Western Cape Government
Environmental Affairs and Development Planning

DIRECTORATE: DEVELOPMENT MANAGEMENT
REGION 1

REFERENCE: 16/3/3/1/A5/40/2028/17
ENQUIRIES: RONDINE ISAACS
DATE OF ISSUE: 2018 -02- 06

The Board of Directors
BO MO Property Developers (Pty) Ltd
89 Dorp Street
STELLENBOSCH7
7600

Attention: Mr CS Möller

Cell: 082 378 7587
E-mail: mwcmoll@mweb.co.za

Dear Sir

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) ("NEMA") AND THE ENVIRONMENTAL IMPACT ASSESSMENT ("EIA") REGULATIONS, 2014:

PROPOSED ESTABLISHMENT OF A MIXED USE DEVELOPMENT ON ERF NO. 37119, KRAAIFONTEIN

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 NEMA and the EIA Regulations, 2014, the competent authority herewith grants Environmental Authorisation to the applicant to undertake the list of activities specified in Section B below as included in the Basic Assessment Report ("BAR") dated 15 November 2017.

The granting of this Environmental Authorisation (hereinafter referred to as the "Environmental Authorisation") is subject to compliance with the conditions set out in Section E below.

A. DETAILS OF THE HOLDER OF THIS ENVIRONMENTAL AUTHORISATION

BO MO Property Developers (Pty) Ltd
c/o Mr CS Möller
89 Dorp Street
STELLENBOSCH
7600
Cell: 082 378 7587
E-mail: mwcmoll@mweb.co.za

The abovementioned applicant is the holder of this Environmental Authorisation and is hereinafter referred to as "the holder".

B. LIST OF ACTIVITIES AUTHORISED

Government Notice No. R. 983 of 4 December 2014 –

Listed Activity	Activity/Project Description
Activity 27: *"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for -* *(i) the undertaking of a linear activity; or* *(ii) maintenance purposes undertaken in accordance with a maintenance management plan".*	More than 1ha of indigenous vegetation will be cleared.

Government Notice No. R. 985 of 4 December 2014 –

Activity 12: "The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. *i. Western Cape* *i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;* *ii. Within critical biodiversity areas identified in bioregional plans;* *iii. Within the littoral active zone or 100 metres*	More than 300 square metres of critically endangered vegetation will be cleared.

inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. *On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or* v. *On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister".*	

The abovementioned list is hereinafter referred to as "the listed activities".

The holder is herein authorised to undertake the following related to the listed activities:

The proposed project entails the establishment of a mixed use development on Erf No. 37119, Kraaifontein.

The proposed mixed use development will be undertaken in two phases as follows:
Phase F:
Phase F is a Mixed Use Zone 1 with industrial as land use, consisting of approximately 50 industrial portions adjacent to the Kraaifontein Waste Water Treatment Works ("WWTW"). Private open space, public roads and utility services will also be established. This phase separates the residential area from the WWTW.

Access to the proposed industrial phase will be taken via an existing 13m wide public road which runs in a north-south direction parallel to Okavango Road. The road will be widened to 25m to provide for easy and safe access. The road will be extended into a 16m wide loop private road which will provide direct access to the individual industrial erven.

Phase G:
Phase G represents the residential component and makes provision for a total of 13 portions comprising of a combination of duplex units, group houses and flats. The proposed residential uses will be zoned in accordance with the City of Cape Town Development Management Scheme as part of the City of Cape Town Municipal Planning By-Law. The residential phase will be accessed from Hexrivier Road with a 20m wide private access road network providing access to the various residential precincts. Private open spaces will comprise of a combination of passive and active open spaces interacting with the residential components. The private open spaces will comprise of a retention dam, walkways and play areas with street furniture and equipment.

Bulk water and sewer infrastructure are available in the Hexrivier Road reserve. Storm water detention and scrubbing facilities and outlet structures into the canal embankments will also be established.

C. LOCATION AND SITE DESCRIPTION

The listed activities will take place on Erf No. 37119, Kraaifontein.

The erf is located between Okavango and Sarel van Deventer Roads north of the road reserve of the proposed Hexrivier Road. The erf is bordered by a concrete lined storm water canal to the east and the Kraaifontein WWTW to the north. The erf is bounded by Erf No. 1559 to the west and an existing residential neighbourhood to the south.

