each of the four proposed borrow pit sites (see Appendix 1).
- A second notification letter was sent to I&APs on 03 November 2008 notifying them of a second Information-sharing Meeting to be held;
- A second Information-sharing Meeting was held on 17 November 2008 at the Colesberg Town Hall where the additional four borrow pits were discussed;
- A second advertisement including the additional four borrow pits was placed in the Graaff-Reinet & Colesberg Advertiser on 21 November 2008;
- Notification letters were sent to owners of the properties, informing them of the proposed borrow pits. Landowners were asked to complete an acknowledgment form to indicate that they had been made aware of the location and extent of the borrow pits and that access would be required across their respective properties, as well as to raise any issues of concern (see Appendix 1); and
- The archaeology and palaeontology specialist reports were submitted to the South African Heritage Resources Agency (SAHRA) for comment. The comments received are summarised in the table below (see Appendix 1 for copy of comment received).

I&AP	Comment	Response
<p>Mariagrazia Galimberti for SAHRA</p>	<p>According to the Archaeology Impact Assessment the proposed SANRAL project will not impact the archaeological heritage of the area. All the stone artefacts identified in the areas were thinly scattered and dispersed over the surface of the proposed borrow pits, with a disturbed origin. Only scattered material of low local significance was recorded and therefore SAHRA supports the recommendations of the archaeologist (Mr Jonathan Kaplan) that the proposed project be carried out with no further mitigation.</p> <p>According to the Palaeontology Impact Assessment the proposed SANRAL project will not impact the palaeontological heritage of the area and no palaeontological material was so far identified in the survey area. This does not exclude though the possibility to identify palaeontological remains in the area impacted by the proposed borrow pits. Borrow Pit 7 is in fact excavated into the distal floodplain sediment of the Beaufort Group which might be of palaeontological interest. SAHRA supports the recommendations of the palaeontology specialist (Dr John Almond) that the proposed development activity is carried out with no further mitigation required.</p> <p>As there is apparently no evidence of any significant archaeological or palaeontological material in the area, the SAHRA Archaeology, Palaeontology and Meteorite Unit has no objection to the development on condition that if any new evidence of ancient campsites, shell middens, archaeological artefacts, unmarked human burials, fossils or other heritage</p>	<p>These comments are noted and have been included as recommendations in this EMP.</p>

	<p>resources are found during construction activities, SAHRA (Mary Leslie, Tel. 021 462 4502) be alerted immediately. An accredited professional archaeologist or palaeontologist (depending on the type of find) must be contacted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance a Phase 2 rescue operation might be necessary at the cost of the Applicant.</p>	
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### A3.2.3 Way Forward

This EMP has been submitted to the Department of Mineral Resources (DMR) for consideration. The Minister must make a decision as to whether the EMP is approved or not within 120 days. When considering the EMP, the Minister must consult with any state department which administers any law relating to matters affecting the environment. These departments are given 60 days from date of request to submit comments. The Minister may request additional information and that the EMP be adjusted accordingly before approval.



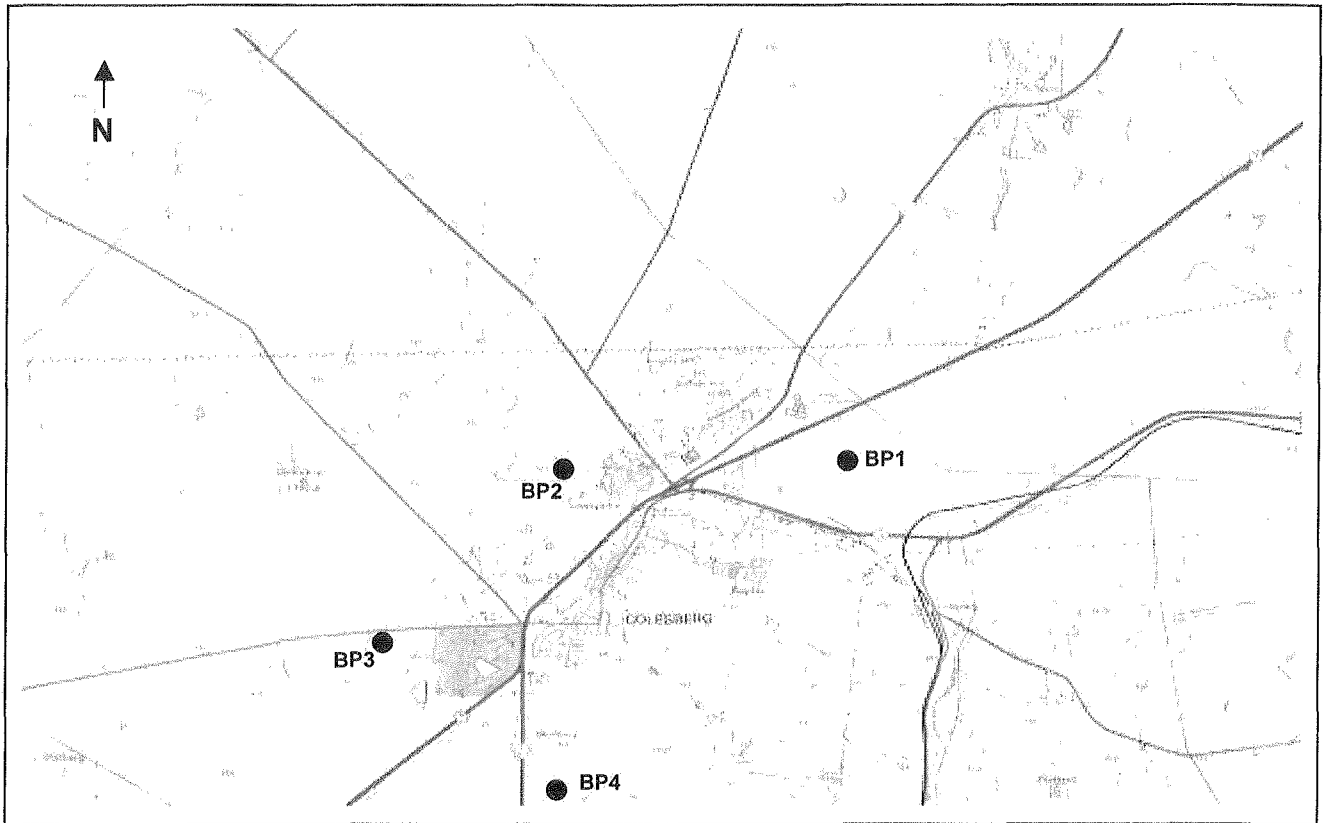


Figure 1 1:50 000 Map extract (3025CA) showing the location of Borrow Pits 1-4 around the town of Colesberg.

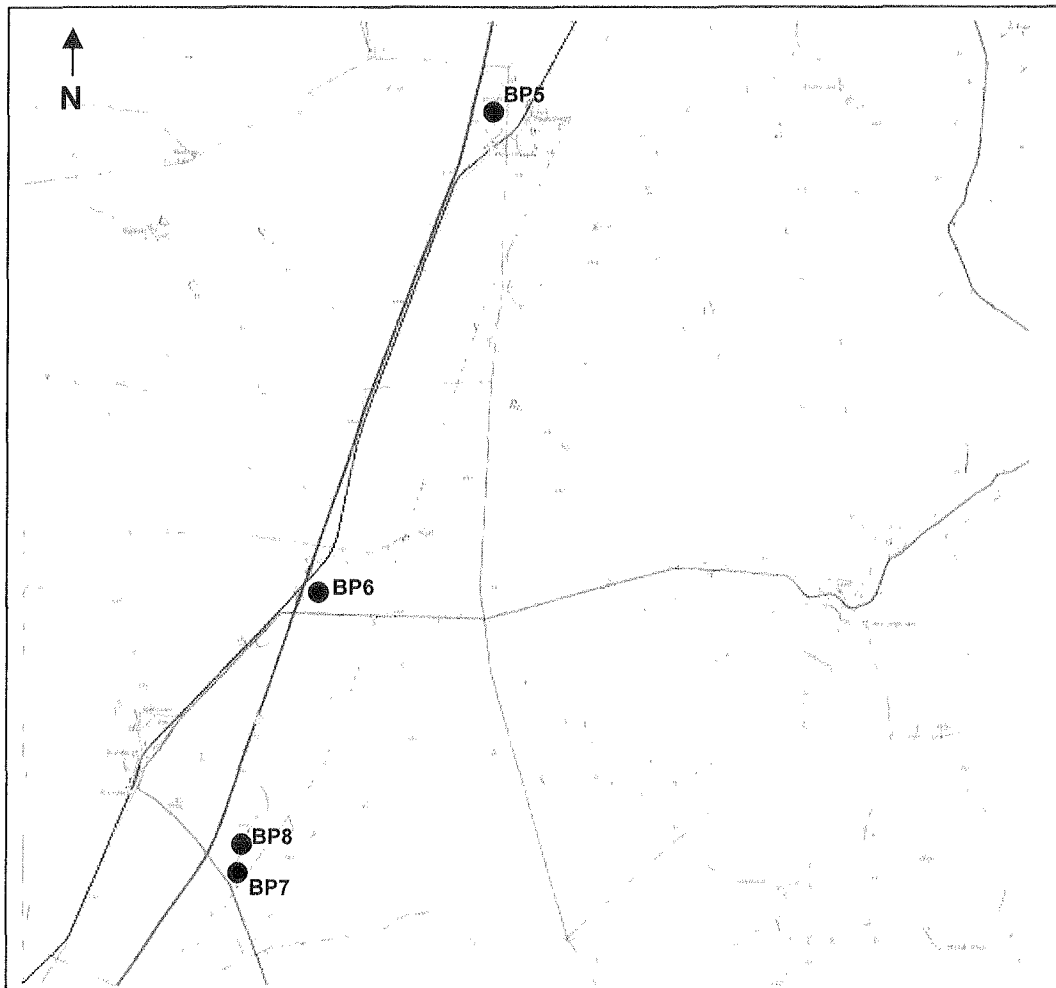
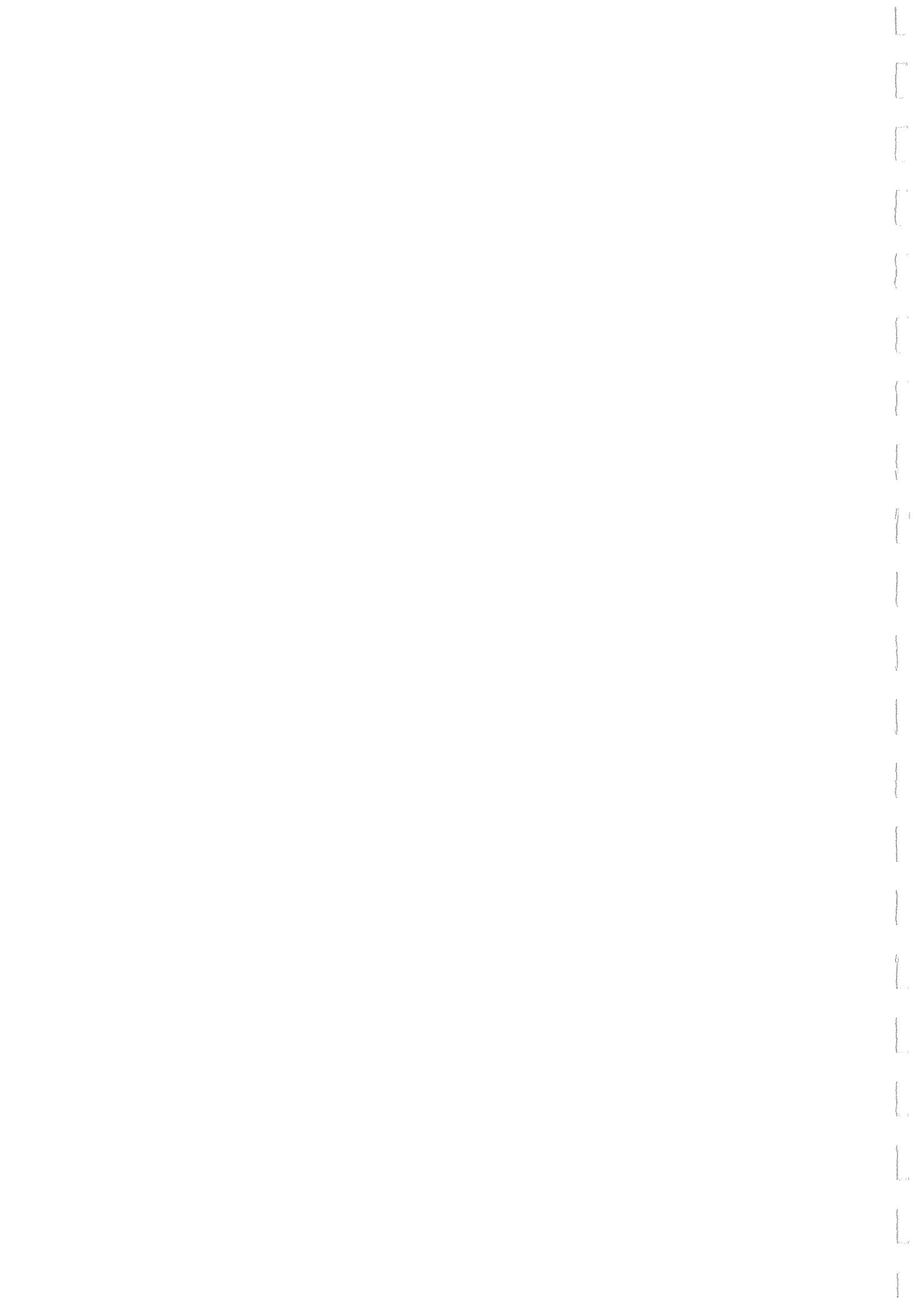


Figure 2 1:50 000 Map extract (3025CC) showing the location of Borrow Pits 5-8 to the south of Colesberg along Section 7 of the N9.





**PART B**

**PROJECT DESCRIPTION**



## **PART B PROJECT DESCRIPTION**

### **B1 MOTIVATION FOR AND BENEFIT OF THE PROPOSED PROJECT**

The main motivation for the use of the proposed borrow pits is the supply of material for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg.

As the project would entail the construction of a new grade-separated N1/N9 Interchange, large volumes of fill material would specifically be required for bridge construction. Sub-base material is also required. The extension of existing borrow pits for the sourcing of material has been proposed as it would not make financial sense to source material from commercial sources that are located some distance from the construction site.

The rehabilitation of this section of the N9 and construction of a grade-separated interchange at Colesberg would improve road user safety on this currently dangerous section of road and would separate traffic on the N1 and N9 by providing continuity of traffic flow.

### **B2 BORROW PIT ALTERNATIVES**

#### **B2.1 BORROW PITS**

A borrow pit investigation was undertaken in order to identify and investigate potential borrow pit sites in close proximity to Colesberg. Eight existing borrow pits were identified. Of the eight borrow pits four are located around the town of Colesberg on municipal land. The remaining four borrow pits are located on privately owned farmland to the south of Colesberg along the eastern side of the N9. During the borrow pit assessment, each borrow pit was assessed according to various criteria (e.g. quantity and type of material, vegetation sensitivity and visibility from existing roads) and based on this assessment and material requirements, six were identified as preferred borrow pits (Borrow Pits 2, 3, 4, 6, 7 and 8) while two were included as alternative borrow pits (Borrow Pits 1 and 5). All eight borrow pits have been assessed in this report and SANRAL is seeking approval of all eight of these pits. The two alternative borrow pits have been included as part of the application to DMR as a contingency in the event that insufficient material is acquired from the six preferred borrow pits.

#### **B2.2 MINING METHODS**

The borrow pit sites and associated activities and infrastructure shall be carefully planned, to ensure that the footprint is kept to a minimum.

Excavation methods would be used to obtain the required material. Material would be excavated by bulldozer up to ripping strength of the machine. It is not currently envisaged that blasting would be required. If it does become necessary, the landowner and surrounding landowners would be notified well in advance and the appropriate precautionary measures would be taken.

### **B3 GENERAL DESCRIPTION OF THE SURROUNDING ENVIRONMENT**

This section provides a general description of the key biophysical, cultural/heritage and socio-economic characteristics of the general area. The eight borrow pits fall within the Umsobomvu Local Municipality (previously the Colesberg Local Municipality) which is part of the Pixley Kaseme District Municipality (PKDM).

## **B3.1 BIOPHYSICAL ENVIRONMENT**

### **B3.1.1 Climate**

Colesberg is located in the upper Karoo region which is classified as an arid, semi-desert zone with hot summers and cool dry winters. The region has a relatively low rainfall of about 262 mm of rain per year, which falls mainly during the summer months. On average, Colesberg receives the lowest rainfall (2 mm) in August and the highest (52 mm) in March.

The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for Colesberg range from 15.2°C in June to 30.5°C in January. Coldest temperatures are experienced during July with an average night-time temperature of 0.9°C.

### **B3.1.2 Topography**

The topography of the upper Karoo region is characterised by vast open plains interspersed with numerous hillocks, hills and plateaus with striking rock outcrops known as 'koppies'. Colesberg is surrounded by 'koppies' of which the most well-known is 'Coleskop' which can be seen from a distance of about 40 km when travelling on the N1.

### **B3.1.3 Geology and Geomorphology**

The characteristic Karoo koppie landscape of the Colesberg area is underlain by Late Permian sediments of the Lower Beaufort Group (Adelaide Subgroup) which have been extensively intruded by dolerite sills and dykes of the Early Jurassic (182 Ma) Karoo Dolerite Suite (Almond, 2008).

Current biozonation maps for the Main Karoo Basin show Colesberg as situated within the latest Permian Dicynodon Assemblage Zone (AZ), close to its northern boundary with the slightly older Cistecephalus AZ. Early Triassic sediments of the Lystrosaurus AZ outcrop much further to the south, en route to Middelburg.

The Lower Beaufort sediments were deposited by large-scale meandering river systems flowing northwards from the youthful Cape Fold belt across the extensive floodplains of the ancient Karoo Basin. They mainly comprise bluish-grey, grey-green and rarer purplish overbank mudrocks with subordinate lenticular channel sandstones.

Various types of superficial deposits ("drift") of Late Caenozoic (Miocene / Pliocene to Recent) age occur in the Colesberg area of the central Karoo. They include pedocretes (eg calcretes), colluvial slope deposits (dolerite scree etc), river alluvium, as well as spring and pan sediments. These Central Karoo drift deposits may occasionally contain important fossil biotas, notably the bones, teeth and horn cores of mammals. Other late Caenozoic fossil biotas from these superficial deposits include non-marine molluscs (bivalves, gastropods), ostrich egg shells, trace fossils (eg calcretised termitaria, coprolites), and plant remains such as palynomorphs in organic-rich alluvial horizons and diatoms in pan sediments (Almond, 2008).

### **B3.1.4 Hydrology**

As the Central and Upper Karoo are characterised by low rainfall the majority of rivers are non-perennial. Rivers and streams flood very quickly after rains as very little water is absorbed into the soil. The rivers are dry for the majority of the year. The largest river in the Colesberg area is the Elands River, which is non-perennial and located approximately 32 km south of Colesberg.

No natural surface water is found on or near any of the proposed borrow pit sites. Few dams are to be found in the area as evaporation quickly dries them out. Many farmers have watering troughs for their livestock, with wind pumps pumping water from aquifers.

### **B3.1.5 Vegetation**

The vegetation type found around the town of Colesberg is classified as Eastern Upper Karoo. According to Mucina and Rutherford (2006) the Eastern Upper Karoo has the largest mapped area of all vegetation units in South Africa. The vegetation is therefore known for its diverse number of different species. The vegetation type is characterised by a mixture of grass and shrub species. A few common shrubs include *Pentzia incana*, *Eriocephalus ericoides*, *E. spinescens* and *Hermannia* spp. and grasses, such as various *Aristida* and *Eragrostis* species.

Vegetation on the distinctive rocky outcrops around Colesberg is classified as Besemkaree Koppies Shrubland (Mucina & Rutherford, 2006) and can include species such as *Lightfootia nodosa* (muistepel), *Felicia muricata* (bloublommetjie), *Aristida diffusa* (iron grass) and *Eragrostis lehmanniana* (Lehmann's love grass).

### **B3.1.6 Fauna**

The majority of borrow pits are located within fenced farm grazing land. This means that much of the larger fauna that could be found in the region is not present at the borrow pit sites. Furthermore, although the region was once rich in herds of medium to large buck such as springbok and kudu these have been shot out on most farms and for the most part only small buck remain. Many of the animals are nocturnal to avoid the harsh sun.

The majority of livestock farmed in the area include ostriches, angora goats and sheep.

## **B3.2 CULTURAL / HERITAGE ENVIRONMENT**

Colesberg was named after Sir Lowry Cole, governor of the Cape of Good Hope between 1828 and 1833. The first people to inhabit the Colesberg district were stone-age hunter-gatherers. They were followed in the early 19th century by 'trekboere', migrant farmers and missionaries.

By 1814, a mission station had been established in the hopes of bringing peace to what was an extremely unruly frontier area of the Cape Colony. By 1820 several huge farms had been established in the district and in 1822 the farmers petitioned for the establishment of a town. The Government granted 18 138 morgen of land to the Dutch Reformed Church on January 27, 1830, and so Colesberg, named after Sir Lowry Cole, (Governor from 1828 to 1833), was established.

The district of Colesberg was proclaimed on 8 February 1837. It became a municipality in 1840. Over the next 52 years various portions of its territory were separated to form new divisions at Albert and Richmond in 1848, Middelburg in 1858, Hanover in 1876, and Philipstown and Steynsburg in 1889. The division lies on an elevated plateau studded with flat-topped koppies which, in pre-colonial times, was the habitat of vast herds of buck.

Colesberg played a part in the Anglo-Boer War between 1899 and 1900. Various battles took place between the Boer forces and British troops over this period.

Colesberg furthermore has a rich history closely linked to the legendary characters of South Africa's diamond industry. John O'Reiley, who purchased the first diamond found in South Africa from its owner, Schalk van Niekerk, took it to Colesberg for testing. It was used to scratch "DP", the initials of

Draper and Plewman, a store which still exists, on the shop's window. Once the stone passed this test, it was sent to Dr Guybourn Atherstone, a well-known geologist. He confirmed it was a diamond and so started "The Diamond Rush".

An archaeological investigation of the proposed borrow pits in the Colesberg area did not produce any artefacts of any significant heritage value. Pre-colonial Stone Age artefacts were found at some of the borrow pits investigated, but the remains are rated as having low local archaeological significance. Findings included several Early and Middle Stone Age quartzite and dolerite flakes, chunks and cores. Most of these were documented in a disturbed context.

### **B3.3 REGIONAL SOCIO-ECONOMIC ENVIRONMENT**

The Umsobomvu Municipal area has a population of 23 636. The race group composition of the Umsobomvu Municipal area is 58.7% Black African, 34.2% Coloured, 7% White and 0.1% Indian/Asian. The age distribution is 40.5 % under the age of 18, 28.6 % between the ages of 18 and 35, 26.1% between the ages of 36 and 65 and 4.8% over the age of 65.

The education levels obtained by adults over the age of 20 years are 26.6% with no schooling, 23.5% with some primary schooling, 7.3% with complete primary schooling, 24.9% with some secondary schooling, 12.5% with Grade 12 and only 5.2% with higher schooling.

Of the population 29% are employed, 31% unemployed and the rest are not economically active.

**PART C**

**INDIVIDUAL BORROW PITS**





PART C1

BORROW PIT 1 (N1 12/4.7/0.7R)



## C1 BORROW PIT 1 (N1\_12/4.7/0.7R) - ALTERNATIVE

### C1.1 PART 1: BRIEF PROJECT DESCRIPTION

#### C1.1.1 MINE OWNER AND MINE MANAGER/RESPONSIBLE PERSON

A contractor is still to be appointed by SANRAL to undertake the excavation of the proposed borrow pit. This borrow pit is proposed as an alternative borrow pit for the supply of material for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg.

#### C1.1.2 NAME AND ADDRESS OF THE APPLICANT FOR PROSPECTING PERMIT OR MINING AUTHORISATION

*Applicant:* South African National Roads Agency Limited

*Contact person:* Mr Nelis Brink

*Address:* Private Bag X19, Bellville, 7530

*Tel:* (021) 957 4600

*Fax:* (021) 946 1630

#### C1.1.3 NAME AND ADDRESS OF THE OWNER OF THE LAND AND THE TITLE DEED DESCRIPTION

*Farm name:* Remainder of Erf 675, Colesberg

*Owner:* Umsobomvu Municipality (Contact person: Mr Ben Malherbe)

*Address:* Private Bag X6, Colesberg, 9795

*Tel:* (051) 753 0777

*Title deed information:* T1414/1963

*Size of the property:* 2295.6566 ha

No mineral rights are indicated on the Deed of Transfer.

#### C1.1.4 REGIONAL SETTING

Borrow Pit 1 is an extension of an existing borrow area that is located northeast of Colesberg and is accessed from the R58 (Station Street) which links into the centre of Colesberg (refer to Figures C1.1 and C1.2 and the borrow pit layout plan in Appendix C1.1). Co-ordinates of the proposed borrow pit extension are presented in Table C1.1 below.

**Table C1.1 Co-ordinates of proposed Borrow Pit 1 (N1\_12/4.7/0.7R).**

Borrow pit co-ordinates (WGS84)		
	Y	X
K	-12176.471	3398514.644
L	-12148.020	3398405.390
M	-12165.268	3398378.195
N	-12206.227	3398353.801
O	-12236.261	3398341.489
P	-12262.347	3398337.286
Q	-12323.359	3398338.107
R	-12352.905	3398356.532
S	-12365.680	3398358.152

	Y	X
T	-12362.070	3398418.640
U	-12345.530	3398447.965
V	-12328.220	3398470.367
W	-12296.354	3398492.746
X	-12268.958	3398500.943
Y	-12239.259	3398498.858
Z	-12213.511	3398508.877

## C1.2 PART 2: DESCRIPTION OF THE PRE-MINING ENVIRONMENT SPECIFIC TO BORROW PIT 1 (N1\_12/4.7/0.7R)

### C1.2.1 CLIMATE

A general description of the climate is presented in Section B3.1.1.

### CD1.2.2 GEOLOGY

A general description of the geology is presented in Section B3.1.3. Material to be mined at the borrow pit is decomposed dolerite.

### C1.2.3 TOPOGRAPHY

The contours of the area are presented in the borrow pit layout plan in Appendix C1.1. The proposed borrow pit site comprises a low koppie in an otherwise flat and degraded landscape.

### C1.2.4 SOIL

The steepness of the slope of the koppie, together with the poor vegetation cover causes high runoff of rainfall water which makes the south-eastern slope very dry. The test pit profile shows a topsoil layer of 200 mm. The rest of the soil profile consists of decomposed dolerite.

### C1.2.5 PRE-MINING LAND CAPABILITY AND LAND USE

The proposed site is an extension of an existing borrow area. A residential area is currently being planned on the adjacent land to the southwest. Material excavated during the installation of services for the future residential area is being dumped at the existing borrow area (see Plate C1.2).

