

# DUVHA POWER STATION ASH DAM, RAW AND ASH WATER RETURN DAMS SEEPAGE INTERCEPTION DRAINS IN MPUMALANGA PROVINCE

## BACKGROUND INFORMATION DOCUMENT

OCTOBER 2019

PREPARED FOR: ESKOM HOLDINGS SOC LTD



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## 1 PURPOSE OF THE BACKGROUND INFORMATION DOCUMENT

The purpose of the Background Information Document (BID) is as follows:

1. It serves to provide an overview of the proposed Duvha Power Station seepage interception drains in the Mpumalanga Province;
2. It provides an outline of the Basic Assessment (BA) and Water Use License Application (WULA) Processes that will be undertaken for the project; and
3. It grants the opportunity to register as an IAP and provide comments on the Draft Basic Assessment Report (BAR) and the WULA Technical Report for the proposed project (refer to attached Reply Form (**Annexure 1**)).

The purpose of the BA and WULA Processes is to identify and evaluate potential impacts, to recommend measures to avoid or reduce negative impacts and to enhance positive impacts.

## 2 PROJECT OVERVIEW

### 2.1 Project Description

Duvha Power Station generates 3600MW consisting of 6x600MW units and has been in operation for a period of 40 years. The power station gets its water supply from the Komati Water Scheme (KWS) and from the Witbank Dam.

The Duvha Power Station produces wet ash that gets pumped into an Ash Dam. The settled water is then decanted to a Low Level Ash Water Return Dam (LLAWRD), before it is pumped back to the station for reuse. A groundwater study revealed that the Ash Dam is experiencing water seepage towards the Witbank Dam, leading to groundwater contamination and possible contamination of the Witbank Dam in future. Polluted seepage is also emanating from the LLAWRD and High Level Ash Water Return Dam (HLAWRD).

A solution is required to prevent the groundwater seepage as Duvha Power Station's WUL states that "Any water containing waste or any substance which causes or is likely to cause pollution of a water resource must be prevented from entering any water resource, either by seepage or natural flow." The Department of Water and Sanitation (now the Department of Human Settlements, Water and Sanitation (DHSWS) thus instructed Eskom to mitigate and prevent groundwater pollution. The construction of subsoil groundwater seepage interception drains at the Ash Dam, LLAWRD and HLAWRD, as well as a Raw Water Dam, is proposed to mitigate seepage from the Ash Dam and prevent contamination of the Witbank Dam.

Seepage interception drains are deemed to be the only possible solution to prevent contamination of Witbank Dam. The advantage of the system is that the seepage water will

be pumped and re-used by the power station, and thus polluting of the Witbank Dam will be avoided.

In order to limit groundwater seepage from the existing Ash Dam, as well as the HLAWRD and LLAWRD, it is proposed to construct cut-off interceptor drains along sections of the perimeter of each of these dams and to convey the intercepted water to designated discharge points. The seepage interception drains will be constructed with manholes and perforated pipes. A float level switch to pump the water back to the dam will have to be installed and the process will continue as a cycle. This same system will be used for the LLAWRD and HLAWRD.

## **2.2 Project Location**

Eskom propose to install seepage interception drains in four areas in the Duvha Power Station, Mpumalanga Province (**Figures 1 and 2**). The Duvha Power Station is located in the Emalahleni Local Municipality and the Nkangala District Municipality. The seepage drains are located on the Remaining Extent of Farm Duvha Kragstasie 337 JS. The Ash Dam is located 1.7km east of the Witbank Dam.

In addition to the drains, three temporary construction camp sites are proposed near the drain servitudes.