The SG 21-digit code is: C05500050003711900000

Co-ordinates:
Latitude: 33° 49' 37.33" S
Longitude: 18° 42' 05.80" E

Refer to Annexure 1: Locality Plan and Annexure 2: Site Plan.

hereinafter referred to as "the site".

D. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

Johan Neethling Environmental Services
c/o Mr Johan Neethling
PO Box 16594
VLAEBERG
8018
Tel.: (021) 461 4386
Fax: (086) 544 4868

E. CONDITIONS OF AUTHORISATION

Scope of authorisation

1. The holder is authorised to undertake the listed activities specified in Section B above in accordance with and restricted to the preferred alternative, described in the BAR dated 15 November 2017 on the site as described in Section C above.

2. Authorisation of the activities is subject to compliance with the conditions set out in this Environmental Authorisation. The holder must ensure 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.

3. The holder must commence with, and conclude, the listed activities within the stipulated validity period which this Environmental Authorisation is granted for, or this Environmental Authorisation shall lapse and a new application for Environmental Authorisation must be submitted to the competent authority.
This Environmental Authorisation is granted for–
   (a) A period of five (**5**) years, from the date of issue, during which period the holder must commence with the authorised listed activities; and

   (b) A period of ten (**10**) years, from the date the holder commenced with an authorised listed activity, during which period the authorised listed activities for the construction phase, must be concluded.

4. The activities that have been authorised may only be carried out at the site described in Section C above in terms of the approved "Environmental Management Programme" ("EMPr").

5. Any changes to, or deviations from the scope of the description set out in Section B and Condition 2 above must be accepted or approved, in writing, by the competent authority before such changes or deviations may be implemented. In assessing whether to grant such acceptance/approval or not, the competent authority may request such information 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.

Notification of authorisation and right to appeal

6. The holder of the authorisation must in writing, within 14 (fourteen) calendar days of the date of this decision –

   6.1 notify all registered Interested and Affected Parties of –
      6.1.1 the outcome of the application;
      6.1.2 the reasons for the decision;
      6.1.3 the date of the decision; and
      6.1.4 the date of issue of the decision;

   6.2 draw the attention of all registered Interested and Affected Parties to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulation, 2014;
   6.3 draw the attention of all registered Interested and Affected Parties to the manner in which they may access the decision; and

   6.4 provide the registered Interested and Affected Parties with:
      6.4.1 the name of the holder (entity) of this Environmental Authorisation,
      6.4.2 name of the responsible person for this Environmental Authorisation,
      6.4.3 postal address of the holder,
      6.4.4 telephonic and fax details of the holder,
      6.4.5 e-mail address, if any;
      6.4.6 the contact details (postal and/or physical address, contact number, facsimile and e-mail address) of the decision-maker and

all registered Interested and Affected Parties in the event that an appeal is lodged in terms of the National Appeals Regulations 2014.

Commencement

7. The listed activities, including site preparation, must not commence within 20 (twenty) calendar days from the date the applicant notified the registered Interested and Affected Parties of this decision.

8. In the event that an appeal is lodged with the Appeal Administrator, the effect of this Environmental Authorisation is suspended until such time as the appeal is decided. In the instance where an appeal is lodged the holder may not commence with the activities, including site preparation, until such time as the appeal has been finalised and the holder is authorised to do so.

Written notice to the competent authority

9. Seven calendar days' notice, in writing, must be given to the competent authority before commencement of construction activities. Commencement for the purpose of this condition includes site preparation.
   9.1 The notice must make clear reference to the site details and EIA Reference number given above.
   9.2 The notice must also include proof of compliance with the following conditions described herein:
   Conditions: 6, 7, 14 and 21.

Management of activity

10. The draft EMPr submitted as part of the application for Environmental Authorisation is hereby approved and must be implemented.

11. An application for amendment to the EMPr must be submitted to the competent authority in terms of Chapter 5 of the EIA Regulations, 2014 if any amendments are to be made to the outcomes of the EMPr, and these may only be implemented once the amended EMPr has been authorised by the competent authority.

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

13. A copy of the Environmental Authorisation and the EMPr must be kept at the site where the listed activities will be undertaken. Access to the site referred to in Section C above must be granted and, the Environmental Authorisation and EMPr 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 EMPr must also be made available for inspection by any employee or agent of the applicant who works or undertakes work at the site.

Monitoring

14. The holder must appoint a suitably experienced Environment Control Officer ("ECO"), for the duration of the construction and rehabilitation phases of implementation.

