

JADE HILLS FARMING PTY LTD: THE PROPOSED CONSTRUCTION OF THE NEW JADE HILLS DAM

ON PORTION 26 OF FARM STINKFONTEIN 383, CERES, WESTERN CAPE

DRAFT SCOPING REPORT AND PLAN OF STUDY FOR COMMENT



DEADP REF:

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JADE HILLS FARMING PTY LTD

PROPOSED CONSTRUCTION OF THE NEW JADE HILLS DAM

On Portion 26 of Farm Stinkfontein 383, Ceres, Western Cape

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INDEPENDENCE & CONDITIONS

EnviroAfrica is an independent consulting firm that has no interest in the proposed activity other than fair remuneration for services rendered. Remuneration for services is not linked to approval by decision making authorities and EnviroAfrica has no interest in secondary or downstream development as a result of this project. There are no circumstances that compromise the objectivity of this Scoping Report. The findings, results, observations and recommendations given here are based on the author's best scientific and professional knowledge and available information. EnviroAfrica reserves the right to modify aspects of this report, including the recommendations if new information becomes available which may have a significant impact on the findings of this report.

RELEVANT QUALIFICATIONS & EXPERIENCE OF THE EAP

This Scoping Report was prepared by Inge Erasmus who has a BA Honours in Geography and Environmental Studies from Stellenbosch University. Before completing her honours degree Inge gained practical experience as a junior environmental consultant at Hatch Goba in Johannesburg from 2014 until 2015. Inge acted as an environmental control officer on a variety of projects in the Northern Cape, conducting environmental compliance audits, as well as being part of a project team working on a major resettlement project for Kumba Iron ore. Inge joined Enviro Africa in February 2017, generally performing duties as an environmental assessment practitioner with regards to NEMA EIA applications.

This Post-Application Draft Scoping Report was partially compiled and reviewed by Clinton Geyser who has a MSc. Degree in Environmental Management. He has been working as an Environmental Assessment Practitioner since 2009 and is currently employed at EnviroAfrica cc.

Qualifications:

- BSc. Earth Sciences, Majors in Geology and Geography and Environmental Management (1998 – 2000) and;
- BSc. (hons): Geography and Environmental Management (2001) and;
- MSc. Geography and Environmental Management (2002), all from the University of Johannesburg.

Expertise:

Clinton Geyser has over ten years' experience in the environmental management field as an Environmental Assessment Practitioner and as an Environmental Control Officer, having worked on a variety of projects in the Western, Eastern and Northern Cape.

The whole process and report was supervised by Bernard de Witt who has more than 20 years experience in environmental management and environmental impact assessments.

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Please refer to **Appendix 11** for the CV's of the EAPs.

CONTENTS

1. INTRODUCTION.....	7
1.1 BACKGROUND.....	7
1.2 DESCRIPTION OF THE PROPOSED ACTIVITY.....	8
2. NEED AND DESIRABILITY	10
2.1 NEED	10
2.2 DESIRABILITY	11
2.2.1 LOCATION AND ACCESSIBILITY	11
2.2.2 COMPATIBILITY WITH THE SURROUNDING AREA	11
3. SITE DESCRIPTION	12
3.1 LOCATION	12
3.2 VEGETATION	13
3.3 CRITICAL BIODIVERSITY AREAS AND ECOLOGICAL SUPPORT AREAS	14
3.4 FRESHWATER	15
3.5 CLIMATE	16
3.6 SOCIO-ECONOMIC CONTEXT	16
3.7 HERITAGE FEATURES.....	17
4. LEGAL REQUIREMENTS	18
4.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA.....	18
4.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)	18
4.3 NATIONAL HERITAGE RESOURCES ACT.....	20
4.4 EIA GUIDELINE AND INFORMATION DOCUMENT SERIES	21
4.5 NATIONAL WATER ACT	21
4.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT.....	22
5. ALTERNATIVES	23
5.1 SITE ALTERNATIVES FOR THE PROPOSED DAM.....	23
5.2 ACTIVITY ALTERNATIVES	23
5.3 NO-GO ALTERNATIVE	23
6. ENVIRONMENTAL IMPACT ASSESSMENT, SIGNIFICANCE AND MITIGATION METHODOLIGY.....	24
6.1 ENVIRONMENTAL SIGNIFIGANCE RISK RATING	26
7. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS.....	27
7.1 BIODIVERSITY	27
7.1.1 TERMS OF REFENCE - BOTANICAL IMPACT ASSESSMENT:	28
7.1.2 SUMMARY - BOTANICAL SPECIALIST FINDINGS:	28
7.2 FRESHWATER	29
7.2.1 TERMS OF REFERENCE - FRESHWATER IMPACT ASSESSMENT:	29
7.2.2 SUMMARY- FRESHWATER IMPACT REPORT:.....	31
7.3 HERITAGE	32
7.3.1 TERMS OF REFERENCE - HERITAGE SCREENER:.....	32
7.3.2 SUMMARY HERITAGE FINDINGS:	32
7.4 VISUAL IMPACT	33
7.5 SAFETY	33
7.6 LOSS OF AGRICULTURAL LAND	33
7.7 SOCIO-ECONOMIC IMPACT	33
7.8 OTHER ISSUES IDENTIFIED	33
8. PLAN OF STUDY FOR THE EIA	34

8.1	PRE-APPLICATION PHASE.....	34
8.2	APPLICATION PHASE	34
8.3	PUBLIC PARTICIPATION AND INTERESTED AND AFFECTED PARTIES.....	35
8.3.1	DETAILS OF THE PUBLIC PARTICIPATION PROCESS UNDERTAKEN.....	36
9.	CONCLUSION AND RECOMMENDATIONS.....	38
10.	OATH OF AFFIRMATION BY THE EAP	40

APPENDICES

APPENDIX A:	LOCALITY MAPS
APPENDIX B:	PRELIMINARY DESIGN DRAWINGS
APPENDIX C:	SITE PHOTOGRAPHS
APPENDIX D:	SENSITIVITY MAPS
APPENDIX E:	AUTHORITY CORRESPONDENCE
APPENDIX F:	PUBLIC PARTICIPATION PROCESS
APPENDIX G:	SPECIALIST REPORTS
APPENDIX H:	ENVIRONMENTAL MANAGEMENT PROGRAMME
APPENDIX I:	IMPACT ASSESSMENT RATINGS
APPENDIX J:	PRELIMINARY DESIGN REPORT AND WULA REPORT
APPENDIX K:	MEETING MINUTES
APPENDIX L:	EAP CV

ACRONYMS

BGIS	Biodiversity Geographic Information System
CBA	Critical Biodiversity Area
DEA	Department of Environmental Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMP	Environmental Management Programme
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
I&APs	Interested and Affected Parties
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
NID	Notice of Intent to Develop
NWA	National Water Act
ESA	Ecological Support Area
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
WULA	Water Use Licence Application

1. INTRODUCTION

1.1 BACKGROUND

Agriculture is the main economic driver of the Cape Winelands area and mainly responsible for the socio-economic stability of the area.

Mr Jean Faul is the representative and landowner of Jade Hills Farming, and also the Applicant. This application is for the investigation and consideration of the construction of a new earth filled dam on Portion 26 of Farm Stinkfontein 383, Ceres Western Cape or otherwise known as Jade Hills Farms.

The farm was bought from the previous landowners in 2013. The previous landowners farmed this property with the neighbouring property as one unit. When this property was sold off the existing 8.6ha listed water use with the Rietvallei scheme has come with it. The Rietvallei Scheme originates from the mid 1960's and was registered in June 1969 with a permit that entails surplus winter to be abstracted from the Titus River between 15 April to 30 September. The scheme originally consisted of contour earth trenches which was later upgraded to pipelines. The scheme currently has 8 abstraction points and serves a total of about 150ha over a few properties. Stinkfontein 383/26, also known as Jade Hills, has access to one of these abstraction points, namely Loxtonia/Jade Hills Delivery point, which has an allocation of 8.6ha out of the total 150ha. Please refer to the WULA Report, Appendix J2.

Consideration is therefore being given for the construction of the proposed Jade Hills dam for potting up of this particular winter water use for summer irrigation. The concerned water use was never potted up before due to the lack of storage capacity and was used on the neighbouring property, also belonging to the previous owner. The new owner of the property would like to ensure the productive use of this winter water use with the aim to establish an irrigated development on the previously dry-land farming property. Should the construction of the dam be approved, an expansion of about 10.5ha of fruit orchards is proposed. The establishment of 10.5ha fruit orchards would provide economic stability and job creation for a labour market that needs it urgently.

The proposed development entails the construction of a new dam for the storing of winter water for summer irrigation. It is proposed that the construction of the dam occurs in two phases. This application is for the investigation of the proposed phase 1 development. For phase 1 it is proposed that the dam will have a capacity of $\pm 67000\text{m}^3$, a maximum wall height of $\pm 11.1\text{m}$ and a total surface area of $\pm 2\text{ha}$. An existing water use of (8.6ha) for the taking of water exists and water will come from the Rietvalley scheme for phase 1. A pipeline of approximately 700m with a diameter of 150mm is proposed from the Jade Hills Delivery Point. Water to flow via gravity to the dam.

The applicant is Jade Hills Farming (PTY) Ltd who will undertake the activity should it be approved. EnviroAfrica CC has been appointed as the independent environmental assessment practitioner (EAP) responsible for undertaking the relevant EIA and the Public Participation Process required in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA). Sarel Bester Ingenieurs BK is responsible for the Water Use License Application (WULA) in terms of the National Water Act (Act 36 of 1998) (NWA).