### C1.2.6 VEGETATION

The vegetation type at the site is classified as Eastern Upper Karoo. The vegetation cover is dry apron veld, which is generally in a poor condition. The dominant species include *Eriocephalus ericoides* (kapokbos) and *Tragus koelerioides* (carrot seed grass). No rare or endangered plant species were found.

### C1.2.7 FAUNA

The site is currently unfenced and the habitat is largely disturbed. A Scrub Hare (*Lepus saxatilis*) was spotted between the piles of dumped material which probably provide some shelter for animals from the surrounding flat and open landscape.

### **C1.2.8 HYDROLOGY**

There are no rivers or farm dams in close proximity to the borrow pit site.

### **C1.2.9 GEOHYDROLOGY**

No ground water was found in the trial pit holes with a general depth of 1.4 m.

### **C1.2.10 AIR QUALITY**

The air quality in the study area is fairly good. The air quality is current being affected by dust from construction vehicles on the dirt access roads and the hauling and dumping of material from the adjacent new residential area layout. The borrow pit site is approximately 1 km from the closest residential dwelling and it is thus not expected that dust generated by borrow activities would affect the closest residents.

### **C1.2.11 NOISE**

The site is exposed to minimal noise from the traffic along the N1, approximately 600 m northwest of the borrow pit site. Minimal noise is also experienced from construction vehicles currently installing services in the adjacent new residential area layout. The borrow pit site is approximately 1 km from the closest residential dwelling and it is thus not expected that noise generated by borrow activities would affect the closest residents.

### **C1.2.12 ARCHAEOLOGY AND PALAEOLOGY**

One weathered chunk, one broken (partially retouched and weathered) MSA flake and one flat weathered MSA flake were documented on the proposed site. All the tools were in dolerite. All the remains have been rated as having low local significance (see Appendix 4).

No palaeontological material would occur as intrusive dolerite dykes do not host such material.

### **C1.2.13 SENSITIVE LANDSCAPE**

No sensitive landscapes were identified.

### **C1.2.14 VISUAL ASPECTS**

If this proposed site were utilised, selected subgrade and sub base material would be excavated by uniformly taking up to 9 m of material from the top of a low koppie. This could have a visual impact on the surrounding areas, as it is a natural feature in the landscape. The site has, however, previously been mined and is currently being used as a dumping site for construction material. The closest existing residential dwellings are located 1 km from the proposed borrow pit site and borrow activities would largely not be visible from this great distance.

### **C1.2.15 REGIONAL SOCIO-ECONOMIC STRUCTURE**

See information provided in Section B3.3.

**C1.2.16 INTERESTED AND AFFECTED PARTIES**

The public participation process undertaken is presented in detail in Section A3.2.2. It should be noted that a notification letter was sent to Mr Ben Malherbe, representative for the Umsobomvu Municipality (the owner), informing him of the proposed project and that four borrow pits had been identified on the municipality's property. Mr Malherbe was asked to complete an acknowledgement form (which is included in Appendix C1.2) to indicate that the municipality was made aware of the location and extent of the borrow pits and that access to the areas may be required across municipal property, as well as to raise any issues of concern. Mr Malherbe had the following comments.

I&AP	Comment	Response
<p>Mr Ben Malherbe – Umsobomvu Municipality</p>	<p>The Umsobomvu Municipality made the following recommendations:</p> <p><u>General comments</u></p> <ul style="list-style-type: none"> <li>• The proposed borrow area must be rehabilitated as prescribed by law.</li> <li>• The proposed borrow area must be fenced off completely and access must be controlled.</li> <li>• Rights for use of material from existing municipal borrow pits must not be exclusively given to SANRAL as the municipality may from time to time want to use material at these borrow pits for maintenance of local municipal roads.</li> </ul> <p><u>Comment specific to Borrow Pit 1</u></p> <ul style="list-style-type: none"> <li>• Borrow Pit 1 may not be utilised as a housing project is currently being developed adjacent to the site.</li> </ul>	<ul style="list-style-type: none"> <li>• Rehabilitation of the borrow areas would be undertaken as specified in this EMP.</li> <li>• The proposed borrow areas will be fenced off with new temporary fencing and access would be controlled through one access gate.</li> <li>• The project team would liaise with the municipality regarding the use of material at the borrow pits and would only extract material from the areas applied for and not from areas currently being mined by the municipality.</li> <li>• Borrow Pit 1 has been proposed as an alternative borrow pit, to be used in the event that insufficient volumes of material is sourced from the proposed preferred borrow pits. If this borrow pit is to be utilised, it would not infringe on the housing development area. Material would not be transported through the housing development as an access road along the outer edge of the development would be used to haul material.</li> </ul>

**C1.3 PART 3: BRIEF PROJECT DESCRIPTION**

**C1.3.1 BENEFITS OF THE PROJECT**

The motivation for and potential benefits arising as a result of the project are presented in Section B1.

### **C1.3.2 CONSIDERATION OF ALTERNATIVES**

The assessment of alternatives is presented in detail in Section B2. Borrow Pit 1 (N1\_12/4.7/0.7R) has been included as an alternative borrow pit in case insufficient material is available from the preferred borrow pits.

## **C1.4 PART 4: DETAILED DESCRIPTION OF THE PROPOSED PROJECT**

### **C1.4.1 SURFACE INFRASTRUCTURE**

There would be no permanent surface infrastructure associated with the proposed borrow pit. Access would be from the southwest along an existing access road off the R58 (Station Street). New temporary fencing would be installed with a single gate to control access.

### **C1.4.2 WASTE MANAGEMENT**

Material that is not suitable for the road rehabilitation project would be stockpiled and used to reshape the area during rehabilitation. Any domestic waste would be collected in a waste bin and disposed of at a municipal waste site.

### **C1.4.3 WATER MANAGEMENT**

The water requirements for the proposed borrow pit operations are expected to be minimal (e.g. dust suppression on access roads and borrow pit area). The water sources would be identified by the contractor.

Drainage should not be a problem at this proposed borrow pit as there would not be a large excavated area where water could collect. The site would be free draining.

### **C1.4.4 TRANSPORT**

This would consist of trucks transporting the fill material from the borrow pit to the area of the road under construction. This would take place along existing access roads.

### **C1.4.5 BORROW PIT LAYOUT AND DEVELOPMENT**

Google Earth images of the proposed borrow pit site are included in Figure C1.1 and C1.2 and the proposed site layout plan is included in Appendix C1.1.

The borrow pit would be approximately 2.8 ha in extent. Vegetation would be cleared from the site. Any seed-bearing material would be kept separate for use during rehabilitation or preferably mulched into the topsoil. Topsoil would, where possible, be stripped to a depth of 200 mm and stockpiled separately from other soil layers in piles not exceeding 2 m in height (as indicated in the borrow pit layout plan). Material that cannot be used for the road rehabilitation project would be used in the reshaping of the site during rehabilitation and would be stockpiled separately.

To minimise any impacts on the value of the surrounding land, care shall be taken to limit the extent of the area disturbed during construction activities. In this regard, the borrow pit site and associated activities and infrastructure shall be carefully planned, to ensure that the footprint is kept to a minimum. The proposed borrow pit would consist of one compartment (see borrow pit layout plan).

The borrow pit would be excavated by means of ripping and loading with an excavator directly onto haul vehicles. Material would then be transported to the area of the road under construction.

The borrow pit would be mined to a maximum depth of 9 m, measured from natural ground level to base of the excavation. As the borrow pit area consists of a natural koppie, it would be mined by uniformly removing the top 9 m of the koppie. The end slopes up against lowest remaining part of the koppie would be approximately 1:5.

The borrow pit details are summarised in Table C1.2 below.

**Table C1.2 Summary of Borrow Pit 1 (N1\_12/4.7/0.7R)**

Borrow pit area	2.8 ha
Maximum depth	9 m
Material quality	Selected Subgrade and Sub Base
Volume of material	148 000 m <sup>3</sup>

## **C1.5 PART 5: ENVIRONMENTAL IMPACT ASSESSMENT**

This section describes the impact that would result from the proposed borrow pit. Mitigation measures are proposed that would mitigate negative impacts or enhance potential benefits. Impacts were assessed according to pre-defined rating scales (see Appendix 2), which are based on criteria set out in the EIA Regulations Guideline Document (Department of Environmental Affairs and Tourism, 1998). The impacts arising from the borrow pit development are presented in Table C1.1.

## **C1.6 PART 6: SITE REHABILITATION**

The topsoil at Borrow Pit 1 is fairly shallow in places. The seed bank could be enhanced before site clearance by fencing the site and resting it for as long a period as possible before the start of borrow activities. This would allow for seed production which might be useful for rehabilitation of the site.

During rehabilitation, the topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes should be finished off so that flowing curves that blend with the surrounding landscape and hill are formed in preference to sharp angles. Unused material would be placed back in the deepest areas of the excavated area and the topsoil and vegetation stripped during site clearance would be spread evenly across the borrow pit area. The possibility of erosion should be taken into consideration during rehabilitation of the site.

Introduction of seed of species such as *Sporobolus fimbriatus* (dropseed grass) and *Eriocephalus ericoides* (kapokbos) should also be considered.

## **C1.7 PART 7: ENVIRONMENTAL MANAGEMENT PROGRAMME**

A generic EMP is presented in Section D, as it is the same for all eight borrow pits.



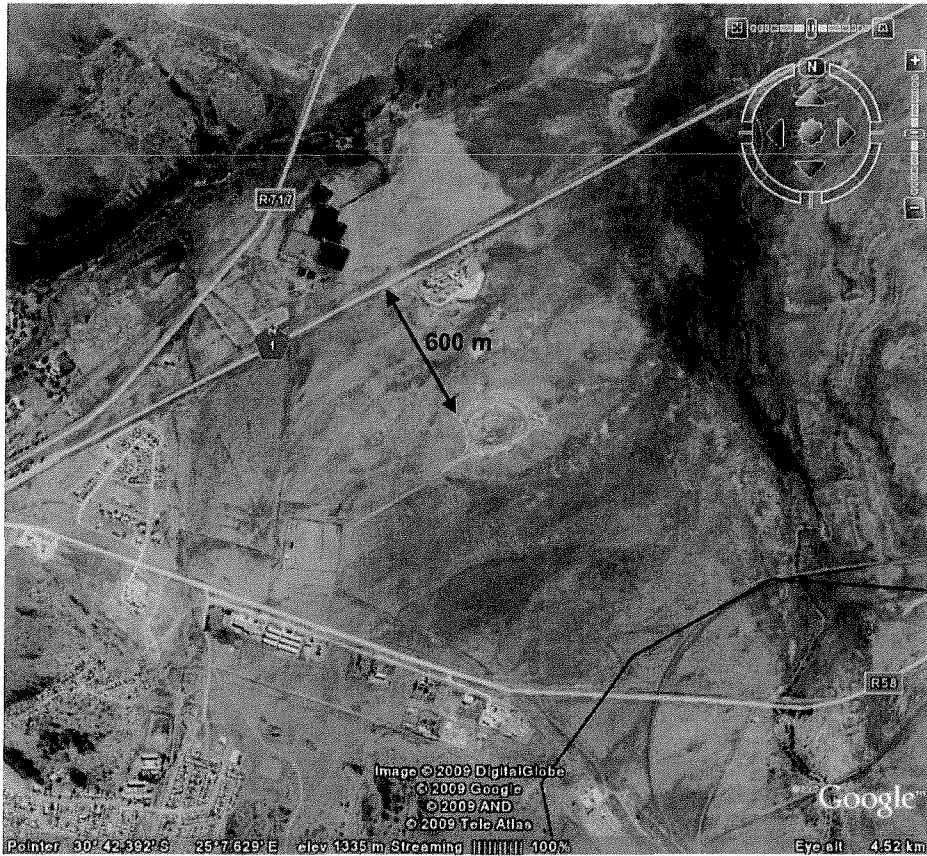


Figure C1.1 Google Earth Image showing the location of BP 1 (N1\_12/4.7/0.7R) northeast of Colesberg.

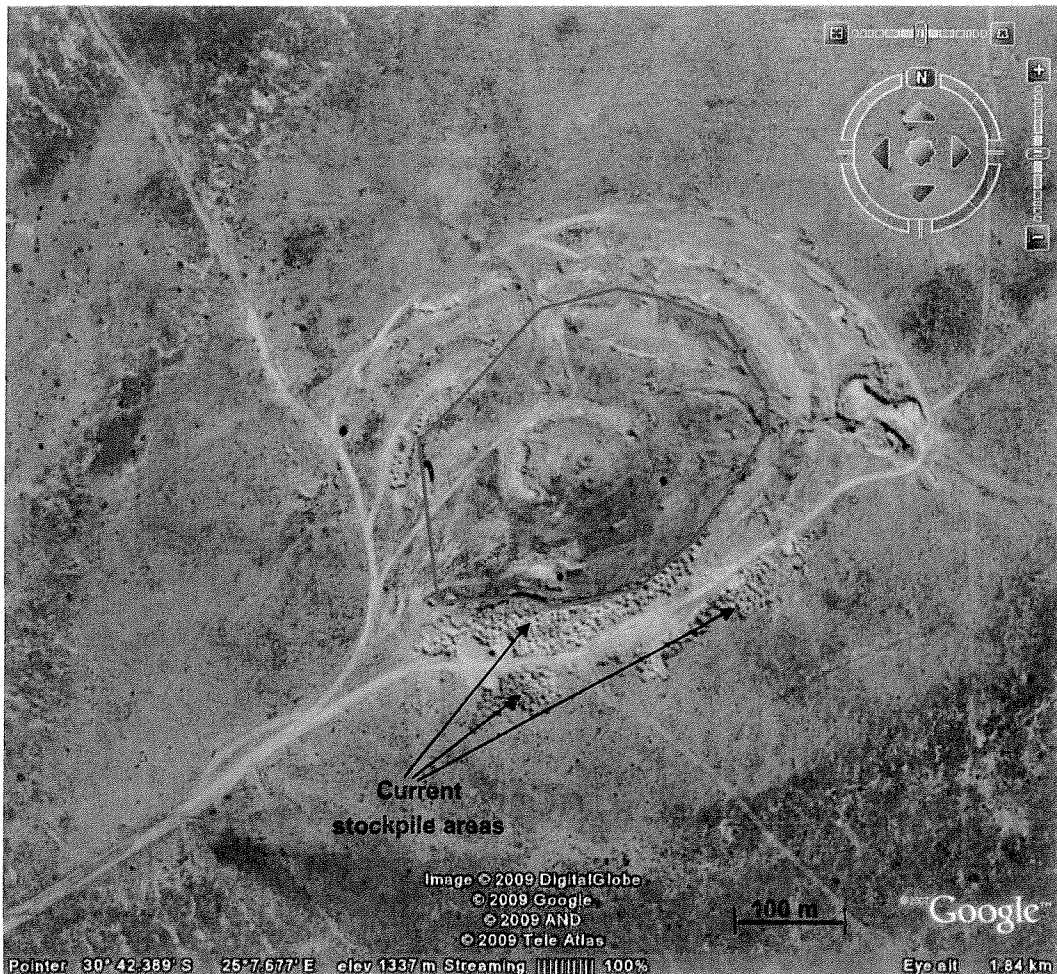


Figure C1.2 The proposed mining area at BP 1 (N1\_12/4.7/0.7R).



Plate C1.1 Borrow Pit 1 (N1\_12/4.7/0.7R). Photograph taken along the eastern edge of the koppie from the access road, looking west.



Plate C1.2 Excavated material stockpiles adjacent to the proposed borrow pit area. Photograph taken looking northeast.

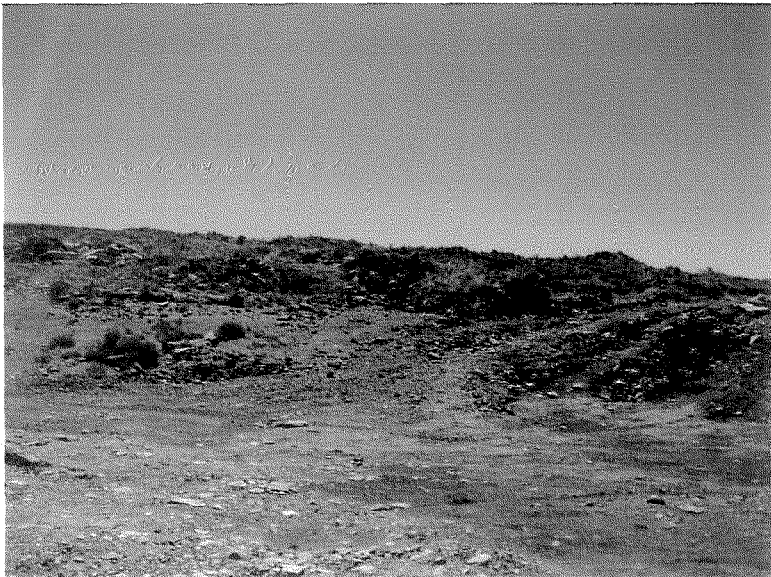


Plate C1.3 Borrow Pit 1 (N1\_12/4.7/0.7R) taken looking north from the access road.

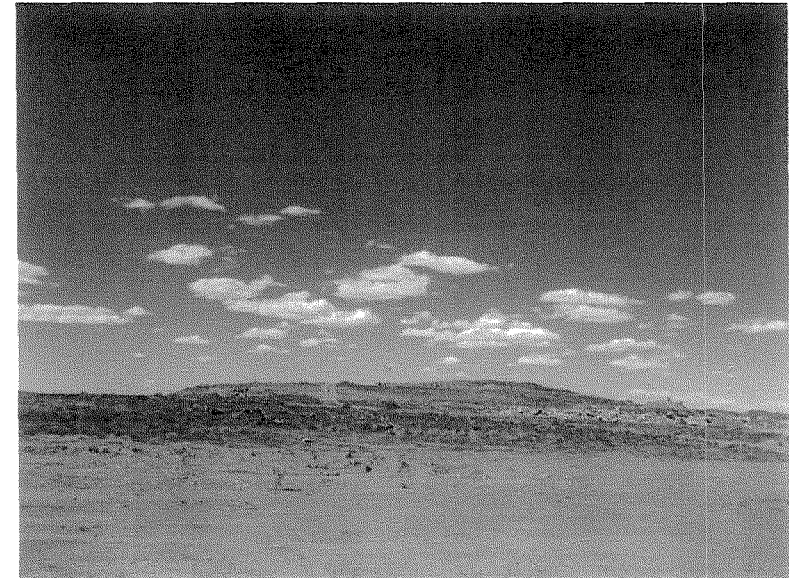


Plate C1.4 The entire koppie. It is proposed to remove the top 9 m of material from the koppie. Photograph taken looking north from the main access road.

**Table C1.3: Impacts arising from the proposed development of Borrow Pit 1 (N1\_12/4.7/0.7R).**

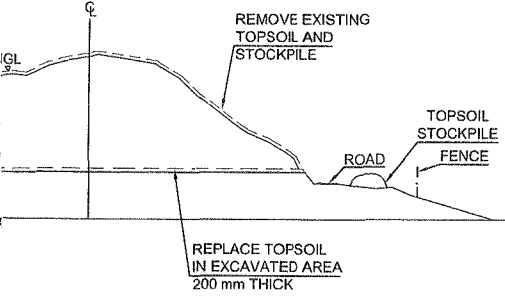
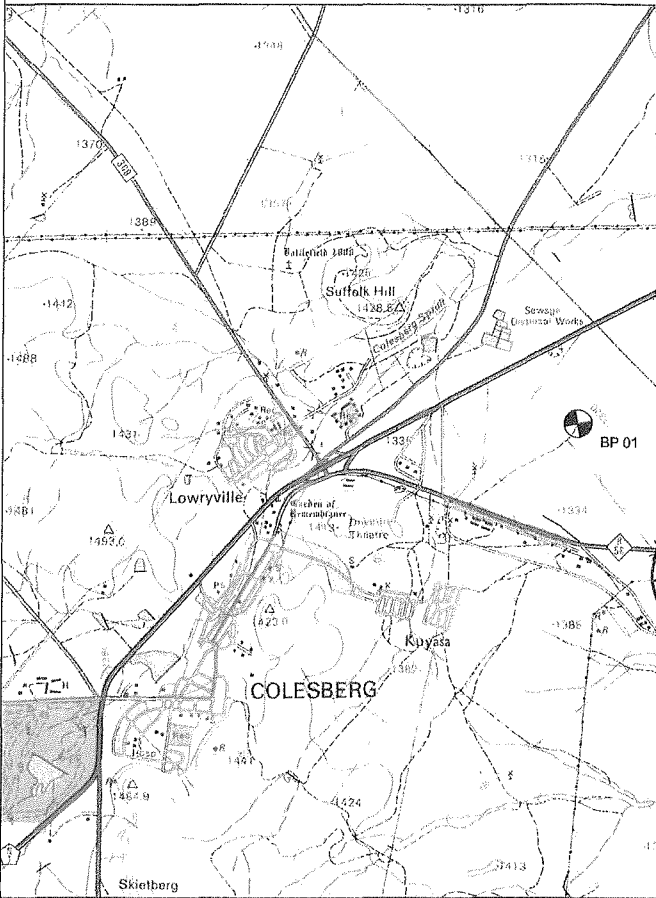
Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Geology	Local	Permanent	Low	Definite	Medium	Low	-	Low
Topography	Local	Permanent	Low	Definite	Medium	Low	The topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes must be finished off so that flowing curves that blend with the surrounding landscapes are formed in preference to sharp angles.	Low
Soil	Local	Short-term	Medium	Highly probable	High	Very Low	Stockpile topsoil and utilise during rehabilitation.	Very Low
Land use	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Land capability	Local	Short-term	Low	Probable	High	Very Low	<ul style="list-style-type: none"> <li>• Demarcation and fencing of borrow area site;</li> <li>• Identification of no-go areas; and</li> <li>• Land disturbed shall be rehabilitated.</li> </ul>	Very Low
Vegetation	Local	Short-term	Low	Highly probable	Medium	Low	This area should be rested (withdrawn from grazing by fencing it) for as long a period as possible before starting with mining activities to allow for seed production. Topsoil together with existing plant material should be removed and stored in wind rows, no higher than two meters. During rehabilitation topsoil should be spread evenly across the cleared borrow pit area. Consider introduction of seed of species such as <i>Sporobolus fimbriatus</i> (dropseed grass) and <i>Eriocephalus ericoides</i> (kapokbos).	Very Low
Fauna	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Surface water	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Groundwater	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Air quality	Local	Short-term	Low	Highly probable	High	Very Low	Retain vegetation cover as long as possible to reduce the size of areas where wind could generate dust and spray water and/or other dust suppression agents to reduce dust.	Very Low
Noise	Local	Short-term	Low	Highly probable	High	Very Low	The contractor shall be required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and house of operation.	Very Low

Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Archaeology	Local	Short-term	Low	Probable	High	Very Low	-	Very Low
Palaeontology	No impact – intrusive dolerite dykes do not host any palaeontological material.							
Sensitive landscapes	No impact.							
Visual aspects	Local	Long-term	Medium	Probable	High	Medium	Land disturbed shall be rehabilitated (refer to vegetation mitigation measures above).	Medium
Regional socio-economic: employment	Local	Short-term	Low	Highly probable	High	Very Low (Positive)	Local labour shall be sourced.	Very Low (Positive)
Regional socio-economic: safety	Local	Short-term	Low	Probable	High	Low	<ul style="list-style-type: none"> <li>The movement of construction vehicles shall be limited to daylight hours; and</li> <li>The dangers associated with the movement of large haulage vehicles shall be clearly sign-posted in both directions leading up to the proposed borrow pit.</li> </ul>	Very Low

**APPENDIX C1.1**

**PROPOSED BORROW PIT  
LAYOUT PLAN**





**SECTION A - A**  
ESTIMATED CAPACITY = 148000 m<sup>3</sup>  
N.T.S

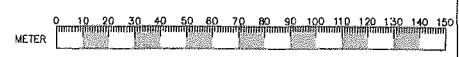
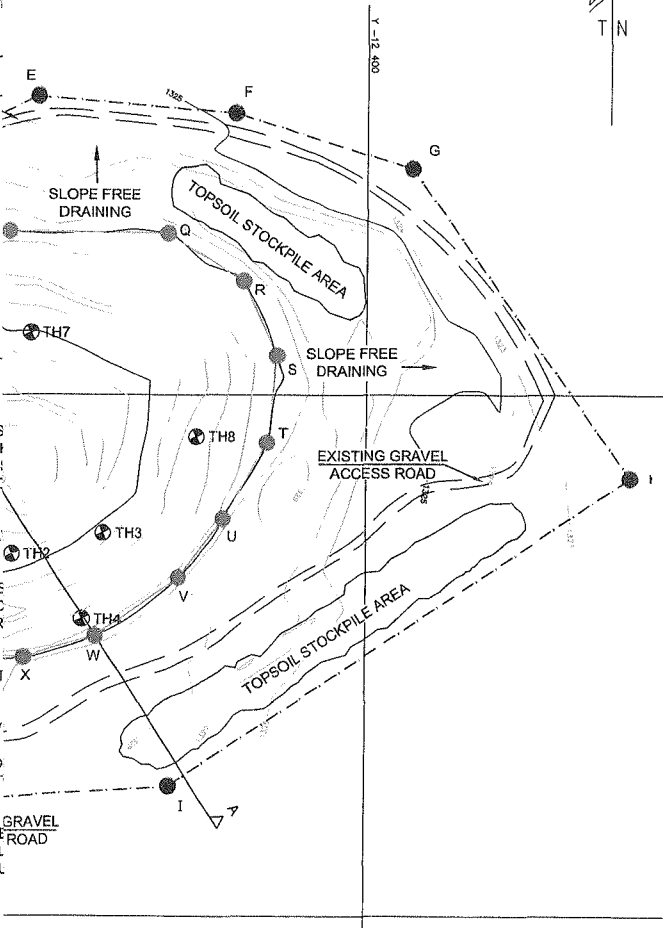
**LOCALITY PLAN**

**LEGEND**

- POSITION OF BORROWPIT
- ERF BOUNDARY

**NOTES:**

1. ANY INVADER SPECIES WILL BE REMOVED FROM THE SITE BEFORE ANY TOPSOIL IS DEPTH OF 20cm IF AVAILABLE AND STORED AWAY FROM DRAINAGE LINES ALONG THE DEPTH EXCEED 1m IN HEIGHT AND WILL NOT BE COMPACTED FOR MORE THAN SIX MONTHS. SPREAD ON THE SURFACE AS SOON AS THE BORROW PIT EXCAVATION HAS BEEN COMPLETED.
2. THE BORROW PIT SITE AND EXISTING ACCESS ROAD WILL BE PROPERLY DEMARCATED AFTER OPERATION.
3. DUST EMISSIONS WILL BE EFFECTIVELY CONTROLLED BY APPROPRIATE MEASURES. EXCAVATED MATERIAL STOCKPILES WILL BE ADEQUATELY PROTECTED BY MEASURES SUCH AS SHADECLOTH SCREENS OR HESSIAN COVERING. IN THE SHORT TERM DUST GENERATION.
4. VEHICLE SPEEDS WILL BE RESTRICTED TO PREVENT ACCIDENTS, TO REDUCE DUST AND INJURY TO LIVESTOCK.
5. ACCESS TO ALL GATES WILL BE CONTROLLED AS AGREED WITH THE LANDOWNER / NEIGHBOUR.
6. A TEMPORARY EATING AREA WILL BE PROVIDED WITHIN THE BORROW PIT AREA TO PREVENT EATING. ABLUTION FACILITIES WILL BE PROVIDED AND WILL BE LOCATED TO PREVENT POLLUTION.
7. TEMPORARY WASTE DISPOSAL AREAS WILL BE DEMARCATED AND FENCED (IF NECESSARY). WEATHERPROOF CONTAINERS (WITH LIDS) WITHIN THIS AREA FOR DISPOSAL AT A LATER DATE REMOVED FROM SITE BY THE CONTRACTOR. NO BURNING, ON-SITE DUMPING OR BURIAL.
8. MAXIMUM DEPTH OF MINING : 9m ( MEASURED FROM NATURAL GROUND LEVELS TO THE BOTTOM OF THE BORROW PIT).
9. MINING OF BORROW PIT WILL REQUIRE HEAVY RIPPING.
10. ALL WORKED AREAS WILL BE RIPPED AND SCARIFIED AND TOPSOIL WILL BE REPLACED AND SCATTERED OVER THE SITE TO PROVIDE GOOD GERMINATION MICROSITES FOR PLANTS. SLOPES OF THE BORROW AREA ARE NO STEEPER THAN 1:5. THE SLOPE CHANGES WITH THE SURROUNDING LANDSCAPES ARE FORMED IN PREFERENCE TO SHARP ANGLES.