    The ECO must–
    14.1 be appointed prior to commencement of any land clearing or construction activities commencing;
    14.2 ensure compliance with the EMPr and the conditions contained herein;
    14.3 keep record of all activities on site; problems identified; transgressions noted and a task schedule of tasks undertaken by the ECO;
    14.4 remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed.

Environmental audit reports

15. The holder must, for the period during which the Environmental Authorisation and EMPr remain valid—
    15.1 ensure that the compliance with the conditions of the Environmental Authorisation and the EMPr is audited; and
    15.2 submit at least two environmental audit reports to the relevant competent authority. The holder must submit one audit report six months after commencement of the construction phase and another audit report six months after completion of the construction period.

16. The environmental audit report must be prepared by an independent person and must address the objectives and contain all the information set out in Appendix 7 of the EIA Regulations, 2014.

    In addition to the above, the environmental audit report, must -
    16.1 provide verifiable findings, in a structured and systematic manner, on–
        (a) the level of compliance with the conditions of the Environmental Authorisation and the EMPr and whether this is sufficient or not; and
        (b) the extent to which the avoidance, management and mitigation measures provided for in the EMPr achieve the objectives and outcomes of the EMPr and highlight whether this is sufficient or not;
    16.2 identify and assess any new impacts and risks as a result of undertaking the activity;
    16.3 evaluate the effectiveness of the EMPr;
    16.4 identify shortcomings in the EMPr;
    16.5 identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;
    16.6 indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;
    16.7 include a photographic record of the site applicable to the audit; and
    16.8 be informed by the ECO reports.

17. The holder must, within 7 days of the submission of the environmental audit report to the competent authority, notify all potential and registered

Interested and Affected Parties of the submission and make the report available to anyone on request and, where the holder has such a facility, be placed on a publicly accessible website.

Specific conditions

18. Surface or ground water must not be polluted due to any actions on the site. The applicable requirements with respect to relevant legislation pertaining to water must be met.

19. 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 waste disposal facility licensed in terms of the applicable legislation.

20. 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.

21. A search and rescue operation for geophytes and transplantable species must be undertaken before commencement of site clearing or construction activities. The rescued plants must be incorporated into the landscaping and/or translocated to Bracken Nature Reserve in conjunction with the City of Cape Town's Biodiversity Management Branch. The search and rescue must be done by a suitably qualified and experienced botanist/landscape architect/indigenous landscaper.

22. The following recommendations as detailed in the Air Quality Impact Assessment and Buffer Zone Determination dated April 2017, compiled by DDA Environmental Engineers, must be adopted and implemented:
    22.1 A buffer zone must be established on the site.
    22.2 Bi-annual hydrogen sulphide and ammonia ambient air quality monitoring must be performed along the northern, western and eastern boundaries of the site.
    22.3 If regular odour complaints are recorded, the frequency of the monitoring must be quarterly and a multi-step odour control programme be implemented.

23. The following recommendations as detailed in the Noise Impact Assessment dated October 2017, compiled by DDA Environmental Engineers, must be adopted and implemented:
    23.1 Any industries that will be located along the southern side of the light industrial phase must ensure that the noise level increase outside its boundary does not exceed by more than 3dB the SANS day-and-night-time guidelines for *Urban Residential Districts* of 55dB(A) and 45dB(A), respectively.
    23.2 The most noise intensive industries must be positioned towards the northern side, along the common boundary with the Kraaifontein WWTW and towards the western side, closer to Okavango Road.
    23.3 Any noisy industries that operate on a continuous basis and which may cause the night-time noise levels to increase outside the southern boundary of the site must be kept as far away as possible from that boundary, or alternatively, noise mitigation measures must be investigated and implemented.
    23.4 The industries must maintain their noise emission levels, so as not to a cause noise level increase above the indicated level increase capacity values for day-time and for night-time.
    23.5 Any proposed noisy industry must perform a Noise Impact Assessment study to establish how the available noise increase capacities are affected both within and outside the site.
    23.6 The available noise increase capacity contours must be updated every two years or every time an industry with significant noise emissions will be established in the development area.
    23.7 Environmental noise monitoring must be carried out on a biannual basis at specific positions, to ensure compliance with the regulations and enable corrective measures to be taken where warranted.

