



**BASIC ASSESSMENT REPORT
IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107
OF 1998) AND ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 (AS
AMENDED)**

October 2017

PROJECT TITLE

Old Helshoogte Road Upgrade, Idas Valley, Erf11330 - 16/3/3/1/B4/18/1065/18

September 2018

REPORT TYPE CATEGORY	REPORT REFERENCE NUMBER	DATE OF REPORT
Pre-Application Basic Assessment Report (if applicable) ¹	NA	NA
Draft Basic Assessment Report ²	16/3/3/1 /B4/18/1065/18	September 2018
Final Basic Assessment Report ³ or, if applicable Revised Basic Assessment Report ⁴ (strikethrough what is not applicable)		

Notes:

1. In terms of Regulation 40(3) potential or registered interested and affected parties, including the Competent Authority, may be provided with an opportunity to comment on the Basic Assessment Report prior to submission of the application but must again be provided an opportunity to comment on such reports once an application has been submitted to the Competent Authority. The Basic Assessment Report released for comment prior to submission of the application is referred to as the "Pre-Application Basic Assessment Report". The Basic Assessment Report made available for comment after submission of the application is referred to as the "Draft Basic Assessment Report". The Basic Assessment Report together with all the comments received on the report which is submitted to the Competent Authority for decision-making is referred to as the "Final Basic Assessment Report".
2. In terms of Regulation 19(1)(b) if significant changes have been made or significant new information has been added to the Draft Basic Assessment Report, which changes or information was not contained in the Draft Basic Assessment Report consulted on during the initial public participation process, then a Final Basic Assessment Report will not be submitted, but rather a "Revised Basic Assessment Report", which must be subjected to another public participation process of at least 30 days, must be submitted to the Competent Authority together with all the comments received.

DEPARTMENTAL REFERENCE NUMBER(S)

Pre-application reference number:	NA
File reference number (EIA):	NA
NEAS reference number (EIA):	NA
File reference number (Waste):	NA
NEAS reference number (Waste):	NA
File reference number (Air Quality):	NA
NEAS reference number (Air Quality):	NA
File reference number (Other):	NA
NEAS reference number (Other):	NA

CONTENT AND GENERAL REQUIREMENTS

Note that:

- The content of the Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended), any subsequent Circulars, and guidelines must be taken into account when completing this Basic Assessment Report Form.
- This Basic Assessment Report is the standard report format which, in terms of Regulation 16(3) of the EIA Regulations, 2014 (as amended) must be used in all instances when preparing a Basic Assessment Report for Basic Assessment applications for an environmental authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and the EIA Regulations, 2014 (as amended) and/or a waste management licence in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) ("NEM:WA"), and/or an atmospheric emission licence in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA") when the Western Cape Government: Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority/Licensing Authority.
- This report form is current as of October 2017. It is the responsibility of the Applicant/ Environmental Assessment Practitioner ("EAP") to ascertain whether subsequent versions of the report form have been released by the Department. Visit the Department's website at <http://www.westerncape.gov.za/eadp> to check for the latest version of this checklist.
- The required information must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The tables may be expanded where necessary.
- The use of "not applicable" in the report must be done with circumspection. All applicable sections of this report form must be completed. Where "not applicable" is used, this may result in the refusal of the application.
- While the different sections of the report form only provide space for provision of information related to one alternative, if more than one feasible and reasonable alternative is considered, the relevant section must be copied and completed for each alternative.
- Unless protected by law, all information contained in, and attached to this report, will become public information on receipt by the competent authority. If information is not submitted with this report due to such information being protected by law, the applicant and/or EAP must declare such non-disclosure and provide the reasons for believing that the information is protected.
- Unless otherwise indicated by the Department, one hard copy and one electronic copy of this report must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.
- This Report must be submitted to the Department and the contact details for doing so are provided below.
- Where this Department is also identified as the Licencing Authority to decide applications under NEM:WA or NEM:AQA, the submission of the Report must also be made as follows, for-
 - Waste management licence applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (tel: 021-483-2756 and fax: 021-483-4425) at the same postal address as the Cape Town Office.
 - Atmospheric emissions licence applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licencing Authority or this Department's Air Quality Management Directorate (tel: 021 483 2798 and fax: 021 483 3254) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE		GEORGE REGIONAL OFFICE
REGION 1 (City of Cape Town & West Coast District)	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Eden District)
Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1) Private Bag X 9086 Cape Town, 8000 Registry Office 1 st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Development Management (Region 1) at: Tel.: (021) 483-5829 Fax: (021) 483-4372	Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 2) Private Bag X 9086 Cape Town, 8000 Registry Office 1 st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Development Management (Region 2) at: Tel.: (021) 483-5842 Fax: (021) 483-3633	Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530 Registry Office 4 th Floor, York Park Building 93 York Street George Queries should be directed to the Directorate: Development Management (Region 3) at: Tel.: (044) 805-8600 Fax: (044) 805-8650

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ACRONYMS USED IN THIS BASIC ASSESSMENT REPORT AND APPENDICES:

BAR	Basic Assessment Report
CBA	Critical Biodiversity Area
DEA	National Department of Environmental Affairs
DEA&DP	Western Cape Government: Environmental Affairs and Development Planning
DWS	National Department of Water and Sanitation
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
MMP	Maintenance Management Plan
ESA	Ecological Support Area
HWC	Heritage Western Cape
I&APs	Interested and Affected Parties
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM:ICMA	National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
PPP	Public Participation Process

DETAILS OF THE APPLICANT

Applicant / Organisation / Organ of State:	Stellenbosch Municipality		
Contact person:	Myra Francis		
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Telephone:	(021) 808 8760	Postal Code:	7600
Cellular:	079 453 5052	Fax:	NA
E-mail:	Myra.Francis@stellenbosch.co.za		

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

Name of the EAP organisation:	Eco Impact Legal Consulting (Pty) Ltd		
Person who compiled this Report:	Jessica Hansen		
EAP Reg. No.:	SACNASP- Professional Natural Scientist in the field of practice Environmental Science (Registration number 400192/16)		
Contact Person (if not author):	NA		
Postal address:	PO Box 45070, Claremont		
Telephone:	(021) 671 1660	Postal Code:	7735
Cellular:	083 666 8046	Fax:	(021) 671 9976
E-mail:	admin@ecoimpact.co.za		
EAP Qualifications:	<p>Jessica has a BSc (Honours) in Environmental and Geographical Science in 2011 from the University of Cape Town and subsequently obtained her MSc in Zoology in 2013.</p> <p>Jessica has worked as an Environmental Assessment Practitioner since August 2013 and has been involved in the compilation, coordination and management of Basic Assessment Reports, Environmental Impact Assessments, Environmental Management Programmes, Waste Licence Applications, Water Use Licence Applications and Baseline Biodiversity Surveys for numerous clients.</p>		

Please provide details of the lead EAP, including details on the expertise of the lead EAP responsible for the Basic Assessment process. Also attach his/her Curriculum Vitae to this BAR.

Jessica Hansen has completed her professional registration in terms of section 20(3) (b) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) as a Professional Natural Scientist in the field of practice Environmental Science (Registration number 400192/16). She obtained her BSc (Honours) in Environmental and Geographical Science in 2011 from the University of Cape Town and subsequently obtained her MSc in Zoology (Applied Marine Science) in 2013. Jessica has trained as an Environmental Assessment Practitioner since August 2013 and has been involved in the compilation, coordination and management of Basic Assessment Reports, Environmental Impact Assessments, Environmental Management Programmes, Waste Licence Applications, Water Use Licence Applications and Baseline Biodiversity Surveys for numerous clients.

See appendix K.

EXECUTIVE SUMMARY OF THE BASIC ASSESSMENT REPORT:

THE UPGRADE OF OLD HELSHOOGTE ROAD, IDAS VALLEY, ERF 11330

Storm water

The upgrade consists of a stormwater drainage management installation in the form of a box culvert in the non-perennial river at the Old Helshoogte Road river crossing. Storm water currently runs from the Old Helshoogte Road through an excavated channel and joins a stream. This non-perennial river rises in the foothills of the Hottentots Holland Mountains and flows from east to west through the Idas Valley area of Stellenbosch. The non-perennial river rises at 359m above mean sea level and runs for 1.4km before it reaches the property at 211m above mean sea level.

The non-perennial river is defined by a deep narrow channel which is blocked at the Helshoogte and Old Helshoogte Roads before it meets up with a tributary of the Kromme River on the north of the property.

River crossing: at P10 the existing culvert in the river is a 600mm diameter Pipe culvert. It is proposed to replace the 600mm culvert with two 1.5m x 1.2m box culverts. The quantity of fill material, which will be removed to replace the existing pipe culvert with the new culvert is 12.348m³. The quantity of fill material is required for the new culvert is 14.985m³.

Road

Between CH200.00 and CH800.000 the Old Helshoogte Road will be resurfaced with Asphalt. The road width currently varies between 5m to 7m and the proposed road upgrade will have a width of 6.8m including barrier kerbs in both directions and a 1.5 m side walk on either side of the road to a total road width of 9m. The side walk on the east side of the road will be constructed uptill the river crossing.

Alternatives:

Location alternatives – The location of the proposed activity is site specific as it is along the existing road which is the only culvert that occurs at the river crossing. Therefore no other property alternatives were assessed as no feasible or reasonable property alternative exists.

Activity alternatives – The proposed upgrade is the only reasonable and feasible activity alternative assessed as it is a development proposed along existing infrastructure which needs to be upgrade.

Layout alternatives – The layout of the proposed activity is site specific as it is along an existing road which is the only culvert that occurs at the river crossing. Therefore no other property alternatives were assessed as no feasible or reasonable property alternative exists.

Technology alternatives – No other reasonable or feasible technology/materials alternatives are to be assessed at this stage as the the existing pipe culvert is proposed to be upgraded into two box culverts.

Operational alternatives – No operational alternatives were considered as the proposed activity is for the culvert upgrade to be maintained by the municipality after construction completion.