		UWP CONSULTING CONSULTING ENGINEERS MVELASERVE HOUSE, GROUND FLOOR REGENT SQUARE DONCASTER RD KENILWORTH 7745 P O BOX 46920 GLOSDERRY	
		7702 KENILWORTH TEL. (021) 761 - 6939 FAX. (021) 761 - 6989	
A	2009/010	ISSUED FOR COMMENTS	AS CONSULTED for NRA
No.	DATE	REVISION	

N9	SECTION	7	SHEET 1 of 1
NRA N.009-070-2007 / IF			SCALE AS SHOWN (A0)
REHABILITATION OF N9 SECTION 7 BORROW PIT DETAILS			DRAWING NUMBER: 14784_301
<b>12/4.7/1.0R) ALTERNATIVE BORROW PIT AND REHABILITATION PLAN</b>			





**APPENDIX C1.2**

**LANDOWNER ACKNOWLEDGEMENT  
OF NOTIFICATION FORM**



# UMSOBOMVU

## MUNISIPALITEIT



## MUNICIPALITY

TELEFOON (051) 753 0777/8/9  
TELEPHONE

FAKS (051) 753 1258  
FAX (051) 753 0574

KANTOOR VAN DIE MUNISIPALE BESTUURDER  
OFFICE OF THE MUNICIPAL MANAGER

PRIVAATSAK X8  
PRIVATE BAG

Alle kommunikasies moet aan die Munisipale Bestuurder gerig word  
All communications to be addressed to the Municipal Manager.

COLESBERG  
9795

▼ VIR NAVRAE SPREK ASSEBLIEF ▼  
FOR ENQUIRIES PLEASE SPEAK TO

▼ VERWYSINGSNOMMER ▼  
REFERENCE NUMBER

# Fax

To: ELOISE COSTANDIUS From: B. MALHERBE

Fax: 021-461 1120 Date: 20/09/2010

Phone:                      Pages: 1+2

Re:                      CC:                     

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LEERSROEWE, COLESBERG - REHABILITASIE  
VAN N 9/7 - WOLWEFONTEIN/COLESBERG

L.W. - Op versoek gerig binne ses dae na die datum van die brief, sal 'n oorsiggehoor brief in ASB-tiens verskaf word.

L.W. - On request made within seven days after the date of this letter, a similar letter will be supplied in English.



VOORGESTELDE LEENGROEWE VIR DIE REHABILITASIE VAN DIE N9/7 TUSSEN WOLWEFONTEIN EN COLESBERG BENUTTING VAN LEENGROEWE	
PROPOSED BORROW PITS FOR THE REHABILITATION OF THE N9/7 BETWEEN WOLWEFONTEIN AND COLESBERG UTILISATION OF BORROW PITS	
LEENGROEF NO./ BORROW PIT NO.	BORROW PITS 1) N1_12/4.7/0.7R; 2) N1_12/2/1.0L; 3) DR3058/1.8/0.05L AND 4) N9_7/92.8/0.4R
GEREGISTREERDE PLAAS NAAM/ REGISTERED FARM NAME	Umsobomvu MUNISIPALITEIT.
GEREGISTREERDE EIENAAR/ REGISTERED OWNER	Umsobomvu MUNISIPALITEIT.
<p>Ek erken dat ek verwittig is deur die Nasionale Padagentskap (SANRAL) van die voorneme om bestaande leengroewe op munisipale eiendom te benut, soos aangedui op die aangehegde plan, vir die rehabilitasie van Gedeelte 7 van die N9 tussen Wolwefontein en Colesberg; dat ek bewus is van die ligging en omvang van die gebied en dat toegang oor munisipale eiendom benodig mag word.</p> <p>I acknowledge that I have been informed of SANRAL's intention to utilise the existing borrow pits on municipal property indicated on the attached plan for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg; and that I am aware of the location and extent of the area and that access to the area may be required across municipal property.</p>	
<p><b>HANDTEKENING VAN EIENAAR OF GEDELIGEERDE</b></p> <p><b>VERTEENWOORDIGER/ SIGNATURE OF OWNER OR DELEGATED REPRESENTATIVE</b></p> <p>.....</p>	
<p>STATUS INDIEN NIE GEREGISTREERDE EIENAAR NIE/ STATUS IF NOT REGISTERED OWNER.....</p> <p>DATUM/ DATE... 17 SEPTEMBER 2010.....</p>	



NAAM/ NAME Mnr. A. E. MPELA

POS ADRES/ POSTAL ADDRESS PRIVAATSAK X 6  
COLESBERG 9795

TELEFOON NOMMER/ TELEPHONE NUMBER 051-7530777

FAKS NOMMER/ FAX NUMBER 051-7530574

KOMMENTAAR/ COMMENT	NEE/ NO	JA/ YES
<p>Geliewe op die volgende te let, nl.</p> <p>i) Gebruikte leengroeue moet op u koste gerehabiliteer word soos deur die toepaslike wet vereis;</p> <p>ii) Sodanige leengroeue moet op u koste ten volle omhein word met 'n toegang tot sodanige leengroeue.</p> <p>iii) Gebruik van sodanige leengroeue vir die rithaal van materiaal word nie eksklusief aan die Nasionale Padagentokop (SARAH) toegeken nie, want die eienaar (Umsoluku Munisipaliteit) mag van tyd tot tyd ook gebruik maak van die leengroeue vir die rithaal van materiaal vir die gebruik.</p>		<input checked="" type="checkbox"/>

Duo; leengroeue 02 en 04 is beskikbaar.

Please forward to/ Stuur asseblief aan

CCA ENVIRONMENTAL

Unit 35, Roeland Square, Cape Town, 8001 T: (021) 461 1118 F: (021) 461 1120

elolse@ccaenvironmental.co.za

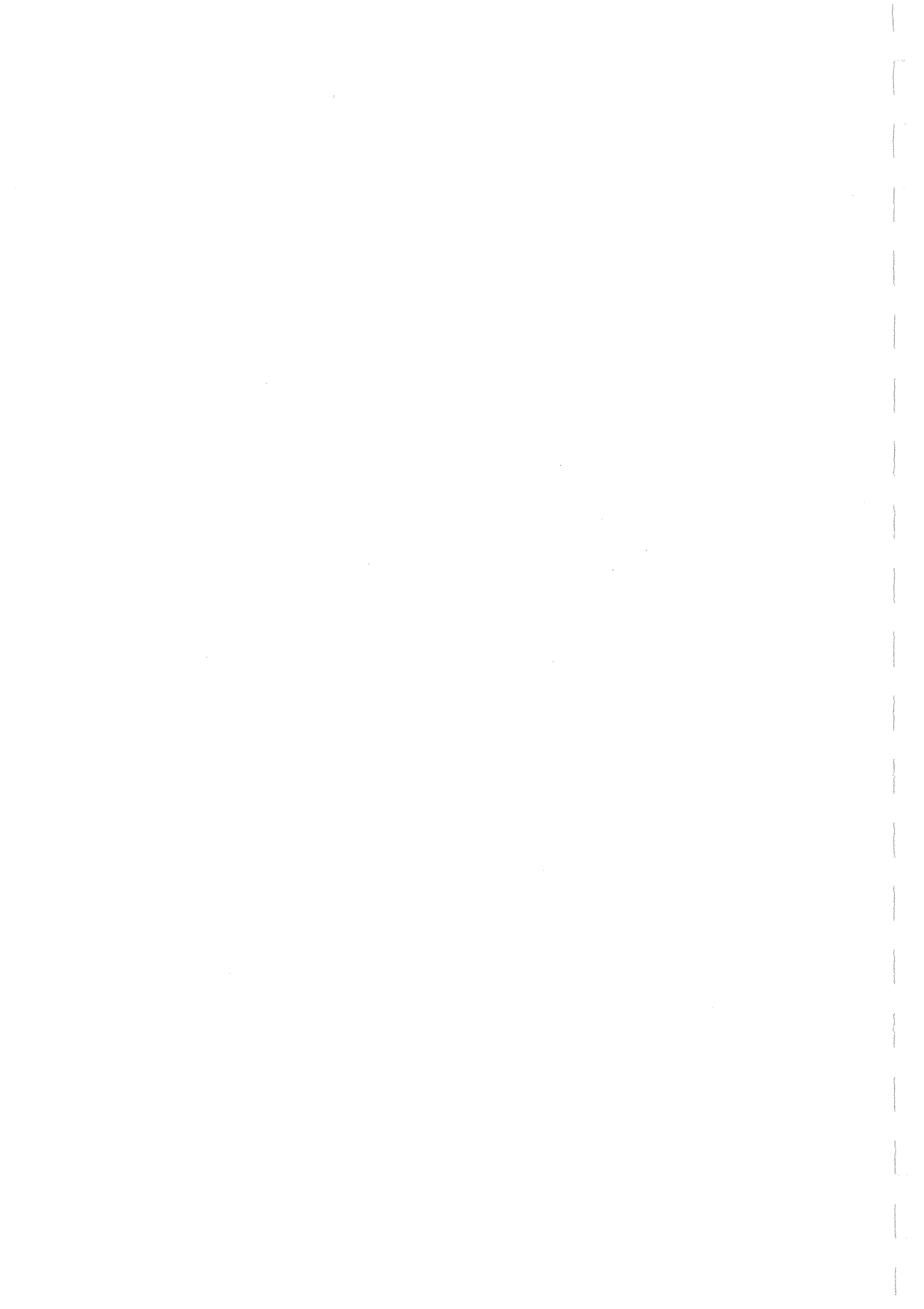
iv) Die volgende leengroeue kan nie benut word nie, nl. leengroef 01 - 'n behuisingprojek is tans besig om daar ontwikkel te word en leengroef 03 - die leengroef is vir die laad se uitaleitlike gebruik - in "stock pile" is alreeds opgebou vir ons eie gebruik.





**PART C2**

**BORROW PIT 2 (N1 12/2.0/1.0L)**



## C2 BORROW PIT 2 (N1\_12/2.0/1.0L)

### C2.1 PART 1: BRIEF PROJECT DESCRIPTION

#### C2.1.1 MINE OWNER AND MINE MANAGER/RESPONSIBLE PERSON

A contractor is still to be appointed by SANRAL to undertake the excavation of the proposed borrow pit. This is a preferred borrow pit for the supply of material for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg.

#### C2.1.2 NAME AND ADDRESS OF THE APPLICANT FOR PROSPECTING PERMIT OR MINING AUTHORISATION

*Applicant:* South African National Roads Agency Limited

*Contact person:* Mr Nelis Brink

*Address:* Private Bag X19, Bellville, 7530

*Tel:* (021) 957 4600

#### C2.1.3 NAME AND ADDRESS OF THE OWNER OF THE LAND AND THE TITLE DEED DESCRIPTION

*Farm name:* Remainder of Erf 675, Colesberg

*Owner:* Umsobomvu Municipality (Contact person: Mr Ben Malherbe)

*Address:* Private Bag X6, Colesberg, 9795

*Tel:* (051) 753 0777

*Title deed information:* T1414/1963

*Size of the property:* 2295.6566 ha

No mineral rights are indicated on the Deed of Transfer.

#### C2.1.4 REGIONAL SETTING

Borrow Pit 2 is an extension of an existing quarry located to the west of Colesberg, the Lowryville residential area and the town cemetery. Co-ordinates of the proposed borrow pit extension are presented in Table C2.1 below.

**Table C2.1 Co-ordinates of proposed Borrow Pit 2 (N1\_12/2.0/1.0L)**

Borrow pit co-ordinates (WGS84)		
	Y	X
M	-8438.6222	3398763.2727
N	-8444.0258	3398671.6238
O	-8555.0068	3398675.6127
P	-8580.3568	3398671.4044
Q	-8588.8707	3398680.0607
R	-8602.6147	3398672.0623
S	-8616.7294	3398657.1948
T	-8625.9365	3398639.3673
U	-8657.6925	3398545.8170
V	-8727.0909	3398565.9858
W	-8692.2134	3398668.2177

	X	Y
X	-8674.6173	3398701.8670
Y	-8606.5048	3398765.8010
Z	-8590.9248	3398769.3366
AA	-8581.9832	3398765.3193
BB	-8562.9299	3398767.7857

## C2.2 PART 2: DESCRIPTION OF THE PRE-MINING ENVIRONMENT SPECIFIC TO BORROW PIT 2 (N1\_12/2.0/1.0L)

### C2.2.1 CLIMATE

A general description of the climate is presented in Section B3.1.1.

### C2.2.2 GEOLOGY

A general description of the geology is presented in Section B3.1.3. Material to be mined at the borrow pit is decomposed dolerite.

### C2.2.3 TOPOGRAPHY

The contours of the area are presented in the borrow pit layout plan in Appendix C2.1. The proposed borrow pit site is situated on the slopes of a fairly prominent hill between an outcrop of dolerite koppies to the west of Colesberg.

### C2.2.4 SOIL

Based on the trial pit profiles there is a thin layer of topsoil up to a depth of 200 mm. The rest of the soil profile consists of decomposed dolerite.

### C2.2.5 PRE-MINING LAND CAPABILITY AND LAND USE

The proposed site is an existing quarry (see Plates C2.1-2.4) and is located to the west of the N1 on municipal land (Remainder of Erf 675) alongside the town cemetery. The surrounding environment is severely degraded and the existing borrow pit shows signs of recent mining activities.

### C2.2.6 VEGETATION

The vegetation type at the site is classified as Besemkaree Koppies Shrubland and is in very good condition on the undisturbed slopes of the existing quarry. The dominant species include *Lightfootia nodosa* (muistepel), *Felicia muricata* (bloublommetjie), *Aristida diffusa* (iron grass) and *Eragrostis lehmanniana* (Lehmann's love grass). No rare or endangered plant species were found. There are more than 20 mountain aloe (*Aloe broomii*) on the upper slopes of the proposed mining area. Even though it is not an endangered species, the vegetation specialist recommended that if these plants were to be disturbed, at least 50% should be removed and transplanted (refer to Appendix 3)..

### C2.2.7 FAUNA

The area is fenced and there are still some relatively undisturbed habitat patches remaining on the surrounding koppies. A few Karoo Girdled Lizards (*Cordylus polyzonus*) and Bibron's Thick-toed Geckos (*Pachydactylus bibroni*) were recorded in rock crevices on the small koppie of which a section

is proposed to be removed during mining activities. These species are not endangered and both have a wide distribution throughout South Africa.

#### **C2.2.8 HYDROLOGY**

There are no rivers or farm dams in close proximity to the borrow pit site.

#### **C2.2.9 GEOHYDROLOGY**

No ground water was found in the trial pit holes up to a depth of 2.3 m.

#### **C2.2.10 AIR QUALITY**

The air quality in the study area is fairly good. The borrow pit is fairly sheltered between koppies to the west of Colesberg and dust from borrow pit operations should not affect the nearest residential areas, approximately 400 m to the east. Dust generated on access roads during haulage of material could affect residents on the western edge of Lowryville where the gravel access road passes within 60 m from residential dwellings.

#### **C2.2.11 NOISE**

The site is not currently exposed to direct noise from traffic on any major roads. It is not expected that borrow activities would affect the nearest residential dwellings, approximately 400 m southeast of the borrow pit.

#### **C2.2.12 ARCHAEOLOGY AND PALAEOLOGY**

Three large, very weathered partially retouched dolerite MSA flakes and one broken, weathered flake were found on the proposed site. No rock engravings were found among any of the boulders and the small koppie. The archaeological remains have been rated as having low local significance.

No palaeontological material would occur as intrusive dolerite dykes do not host such material.

#### **C2.2.13 SENSITIVE LANDSCAPE**

No sensitive landscapes were identified.

#### **C2.2.14 VISUAL ASPECTS**

As the site is located on the outskirts of the town of Colesberg and lies within a rocky outcrop, much of the borrow area is not currently visible from Colesberg or the residential area of Lowryville to the east. The site shows signs of recent excavation and no rehabilitation has been undertaken in the past. The proposed extension of the borrow pit would not be visible from Colesberg or the Lowryville residential area.

#### **C2.2.15 REGIONAL SOCIO-ECONOMIC STRUCTURE**

See information provided in Section B3.3.

## C2.2.16 INTERESTED AND AFFECTED PARTIES

The public participation process undertaken is presented in detail in Section A3.2.2. It should be noted that a notification letter was sent to Mr Ben Malherbe, representative for the Umsobomvu Municipality (the owner), informing him of the proposed project and that a borrow pit had been identified on the municipality's property. Mr Malherbe was asked to complete an acknowledgement form (which is included in Appendix C2.2) to indicate that the municipality was made aware of the location and extent of the area and that access to the area may be required across municipal property, as well as to raise any issues of concern. Mr Malherbe had the following comments.

I&AP	Comment	Response
Mr Ben Malherbe – Umsobomvu Municipality	<p>The Umsobomvu Municipality made the following recommendations:</p> <ul style="list-style-type: none"> <li>The proposed borrow area must be rehabilitated as prescribed by law.</li> <li>The proposed borrow area must be fenced off completely and access must be controlled.</li> <li>Rights for use of material from existing municipal borrow pits must not be exclusively given to SANRAL as the municipality may from time to time want to use material at these borrow pits for maintenance of local municipal roads.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation of the borrow areas would be undertaken as specified in this EMP.</li> <li>The proposed borrow areas will be fenced off with new temporary fencing and access would be controlled through one access gate.</li> <li>The project team would liaise with the municipality regarding the use of material at the borrow pits and would only extract material from the areas applied for and not from areas currently being mined by the municipality.</li> </ul>

## C2.3 PART 3: BRIEF PROJECT DESCRIPTION

### C2.3.1 BENEFITS OF THE PROJECT

The motivation for and potential benefits arising as a result of the project are presented in Section B1.

### C2.3.2 CONSIDERATION OF ALTERNATIVES

The assessment of alternatives is presented in detail in Section B2. Borrow Pit 2 (N1\_12/2.0/1.0L) has been identified as a preferred borrow pit.

## C2.4 PART 4: DETAILED DESCRIPTION OF THE PROPOSED PROJECT

### C2.4.1 SURFACE INFRASTRUCTURE

There would be no permanent surface infrastructure associated with the proposed borrow pit. Access would be from the east along existing access roads that join the N1. New temporary fencing would be installed with a single gate to control access.

#### **C2.4.2 WASTE MANAGEMENT**

Material that is not suitable as material for the road rehabilitation project would be stockpiled and used to reshape the area. Any domestic waste would be collected in a waste bin and disposed of at a municipal waste site.

#### **C2.4.3 WATER MANAGEMENT**

The water requirements for the proposed borrow pit operations are expected to be minimal (e.g. dust suppression on access roads and borrow pit area). The water sources would be identified by the contractor.

The borrow pit would be free draining to the north as it is located along the slope of a koppie and no large excavated area would be created.

#### **C2.4.4 TRANSPORT**

This would consist of trucks transporting material from the borrow pit to the area of the road under construction. The current access roads lead through a residential area. Haul vehicles would need to make use of secondary roads around the residential area of Lowryville and not use roads leading through the community.

#### **C2.4.5 BORROW PIT LAYOUT AND DEVELOPMENT**

Google Earth images of the proposed borrow pit site are included in Figure C2.1 and C2.2 and the proposed site layout plan is included in Appendix C2.1. Access to the site would be via existing secondary access roads along the western edge of Lowryville which links into the N1 to the east. The Contractor shall avoid using access roads through the Lowryville residential area.

The total proposed borrow area would be approximately 2.8 ha in extent. Vegetation would be cleared from the site. Any seed-bearing material would be kept separate for use during rehabilitation or preferably mulched into the topsoil. Topsoil would, where possible, be stripped to a depth of 200 mm and stockpiled separately from other soil layers in piles not exceeding 2 m in height (as indicated in the borrow pit layout plan in Appendix C2.1). Material that cannot be used for the road rehabilitation project would be used in the reshaping of the site during rehabilitation and would be stockpiled separately.

To minimise any impacts on the value of the surrounding land, care shall be taken to limit the extent of the area disturbed during construction activities. In this regard, the borrow pit site and associated activities and infrastructure shall be carefully planned, to ensure that the footprint is kept to a minimum. The proposed borrow pit would consist of one compartment (see layout plan).

The borrow pit would be excavated by means of ripping and loading with an excavator directly onto haul vehicles. Material would then be transported to the area of the road under construction.

The borrow pit would be mined to a maximum depth of 9 m (measured from natural ground level to terrace level). Benching would be required at this site. The batter beneath the slope would be at 1:1.5 and the bench sloped at 1:5 with a maximum height and width of 5 m.

The borrow pit details are summarised in Table C2.2.

**Table C2.2 Summary of Borrow Pit 6 (N1\_12/2.0/1.0L)**

Borrow pit area	2.8 ha
Maximum depth	9 m
Material quality	Selected Subgrade
Volume of material	184 000 m <sup>3</sup>

## **C2.5 PART 5: ENVIRONMENTAL IMPACT ASSESSMENT**

This section describes the impact that would result from the proposed borrow pit. Mitigation measures are proposed that would mitigate negative impacts or enhance potential benefits. Impacts were assessed according to pre-defined rating scales (see Appendix 2), which are based on criteria set out in the EIA Regulations Guideline Document (Department of Environmental Affairs and Tourism, 1998).

The impacts arising from the borrow pit development are presented in Table C2.3.

## **C2.6 PART 6: SITE REHABILITATION**

The topsoil at Borrow Pit 2 might carry a lot of seed due to high seed production of the existing vegetation cover. If the mountain aloes present at the site are to be disturbed, it is recommended that at least 50% of the smaller aloes be transplanted outside of the borrow pit footprint on the eastern to southern side of bigger shrubs or trees where they would be protected from direct sunlight until their roots settle. If transplanting is undertaken during the cooler autumn or spring months shade would not be essential.

Due to the steep slope of the existing borrow pit area, the slopes of the borrow area would be benched to stabilise the area and to allow for free drainage. Unused material would be placed back in the deepest areas of the excavated area and the topsoil and vegetation stripped during site clearance would be spread evenly across the borrow pit area. The possibility of erosion should be taken into consideration during rehabilitation of the site.

Introduction of seed of species such as *Sporobolus fimbriatus* (dropseed grass), *Digitaria eriantha* (finger grass) and *Eriocephalus ericoides* (kapokbos) should also be considered. *Digitaria eriantha* should be sown in the lower lying areas of the reshaped borrow pit where water could accumulate and provide for the water requirements of this species.

## **C2.7 PART 7: ENVIRONMENTAL MANAGEMENT PROGRAMME**

A generic EMP is presented in Section D, as it is the same for all eight borrow pits.





Figure C2.1 Google Earth Image showing the location of BP 2 northeast of Colesberg.

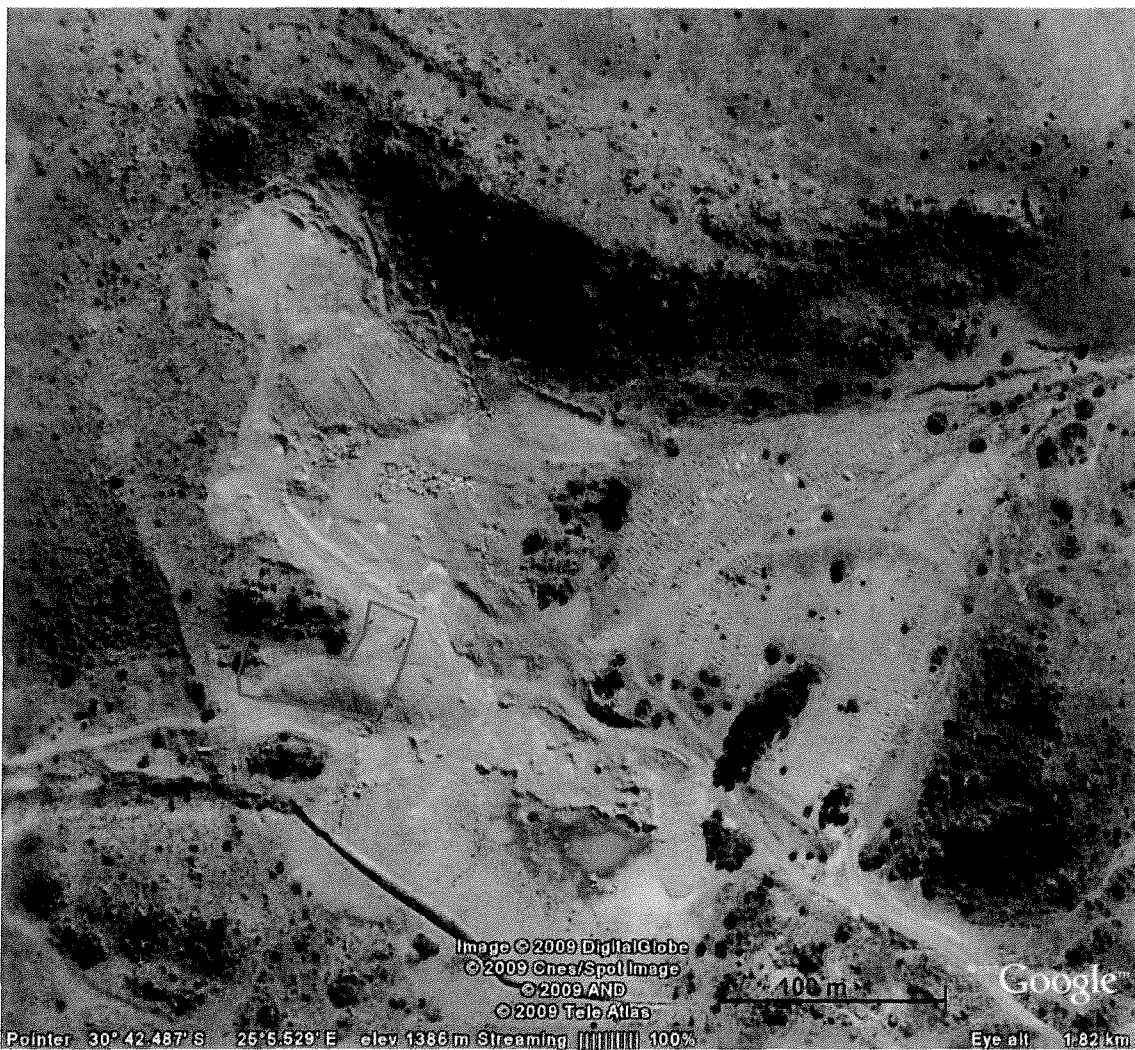


Figure C2.2 Google Earth Image showing the proposed extended mining area at BP 2.



