



REFERENCE: 16/3/1/1/B4/45/1081/14
ENQUIRIES: Ms. Arabel McClelland
DATE: 2018 -09- 21

Municipal Manager
Stellenbosch Municipality
P.O. Box 17
STELLENBOSCH
7599

Attention: Mr. Saliem Haider

Tel: (021) 808 8241
Fax: (086) 632 6865

Dear Sir

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT AMENDMENT REGULATIONS, 2010 AND ENVIRONMENTAL ASSESSMENT REGULATIONS, 2014: PROPOSED REHABILITATION OF A SECTION OF THE VELDWAGTERS RIVER ASSOCIATED WITH THE DECOMMISSIONING AND REHABILITATION OF THE STELLENBOSCH LANDFILL SITE IN STELLENBOSCH, WESTERN CAPE

With reference to your application for the abovementioned, find below the outcome with respect to this application.

ENVIRONMENTAL AUTHORISATION

DECISION

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and the Environmental Impact Assessment ("EIA") Amendment Regulations, 2010, and EIA Regulations, 2014 (as amended), the competent authority herewith **grants environmental authorisation** to the applicant to undertake the listed activity specified in section B below with respect to the Preferred Alternative, namely a combination of Alternatives 1 and 2, as described in the Basic Assessment Report ("BAR") dated 17 October 2017.

The granting of this environmental authorisation is subject to compliance with the conditions set out in section E below.

A. DETAILS OF THE APPLICANT FOR THIS ENVIRONMENTAL AUTHORISATION

Stellenbosch Municipality
 c/o Municipal Manager
 P.O. Box 17
STELLENBOSCH
 7599

Tel: (021) 808 8241
 Fax: (086) 632 6865

The abovementioned applicant is the holder of this environmental authorisation and is hereinafter referred to as **"the applicant"**.

B. LIST OF ACTIVITIES AUTHORISED

EIA Regulations, 2010, Listed Activities	EIA Regulations, 2014, Listed Activities
<p>Government Notice No. R544 of 18 June 2010 –</p> <p>Activity Number: 11</p> <p>The construction of:</p> <ul style="list-style-type: none"> (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas; (viii) jetties exceeding 50 square metres in size; (ix) slipways exceeding 50 square metres in size; (x) buildings exceeding 50 square metres in size; or (xi) infrastructure or structures covering 50 square metres or more <p>where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>This listed activity is not similarly listed in terms of the EIA Regulations, 2014 (as amended) as the proposal is located within an urban area and therefore within the ambit of the exclusionary provisions applicable to the listed activity.</p>
<p>Government Notice No. R544 of 18 June 2010 –</p> <p>Activity Number: 18</p> <p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shell grit, pebbles or rock of more than 5 cubic metres from:</p>	<p>Listing Notice 1 -</p> <p>Activity Number: 19</p> <p>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</p>

<p>(i) a watercourse; (ii) the sea; (iii) the seashore; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater-</p> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving: (a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line.</p>	<p>but excluding where such infilling, depositing, dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>
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The abovementioned list is hereinafter referred to as, "**the listed activity**".

The applicant is herein authorised to undertake the following alternative related to the listed activity:

Rehabilitation and implementation of measures to improve the overall condition of the Veldwagters River in the vicinity of the Stellenbosch Landfill site, notably the section forming the eastern boundary of the site. The proposed work will be undertaken as a component of the decommissioning and rehabilitation of the landfill site and will include the following aspects:

- establishment of a functional riparian zone of up to 30m between the landfill site and the Veldwagters River;
- reshaping of the river banks to widen the 1 in 50 year and 1 in 100 year floodlines;
- revegetation of the riparian area with indigenous vegetation;
- clearing of alien invasive vegetation from within the riparian zone;
- control of instream nuisance growth of vegetation;
- clearing of sediment within the river channel;
- maintenance works and minor upgrades of instream structures, including gabion walls and crossings.