Layout (dated April 2018) – Preferred

This Layout option consists of:

- Upgrade existing pipe culvert into two x 1.5m x 1.2 box culverts
- New road surface
- Construction of 1.5m side walks on either side of the road
- Barrier kerbs in both directions

IMPACT SUMMARY

DEVELOPMENT PHASE

- Soil erosion and dust (low impact before mitigation and low impact with mitigation measures);
- Impacts of construction activities on surface and underground water resources (low impact before mitigation and low impact with mitigation measures);
- Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures);
- Noise (low impact before mitigation and low impact with mitigation measures);
- Traffic impacts due to construction on and along existing roads (medium negative impact before mitigation and low negative impact with mitigation measures);
- Increase in temporary jobs – positive.

OPERATIONAL PHASE

- Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures);
- Traffic impacts – positive.

DECOMMISSIONING AND CLOSURE PHASE

The impacts caused during the decommissioning phase are mostly similar to those of the Construction Phase.

No Go or No Development option:

- The No-Go option will result in the site remaining as is presently.

SECTION A: PROJECT INFORMATION

1. ACTIVITY LOCATION

Location of all proposed sites:	Erf 11330, situated in Idas Valley, Stellenbosch
Farm / Erf name(s) and number(s) (including Portions thereof) for each proposed site:	Erf 11330
Property size(s) in m ² for each proposed site:	Erf 11330, approximately 6.26ha
Development footprint size(s) in m ² :	+354m ²
Surveyor General (SG) 21 digit code for each proposed site:	C06700220001133000000

2. PROJECT DESCRIPTION

(a) Is the project a new development? If "NO", explain:	YES	NO
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Upgrading Old Helshoogte Road.

(b) Provide a detailed description of the scope of the proposed development (project).

<p><u>Storm water</u> At P10 the existing culvert in the river is a 600mm diameter Pipe culvert. It is proposed to replace the 600mm culvert with two 1.5m x 1.2m box culverts. The quantity of fill material, which will be removed to replace the existing pipe culvert with the new culvert is 12.348m³. The quantity of fill material is required for the new culvert is 14.985m³.</p> <p><u>Road</u> Between CH200.00 and CH800.000 the Old Helshoogte Road will be resurfaced with Asphalt. The road width currently varies between 5m to 7m and the proposed road upgrade will have a width of 6.8m including barrier kerbs in both directions and a 1.5 m side walk on either side of the road to a total road width of 9m. The side walk on the east side of the road will be constructed up until the river crossing.</p> <p>This upgrade will trigger:</p> <ul style="list-style-type: none"> NEMA Listing 1 activity 19 The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-(i) a watercourse.
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Please note: This description must relate to the listed and specified activities in paragraph (d) below.

(c) Please indicate the following periods that are recommended for inclusion in the environmental authorisation:

(i) the period within which commencement must occur,	5 years from EA granted
(ii) the period for which the environmental authorisation should be granted and the date by which the activity must have been concluded, where the environmental authorisation does not include operational aspects;	10 years
(iii) the period that should be granted for the non-operational aspects of the environmental authorisation; and	10 years
(iv) the period that should be granted for the operational aspects of the environmental authorisation.	Until Decommissioning or Closure

Please note: The Department must specify the abovementioned periods, where applicable, in an environmental authorisation. In terms of the period within which commencement must occur, the period must not exceed 10 years and must not be extended beyond such 10 year period, unless the process to amend the environmental authorisation contemplated in regulation 32 is followed.

- (d) List all the listed activities triggered and being applied for.

Please note: The onus is on the applicant to ensure that all the applicable listed activities are applied for and assessed as part of the EIA process. Please refer to paragraph (b) above.

EIA Regulations Listing Notices 1 and 3 of 2014 (as amended):

Listed Activity No(s):	Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 1 (GN No. R. 983)	Describe the portion of the development that relates to the applicable listed activity as per the project description.	Identify if the activity is development / development and operational / decommissioning / expansion / expansion and operational.
19	The infilling or depositing of any material of more than [5] 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than [5] 10 cubic metres from [–(i)] a watercourse	Fill material will be removed from the existing pipe culvert which upgraded to two 1.5m x 1.2m box culverts. A larger volume of fill material is required for the new culvert.	Expansion and operational.
Listed Activity No(s):	Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 3 (GN No. R. 985)	Describe the portion of the development that relates to the applicable listed activity as per the project description.	Identify if the activity is development / development and operational / decommissioning / expansion / expansion and operational.
NA	NA	NA	NA

Waste management activities in terms of the NEM: WA (GN No. 921):

Category A Listed Activity No(s):	Describe the relevant <u>Category A</u> waste management activity in writing as per GN No. 921	Describe the portion of the development that relates to the applicable listed activity as per the project description
NA	NA	NA

Note: If any waste management activities are applicable, the **Listed Waste Management Activities Additional Information Annexure** must be completed and attached to this Basic Assessment Report as **Appendix I**.

Atmospheric emission activities in terms of the NEM: AQA (GN No. 893):

Listed Activity No(s):	Describe the relevant atmospheric emission activity in writing as per GN No. 893	Describe the portion of the development that relates to the applicable listed activity as per the project description.
NA	NA	NA

- (e) Provide details of all components (including associated structures and infrastructure) of the proposed development and attach diagrams (e.g., architectural drawings or perspectives, engineering drawings, process flowcharts, etc.).

Buildings Provide brief description below:	YES	NO
NA		
Infrastructure (e.g., roads, power and water supply/ storage) Provide brief description below:	YES	NO
Road and two 1.5m x 1.2m box culverts		
Processing activities (e.g., manufacturing, storage, distribution) Provide brief description below:	YES	NO
NA		
Storage facilities for raw materials and products (e.g., volume and substances to be stored) Provide brief description below:	YES	NO
NA		
Storage and treatment facilities for effluent, wastewater or sewage: Provide brief description below:	YES	NO
NA		
Storage and treatment of solid waste Provide brief description below:	YES	NO

NA		
Facilities associated with the release of emissions or pollution. Provide brief description below:	YES	NO
NA		
Other activities (e.g., water abstraction activities, crop planting activities) – Provide brief description below:	YES	NO
NA		

3. PHYSICAL SIZE OF THE PROPOSED DEVELOPMENT

(a) Property size(s): Indicate the size of all the properties (cadastral units) on which the development proposal is to be undertaken	Erf 11330, approximately 62,600	m ²
(b) Size of the facility: Indicate the size of the facility where the development proposal is to be undertaken	+ - 354	m ²
(c) Development footprint: Indicate the area that will be physically altered as a result of undertaking any development proposal (i.e., the physical size of the development together with all its associated structures and infrastructure)	+ - 354	m ²
(d) Size of the activity: Indicate the physical size (footprint) of the development proposal	+ - 354	m ²
(e) For linear development proposals: Indicate the length (L) and width (W) of the development proposal	(L) NA	m
	(W) NA	m
(f) For storage facilities: Indicate the volume of the storage facility	NA	m ³
(g) For sewage/effluent treatment facilities: Indicate the volume of the facility (Note: the maximum design capacity must be indicated)	NA	m ³

4. SITE ACCESS

(a) Is there an existing access road?	YES	NO
(b) If no, what is the distance in (m) over which a new access road will be built?	NA m	
(c) Describe the type of access road planned:		
NA		

Please note: The position of the proposed access road must be indicated on the site plan.

5. DESCRIPTION OF THE PROPERTY(IES) ON WHICH THE LISTED ACTIVITY(IES) ARE TO BE UNDERTAKEN AND THE LOCATION OF THE LISTED ACTIVITY(IES) ON THE PROPERTY

- 5.1 Provide a description of the property on which the listed activity(ies) is/are to be undertaken and the location of the listed activity(ies) on the property, as well as of all alternative properties and locations (duplicate section below as required).

The site is located in the eastern portion of Idas Valley, Stellenbosch on currently developing municipal land. A non-perennial river runs from east to west through the middle of the site. This non-perennial river flow was diverted many years ago and channelled on the north western boundary. This non-perennial river rises in the foothills of the Hottentots Holland Mountains and flows from east to west through the Idas Valley area of Stellenbosch. The non-perennial river rises at 359m above mean sea level and runs for 1.4km before it reaches the property at 211m above mean sea level.

The non-perennial river is defined by a deep narrow channel which is blocked at the Helshoogte and Old Helshoogte Roads before it meets up with a tributary of the Kromme River on the north of the property. The site is totally disturbed as it is used as a road with no natural vegetation other than some riparian vegetation in the river.

Coordinates of all the proposed activities on the property or properties (sites):	Latitude (S): (deg.; min.; sec)			Longitude (E): (deg.; min.; sec.)		
		33°	55'	21.3"	18°	53'
	°	'	"	°	'	"
	°	'	"	°	'	"
	°	'	"	°	'	"

Note: For land where the property has not been defined, the coordinates of the area within which the development is proposed must be provided in an addendum to this report.

- 5.2 Provide a description of the area where the aquatic or ocean-based activity(ies) is/are to be undertaken and the location of the activity(ies) and alternative sites (if applicable).

NA

Coordinates of the boundary /perimeter of all proposed aquatic or ocean-based activities (sites) (if applicable):	Latitude (S): (deg.; min.; sec)			Longitude (E): (deg.; min.; sec)		
		°	'	"	°	'
	°	'	"	°	'	"
	°	'	"	°	'	"
	°	'	"	°	'	"

- 5.3 For a linear development proposal, please provide a description and coordinates of the corridor in which the proposed development will be undertaken (if applicable).

NA

For linear activities:	Latitude (S): (deg.; min.; sec)			Longitude (E): (deg.; min.; sec)		
● Starting point of the activity	°	'	"	°	'	"
● Middle point of the activity	°	'	"	°	'	"
● End point of the activity	°	'	"	°	'	"

Note: For linear development proposals longer than 1000m, please provide an addendum with co-ordinates taken every 250m along the route. All important waypoints must be indicated and the GIS shape file provided digitally.