Plate C2.1 The existing mining area at Borrow Pit 2. Photograph taken looking west.



Plate C2.2 The southern slope of this koppie is proposed to be removed. Photograph taken looking south.



Plate C2.3 Photograph taken from the existing borrow pit towards the cemetery, looking east.



Plate C2.4 Photograph taken from the access road towards the northwestern corner of the existing borrow pit.

**Table C2.3: Impacts arising from the proposed development of Borrow Pit 2 (N1\_12/2/1.0L)**

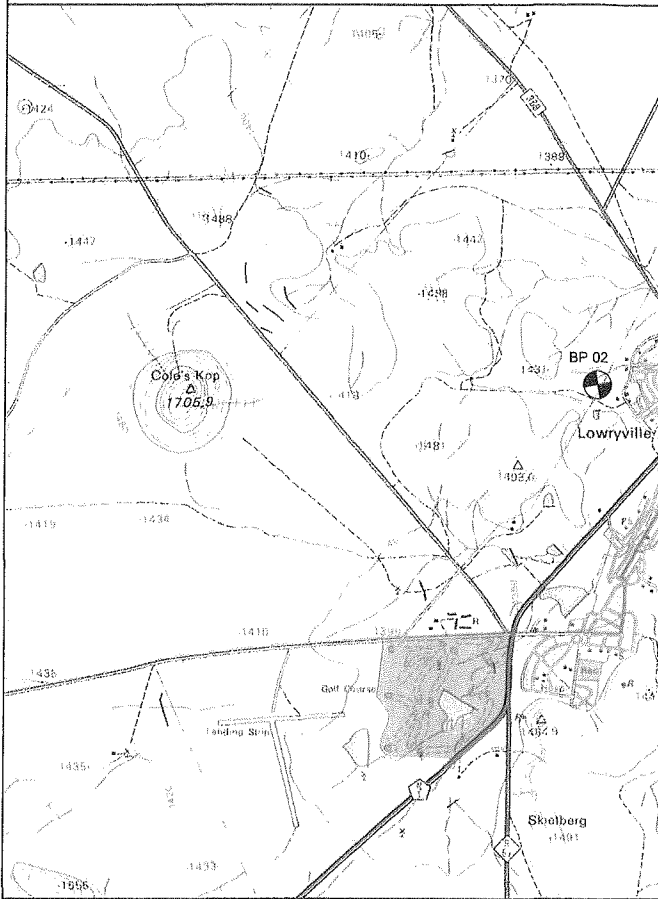
Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Geology	Local	Permanent	Low	Definite	Medium	Low	-	Low
Topography	Local	Permanent	Low	Definite	Medium	Low	The final slopes of the borrow area would be benched to stabilise the area and to allow for free drainage. The batter beneath the slope would be at 1:1.5 and the bench sloped at 1:5 with a maximum height and width of 5 m.	Very Low
Soil	Local	Short-term	Medium	Highly probable	High	Very Low	Stockpile topsoil and utilise during rehabilitation.	Very Low
Land use	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Land capability	Local	Short-term	Low	Probable	High	Very Low	<ul style="list-style-type: none"> <li>• Demarcation and fencing of borrow pit site;</li> <li>• Identification of no-go areas; and</li> <li>• Land disturbed shall be rehabilitated.</li> </ul>	Very Low
Vegetation	Local	Short-term	Low	Highly probable	Medium	Low	If mountain aloes are to be disturbed during borrow activities, it is recommended that at least 50% of smaller aloes be transplanted outside of the borrow pit footprint. Topsoil together with existing plant material should be removed and stored in wind rows, no higher than two meters. During rehabilitation topsoil should be spread evenly across the cleared borrow pit area. Consider introduction of seed of species such as <i>Sporobolus fimbriatus</i> (dropseed grass), <i>Digitaria eriantha</i> (finger grass) and <i>Eriocephalus ericoides</i> (kapokbos).	Very Low
Fauna	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Surface water	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Groundwater	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Air quality	Local	Short-term	Low	Highly probable	High	Very Low	Retain vegetation cover as long as possible to reduce the size of areas where wind could generate dust and spray water and/or other dust suppression agents to reduce dust.	Very Low
Noise	Local	Short-term	Low	Highly probable	High	Very Low	The contractor shall be required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and house of operation.	Very Low

Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Archaeology	Local	Short-term	Low	Probable	High	Very Low	-	Very Low
Palaeontology	No impact - Intrusive dolerite dykes do not host any palaeontological material.							
Sensitive landscapes	No impact.							
Visual aspects	Local	Long-term	Low	Probable	High	Low	Land disturbed shall be rehabilitated.	Very Low
Regional socio-economic: employment	Local	Short-term	Low	Highly probable	High	Very Low (Positive)	Local labour shall be sourced.	Very Low (Positive)
Regional socio-economic: safety	Local	Short-term	Low	Probable	High	Low	<ul style="list-style-type: none"> <li>The movement of construction vehicles shall be limited to daylight hours; and</li> <li>The dangers associated with the movement of large haulage vehicles shall be clearly sign-posted in both directions leading up to the proposed borrow pit.</li> </ul>	Very Low

**APPENDIX C2.1**

**PROPOSED BORROW PIT  
LAYOUT PLAN**





REMOVE EXISTING  
TOPSOIL AND  
STOCKPILE  
FENCE

REPLACE TOPSOIL  
IN EXCAVATED AREA  
200 mm THICK

**SECTION A - A**  
ESTIMATED CAPACITY = 184000 m<sup>3</sup>  
N.T.S

**LOCALITY PLAN**

**LEGEND**



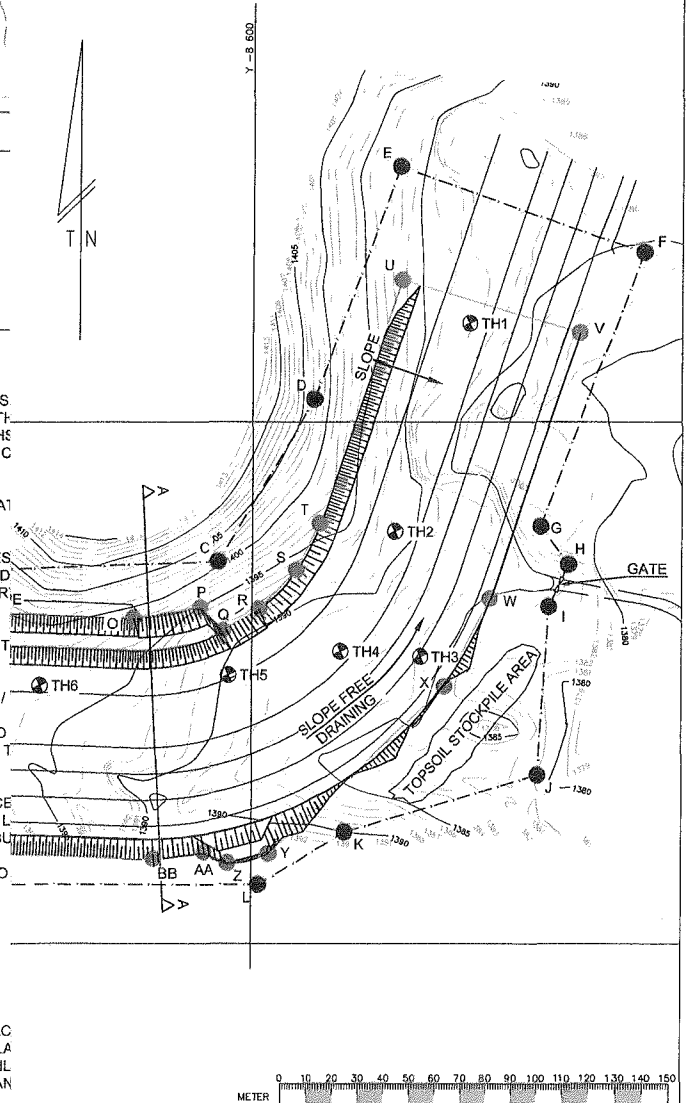
POSITION OF BORROWPIT



ERF BOUNDARY

**NOTES:**

- ANY INVADER SPECIES WILL BE REMOVED FROM THE SITE BEFORE ANY TOPSOIL IS DEPTH OF 20CM IF AVAILABLE AND STORED AWAY FROM DRAINAGE LINES ALONG THE EXCEED 1m IN HEIGHT AND WILL NOT BE COMPACTED FOR MORE THAN SIX MONTHS SPREAD ON THE SURFACE AS SOON AS THE BORROW PIT EXCAVATION HAS BEEN C REQUIRED.
- THE BORROW PIT SITE AND EXISTING ACCESS ROAD WILL BE PROPERLY DEMARCAI OPERATION.
- DUST EMISSIONS WILL BE EFFECTIVELY CONTROLLED BY APPROPRIATE MEASURES MEASURES. EXCAVATED MATERIAL STOCKPILES WILL BE ADEQUATELY PROTECTED MEASURES SUCH AS SHADECLOTH SCREENS OR HESSIAN COVERING. IN THE SHOR DUST GENERATION.
- VEHICLE SPEEDS WILL BE RESTRICTED TO PREVENT ACCIDENTS, TO REDUCE DUST INJURY TO LIVESTOCK.
- ACCESS TO ALL GATES WILL BE CONTROLLED AS AGREED WITH THE LANDOWNER /
- A TEMPORARY EATING AREA WILL BE PROVIDED WITHIN THE BORROW PIT AREA TO EAT. ABLUTION FACILITIES WILL BE PROVIDED AND WILL BE LOCATED TO PREVENT T PROVIDED.
- TEMPORARY WASTE DISPOSAL AREAS WILL BE DEMARCATED AND FENCED (IF NEEC WEATHERPROOF CONTAINERS (WITH LIDS) WITHIN THIS AREA FOR DISPOSAL AT A L REMOVED FROM SITE BY THE CONTRACTOR. NO BURNING, ON-SITE DUMPING OR BU
- MAXIMUM DEPTH OF MINING : 9m. ( MEASURED FROM NATURAL GROUND LEVELS TO
- MINING OF BORROW PIT WILL REQUIRE HEAVY RIPPING.
- BENCHING DETAIL :
  - BATTER BENEATH SLOPE AT 1 : 1.5 ( VERT / HOR ) .
  - MAXIMUM BENCH HEIGHT 5,0 m.
  - BENCH WIDTH 5,0 m SLOPED AT 1 : 50 ( VERT / HOR ) TO ALLOW FREE DRAINAGE.
- ALL WORKED AREAS WILL BE RIPPED AND SCARIFIED AND TOPSOIL WILL BE REPLAC SCATTERED OVER THE SITE TO PROVIDE GOOD GERMINATION MICROSITES FOR PLA SIDES OF THE BORROW AREA ARE NO STEEPER THAN 1:5. THE SLOPE CHANGES WIL WITH THE SURROUNDING LANDSCAPES ARE FORMED IN PREFERENCE TO SHARP AN



		UWP CONSULTING	
		CONSULTING ENGINEERS	
		MYELASERVE HOUSE, GROUND FLOOR	
		REGENT SQUARE	
		DONCASTER RD	
		KENILWORTH	
		7745	
		P O BOX 46020	
		GLOSDERRY	
		7702 KENILWORTH	
		TEL. (021) 761 - 6999	
		FAX. (021) 761 - 6889	
		for NRA	
A	25/03/2010	ISSUED FOR COMMENTS	AS
No.	DATE	REVISION	CONSULT ENG.

N9	SECTION	7	SHEET 1 of 1
NRA N.009-070-2007 / IF			SCALE
REHABILITATION OF N9 SECTION 7			AS SHOWN (A0)
BORROW PIT DETAILS			DRAWING NUMBER:
<b>BORROW PIT 2 (N1_12/2.0/1.0L)</b>			<b>14784_302</b>
<b>AND REHABILITATION PLAN</b>			







**APPENDIX C2.2**

**LANDOWNER ACKNOWLEDGEMENT  
OF NOTIFICATION FORM**







<b>VOORGESTELDE LEENGROEWE VIR DIE REHABILITASIE VAN DIE N9/7 TUSSEN WOLWEFONTEIN EN COLESBERG BENUTTING VAN LEENGROEWE</b>	
<b>PROPOSED BORROW PITS FOR THE REHABILITATION OF THE N9/7 BETWEEN WOLWEFONTEIN AND COLESBERG UTILISATION OF BORROW PITS</b>	
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GEREGISTREERDE PLAAS NAAM/ REGISTERED FARM NAME	UMSOBOMVU MUNISIPALITEIT.
GEREGISTREERDE EIENAAR/ REGISTERED OWNER	UMSOBOMVU MUNISIPALITEIT.
<p>Ek erken dat ek verwittig is deur die Nasionale Padagentskap (SANRAL) van die voorneme om bestaande leengroewe op munisipale eiendom te benut, soos aangedui op die aangehegde plan, vir die rehabilitasie van Gedeelte 7 van die N9 tussen Wolwefontein en Colesberg; dat ek bewus is van die ligging en omvang van die gebied en dat toegang oor munisipale eiendom benodig mag word.</p> <p>I acknowledge that I have been informed of SANRAL's intention to utilise the existing borrow pits on municipal property indicated on the attached plan for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg; and that I am aware of the location and extent of the area and that access to the area may be required across municipal property.</p>	
<p><b>HANDTEKENING VAN EIENAAR OF GEDELIGEERDE</b></p> <p>VERTEENWOORDIGER/ SIGNATURE OF OWNER OR DELEGATED REPRESENTATIVE</p>	
<p>STATUS INDIEN NIE GEREGISTREERDE EIENAAR NIE/ STATUS IF NOT REGISTERED OWNER</p> <p>.....</p>	
<p>DATUM/ DATE. 17 SEPTEMBER 2010.</p>	



NAAM/ NAME Mnr. A. E. MPELA

POS ADRES/ POSTAL ADDRESS PRIVAATSAK X 6  
COLESBERG 9795

TELEFOON NOMMER/ TELEPHONE NUMBER 051-7530777

FAKS NOMMER/ FAX NUMBER 051-7530574

KOMMENTAAR/ COMMENT	NEE/ NO	JA/ YES
<p>Geliewe op die volgende te let, nl.</p> <p>i) Gebruikte leengroewe moet op u koste gerehabiliteer word soos deur die toepaslike wet vereis;</p> <p>ii) Sodanige leengroewe moet op u koste ten volle omhein word met 'n toegang tot sodanige leengroewe en</p> <p>iii) Gebruik van sodanige leengroewe vir die nithaal van materiaal word nie eksklusief aan die Nasionale Padagentskap (SARAH) toegeken nie, want die eienaar (Umsoborvu Municipality) mag van tyd tot tyd ook gebruik maak van die leengroewe vir die nithaal van materiaal vir die gebruik.</p>		<input checked="" type="checkbox"/>

Dus: leengroewe 02 en 04 is beskikbaar.

Please forward to/ Stuur asseblief aan  
**CCA ENVIRONMENTAL**  
 Unit 35, Roeland Square, Cape Town, 8001 T: (021) 461 1118 F: (021) 461 1120  
 eloise@ccaenvironmental.co.za

iv) Die volgende leengroewe kan nie benut word nie, nl. leengroef 01 - 'n behuisingprojek is tans besig om deur ontwikkel te word en leengroef 03 - die leengroef is vir die laad se uitlaatlake gebruik - in "stock pile" is alreeds opgebou vir ons eie gebruik.





**PART C3**

**BORROW PIT 3 (DR3058/1.9/0.05L)**



### **C3 BORROW PIT 3 DR3058/1.8/0.05L**

#### **C3.1 PART 1: BRIEF PROJECT DESCRIPTION**

##### **C3.1.1 MINE OWNER AND MINE MANAGER/RESPONSIBLE PERSON**

A contractor is still to be appointed by SANRAL to undertake the excavation of the proposed borrow pit. This is a preferred borrow pit for the supply of material for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg.

##### **C3.1.2 NAME AND ADDRESS OF THE APPLICANT FOR PROSPECTING PERMIT OR MINING AUTHORISATION**

*Applicant:* South African National Roads Agency Limited

*Contact person:* Mr Nelis Brink

*Address:* Private Bag X19, Bellville, 7530

*Tel:* (021) 957 4600

##### **C3.1.3 NAME AND ADDRESS OF THE OWNER OF THE LAND AND THE TITLE DEED DESCRIPTION**

*Farm name:* Remainder of Erf 675, Colesberg

*Owner:* Umsobomvu Municipality (Contact person: Mr Ben Malherbe)

*Address:* Private Bag X6, Colesberg, 9795

*Tel:* (051) 753 0777

*Title deed information:* T1414/1963

*Size of the property:* 2295.6566 ha

No mineral rights are indicated on the Deed of Transfer.

##### **C3.1.4 REGIONAL SETTING**

Borrow Pit 3 is an extension of an existing borrow pit that is located to the south of District Road 3058 (DR3058), approximately 2.5 km west of the Colesberg town centre. The area proposed for extension is located approximately 600 m west of the Colesberg Golf Course and 450 m north of the Colesberg air field. Co-ordinates of the proposed borrow pit extension are presented in Table C3.1 below (refer to Figures C3.1 and C3.2 and the proposed borrow pit layout plan in Appendix C3.1).

**Table C3.1 Co-ordinates of Proposed Borrow pit 3 (DR3058/1.8/0.05L).**

Borrow pit co-ordinates (WGS84)		
	Y	X
G	-6468.0147	3400882.0165
H	-6540.0887	3401073.9646
I	-6675.5647	3401023.0757
J	-6605.4951	3400833.9132

## **C3.2 PART 2: DESCRIPTION OF THE PRE-MINING ENVIRONMENT SPECIFIC TO BORROW PIT 3 DR3058/1.8/0.05L**

### **C3.2.1 CLIMATE**

A general description of the climate is presented in Section B3.1.1.

### **C3.2.2 GEOLOGY**

A general description of the geology is presented in Section B3.1.3. Material to be mined at the borrow pit is mudstone.

### **C3.2.3 TOPOGRAPHY**

The contours of the area are presented in the borrow pit layout plan in Appendix C3.1. The site is moderately flat, sloping gently from north to south.

### **C3.2.4 SOIL**

Based on the trial pit profiles there is a topsoil layer of up to 200 mm. The rest of the soil profile consists of mudstone.

### **C3.2.5 PRE-MINING LAND CAPABILITY AND LAND USE**

The proposed site is an extension of an existing borrow pit which was mined in the past and is currently being utilised by the Umsobomvu Municipality to source material (see Plates C3.1 – C3.4). The site is located within a fenced camp partially being used for grazing of livestock and is located approximately 450 m north of the Colesberg airfield.

### **C3.2.6 VEGETATION**

The vegetation type present at the site is classified as Eastern Upper Karoo. The southern portion of the proposed borrow pit has dense vegetation cover with *Sporobolus fimbriatus* (dropseed grass) and *Eriocephalus spinescens* (doringkapok) as the dominant species. The northern portion has sparse vegetation cover with *Aristida diffusa* (iron grass) and *Euryops spp.* (harpuis) as the dominant species. No rare or endangered plant species were found.

### **C3.2.7 FAUNA**

The site is currently fenced. There were signs that the site is partially being used for grazing of cattle and a cow carcass was found in the existing borrow pit area. No other signs of faunal activity was observed on the site.

### **C3.2.8 HYDROLOGY**

Water accumulates in the lower lying area of the borrow pit during the rainy season. No other farm dams or rivers are located in close proximity to the borrow pit site.

### **C3.2.9 GEOHYDROLOGY**

No ground water was found in the trial pit holes up to a depth of 1.5 m.

### **C3.2.10 AIR QUALITY**

The air quality in the study area is fairly good. The air quality is currently being affected by dust from the adjacent dirt road (DR3058). The Colesberg golf course is located approximately 600 m east of the site and it is not expected that dust from borrow operations would affect golfers. Due to the distance from the site, it is also not expected that dust from borrow operations would impact on light aircraft landing and taking off at the Colesberg airfield approximately 450 m south of the site.

### **C3.2.11 NOISE**

The site is exposed to minimal noise from low volumes of traffic on the adjacent dirt road. There are no residential dwellings in close proximity to the borrow pit site and it is thus not expected that noise from borrow activities would affect neighbouring residents. The closest hole on the Colesberg golf course is located approximately 600 m east of the site and it is not expected that noise from borrow operations would affect golfers.

### **C3.2.12 ARCHAEOLOGY AND PALAEOLOGY**

Three weathered MSA flakes, one weathered MSA chunk, one weathered MSA core and one flat LSA flake were found on the proposed site. All the tools were in dolerite and rated as having low heritage significance.

It is possible that palaeontologically significant specimens of fossil tetrapods, vascular plants and trace fossils may occur within the excavated mudstone at the borrow pit site. Where practicable, any finds should be accurately recorded and carefully removed together with the surrounding matrix, labeled and handed over to a professional palaeontologist for examination. In this regard the Colesberg Museum could be of assistance. Should substantial skeletal material be discovered (eg the articulated skeleton of a Karoo "reptile") SAHRA should be notified. Fossil specimens that are not of research interest could be usefully donated to the Colesberg Museum for educational purposes.

### **C3.2.13 SENSITIVE LANDSCAPE**

No sensitive landscapes were identified.

### **C3.2.14 VISUAL ASPECTS**

The site is currently visible from the adjacent dirt road to low volumes of traffic passing by. It is not visible from the N1 or the town of Colesberg or any residential dwellings. The proposed borrow pit extension would also not be visible from the lower lying golf course, approximately 600 m east of the site. Borrow activities would be visible from the airfield access road, but due to the distance from the airfield itself (approximately 450 m) it should not cause a significant visual intrusion for users of the airfield.

### **C3.2.15 REGIONAL SOCIO-ECONOMIC STRUCTURE**

See information provided in Section B3.3.

### **C3.2.16 INTERESTED AND AFFECTED PARTIES**

The public participation process undertaken is presented in detail in Section A3.2.2. It should be noted that a notification letter was sent to Mr Ben Malherbe, representative for the Umsobomvu Municipality (the owner), informing him of the proposed project and that a borrow pit had been identified on the

municipality's property. Mr Malherbe was asked to complete an acknowledgement form (which is included in Appendix C3.2) to indicate that the municipality was made aware of the location and extent of the area and that access to the area may be required across municipal property, as well as to raise any issues of concern. Mr Malherbe had the following comments.

I&AP	Comment	Response
<p>Mr Ben Malherbe – Umsobomvu Municipality</p>	<p>The Umsobomvu Municipality made the following recommendations:</p> <p><u>General comments</u></p> <ul style="list-style-type: none"> <li>• The proposed borrow area must be rehabilitated as prescribed by law.</li> <li>• The proposed borrow area must be fenced off completely and access must be controlled.</li> <li>• Rights for use of material from existing municipal borrow pits must not be exclusively given to SANRAL as the municipality may from time to time want to use material at these borrow pits for maintenance of local municipal roads.</li> </ul> <p><u>Comment specific to Borrow Pit 3</u></p> <ul style="list-style-type: none"> <li>• Borrow Pit 3 may not be utilised as it is for the exclusive use of the Umsobomvu Municipal Council and a stockpile has already been accumulated for Council's own use.</li> </ul>	<ul style="list-style-type: none"> <li>• Rehabilitation of the borrow areas would be undertaken as specified in this EMP.</li> <li>• The proposed borrow areas will be fenced off with new temporary fencing and access would be controlled through one access gate.</li> <li>• The project team would liaise with the municipality regarding the use of material at the borrow pits and would only extract material from the areas applied for and not from areas currently being mined by the municipality.</li> <li>• Only 2.9ha of Borrow Pit 3 is required for the road rehabilitation project. The remaining 3ha up to the current boundary fence to the north of the borrow pit can provide an additional 100 000 m<sup>3</sup> of material for future use by Council. Should any existing stockpiles of material in Borrow Pit 3 be disturbed or contaminated during construction, the contractor would stockpile at least the same volume of new borrow material for Umsobomvu Municipality's use before the project is completed.</li> </ul>

### C3.3 PART 3: BRIEF PROJECT DESCRIPTION

#### C3.3.1 BENEFITS OF THE PROJECT

The motivation for and potential benefits arising as a result of the project are presented in Section B1.

#### C3.3.2 CONSIDERATION OF ALTERNATIVES

The assessment of alternatives is presented in detail in Section B2.

## **C3.4 PART 4: DETAILED DESCRIPTION OF THE PROPOSED PROJECT**

### **C3.4.1 SURFACE INFRASTRUCTURE**

There would be no permanent surface infrastructure associated with the proposed borrow pit. Access would be from the northwest along the existing gravel access road that joins DR3058. New temporary fencing would be installed with a single gate to control access.

### **C3.4.2 WASTE MANAGEMENT**

Material that is not suitable as material for the road rehabilitation project would be stockpiled and used as backfill. Any domestic waste would be collected in a waste bin and disposed of at a municipal waste site.

### **C3.4.3 WATER MANAGEMENT**

The water requirements for the proposed borrow pit operations are expected to be minimal (e.g. dust suppression on access roads and borrow pit area). The water sources would be identified by the contractor.

The site would be free draining towards the lower lying eastern area of the existing borrow pit.

### **C3.4.4 TRANSPORT**

This would consist of trucks transporting the fill material from the borrow pit to the area of the road under construction. Trucks would use existing access roads.

### **C3.4.5 BORROW PIT LAYOUT AND DEVELOPMENT**

Google Earth images of the proposed borrow pit site are included in Figures C3.1 and C3.2 and the proposed site layout plan is included in Appendix C3.1.

The total proposed borrow area would be approximately 2.9 ha in extent. Vegetation would be cleared from the site. Any seed-bearing material would be kept separate for use during rehabilitation or preferably mulched into the topsoil. Topsoil would, where possible, be stripped to a depth of 200 mm and stockpiled separately from other soil layers in piles not exceeding 2 m in height (as indicated in the borrow pit layout plan in Appendix C3.1). Material that cannot be used for the road rehabilitation project would be used in the reshaping of the site during rehabilitation and would be stockpiled separately.

To minimise any impacts on the value of the surrounding land, care shall be taken to limit the extent of the area disturbed during construction activities. In this regard, the borrow pit site and associated activities and infrastructure shall be carefully planned, to ensure that the footprint is kept to a minimum. The proposed borrow pit would consist of one compartment (see borrow pit layout plan).

