

## EXECUTIVE SUMMARY

### INTRODUCTION

The applicant, JN Venter Family Trust, proposes to expand an existing farm dam on Farm 682 (also referred to as Farm Kudusloof), measuring ~52ha in extent, near Sunland, in the Sundays River Valley Municipality (SRVM). It is proposed that the existing dam, which has a capacity of ~15 000m<sup>3</sup> (~0.98ha), be expanded by ~49 200m<sup>3</sup> (~1.99ha), to have a total storage capacity of ~64 200m<sup>3</sup> (~2.98ha). The wall height is also proposed to be raised by 0.4m from 5.7m to 6.1m. Farm 682 is zoned Agriculture I and is currently under cultivation (i.e. pastures). The proposed development will include the demolition of the existing dam and the clearing, as well as excavation of a portion of the existing pastures, in order to allow for the expansion of the existing dam. The applicant further intends to remove the existing pastures (e.g. lucerne/ kikuyu grass) and replace these with citrus orchards. However, this component of the project does not trigger any listed activities in terms of the NEMA EIA Regulations 2014 (as amended), therefore, the project activities and assessment of impacts in this report is primarily focused on the listed activities which require Environmental Authorisation.

Farm 682 is located south of the R336 (Kirkwood/ Addo Road) and ~1km south west of Sunland (as the crow flies). Access to the farm is gained by travelling west on the R336, past Sunland, for a distance of ~2.4km, before turning left onto the gravel MR00470 road and continuing south for a distance of ~0.3km. The nearest boundary of the Addo Elephant National Park is located ~7.5km east of the farm and the Sundays River flows along the farm's northern boundary, a distance of ~420m from the proposed development footprint.

In terms of the NEMA EIA Regulations 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment (BA), because it triggers the following listed activity, in Listing Notice 3 (GN R324):

*"16. The expansion of reservoirs, excluding dams, where the capacity will be increased by more than 250 cubic metres.*

*a. Eastern Cape*

*i. Outside urban areas:*

*(ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;*

*(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or..."*

Public Process Consultants has been appointed by the applicant as the independent Environmental Assessment Practitioners (EAP) to undertake the Basic Assessment, including Public Participation for the project.

### PROJECT DETAIL

The existing farm dam, located in the south western corner of the farm, has a capacity to store ~15 000m<sup>3</sup> of water from the Lower Sundays River Water Users Association (LSRWUA) canal system, a footprint of ~0.98ha and a wall height of ~5.7m. Water from the LSRWUA canal system is temporarily stored in the existing dam prior to being utilised to irrigate existing pastures (e.g. lucerne/ kikuyu grass) via pipelines of varying diameters. The LSRWUA canal system is located adjacent to the southern boundary of the farm. Irrigation water gravity feeds directly into the existing dam via a cement offtake canal from the LSRWUA canal system. The offtake canal is ~450mm deep and ~500-600mm wide and is proposed to be renovated to accommodate the proposed expansion of the dam.

Associated with the existing dam is an existing pumphouse, located adjacent to the northern dam wall. The pumphouse is proposed to be demolished and relocated to the new northern dam wall. It is proposed that the existing Eskom infrastructure, located near the northern dam wall, be utilised to supply electricity to the relocated pumphouse. The existing power point has sufficient capacity to enable the pumping requirements for the proposed dam expansion and is not required to be upgraded. An existing farmhouse and stores, servicing the current land use, are located near the north western corner of the farm.

The existing dam is proposed to be expanded into existing pastures (e.g. lucerne/ kikuyu grass), in a south easterly direction. Intact, indigenous vegetation occurs along the banks of the Sundays River, which flows along the northern boundary of Farm 682. However, the proposed development footprint is located ~420m from the edge of the Sundays River riparian floodplain and no development is proposed on or near the banks of the Sundays River.

The remainder of the existing pastures (e.g. lucerne/ kikuyu grass) are proposed to be replaced with citrus orchards as a part of the future land use objective of the farm. As such, a new mainline outlet pipe (250mm) will be installed into the expanded dam to supply irrigation water to the proposed orchards via internal irrigation pipelines of varying diameters (between 50mm

and 250mm). A 60m buffer around the riparian habitat associated with the Sundays River floodplain has been recommended by the aquatic specialist for any future land use changes or developments.

Based on the outcome of the specialist assessments and technical input, as well as input received during the consultation process, the project will entail clearing and excavating a portion of the existing pastures (e.g. lucerne/ kikuyu grass) and demolition of the existing farm dam on Farm 682, to accommodate the expansion thereof. With regards to the future land use of the farm, it is further proposed that the remaining pastures on the farm be replaced with citrus orchards subsequent to the completion of the proposed dam expansion.

It is proposed that the existing dam be expanded as follows:

- Size of the existing dam
  - Capacity in cubic metres: 15 000m<sup>3</sup>
  - Dam footprint in square metres: 9 805m<sup>2</sup> (0.98ha)
  - Dam wall height in metres: 5.7m
- Details of the proposed expansion
  - Expansion of capacity in cubic metres: 49 200m<sup>3</sup>
  - Expansion of footprint in square metres: 19 995m<sup>2</sup> (1.99ha)
  - Increase in wall height in metres: 0.4m
- Details of the total expanded dam
  - Total expanded capacity in cubic metres: 64 200m<sup>3</sup>
  - Total expanded footprint in square metres: 29 800m<sup>2</sup> (2.98ha)
  - Final wall height: 6.1m

The Final Basic Assessment Report (FBAR) provides more detail on the proposed project components and are indicated in the Facility Illustration Drawing attached as Appendix C.