- 5.4 Provide a location map (see below) as **Appendix A** to this report that shows the location of the proposed development and associated structures and infrastructure on the property; as well as a detailed site development plan / site map (see below) as **Appendix B** to this report; and if applicable, all alternative properties and locations. The GIS shape files (.shp) for maps / site development plans must be included in the electronic copy of the report submitted to the competent authority.

Locality Map:	<p>The scale of the locality map must be at least 1:50 000. For linear development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following:</p> <ul style="list-style-type: none"> • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; • a linear scale;
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	<ul style="list-style-type: none"> the prevailing wind direction (during November to April and during May to October); and GPS co-ordinates (to indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection). <p>For an ocean-based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken.</p> <p>Coordinates must be provided in degrees, minutes and seconds using the Hartebeesthoek94; WGS84 co-ordinate system.</p>
Site Plan:	<p>Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following:</p> <ul style="list-style-type: none"> The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be indicated on the plan, preferably together with a linear scale. The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be indicated on the site plan. The position of each element of the application as well as any other structures on the site must be indicated on the site plan. Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the development <u>must</u> be indicated on the site plan. Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): <ul style="list-style-type: none"> Watercourses / Rivers / Wetlands - including the 32 meter set back line from the edge of the bank of a river/stream/wetland; Flood lines (i.e., 1:100 year, 1:50 year and 1:10 year where applicable); Ridges; Cultural and historical features; Areas with indigenous vegetation (even if degraded or infested with alien species). Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. North arrow <p>A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.</p> <p>The GIS shape file for the site development plan(s) must be submitted digitally.</p>

6. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached as **Appendix C** to this report. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.

SECTION B: DESCRIPTION OF THE RECEIVING ENVIRONMENT

Site/Area Description

For linear development proposals (pipelines, etc.) as well as development proposals that cover very large sites, it may be necessary to complete copies of this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area that is covered by each copy on the Site Plan.

1. GRADIENT OF THE SITE

Indicate the general gradient of the sites (highlight the appropriate box).

Flat	Flatter than 1:10	1:10 – 1:4	Steeper than 1:4
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2. LOCATION IN LANDSCAPE

(a) Indicate the landform(s) that best describes the site (highlight the appropriate box(es)).

Ridgeline	Plateau	Side-slope of hill / mountain	Closed valley	Open valley	Plain	Undulating plain/low-hills	Dune	Sea-front
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(b) Provide a description of the location in the landscape.

The property lies in the general area that is used to support Cape Winelands Shale Fynbos. The site is totally disturbed with no natural vegetation left on site other than some riparian vegetation in the river. Surrounding area is built up residential area or transformed.

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

(a) Is the site(s) located on or near any of the following (highlight the appropriate boxes)?

Shallow water table (less than 1.5m deep)	YES	NO	UNSURE
Seasonally wet soils (often close to water bodies)	YES	NO	UNSURE
Unstable rocky slopes or steep slopes with loose soil	YES	NO	UNSURE
Dispersive soils (soils that dissolve in water)	YES	NO	UNSURE
Soils with high clay content	YES	NO	UNSURE
Any other unstable soil or geological feature	YES	NO	UNSURE
An area sensitive to erosion	YES	NO	UNSURE
An area adjacent to or above an aquifer.	YES	NO	UNSURE
An area within 100m of a source of surface water	YES	NO	UNSURE
An area within 500m of a wetland	YES	NO	UNSURE
An area within the 1:50 year flood zone	YES	NO	UNSURE
A water source subject to tidal influence	YES	NO	UNSURE

(b) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (Information in respect of the above will often be available at the planning sections of local authorities. The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

(c) Indicate the type of geological formation underlying the site.

Granite	Shale	Sandstone	Quartzite	Dolomite	Dolerite	Other (describe)
Provide a description.						
The site is underlain by geological formations derived from Cape Granite and Malmesbury shales.						

4. SURFACE WATER

(a) Indicate the surface water present on and or adjacent to the site and alternative sites (highlight the appropriate boxes)?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoon	YES	NO	UNSURE

(b) Provide a description.

A non-perennial river runs from east to west through the middle of the site. This non perennial river flow was diverted many years ago and channelled on the north western boundary. Storm water currently runs from the Old Helshoogte Road through an excavated channel and joins a stream. This non-perennial river rises in the foothills of the Hottentots Holland Mountains and flows from east to west through the Idas Valley area of Stellenbosch. The non-perennial river rises at 359m above mean sea level and runs for 1.4km before it reaches the property at 211m above mean sea level.

The non-perennial river is defined by a deep narrow channel which is blocked at the Helshoogte and Old Helshoogte Roads before it meets up with a tributary of the Kromme River on the north of the property.

5. THE SEAFRONT / SEA

(a) Is the site(s) located within any of the following areas? (highlight the appropriate boxes).

If the site or alternative site is closer than 100m to such an area, please provide the approximate distance in (m).

AREA	YES	NO	UNSURE	If "YES": Distance to nearest area (m)
An area within 100m of the high water mark of the sea	YES	NO	UNSURE	
An area within 100m of the high water mark of an estuary/lagoon	YES	NO	UNSURE	
An area within the littoral active zone	YES	NO	UNSURE	
An area in the coastal public property	YES	NO	UNSURE	
Major anthropogenic structures	YES	NO	UNSURE	
An area within a Coastal Protection Zone	YES	NO	UNSURE	
An area seaward of the coastal management line	YES	NO	UNSURE	
An area within the high risk zone (20 years)	YES	NO	UNSURE	
An area within the medium risk zone (50 years)	YES	NO	UNSURE	
An area within the low risk zone (100 years)	YES	NO	UNSURE	
An area below the 5m contour	YES	NO	UNSURE	
An area within 1km from the high water mark of the sea	YES	NO	UNSURE	
A rocky beach	YES	NO	UNSURE	
A sandy beach	YES	NO	UNSURE	

(b) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

6. BIODIVERSITY

Note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed development. To assist with the identification of the biodiversity occurring on site and the ecosystem status, consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc ("cd") from the Biodiversity-GIS Unit, Tel.: (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) must be provided as an overlay map on the property/site plan as **Appendix D** to this report.

- (a) Highlight the applicable biodiversity planning categories of all areas on preferred and alternative sites and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category. Also describe the prevailing level of protection of the Critical Biodiversity Area ("CBA") and Ecological Support Area ("ESA") (how many hectares / what percentages are formally protected).

Systematic Biodiversity Planning Category	CBA	ESA	Other Natural Area ("ONA")	No Natural Area Remaining ("NNR")
If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan and the conservation management objectives	The site lies within an ESA2. The proposed development is the upgrade of existing box culverts and road as such only edge effects will impact on the riparian vegetation.			
Describe the site's CBA/ESA quantitative values (hectares/percentage) in relation to the prevailing level of protection of CBA and ESA (how many hectares / what percentages are formally protected locally and in the province)	ESA 2: Restore from other land use – Water course, Water source			

- (b) Highlight and describe the habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%) and area of each in square metre (m ²)		Description and additional comments and observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes, etc.)
Natural	10%	35m ²	The road upgrade and culvert with no natural vegetation surrounding this infrastructure other for some in the river itself.
Near Natural (includes areas with low to moderate level of alien invasive plants)	0%	m ²	
Degraded (includes areas heavily invaded by alien plants)	0%	m ²	
Transformed (includes cultivation, dams, urban, plantation, roads, etc.)	90%	300m ²	

- I Complete the table to indicate:
 (i) the type of vegetation present on the site, including its ecosystem status; and
 (ii) whether an aquatic ecosystem is present on/or adjacent to the site.

Terrestrial Ecosystems	Description of Ecosystem, Vegetation Type, Original Extent, Threshold (ha, %), Ecosystem Status	
Ecosystem threat status as per the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Critically	
	Endangered	
	Vulnerable	Cape Winelands Shale Fynbos - Status 2016: Vulnerable (VU) - Western Cape Biodiversity Spatial Plan 2017.
	Least Threatened	

Aquatic Ecosystems							
Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline		
YES	NO	UNSURE	YES	NO	YES	NO	

- (d) Provide a description of the vegetation type and/or aquatic ecosystem present on the site, including any important biodiversity features/information identified on the site (e.g. threatened species and special habitats). Clearly describe the biodiversity targets and management objectives in this regard.

The development area is disturbed with some natural riparian vegetation.

7. LAND USE OF THE SITE

Note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed development.

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism and Hospitality facility
Open-cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes and more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):	Existing road infrastructure.			

- (a) Provide a description.

The site is situated in a valley with a moderate to low slope from north and south towards the centre non-perennial river. The development area is disturbed with some natural riparian vegetation.

8. LAND USE CHARACTER OF THE SURROUNDING AREA

- (a) Highlight the current land uses and/or prominent features that occur within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site.

Note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed development.

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism and Hospitality facility
Open-cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes and more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):	Existing road infrastructure.			

- (b) Provide a description, including the distance and direction to the nearest residential area, industrial area, agri-industrial area.

The proposed site is surrounded by residential development to the west and south. The residential area Lindida, Idas Valley directly neighbours the proposed site. While the area the west (beyond the residential development) is sport fields and a school. Approximately 100m from the site to the south west is agricultural land while to the north there is some vacant land and some untransformed natural vegetation as well as the Idas Valley Dam.

9. SOCIO-ECONOMIC ASPECTS

- a) Describe the existing social and economic characteristics of the community in the vicinity of the proposed site, in order to provide baseline information (for example, population characteristics/demographics, level of education, the level of employment and unemployment in the area, available work force, seasonal migration patterns, major economic activities in the local municipality, gender aspects that might be of relevance to this project, etc.).