The borrow pit would be expanded to the west of the existing mined area. The borrow pit would be excavated by means of ripping and loading with an excavator directly onto haul vehicles. Material would then be transported to the area of the road under construction.

The borrow pit would be mined to a maximum depth of 5 m. The end slopes would have slopes of approximately 1:5.

The borrow pit details are summarised in Table C3.2 below.

**Table C3.2 Summary of Borrow Pit 3 DR3058/1.8/0.05L**

Borrow pit area	2.9 ha
Maximum depth	5 m
Material quality	Fill
Volume of material	117 000 m <sup>3</sup>

### **C3.5 PART 5: ENVIRONMENTAL IMPACT ASSESSMENT**

This section describes the impact that would result from the proposed borrow pit. Mitigation measures are proposed that would ameliorate negative impacts or enhance potential benefits. Impacts were assessed according to pre-defined rating scales (see Appendix 2), which are based on criteria set out in the EIA Regulations Guideline Document (Department of Environmental Affairs and Tourism, 1998).

The impacts arising from the borrow pit development are presented in Table C3.3.

### **C3.6 PART 6: SITE REHABILITATION**

It is expected that there should be an acceptable seed bank in the topsoil at Borrow Pit 3 and this would be kept aside for rehabilitation.

During rehabilitation, the topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes should be finished off so that flowing curves that blend with the surrounding landscape are formed in preference to sharp angles. Topsoil and vegetation stripped during site clearance would be spread evenly across the borrow pit area. The area excavated as part of previous borrow activities should be ripped and also covered with a layer of topsoil.

Introduction of seed of species such as *Sporobolus fimbriatus* (dropseed grass) and *Pentzia incana* (ankerkaroo) should also be considered. *Sporobolus fimbriatus* should be sown in the lower lying areas of the reshaped borrow pit where water could accumulate and provide for the water requirements of this species.

### **C3.7 PART 7: ENVIRONMENTAL MANAGEMENT PROGRAMME**

A generic EMP is presented in Section D, as it is the same for all eight borrow pits.





Figure C3.1 Google Earth image showing the location of Borrow Pit 3 DR3058/1.8/0.05L to the west of Colesberg along DR3058.



Figure C3.2 Google Earth image showing the proposed mining area at Borrow Pit 3 DR3058/1.8/0.05L.



Plate C3.1 The existing borrow pit area covered in a layer of mudstone. Photograph taken looking southeast towards the N1.



Plate C3.2 Photograph taken from the existing borrow area towards the area proposed for extension looking southwest.

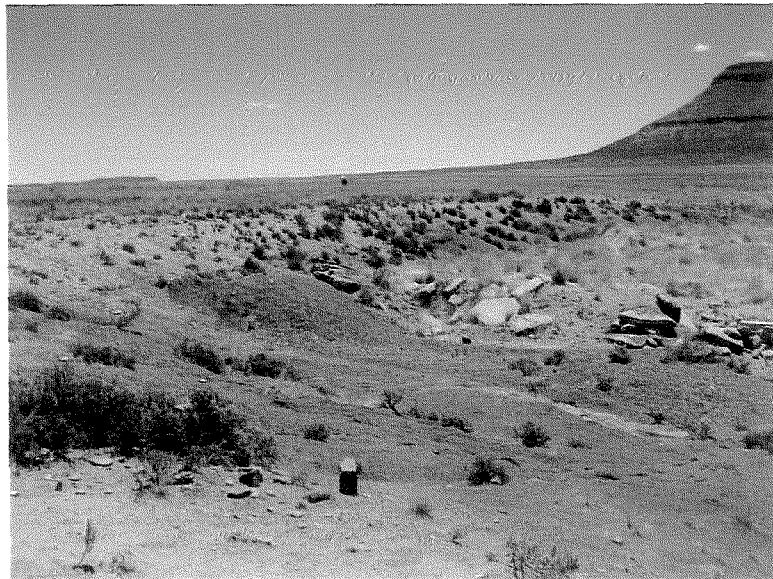


Plate C3.3 The western edge of the existing borrow pit area. Photograph taken looking northwest.



Plate C3.4 Photograph taken from the area proposed for extension looking northeast towards DR3058.

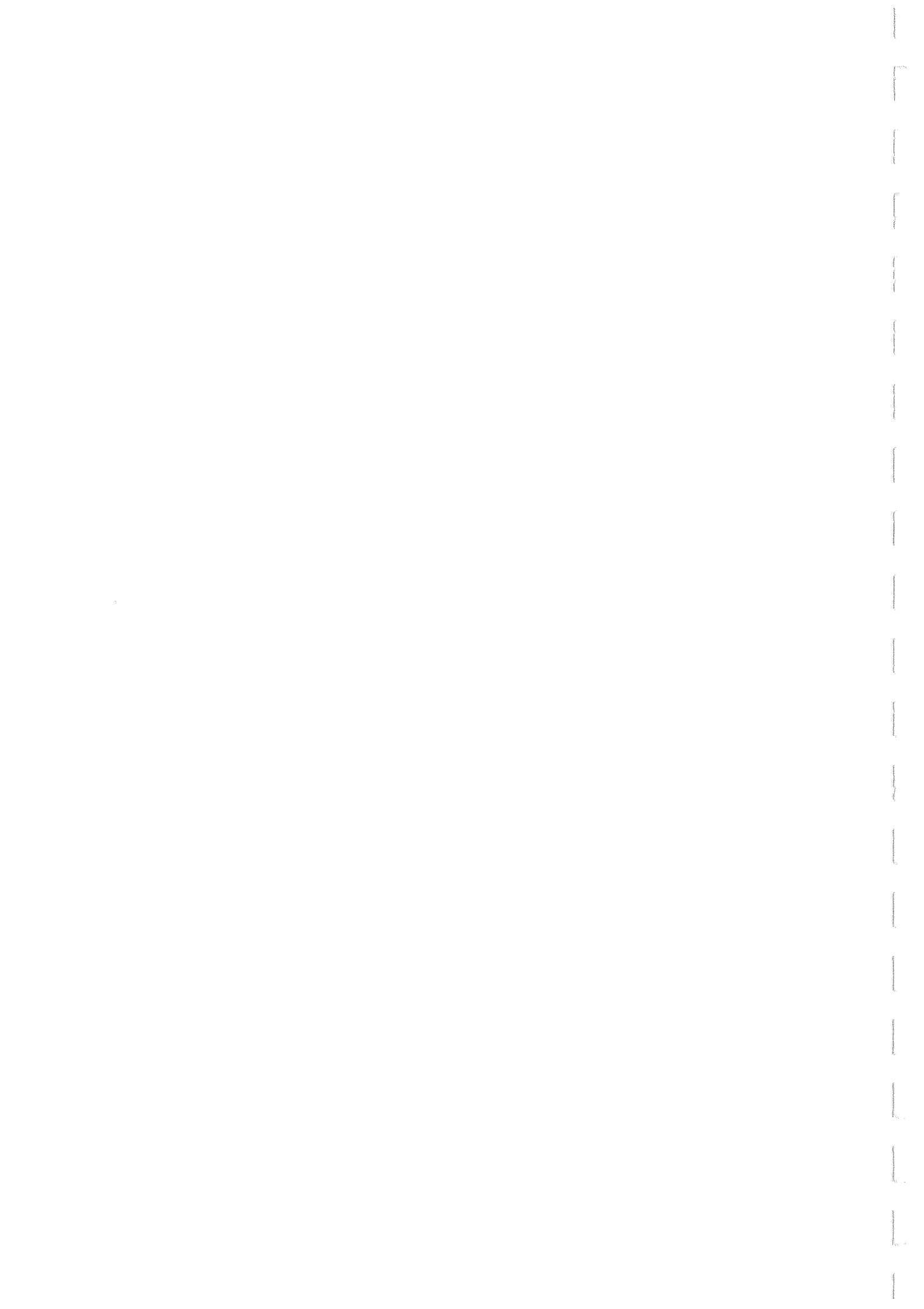
**Table C3.3: Impacts arising from the proposed development of Borrow Pit 3 DR3058/1.8/0.05L**

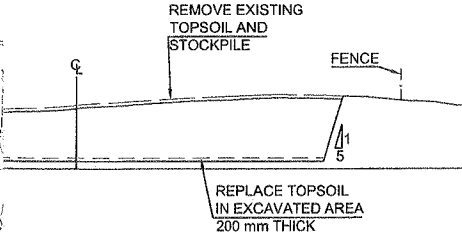
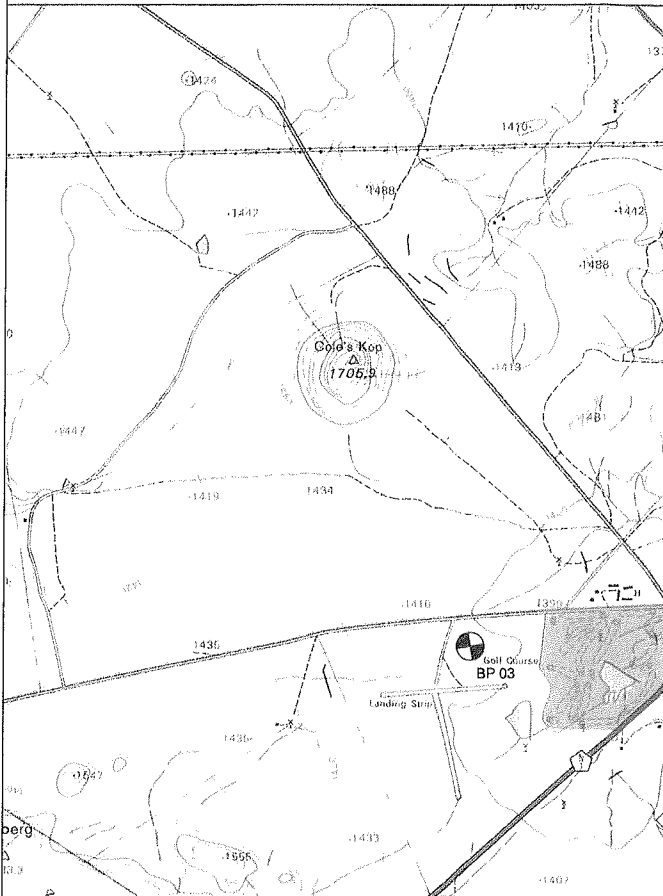
Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Geology	Local	Permanent	Low	Definite	Medium	Low	-	Low
Topography	Local	Permanent	Low	Definite	Medium	Low	The topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes must be finished off so that flowing curves that blend with the surrounding landscapes are formed in preference to sharp angles.	Very Low
Soil	Local	Short-term	Medium	Highly probable	High	Very Low	Stockpile topsoil and utilise during rehabilitation.	Very Low
Land use	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Land capability	Local	Short-term	Low	Probable	High	Very Low	<ul style="list-style-type: none"> <li>• Demarcation and fencing of borrow area site;</li> <li>• Identification of no-go areas; and</li> <li>• Land disturbed shall be rehabilitated.</li> </ul>	Very Low
Vegetation	Local	Short-term	Low	Highly probable	Medium	Low	This area should be rested (withdrawn from grazing by fencing it) for as long a period as possible before starting with mining activities to allow for seed production. Topsoil together with existing plant material should be removed and stored in wind rows, no higher than two meters. During rehabilitation topsoil should be spread evenly across the cleared borrow pit area. Consider introduction of seed of species such as <i>Sporobolus fimbriatus</i> (dropseed grass) and <i>Pentzia incana</i> (ankerkaroo).	Very Low
Fauna	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Surface water	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Groundwater	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Air quality	Local	Short-term	Low	Highly probable	High	Very Low	Retain vegetation cover as long as possible to reduce the size of areas where wind could generate dust and spray water and/or other dust suppression agents to reduce dust.	Very Low
Noise	Local	Short-term	Low	Highly probable	High	Very Low	The contractor shall be required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation.	Very Low
Archaeology	Local	Short-term	Low	Probable	High	Very Low	-	Very Low

Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Palaeontology	No impact – Where practicable, any finds of fossil tetrapods, vascular plants and trace fossils should be recorded and carefully removed. In the event that any palaeontological material is found, SAHRA should be notified (Mariagrazia Galimberti, 021 462 4502).							
Sensitive landscapes	No impact.							
Visual aspects	Local	Long-term	Low	Probable	High	Low	Land disturbed shall be rehabilitated.	Very Low
Regional socio-economic: employment	Local	Short-term	Low	Highly probable	High	Very Low (Positive)	Local labour shall be sourced.	Very Low (Positive)
Regional socio-economic: safety	Local	Short-term	Low	Probable	High	Low	<ul style="list-style-type: none"> <li>The movement of construction vehicles shall be limited to daylight hours; and</li> <li>The dangers associated with the movement of large haulage vehicles shall be clearly sign-posted in both directions leading up to the proposed borrow pit.</li> </ul>	Very Low

**APPENDIX C3.1**

**PROPOSED BORROW PIT  
LAYOUT PLAN**





**SECTION A - A**  
ESTIMATED CAPACITY = 117000 m<sup>3</sup>  
N.T.S.



**LOCALITY PLAN**

**LEGEND**



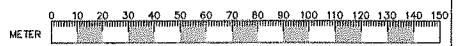
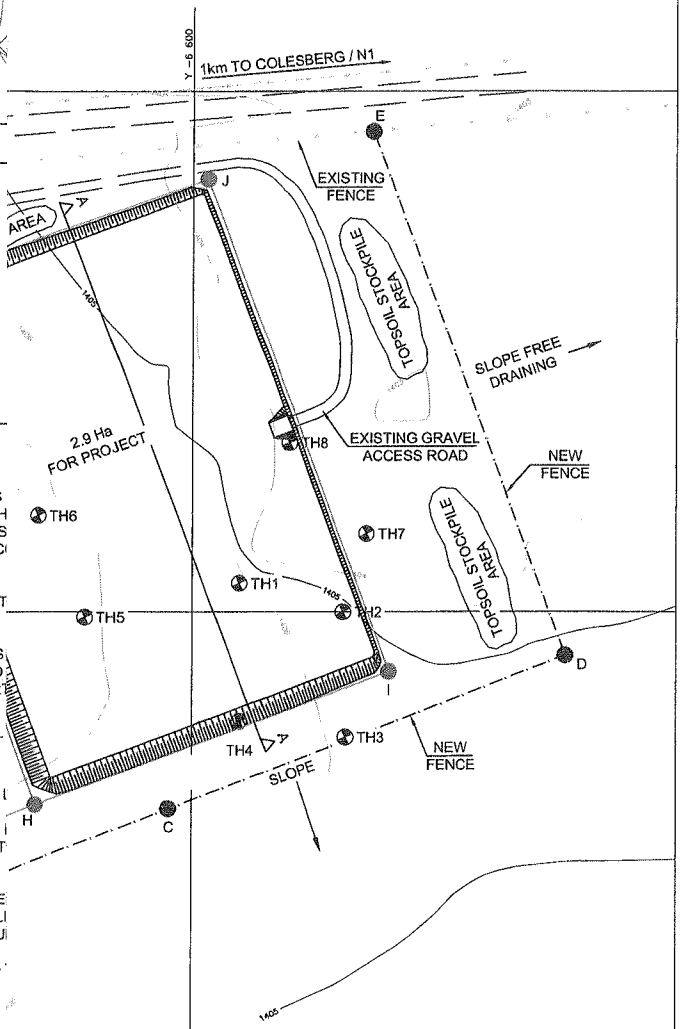
POSITION OF BORROWPIT



ERF BOUNDARY

**NOTES:**

1. ANY INVADER SPECIES WILL BE REMOVED FROM THE SITE BEFORE ANY TOPSOIL IS DEPTH OF 20cm IF AVAILABLE AND STORED AWAY FROM DRAINAGE LINES ALONG TH EXCEED 1m IN HEIGHT AND WILL NOT BE COMPACTED FOR MORE THAN SIX MONTHS SPREAD ON THE SURFACE AS SOON AS THE BORROW PIT EXCAVATION HAS BEEN C REQUIRED.
2. THE BORROW PIT SITE AND EXISTING ACCESS ROAD WILL BE PROPERLY DEMARCAT OPERATION.
3. DUST EMISSIONS WILL BE EFFECTIVELY CONTROLLED BY APPROPRIATE MEASURES MEASURES. EXCAVATED MATERIAL STOCKPILES WILL BE ADEQUATELY PROTECTED MEASURES SUCH AS SHADECLOTH SCREENS OR HESSIAN COVERING. IN THE SHOR DUST GENERATION.
4. VEHICLE SPEEDS WILL BE RESTRICTED TO PREVENT ACCIDENTS, TO REDUCE DUST INJURY TO LIVESTOCK.
5. ACCESS TO ALL GATES WILL BE CONTROLLED AS AGREED WITH THE LANDOWNER / I
6. A TEMPORARY EATING AREA WILL BE PROVIDED WITHIN THE BORROW PIT AREA TO I EAT. ABLUTION FACILITIES WILL BE PROVIDED AND WILL BE LOCATED TO PREVENT T PROVIDED.
7. TEMPORARY WASTE DISPOSAL AREAS WILL BE DEMARCATED AND FENCED (IF NECE WEATHERPROOF CONTAINERS (WITH LIDS) WITHIN THIS AREA FOR DISPOSAL AT A LI REMOVED FROM SITE BY THE CONTRACTOR. NO BURNING, ON-SITE DUMPING OR BU
8. MAXIMUM DEPTH OF MINING : 5m. ( MEASURED FROM NATURAL GROUND LEVELS TO
9. MINING OF BORROW PIT WILL REQUIRE HEAVY RIPPING.
10. ALL WORKED AREAS WILL BE RIPPED AND SCARIFIED AND TOPSOIL WILL BE REPLACI SCATTERED OVER THE SITE TO PROVIDE GOOD GERMINATION MICROSITES FOR PLA SIDES OF THE BORROW AREA ARE NO STEEPER THAN 1:5. THE SLOPE CHANGES WILL WITH THE SURROUNDING LANDSCAPES ARE FORMED IN PREFERENCE TO SHARP AN



		UWP CONSULTING CONSULTING ENGINEERS MVELASERVE HOUSE, GROUND FLOOR REGENCY SQUARE DUNCASTER RD KENILWORTH 7745 P O BOX 40920 GLOSDERRY	
FA	23-09-2010	ISSUED FOR APPROVAL	AS CONSULTING ENG. for NRA
No.	DATE	REVISION	7702 KENILWORTH TEL. (021) 761 - 6996 FAX. (021) 761 - 6989

N9	SECTION	7	SHEET 1 OF 1
EHABILITATION OF N9 SECTION 7 BORROW PIT DETAILS			SCALE AS SHOWN (A0)
- MINING AND REHABILITATION PLAN			DRAWING NUMBER: 14784-303

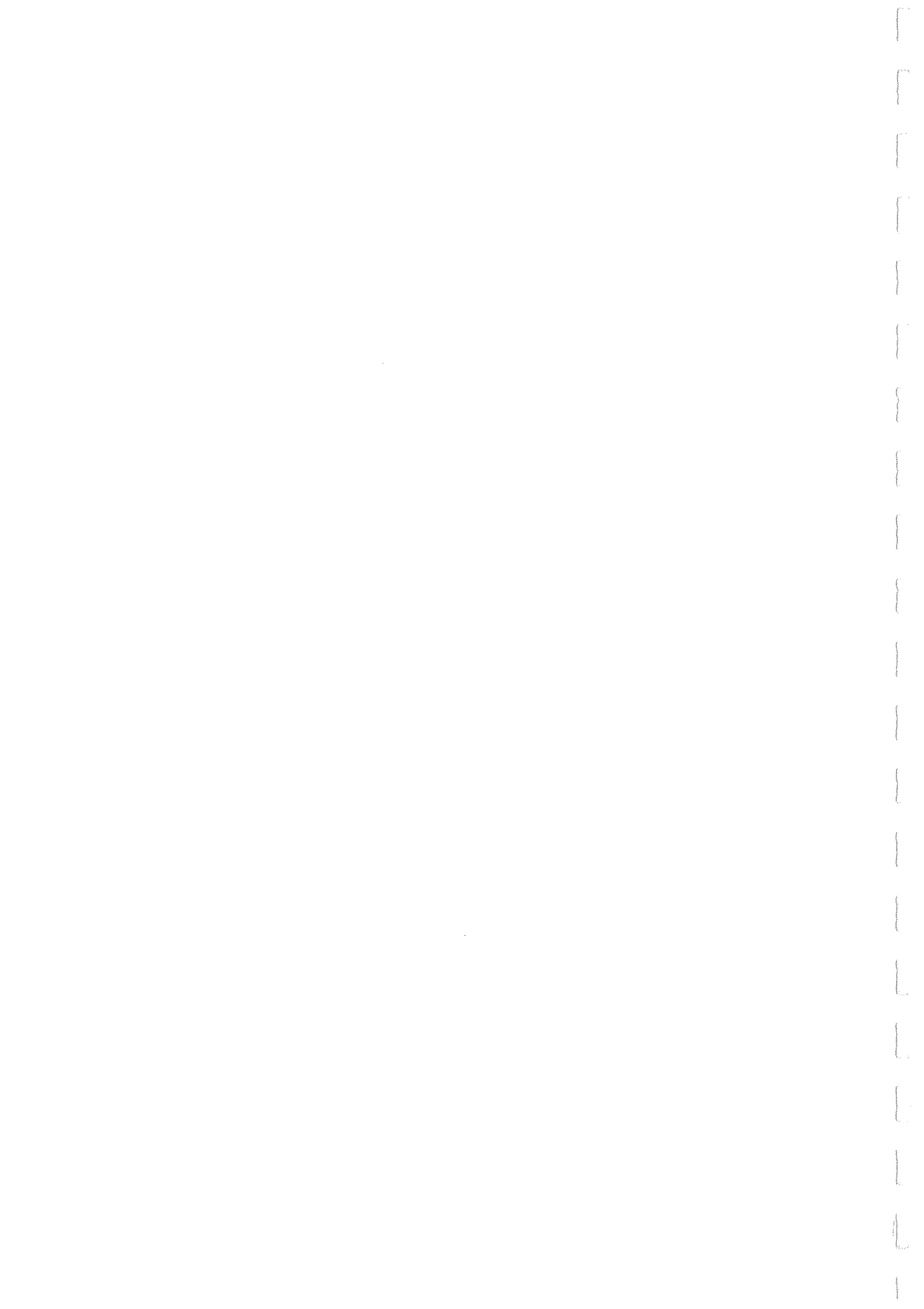






**APPENDIX C3.2**

**LANDOWNER ACKNOWLEDGEMENT  
OF NOTIFICATION FORM**







**VOORGESTELDE LEENGROEWE VIR DIE REHABILITASIE VAN DIE N9/7  
TUSSEN WOLWEFONTEIN EN COLESBERG  
BENUTTING VAN LEENGROEWE**

**PROPOSED BORROW PITS FOR THE REHABILITATION OF THE N9/7  
BETWEEN WOLWEFONTEIN AND COLESBERG  
UTILISATION OF BORROW PITS**

LEENGROEF NO./ BORROW PIT NO.	BORROW PITS 1) N1_12/4.7/0.7R; 2) N1_12/2/1.0L; 3) DR3058/1.8/0.05L AND 4) N9_7/92.8/0.4R
GEREGISTREERDE PLAAS NAAM/ REGISTERED FARM NAME	Umsobomvu MUNISIPALITEIT.
GEREGISTREERDE EIENAAR/ REGISTERED OWNER	Umsobomvu MUNISIPALITEIT.

Ek erken dat ek verwittig is deur die Nasionale Padagentskap (SANRAL) van die voorneme om bestaande leengroewe op munisipale eiendom te benut, soos aangedul op die aangehegde plan, vir die rehabilitasie van Gedeelte 7 van die N9 tussen Wolwefontein en Colesberg; dat ek bewus is van die ligging en omvang van die gebied en dat toegang oor munisipale eiendom benodig mag word.

I acknowledge that I have been informed of SANRAL's intention to utilise the existing borrow pits on municipal property indicated on the attached plan for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg; and that I am aware of the location and extent of the area and that access to the area may be required across municipal property.

**HANDTEKENING VAN EIENAAR OF GEDELIGEERDE**

**VERTEENWOORDIGER/ SIGNATURE OF OWNER OR DELEGATED  
REPRESENTATIVE**

STATUS INDIEN NIE GEREGISTREERDE EIENAAR NIE/ STATUS IF NOT

REGISTERED OWNER

DATUM/ DATE

17 SEPTEMBER 2010



NAAM/ NAME MR. A. E. MPELA

POS ADRES/ POSTAL ADDRESS PRIVATSAK X 6  
COLESBERG 9795

TELEFOON NOMMER/ TELEPHONE NUMBER 051-7530777

FAKS NOMMER/ FAX NUMBER 051-7530574

KOMMENTAAR/ COMMENT	NEE / NO	JA / YES
<p>Gelieve op die volgende te let, nl.</p> <p>i) Gebruikte leengroewe moet op u koste gerehabiliteer word soos deur die toepaslike wet vereis;</p> <p>ii) Sodanige leengroewe moet op u koste ten volle onhein word met 'n toegang tot sodanige leengroewe en</p> <p>iii) Gebruik van sodanige leengroewe vir die rithaal van materiaal word nie eksklusief aan die Nasionale Padagentskap (SARAH) toegeken nie, want die eienaar (Umsoobomvu Munisipaliteit) mag van tyd tot tyd ook gebruik maak van die leengroewe vir die rithaal van materiaal vir die gebruik.</p>		<input checked="" type="checkbox"/>

Duo: leengroewe 02 en 04 is beskikbaar.

Please forward to/ Stuur asseblief aan

CCA ENVIRONMENTAL

Unit 35, Roeland Square, Cape Town, 8001 T: (021) 461 1118 F: (021) 461 1120  
eloise@ccaenvironmental.co.za

iv) Die volgende leengroewe kan nie benut word nie, nl. leengroef 01 - 'n behuisingprojek is tans besig om daar ontwikkel te word en leengroef 03 - die leengroef is vir die laad se uitlaatlake gebruik - 'n "stock pile" is alreeds opgebou vir ons eie gebruik.





PART C4

BORROW PIT 4 (N9 7/92.8/0.4R)



## C4 BORROW PIT 4 (N9\_7/92.8/0.4R)

### C4.1 PART 1: BRIEF PROJECT DESCRIPTION

#### C4.1.1 MINE OWNER AND MINE MANAGER/RESPONSIBLE PERSON

A contractor is still to be appointed by SANRAL to undertake the excavation of the proposed borrow pit. This is a preferred borrow pit for the supply of material for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg.

#### C4.1.2 NAME AND ADDRESS OF THE APPLICANT FOR PROSPECTING PERMIT OR MINING AUTHORISATION

*Applicant:* South African National Roads Agency Limited

*Contact person:* Mr Nelis Brink

*Address:* Private Bag X19, Bellville, 7530

*Tel:* (021) 957 4600

#### C4.1.3 NAME AND ADDRESS OF THE OWNER OF THE LAND AND THE TITLE DEED DESCRIPTION

*Farm name:* Erf 1271, Colesberg

*Owner:* Umsobomvu Municipality (Contact person: Mr Ben Malherbe)

*Address:* Private Bag X6, Colesberg, 9795

*Tel:* (051) 753 0777

*Title deed information:* Deed of Transfer: T37556/1980

*Size of the property:* 1539,7079 ha

No mineral rights are indicated on the Deed of Transfer.