24. The holder of the Environmental Authorisation must install water saving mechanisms and/or water recycling systems in order to reduce water consumption that include *inter alia*, the following:
    24.1 A dual-flush toilet system.
    24.2 All taps must be fitted with water saving devices, that is, tap aerators, flow restrictors and low flow shower heads.
    24.3 Water-wise landscaping must be done.
        24.3.1 Indigenous plants and/or plants that require little water must be used.
        24.3.2 The use of kikuyu grass must be prohibited in all landscaped areas. Non-invasive, low-water use grass must be used for any lawns on site

25. The holder of the Environmental Authorisation must ensure that the development incorporate energy/electricity saving measures, which include *inter alia*, the following:
    25.1 Use of energy efficient lamps and light fittings. Low energy bulbs must be installed and replacement bulbs must also be of the low energy consumption type.
    25.2 Street lighting must be kept to a minimum and downlighting must be used to minimize light impacts. Street light must be switch off during the day.

25.3 All geysers must be covered with geyser 'blankets'.

26. Notwithstanding this Environmental Authorisation, the holder must comply with any other statutory requirements that may be applicable when undertaking the listed activities.

27. If the holder does not commence with the listed activities within the period referred to in Condition 3, this Environmental Authorisation shall lapse for the activities, 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.

28. The holder 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. If a new holder is proposed, an application for amendment in terms of Part 1 of the EIA Regulations, 2014 must be submitted.

    Please note that an amendment is not required if there is a change in the contact details of the holder. In this case, the competent authority must only be notified of such changes.

29. The manner and frequency for updating the EMPr is as follows:
    Amendments to the EMPr, other than those mentioned above, must be done in accordance with Regulations 35 to 37 of GN No. R. 982 of 4 December 2014 or any relevant legislation that may be applicable at the time.

31. Non-compliance with a condition of this Environmental Authorisation or EMPr may render the holder liable to criminal prosecution.

F. APPEALS

Appeals must comply with the provisions contained in the National Appeal Regulations 2014 (as amended).

1. An appellant (if the holder of the decision) must, within 20 (twenty) calendar days from the date notification of the decision was sent to the holder by the competent authority -

    1.1 Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and

    1.2 Submit a copy of the appeal to any registered Interested and Affected Parties, any Organ of State with interest in the matter and the decision-maker i.e. the competent authority that issued the decision.

2. An appellant (if NOT the holder of the decision) must, within 20 (twenty) calendar days from the date the holder of the decision sent notification of the decision to the registered Interested and Affected Parties -

   2.1 Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and

   2.2 Submit a copy of the appeal to the holder of the decision, any registered Interested and Affected Party, any Organ of State with interest in the matter and the decision-maker i.e. the competent authority that issued the decision.

3. The holder of the decision (if not the appellant), the decision-maker that issued the decision, the registered Interested and Affected Party and the Organ of State must submit their responding statements, if any, to the appeal authority and the appellant within 20 (twenty) calendar days from the date of receipt of the appeal submission.

4. The appeal and the responding statement must be submitted to the address listed below:

   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: For purposes of electronic database management, 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.

5. A prescribed appeal form as well as assistance regarding the appeal processes is obtainable from Appeal Authority at: Tel. (021) 483 3721, E-mail Jaap.DeVilliers@westerncape.gov.za or URL http://www.westerncape.gov.za/eadp.