C. PROPERTY DESCRIPTION AND LOCATION

The listed activity will take place on the Remainder of Farm No. 183 and the Remainder of Farm No. 279, Stellenbosch.

The SG 21-digit codes are: C06700000000018300000
C06700000000027900000

Co-ordinates: 33° 56' 28.57" South
18° 49' 19.50" East

hereinafter referred to as, “**the site**”.

D. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Aurecon South Africa (Pty) Ltd
c/o Ms. Tamryn Johnson
P. O. Box 494
CAPE TOWN
8005

Tel: (021) 526 5737
Fax: (021) 526 9500

E. CONDITIONS OF AUTHORISATION

1. This environmental authorisation is valid for a period of **five years** from the date of issue. The holder must commence with the listed activity within the said period or this environmental authorisation lapses and a new application for environmental authorisation must be submitted to the competent authority. If the holder wishes to extend the validity period of the environmental authorisation, an application for amendment in this regard must be made to the Competent Authority prior to the expiry date of the environmental authorisation.
2. The listed activity, including site preparation, may not commence within 20 (twenty) calendar days from the date the applicant notified the registered interested and affected parties (“I&AP’s”). In the event that an appeal is lodged with the competent authority, the effect of this environmental authorisation is suspended until such time as the appeal is decided.
3. The applicant must in writing, within 12 (twelve) calendar days of the date of this decision and in accordance with regulation 10(2)–
 - 3.1 notify all registered I&AP’s of –
 - 3.1.1 the outcome of the application;
 - 3.1.2 the reasons for the decision as included in Annexure 1;
 - 3.1.3 the date of the decision; and
 - 3.1.4 the date of issue of the decision;
 - 3.2 draw the attention of all registered I&AP’s to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of the EIA Regulations, 2010 detailed in section G below;
 - 3.3 draw the attention of all registered I&AP’s to the manner in which they may access the decision;

- 3.4 publish a notice in the newspapers contemplated in Regulation 54(2)(c) and (d), and which newspaper was used for the placing of advertisements as part of the Public Participation Process ("PPP"), that-
 - 3.4.1 informs all I&AP's of the decision;
 - 3.4.2 informs all I&AP's where the decision can be accessed;
 - 3.4.3 informs all I&AP's that an appeal may be lodged against the decision in terms of Chapter 7 of the EIA Regulations, 2010; and
- 3.5 Provide the registered I&AP's with:
 - 3.5.1 The name of the holder (entity) of this Environmental Authorisation;
 - 3.5.2 The name of the responsible person for this Environmental Authorisation;
 - 3.5.3 The postal address of the holder;
 - 3.5.4 The telephonic and fax details of the holder; and
 - 3.5.5 The e-mail address if any.
4. Seven calendar days' notice, in writing, must be given to the competent authority before commencement of construction activities.
 - 4.1. The notice must make clear reference to the site details and EIA Reference number given above.
 - 4.2. The notice must also include proof of compliance with the following conditions described herein:
Conditions: 2, 3 and 12.
5. The holder is responsible for ensuring compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the holder.
6. The applicant must notify the competent authority in writing, within 24 hours thereof if any condition herein stipulated is not being complied with.
7. The draft Environmental Management Programme ("EMP") submitted as part of the application for environmental authorisation is hereby approved and must be implemented.

The EMP must be included in all contract documentation for all phases of implementation.

Should any amendments to the EMP be required before an audit is required in terms of this environmental authorisation, the applicant must:

- o notify the competent authority of its intention to amend the EMP at least 60 days prior to the submission of the application for amendment to the EMP;
- o obtain comment from potential I&APs, including the competent authority, by using any of the methods provided for in the NEMA for a period of at least 30 days; and