#### C4.1.4 REGIONAL SETTING

Borrow Pit 4 is an extension of an existing borrow pit that is located to the east of Section 7 of the N9, approximately 4 km south of Colesberg. Co-ordinates of the proposed borrow pit extension are presented in Table C4.1 below (refer to Figures C4.1 and C4.2 and proposed borrow pit layout plan in Appendix C4.1).

**Table C4.1 Co-ordinates of proposed Borrow Pit 4 (N9\_7/92.8/0.4R).**

Borrow pit co-ordinates (WGS84)		
	X	Y
I	-8600.000	3403849.920
J	-8815.482	3403849.920
K	-8815.482	3403696.786
L	-8694.308	3403709.495
M	-8600.000	3403709.416

## **C4.2 PART 2: DESCRIPTION OF THE PRE-MINING ENVIRONMENT SPECIFIC TO BORROW PIT 4 (N9\_7/92.8/0.4R)**

### **C4.2.1 CLIMATE**

A general description of the climate is presented in Section B3.1.1.

### **C4.2.2 GEOLOGY**

A general description of the geology is presented in Section B3.1.3.

### **C4.2.3 TOPOGRAPHY**

The contours of the area are presented in the borrow pit layout plan in Appendix C4.1. The site is moderately flat, sloping gently from east to west. There are no significant landscape features on the proposed site, although there are prominent dolerite koppies about 500 m south of the proposed borrow pit.

### **C4.2.4 SOIL**

Based on the trial pit profiles there is a layer of topsoil of up to 200 mm. The rest of the soil profile consists of decomposed dolerite.

### **C4.2.5 PRE-MINING LAND CAPABILITY AND LAND USE**

The proposed site is an extension of an existing borrow pit which was never rehabilitated (see Plates C4.1 – C4.1). The site is currently fenced and used for grazing of animals.

### **C4.2.6 VEGETATION**

The vegetation type on the site is classified as Eastern Upper Karoo. The veld is generally in a good condition with *Eriocephalus ericoides* (kapokbos), *Euryops spp.* (harpuis) and *Eragrostis lehmanniana* (Lehmann's love grass) as the dominant species. No rare or endangered plant species were found.

### **C4.2.7 FAUNA**

The site is currently fenced and being used for grazing of livestock. The habitat is in fairly good condition. No signs of faunal habitation was observed on site.

### **C4.2.8 HYDROLOGY**

There are no rivers or farm dams in close proximity to the borrow pit site.

### **C4.2.9 GEOHYDROLOGY**

No ground water was found in the trial pit holes up to a depth of 1.3 m.

### **C4.2.10 AIR QUALITY**

The air quality in the study area is very good. The borrow pit site is located approximately 400 m from the N9 and there are no residential dwellings in close proximity to the borrow pit site. It is thus not

expected that dust generation from borrow pit operations would affect neighbouring residents or road users on the N9.

#### C4.2.11 NOISE

The site is 400 m from the N9 and hidden from the road by a low ridge. The site is thus exposed to minimal noise from the traffic along the N9. There are no residential dwellings in close proximity to the borrow pit site. Noise generated by borrow pit operations would thus not affect neighbouring residents.

#### C4.2.12 ARCHAEOLOGY AND PALAEOLOGY

Moderately large numbers of stone tools were documented on the site, but these occurred in a disturbed context, having been damaged by previous borrow pit activities. The tools consisted of highly weathered MSA flakes, chunks and several rounded (prepared) cores. Some of the flakes were partially retouched, but no formal tools were found. Most of the tools were documented on a gravel patch near the southwestern edge of the existing borrow pit, while some tools were spread unevenly in the surrounding landscape, mostly to the southeast and near the edge of the existing borrow pit (refer to Appendix 4). All the tools were dolerite and rated as having low heritage significance.

No palaeontological material would occur as intrusive dolerite dykes do not host such material.

#### C4.2.13 SENSITIVE LANDSCAPE

No sensitive landscapes were identified.

#### C4.2.14 VISUAL ASPECTS

The proposed borrow pit is located approximately 400 m from the N9 and obscured from the road by a low ridge. It would largely not be visible for road users travelling along the N9. The borrow pit is also not visible from any residential dwellings.

#### C4.2.15 REGIONAL SOCIO-ECONOMIC STRUCTURE

See information provided in Section B3.3.

#### C4.2.16 INTERESTED AND AFFECTED PARTIES

The public participation process undertaken is presented in detail in Section A3.2.2. It should be noted that a notification letter was sent to Mr Ben Malherbe, representative for the Umsobomvu Municipality (the owner), informing him of the proposed project and that a borrow pit had been identified on the municipality's property. Mr Malherbe was asked to complete an acknowledgement form (which is included in Appendix C4.2) to indicate that the municipality was made aware of the location and extent of the area and that access to the area may be required across municipal property, as well as to raise any issues of concern. Mr Malherbe had the following comments.

I&AP	Comment	Response
Mr Ben Malherbe – Umsobomvu Municipality	The Umsobomvu Municipality made the following recommendations: <ul style="list-style-type: none"> <li>The proposed borrow area must be rehabilitated as prescribed by law.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation of the borrow areas would be undertaken as specified in this EMP.</li> </ul>

	<ul style="list-style-type: none"> <li>• The proposed borrow area must be fenced off completely and access must be controlled.</li> <li>• Rights for use of material from existing municipal borrow pits must not be exclusively given to SANRAL as the municipality may from time to time want to use material at these borrow pits for maintenance of local municipal roads.</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed borrow areas will be fenced off with new temporary fencing and access would be controlled through one access gate.</li> <li>• The project team would liaise with the municipality regarding the use of material at the borrow pits and would only extract material from the areas applied for and not from areas currently being mined by the municipality.</li> </ul>
--	---	--

### **C4.3 PART 3: BRIEF PROJECT DESCRIPTION**

#### **C4.3.1 BENEFITS OF THE PROJECT**

The motivation for and potential benefits arising as a result of the project are presented in Section B1.

#### **C4.3.2 CONSIDERATION OF ALTERNATIVES**

The assessment of alternatives is presented in detail in Section B2.

### **C4.4 PART 4: DETAILED DESCRIPTION OF THE PROPOSED PROJECT**

#### **C4.4.1 SURFACE INFRASTRUCTURE**

There would be no permanent surface infrastructure associated with the proposed borrow pit. Access would be from the west along the existing gravel access road that joins the N9. The borrow pit is located in a fenced camp with an existing gate. The access road and borrow area would be fenced off with new temporary fencing and access would be controlled through the existing gate.

#### **C4.4.2 WASTE MANAGEMENT**

Material that is not suitable as material for the road rehabilitation project would be stockpiled and used as backfill. Any domestic waste would be collected in a waste bin and disposed of at a municipal waste site.

#### **C4.4.3 WATER MANAGEMENT**

The water requirements for the proposed borrow pit operations are expected to be minimal (e.g. dust suppression on access roads and borrow pit area). The water sources would be identified by the contractor.

The borrow pit would be free draining to the north.

#### **C4.4.4 TRANSPORT**

This would consist of trucks transporting material from the borrow pit to the area of the road under construction. Material would be transported along the existing gravel access road.

#### C4.4.5 BORROW PIT LAYOUT AND DEVELOPMENT

Google Earth images of the proposed borrow pit site are included in Figures C4.1 and C4.2 and the proposed site layout plan is included in Appendix C4.1.

The total proposed borrow area would be approximately 2.9 ha in extent. Vegetation would be cleared from the site. Any seed-bearing material would be kept separate for use during rehabilitation or preferably mulched into the topsoil. Topsoil would, where possible, be stripped to a depth of 200 mm and stockpiled separately from other soil layers in piles not exceeding 2 m in height (as indicated in the borrow pit layout plan). Material that cannot be used for the road rehabilitation project would be used in the reshaping of the site during rehabilitation and would be stockpiled separately.

To minimise any impacts on the value of the surrounding land, care shall be taken to limit the extent of the area disturbed during construction activities. In this regard, the borrow pit site and associated activities and infrastructure shall be carefully planned, to ensure that the footprint is kept to a minimum. The proposed borrow pit would consist of one compartment (see borrow pit layout plan).

The borrow pit would be excavated by means of ripping and loading with an excavator directly onto haul vehicles. Material would then be transported to the area of the road under construction. The borrow pit would be mined to a maximum depth of 5 m. The end slopes would have slopes of approximately 1:5.

The borrow pit details are summarised in Table C4.2 below.

**Table C4.2 Summary of Borrow Pit 4 (N9\_792.8/0.4R).**

Borrow pit area	2.9 ha
Maximum depth	5 m
Material quality	Selected Subgrade and Sub Base
Volume of material	121 000 m <sup>3</sup>

#### C4.5 PART 5: ENVIRONMENTAL IMPACT ASSESSMENT

This section describes the impact that would result from the proposed borrow pit. Mitigation measures are proposed that would mitigate negative impacts or enhance potential benefits. Impacts were assessed according to pre-defined rating scales (see Appendix 2), which are based on criteria set out in the EIA Regulations Guideline Document (Department of Environmental Affairs and Tourism, 1998).

The impacts arising from the borrow pit development are presented in Table C4.3.

#### C4.6 PART 6: SITE REHABILITATION

It is expected that there should be an acceptable seed bank in the topsoil due to the high seed production of the vegetation currently on the site.

During rehabilitation, the topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes should be finished off so that flowing curves that blend with the surrounding landscape are formed in preference to sharp angles. Unused boulders would be placed in the deeper excavated areas and topsoil and vegetation stripped during site clearance would be spread evenly across the borrow pit area.

Introduction of seed of species such as *Sporobolus fimbriatus* (dropseed grass) and *Erioccephalus ericoides* (kapokbos) should also be considered. *Sporobolus fimbriatus* should be sown in the lower lying areas of the reshaped borrow pit where water could accumulate and provide for the water requirements of this species.

#### **C4.7 PART 7: ENVIRONMENTAL MANAGEMENT PROGRAMME**

A generic EMP is presented in Section D, as it is the same for all eight borrow pits.



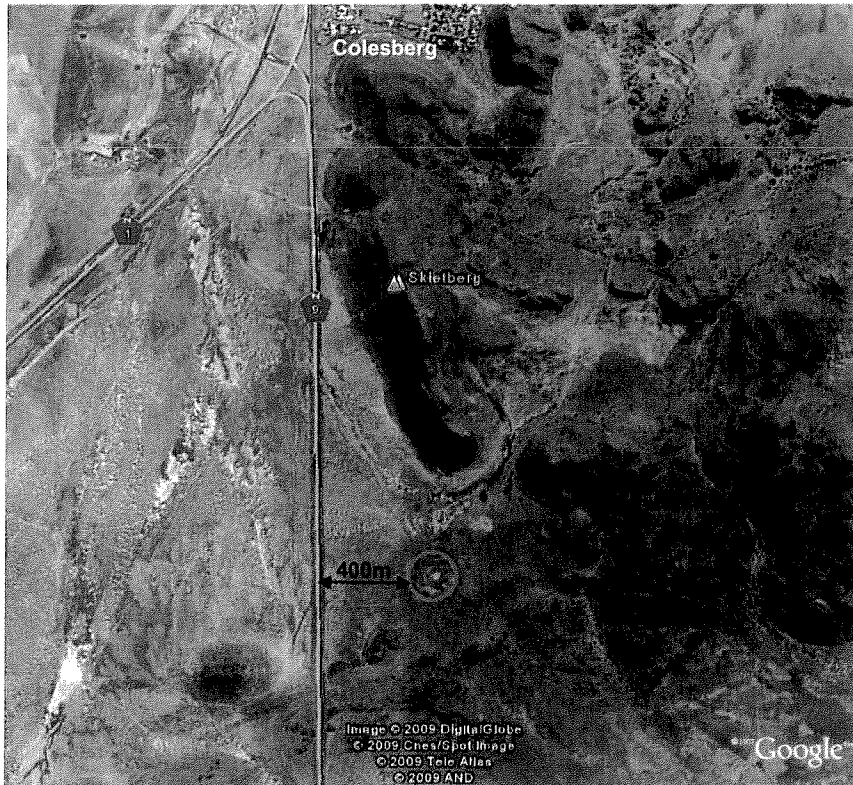


Figure C4.1 Google Earth image showing the location of Borrow Pit 4 along the N9 just south of Colesberg.



Figure C4.2 Google Earth image showing the proposed mining area at Borrow Pit 4.



**Plate C4.1** Photograph taken from the southern edge of the existing borrow area looking north towards Colesberg.



**Plate C4.2** Photograph taken across the borrow pit looking northeast. Unused material from previous borrow activities is visible.



**Plate C4.3** Photograph taken from the borrow area looking east towards the eastern edge of the excavated area.



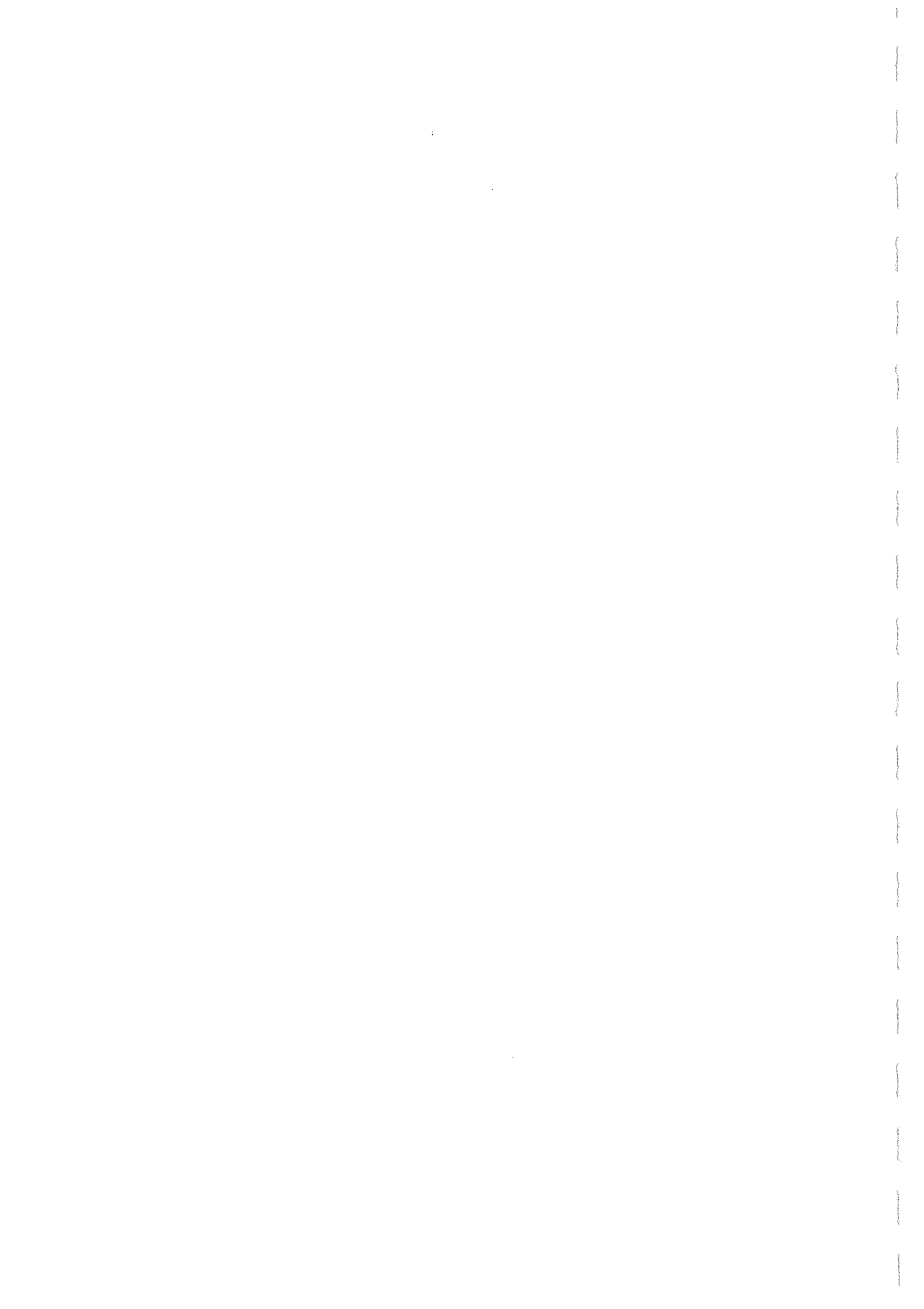
**Plate C4.4** The area proposed for extension along the southern edge of the existing borrow pit. Photograph taken looking east.

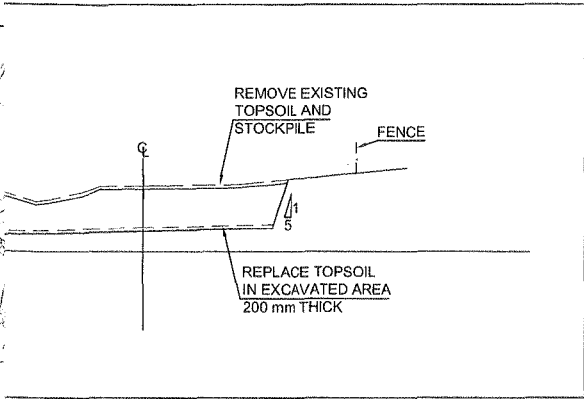
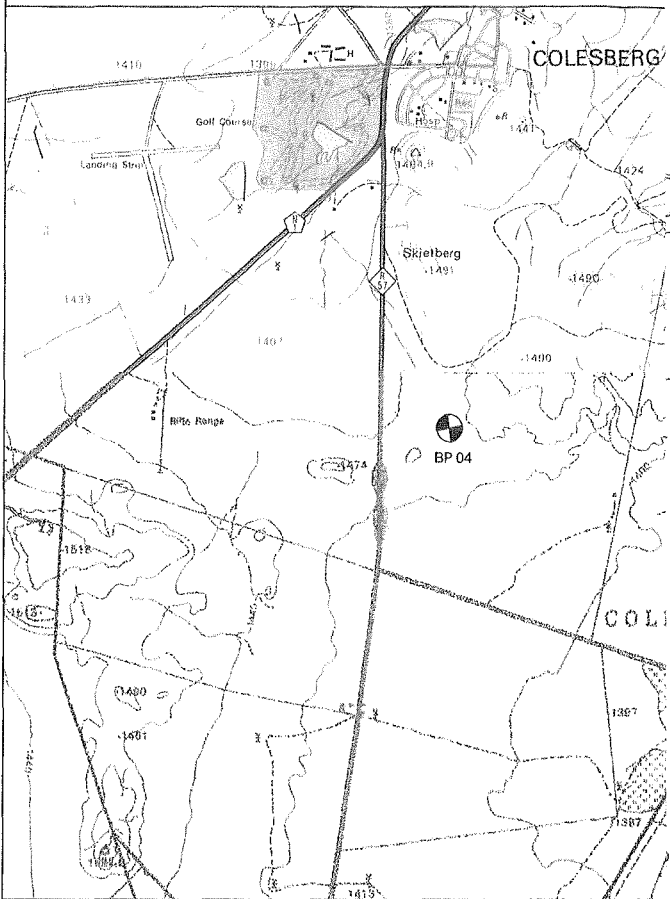
**Table C4.3: Impacts arising from the proposed development of Borrow Pit 4 (N9\_7/92.8/0.4R).**

Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Geology	Local	Permanent	Low	Definite	Medium	Low	-	Low
Topography	Local	Permanent	Low	Definite	Medium	Low	The topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes must be finished off so that flowing curves that blend with the surrounding landscapes are formed in preference to sharp angles.	Very Low
Soil	Local	Short-term	Medium	Highly probable	High	Very Low	Stockpile topsoil and utilise during rehabilitation.	Very Low
Land use	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Land capability	Local	Short-term	Low	Probable	High	Very Low	<ul style="list-style-type: none"> <li>• Demarcation and fencing of borrow area site;</li> <li>• Identification of no-go areas; and</li> <li>• Land disturbed shall be rehabilitated.</li> </ul>	Very Low
Vegetation	Local	Short-term	Low	Highly probable	Medium	Low	This area should be rested (withdrawn from grazing by fencing it) for as long a period as possible before starting with mining activities to allow for seed production. Topsoil together with existing plant material should be removed and stored in wind rows, no higher than two meters. During rehabilitation topsoil should be spread evenly across the cleared borrow pit area. Consider introduction of seed of species such as <i>Sporobolus fimbriatus</i> (dropseed grass) and <i>Eriocephalus ericoides</i> (kapokbos).	Very Low
Fauna	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Surface water	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Groundwater	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Air quality	Local	Short-term	Low	Highly probable	High	Very Low	Retain vegetation cover as long as possible to reduce the size of areas where wind could generate dust and spray water and/or other dust suppression agents to reduce dust.	Very Low
Noise	Local	Short-term	Low	Highly probable	High	Very Low	The contractor shall be required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation.	Very Low

Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Archaeology	Local	Short-term	Low	Probable	High	Very Low	-	Very Low
Palaeontology	No impact – Intrusive dolerite dykes do not host palaeontological material.							
Sensitive landscapes	No impact.							
Visual aspects	Local	Long-term	Low	Probable	High	Low	Land disturbed shall be rehabilitated.	Very Low
Regional socio-economic: employment	Local	Short-term	Low	Highly probable	High	Very Low (Positive)	Local labour shall be sourced.	Very Low (Positive)
Regional socio-economic: safety	Local	Short-term	Low	Probable	High	Low	<ul style="list-style-type: none"> <li>The movement of construction vehicles shall be limited to daylight hours; and</li> <li>The dangers associated with the movement of large haulage vehicles shall be clearly sign-posted in both directions leading up to the proposed borrow pit.</li> </ul>	Very Low

**APPENDIX C4.1**  
**PROPOSED BORROW PIT**  
**LAYOUT PLAN**





**SECTION A - A**  
ESTIMATED CAPACITY = 121000 m<sup>3</sup>  
N.T.S

**LOCALITY PLAN**

**LEGEND**

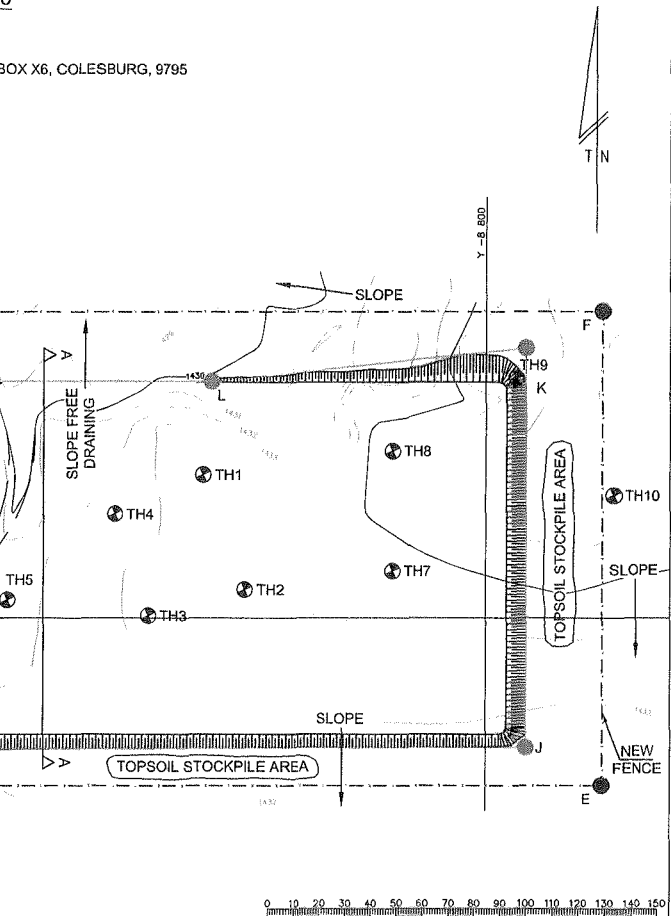
- POSITION OF BORROWPIT
- ERF BOUNDARY

0

BOX X6, COLESBURG, 9795

**NOTES:**

1. ANY INVADER SPECIES WILL BE REMOVED FROM THE SITE BEFORE ANY TOPSOIL IS DEPTH OF 20cm IF AVAILABLE AND STORED AWAY FROM DRAINAGE LINES ALONG TH EXCEED 2M IN HEIGHT AND WILL NOT BE COMPACTED FOR MORE THAN SIX MONTHS SPREAD ON THE SURFACE AS SOON AS THE BORROW PIT EXCAVATION HAS BEEN C REQUIRED.
2. THE BORROW PIT SITE AND EXISTING ACCESS ROAD WILL BE PROPERLY DEMARCAT OPERATION.
3. DUST EMISSIONS WILL BE EFFECTIVELY CONTROLLED BY APPROPRIATE MEASURES MEASURES. EXCAVATED MATERIAL STOCKPILES WILL BE ADEQUATELY PROTECTED MEASURES SUCH AS SHADECLOTH SCREENS OR HESSIAN COVERING. IN THE SHORT DUST GENERATION.
4. VEHICLE SPEEDS WILL BE RESTRICTED TO PREVENT ACCIDENTS, TO REDUCE DUST, INJURY TO LIVESTOCK.
5. ACCESS TO ALL GATES WILL BE CONTROLLED AS AGREED WITH THE LANDOWNER / I
6. A TEMPORARY EATING AREA WILL BE PROVIDED WITHIN THE BORROW PIT AREA TO I EAT. ABLUTION FACILITIES WILL BE PROVIDED AND WILL BE LOCATED TO PREVENT I PROVIDED.
7. TEMPORARY WASTE DISPOSAL AREAS WILL BE DEMARCATED AND FENCED (IF NEEC WEATHERPROOF CONTAINERS (WITH LIDS) WITHIN THIS AREA FOR DISPOSAL AT A LI, REMOVED FROM SITE BY THE CONTRACTOR. NO BURNING, ON-SITE DUMPING OR BU
8. MAXIMUM DEPTH OF MINING : 5m. ( MEASURED FROM NATURAL GROUND LEVELS TO I
9. MINING OF BORROW PIT MAY REQUIRE RIPPING.
10. ALL WORKED AREAS WILL BE RIPPED AND SCARIFIED AND TOPSOIL WILL BE REPLACI SCATTERED OVER THE SITE TO PROVIDE GOOD GERMINATION MICROSITES FOR PLA SIDES OF THE BORROW AREA ARE NO STEEPER THAN 1:5. THE SLOPE CHANGES WILI WITH THE SURROUNDING LANDSCAPES ARE FORMED IN PREFERENCE TO SHARP AN