G. 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: 06/02/2018

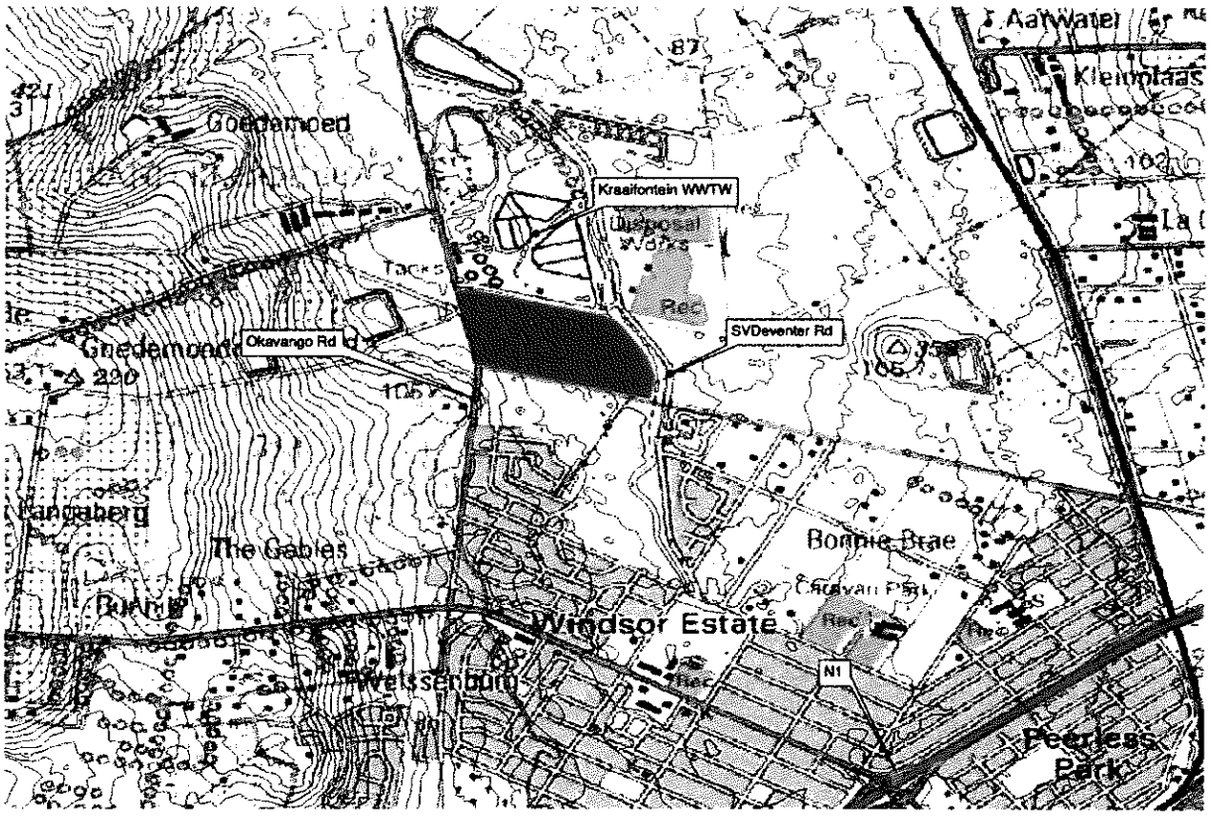
CC: (1) Mr Johan Neethling Johan Neethling Environmental Services cc) Fax: (086) 544 4868

FOR OFFICIAL USE ONLY:

EIA REFERENCE NUMBER: 16/3/3/1/A5/40/2028/17
NEAS EIA REFERENCE NUMBER: WCP/EIA/0000280/2017

ANNEXURE 1: LOCALITY PLAN

The approximate location of Erf No. 37119, Kraaifontein.





ANNEXURE 2: SITE PLAN



ANNEXURE 3: 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 26 June 2017, as received by the competent authority on the same date; the revised Application form dated 27 June 2017, as received by this Department on the same date; the BAR dated 15 November 2017 and the EMPr submitted together with the BAR; the comment from CapeNature dated 15 November 2017, as received by the competent authority on 21 November 2017; the comment from the Department of Agriculture received by the competent authority on 27 November 2017; and the information received by the competent authority on 15 January 2018;

b) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the NEMA;

c) The comments received from Interested and Affected Parties and the responses provided thereon, as included in the BAR dated 15 November 2017;

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

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 comprised of the following:

- E-mail notifications were sent to adjacent landowners and the ward councillor on 25 June 2017;
- Letters were posted via registered post to adjacent landowners on 26 June 2017;
- Notices were placed on site on 27 June 2017;
- An advertisement was placed in the "*Tygerburger*" newspaper on 28 June 2017;
- The BAR was posted via registered post to Organs of State on 29 June 2017;
- The BAR was made available from 29 June 2017 until 31 July 2017;
- The amended BAR was posted via registered post to Organs of State on 13 October 2017;
- E-mail notifications were sent to registered Interested and Affected Parties on 13 October 2017 to announce the availability of the amended BAR; and
- The amended BAR was made available from 13 October 2017 until 13 November 2017.

Authorities consulted

The authorities consulted included the following:

- CapeNature;
- Provincial Department of Health;
- Provincial Department of Agriculture;
- Department of Water and Sanitation;
- Heritage Western Cape; and
- Various departments within the City of Cape Town.