- submit the amended EMP to the competent authority for approval within 60 days of inviting comments on the proposed amendments.
8. A copy of the environmental authorisation and EMP must be kept at the site where the listed activity will be undertaken. Access to the site referred to in section C above must be granted and, the environmental authorisation and EMP must be produced to any authorised official representing the competent authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein. The environmental authorisation and EMP must also be made available for inspection by any employee or agent of the applicant who works or undertakes work at the site.
9. The applicant must submit an application for amendment of the environmental authorisation to the competent authority where **any detail with respect to the environmental authorisation must be amended, added, substituted, corrected, removed or updated**, save that such application for amendment shall not include the personal details of the holder of the environmental authorisation.
- 9.1. Where an amendment relates to the change of ownership or transfer of rights and obligations, the applicant must:
- 9.1.1. submit an amendment application to the competent authority stating that he/she wishes the rights and obligations contained herein to be transferred, and including (a) confirmation that the environmental authorisation is still in force (i.e. that the validity period has not yet expired or the activity/ies was/were lawfully commenced with); (b) the contact details of the person who will be the new holder; (c) the reasons for the transfer; and (d) an originally signed letter from the proposed new holder acknowledging the rights and obligations contained in the environmental authorisation and indicating that he/she has the ability to implement the mitigation and management measures and to comply with the stipulated conditions.
 - 9.1.2. The competent authority will issue an amendment to the new holder either by way of a new environmental authorisation/s or an addendum to the existing environmental authorisation/s if the transfer is found to be appropriate.
- 9.2. Any changes to, or deviations from the scope of the description set out in Section B above must be approved, in writing, by the competent authority before such changes or deviations may be implemented. In assessing whether to grant such approval or not, the competent authority may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder to apply for further authorisation in terms of the applicable legislation.

10. Non-compliance with a condition of this environmental authorisation and EMP may result in suspension of this environmental authorisation and may render the holder liable for criminal prosecution.
11. Notwithstanding this environmental authorisation, the holder must comply with any other statutory requirements that may be applicable to the undertaking of the listed activity.
12. The holder must appoint a suitably experienced environmental control officer ("ECO"), or site agent where appropriate, for the construction phase of implementation before commencement of any land clearing or construction activities to ensure compliance with the EMP and the conditions contained herein.
13. An integrated waste management approach, which is based on waste minimisation and incorporates reduction, recycling, re-use and disposal, where appropriate, must be employed. Any solid waste must be disposed of at a landfill licensed in terms of the applicable legislation.
14. No surface or ground water may be polluted due to any actions on the site. The applicable requirements with respect to relevant legislation pertaining to water must be met.
15. The applicable requirements with respect to relevant legislation pertaining to occupational health and safety must be adhered to.
16. Should any heritage remains be exposed during excavations or any actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains include: archaeological remains (including fossil bones and fossil shells); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artifacts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks; and graves or unmarked human burials.

A qualified archaeologist must be contracted where necessary (at the expense of the applicant and in consultation with the relevant authority) to remove any human remains in accordance with the requirements of the relevant authority.

17. Silt fences, sand bags or similar material must be used to manage storm water and sedimentation when reshaping river banks to establish the riparian area.
18. Erosion control measures must be installed on the storm water discharge outlets and clean storm water must be discharge into the watercourses in a slow diffused manner.

19. Indigenous vegetation must be used for rehabilitation and re-establishment of the riparian area.

F. RECOMMENDATION:

As Activity 19 of Listing Notice 1 is authorised and future maintenance related work may be required for rehabilitation interventions and maintenance of existing infrastructure within the Veldwagters River that may also trigger this listed activity, the adoption of a Maintenance Management Plan ("MMP") can apply. Should the Department agree to adopt a MMP, future maintenance work specified within the MMP would not require an Environmental Authorisation prior to the undertaking thereof. Be advised that the MMP relates to the aforementioned listed activity only.