The Stellenbosch Local Municipal area covers approximately 900 km² and has a population of approximately 176 253 people. The population composition of Stellenbosch in 2001 was as follows: Coloured population (56.4%), Whites (21.6%), African (20.1%) and Indian/Asians (0.2%). In 2009, 30.4% of households earned income between R0 to R42 000; 36.1% earned between R42 000 to R132 000; 28.5% between R132 000 and R600 000 and 4.9% earn above R600 000. The three largest sectors in 2009 were: community services (27.1%), finance and business services (25.1%) and manufacturing (23.5%). There are strong linkages from Stellenbosch municipality's agricultural sector to its manufacturing, wholesale, trade and accommodation, and financial services sectors, particularly with agri-tourism. The wine industry, followed by vegetable products, both strongly vertically linked to the agricultural sector, are the district municipality's largest export products.

Unemployment in Stellenbosch was concentrated within the Coloured racial group in 2007. The Coloured population's share of the unemployed increased from 46.1% share in 2001 to 50.2% share in 2007. The African population has the second largest share of unemployment in the area, however their unemployment share decreased from 51.4% in 2001 to 47.3% in 2007.

General socio economic characteristics:

Stellenbosch Municipality accounted for 24.4% of the District's economy in 2009 making it the second largest economy in the Cape Winelands District. Stellenbosch's regional gross value added figure (GVA-R) increased from R3.834 billion in 2001 to R5.234 billion in 2009 at an average annual rate of 4% compared to 3.2% for the Cape Winelands District over the same period (2001-2009).

References –Stellenbosch Municipality 4th Generation Integrated Development Plan 2017 – 2022

10. HISTORICAL AND CULTURAL ASPECTS

- (a) Please be advised that if section 38 of the NHRA is applicable to your proposed development, you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Heritage Western Cape must be given an opportunity, together with the rest of the I&APs, to comment on any Pre-application BAR, a Draft BAR, and Revised BAR.

Section 38 of the NHRA states the following:

"38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development".

- (b) The impact on any national estate referred to in section 3(2), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii), of the NHRA, must also be investigated, assessed and evaluated. Section 3(2) states the following: "3(2) Without limiting the generality of subsection (1), the national estate may include—
- (a) places, buildings, structures and equipment of cultural significance;
 - (b) places to which oral traditions are attached or which are associated with living heritage;
 - (c) historical settlements and townscapes;
 - (d) landscapes and natural features of cultural significance;
 - (e) geological sites of scientific or cultural importance;
 - (f) archaeological and palaeontological sites;
 - (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
 - (h) sites of significance relating to the history of slavery in South Africa;
 - (i) movable objects, including—
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)".

Is Section 38 of the NHRA applicable to the proposed development?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	NA			
Will the development impact on any national estate referred to in Section 3(2) of the NHRA?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	The development will not impact on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 or impact on any building or structure older than 60 years in any way.			
Will any building or structure older than 60 years be affected in any way?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	NA			
Are there any signs of culturally or historically significant elements, as defined in section 2 of the NHRA, including Archaeological or paleontological sites, on or close (within 20m) to the site?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	NA			

Note: If uncertain, the Department may request that specialist input be provided **and** Heritage Western Cape must provide comment on this aspect of the proposal. (Please note that a copy of the comments obtained from the Heritage Resources Authority must be appended to this report as Appendix E1).

11. APPLICABLE LEGISLATION, POLICIES, CIRCULARS AND/OR GUIDELINES

- (a) Identify all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to the development proposal and associated listed activity(ies) being applied for and that have been considered in the preparation of the BAR.

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	ADMINISTERING AUTHORITY and how it is relevant to this application	TYPE Permit/license/authorisation/comment / relevant consideration (e.g. rezoning or consent use, building plan approval, Water Use License and/or General Authorisation, License in terms of the SAHRA and CARA, coastal discharge permit, etc.)	DATE (if already obtained):
National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA] and relevant regulations	Western Cape Department of Environmental Affairs and Development Planning	Environmental Authorisation Application	In progress
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) [NEMWA] and relevant regulations	Western Cape Department of Environmental Affairs and Development Planning	N/A	N/A
National Environmental Management: Biodiversity Act 10 of 2004 [NEMBA] and relevant regulations	Western Cape Department of Environmental Affairs and Development Planning	N/A	N/A
National Environmental Management: Air Quality Act, 39 Of 2004 [NEMAQA] and Relevant Regulations	Western Cape Department of Environmental Affairs and Development Planning	N/A	N/A
National Water Act, 1998 (Act No. 36 of 1998) [NWA] and relevant regulations	Department of Water and Sanitation	Unsure – wait feedback from DWS.	N/A
Conservation Of Agricultural Resources Act, 43 Of 1983 [CARA]	National Department of Agriculture, forestry and Fisheries Western Cape Department of Agriculture	<ul style="list-style-type: none"> • Weeds and the tolerance thereof • Use of agricultural land for project implementation • Improvement to agricultural practices 	N/A
National Health Act, 61 Of 2003		Littering and causing a nuisance	N/A
Constitution of the Republic of South Africa, 1996		General application to individual rights of all on and adjacent to the Sites	N/A
National Heritage Resources Act 25 of 1999 [NHRA]	Heritage Western Cape South African Heritage Resource Agency	N/A	N/A
National Veld and Forest Fire Act 101 of 1998 [NVFFA]		N/A	N/A
Fertilizers, Farm Feeds, Agricultural Remedies And Stock Remedies Act, 36 Of 1947 [FFFARSRA] and Relevant Regulations	National Department of Agriculture, forestry and Fisheries	N/A	N/A

	Western Cape Department of Agriculture		
Environment Conservation Act, 73 Of 1989, Western Cape Noise Control Regulations	Western Cape Department of Environmental Affairs and Development Planning	N/A	N/A
National Forests Act, 84 Of 1998	National Department of Agriculture, forestry and Fisheries Western Cape Department of Agriculture	N/A	N/A
Hazardous Substances Act, 15 Of 1973	Department of Labour	N/A	N/A
National Environmental Management: Protected Areas Act 57 Of 2003		N/A	N/A
Occupational Health And Safety Act 85 Of 1993	Department of Labour	N/A	N/A
Compensation For Occupational Injuries And Diseases Act 130 Of 1993	Department of Labour	N/A	N/A
Basic Conditions Of Employment Act 75 Of 1997	Department of Labour	N/A	N/A
Labour Relations Act 66 Of 1995	Department of Labour	N/A	N/A
Tobacco Products Control Act 83 Of 1993		N/A	N/A
Stellenbosch Local Municipality By-Law Relating To The Control Of Boundary Walls And Fences	Stellenbosch Local Municipality	N/A	N/A
Stellenbosch Local Municipality By-Law On Streets	Stellenbosch Local Municipality	N/A	N/A
Stellenbosch Local Municipality Community Fire Services By-Law	Stellenbosch Local Municipality	N/A	N/A
Cape Winelands District Municipality Municipal Health By-Laws	Cape Winelands District Municipality	N/A	N/A

(b) Describe how the proposed development **complies with and responds** to the legislation and policy context, plans, guidelines, spatial tools, municipal development planning frameworks and instruments.

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	Describe how the proposed development complies with and responds:
NEMA	Basic EIA process and public participation followed as described by the legislation.
NEMWA	Waste management.
NEMAQA	Activities that may affect the air quality on site and the environment surrounding it.
NWA	Impacts and pollution to ground and surface water. Assessed if a

	water use authorisation under section 21 is required.
National Health Act	Littering and causing a nuisance.
Constitution of the RSA	General application to individual rights of all on and adjacent to the sites.
Fencing Act	The erection and maintenance of fences.
Western Cape Noise Control Regulations	Construction activities to generate noise.
Hazardous Substances Act	Control and regulate the storage of hazardous substances on site.
NEM: Protected Areas Act	Determination and conservation of protected areas.
Occupational Health And Safety Act 85 Of 1993	Legislative requirements to assess impacts and determine appropriate mitigation measures and develop EMP.
Compensation For Occupational Injuries And Diseases Act 130 Of 1993	Legislative requirements to assess impacts and determine appropriate mitigation measures and develop EMP.
Basic Conditions Of Employment Act 75 Of 1997	Legislative requirements to assess impacts and determine appropriate mitigation measures and develop EMP.
Labour Relations Act 66 Of 1995	Legislative requirements to assess impacts and determine appropriate mitigation measures and develop EMP.
Tobacco Products Control Act 83 Of 1993	Smoking and smoking areas on site.
Stellenbosch Local Municipality By-Law Relating To The Control Of Boundary Walls And Fences	Specifications for the construction of walls and fences.
Stellenbosch Local Municipality By-Law On Streets	Excavations in streets and fences on street boundaries.
Stellenbosch Local Municipality Community Fire Services By-Law	Legislative requirements to assess impacts and determine appropriate mitigation measures and develop EMP.
Cape Winelands District Municipality Municipal Health By-Laws	Waste management and health nuisances on site.
Guideline on Public Participation	The public participation guideline was used to determine the best way to define and inform all relevant I&APs of the project. The guideline was also used to determine the most effective communication strategies for public participation.
Guidelines on Alternatives	The guidelines for alternatives assessment were used to develop a methodology for alternatives assessment. This methodology was applied to determine and assess the most viable alternatives to the project. The assessment was undertaken against the base environment (i.e. the no-go option).
Guideline for EMP's	The guideline for EMP's was taken into account to determine the most effective minimize, mitigation and management measures to minimise or prevent the impacts identified in the report.

Note: Copies of any comments, permit(s) or licences received from any other Organ of State must be attached to this report as **Appendix E**.

Section C: PUBLIC PARTICIPATION

The PPP must fulfil the requirements outlined in the NEMA, the EIA Regulations, 2014 (as amended) and if applicable, the NEM: WA and/or the NEM: AQA. This Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must also be taken into account.

- Please highlight the appropriate box to indicate whether the specific requirement was undertaken or whether there was an exemption applied for.