This Scoping Report, which will be submitted to the Department of Environmental Affairs and Development Planning (DEA&DP) for consideration, forms part of the EIA process.

The purpose of this Draft Environmental Scoping Report is to describe the proposed project, the process followed to date, to present alternatives and to list issues identified for further study and comment by specialists.

Should the EIA process be authorised by DEA&DP, the Specialist Studies (noted in Section 8) will be undertaken and the significant issues (noted in Section 6) will be investigated and assessed during the next phase of this application.

1.2 DESCRIPTION OF THE PROPOSED ACTIVITY

It is proposed that a farm storage dam be constructed on Portion 26 of Farm Stinkfontein No. 383. Water will be used for the irrigation of proposed 10.5ha of fruit orchards.

Existing water use right & abstraction:

An existing water use of (8,6ha) for the taking of water exists and water will come from the Rietvallei scheme for phase 1. Please refer to figure 2 below and Appendix A, Locality Maps, for the existing Rietvallei Scheme Irrigation abstraction point, pipeline and Jade Hills delivery point. It is proposed that a $\pm 700\text{m}$ long, 150mm diameter pipeline be constructed from the existing Jade Hills Delivery Point towards the dam from where water will flow via gravity to the proposed dam.

The eWULA process has been initiated by Sarel Bester Ingenieers, WULA Reg nr: WU9322. The WULA includes the following activities under the National Water Act:

- Section 21 (b) - storing of water
- Section 21 (c) - impeding or diverting the flow of a watercourse
- Section 21 (i) - altering the bed, banks, course or characteristics of a watercourse

Please refer to Appendix E2 for a letter from Rietvallei Irrigation Board for confirmation of the exiting water use right for the property and Appendix J2 for the WULA Report

Proposed construction of the dam:

The proposed development entails the construction of a new dam for the storing of winter water for summer irrigation. It is proposed that the construction of the dam occurs in two phases, phase two will be dealt with in a separate application as no water is currently available for the phase 2 development. For phase 1 it is proposed that the dam will have a capacity of $\pm 67000\text{m}^3$, a maximum wall height of $\pm 11.1\text{m}$ and a total surface area of $\pm 2\text{ha}$. A pumphouse of approximately 40m^2 is proposed on the upstream side of the dam wall as indicated in Appendix A, locality and layout plans.

Proposed construction of the new dam as proposed for Phase 1:

Table 1: Proposed Phased Development of Jade Hills Dam

Description	Phase 1
Wall height (m)	11.1 m
Wall length (m)	237 m
Dam Capacity (m^3)	67 000 m^3
Flooded area (Ha)	1.7 ha
Footprint area (Ha)	2.0 ha

The dam will be located on existing agricultural land (wheat farming) on the same property where the 10.5ha of fruit orchards will be established. The location was chosen to ensure the project life cycle costs are minimised (gravity feed vs. pumping cost etc.). Farm roads between the fruit orchards is proposed and irrigation infrastructure will fall within farm roads on transformed land.

Access to the dam will be from existing farm roads and electricity will be from existing connections. Please see **Appendix A** for locality maps and layout plans & **Appendix B** for design drawings.



Figure 1: Locality map of the proposed Jade Hills Dam site in proximity to surrounding towns

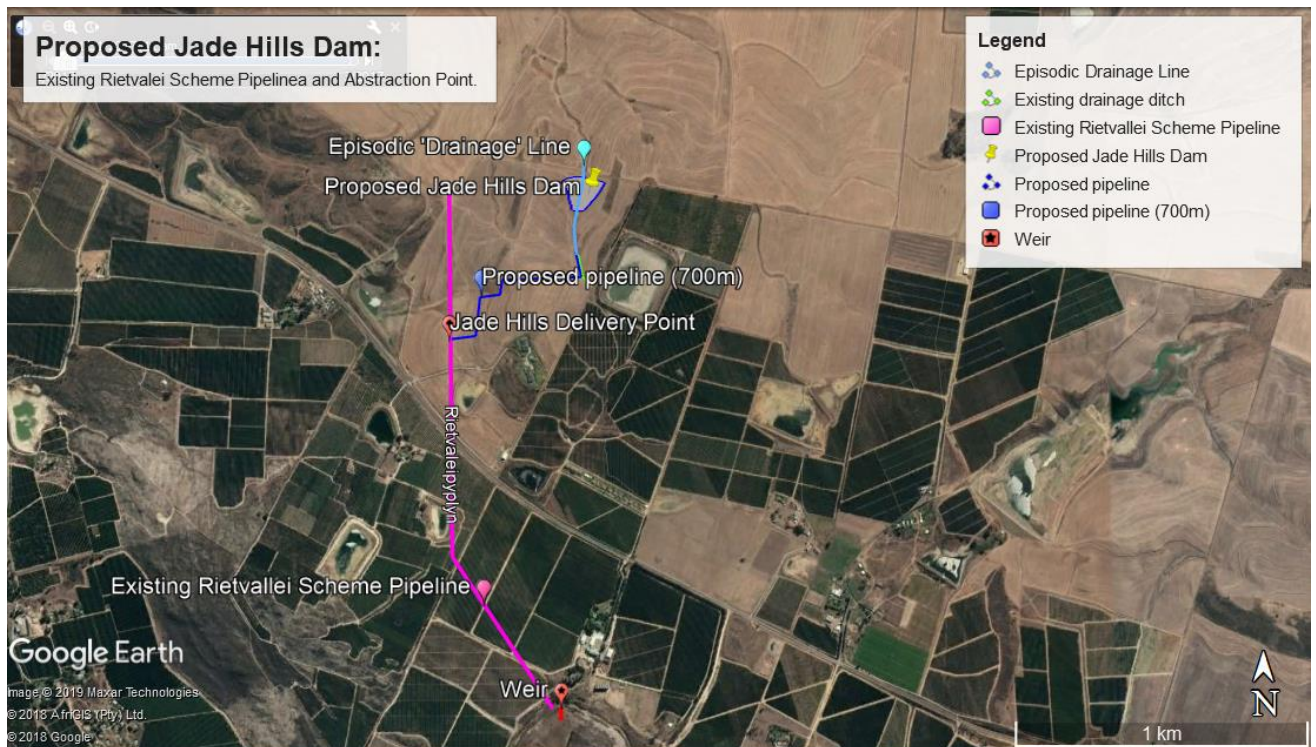


Figure 2: Google map indicating the existing Rietvallei pipeline abstraction point, to existing Jade Hills delivery point and proposed pipeline form where water will gravitate to the dam.

2. NEED AND DESIRABILITY

In terms of the National Environmental Management Act, and EIA 2014 regulations, as amended, the Scoping/EIA report must provide a description of the need and desirability of the proposed activity. The consideration of “need and desirability” in EIA decision-making requires the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest.

While the concept of need and desirability relates to the *type* of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which *need* refers to *time* and *desirability* to *place* – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can be equated to *wise use of land* – i.e. the question of what is the most sustainable use of land.

2.1 NEED

This application is for the storage of an already existing water use. This existing water use could never be potted before due to inadequate storage capacity on the property and the water use was never be utilised to its full potential. Therefore, the need existed for the consideration for the construction of the proposed new Jade Hills dam. The water would be applied to its full potential and furthermore support agricultural development that will have a direct influence in the socio-economic status of the previously disadvantaged. Should the construction of the dam be approved, an expansion of about 10ha of fruit orchards is proposed. The establishment of 10ha fruit orchards will

promote economic growth and about 12 additional permanent employment opportunities will be generated for a community that urgently needs it.

2.2 DESIRABILITY

The following factors determine the desirability of the area for the proposed Jade Hills dam.

2.2.1 LOCATION AND ACCESSIBILITY

Portion 26 of Farm Stinkfontein No. 383 is a very small property with a rather flat local topography situated within the Ceres valley. From an engineering point of view, the location was chosen to ensure the project life cycle costs are minimised (gravity feed vs. pumping cost etc.). The site is considered the best and only economical option with a natural basin situated relatively high relative to the area-to-be-developed. The storage/cost ratio is considered viable under the circumstances requiring the least amount of earthworks while offering the best gravitational benefits with considering irrigation aspects, both considered positive from an economical point of view.

Both the existing as well as the proposed farm infrastructure lends itself towards this option. The proposed footprint is on existing fields without any negative impact on natural vegetation. The site is also situated close to the existing Rietvlei Scheme off-take point from where water would be received ensuring minimal losses.

Access to the farm will be from via existing farm roads, no additional access roads will need to be constructed.

Locality and layout maps are included in **Appendix A**, Design Layout Plans **Appendix B**, with site photographs in **Appendix C**.

2.2.2 COMPATIBILITY WITH THE SURROUNDING AREA

The site is largely surrounded by agricultural activities, dry-land farming. This is evident Figure 1 above and site photographs Appendix C. Please also refer to the Crop census map, Appendix D4.

The proposed activity will therefore not be “out of character” with the surrounding land use and is expected to have a negligible impact on the visual character of the area.

3. SITE DESCRIPTION

3.1 LOCATION

The site is located on Portion 26 of Farm Stinkfontein No. 383 otherwise known as Jade Hills Farm. The farm is located within the Ceres Valley about 6km east-south-east of Ceres. The proposed dam will fall on existing agricultural area (wheat production) and almost no remaining natural vegetation is expected. The drainage line of the property is also considered transformed with no natural vegetation.

The site coordinates for the dam wall are: S 33° 22'31.67", E19° 22'13.15".

The SG code for the property is: C01900000000038300026

Access to the farm is via existing access roads on the property.

Please refer to the figures below and Appendix A for Locality maps.