This Directorate, therefore, recommends the compilation of a MMP, by a suitably qualified and experienced freshwater ecologist or specialist, and submission to the Department for adoption, prior to implementation of the maintenance schedule. Such a MMP should include specific reference to the maintenance activities that will be carried out in the Veldwagters River and detailed methodology, including the following aspects:

1. A description of the proposed maintenance activities and the relevant triggered listed activities in terms of the NEMA EIA Regulations;
2. The frequency of maintenance activities to be carried out in the river, including where maintenance will be required for any structures or infrastructure, such as storm water infrastructure, e.g. annual clearing of silt or after flood events;
3. The manner in which maintenance activities will be implemented. i.e. will maintenance activities be done by hand or mechanically. Method statements for each scenario must be included in the MMP;
4. The access to the site if maintenance is carried out mechanically (i.e. is the existing access to be used, or will new access be created for the maintenance activity, and, if new access is created, will the access be rehabilitated after maintenance activities are completed or will it be permanent);
5. An appropriately scaled map that highlights the specific area where maintenance will occur, the access routes to be used and where applicable, potential site camp areas; and
6. An indication of the party(ies) responsible for the maintenance activities.

G. APPEALS

Appeals must comply with the provisions contained in Chapter 7 of the EIA Amendment Regulations, 2010.

1. An appellant must –

- 1.1. submit a notice of intention to appeal to the Minister, within 20 (twenty) calendar days of the date of the decision;

- 1.1.1 If the appellant is an applicant, the appellant must provide each person and organ of state which was a registered interested and affected party in

relation to the applicant's application, within 10 days of having submitted the notice with the Minister, with—

- (a) a copy of the notice lodged with the Minister; and
- (b) a notice indicating that the appeal submission will be made available on the day of lodging it with the Minister and where and for what period the appeal submission will be available for inspection by such person or organ of state.

1.1.2 If the appellant is a person other than an applicant, the appellant must provide the applicant, within 10 days of having lodged the notice with the Minister, with—

- (a) a copy of the notice lodged with the Minister; and
- (b) a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.

1.2. submit the appeal within 30 (thirty) calendar days after the lapsing of the 20 (twenty) calendar days contemplated in regulation 60(1), for the submission of the notice of intention to appeal; and

1.3 that a responding statement may be made on the appeal within 30 (thirty) calendar days from the date the appeal submission was lodged with the Minister and

1.4 if a respondent introduces any new information not dealt with in the appeal submission of the appellant, the appellant is entitled to submit an answering statement to such new information to the Minister within 30 days of receipt of the responding statement.

2. A person, organ of state or applicant who submits a responding or answering statement in terms of regulation 63 must within 10 (ten) calendar days of having submitted the responding or answering statement, serve a copy of the statement on the other party.

3. All notice of intention to appeal and appeal forms must be submitted in hard copy by means of one of the following methods:

By post: Western Cape Ministry of Local Government, Environmental Affairs and Development Planning
Private Bag X9186
CAPE TOWN
8000

By facsimile: (021) 483 4174; or

By hand: Attention: Mr Jaap de Villiers (Tel: 021-483 3721)
Room 809
8th Floor Utilitas Building, 1 Dorp Street, Cape Town, 8001

NOTE: You are also requested to submit electronic copies (Microsoft Word format) of the appeal, responding statement and any supporting documents to the Appeal Authority to the address listed above and/ or via e-mail to Jaap.DeVilliers@westerncape.gov.za.

4. A prescribed notice of intention to appeal form and appeal form as well as assistance regarding the appeal processes is obtainable from the office of the Minister at: Tel. (021) 483 3721, E-mail Jaap.DeVilliers@westerncape.gov.za or URL <http://www.westerncape.gov.za/eadp>.

H. DISCLAIMER

The Western Cape Government, the Local Authority, committees or any other public authority or organisation appointed in terms of the conditions of this environmental authorisation shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Your interest in the future of our environment is appreciated.