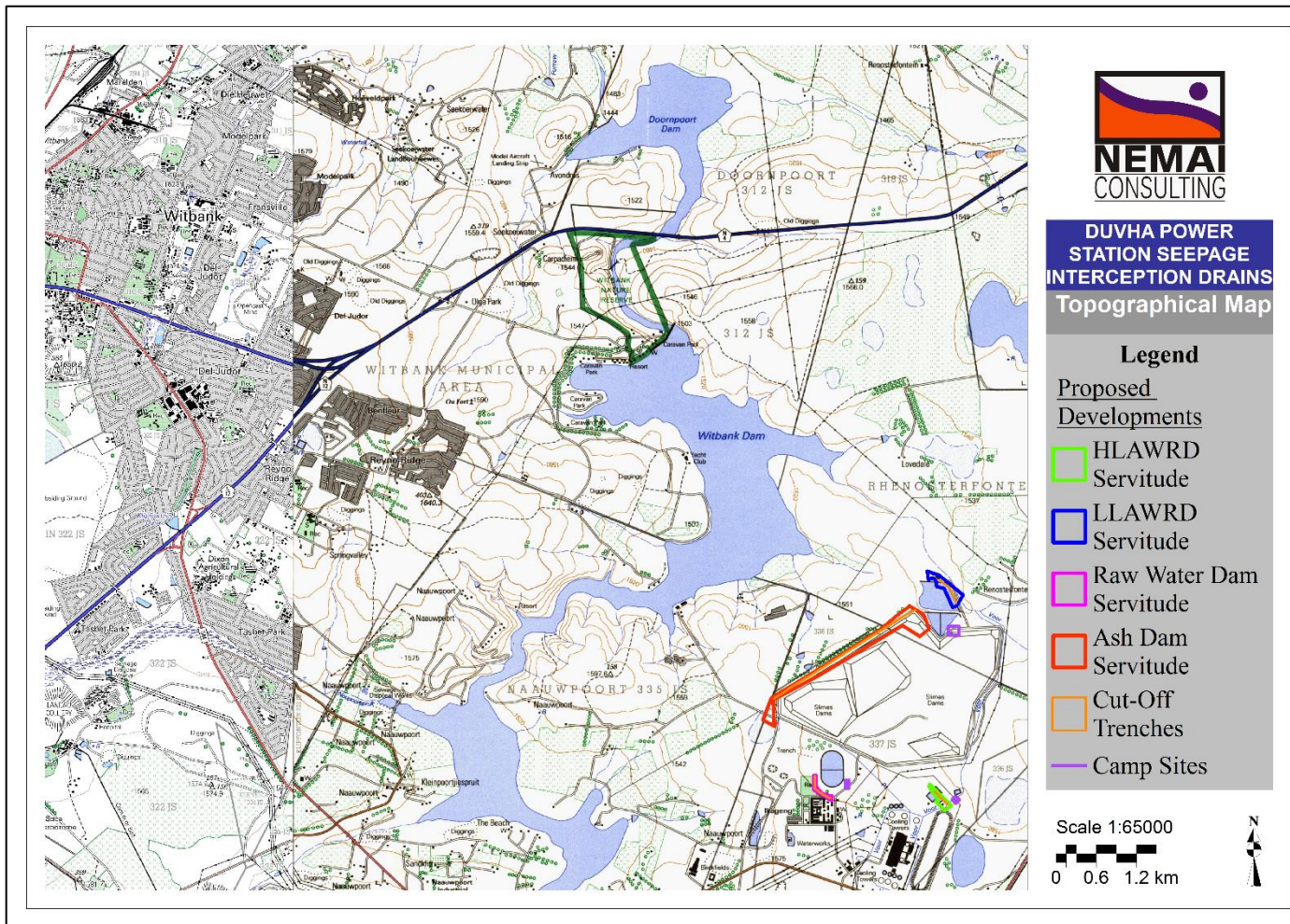


Figure 1: Topographical Map

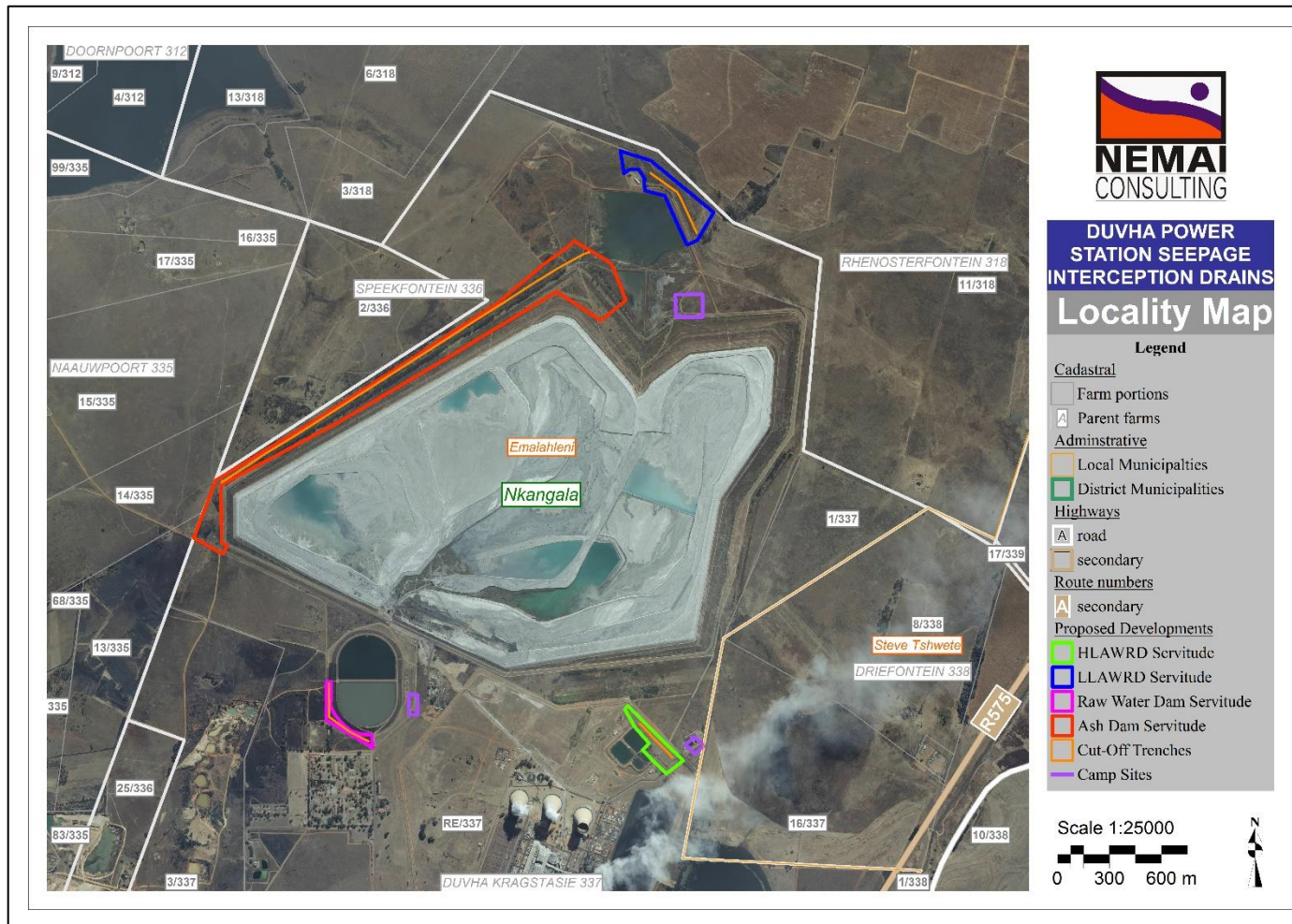


Figure 2: Locality Map

## 3 ENVIRONMENTAL LEGAL FRAMEWORK

### 3.1 Basic Assessment (BA) Process

Nemai Consulting (Pty) Ltd has been appointed by Eskom Holdings SOC Ltd as the independent Environmental Assessment Practitioner (EAP) to conduct the BA Process for the proposed Duvha Power Station seepage interception drains in the Mpumalanga Province in terms of the Environmental Impact Assessment (EIA) Regulations of 2014 (as amended on 07 April 2017), published in Government Notice (GN) No. R982 in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA).