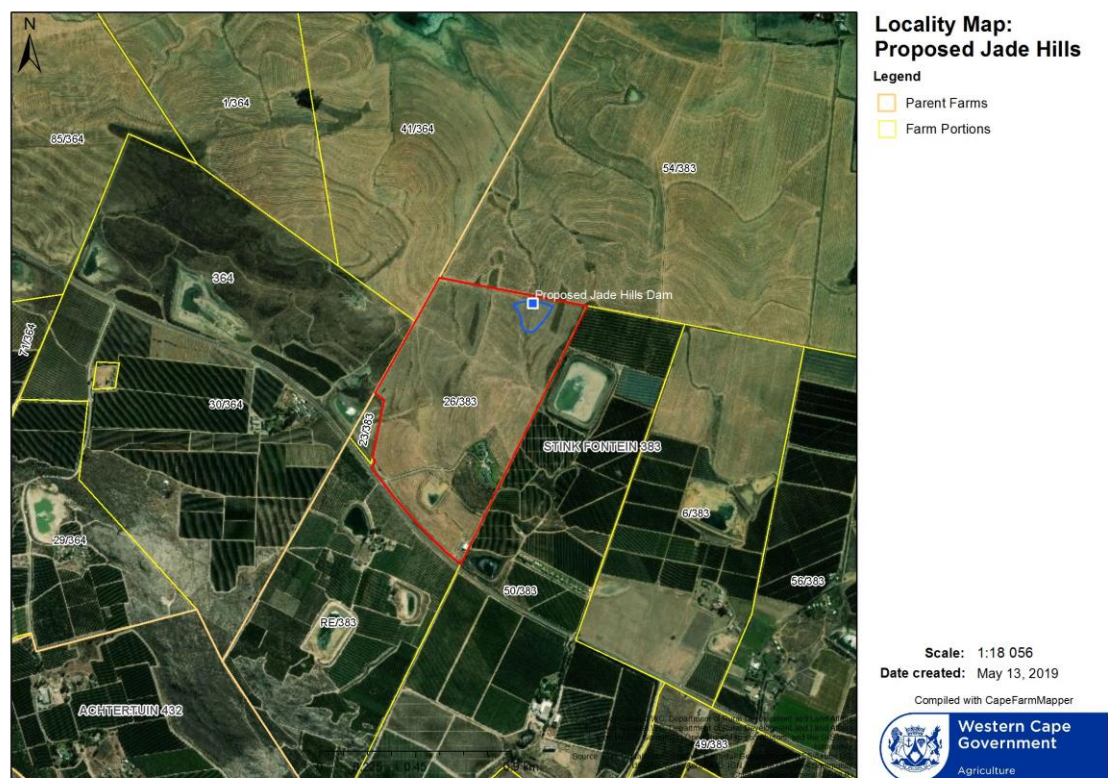


Figure 3: Locality Map indicating the proposed locality of Jade Hills dam on Portion 26 Farm Stinkfontein No 383, Ceres.



Figure 4: Photo taken standing in the proximity of the dam toe locality, facing North towards the locality of the dam wall. Episodic Drainage line visible in the photo

3.2 VEGETATION

The proposed dam will be located in an area that was utilized for wheat cultivation over a long period of time. Areal imagery indicated that the site is most likely transformed as a result of past and present agricultural practices.

According to the Vegetation Map from Cape Farm Mapper (see figure 5 below and Appendix D1) the vegetation that would have been present on site would and would be affected by the proposed dam development is Ceres Shale Renosterveld. This type of vegetation is considered “Vulnerable” according to the *National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)*, *National List of Ecosystems that are threatened and in need of protection*. It is expected that the proposed dam will fall mostly on agricultural land and that no natural vegetation will be lost. Please refer to the figure above and Appendix C for site photographs.



Figure 5: Vegetation Map, Cape Farm Mapper

3.3 CRITICAL BIODIVERSITY AREAS AND ECOLOGICAL SUPPORT AREAS

According to the Biodiversity Overlay Maps from Cape Farm Mapper (see figure 6 below and Appendix D2) the proposed dam will not fall within a Critical Biodiversity Area (CBA) but will fall within an Ecological Support Area 2 (ESA2).

Category 2 ESAs are areas that are likely severely degraded or have no natural cover remaining and therefore require restoration. These areas are not essential for meeting biodiversity targets but play an important role in supporting the functioning of Critical Biodiversity Areas (CBAs) or protected areas, and are often vital for delivering ecosystem services. The management objectives for Category 2 ESAs is to restore or manage the features to minimize impacts on ecological processes and ecological infrastructure functioning, especially soil and water related services, and to allow for faunal movement.

It is therefore necessary that that good environmental control measures be implemented during construction and operations of the dam. Properly designed and managed farm dams can attract a variety of birds, insects and animals to the area which can contribute to the conservation of biodiversity.

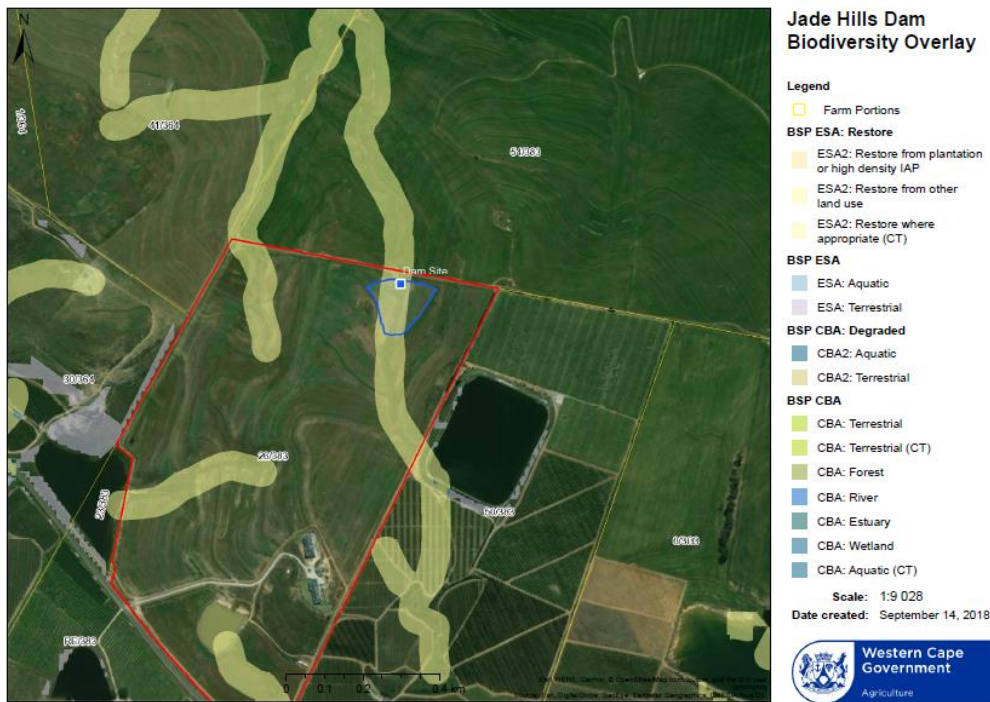


Figure 6: Biodiversity Overlay Map, Cape Farm Mapper

3.4 FRESHWATER

According to the Freshwater Resources Map from Cape Farm Mapper (please refer to figure 7 below and Appendix D3) the proposed dam will intercept a non-perennial stream/ drainage line. Agricultural activities on the property and surrounding properties is expected to have modified the movement of surface water through the landscape.