Yours faithfully



MR. ZAAHIR TOEFY
DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 1)

DATE OF DECISION: 21/09/2018

CC: (1) Ms. T. Johnson (Aurecon: Environment and Advisory Services)
(2) Mr. M. Baderoon (DEA&DP: Waste Management Directorate)
(3) Mr. R. Apolles (DEA&DP: Development Facilitation Directorate)
(4) Mr. M. Noe (Department of Water and Sanitation)

Fax: (021) 526 9500
Fax: (021) 483 4425
Fax: (021) 483 8311
Fax: (012) 323 4472

FOR OFFICIAL USE ONLY:

EIA REFERENCE NUMBER:

16/3/1/1/B4/45/1081/14

NEAS EIA REFERENCE NUMBER:

WCP/EIA/0001842/2014

ANNEXURE 1: REASONS FOR THE DECISION

In reaching its decision, the competent authority, *inter alia*, considered the following:

- a) The information contained in the application form dated 21 July 2014, the Environmental Management Programme ("EMP") submitted together with the Basic Assessment Report ("BAR"), dated 17 October 2017, received by the Department on 18 October 2017, and the additional information received on 13 July 2018 and 18 September 2018;
- b) Relevant information contained in the Departmental information base, including, the Guidelines on Public Participation and Alternatives (dated March 2013);
- c) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998);
- d) The comments received from interested and affected parties and the responses provided thereon, as included in the BAR dated 17 October 2017, and the Department of Water and Sanitation's Record of Decision, dated 3 July 2018 and received by the Department on 13 July 2018; and
- e) The sense of balance of the negative and positive impacts and proposed mitigation measures.

No site visits were conducted. The competent authority had sufficient information before it to make an informed decision without conducting a site visit.

This application was submitted in terms of the NEMA Environmental Impact Assessment ("EIA") Regulations, 2010, and was pending at the time of the promulgation of the EIA Regulations, 2014. In accordance with regulation 53(3) of the EIA Regulations, 2014, activities similarly listed in terms of the NEMA EIA Regulations 2014 may be authorised as if applied for. This decision takes into account the relevant amendments to the text of said regulations promulgated on 7 April 2017.

All information presented to the competent authority was taken into account in the consideration of the application for environmental authorisation. A summary of the issues which, according to the competent authority, were the most significant reasons for the decision is set out below.

1. Public Participation

The Public Participation Process ("PPP") included the following:

- Notifications advising of the availability of a Background Information Document ("BID") were sent between 27 and 29 August 2014 to identified potential Interested and Affected Parties ("I&AP's"), including owners and occupiers of neighbouring properties, as well as relevant authorities and Organs of State, for a 21-day commenting period.
- Advertisements of the initial PPP of 21 days and availability of the BID in the "Stellenbosch Gazette", "Die Burger" and the "Eikestad Nuus" newspapers on 2 September 2014, 3 September 2014 and 4 September 2014 respectively.
- Site notices were placed at conspicuous locations on 8 September 2014.
- Stakeholder meetings with key focus groups were held on 19 September 2014.
- Distribution of the draft BAR for comment to registered I&AP's and Organs of State for a period of 40 days on 5 and 6 November 2014. The Department of Water and Sanitation was afforded a 60-day commenting period.
- Focus group meetings, followed by a Public Meeting, were held on 11 November 2014.
- Distribution of the final BAR for comment to registered I&AP's and Organs of State for 30 days on 30 May 2017.

Authorities Consultation:

The following authorities were consulted with respect to the proposed development:

- CapeNature;
- Department of Water and Sanitation;
- Department of Agriculture;
- Department of Human Settlements;
- Department of Health;
- Department of Transport and Public Works;
- DEA&DP: Waste Management Directorate;
- DEA&DP: Pollution and Chemicals Management Directorate;
- Heritage Western Cape;
- Stellenbosch Municipality;
- Drakenstein Municipality;
- City of Cape Town;
- Cape Winelands District Municipality.

All the concerns raised by I&AP's were responded to and adequately addressed during the public participation process. Specific management and mitigation measures have been considered in this environmental authorisation and in the EMP to adequately address the concerns raised.

The Department concurs with the environmental assessment practitioner's responses to the issues raised during the public participation process and has included appropriate conditions in this environmental authorisation.