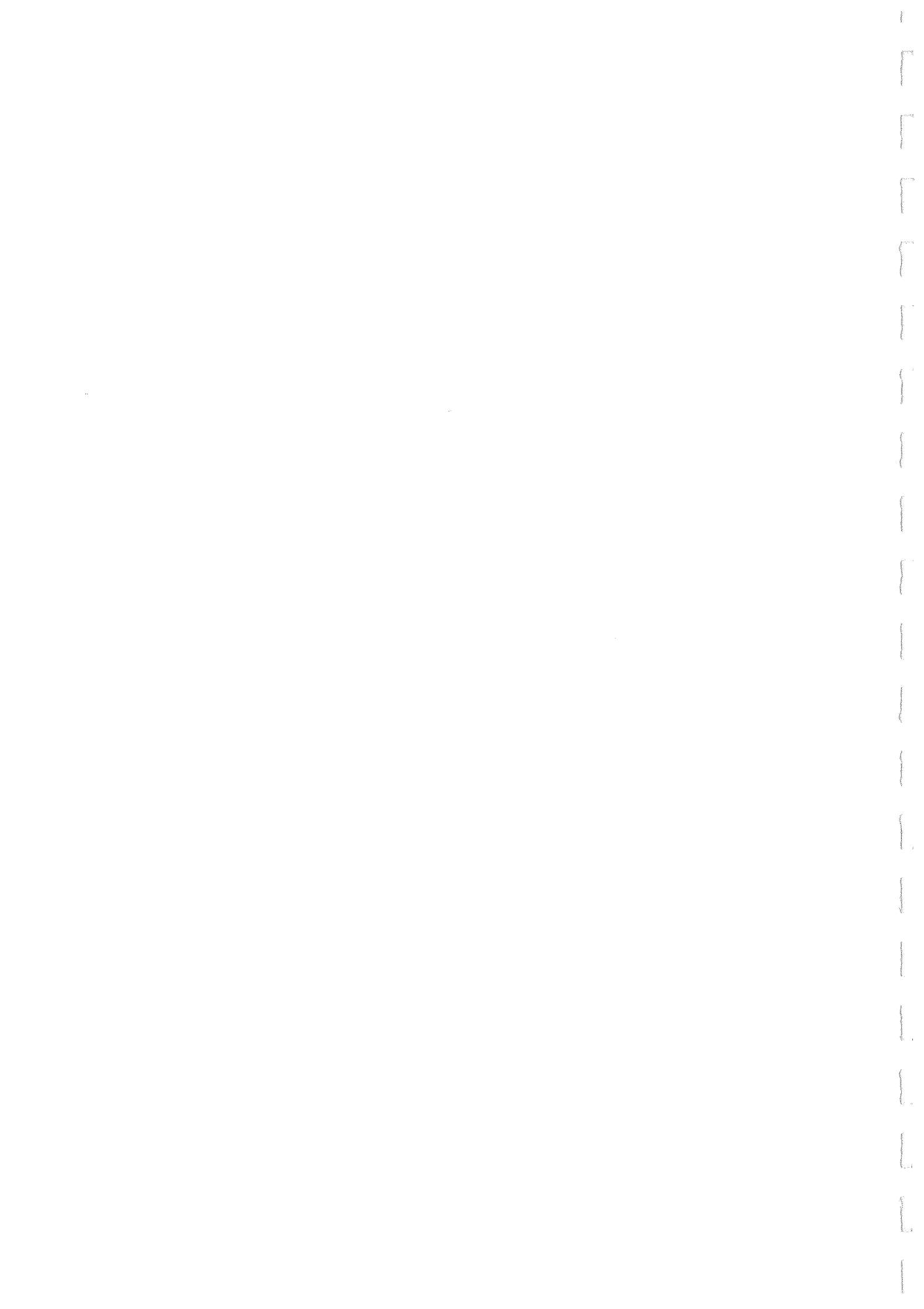


No.	DATE	REVISION	CONSULT. ENG.	FOR
A	2003/01/01	ISSUED FOR COMMENTS	J.S	

UWP CONSULTING  
CONSULTING ENGINEERS  
WELLSERVE HOUSE, GROUND FLOOR  
REGENT SQUARE  
DONCASTER RD  
KENILWORTH  
7745  
P O BOX 48920  
GLOSDERRY

N9	SECTION	7
NRA N.009-070-2007 / IF		
EHABILITATION OF N9 SECTION 7 BORROW PIT DETAILS		
ROW PIT 4 (N9_7/92.8/0.4R) AND REHABILITATION PLAN		

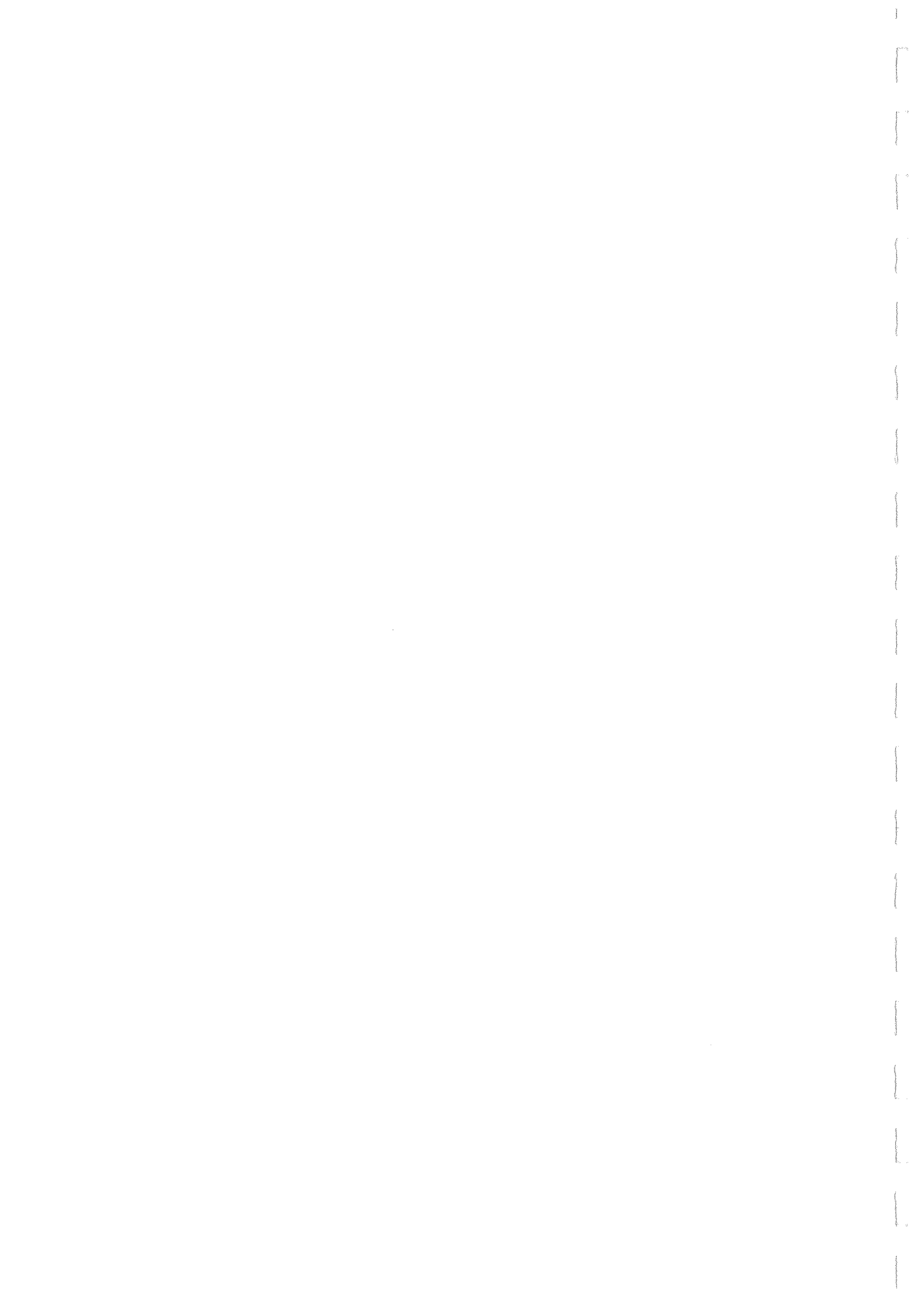
SHEET	1	OF	1
SCALE	AS SHOWN (A0)		
DRAWING NUMBER:	14784_304		





**APPENDIX C4.2**

**LANDOWNER ACKNOWLEDGEMENT  
OF NOTIFICATION FORM**







**VOORGESTELDE LEENGROEWE VIR DIE REHABILITASIE VAN DIE N9/7  
TUSSEN WOLWEFONTEIN EN COLESBERG  
BENUTTING VAN LEENGROEWE**

**PROPOSED BORROW PITS FOR THE REHABILITATION OF THE N9/7  
BETWEEN WOLWEFONTEIN AND COLESBERG  
UTILISATION OF BORROW PITS**

LEENGROEF NO./ BORROW PIT NO.	BORROW PITS 1) N1_12/4.7/0.7R; 2) N1_12/2/1.0L; 3) DR3058/1.8/0.05L AND 4) N9_7/92.8/0.4R
GEREGISTREERDE PLAAS NAAM/ REGISTERED FARM NAME	Umsobomvu MUNISIPALITEIT.
GEREGISTREERDE EIENAAR/ REGISTERED OWNER	Umsobomvu MUNISIPALITEIT.

Ek erken dat ek verwittig is deur die Nasionale Padagentskap (SANRAL) van die voorneme om bestaande leengroewe op munisipale eiendom te benut, soos aangedui op die aangehegde plan, vir die rehabilitasie van Gedeelte 7 van die N9 tussen Wolwefontein en Colesberg; dat ek bewus is van die ligging en omvang van die gebied en dat toegang oor munisipale eiendom benodig mag word.

I acknowledge that I have been informed of SANRAL's intention to utilise the existing borrow pits on municipal property indicated on the attached plan for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg; and that I am aware of the location and extent of the area and that access to the area may be required across municipal property.

**HANDTEKENING VAN EIENAAR OF GEDELIGEERDE**

**VERTEENWOORDIGER/ SIGNATURE OF OWNER OR DELEGATED REPRESENTATIVE**

STATUS INDIEN NIE GEREGISTREERDE EIENAAR NIE/ STATUS IF NOT REGISTERED OWNER

DATUM/ DATE... 17 SEPTEMBER 2010



NAAM/ NAME Mnr. A. E. MAPELA

POS ADRES/ POSTAL ADDRESS PRIVAATSAK X 6  
COLESBERG 9795

TELEFOON NOMMER/ TELEPHONE NUMBER 051-7530777

FAKS NOMMER/ FAX NUMBER 051-7530574

KOMMENTAAR/ COMMENT	NEE / NO	<input checked="" type="checkbox"/> JA / YES <input checked="" type="checkbox"/>
<p><u>Geliewe op die volgende te let, nl.</u></p> <p><u>i) Gebruikte leengroewe moet op u</u> <u>koste gerehabiliteer word soos deur</u> <u>die toepastlike wet vereis;</u></p> <p><u>ii) Sodanige leengroewe moet op</u> <u>u koste ten volle onheer word</u> <u>met 'n toegang tot sodanige leen-</u> <u>groewe en</u></p> <p><u>iii) Gebruik van sodanige leengroewe</u> <u>vir die rithaal van materiaal word</u> <u>nie eksklusief aan die Nasionale</u> <u>Todagentskap (SARUK) toegeken nie,</u> <u>want die dienaar (Umobomvu Muni-</u> <u>sipaliteit) mag van tyd tot tyd ook</u> <u>gebruik maak van die leengroewe vir</u> <u>die rithaal van materiaal vir die gebruik.</u></p>		

Quo; leengroewe 02 en 04 is beskikbaar.

Please forward to/ Stuur asseblief aan

CCA ENVIRONMENTAL

Unit 35, Roeland Square, Cape Town, 8001 T: (021) 461 1118 F: (021) 461 1120  
eloise@ccaenvironmental.co.za

iv) Die volgende leengroewe kan nie benut word  
nie, nl. Leengroef 01 - 'n behuisingprojek is tans  
besig om deur ontwikkel te word en leengroef 03 - die  
leengroef is vir die laad se uitlaatlake gebruik-  
in "stock pile" is alreeds opgebou vir ons eie gebruik





## C5 BORROW PIT 5 (N9\_7/82.4/0.3R) – ALTERNATIVE

### C5.1 PART 1: BACKGROUND

#### C5.1.1 MINE OWNER AND MINE MANAGER/RESPONSIBLE PERSON

A contractor is still to be appointed by SANRAL to undertake the excavation of the proposed borrow pit. This borrow pit is proposed as an alternative borrow pit for the supply of material for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg.

#### C5.1.2 NAME AND ADDRESS OF THE APPLICANT FOR PROSPECTING PERMIT OR MINING AUTHORISATION

*Applicant:* South African National Roads Agency Limited

*Contact person:* Mr Nelis Brink

*Address:* Private Bag X19, Bellville, 7530

*Tel:* (021) 957 4600

#### C5.1.3 NAME AND ADDRESS OF THE OWNER OF THE LAND AND THE TITLE DEED DESCRIPTION

*Farm name:* Vaalkop, Farm 114 (Taaiboslaagte)

*Owner:* Mrs Hester Hugo

*Address:* PO Box 221, Colesberg, 9795

*Tel:* 051 753 1311; 082 873 1033

*Title deed information:* Deed of Transfer: T19881/1989

*Size of the property:* 598.6585h

No mineral rights are indicated on the Deed of Transfer.

#### C5.1.4 REGIONAL SETTING

Borrow Pit 5 is an extension of an existing borrow pit that is located to the east of Section 7 of the N9, approximately 14 km south of Colesberg. Co-ordinates of the proposed borrow pit extension are presented in Table C5.1 below (see Figures C5.1 and C5.2).

**Table C5.1 Co-ordinates of proposed Borrow Pit 5 (N9\_7/82.4/0.3R).**

Borrow pit co-ordinates (WGS84)		
	Y	X
K	-7126.9413	3412373.4229
L	-7215.2614	3412323.6845
M	-7230.5881	3412343.9913
N	-7255.6209	3412357.2181
O	-7279.2622	3412358.7056
P	-7309.5569	3412340.4540
Q	-7357.3373	3412411.7152
R	-7328.9305	3412437.4973
S	-7287.0901	3412454.5192
T	-7242.1069	3412459.8540
U	-7196.1907	3412443.5492
V	-7162.9036	3412419.3549

## **C5.2 PART 2: DESCRIPTION OF THE PRE-MINING ENVIRONMENT SPECIFIC TO BORROW PIT 5 (N9\_7/82.4/0.3R)**

### **C5.2.1 CLIMATE**

A general description of the climate is presented in Section B3.1.1.

### **C5.2.2 GEOLOGY**

A general description of the geology of the area is presented in Section B3.1.3. Material to be mined at the borrow pit is decomposed dolerite.

### **C5.2.3 TOPOGRAPHY**

The contours of the area are presented in the borrow pit layout plan in Appendix C5.1. The borrow pit site is located to the east at the foot of a hill/koppie. The borrow pit slopes from east to west along a ridge to the north of the site.

### **C5.2.4 SOIL**

Based on the trial pit profiles there is a thin layer of topsoil up to a depth of 200 mm. The rest of the soil profile consists of decomposed dolerite.

### **C5.2.5 PRE-MINING LAND CAPABILITY AND LAND USE**

The proposed site is an extension of an existing borrow pit and is located in a fenced camp on veld utilised as natural grazing (see Plates C5.1 – C5.4).

### **C5.2.6 VEGETATION**

The vegetation type present on the site is classified as Eastern Upper Karoo and can be described as typically apron veld. The dominant species are *Eriocephalus ericoides* (kapokbos) and *Eragrostis lehmanniana* (Lehmann's love grass). The veld is generally in a good condition. No rare or endangered plant species were found (see Appendix 2).

### **C5.2.7 FAUNA**

The site is currently unfenced and is partially utilised for grazing of animals. No signs of animal life was observed on site. The koppie could, however, provide habitat for rock-dwelling reptile species. No threatened reptile species are known to occur in this area.

### **C5.2.8 HYDROLOGY**

There are no rivers or farm dams in close proximity to the borrow pit site.

### **C5.2.9 GEOHYDROLOGY**

No ground water was found in the trial pit holes, the deepest of which was 1.6 m.

#### **C5.2.10 AIR QUALITY**

The air quality in the study area is very good. It is not expected that dust from borrow pit operations would affect traffic along the N9 as it is located approximately 300 m from the road and not in close proximity to any residential areas.

#### **C5.2.11 NOISE**

The site is exposed to minimal noise from the traffic along the N9. There are no residential areas in close proximity to the site which could be affected by noise from borrow activities.

#### **C5.2.12 ARCHAEOLOGY AND PALAEOLOGY**

A very thin and dispersed scatter of a few thin, Later Stone Age (LSA) dolerite flakes, chunks and a utilised flake, and two weathered and patinated thick, chunky Middle Stone Age (MSA) dolerite flakes were documented on the site. The archaeological heritage remains have been rated as having very low local significance (see Appendix 3).

No palaeontological material would occur at the site as intrusive dolerite dykes do not host such material.

#### **C5.2.13 SENSITIVE LANDSCAPE**

No sensitive landscapes would be affected by the proposed borrow pit.

#### **C5.2.14 VISUAL ASPECTS**

The existing borrow pit would not be visible from the nearest residential dwellings, approximately 600m away. Due to its distance from the N9 and its low orientation, the borrow pit would largely not be visible to traffic on the N9.

#### **C5.2.15 REGIONAL SOCIO-ECONOMIC STRUCTURE**

See information provided in Section B3.3.

#### **C5.2.16 INTERESTED AND AFFECTED PARTIES**

The public participation process undertaken is presented in detail in Section A3.2.2. It should be noted that a notification letter was sent to Mr Hugo (the owner) informing him of the proposed project and that a borrow pit had been identified on his property. Mr Hugo was asked to complete an acknowledgement form (which is included in Appendix C5.2) to indicate that he was made aware of the location and extent of the area and that access to the area may be required across his property, as well as to raise any issues of concern. No issues were raised by Mr Hugo regarding the proposed borrow pit development. He did, however, request that a cattle crossing be constructed underneath the N9 as part of the proposed road upgrade project. The placement of cattle creeps has been discussed with landowners along the N9, including Mr Hugo. The construction of cattle creeps has been included in the scope of works as part of the road rehabilitation project.

## **C5.3 PART 3: BRIEF PROJECT DESCRIPTION**

### **C5.3.1 BENEFITS OF THE PROJECT**

The motivation for and potential benefits arising as a result of the project are presented in Section B1.

### **C5.3.2 CONSIDERATION OF ALTERNATIVES**

The assessment of alternatives is presented in detail in Section B2. Borrow pit 5 (N9\_7/82.4/0.3R) has been included as an alternative borrow pit in case insufficient material is available from the preferred borrow pits.

## **C5.4 PART 4: DETAILED DESCRIPTION OF THE PROPOSED PROJECT**

### **C5.4.1 SURFACE INFRASTRUCTURE**

There would be no permanent surface infrastructure associated with the proposed borrow pit. Access would be from the west along the existing dirt road that joins the N9. The borrow pit is located in a fenced camp with an existing gate. The extension of the borrow pit would require the movement of a section of fence line to the southeast. New temporary fencing would be installed along the edges of the proposed borrow area with a single gate to control access.

### **C5.4.2 WASTE MANAGEMENT**

Material that is not suitable as material for the proposed road upgrade project would be stockpiled and used as backfill. Any domestic waste would be collected in a waste bin and disposed of at a municipal waste site.

### **C5.4.3 WATER MANAGEMENT**

The water requirements for the proposed borrow pit operations are expected to be minimal (e.g. dust suppression on access roads and borrow pit area). The water sources would be identified by the contractor.

The borrow pit is located in a dry, low rainfall area with low risk of runoff collecting in excavated areas for extended periods. Drainage should not be a problem at this proposed borrow pit as it is located along the slope of hill and would not consist of a large excavated area where water could collect. The site would be free draining to the south.

### **C5.4.4 TRANSPORT**

This would consist of trucks transporting the fill material from the borrow pit to the area of the road under construction. This would take place along the existing dirt access road.

### **C5.4.5 BORROW PIT LAYOUT AND DEVELOPMENT**

Google Earth images of the proposed borrow pit site are included in Figures C5.1 and C5.2 and the proposed site layout plan is included in Appendix C5.1.

The total proposed borrow area would be approximately 1.9 ha in extent. Vegetation would be cleared from the site. Any seed-bearing material would be kept separate for use during rehabilitation or preferably mulched into the topsoil. Topsoil would, where possible, be stripped to a depth of 200 mm

and stockpiled, together with cleared plant material, separately from other soil layers in piles not exceeding 2 m in height (as indicated in the borrow pit layout plan). Material that cannot be used for the road rehabilitation project would be used in the reshaping of the site during rehabilitation and would be stockpiled separately.

To minimise any impacts on the value of the surrounding land, care shall be taken to limit the extent of the area disturbed during construction activities. In this regard, the borrow pit site and associated activities and infrastructure shall be carefully planned, to ensure that the footprint is kept to a minimum. The proposed borrow pit would consist of one compartment (see the borrow pit layout plan).

The borrow pit would be excavated by means of ripping and loading with an excavator directly onto haul vehicles. Material would then be transported to the area of the road under construction.

The borrow pit would be mined to a maximum depth of 5 m (measured from natural ground level to the base of the excavation). The end slopes up against the koppie would be approximately 1:5.

The borrow pit details are summarised in Table C5.2 below.

**Table C5.2 Summary of Borrow Pit 5 (N9\_7/82.4/0.3R)**

Borrow pit area	1.9 ha
Maximum depth	5 m
Material quality	Selected Subgrade and Fill
Volume of material	40 000 m <sup>3</sup>

#### **C5.5 PART 5: ENVIRONMENTAL IMPACT ASSESSMENT**

This section provides an assessment summary table of the impacts that would result from the proposed extension of Borrow Pit 5. Mitigation measures are proposed that would mitigate negative impacts or enhance potential benefits. Impacts were assessed according to pre-defined rating scales (see Appendix 5), which are based on criteria set out in the EIA Regulations Guideline Document (Department of Environmental Affairs, 1998).

The impacts arising from the borrow pit development are presented in Table C5.1.

#### **C5.6 PART 6: SITE REHABILITATION**

The seed bank could be enhanced before site clearance by fencing the site off and preventing grazing for as long a period as possible before the start of borrow activities. This would allow for seed production which might be useful for rehabilitation of the site.

During rehabilitation, the topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes should be finished off so that flowing curves that blend with the surrounding landscape and hill are formed in preference to sharp angles. Unused boulders would be placed back in the deepest areas of the excavated area and the topsoil and vegetation stripped during site clearance would be spread evenly across the borrow pit area.

Introduction of seed of species such as *Sporobolus fimbriatus* (dropseed grass) and *Eriocephalus ericoides* (kapokbos) should also be considered.

#### **C5.7 PART 7: ENVIRONMENTAL MANAGEMENT PROGRAMME**

A generic EMP is presented in Section D, as it is the same for all eight borrow pits.

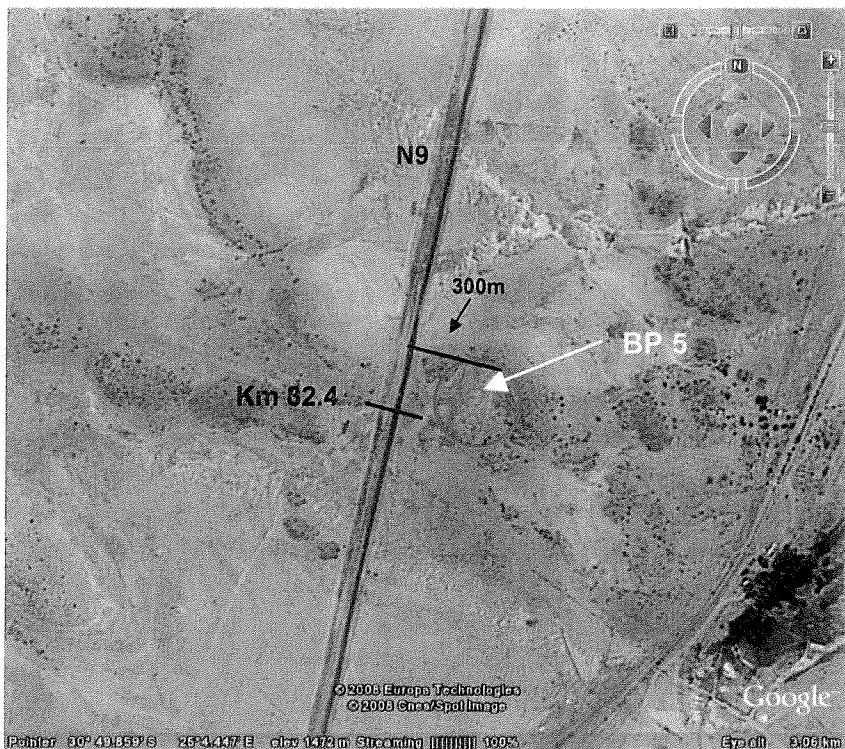


Figure C5.1 Google Earth Image showing the location of Borrow Pit 5 (N9\_7/82.4/0.3R) in relation to the N9.



Figure C5.2 Google Earth Image showing the proposed mining area at Borrow Pit 5 (N9\_7/82.4/0.3R).



**Plate C5.1** Photograph of the existing borrow pit against the koppie. Photograph taken looking to the north.



**Plate C5.2** Photograph of the existing borrow pit against the koppie. Photograph taken looking to the east from the N9.



**Plate C5.3** Photograph of the section of the existing borrow pit proposed for extension along the southeastern slope of the koppie. Picture taken looking to the southeast.