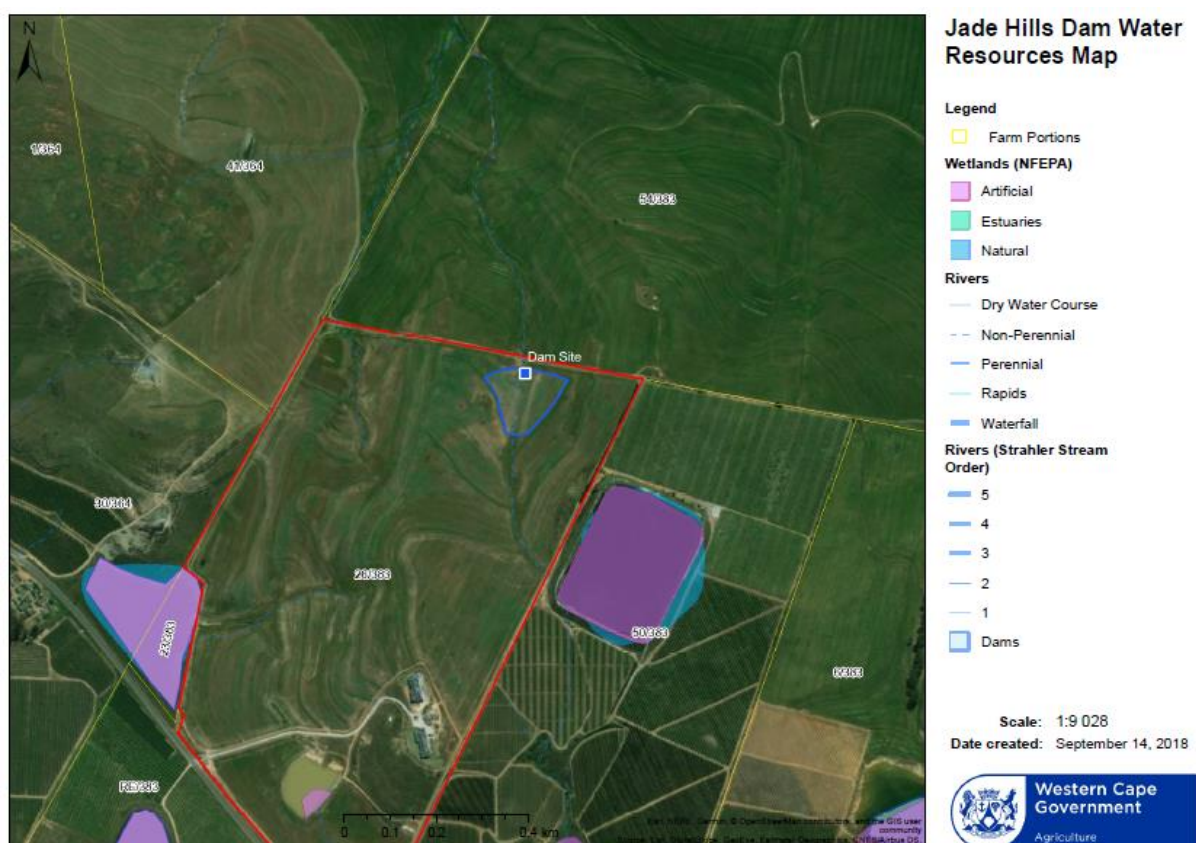


Figure 7: Water Resources Map, Cape Farm Mapper

3.5 CLIMATE

Ceres normally receives about 599mm of rain per year and because it receives most of its rainfall during winter it has a Mediterranean climate. The chart below (lower left) shows the average rainfall values for Ceres per month. It receives the lowest rainfall (9mm) in February and the highest (117mm) in June. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Ceres range from 15.2°C in July to 28.2°C in February. The region is the coldest during July when the mercury drops to 3.8°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures. (www.saexplorer.co.za).

3.6 SOCIO-ECONOMIC CONTEXT

According to the 2017 Socio-economic Profile: Witzenberg Municipality socio-economic upliftment of previously disadvantaged communities remains one of the main challenges faced by the municipality.

The local economy of the Witzenberg Municipality area is driven by the agriculture sector at 17,3%. In 2014, the agriculture sector's GDP growth rate was 8.5% this growth rate can be attributed to a significant increase in the exports in fruits. The sector that contributes the most to job creation in the Witzenberg Municipal area is the agricultural sector at 34,7 %. The official unemployment rate has steadily been rising in the municipal area for the last decade, there is a definite need for economic development, and subsequent employment opportunities.

Should the construction of the dam be approved, an expansion of about 10ha of fruit orchards is proposed. The establishment of 10ha fruit orchards will promote economic growth and about 12 additional permanent employment opportunities will be generated for a community that urgently needs it. Construction of the proposed dam will create jobs during the construction phase of the activity

3.7 HERITAGE FEATURES

The National Heritage Resources Act requires relevant authorities to be notified regarding this proposed development, as the following activities are relevant:

- *any development or other activity which will change the character of a site exceeding 5 000 m² in extent;*

A heritage screener was conducted by CTS Heritage and a Notice of Intend to Develop (NID) was submitted to Heritage Western Cape (Appendix G3).

4. LEGAL REQUIREMENTS

The current assessment is being undertaken in terms of the National Environmental Management Act (Act 107 of 1998, NEMA), to be read with section 24 (5): NEMA EIA Regulations 2017, as amended. However, the provisions of various other Acts must also be considered within this EIA.

The legislation that is relevant to this study is briefly outlined below.

4.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA

The Constitution of the Republic of South Africa (Act 108 of 1996) states that everyone has a right to a non-threatening environment and that reasonable measures are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

4.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)

The National Environmental Management Act (Act 107 of 1998) (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the relevant authorities based on the findings of an environmental assessment. NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). These powers are delegated in the Western Cape to the Department of Environmental Affairs and Development Planning (DEA&DP).

On the 4 December 2014 the Minister of Environmental Affairs promulgated regulations in terms of environmental impact assessments, under sections 24(5) and 44 of NEMA, namely the EIA Regulations 2014 (GN No. R 326) these regulations were amended in April 2017, and include:

- GN No. R. 327 (Listing Notice 1);
- GN No. R. 325 (Listing Notice 2); and
- GN No. R. 324 (Listing Notice 3).

Listing Notice 1 and 3 are for a Basic Assessment and Listing Notice 2 for a full Environmental Impact Assessment.

According to the 2014 EIA regulations, as amended in 2017, the following potentially listed activities may be triggered (refer to Table 2)

Table 2: Summary of 2014 EIA regulations triggered

GN R327	Short description of relevant Activity(ies) in terms of Listing Notice 1	Description of specific portion of the development that might trigger the listed activity.
12	The development of (i) dams or weirs where the dam, including infrastructure and water surface area, exceeds 100 m ² in size (a) within a watercourse	Proposed development of a dam with a footprint of more than 100m ² within an episodic drainage line.
19	The infilling or depositing of any material of more than 10 cubic meters into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10cubic meters from a watercourse:	Proposed development of a dam will constitute the excavation of more than 10m ³ material in an episodic drainage line.
27	The clearance of an area of 1 ha or more, but less than 20 ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for – (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a MMP.	The proposed development will constitute that clearance of more than 1ha but less than 20ha of transformed/ disturbed vegetation.
GN R325	Short description of relevant Activity(ies) in terms of Listing Notice 2	Description of specific portion of the development that might trigger the listed activity.
16	Development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 meters or higher or where the high-water mark of the dam covers an area of 10ha or more.	It is proposed that the dam wall height is 11.1m
GN R324	Short description of relevant Activity(ies) in terms of Listing Notice 3	Description of specific portion of the development that might trigger the listed activity.
12	Clearance of an area of more than 300 m ² of indigenous vegetation (i) Western Cape (i) Within any critically endangered or endangered ecosystem listed in terms of Section 53 of the NEMBA or prior to the publication of such a list, within an area that has be identified as critically endangered in the National Spatial Biodiversity Assessment 2004; (ii) within a CBA identified in a bioregional plan.	The proposed activity will enable the clearance more than 300m ² of transformed/ disturbed vegetation within an ESA2.
14	The development of (iv) dams, where the dam including infrastructure and water surface structure exceeds 10 m ² (i) Western Cape (i) Outside urban areas (ff) CBAs or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.	The proposed development of a dam will have a water surface area exceeding 10m ² within an ESA2.

An Application Form will be submitted to DEA&DP. This Post-Application Scoping Process is undertaken to identify potential issues.

The principles of environmental management as set out in section 2 of NEMA have been taken into account. The principles pertinent to this activity include:

- People and their needs will be placed at the forefront while serving their physical, psychological, developmental, cultural and social interests. The activity seeks to provide additional employment and economic development opportunities, which are a local and national need – *the proposed activity is expected to have a beneficial impact on people, especially developmental and social benefits, as well providing additional employment and economic development opportunities.*
- Development will be socially, environmentally and economically sustainable. Where disturbance of ecosystems, loss of biodiversity, pollution and degradation, and landscapes and sites that constitute the nation's cultural heritage cannot be avoided, are minimised and remedied. The impact that the activity will potentially have on these will be considered, and mitigation measures will be put in place - *potential impacts have been identified and considered, and any further potential impacts will be identified during the public participation process. Mitigation measures will be included in the EMP.*
- Where waste cannot be avoided, it will be minimised and remedied through the implementation and adherence of the Environmental Management Programme (EMP) – *this will be included in the EIR.*
- The use of non-renewable natural resources will be responsible and equitable.
- The negative impacts on the environment and on people's environmental rights will be anticipated, investigated and prevented, and where they cannot be prevented, will be minimised and remedied.
- The interests, needs and values of all interested and affected parties will be taken into account in any decisions through the Public Participation Process.
- The social, economic and environmental impacts of the activity will be considered, assessed and evaluated, including the disadvantages and benefits.
- The effects of decisions on all aspects of the environment and all people in the environment will be taken into account, by pursuing what is considered the best practicable environmental option.

4.3 NATIONAL HERITAGE RESOURCES ACT

The protection and management of South Africa's heritage resources are controlled by the National Heritage Resources Act (Act No. 25 of 1999). South African National Heritage Resources Agency (SAHRA) is the enforcing authority and in the Western Cape, SAHRA have, in most cases, delegated this authority to Heritage Western Cape (HWC).

In terms of Section 38 of the National Heritage Resources Act, SAHRA and/or HWC will require a Heritage Impact Assessment (HIA) where certain categories of development are proposed. Section 38(8) also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is found to be adequate, a separate HIA is not required.

The National Heritage Resources Act requires relevant authorities to be notified regarding this proposed development, as the following activities are relevant:

- *any development or other activity which will change the character of a site exceeding 5 000 m² in extent;*

Furthermore, in terms of Section 34(1), no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the SAHRA, or the responsible resources authority. Nor may anyone destroy, damage, alter, exhume or remove from its original position, or otherwise disturb, any grave or burial ground older than 60 years, which is situated

outside a formal cemetery administered by a local authority, without a permit issued by the SAHRA, or a provincial heritage authority, in terms of Section 36 (3). In terms of Section 35 (4), no person may destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object, without a permit issued by the SAHRA, or the responsible resources authority.