The proposed project requires Environmental Authorisation in terms of the EIA Regulations of 2014 (as amended) that were promulgated in terms of NEMA from the Competent Authority, i.e. the Department of Environment, Forestry and Fisheries (DEFF) (previously the Department of Environmental Affairs). Activities listed in GN No. R. 983 and No. R. 985 of the amended 2014 EIA Regulations (07 April 2017) are associated with the proposed development, which therefore triggers a BA Process.

### 3.1 Water Use License Application (WULA)

NWA aims to manage national water resources in order to achieve sustainable use of water for the benefit of all water users. This requires that the qualities of water resources are protected, and that integrated management of water resources takes place.

In terms of Section 21 (c) and (i) of the NWA, any development within 500m of a wetland or within the 1:100 year floodline / "Riparian Zone" (whichever is greatest) of a watercourse requires a WULA.

Based on the Section 21 (c) and (i) water uses that are triggered due to the Ash Dam and the LLAWRD seepage interception drains traversing delineated wetlands within the Duvha Power Station, and the HLAWRD and temporary construction camp sites falling within 500m of the delineated wetlands, a WULA Process is required. It should be noted that the Raw Water Dam does not traverse or fall within 500m of a wetland and therefore is not included in the WULA.

As these water use activities can impact watercourses, the purpose of the WULA Process is to prevent degradation of watercourses and to ensure that adequate rehabilitation measures take place in the areas where watercourses may be affected.

A draft copy of the WULA Technical Report will be made available for a 60-Day Review Period, prior to finalisation and submission to DHSWS.

## 4 PUBLIC PARTICIPATION

A Public Participation Process will be conducted in terms of Chapter 6 of GN No. R982 of the 2014 EIA Regulations (as amended on 07 April 2017) of the NEMA; and in terms of Section 41(4) of NWA and in line with Regulation 17 of GN R. 267 of NWA.

The Public Participation Process will involve the following:

- Site notices will be placed at prominent points in and around the project area to inform IAPs in the area;
- BIDs will be distributed to Registered IAPs and Commenting Authorities in the area for the project;
- Notices regarding the project will be e-mailed to the councillor in the area and stakeholders (including authorities and state departments); and
- A notice will be placed in one local newspaper.

All IAPs are invited and encouraged to participate in the BA and WULA Processes in order for concerns to be raised and addressed.

The Draft BAR will be available for a 30-Day Review Period from **10 October 2019 to 08 November 2019**, and the Draft WULA Technical Report will be available for a 60-Day Review Period from **10 October 2019 to 10 December 2019**.

IAPs will be able to review and comment on both draft documents which will be lodged at the following place for review in hardcopy:

No.	Location	Address	Telephone No.
1.	Emalahleni Main Library	28 Hofmeyer Street, Witbank, Emalahleni	013 690 6231

The draft reports will also be electronically available on the Nema Consulting website (<https://www.nemai.co.za/documents.html>) and the Eskom website ([http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment\\_Impact\\_Assessments.aspx](http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx)). Only registered IAPs will continue to be updated as the processes unfold.

Please fill in the attached Reply Form (**Annexure 1**) and return by means of e-mail, fax or post to the Consultant below at Nema Consulting:



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**Postal Address:** PO Box 1673, Sunninghill, 2157



## ANNEXURE 1 - REPLY FORM:

### Duvha Power Station Ash Dam, Raw and Ash Water Return Dams Seepage Interception Drains, in Mpumalanga Province

(Complete and return to: Christian van der Hoven from Nemaï Consulting)

<b>Date:</b>		
<b>Name of Organisation:</b>		
<b>Name of Interested and Affected Party (IAP):</b>		
<b>Address:</b>	<b>Postal:</b>	<b>Physical:</b>
<b>Tel No:</b>		
<b>Fax No:</b>		
<b>E-mail:</b>		
<b>Registration as an IAP:</b>	YES	NO
<b>Comments:</b>		