As part of the expansion process the following components will require demolition and relocation/ replacement, as they are located within portions of the proposed development footprint:

- An existing pumphouse at the foot of the existing northern dam wall is proposed to be demolished and relocated near the new northern dam wall.
- The remainder of the existing pastures (e.g. lucerne/ kikuyu grass) are proposed to be replaced with citrus orchards as a part of the future land use objective of the farm. However, this component of the project does not trigger any listed activities in terms of the NEMA EIA Regulations, 2014, which would require Environmental Authorisation.

### **Pre-construction Phase**

Prior to commencement with construction activities on the farm, the detailed design drawings for the proposed expansion of the existing dam and associated infrastructure, must be finalised.

### **Construction Phase**

It is anticipated that the proposed construction phase of the project will entail the following activities on the farm:

- Existing dam will be emptied of water prior to demolition.
- Existing dam walls will be demolished and rebuilt during the proposed expansion.
- Excavation of topsoil will be achieved with the aid of earth moving machinery and is proposed to be stockpiled temporarily, while the dam construction and shaping (cutting) is undertaken.
- Compaction of a 200mm layer of clay along the bottom of the new dam, to maintain impermeability.
- Excavated topsoil to be used in the construction of the dam wall and indigenous vegetation, to rehabilitate the proposed new dam walls in order to manage potential erosion.
- Installation of an outlet irrigation pipeline with an internal diameter of ~250mm, including the removal of topsoil, temporary stockpiling thereof and reinstatement of the soil after installation of the pipe. It is anticipated that an installation corridor of ~1m will be required.
- Installation of internal irrigation infrastructure within future orchards blocks, with varying diameters (between 50mm and 250mm).
- Demolition of the pumphouse and relocation, as well as construction of the new pumphouse adjacent to the new northern dam wall.
- Future land use will include the removal of the remainder of existing pastures (e.g. lucerne/ kikuyu grass) on the farm and the replacement thereof with citrus orchards.

## **Operational Phase**

Water will be supplied to the new dam from the LSRWUA canal system, wherefrom it is pumped into the surrounding cultivated fields for irrigation purposes, via internal irrigation pipes of varying diameters. The future land use of the farm includes the replacement of the existing pastures with citrus orchards. Essentially, and subsequent to the completion of the proposed dam expansion, the new dam will store water to irrigate ~44ha of citrus orchards, predominantly for the local market but also for the export market. Appendix G(ix) of the CBAR includes confirmation of scheduled water use entitlements for Farm 682, from the LSRWUA.

## **BASIC ASSESSMENT PROCESS AND PUBLIC PARTICIPATION**

In terms of the NEMA EIA Regulations 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment (BA), because it triggers the following listed activity, in Listing Notice 3 (GN R324):

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This listed activity requires authorisation from the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT). The BAR needs to show the competent authority, DEDEAT (Sarah Baartman Region), as well as the project applicant, JN Venter Family Trust, what the consequences of their choices will be in biophysical, social and economic terms. Public involvement forms an important component of this process, by assisting in the identification of issues and alternatives to be evaluated.

Public Participation forms an important component of the BA Process and together with specialist input, assists the competent authority with their decision-making. The BA Process is currently at the stage where the Final Basic Assessment Report (FBAR) is being submitted to the competent authority for their decision-making. No comment period is proposed for the FBAR.

## **SPECIALIST STUDIES**

The following specialist studies have been undertaken as part of the BA Process in order to inform the FBAR:

- Aquatic Specialist Assessment
- Desktop Archaeological Impact Assessment (Letter of Exemption)
- Desktop Heritage Screening Report

## **ENVIRONMENTAL IMPACT STATEMENT**

The proposed expansion of the existing farm dam is anticipated to have an overall LOW NEGATIVE impact on the receiving environment during the construction phases, if all the recommended mitigation measures are applied. In the operational phase, the overall impact is VERY LOW NEGATIVE to NEUTRAL.

Ecological impacts are not anticipated to be significant, as the site is largely modified, and the Sundays River and riparian habitat is located ~420m from the proposed dam expansion footprint. Additionally, while not directly associated with the expansion of the dam, a 60m buffer around the riparian habitat of the Sundays River has been recommended by the aquatic specialist to reduce potential impacts of future land use activities. Changes to the local hydrological regime, with possible increases in surface flows during the operational phase (i.e. established citrus orchards) has been identified. However, with the application of the proposed mitigation measures it has been rated as a LOW NEGATIVE impact, which has a less than 50% chance of occurring. An increase in the potential aquatic habitat would occur due to an increase in available emergent habitat associated with the expanded dam (larger water surface area). This impact has been rated as a LOW POSITIVE.

Socio-economic impacts which have been identified, which include the generation of noise and dust, as well as health and safety impacts, can also be mitigated to LOW or VERY LOW NEGATIVE.

Heritage impacts can be mitigated to NEUTRAL during the construction phase if the ECO and/ or construction foreman are informed of the types of heritage artefacts which could be uncovered during vegetation clearing and excavations and what action is to be taken should heritage material be uncovered.

The application of the proposed mitigation and design measures, as recommended by the respective specialists, are anticipated to effectively manage and reduce the identified potential impacts so as to not have a detrimental effect on the receiving environment.

In addition, some positive impacts have also been predicted. These include the creation of a number of additional employment opportunities and associated economic growth for the local community (rated as MEDIUM POSITIVE), as well as the possible increase of aquatic habitat due to an increase in available emergent habitat associated with the expanded dam (larger water surface area). This impact has been rated as a LOW POSITIVE.

### **No-Go Option**

The No-Go alternative will result in the potential employment and skills development opportunities for the local community not being realised. In turn, the potential opportunity for economic growth in the community will be lost. The securing of irrigation water supply for future agricultural activities will also not be realised. These consequential impacts are regarded as HIGH NEGATIVE.