In terms of Regulation 41 of the EIA Regulations, 2014 (as amended) -			
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -			
(i) the site where the activity to which the application relates, is or is to be undertaken; and	YES	EXEMPTION	
(ii) any alternative site	YES	EXEMPTION	N/A
(b) giving written notice, in any manner provided for in Section 47D of the NEMA, to -			
(i) the occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	EXEMPTION	N/A
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	EXEMPTION	
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	YES	EXEMPTION	
(iv) the municipality (Local and District Municipality) which has jurisdiction in the area;	YES	EXEMPTION	
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES	EXEMPTION	
(vi) any other party as required by the Department;	YES	EXEMPTION	N/A
(c) placing an advertisement in -			
(i) one local newspaper; or	YES	EXEMPTION	
(ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	YES	EXEMPTION	N/A
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken	YES	EXEMPTION	N/A
(e) using reasonable alternative methods, as agreed to by the Department, in those instances where a person is desirous of but unable to participate in the process due to— (i) illiteracy; (ii) disability; or (iii) any other disadvantage.	YES	EXEMPTION	N/A
If you have indicated that "EXEMPTION" is applicable to any of the above, proof of the exemption decision must be appended to this report.			
Please note that for the NEM: WA and NEM: AQA, a notice must be placed in at least two newspapers circulating in the area where the activity applied for is proposed.			
If applicable, has/will an advertisement be placed in at least two newspapers?	YES		NO
If "NO", then proof of the exemption decision must be appended to this report.			

- Provide a list of all the State Departments and Organs of State that were consulted:

State Department / Organ of State	Date request was sent:	Date comment received:	Support / not in support
CapeNature	A copy of this report will be circulated to these departments/organs of state	NA	NA
Department of Water and Sanitation			
Cape Winelands District Municipality			
Stellenbosch Municipality			
DEA&DP: Waste Management			
DEA&DP: Pollution Management			

3. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated, or the reasons for not including them.
(The detailed outcomes of this process, including copies of the supporting documents and inputs must be included in a Comments and Response Report to be attached to the BAR (see note below) as **Appendix F**).

- Limited road access on Old Helshoogte Road during construction phase
- Crime (hijacking and robbery) during construction phase

4. Provide a summary of any conditional aspects identified / highlighted by any Organs of State, which have jurisdiction in respect of any aspect of the relevant activity.

None at this stage. A copy of this report will be circulated.

Note:

Even if pre-application public participation is undertaken as allowed for by Regulation 40(3), it must be undertaken in accordance with the requirements set out in Regulations 3(3), 3(4), 3(8), 7(2), 7(5), 19, 40, 41, 42, 43 and 44.

If the "exemption" option is selected above and no proof of the exemption decision is attached to this BAR, the application will be refused.

A list of all the potential I&APs, including the Organs of State, notified and a list of all the registered I&APs must be submitted with the BAR. The list of registered I&APs must be opened, maintained and made available to any person requesting access to the register in writing.

The BAR must be submitted to the Department when being made available to I&APs, including the relevant Organs of State and State Departments which have jurisdiction with regard to any aspect of the activity, for a commenting period of at least 30 days. Unless agreement to the contrary has been reached between the Competent Authority and the EAP, the EAP will be responsible for the consultation with the relevant State Departments in terms of Section 24O and Regulation 7(2) – which consultation must happen simultaneously with the consultation with the I&APs and other Organs of State.

All the comments received from I&APs on the BAR must be recorded, responded to and included in the Comments and Responses Report included as **Appendix F** of the BAR. If necessary, any amendments made in response to comments received must be effected in the BAR itself. The Comments and Responses Report must also include a description of the PPP followed.

The minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded, must also be submitted as part of the public participation information to be attached to the final BAR as **Appendix F**.

Proof of all the notices given as indicated, as well as notice to I&APs of the availability of the Pre-Application BAR (if applicable), Draft BAR, and Revised BAR (if applicable) must be submitted as part of the public participation information to be attached to the BAR as **Appendix F**. In terms of the required "proof" the following must be submitted to the Department:

- a site map showing where the site notice was displayed, a dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
 - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
 - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
 - if a facsimile was sent, a copy of the facsimile report;
 - if an electronic mail was sent, a copy of the electronic mail sent; and
 - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION D: NEED AND DESIRABILITY

Note: Before completing this section, first consult this Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, 2014 (as amended), any subsequent Circulars, and guidelines available on the Department's website: <http://www.westerncape.gov.za/eadp>. In this regard, it must be noted that the *Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010* published by the national Department of Environmental Affairs on 20 October 2014 (GN No. 891 on Government Gazette No. 38108 refers) (available at: http://www.gov.za/sites/www.gov.za/files/38108_891.pdf) also applied to EIAs in terms of the EIA Regulations, 2014 (as amended).

1. Is the development permitted in terms of the property's existing land use rights?	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights			
2. Will the development be in line with the following?			
(a) Provincial Spatial Development Framework ("PSDF").	YES	NO	Please explain
Expansion of existing road and culvert infrastructure			
(b) Urban edge / edge of built environment for the area.	YES	NO	Please explain
The area is within the approved urban edge			
(c) Integrated Development Plan and Spatial Development Framework of the Local Municipality (e.g., would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF ?).	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
(d) An Environmental Management Framework ("EMF") adopted by this Department. (e.g., Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
(e) Any other Plans (e.g., Integrated Waste Management Plan (for waste management activities), etc.)	YES	NO	Please explain
N/A			
3. Is the land use (associated with the project being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (in other words, is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
4. Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occur on the proposed site at this point in time?	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
5. Does the community/area need the project and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g., development is a National Priority, but within a specific local context it could be inappropriate.)	YES	NO	Please explain
Inadequate stormwater infrastructure in some lower income areas/ informal settlements are contributing to river pollution. The road upgrade project aims to provide adequate stormwater infrastructure to reduce river pollution and minimise the risk of flooding.			
6. Are the necessary services available together with adequate unallocated municipal capacity (at the time of application), or must additional capacity be created to cater for the project? (Confirmation by the relevant municipality in this regard must be attached to the BAR as Appendix E.)	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
7. Is this project provided for in the infrastructure planning of the municipality and if not, what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant municipality in this regard must be attached to the BAR as Appendix E.)	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
8. Is this project part of a national programme to address an issue of national concern or importance?	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
9. Do location factors favour this land use (associated with the development proposal and associated listed activity(ies) applied for) at this place? (This relates to the contextualisation of the proposed land use on the proposed site within its broader context.)	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights.			
10. Will the development proposal or the land use associated with the development proposal applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	YES	NO	Please explain
Impact on the non-perennial river.			

11. Will the development impact on people's health and well-being (e.g., in terms of noise, odours, visual character and 'sense of place', etc.)?	YES	NO	Please explain
An increase in noise will occur during the construction phase. Thereafter, during the operational phase the noise will be similar to that occurring in the existing residential areas adjacent to the site.			
12. Will the proposed development or the land use associated with the proposed development applied for, result in unacceptable opportunity costs?	YES	NO	Please explain
Existing road and culvert infrastructure that will be expanded within existing land use rights			
13. What will the cumulative impacts (positive and negative) of the proposed land use associated with the development proposal and associated listed activity(ies) applied for, be?			
<p>Physical Environment</p> <p>The proposed action will not have a significant adverse cumulative effect on soils, groundwater resources, historic, cultural, and archaeological resources, or scenic and visual resources. The proposed development will not be a potential source of contamination to the underlying groundwater. The proposed construction will contribute during the construction phase to higher noise levels, which is by its nature short term.</p>			
<p>Socio-Economic Environment</p> <p>The proposed action will not have a significant adverse cumulative impact on population or traditional customs and practices. The proposed action will provide stormwater infrastructure and road side walk services to the community of Idas Valley. Creation of job opportunities for skilled personnel (e.g. engineers, specialists etc.) and non-skilled personnel (e.g. labourers).</p>			
<p>Public Facilities and Services</p> <p>The proposed action will not have a significant cumulative impact on transport facilities, power and solid waste systems. Will further have no significant cumulative impact on communications, or other public services such as schools, recreational facilities, police, fire protection, or emergency services.</p>			
14. Is the development the best practicable environmental option for this land/site?	YES	NO	Please explain
The development is a road upgrade within an urban area. The upgrade will allow for better stormwater management and functioning of the river.			
15. What will the benefits be to society in general and to the local communities?			Please explain
Surrounding communities will be less prone to flooding, local construction job opportunities, improved transport route for road travellers and safer pedestrian travels on the proposed side walks.			
16. Any other need and desirability considerations related to the proposed development?			Please explain
N/A			
17. Describe how the general objectives of Integrated Environmental Management as set out in Section 23 of the NEMA have been taken into account:			
<p>All decisions during the planning and assessment by all involved for the activity promote the integration of the principles of environmental management set out in section 2 to minimize and mitigate any significant effect on the environment. All these mitigations and management measures must be included as EA conditions and into the EMP and MMP.</p> <p>All involved in the planning and design identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage. The risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2 were taken in consideration and used in the assessments, mitigations and recommendations throughout this report.</p> <p>All specialists involved in the planning and design of the activity are independent and ensured that the effects of the activities on the environment receive adequate consideration before recommendations and actions taken in connection with them are proposed to be included in the EA conditions and EMP. Adequate and appropriate opportunity for public participation is provided and included in Appendix F as per the guidelines and regulations in decisions that may affect the environment. The consideration of environmental attributes in management and decision making which may have a significant effect on the environment was ensured. The modes of environmental management best suited to ensure that a particular activity is pursued in accordance with the principles of environmental management set out in section 2, was identified and employed. Refer to section below.</p>			

18 Describe how the **principles of environmental management** as set out in Section 2 of the NEMA have been taken into account:

A public participation process as described in the legislation and guidelines is followed. Refer to Appendix F.

The proposed development will not have an impact on an endangered vegetation type, and should not lead to the loss of any conservation worthy species or habitat and ecological functioning. The opinion of the EAP concludes that this development should not result in the loss of any species.