The competent authority is satisfied that the Public Participation Process that was followed met the minimum legal requirements. All the comments and responses that were raised were included in the BAR. One objection was received, which was subsequently withdrawn.

2. Alternatives

The following layout alternatives were investigated:

Alternative 1:
This alternative entails the establishment of a mixed use development consisting of commercial, industrial and residential components. In this alternative a detention pond would be located at the lowest point on site linked by an internal canal to the Maastricht Canal. Alternative 1 was rejected since the residential component was located too close to the WWTW.

Alternative 2:
This alternative entails the establishment of a mixed use development consisting of commercial, industrial and residential components. The industrial component consisted of 65 industrial erven with private roads of 16m wide and the commercial component would be 1.6ha in size. The residential component consisted of a total of 46 duplex units in two precincts and a total of 140 group housing units spread over eight precincts. Private roads varying from 13m to 20m wide and three public open space areas with a detention pond on the banks of the Maastricht Canal were also proposed.

Alternative 2 was rejected since it did not consider a physical barrier between the back fences of the industrial and residential erven. Furthermore, the flood lines of the Maastricht Canal were not taken into account in the positioning of the detention pond and flat precincts. In addition, the commercial site was reconsidered taking into account the large supply of commercial premises in the vicinity of the site.

Alternative 3:
This alternative entails the establishment of a mixed use development consisting of industrial and residential components. The industrial component consisted of 62 industrial erven with private roads of 16m and 20m wide. The residential component consisted of flats in three precincts with a total of 158 units, a total of 46 duplex units in two precincts and a total of 124 group housing units spread over five precincts. The higher rising flat buildings to the east would face away from the industrial area. The storm water detention pond would be placed at the low point of the site and would connect with a canal to the existing concrete canal on the eastern boundary. The detention pond would become a landscaped open space area.

Alternative 3 was rejected since the flood lines of the Maastricht Canal were not taken into account in the positioning of the flat precincts. It was assumed that the design of the concrete canal would be such that the flood lines are contained within the banks of the canal. Furthermore, an air quality study indicated that the residential component must be placed outside the 3 Odour Units contour line.

Alternative 4 (preferred alternative – herewith authorised):
The preferred alternative entails the establishment of a mixed use development which will be undertaken in two phases as follows:

Phase F:
Phase F is a Mixed Use Zone 1 with industrial as land use, consisting of approximately 50 industrial portions adjacent to the Kraaifontein WWTW. Private open space, public roads and utility services will also be established. This phase separates the residential area from the WWTW.

Access to the proposed industrial phase will be taken via an existing 13m wide public road which runs in a north-south direction parallel to Okavango Road. The road will be widened to 25m to provide for easy and safe access. The road will be extended into a 16m wide loop private road which will provide direct access to the individual industrial erven.

Phase G:
Phase G represents the residential component and makes provision for a total of 13 portions comprising of a combination of duplex units, group houses and flats. The proposed residential uses will be zoned in accordance with the City of Cape Town Development Management Scheme as part of the City of Cape Town Municipal Planning By-Law. The residential phase will be accessed from Hexrivier Road with a 20m wide private access road network providing access to the various residential precincts. Private open spaces will comprise of a combination of passive and active open spaces interacting with the residential components. The private open spaces will comprise of a retention dam, walkways and play areas with street furniture and equipment.

This is the preferred alternative since all the units are situated above the 1:100-year flood line of the Maastricht Canal. The areas below the 1:100-year flood line will be a landscaped open space area. All residential units are outside the 3 Odour Units contour line.

"No-Go" Alternative:
This alternative implies that the mixed use development will not be established and that the site will remain vacant. This alternative was rejected as it will not alleviate the shortage of industrial and residential land in the area. The land use of the site will also not be in line with that of the surrounding developments in the area.

3. Impacts, assessment and mitigation measures

3.1 Activity Need and Desirability

According to the Northern District Development Plan the site lends itself to mix use development. The portion of the site that directly abuts Okavango Road will be utilised for industrial activities as it will be opposite the commercial activities of Pinehurst Phase 4 and abuts the Kraaifontein WWTW. The site, which is surrounded on three sides by existing or proposed developments, is earmarked for new urban infill and medium-high densities in the Northern District Plan (February 2011). The proposed development is in line with the City of Cape Town Spatial Development Framework and in character with the surrounding land uses.