4.4 EIA GUIDELINE AND INFORMATION DOCUMENT SERIES

The following are the latest guidelines that form part of the DEA&DP's *Environmental Impact Assessment Guideline and Information Document Series* (Dated: October 2011):

- ✓ *Guideline on Transitional Arrangements*
- ✓ *Guideline on Alternatives*
- ✓ *Guideline on Public Participation*
- ✓ *Guideline on Exemption Applications*
- ✓ *Guideline on Appeals*
- ✓ *Guideline on Need and Desirability*
- ✓ *Information Document on the Interpretation of the Listed Activities*
- ✓ *Information Document on Generic Terms of Reference for EAPs and Project Schedules*

4.5 NATIONAL WATER ACT

The National Water Act (Act no 36 of 1998) provides the legal framework for the effective and sustainable management of our water resources. The Act was published in 1998 with the aim of fundamentally reforming the past laws relating to water resources which were discriminatory and not appropriate to South African conditions. Central to the National Water Act is a recognition that water is scarce and precious resource that belongs to all of the people of South Africa. It also recognises the ultimate goal of water resource management is to achieve the sustainable use of water for the benefit of all South Africans. The Act aims to protect, use, develop, conserve, manage and control water resources as a whole, promoting the integrated management of water resources with the participation of all stakeholders.

Besides the provisions of NEMA for this EIA process, the proposed dam also requires authorizations under the National Water Act (Act NO. 36 of 1998). The Breede-Gouritz Catchment Management Agency BGCMA) is appointed by the Department of Water Affairs to manage this particular larger Breede & Gouritz CMA is appointed by the DWS to manage this particular larger Breede & Gouritz River catchment area whereas Titus River Irrigation Board is one of the smaller delegated entities to regulate water uses in the area in which the applicants property is located. BGCMA will be a leading role-player in this EIA.

An existing water use of (8,6ha) for the taking of water exists and water will come from the Rietvalley scheme for phase 1 (Appendix E2). It is proposed that a separate Water Use License Application for the taking of water will have to be done for the proposed phase 2 development at a later stage.

The eWULA process has been initiated by Sarel Bester Ingenieers, WULA Reg nr: WU9322. The WULA includes the following activities under the National Water Act:

- Section 21 (b) - storing of water
- Section 21 (c) - impeding or diverting the flow of a watercourse
- Section 21 (i) - altering the bed, banks, course or characteristics of a watercourse

The proposed dam to fall within an episodic drainage line. Please refer to Appendix E2 for a letter from Rietvallei Irrigation Board for confirmation of the existing water use right for the property and Appendix J2 for the WULA Report

In terms of Chapter 12 of the National Water Act, the proposed dam is considered a dam with a safety risk. The dam therefore requires a permit to construct from the Dam Safety Office of the Department of Water Affairs. The design and construction must conform to the conditions of the Dam Safety Regulations as set out in Government Notice R139 in Government Gazette No. 35062 of 24 February 2012. Regulations 10 and 15 will be applicable to the proposed dam. A licence to construct application will only be submitted after an application for the safety classification of the proposed dam has been submitted, and only after the NEMA process has been concluded.

4.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT

The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) is part of a suite of legislation falling under NEMA, which includes the Protected Areas Act, the Air Quality Act, the Integrated Coastal Management Act and the Waste Act. Chapter 4 of NEMBA deals with threatened and protected ecosystems and species and related threatened processes and restricted activities. The need to protect listed ecosystems is addressed (*Section 54*).

5. ALTERNATIVES

Alternatives have been considered during the Scoping phase and these are described below.

5.1 SITE ALTERNATIVES FOR THE PROPOSED DAM

Portion 26 of Farm Stinkfontein No 383, or Jade Hills is a very small property with a rather flat local topography situated in the Ceres valley. Due to the fact that property is rather small there are no other economically viable alternative sites available on the property. This particular site however is considered the best and only economical option with a natural basin situated relatively high relative to the area-to-be-developed.

Although not very good, the cost/storage ratio is considered viable under the circumstances requiring the least amount of earthworks while offering the best gravitational benefits when considering irrigation aspects, both considered positive from an economical point of view.

Other than that, there is no real viable alternatives, and both the existing as well as the proposed farm infrastructure lends itself towards this option. The proposed footprint is on existing fields without any negative impact on any natural vegetations. The site is also situated close to the existing Rietvlei Scheme off-take point from where the water would be received ensuring minimal losses.

Therefore, no other site alternatives were considered and investigated.

5.2 ACTIVITY ALTERNATIVES

The purpose of the proposed dam is to provide storage capacity for the storage of existing water use right. No activity alternatives were considered.

5.3 NO-GO ALTERNATIVE

This is the option of not developing the proposed dam. Although this might result in no potential negative environmental impacts, the direct and indirect socio-economic benefits of not constructing the storage dam will not be realised. The existing water use would therefore never be utilised to its full potential and the proposed agricultural development of 10.5 ha of fruit orchards will not take place. This would have a direct impact on the socio-economic status of the previously disadvantaged groups, which is expected to create jobs in the area, as described in Section 2.1 above.

6. ENVIRONMENTAL IMPACT ASSESSMENT, SIGNIFICANCE AND MITIGATION METHODOLOGY

The following impact rating approach used by EnviroAfrica CC is a basic exponential rating system to assess actual and potential negative environmental impacts of viable alternatives by the EAP.

Positive environmental impacts are not listed. All positive impacts need to be enhanced or increased where possible but positive impacts are not rated or given a score since the rating is based on risks.

Environmental activities or aspects are identified, based on:

- the phases of the project,
- the nature (or description) of the actual and potential impacts of the activities.

For every project activity or aspect, various environmental impacts are listed. Every negative impact is allocated a value – as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Consequence (Receiving Environment)
- Magnitude (Intensity/severity)

Every negative impact is allocated a (-)value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Magnitude (Intensity/severity)

Once a value is allocated for each of the criterion, the scores are averaged to determine the final impact rating see Table 5 below.

EnviroAfrica then further assesses environmental significance, based on the nature of the impact, as per the score and colour key which forms part of the table below. This results in impacts having either a low (indicated in green), medium (indicated in yellow) or high (indicated in orange and red) negative significance.

Note: i. As a baseline, impact rating values/scores are allocated taking the **worst case** scenario into account i.e. with no mitigation. The baseline rating is compared with those after mitigation has been taken into account i.e. the post-mitigation rating. Post mitigation rating is used for the actual impact assessment.

SIGNIFICANCE CRITERIA	Very High	High	Medium	Low	Negligible (very-low)	Score
Value	16	8	4	2	1	
Probability (likelihood) (P)	Definite. Impact will definitely occur.	Highly probable. Very likely for impact to occur.	Probable. Impact may likely occur.	Improbable. Impact may occur. Distinct Possibility	Improbable. Low likelihood/unlikely for impact to occur.	
Extent (E)	Impact potentially reaches beyond national boundaries	Impact has definite provincial/potential national consequences	Impact confined to regional area/ town	Impact confined to local region and impact on neighbouring properties	Impact confined to project property / site	
Duration (D)	Permanent The impact is expected to have a permanent impact, with very little to no rehabilitation possible	Long-Term The impact is expected to last for a long time after construction with rehabilitation expected to be 15-50 years. Impact is reversible but only with long-term mitigation	Medium-term The impact is expected to last for some time after construction with rehabilitation expected to be 5 - 15 years. Impact is reversible but only with on-going mitigation	Short-term The impact is expected to last for a relatively short time with rehabilitation expected to be 2-5 years. The impact is reversible through natural process and/or some mitigation.	Very short/ temporary The impact is expected to be temporary and last for a very short time with rehabilitation expected to be less than 2 years. The impact is easily reversible through natural process and/or some mitigation.	
Magnitude (Intensity/ Severity) (M)	It is expected that the activity will have a very severe to permanent impact on the surrounding environment. Functioning irreversibly impaired. Rehabilitation often impossible or unfeasible	It is expected that the activity will have a severe impact on the surrounding environment. Functioning may be severely impaired and may be temporarily cease. Rehabilitation will be needed to restore system integrity	It is expected that the activity will have an impact on the surrounding environment, but it will maintain its function, even if moderately modified (overall integrity not compromised). Rehabilitation easily achieved	It is expected that the activity will have a perceptible impact on the surrounding environment, but it will maintain its function, even if slightly modified (overall integrity not compromised). Rehabilitation easily achieved	It is expected that the impact will have little or no effect on the integrity of the surrounding environment	
Receiving environment (Consequence): (RE)	Very sensitive, pristine area – protected site or species permanently or seasonally present	Unused area containing only indigenous fauna / flora species	Unused area containing indigenous and alien fauna / flora species	Semi-disturbed area already rehabilitated / recovered from prior impact, or with moderate alien vegetation	Disturbed area/ transformed/ heavy alien vegetation	
FINAL RATING (average score)						

ENVIRONMENTAL RATING SIGNIFICANCE KEY:

Negative Impacts

SIGNIFICANCE	RATING	Final rating score / value range
Very Significant	Very High	-11 to -16
Significant	High	-7 to <-11
Increasing Significance	Medium	-4 to <-7
Insignificant	Low	-2 to <-4
	Very Low	-1 to <-2

6.1 ENVIRONMENTAL SIGNIFICANCE RISK RATING

Please refer to Appendix I for the Environmental Impact Risk rating matrix. The matrix aims to identify potential impacts of the proposed development on the receiving environment, based on a desktop study. The following table is a summary of all the potential impacts assessed based on the four design/ layout alternative as discussed in Section 5 above. Please note that specialist findings were not considered in this risk assessment.

In addition to determining the individual impacts against the various criteria, the element of mitigation, where relevant, will also be brought into the assessment. In such instances the impact will be assessed with a statement on the mitigation measure that could/should be applied. Specialist recommendations and mitigation measures will be included. A more detailed assessment will be carried out in the EIR phase taking specialist findings into consideration.