The proposed development will not disturb the sites that constitute the nation's cultural heritage. The proposed development will not exceed or exploit renewable resources to an extent that they reach a level beyond which their integrity is jeopardised. A risk-averse and caution first approach is being applied.

All impacts and aspects were assessed and identified. An environmental management programme and maintenance management plan is included. This will guide the responsibilities in execution as stipulated above. The social, economic and environmental impacts of activities, including disadvantages and benefits, were considered, assessed and evaluated, and decisions are appropriate in the light of such consideration and assessment.

SECTION E: DETAILS OF ALL THE ALTERNATIVES CONSIDERED

Note: Before completing this section, first consult this Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, 2014 (as amended), any subsequent Circulars, and guidelines available on the Department's website <http://www.westerncape.gov.za/eadp>.

The EIA Regulations, 2014 (as amended) defines "alternatives" as "in relation to a proposed activity, means different means of fulfilling the general purpose and requirements of the activity, which may include alternatives to the—

- (a) property on which or location where the activity is proposed to be undertaken;
- (b) type of activity to be undertaken;
- (c) design or layout of the activity;
- (d) technology to be used in the activity; or
- (e) operational aspects of the activity;
- (f) and includes the option of not implementing the activity;"

The NEMA (section 24(4)(a) and (b) of the NEMA, refers) prescribes that the procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, with respect to every application for environmental authorisation –

- ensure that the general objectives of integrated environmental management laid down in the NEMA and the National Environmental Management Principles set out in the NEMA are taken into account; and
- include an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity.

The general objective of integrated environmental management (section 23 of NEMA, refers) is, *inter alia*, to "identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management" set out in the NEMA.

The identification, evaluation, consideration and comparative assessment of alternatives directly relate to the management of impacts. Related to every identified impact, alternatives, modifications or changes to the activity must be identified, evaluated, considered and comparatively considered to:

- in terms of negative impacts, firstly avoid a negative impact altogether, or if avoidance is not possible alternatives to better mitigate, manage and remediate a negative impact and to compensate for/offset any impacts that remain after mitigation and remediation; and
- in terms of positive impacts, maximise impacts.

1. DETAILS OF THE IDENTIFIED AND CONSIDERED ALTERNATIVES AND INDICATE THOSE ALTERNATIVES THAT WERE FOUND TO BE FEASIBLE AND REASONABLE

Note: A full description of the investigation of alternatives must be provided and motivation if no reasonable or feasible alternatives exists.

(a) Property and **location/site** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

No other property alternatives were assessed as no feasible or reasonable property alternative exists. The development areas are situated within the agreed urban edge of the town of Idas Valley. Due to the need for stormwater drainage in the surrounding community, this was the only reasonable option. The proposed location of the Old Helshoogte Road and associated stormwater infrastructure is the only existing site as it upgrades an existing road alignment and crossings within an existing road reserve. The municipality through the IDP and SDF process earmarked properties on erf 11330 for future residential development. This application for Environmental Authorization commenced after the Environmental Authorisation was granted for a housing development on the property.

(b) **Activity** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

No other activity alternatives were assessed as no feasible or reasonable activity alternative exists. Due to the need for storm water drainage infrastructure in the surrounding community this activity was the only reasonable option. The proposed location of the Old Helshoogte Road and associated stormwater infrastructures is the only existing site as it upgrades an existing road alignment and crossings within an existing road reserve.

(c) **Design or layout** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Layout

- Upgrading the road and existing pipe culvert into two x 1.5m x 1.2 box culverts
- New road surface
- Construction of 1.5m side walks on both sides of the road
- Barrier kerbs in both directions

The proposed layout offers the highest levels of biophysical and environmental benefits, as the hard surface, in conjunction with the upgraded stormwater infrastructure, will manage water movement most effectively, minimise erosion from the road and the surrounding environment, and minimise the subsequent discharge of the eroded materials into the river.

(d) **Technology** alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

No technological alternatives were considered as they are neither feasible nor reasonable. The municipality need to upgrade the existing road infrastructure to allow safer pedestrian travel and storm water management. The design and construction of roads and culvert make use of known civil engineering technologies.

(e) **Operational** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Once operational, the only activities that will be undertaken are related to maintenance and upkeep of the development and associated infrastructure.

(f) The option of **not implementing** the activity (the 'No-Go' Option):

The No-Go option will result in the road and culvert infrastructure remaining as it is presently. The threat to biodiversity and water resources as a result of soil erosion, sedimentation and encroachment of alien invasive species will remain.

- (g) **Other** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

No additional alternatives were assessed - see summary below.

- (h) Provide a **summary** of all alternatives investigated and the outcome of each investigation:

Location alternatives – The location of the proposed activity is site specific as it is along the existing road which is the only culvert that occurs at the river crossing. Therefore no other property alternatives were assessed as no feasible or reasonable property alternative exists.

Activity alternatives – The proposed upgrade is the only reasonable and feasible activity alternative assessed as it is a development proposed along existing infrastructure which needs to be upgraded.

Layout alternatives – The layout of the proposed activity is site specific as it is along an existing road which is the only culvert that occurs at the river crossing. Therefore no other property alternatives were assessed as no feasible or reasonable property alternative exists.

Technology alternatives – No other reasonable or feasible technology/materials alternatives are to be assessed at this stage as the existing culvert is proposed to be upgraded into two 1.5m x 1.2m box culverts.

Operational alternatives – No operational alternatives were considered as the proposed activity is for the culvert upgrade to be maintained by the municipality after construction completion.

- (i) Provide a detailed **motivation for not further considering** the alternatives that were found not feasible and reasonable, including a description and proof of the investigation of those alternatives:

N/A

2. PREFERRED ALTERNATIVE

- (a) Provide a **concluding statement** indicating the preferred alternative(s), including preferred location, site, activity and technology for the development.

The proposed location of the Old Helshoogte Road upgrade and associated stormwater infrastructures is the only existing site as it upgrades an existing road alignment and crossings within an existing road reserve.

Storm water currently runs from Old Helshoogte Road through an excavated channel and joins the stream. The existing culvert in the river is a 600mm diameter Pipe culvert. It is proposed to replace the 600mm culvert with two 1.5m x 1.2m box culverts. The quantity of fill material, which will be removed to replace the existing pipe culvert with the new culvert is 12.348m³. The quantity of fill material is required for the new culvert is 14.985m³.

Between CH200.00 and CH800.000 the Old Helshoogte Road will be resurfaced with Asphalt. The road width currently varies between 5m to 7m and the proposed road upgrade will have a width of 6.8m including barrier kerbs in both directions and a 1.5 m side walk on either side of the road to a total road width of 9m. The side walk on the east side of the road will be constructed up till the river crossing.

SECTION F: ENVIRONMENTAL ASPECTS ASSOCIATED WITH THE ALTERNATIVES

Note: The information in this section must be DUPLICATED for all the feasible and reasonable ALTERNATIVES.

1. DESCRIBE THE ENVIRONMENTAL ASPECTS ASSOCIATED WITH THE PROPOSED DEVELOPMENT AND ITS ALTERNATIVES, FOCUSING ON THE FOLLOWING:

(a) Geographical, geological and physical aspects:

The proposed action will not have a significant adverse cumulative effect on topography, slopes, soils and groundwater resources, if operational and construction mitigation measures are implemented. However, without these mitigation measures the proposed action could potentially result in significant adverse effects on groundwater and surface water resources, as such these must be carefully managed.

(b) Ecological aspects:

Will the proposed development and its alternatives have an impact on CBAs or ESAs? If yes, please explain: Also include a description of how the proposed development will influence the quantitative values (hectares/percentage) of the categories on the CBA/ESA map.	YES	NO
Old Helshoogte road crosses a the river which was identified as an Ecological Support Area. The impact however on this ESA will be of low significance as existing infrastructure will be upgraded. The existing pipe culvert proposing to be upgraded will be in the form of a box culvert. The construction of the pilles will have a small and limited impact, but the operational impact will be no significance as the upgrade will not change the current flow regimer of the river.		
Will the proposed development and its alternatives have an impact on terrestrial vegetation, or aquatic ecosystems (wetlands, estuaries or the coastline)? If yes, please explain:	YES	NO
Some edge effects on riparian vegetation and impacts on the non-perennial river.		
Will the proposed development and its alternatives have an impact on any populations of threatened plant or animal species, and/or on any habitat that may contain a unique signature of plant or animal species? If yes, please explain:	YES	NO
Limited impact on fauna and flora as the proposed development is the upgrade of existing infrastructure.		
Describe the manner in which any other biological aspects will be impacted:		
N/A		
Will the proposed development also trigger section 63 of the NEM: ICMA?	YES	NO

<p>If yes, describe the following:</p> <p>(i) the extent to which the applicant has in the past complied with similar authorisations;</p> <p>(ii) whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development proposal or listed activity is consistent with the purpose for establishing and protecting those areas;</p> <p>(iii) the estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area;</p> <p>(iv) the likely socio-economic impact if the listed activity is authorised or is not authorised;</p> <p>(v) the likely impact of coastal environmental processes on the proposed development;</p> <p>(vi) whether the development proposal or listed activity—</p> <p>(a) is situated within coastal public property and is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations;</p> <p>(b) is situated within the coastal protection zone and is inconsistent with the purpose for which a coastal protection zone is established as set out in section 17 of NEM: ICMA;</p> <p>(c) is situated within coastal access land and is inconsistent with the purpose for which coastal access land is designated as set out in section 18 of NEM: ICMA;</p> <p>(d) is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated;</p> <p>(e) is likely to be significantly damaged or prejudiced by dynamic coastal processes;</p> <p>(f) would substantially prejudice the achievement of any coastal management objective; or</p> <p>(g) would be contrary to the interests of the whole community;</p> <p>(vii) whether the very nature of the proposed activity or development requires it to be located within coastal public property, the coastal protection zone or coastal access land;</p> <p>(viii) whether the proposed development will provide important services to the public when using coastal public property, the coastal protection zone, coastal access land or a coastal protected area; and</p> <p>(ix) the objects of NEM: ICMA, where applicable.</p>
NA