2. Alternatives

The proposed decommissioning and rehabilitation of the landfill would ensure adherence to the applicable legislation in addition to proposing a suitable end-use for the site.

Consequently, activities including *inter alia* shaping and landscaping of the waste body, construction of storm water infrastructure, capping of the waste body, installation of fencing, construction of service and maintenance roads, construction of end-use infrastructure, establishing vegetative cover on the landform and implementing monitoring programmes are proposed. Due to the nature of the existing landfill site and the need for its closure and decommissioning, no feasible or reasonable site alternatives were considered, although initially five end-use activity alternatives were proposed. Through a consultative and iterative process, some options were discarded resulting in two end-use activity alternatives remaining as feasible and reasonable. These two alternatives were taken forward for further investigation and assessment.

Alternative 1 comprises the rehabilitation and establishment of an open space green landscaped area, utilising indigenous vegetation, coupled with community upliftment projects. Alternative 2 entails the extraction of methane gas from the landfill to be used to generate electricity. This energy source would be utilised by the adjacent Stellenbosch Wastewater Treatment Works to augment its current electricity supply.

Further evaluation and review through the integrated environmental application process resulted in a combination of Alternatives 1 and 2 being identified as the preferred alternative.

As the Stellenbosch Landfill site is situated immediately adjacent to the Veldwagters River, which forms the eastern boundary of the majority of the site, the proposed rehabilitation of the river itself was identified as a key component of the rehabilitation of the Stellenbosch Landfill site. Specialist input was obtained to investigate the potential impacts of the proposal on the receiving environment, specifically ground and surface water due to the severe impacts downstream of the site associated with leachate and contaminated surface water runoff from the landfill site, in conjunction with the discharge of treated wastewater from the Stellenbosch Wastewater Treatment Works. The proposed reshaping of the waste body, improvements to the storm water infrastructure and establishment of impermeable capping layers will positively impact the Veldwagters River and further mitigation measures were recommended by the specialists to enhance these positive impacts. The implementation of these mitigation measures, and thus the rehabilitation of the river, necessitates that environmental authorisation is obtained prior to the commencement thereof.

The proposal therefore entails the rehabilitation and implementation of measures to improve the overall condition of the Veldwagters River in the immediate vicinity of the Stellenbosch Landfill site, notably the section forming the eastern boundary of the site. No alternatives to this requirement for mitigation were deemed feasible or reasonable. The proposed work will be undertaken as a component of the decommissioning and rehabilitation of the landfill site and will include the following aspects:

- establishment of a functional riparian zone of up to 30m between the landfill site and the Veldwagters River;
- reshaping of the river banks to widen the 1 in 50 year and 1 in 100 year floodlines;
- revegetation of the riparian area with indigenous vegetation;
- clearing of alien invasive vegetation from within the riparian zone;
- control of instream nuisance growth of vegetation;

- clearing of sediment within the river channel;
- maintenance works and minor upgrades of instream structures, including gabion walls and crossings.

“No-Go” Alternative

The “no-go” option was considered, however, it is not preferred as the *status quo* of the site and the Veldwagters River would be retained. The no-go alternative would result in high negative potential impacts on the receiving environment associated with the ongoing existence, in its current state, of the landfill site and the continued contamination and degradation of the Veldwagters River and consequently, the Eerste River. Investigation determined that the high negative impacts associated with the landfill site could not be sufficiently mitigated if the no-go alternative was implemented. These impacts could be exacerbated by a lack of management and monitoring if the no-go alternative were implemented.