Aspect	Impact	Significance No mitigation	Significance With Mitigation
Botanical	Loss of Ceres Shale Renosterveld	Low Significance	Very Low Significance
	Loss of ESAs	Medium Significance	Very Low Significance
	Soil Contamination	Low Significance	Very Low Significance
Water	Loss of Riparian Habitat	Low Significance	Very Low Significance
	Alternation of Hydrology of the drainage line	Low Significance	Very Low Significance
	Surface water & ground water contamination	Very Low Significance	Very Low Significance
	Erosion & Sedimentation	Very Low Significance	Very Low Significance
Heritage	Loss of Heritage Resources	Very Low Significance	Very Low Significance
Dust	Dust from site topsoil removal; construction, rehabilitation	Very Low Significance	Very Low Significance
Visual	Negative visual impact of the proposed development	Very Low Significance	Very Low Significance

7. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

Environmental issues were raised through informal discussions with the project team, specialists and authorities. Based on a baseline assessment and these informal discussions, specialist were appointed to conduct assessments of the proposed dam development on the environment. Specialist findings and recommendations will be addressed in detail in the Environmental Impact Report.

The following specialist were appointed:

- Botanical specialist
- Freshwater specialist
- Heritage specialist

The following potential issues have been identified:

7.1 BIODIVERSITY

The proposed dam will be located in an area that was utilized for wheat cultivation over a long period of time. Aerial imagery indicated that the site is most likely transformed as a result of past and present agricultural practices.

According the Vegetation Map from Cape Farm Mapper (Appendix D1) the vegetation that would have been present on site would and would be affected by the proposed dam development is Ceres Shale Renosterveld. This type of vegetation is considered “Vulnerable” according to the *National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)*, *National List of Ecosystems that are threatened and in need of protection*. It is expected that the proposed dam will fall mostly on agricultural land and that no natural vegetation will be lost. Please refer to Appendix C for site photographs.

According to the Biodiversity Overlay Maps from Cape Farm Mapper (Appendix D2) the proposed dam will not fall within a Critical Biodiversity Area (CBA) but will fall within an Ecological Support Area 2 (ESA2) associated with drainage lines. The proposed pipeline will also intersect an ESA2 associated with a drainage line. The final layout of the proposed pipeline to be adjusted to not intersect the drainage line.

Category 2 ESAs are areas that are likely severely degraded or have no natural cover remaining and therefore require restoration. These areas are not essential for meeting biodiversity targets but play an important role in supporting the functioning of Critical Biodiversity Areas (CBAs) or protected areas, and are often vital for delivering ecosystem services. The management objectives for Category 2 ESAs is to restore or manage the features to minimize impacts on ecological processes and ecological infrastructure functioning, especially soil and water related services, and to allow for faunal movement. It is therefore necessary that that good environmental control measures be implemented during construction and operations of the dam. Properly design and managed farm dams can attract a variety of birds, insects and animals to the area which can contribute to the conservation of biodiversity.

It was anticipated that a botanical assessment, in addition to the high level desktop study will need to be undertaken. Therefore, a site-based assessment by a specialist was conducted to ground-truth the initial desktop assessment and determine if there is any sensitive or endangered vegetation on the proposed site, findings will be discussed in detail in the EIR but are summarised below for ease of reference.

7.1.1 TERMS OF REFERENCE - BOTANICAL IMPACT ASSESSMENT:

- Give a short statement on the vegetation and its conditions encountered at the site and its immediate surroundings.
- Determine and record the position of any plant species of special significance (e.g. protected tree species, or rare or endangered plant species) that should be avoided or that may require “search & rescue” intervention.
- Make recommendations on impact minimization should it be required

7.1.2 SUMMARY - BOTANICAL SPECIALIST FINDINGS:

The Botanical Impact Assessment Report is available as in Appendix G1 and findings and recommendations will be discussed in detail in the EIR. The specialist findings is summarised below.

- It is unlikely that the proposed dam development will lead to any significant impact on biodiversity as a result of his placement.
- The site and its immediate surroundings are considered transformed with no natural veld remaining. Only a few hardy indigenous species remains
- It is recommended that a small artificial wetland be established where the episodic drainage line enters the dam, and that all water from the water scheme by released above the wetland, to enter the dam through the wetland. The inlet should be planted with reeds such as *Phragmites australis* and/or *Typha capensis*, which will over time, establish itself in a dense strand, which will help to clean the inlet water before it reaches the dam. Properly designed and managed farm dams can attract a variety of birds, insects and animals to the area and so contribute to conservation of biodiversity.
- It is also proposed to incorporate the remaining natural veld on the rocky ridge to the east of the dam within the dam itself by fencing it in the dam, or by refraining from cultivating the land between the dam and the rocky ridge. This will create an ecological corridor by linking the artificial wetland and the remaining natural veld and with the dam.



Figure 8: The proposed Jade Hills dam indicating the potential positive spin-offs as recommended by the Botanical Specialist, Botanical Specialist Report, 2019

7.2 FRESHWATER

A freshwater impact assessment is proposed. This is due to the fact that according to the Water Resources Map from Cape Farm Mapper (Appendix D3), the proposed dam will intersect a non-perennial stream or drainage line which is likely contain remaining elements of riparian vegetation. Based on further investigation regarding associated infrastructure, the proposed abstraction pipeline will also intersect a non-perennial stream to the west of the property. It is proposed that the final pipeline layout be designed to not intersect the non-perennial stream/ drainage line

As stated above, an existing water use of (8,6ha) for the taking of water is in place (Appendix E2) and water will come from the Rietvalley scheme for phase 1. It is proposed that a separate Water Use License Application for the taking of water will have to be done for the proposed phase 2 development at a later stage.

The eWULA process has been initiated by Sarel Bester Ingenieers, WULA Reg nr: WU9322. The WULA includes the following activities under the National Water Act:

- Section 21 (b) - storing of water
- Section 21 (c) - impeding or diverting the flow of a watercourse
- Section 21 (i) - altering the bed, banks, course or characteristics of a watercourse

Please refer to Appendix E2 for a letter from Rietvallei Irrigation Board for confirmation of the exiting water use right for the property and Appendix J2 for the WULA Report

7.2.1 TERMS OF REFERENCE - FRESHWATER IMPACT ASSESSMENT:

The appointment of a Freshwater Specialist is proposed as the proposed dam is expected to absorb a non-perennial stream/ small drainage line. The drainage line is also associated with an ESA2 according to the Biodiversity Overlay Map from Cape Farm Mapper (Appendix D3). After consultation with BGCMA in Pre-Application Phase it was suggested that a Freshwater verification/ delineation be conducted to give clarity regarding the watercourse on site (Please refer to Appendix K for meeting minutes).

The terms of reference for the Delineation of Wetland include the following:

- A detailed desktop study will be undertaken highlighting the Ecological Importance and Sensitivity and Present Ecological State based on databases such as the NFEPA database (2011), the BGIS website and the PES/EIS database (DWS, 2012);
- Delineation of the freshwater resources within the immediate zone of influence of the proposed development will take place according to "DWAF, 2008: A practical Guideline Procedure for the Identification and Delineation of Wetlands and Riparian Zones". Aspects such as soil morphological characteristics, vegetation types and wetness will be used to delineate the wetland temporary zone according to the guidelines;
- Delineation of the freshwater resources within 500m of the development will take place on a desktop basis, with limited field verification;
- All freshwater features identified will be mapped using a handheld GPS and the use of ARC GIS 10.1 software;
- A freshwater resource classification assessment will be undertaken according the Classification System for Wetlands and other Aquatic Ecosystems in South Africa. User Manual: Inland systems (Ollis *et al.*, 2013);

- Applicable buffer zones and/or zones of regulation according to relevant legislation or provincial guidelines will then be delineated around the freshwater feature(s). In addition, the WRC's "Preliminary Guidelines for the Determination of Buffer Zones for Wetlands, Rivers and Estuaries" tool will be applied to derive a scientifically relevant buffer. The applicable buffer maps will be provided; and
- A short verification report will be compiled.

Should a watercourse be identified during the site visit undertaken as part of the freshwater verification process, a detailed assessment will be undertaken, and the following methodology will be applied:

- A freshwater resource classification assessment will be done according the *Classification System for Wetlands and other Aquatic Ecosystems in South Africa. User Manual: Inland systems* (Ollis *et al.*, 2013);
- Applicable buffer zones and/or zones of regulation according to relevant legislation or provincial guidelines will then be delineated around the freshwater resources. In addition, the WRC's "Preliminary Guidelines for the Determination of Buffer Zones for Wetlands, Rivers and Estuaries" tool will be applied to derive a scientifically relevant buffer. The applicable buffer maps will be provided;
- The wetland services provided by the resources associated with the dam will be assessed according to the Method of Kotze *et al* (2009) in which services to the ecology of the site will be defined and services to the people of the area will be defined;
- The wetland Present Ecological State (PES) will be assessed according to indices such as the Wet-Health / Index of Habitat Integrity as advocated by Macfarlane *et al.*, (2008) and DWA (2007), respectively as applicable;
- The wetland EIS will be determined based on the method provided by Rountree & Kotze, (2013);
- Aspects regarding watercourse drivers and receptors as required by the DWS Chief Directorate Instream Water Use will be reported on, including the following:
 - Watercourse drivers:
 - Hydrology;
 - Water quality, and
 - Sediment balance and the geomorphological regime.
 - Watercourse receptors: • Habitat; and
 - Biota.
- Based on the findings during the freshwater assessment, and based on the project plan and proposed layout plan as provided by the proponent, a detailed impact assessment (the DWS risk assessment matrix) on all identified significant risks will take place including cumulative impacts on wetland assemblages in the region; and
- Recommendations on management and mitigation measures (including opportunities and constraints) with regards to the development and operation of the proposed development in order to improve manage and mitigate impacts on the freshwater ecology of the area will be provided. All results will be compiled into a comprehensive specialist impact assessment report.