(c) Social and Economic aspects:

What is the expected capital value of the project on completion?	R	Unknown
What is the expected yearly income or contribution to the economy that will be generated by or as a result of the project?	R	N/A
Will the project contribute to service infrastructure?	YES	NO
Is the project a public amenity?	YES	NO
How many new employment opportunities will be created during the development phase?	Unknown	
What is the expected value of the employment opportunities during the development phase?	Unknown	
What percentage of this will accrue to previously disadvantaged individuals?	-	
How will this be ensured and monitored (please explain):		
Will make use of local and respected contractors as far as possible. For specialised equipment and installations, outside specialist resources will be used. Preference will be giving to employment of local residents. Stellenbosch Municipality always apply BEE policy and legislation in their tender process.		
How many permanent new employment opportunities will be created during the operational phase of the project?	0	
What is the expected current value of the employment opportunities during the first 10 years?	N/A	
What percentage of this will accrue to previously disadvantaged individuals?	N/A	
How will this be ensured and monitored (please explain):		
N/A		
Any other information related to the manner in which the socio-economic aspects will be impacted:		
N/A		

(d) Heritage and Cultural aspects:

N/A

2. WASTE AND EMISSIONS

(a) Waste (including effluent) management

Will the development proposal produce waste (including rubble) during the development phase?	YES	NO
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If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	Construction waste (building rubble) – 2m ³
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Will the development proposal produce waste during its operational phase?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	NA m ³	

Will the development proposal require waste to be treated / disposed of on site?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type per phase of the proposed development to be treated/disposed of?	NA m ³	
N/A		
If no, where and how will the waste be treated / disposed of? Please explain. Indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type per phase of the proposed development to be treated/disposed of?	NA m ³	
Will feed into municipal waste stream. Be collected on a weekly basis by Stellenbosch Municipality within existing collection system and transported to the Landfill Site.		
Has the municipality or relevant authority confirmed that sufficient capacity exists for treating / disposing of the waste to be generated by the development proposal? If yes, provide written confirmation from the municipality or relevant authority.	YES	NO
Will the development proposal produce waste that will be treated and/or disposed of at another facility other than into a municipal waste stream?	YES	NO
If yes, has this facility confirmed that sufficient capacity exists for treating / disposing of the waste to be generated by the development proposal? Provide written confirmation from the facility.	YES	NO
Does the facility have an operating license? (If yes, please attach a copy of the licence.)	YES	NO
Facility name:		
Contact person:		
Cell:	Postal address:	
Telephone:	Postal code:	
Fax:	E-mail:	

Describe the measures that will be taken to reduce, reuse or recycle waste:
N/A

(b) Emissions into the atmosphere

Will the development proposal produce emissions that will be released into the atmosphere?	YES	NO
If yes, does this require approval in terms of relevant legislation?	YES	NO
If yes, what is the approximate volume(s) of emissions released into the atmosphere?	NA	m ³
Describe the emissions in terms of type and concentration and how these will be avoided/managed/treated/mitigated:	The road upgrade is a standard road upgrade. No emissions of any consequence are anticipated or being planned for.	

3. WATER USE

(a) Indicate the source(s) of water for the development proposal by highlighting the appropriate box(es).

Municipal	Water board	Groundwater	River, Stream, Dam or Lake	Other	The project will not use water
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Note: Provide proof of assurance of water supply (e.g. Letter of confirmation from the municipality / water user associations, yield of borehole)

(b) If water is to be extracted from a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	NA	m ³
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(c) Does the development proposal require a water use permit / license from DWS?	YES	NO
Unsure – await feedback from DWS.		

(d) Describe the measures that will be taken to reduce water demand, and measures to reuse or recycle water:

N/A

4. POWER SUPPLY

(a) Describe the source of power e.g. municipality / Eskom / renewable energy source.

Power will be supplied from the Stellenbosch Municipality's grid network as currently supplying the existing developed area adjoining.

(b) If power supply is not available, where will power be sourced?

N/A

5. ENERGY EFFICIENCY

(a) Describe the design measures, if any, that have been taken to ensure that the development proposal will be energy efficient:

N/A

(b) Describe how alternative energy sources have been taken into account or been built into the design of the project, if any:

N/A

6. TRANSPORT, TRAFFIC AND ACCESS

Describe the impacts in terms of transport, traffic and access.

During the development phase, traffic lanes on Old Helshoogte road between Bergplaas resort/ Lindani Farm and Idas Valley would be limited.

7. NUISANCE FACTOR (NOISE, ODOUR, etc.)

Describe the potential nuisance factor or impacts in terms of noise and odours.

Due to construction machinery during the construction/development phase. Construction machinery may cause noise disturbance to the directly adjacent land users/ owners. It is not anticipated that the noise will be considerable and will only be temporary. Noise due to construction activities is unlikely to cause a nuisance to adjacent residential areas.

Note: Include impacts that the surrounding environment will have on the proposed development.

8. OTHER

N/A

SECTION G: IMPACT ASSESSMENT, IMPACT AVOIDANCE, MANAGEMENT, MITIGATION AND MONITORING MEASURES

1. METHODOLOGY USED IN DETERMINING AND RANKING ENVIRONMENTAL IMPACTS AND RISKS ASSOCIATED WITH THE ALTERNATIVES

- (a) Describe the **methodology** used in determining and ranking the nature, significance consequences, extent, duration and probability of potential environmental impacts and risks associated with the proposed development and alternatives.

The assessment criteria were developed based on the Department of Environmental Affairs Integrated Environmental Management Series guideline documents.			
Criteria	Description		
Nature	a description of what causes the effect, what will be affected, and how it will be affected.		
	Type	Score	Description
Extent (E)	None (No)	1	Footprint
	Site (S)	2	On site or within 100 m of the site
	Local (L)	3	Within a 20 km radius of the centre of the site
	Regional (R)	4	Beyond a 20 km radius of the site
	National (Na)	5	Crossing provincial boundaries or on a national / land wide scale
Duration (D)	Short term (S)	1	0 – 1 years
	Short to medium (S-M)	2	2 – 5 years
	Medium term (M)	3	5 – 15 years
	Long term (L)	4	> 15 years
	Permanent(P)	5	Will not cease
Magnitude (M)	Small (S)	0	will have no effect on the environment
	Minor (Mi)	2	will not result in an impact on processes
	Low (L)	4	will cause a slight impact on processes
	Moderate (Mo)	6	processes continuing but in a modified way
	High (H)	8	processes are altered to the extent that they temporarily cease
	Very high (VH)	10	results in complete destruction of patterns and permanent cessation of processes.
Probability (P) the likelihood of the impact actually occurring. Probability is estimated on a scale, and a score assigned	Very improbable (VP)	1	probably will not happen
	Improbable (I)	2	some possibility, but low likelihood
	Probable (P)	3	distinct possibility
	Highly probable (HP)	4	most likely
	Definite (D)	5	impact will occur regardless of any prevention measures
Significance (S)	Determined through a synthesis of the characteristics described above: S = (E+D+M) x P Significance can be assessed as low, medium or high		
Low: < 30 points:	The impact would not have a direct influence on the decision to develop in the area		
Medium: 30 – 60 points:	The impact could influence the decision to develop in the area unless it is effectively mitigated		
High: > 60 points:	The impact must have an influence on the decision process to develop in the area		
No significance	When no impact will occur or the impact will not affect the environment		
Status	Positive (+)		Negative (-)
The degree to which the impact can be reversed	Completely reversible (R)	90-100%	The impact can be mostly to completely reversed with the implementation of the correct mitigation and rehabilitation measures.
	Partly reversible (PR)	6-89%	The impact can be partly reversed providing that mitigation measures as stipulated in the EMP are implemented and rehabilitation measures are undertaken
	Irreversible (IR)	0-5%	The impact cannot be reversed, regardless of the mitigation or rehabilitation measures taking place
The degree to which the impact may cause irreplaceable loss of resources	Resource will not be lost (R)	1	The resource will not be lost or destroyed provided that mitigation and rehabilitation measures as stipulated in the EMP are implemented
	Resource may be partly destroyed (PR)	2	Partial loss or destruction of the resources will occur even though all management and mitigation measures as stipulated in the EMP are implemented
	Resource cannot be replaced (IR)	3	The resource cannot be replaced no matter which management or mitigation measures are implemented.
The degree to which the impact can be mitigated	Completely mitigatable (CM)	1	The impact can be completely mitigated providing that all management and mitigation measures as stipulated in the EMP are implemented
	Partly mitigatable (PM)	2	The impact cannot be completely mitigated even though all management and mitigation measures as stipulated in the EMP are implemented. Implementation of these measures will provide a measure of mitigatability

	Un-mitigatable (UM)	3	The impact cannot be mitigated no matter which management or mitigation measures are implemented.
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(b) Please describe any gaps in knowledge.

EAP is only knowledgeable with regards to the environmental and ecosystems aspects. Limited knowledge with regard to the emissions and odours that will be generated from road upgrade construction activities

(c) Please describe the underlying assumptions.

In undertaking the investigation and compiling this report, the following has been assumed:

- The information provided by the client and all specialists is accurate and unbiased;
- The scope of this investigation is to assess the direct and cumulative environmental impacts associated with the development; and
- Should the proposed project be authorised, the applicant will incorporate the recommendations and mitigation measures outlined in this BAR, the EMP and the EA into the detailed design and construction contract specifications and operational management system for the proposed project.

(d) Please describe the uncertainties.

None at this stage.

(e) Describe adequacy of the assessment methods used.

Based on the EAP's assessment information was provided to address the concerns and assess the impacts of the proposed development on the environment. Information as provided by the applicant and as collected by the EAP during site surveys etc. has been used to inform the current development proposals.

2. IDENTIFICATION, ASSESSMENT AND RANKING OF IMPACTS TO REACH THE PROPOSED ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE WITHIN THE SITE

Note: In this section the focus is on the identified issues, impacts and risks that influenced the identification of the alternatives. This includes how aspects of the receiving environment have influenced the selection.