3. Impacts, assessment and mitigation measures

3.1. Activity Need and Desirability

The Stellenbosch Landfill site, operated since 1966, is permitted under the permit issued in terms of Section 20 of the Environmental Conservation Act (Act No. 73 of 1989). The site, however, has a limited lifespan and disposal airspace and cannot be operated further once it has reached its maximum capacity. At this stage the older cells, namely Cells 1 and 2, have reached maximum capacity and waste disposal to these cells ceased in 2013. Cell 3 remains operational, although it is anticipated that it will also reach capacity by late 2018. Therefore, it is required that the landfill site be formally decommissioned. In addition to this, end-uses are proposed that were not previously approved under the existing operational permit. The closure of the landfill site has been designated a priority issue, identified in the Stellenbosch Municipality’s Integrated Waste Management Plan. The closure and rehabilitation of the landfill site is in the best interest of public health and the environment, would prevent continued ground and surface water contamination and minimise potential health and safety risks to the surrounding community. Notably, although the site is marginally beyond the urban edge, it forms the western fringe of the urban area of the greater Stellenbosch town, thus potentially impacting a significant portion of the region.

In order to obtain approval for the decommissioning and rehabilitation of the existing Stellenbosch Landfill site, a Waste Management Licence application was required. Thus, a Waste Management Licence application was undertaken in terms of the National Environmental Management Waste Act, 2008 (“NEMWA”) (Act No. 59 of 2008) (as amended) concurrently with this environmental application in terms of the NEMA. The decommissioning and rehabilitation of the site would ensure legislated waste management practices are adhered to. Significantly, the proposal would support the sustainability principles and mitigate against ongoing contamination of the Veldwagters River, as well as mitigate the perceived negative impacts associated with the landfill site. At the time of initial application, it was identified that listed activities in terms of the NEMA EIA Regulations as well as the NEMWA were triggered. Therefore, although the primary consideration for the

permitting process of the decommissioning of the landfill site is the Waste Management Licence, an environmental application for the authorisation of listed activities in terms of the EIA Regulations was also required. As a result of regulatory changes and transitional arrangements pertaining to these legislative changes over time, the listed activities applicable to the closure and rehabilitation of the landfill site were reduced, due largely to the introduction of exclusionary provisions, to relate only to activities related to work within the Veldwagters River. In order to streamline the environmental and Waste Management Licence processes, an integrated application process was followed. The integrated environmental application undertook to thoroughly investigate and assess the potential impact and best practicable environmental option for the proposed decommissioning of the Stellenbosch Landfill site. An integral aspect of this assessment was evaluation and assessment of various aspects associated with the proposal by qualified specialists in their respective fields. In line with the requirements of the decommissioning proposal, specialist input was obtained that included the following assessments: Gas Feasibility Assessment, Floodline Assessment, Geotechnical Impact Assessment, Visual Impact Assessment, Heritage Impact Assessment, Geohydrological Impact Assessment, Socio-economic Impact Assessment, Air Quality Impact Assessment, engineering and design reports and a Freshwater Impact Assessment. An outcome of the assessments, particularly the Freshwater Impact Assessment, which was supported and also recommended by the findings of the visual, heritage and socio-economic assessments, was the inclusion of the rehabilitation of the Veldwagters River as an essential component of the proposal.

3.2. **Biophysical Impacts**

A Freshwater Impact Assessment for the proposal was undertaken by BlueScience, dated October 2014, to identify, investigate, assess and recommend mitigation measures relating to any freshwater features potentially impacted by the proposed works associated with the decommissioning and rehabilitation of the landfill site. The Veldwagters River, a tributary of the Eerste River, is located along the border of the site with the Stellenbosch Wastewater Treatment Works situated on the opposite bank. The river upstream of the landfill site is in a largely to severely modified ecological state, however, downstream of the site, the condition deteriorates to a severely to critically modified instream and riparian habitat. Most indigenous vegetation has been replaced with exotic plants and water quality has been detrimentally affected by leachate and contaminated surface water runoff from the landfill site. The proposal to rehabilitate the waste body along with its decommissioning should significantly improve the condition of the Veldwagters River, which is still considered to be of moderate Ecological Importance and Sensitivity and is categorised as an Ecological Support Area. The assessment identified the need for the rehabilitation of the portion of the Veldwagters River in the vicinity of the landfill site as a component of the greater project. This most significantly includes the re-establishment of a functional riparian zone of up to 30m between the landfill site and the river. Key aspects of work within the river will include revegetation with indigenous vegetation, removal of alien species, removal of sediment, maintenance and repair of existing structures within the river, limiting further disturbance within the channel and ongoing monitoring of water quality.