7.2.2 SUMMARY- FRESHWATER IMPACT REPORT:

The Freshwater Impact Assessment Report and Freshwater Risk Assessment is available in Appendix G2 and G2.1 and findings and recommendations will be discussed in detail in the EIR.

- The area in which the proposed dam is located is deemed to be significantly transformed due to extensive cultivation activities within the catchment. The movement of water in the landscape has been altered by cultivation activities and impacted on biodiversity.
- Findings concluded that there are no true wetlands or riparian resources within the proposed footprint area of the dam. The proposed dam falls within an episodic drainage line, however the drainage line is considered ecologically degraded. Other drainage lines, within similar digital signatures (such as drainage line 2), were also identified in the investigation area.
- The report states that this drainage line could historically have been more prominent and could have hosted a larger diversity of species. However, due to the transformation of its surrounding ecological corridor and the impact of the existing dam (located south-east of the proposed dam area) on the hydrological functioning of the drainage line, it is not expected that the drainage line would provide habitat to a large variety of faunal species during the wet season.
- Given the current site findings and the aspects of the drainage lines as presented above, it is the opinion of the ecologist that the drainage lines do not receive or retain sufficient natural flow to support a wetland response or sustain riparian characteristics. Although the drainage lines cannot be classified as a watercourse from an ecological perspective due to the lack of saturated soils and wetland/riparian vegetation, they do function as a waterway, through episodic conveyance of water from the limited upgradient catchment area. As such, they are considered important for hydrological purposes and therefore may enjoy protection and therefore may only enjoy in terms of the National Water Act, 1998 (Act 36 of 1998) if a 1 in 100 year floodline as applicable to the system.
- Since the episodic drainage does not conform to the definition of a watercourse that supports aquatic ecosystems with an associated riparian zone, the proposed dam development will have a 'low' risk significance on the freshwater habitat and ecology, ecological and socio-cultural service provision and on hydrological function and sediment balance during the construction and operational phases, provided that clear, well-conceived and ecologically sensitive mitigation measures provided in this memorandum are implemented, and general good planning and monitoring are strictly adhered to.
- Provided appropriate impact mitigation measures are implemented, it is the opinion of the ecologist that the ecological condition of the downgradient reach of the episodic drainage line is unlikely to be altered significantly by the proposed dam and the operation thereof and the proposed activity can be authorised by a confirmation of the General Authorisation process in terms of the water uses stipulated in Section 21(c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998).

Mitigation measures/ recommendations will be discussed in more detail in the EIR and is included in the EMP Appendix H.

7.3 HERITAGE

The possible impact on heritage resources has been identified as a possible environmental impact because of the construction of the dam.

A Heritage Screener was conducted by CTS Heritage as a baseline assessment (Appendix G.3) A heritage NID was submitted to Heritage Western Cape (HWC) (Appendix G3.1). HWC provided comments (Appendix E1).

7.3.1 TERMS OF REFERENCE - HERITAGE SCREENER:

The terms of reference for the archaeological study will be as follows:

- To determine whether there are likely to be any important heritage sites/remains that might be impacted by the proposed development;
- To identify and map heritage sites/remains that might be impacted by the proposed development;
- To assess the sensitivity and conservation significance of heritage sites/remains in the inundation area;
- To assess the status and significance of any impacts resulting from the proposed development, and
- To identify measures to protect any valuable heritage sites/remains that may exist within the estimated inundation area.

7.3.2 SUMMARY HERITAGE FINDINGS:

The following section aims to summarise findings from CTS Heritage Screener and NID as submitted to HWC for comment (Appendix G3):

- The proposed development is unlikely to impact on significant archaeology, built environment or cultural landscape heritage resources.
- However, the area proposed for the development is underlain by very high paleontological sensitivity.
- It is recommended that no further studies are required, however, a Change Fossil Finds Procedure must be adopted for the development of the dam.

Heritage Western Cape provided final comment (Appendix E1):

- Since there is no reason to believe that the proposed new dam will impact on heritage resources, no further action under Section 38 of the NHRA (Act 25 of 1999) is required.
- However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately and HWC must be notified without delay.

7.4 VISUAL IMPACT

The potential impact on the sense of place of the proposed dam has also been considered. The surrounding area is characterised by agricultural activities, as well as a number of farm dams in the local area, and the proposed dam will therefore not be uncharacteristic for the area.

The sense of place is not expected to be altered by the proposed dam, and no further studies are suggested.

7.5 SAFETY

According to the Preliminary Design Report from Sarel Bester Engineers (Appendix I1), a dam safety and classification application was submitted on April 2018 to the Dam Safety Office and the dam was classified on 11 June 2018 as a Small Category 11 dam with a significant hazard potential rating under reference 12/2/H101/FE. Refer to Appendix D in the report, Appendix G4.

7.6 LOSS OF AGRICULTURAL LAND

The success of the proposed dam is of critical importance to the to the successful expansion of the planned 10ha agricultural development. The success of this project is expected to create a number of permanent jobs within the agricultural industry.

7.7 SOCIO-ECONOMIC IMPACT

Although the construction of the proposed dam will create jobs during the construction phase of the activity, the dam will indirectly secure additional jobs during the operational phase. As indicated in *Section 2.1*, the proposed dam is of critical importance to the success to establish fruit orchards, which is expected to create permanent job opportunities in the agricultural sector.

7.8 OTHER ISSUES IDENTIFIED

Any further issues raised during the public participation process or by the Competent Authority not mentioned in this section, will be dealt with during the EIA phase.

8. PLAN OF STUDY FOR THE EIA

To adequately address the environmental issues raised and highlighted above the following plan of study will be employed:

8.1 PRE-APPLICATION PHASE

In terms of the 2014 EIA requirements, the “Pre-Application Phase” includes the following steps:

- Project preparation, site visits and meetings with client;
- Preparation of draft background information document;
- The Preparation of the “Notification of Intent” (**Appendix F7.1** for Proof of submission)
- Initial public participation was done (Refer to **Appendix F**);
- Register of interested and affected parties was compiled (Refer to **Appendix F5**);
- A comments and response report was established (**Appendix F1**);
- Specialist were appointed;
- Preparation of Pre-Application Draft Scoping Report for comment, May 2019

The Pre-Application Draft Scoping Report was made available for 30-day comment period. Comments were captured and addressed in the Comments & Response Report (**Appendix F1**) original comments were also included. Comments received during the Public Participation Process will be incorporated into the Draft Environmental Impact Report.

8.2 APPLICATION PHASE

The process will now enter the formal application process. The NEMA EIA (2014) as amended, process prescribes the following tasks:

Table 3: Summary of the NEMA EIA (2014) process that will be followed

TASKS	NUMBER OF DAYS	PROJECTED DATES
1. PRE-APPLICATION PHASE	90	
• Notice of Intent (NoI): Prepare & Submit		Nov 2018
• Appoint Specialists – Botanical, Freshwater, Heritage		Nov 2018
• PPP (1 st round): Advertisement, Posters, mail drops, Register I&AP's	30	Nov – Dec 2018
• Submit Pre-Application Scoping report to competent authority & I&APs for comment	30	May 2019
NB: Post-App SR: Prepare for comment + update EMP and C&R report		
2. APPLICATION PHASE	43	
2.1. Application document: Prepare & Submit to competent authority (CA have 10 days to respond)		Sept 2020
2.2. Submit Post-App SR to CA + IAP's for comments	30	Sept 2020
2.3. Submit Post-App SR to CA for approval	43	Nov 2020

3. IMPACT REPORT (Timeframe start on decision from CA on SR)	106	
3.1. Submit IR to CA & IAP's for comment (PPP on IR)	30	Jan 2021
3.2. Submit Final IR to CA for approval	20	Mar 2021
CA to provide decision within 107 days		
Total for NON-SUBSTANTIVE EIA Application (90 + 43 +44 + 106 + 107 days)		