(a) List the identified impacts and risks for each alternative.

Alternative 1:	<p><u>DEVELOPMENT PHASE</u></p> <ul style="list-style-type: none"> • Soil erosion and dust (low impact before mitigation and low impact with mitigation measures); • Impacts of construction activities on surface and underground water resources (low impact before mitigation and low impact with mitigation measures); • Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures); • Noise (low impact before mitigation and low impact with mitigation measures); • Traffic impacts due to construction on and along existing roads (medium negative impact before mitigation and low negative impact with mitigation measures); • Increase in temporary jobs – positive. <p><u>OPERATIONAL PHASE</u></p> <ul style="list-style-type: none"> • Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures); • Traffic impacts – positive.
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	DECOMMISSIONING AND CLOSURE PHASE The impacts caused during the decommissioning phase are mostly similar to those of the Construction Phase.
Alternative 2:	N/A
Alternative 3:	N/A
No-go Alternative:	The No-Go option will result in the site remaining as is presently.

(b) Describe the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated.

The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. (The EAP has to select the relevant impacts identified in blue in the table below for each alternative and repeat the table for each impact and risk).

Note: The EAP may decide to include this section as Appendix J to the BAR.

PLEASE SEE APPENDIX J.

(c) Provide a summary of the site selection matrix.

The property was the only alternative considered. Upgrading the road was the alternative that was assessed against the no go or no development option.

(d) Outcome of the site selection matrix.

The property was the only alternative considered. Upgrading the road was the alternative that was assessed against the no go or no development option.

3. SPECIALIST INPUTS/STUDIES, FINDINGS AND RECOMMENDATIONS

Note: Specialist inputs/studies must be attached to this report as **Appendix G** and must comply with the content requirements set out in Appendix 6 of the EIA Regulations, 2014 (as amended). Also take into account the Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, 2014, any subsequent Circulars, and guidelines available on the Department's website (<http://www.westerncape.gov.za/eadp>).

Provide a summary of the findings and impact management measures identified in any specialist report and an indication of how these findings and recommendations have been included in the BAR.

N/A

4. ENVIRONMENTAL IMPACT STATEMENT

Provide an environmental impact statement of the following:

(i) A summary of the key findings of the EIA.
<p>DEVELOPMENT PHASE</p> <ul style="list-style-type: none"> • Soil erosion and dust (low impact before mitigation and low impact with mitigation measures); • Impacts of construction activities on surface and underground water resources (low impact before mitigation and low impact with mitigation measures); • Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures); • Noise (low impact before mitigation and low impact with mitigation measures); • Traffic impacts due to construction on and along existing roads (medium negative impact before mitigation and low negative impact with mitigation measures); • Increase in temporary jobs – positive. <p>OPERATIONAL PHASE</p> <ul style="list-style-type: none"> • Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures); • Traffic impacts – positive.

DECOMMISSIONING AND CLOSURE PHASE

The impacts caused during the decommissioning phase are mostly similar to those of the Construction Phase.

The proposed upgrade will improve public infrastructure for pedestrians and motor vehicle users. Furthermore the proposed development will ensure effective stormwater management and prevent flooding.

(ii) Has a map of appropriate scale been provided, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers?	YES	NO
(iii) A summary of the positive and negative impacts that the proposed development and alternatives will cause in the environment and community.		

DEVELOPMENT PHASE

- Soil erosion and dust (low impact before mitigation and low impact with mitigation measures);
- Impacts of construction activities on surface and underground water resources (low impact before mitigation and low impact with mitigation measures);
- Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures);
- Noise (low impact before mitigation and low impact with mitigation measures);
- Traffic impacts due to construction on and along existing roads (medium negative impact before mitigation and low negative impact with mitigation measures);
- Increase in temporary jobs – positive.

OPERATIONAL PHASE

- Impact on sensitive environments (river) (medium impact before mitigation and medium impact with mitigation measures);
- Traffic impacts – positive.

DECOMMISSIONING AND CLOSURE PHASE

The impacts caused during the decommissioning phase are mostly similar to those of the Construction Phase.

5. IMPACT MANAGEMENT, MITIGATION AND MONITORING MEASURES

- (a) Based on the assessment, describe the impact management, mitigation and monitoring measures as well as the impact management objectives and impact management outcomes included in the EMP. The EMP must be attached to this report as Appendix H.

The key mitigation measure is impact avoidance. Where adverse impacts cannot reasonably be prevented, construction should be managed through the effective implementation of the MMP and EMP with a strong emphasis on post-construction rehabilitation. Please refer to the EMP and MMP for more details on the mitigation and management measures.

- (b) Describe any provisions for the adherence to requirements that are prescribed in a Specific Environmental Management Act relevant to the listed activity or specified activity in question.

N/A

- (c) Describe the ability of the applicant to implement the management, mitigation and monitoring measures.

The applicant is ultimately responsible for the implementation of the EMP and the financial cost of all environmental control measures. In accordance with the requirements of the EMP, the applicant must ensure that any person acting on their behalf complies with the conditions / specifications contained in this EMP. In addition, an Environmental Control Officer would be appointed as the onsite implementing agent and would have the responsibility to ensure that their responsibilities are executed in compliance with the EMP. Thus, the applicant has the ability to implement the recommended management, mitigation, and monitoring measures, as appropriate.

- (d) Provide the details of any financial provisions for the management of negative environmental impacts, rehabilitation and closure of the proposed development.

Not applicable

- (e) Provide the details of any financial provisions for the management of negative environmental impacts, rehabilitation and closure of the proposed development.

Not applicable

- (f) Describe any assumptions, uncertainties, and gaps in knowledge which relate to the impact management, mitigation and monitoring measures proposed.

EAP is only knowledgeable with regards to the environmental impacts, biodiversity and ecosystems aspects.

In undertaking the investigation and compiling this report, the following has been assumed:

- The information provided by the client is accurate and unbiased;
- The scope of this investigation is to assess the direct and cumulative environmental impacts associated with the development; and
- Should the proposed project be authorised, the applicant will incorporate the recommendations and mitigation measures outlined in this BAR, the EMP and the EA into the detailed design and construction contract specifications and operational management system for the proposed project.

SECTION H: RECOMMENDATIONS OF THE EAP AND SPECIALISTS

(a) In my view as the appointed EAP, the information contained in this BAR and the documentation attached hereto is sufficient to make a decision in respect of the listed activity(ies) applied for.	YES	NO
(b) If the documentation attached hereto is sufficient to make a decision, please indicate below whether, in your opinion, the listed activity(ies) should or should not be authorised:		
Listed activity(ies) should be authorised:	YES	NO
Provide reasons for your opinion		
All possible impacts on the environment have been assessed and can be mitigated and managed. The assessment did not lead to any fatal flaws if the development is approved, provided that the facility is operated in terms of all relevant applicable legislation and the MMP management activities implemented.		
(c) Provide a description of any aspects that were conditional to the findings of the assessment by the EAP and Specialists which are to be included as conditions of authorisation.		
The applicant must comply with the EMP and MMP.		
(d) If you are of the opinion that the activity should be authorised, please provide any conditions, including mitigation measures that should in your view be considered for inclusion in an environmental authorisation.		
Recommended that the EA prescribe that:		
<ul style="list-style-type: none"> • The project implementation process should be subject to standard Environmental Management Programme prescripts and conditions under supervision of a competent and diligent ECO, during its construction and decommissioning phases. That the facility be audited on yearly bases by an external environmental auditor during operations. • The EMP and MMP be strictly followed. 		
(e) Please indicate the recommended periods in terms of the following periods that should be specified in the environmental authorisation:		
i. the period within which commencement must occur;	5 years	
ii. the period for which the environmental authorisation is granted and the date on which the development proposal will have been concluded, where the environmental authorisation does not include operational aspects;	10 years	
iii. the period for which the portion of the environmental authorisation that deals with non-operational aspects is granted; and	10 years	
iv. the period for which the portion of the environmental authorisation that deals with operational aspects is granted.	Unlimited	

SECTION I: APPENDICES

The following appendices must be attached to this report:

APPENDIX		Confirm that Appendix is attached
Appendix A:	Locality map	Y
Appendix B:	Site development plan(s)	Y
	A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	Y
Appendix C:	Photographs	Y
Appendix D:	Biodiversity overlay map	Y
Appendix E:	Permit(s) / license(s) from any other Organ of State, including service letters from the municipality.	N
	Appendix E1: Copy of comment from HWC.	N
Appendix F:	Public participation information: including a copy of the register of I&APs, the comments and responses report, proof of notices, advertisements and any other public participation information as is required in Section C above.	Y
Appendix G:	Specialist Report(s)	N
Appendix H :	EMPr	Y
Appendix I:	Additional information related to listed waste management activities (if applicable)	N
Appendix J:	If applicable, description of the impact assessment process followed to reach the proposed preferred alternative within the site.	Y
Appendix K:	Any Other (if applicable).	Y

SECTION J: DECLARATIONS

THE APPLICANT

Note: Duplicate this section where there is more than one applicant.

I, in my personal capacity or duly authorised thereto, hereby declare/affirm all the information submitted as part of this Report is true and correct, and that I –

- am aware of and understand the content of this report;
- am fully aware of my responsibilities in terms of the NEMA, the EIA Regulations in terms of the NEMA (Government Notice No. R. 982, refers) (as amended) and any relevant specific environmental management Act and that failure to fulfil these requirements may constitute an offence in terms of relevant environmental legislation;
- have provided the EAP and Specialist, Review EAP (if applicable), and Review Specialist (if applicable), and the Competent Authority with access to all information at my disposal that is relevant to the application;
- will be responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority;
- will be responsible for the costs incurred in complying with the conditions that may be attached to any decision(s) issued by the Competent Authority;

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant:

Name of Organisation:

Date:

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: _____