**Plate C5.4** Photograph of the ridge to the north of the existing borrow pit.

**Table C5.1: Impacts arising from the proposed development of Borrow Pit 5 (N9\_7/82.4/0.3R)**

Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Geology	Local	Permanent	Low	Definite	Medium	Low	-	Low
Topography	Local	Permanent	Low	Definite	Medium	Low	The topography would be finished off so that the sides of the borrow area are no steeper than 1:5. The slope changes should be finished off so that flowing curves that blend with the surrounding landscape and hill are formed in preference to sharp angles.	Very Low
Soil	Local	Short-term	Medium	Highly probable	High	Very Low	Stockpile topsoil and utilise during rehabilitation.	Very Low
Land use	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated to allow for natural grazing to continue.	Very Low
Land capability	Local	Short-term	Low	Probable	High	Very Low	<ul style="list-style-type: none"> <li>• Demarcation and fencing of borrow area site;</li> <li>• Identification of no-go areas; and</li> <li>• Land disturbed shall be rehabilitated.</li> </ul>	Very Low
Vegetation	Local	Short-term	Low	Highly probable	Medium	Low	This area should be rested (withdrawn from grazing by fencing it) for as long a period as possible before starting with mining activities to allow for seed production. Topsoil together with existing plant material should be removed and stored in wind rows, no higher than two meters. During rehabilitation topsoil should be spread evenly across the cleared borrow pit area. Consider introduction of seed of species such as <i>Sporobolus fimbriatus</i> (dropseed grass) and <i>Erioccephalus ericoides</i> (kapokbos).	Very Low
Fauna	Local	Short-term	Low	Probable	High	Very Low	Land disturbed shall be rehabilitated.	Very Low
Surface water	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Groundwater	Local	Short-term	Low	Improbable	High	Very Low	All machinery and equipment shall be properly maintained, so that leaks do not appear and so that during servicing all oil, grease etc. is disposed of correctly.	Very Low
Air quality	Local	Short-term	Low	Highly probable	High	Very Low	Retain vegetation cover as long as possible to reduce the size of areas where wind could generate dust and spray water and/or other dust suppression agents to reduce dust.	Very Low
Noise	Local	Short-term	Low	Highly probable	High	Very Low	The contractor shall be required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation.	Very Low



EMP: Proposed borrow pits for the proposed rehabilitation of the N9 between Wolwefontein and Colesberg

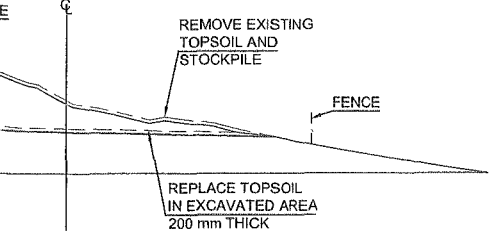
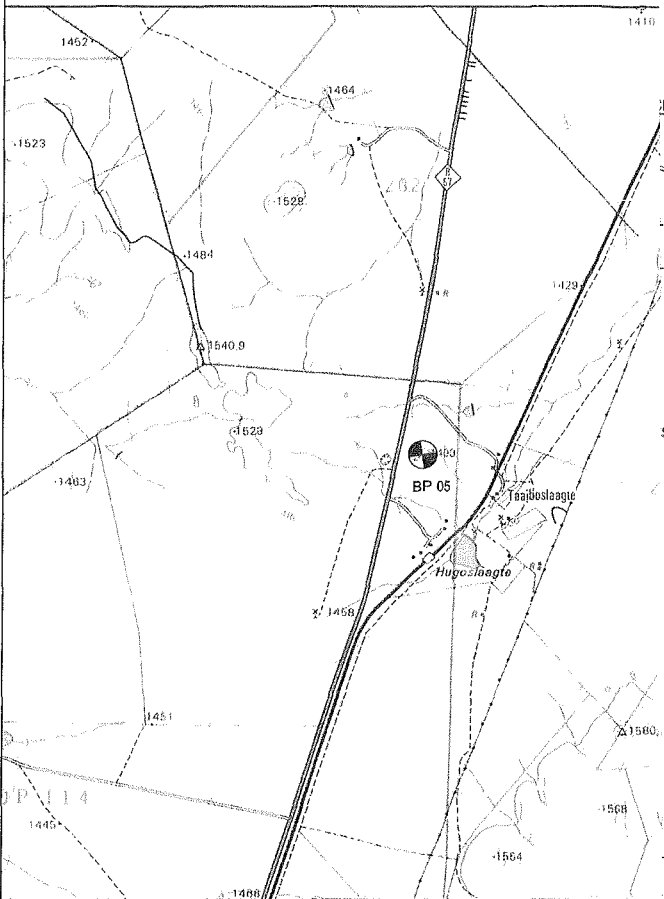
Environmental Aspect	Extent	Duration	Intensity	Probability	Confidence	Significance (before mitigation)	Proposed mitigation	Significance (after mitigation)
Archaeology	Local	Short-term	Low	Probable	High	Very Low	-	Very Low
Palaeontology	No impact – Dolerite does not host any material of palaeontological significance.							
Sensitive landscapes	No impact.							
Visual aspects	Local	Long-term	Low	Probable	High	Low	Land disturbed shall be rehabilitated.	Very Low
Regional socio-economic: employment	Local	Short-term	Low	Highly probable	High	Very Low	Local labour shall be sourced.	Very Low
Regional socio-economic: safety	Local	Short-term	Low	Probable	High	Low	<ul style="list-style-type: none"> <li>The movement of construction vehicles shall be limited to daylight hours; and</li> <li>The risk associated with the movement of large haulage vehicles should be clearly sign-posted in both directions leading up to the proposed borrow pit.</li> </ul>	Very Low



**APPENDIX C5.1**

**PROPOSED BORROW PIT  
LAYOUT PLAN**





**SECTION A - A**  
ESTIMATED CAPACITY = 40000 m<sup>3</sup>  
N.T.S

**LOCALITY PLAN**

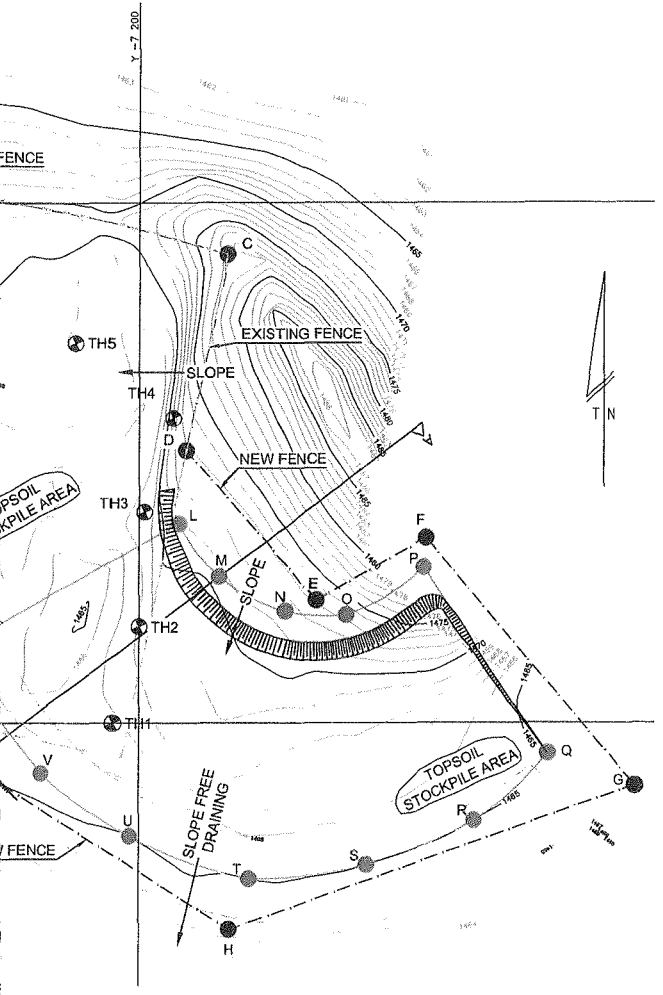
**LEGEND**

POSITION OF BORROWPIT

ERF BOUNDARY

**NOTES:**

1. ANY INVADER SPECIES WILL BE REMOVED FROM THE SITE BEFORE ANY TOPSOIL IS EXCAVATED TO A DEPTH OF 20cm IF AVAILABLE AND STORED AWAY FROM DRAINAGE LINES ALONG THE EXISTING FENCE. EXCAVATED MATERIAL STOCKPILES WILL BE ADEQUATELY PROTECTED BY MEASURES SUCH AS SHADECLOTH SCREENS OR HESSIAN COVERING. IN THE SHORT TERM, DUST GENERATION WILL BE CONTROLLED BY APPROPRIATE MEASURES.
2. THE BORROW PIT SITE AND EXISTING ACCESS ROAD WILL BE PROPERLY DEMARCATED AND FENCED.
3. DUST EMISSIONS WILL BE EFFECTIVELY CONTROLLED BY APPROPRIATE MEASURES. EXCAVATED MATERIAL STOCKPILES WILL BE ADEQUATELY PROTECTED BY MEASURES SUCH AS SHADECLOTH SCREENS OR HESSIAN COVERING. IN THE SHORT TERM, DUST GENERATION WILL BE CONTROLLED BY APPROPRIATE MEASURES.
4. VEHICLE SPEEDS WILL BE RESTRICTED TO PREVENT ACCIDENTS, TO REDUCE DUST AND INJURY TO LIVESTOCK.
5. ACCESS TO ALL GATES WILL BE CONTROLLED AS AGREED WITH THE LANDOWNER / ILLUMINATION.
6. A TEMPORARY EATING AREA WILL BE PROVIDED WITHIN THE BORROW PIT AREA TO PROVIDE FACILITIES FOR THE WORKERS. ABLUTION FACILITIES WILL BE PROVIDED AND WILL BE LOCATED TO PREVENT POLLUTION OF THE BORROW PIT.
7. TEMPORARY WASTE DISPOSAL AREAS WILL BE DEMARCATED AND FENCED (IF NEEDED). WEATHERPROOF CONTAINERS (WITH LIDS) WITHIN THIS AREA FOR DISPOSAL AT A LATER DATE. REMOVED FROM SITE BY THE CONTRACTOR. NO BURNING, ON-SITE DUMPING OR BURIAL.
8. MAXIMUM DEPTH OF MINING : 5m ( MEASURED FROM NATURAL GROUND LEVELS TO FENCE LINE).
9. MINING OF BORROW PIT WILL REQUIRE HEAVY RIPPING.
10. ALL WORKED AREAS WILL BE RIPPED AND SCARIFIED AND TOPSOIL WILL BE REPLACED AND SCATTERED OVER THE SITE TO PROVIDE GOOD GERMINATION MICRO-SITES FOR PLANTS. SLOPES OF THE BORROW AREA ARE NO STEEPER THAN 1:5. THE SLOPE CHANGES WILL BE MADE TO MATCH THE SURROUNDING LANDSCAPES ARE FORMED IN PREFERENCE TO SHARP ANGLES.

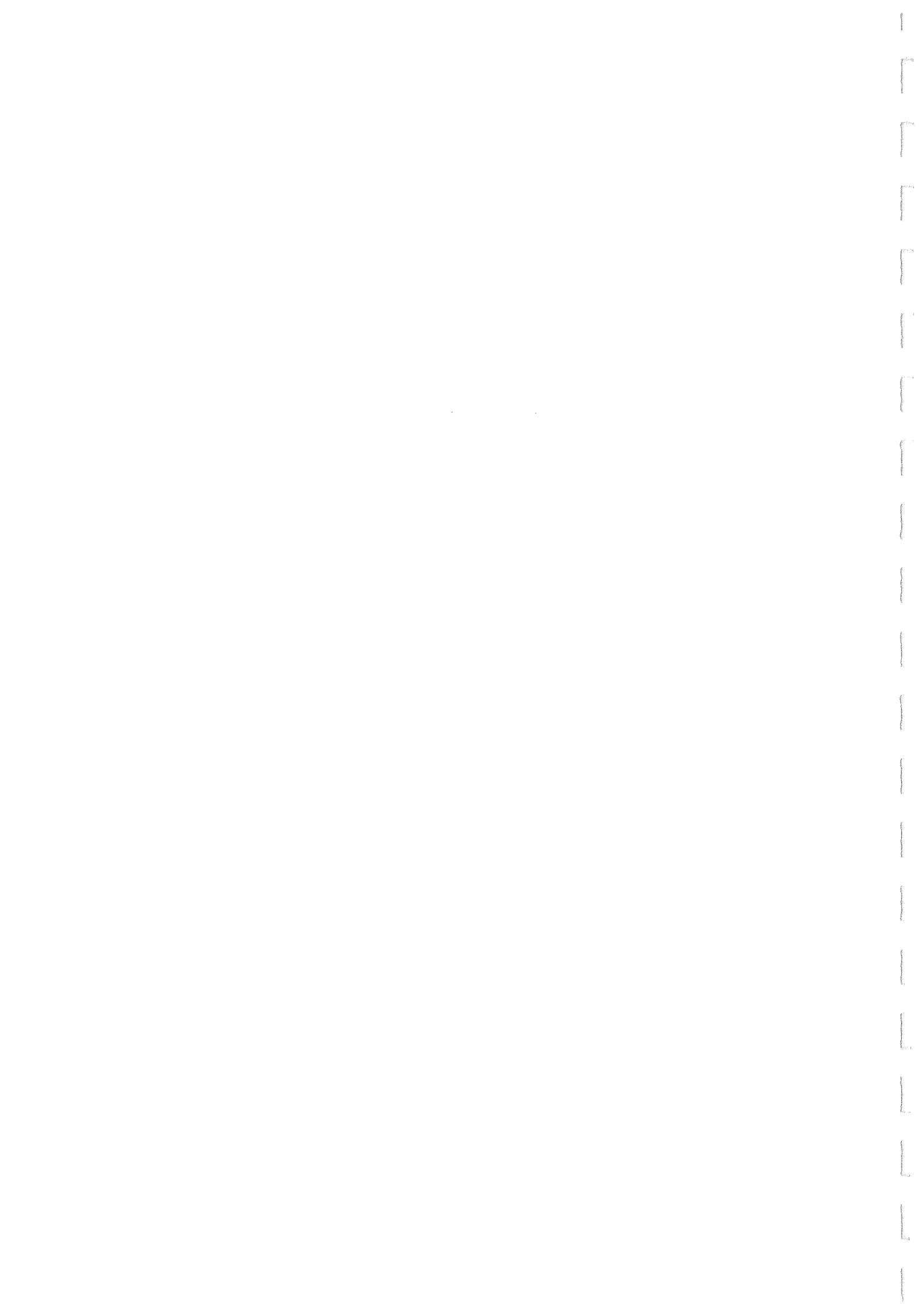


		LWP CONSULTING CONSULTING ENGINEERS MYELASERVE HOUSE, GROUND FLOOR REGENT SQUARE DONCASTER RD KENILWORTH 7745 P O BOX 46920 GLOSDERRY	
		7702 KENILWORTH TEL. (021) 761 - 6969 FAX. (021) 761 - 6969	
No.	DATE	REVISION	CONSULT. ENG. for NRA
A	25/03/2010	ISSUED FOR COMMENTS	A.S.

N9	SECTION	7	SHEET 1 OF 1
HABILITATION OF N9 SECTION 7 BORROW PIT DETAILS			SCALE AS SHOWN (A0)
DRAWING NUMBER: 14784_305			

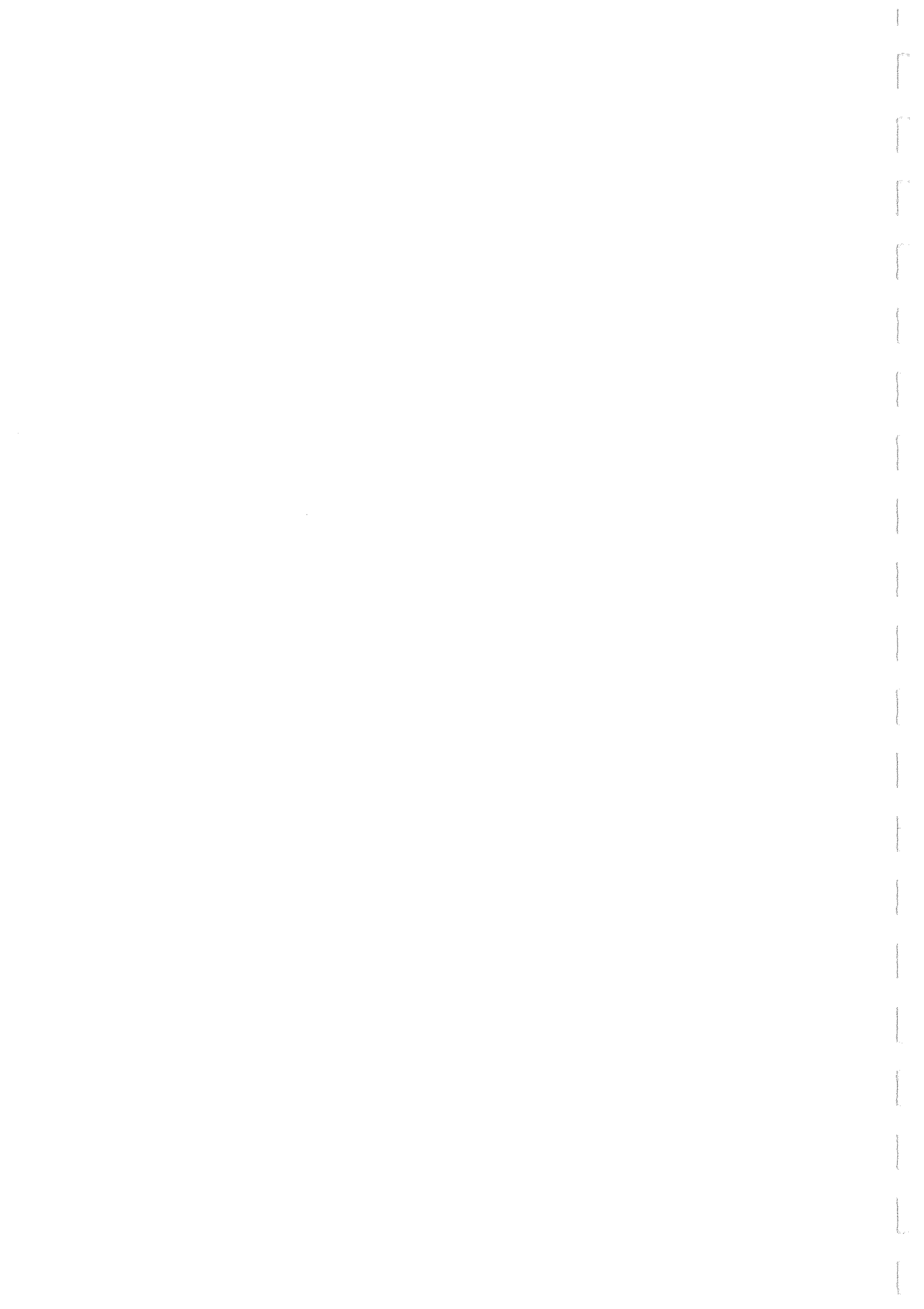


7182.410.3R) ALTERNATIVE BORROW PIT AND REHABILITATION PLAN



**APPENDIX C5.2**

**LANDOWNER ACKNOWLEDGEMENT  
OF NOTIFICATION FORM**





**VOORGESTELDE LEENGROEWE VIR DIE REHABILITASIE VAN DIE N9/7  
TUSSEN WOLWEFONTEIN EN COLESBERG  
BENUTTING VAN LEENGROEWE**

**PROPOSED BORROW PITS FOR THE REHABILITATION OF THE N9/7  
BETWEEN WOLWEFONTEIN AND COLESBERG  
UTILISATION OF BORROW PITS**

LEENGROEF NO./ BORROW PIT NO.	BORROW PIT 5) N9_7/82.4/0.3R
GEREGISTREERDE PLAAS NAAM/ REGISTERED FARM NAME	TAAIBOSLAAGTE
GEREGISTREERDE EIENAAR/ REGISTERED OWNER	Mev H.H. HUGO

Ek erken dat ek verwittig is deur die Nasionale Padagentskap (SANRAL) van die voorneme om bestaande leengroewe op my eiendom te benut, soos aangedui op die aangehegde plan, vir die rehabilitasie van Gedeelte 7 van die N9 tussen Wolwefontein en Colesberg; dat ek bewus is van die ligging en omvang van die gebied en dat toegang oor my eiendom benodig mag word.

I acknowledge that I have been informed of SANRAL's intention to utilise the existing borrow pits on my property indicated on the attached plan for the rehabilitation of Section 7 of the N9 between Wolwefontein and Colesberg; and that I am aware of the location and extent of the area and that access to the area may be required across my property.

**HANDTEKENING VAN EIENAAR OF GEDELIGEERDE**

VERTEENWOORDIGER/ SIGNATURE OF OWNER OR DELEGATED REPRESENTATIVE

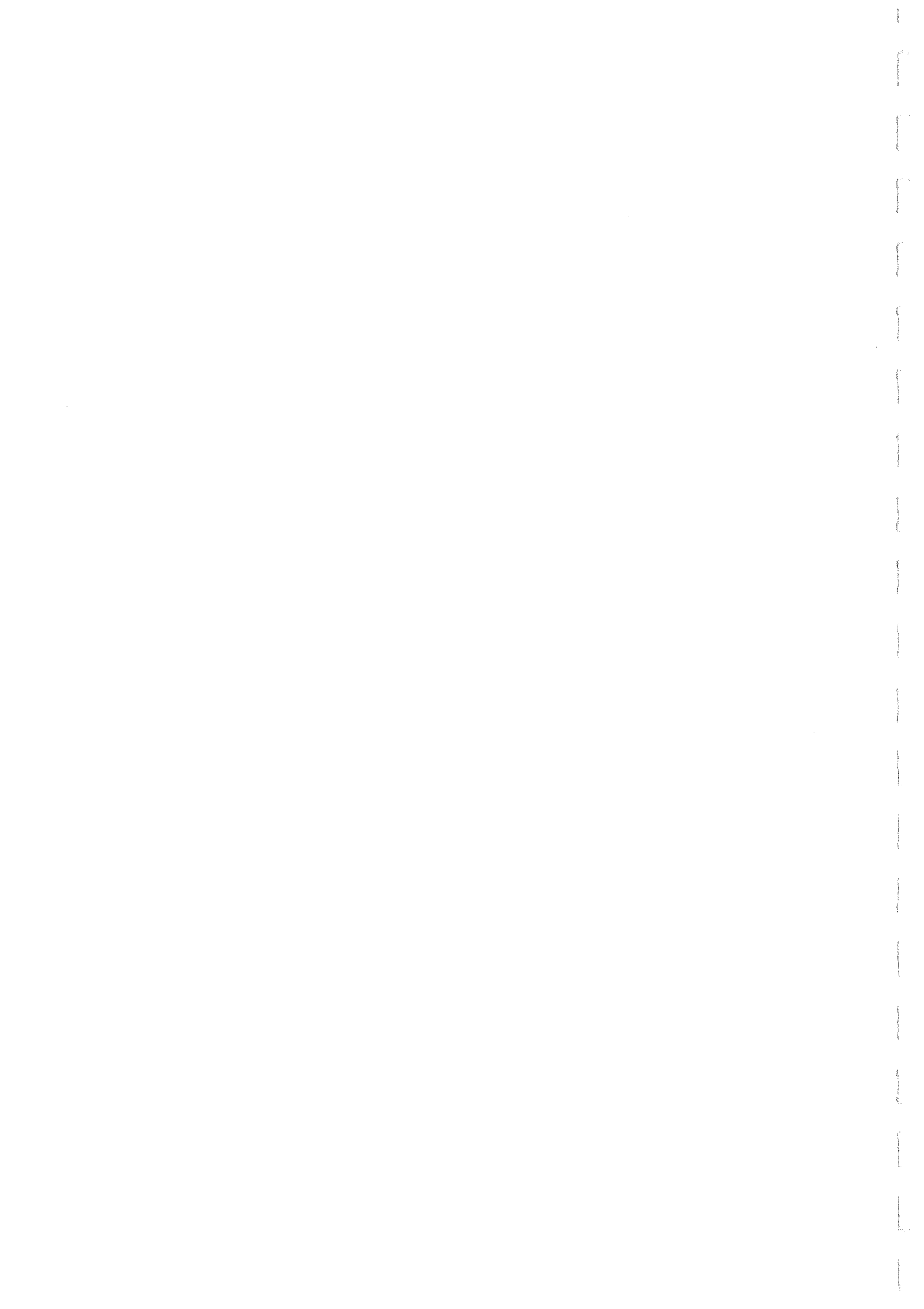
G. 

STATUS INDIEN NIE GEREGISTREEDE EIENAAR NIE/ STATUS IF NOT

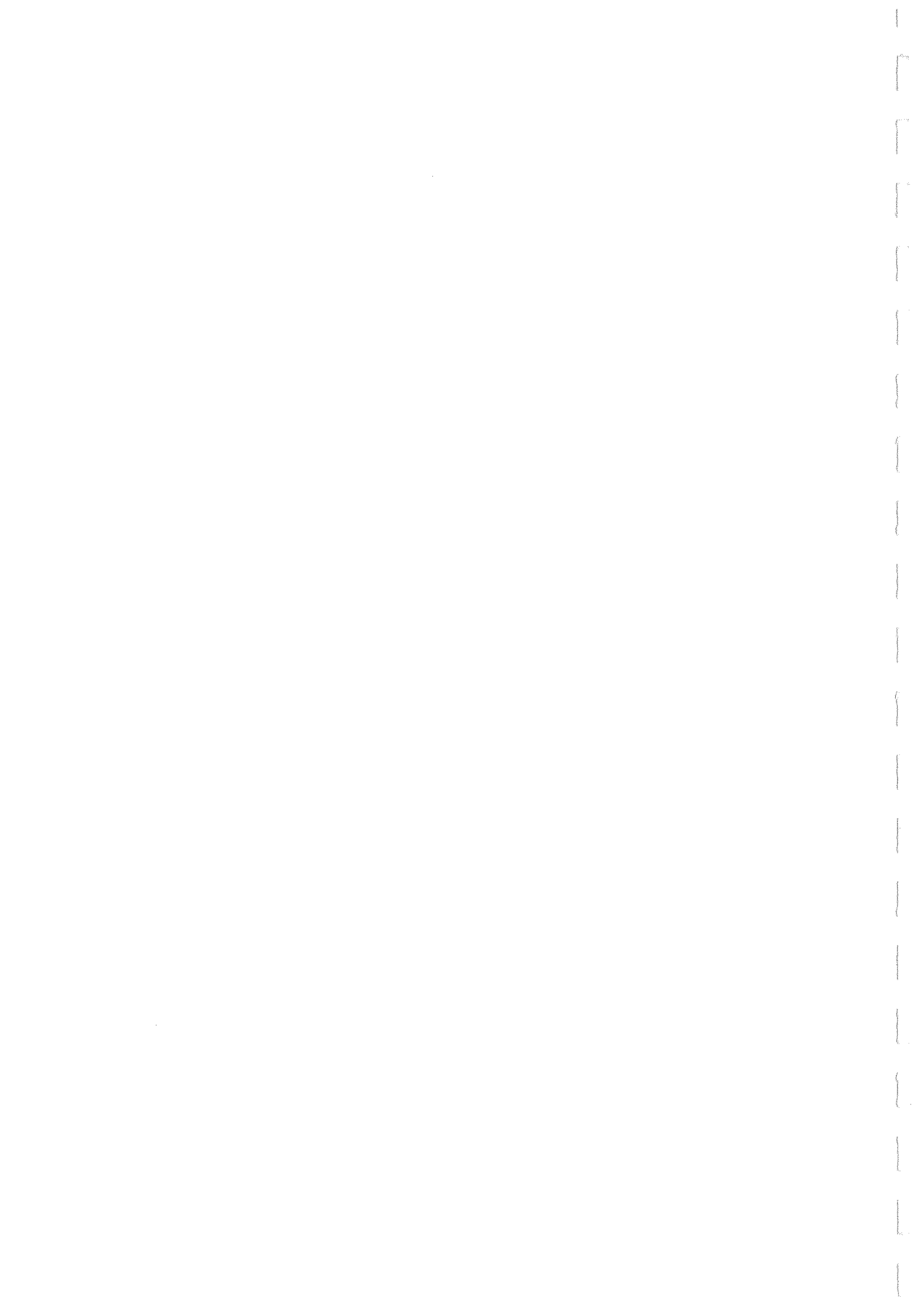
REGISTERED OWNER..... GRANDSON.....

DATUM/ DATE..... 13/08/10.....

NAAM/ NAME..... H. E. Hugo.....







**PART C6**

**BORROW PIT 6 (N9 7/74.8/0.1R)**