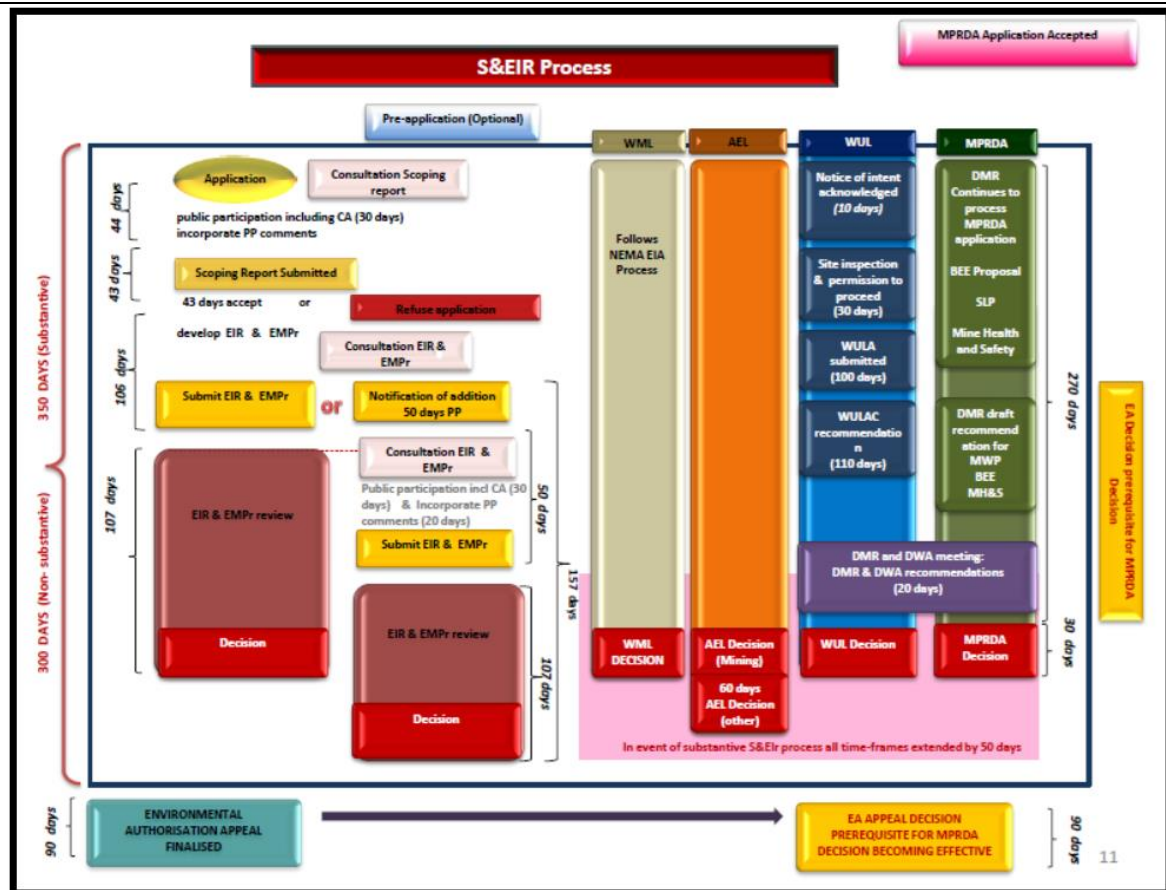


Figure 9: Summary of the Scoping and EIA 2014 Process

8.3 PUBLIC PARTICIPATION AND INTERESTED AND AFFECTED PARTIES

Please refer to Figure 9 to see where the public participation process is present in the environmental impact assessment. The Interested and Affected Parties will have a chance to view and comment on all the reports that are submitted. The figures also indicated what timeframes are applicable to what stage in the process. If required, meetings with key stakeholders will be held.

At the end of the comment period, the Scoping report (for comment) will be revised in response to feedback received from I&APs. All comments received and responses to the comments will be incorporated into Scoping report for decision (this report). This report will be sent to DEA&DP for decision. The Department will then have 44 days to either accept or reject the Scoping Report. Once the Scoping report has been accepted by the Department, the Environmental Impact Report will be compiled. This report will include all the outstanding specialist report as well as further comments from DEA&DP. The Environmental Impact Report (for comment) will then be sent out to I&APs for comment. After the 30 days commenting period, comments from I&APs and state organisations will

be included, with responses, in the Environmental Impact Report. This report can then be viewed as the final impact report and will be submitted to DEA&DP for final decision.

Correspondence with I&APs will be via post, telephone, email and newspaper advertisements.

Should it be required, this process may be adapted depending on input received during the on-going process and as a result of public input. DEA&DP will be informed of any changes in the process.

8.3.1 DETAILS OF THE PUBLIC PARTICIPATION PROCESS UNDERTAKEN

Interested and Affected Parties (I&APs) were identified throughout the process. Landowners adjacent to the proposed site, relevant organs of state, organizations, ward councillors and the Local and District Municipality were added to this database. A complete list of organisations and individual groups identified to date is shown in **Appendix F5**.

Public Participation was conducted for this proposed dam in accordance with the requirements outlined in Regulation 41, 42, 43 and 44 of the NEMA EIA Regulations 2014 as amended, as well as the Department of Environmental Affairs and Development Planning's guideline on Public Participation 2011. The issues and concerns raised during the scoping phase will be dealt with in the EIA phase of this application.

As such each subsection of Regulation 54 contained in Chapter 6 of the NEMA EIA Regulations will be addressed separately to thereby demonstrate that all potential Interested and Affected Parties (I&AP's) were notified of the proposed development.

Table 4: Summary of the public participation process

R41	Posters, Advertisement & Notification letters
(2) (a) (i)	Poster were displayed on site, Portion 26 of Farm Stinkfontein No.383, Ceres; Ceres AgriMark; Ceres Stationary Shop across from the Pick n Pay; Witzenberg Local Municipality, Ceres. Posters were 60cm by 42 cm. Refer to Appendix F3 for proof of posters.
(ii)	N/A No alternative site
(2) (b) (iii)	Notification letters were sent to the municipal ward councilor at the Witzenberg Municipality. Refer Appendix F4 for proof. Please see the post office stamp on the I&AP register for proof of notification letters sent.
(iv)	Notification letters were sent to Cape Winelands District Municipality and Witzenberg Local Municipality. Refer Appendix F4 for proof. Please see the post office stamp on the I&AP register for proof of notification letters sent
(v)	Notification letters were sent to the following organs of state: <ul style="list-style-type: none"> • Department of Environment and Development Planning • Breede-Gouritz Catchment Management Area • Cape Nature • Heritage Western Cape • Lower Breede River Conservancy Trust

	<ul style="list-style-type: none"> WC Department of Agriculture and Land Use Management <p>Refer Appendix F4 for proof. Please see the post office stamp on the I&AP register for proof of notification letters sent</p>
(vi)	<p>Notification letters were sent to neighbours Please refer to Appendix F4, neighbours were notified via email.</p>
(2) (c) (i)	<p>An advert was placed in the Witzenberg Herald 9 Nov 2019 Please refer to Appendix F6</p>
R42 & 34	Register of I&AP
(a), (b), (c), (d)	<p>A register of interested and affected parties was opened and maintained and is available to any person requesting access to the register in writing Please refer to Appendix F5 for the of Interested and Affected Parties register</p>
R43	Registered I&AP entitled to comments
3	<p>I&AP were given 30 days for comments during the initial public participation phase</p>
R44	I&AP to be recorded
	<p>A summary of issues raised by I&AP are addressed in the Comments and Response Report (C&RR) Refer to Appendix F1 for the C&RR and Appendix F1.1 – F1.2 for original comments received.</p>

9. CONCLUSION AND RECOMMENDATIONS

A scoping exercise is being undertaken to present the proposed activities to the I&APs and to identify environmental issues discussed in this report and concerns raised as a result of the proposed development alternatives to date. The issues and concerns were raised by I&APs, authorities, the project team as well as specialist input, based on baseline studies undertaken.

This Draft Scoping Report, being undertaken in terms of NEMA, summarises the process undertaken, the alternatives presented and the issues and concerns raised. Positive and negative impacts of the proposed dam development can be summarised:

Positive:

- The proposed dam development will contribute to the more efficient use of an existing water use right and a scarce resource.
- Should the construction of the dam be approved, an expansion of about 10.5ha of fruit orchards is proposed. The establishment of 10.5ha fruit orchards would provide economic stability and job creation for a labour market that needs it urgently.
- No further loss of Ceres Shale Renosterveld as the area is already considered transformed and disturbed with almost no natural vegetation remaining.
- The drainage lines on site is also considered significantly transformed due to extensive cultivation activities within the catchment. From an ecological perspective, the drainage lines do not conform to the definition of a true riparian resources and therefore does not enjoy protection of a watercourse.
- With the proposed dam development, the potential is realised to restore the degraded ESA2 and protect indigenous hardy shrubs present the north of the property. It is proposed to establish an ecological corridor and artificial wetland. These areas should be considered No-go areas for agricultural development and protected during the proposed phase 2 enlargement of the dam. The artificial wetland can be moved further south with the proposed phase 2 enlargement.
- Properly designed and managed farm dams can attract a variety of birds, insects and animals to the area which can contribute to the conservation of biodiversity.
- No heritage resources will be lost due to the proposed development.
- The proposed dam development will fit into the visual character of the area.

Negative:

- Loss of Agricultural land for the establishment of the dam

As a result of the above, the need for the following specialist studies, have been identified:

- Botanical Assessment
- Freshwater Assessment

Any further issues raised as a result of the Public Participation Process will be dealt with during the EIA phase.

The significance of the impacts associated with the alternatives proposed will be assessed in these specialist studies, as part of the EIA. Details of specialist studies will be summarised in the Environmental Impact Report (EIR), which integrates the findings of the assessment phase of the EIA.

Based on the significance of the issues raised during the ongoing Public Participation Process and Scoping Phase, it is evident that an Environmental Impact Assessment (EIA) is required. ***It is***

therefore recommended that authorisation for the commencement of an EIA for the proposed development is granted. Should the EIA process be authorised, the significant issues raised in the process to date will be addressed and the specialist studies noted in this report, will be undertaken.

10. OATH OF AFFIRMATION BY THE EAP

THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, as the appointed EAP hereby declare/affirm:

- the correctness of the information provided as part of this Report;
- that all the comments and inputs from stakeholders and I&APs have been included in this Report;
- that all the inputs and recommendations from the specialist reports, if specialist reports were produced, have been included in this Report;
- any information provided by me to I&APs and any responses by me to the comments or inputs made by I&APs;
- that I have maintained my independence throughout this EIA process, or if not independent, that the review EAP has reviewed my work (Note: a declaration by the review EAP must be submitted);
- that I have throughout this EIA process met all of the general requirements of EAPs as set out in Regulation 13;
- I have throughout this EIA process disclosed to the applicant, the specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared as part of the application;
- have ensured that information containing all relevant facts in respect of the application was distributed or was made available to I&APs and that participation by I&APs was facilitated in such a manner that all I&APs were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all I&APs were considered, recorded and submitted to the Department in respect of the application;
- have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, if specialist inputs and recommendations were produced;
- have kept a register of all I&APs that participated during the PPP; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the EAP: _____

Name of Company: _____

Date: _____

(-----END-----)