The condition of the river will be significantly affected by storm water management. Existing concrete storm water channels around the site previously discharged into the Veldwagters River. However, it is the intention that all storm water channels will be linked to the existing channels but that the new channels, post rehabilitation, will not discharge directly into the river, only through the existing storm water network on site. Monitoring and management of storm water, as per the engineering requirements of the decommissioning proposal, are therefore essential to long-term improvement and maintenance of the Veldwagters and Eerste River systems.

The measures identified for implementation as part of the decommissioning and rehabilitation of the landfill site and the EMP sufficiently addresses the potential freshwater impacts through mitigation and management directives. The Waste Management Licence application in terms of the NEMWA deals specifically with monitoring and auditing requirements. Such requirements are also carried through to the EMP that incorporates a range of aspects relevant to both rehabilitation of the waste body and the Veldwagters River. Various monitoring protocols and requirements also form a mandatory component of the Waste Management Licence that must be adhered to by the applicant and similarly implementation and compliance with the EMP is a condition of this authorisation. In addition, the Department of Water and Sanitation ("DWS") issued a Record of Decision, dated 3 July 2018, for the closure and rehabilitation of the Stellenbosch Landfill site with conditions.

In summary, the proposed development is predicted to have both negative and positive impacts.

Negative Impacts:

- Rehabilitation works will have a temporary low negative impact while work is underway within the river and the surrounds. This will result in disturbance to vegetation, habitat, flow dynamics, fauna and ecological processes.
- The implementation of the rehabilitation works will temporarily impact on an Ecological Support Area.
- Temporary construction related impacts, such as dust, noise and increased heavy vehicle traffic will occur.
- Clearance and rehabilitation activities will have a minor temporary visual impact.

Positive impacts:

- The proposed decommissioning and rehabilitation of the landfill site will result in the prevention of continued contamination of ground and surface water occurring at the site and the Veldwagters River.
- Water quality will improve within the Veldwagters River through closure of the landfill site and implementation of the rehabilitation plan.
- Health and safety risks will be minimised as downstream users of the Veldwagters River, and in turn the Eerste River, will be positively impacted through improved water quality.

- Design of the rehabilitation plan allows for work to commence on Cells 1 and 2 while operations continue at Cell 3, until such time as it has reached maximum capacity and is also closed.
- Implementation of the rehabilitation plan for the river will result in provision of employment and skills training opportunities.

The conditions of the environmental authorisation contained herein and the EMP, approved as part of this environmental authorisation, addresses these impacts adequately.

4. National Environmental Management Act Principles

The National Environmental Management Act Principles (set out in section 2 of the NEMA, which apply to the actions of all organs of state, serve as guidelines by reference to which any organ of state must exercise any function when taking any decision, and which must guide the interpretation, administration and implementation of any other law concerned with the protection or management of the environment), *inter alia*, provides for:

- the effects of decisions on all aspects of the environment to be taken into account;
- the consideration, assessment and evaluation of the social, economic and environmental impacts of activities (disadvantages and benefits), and for decisions to be appropriate in the light of such consideration and assessment;
- the co-ordination and harmonisation of policies, legislation and actions relating to the environment;
- the resolving of actual or potential conflicts of interest between organs of state through conflict resolution procedures; and
- the selection of the best practicable environmental option.

5. Conclusion

In view of the above, the NEMA principles, compliance with the conditions stipulated in this environmental authorisation, and compliance with the EMP, the competent authority is satisfied that the proposed listed activity will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and that any potentially detrimental environmental impacts resulting from the listed activity can be mitigated to acceptable levels.

- Adherence to the NEMA principles;
- Compliance with the conditions stipulated in this environmental authorisation;
- Compliance with the mitigation measures in the EMP.

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