The presence of the Kraaifontein WWTW immediately to the north resulted in a residential exclusion zone of 120m from the erf boundary in which no residential development is permitted. To optimize the property and specifically the area within the 120m setback, the proposed development makes provision for light industrial erven which will function as a buffer between the residential component to the

south and the WWTW. The industrial erven are therefore proposed along the northern boundary of the site with access from an existing public road which runs in a north/south direction parallel to Okavango Road.

The proposed development makes provision for a centrally located open space system which will serve a dual purpose accommodating the storm water runoff as well as an active open space with play areas and walkways with street furniture. The open space system also functions as a buffer between the industrial and residential erven.

The proposed mixed use development excludes the residential component from

south and the WWTW. The industrial erven are therefore proposed along the northern boundary of the site with access from an existing public road which runs in a north/south direction parallel to Okavango Road.

The proposed development makes provision for a centrally located open space system which will serve a dual purpose accommodating the storm water runoff as well as an active open space with play areas and walkways with street furniture. The open space system also functions as a buffer between the industrial and residential erven.

The proposed mixed use development excludes the residential component from the 3 Odour Units contour around the Kraaifontein WWTW. 3 Odour Units is an international guideline considered acceptable for residential development.

3.2 Biophysical Impacts

Impacts on vegetation:
The site is disturbed to the extent that it is not possible to characterise the vegetation adequately. Mechanical agricultural machinery was used some years ago to physically clear all the woody exotic alien vegetation. Any larger indigenous woody shrubs have been inadvertently removed at the same time. The regenerating juveniles of *Acacia saligna* are very dense and point to a considerable soil borne seed store. Dense cover by the exotic weed, *Echium plantagineum*, also points to recent high levels of physical disturbance,

A follow-up botanical survey was undertaken during September 2017 and the specialist concluded that no originally vegetation communities occur on the site and that the site has a low rehabilitation potential. The only indigenous plant species found on the site are pioneer species as annuals and grasses and a number of bulbs. No species of conservation concern were found during the site visit. The site is dominated by *Acacia saligna* and indigenous and exotic grasses.

Although the site is classified as a Critical Biodiversity Area ("CBA") 2 (restorable site) the vegetation condition is so highly transformed that restoration will likely not result in any meaningful contribution to the conservation of the originally occurring vegetation.

Impacts on aquatic environments:
The site does not contain any aquatic environments. The pan that has formed in the northern central portion of the site holds water after rain. The absence of any evidence of wetland vegetation indicates that the water residence time is too short a duration to support the establishment of aquatic plants.

3.3 Air quality impacts
The estimated maximum cumulative odour concentrations at the proposed development exceeded 3 Odour Units which is considered the odour limit for a residential area. The exceedance occurred at the northwestern section of the site. The odour impact at the eastern section of the site is expected to be acceptable for residential development, as the odour concentrations were found to be below 1 Odour Unit. This does however, not imply that no odours will be experienced at the eastern section under certain meteorological conditions.

Non-carcinogenic health risk impacts:
Based on the short-and long-term non-carcinogenic health risk, it was found that both health indexes were well below their guideline level of 1. Therefore, with the WWTW operating at its maximum capacity, the expected non-carcinogenic health impacts are considered to be low.

Carcinogenic risk impacts:
Based on the maximum resulting ambient concentrations of the six possible carcinogens and carcinogenic compounds, the carcinogenic risk around the site was estimated. It was found that a person in any of the areas would have a less than 0.5 in a million chance of developing cancer due to lifetime exposure. The carcinogenic risk is therefore considered negligible.

3.4 Noise impacts

The current noise environment in the study area is considered an urban area. The main noise sources in the area are operational activities at the WWTW and vehicular traffic from Okavango Road and Sarel van Deventer Road.

A Noise Impact Assessment was conducted and concluded that based on the ambient noise measurements and the modelling of the current noise sources, the noise environment, away from the immediate vicinity of Okavango Road, is that of a typical *Urban Residential District*.

The Kraaifontein WWTW noise is not expected to influence the proposed development due to its distance from the site and the screening effects of the buildings in the light industrial component. The noise level increase due to the proposed development is about 3dB in very close proximity to the future Hexrivier Road and 1dB in the residential areas of Bonnie Brae and Pinehurst. The noise level increase is therefore considered to be of minor to low impact.

3.5 Traffic impacts

The Darwin Road/Dan King Road and Darwin Road/Mosselbank Road intersection operates at capacity during the current weekday peak hours. The Darwin Road/Dan King Road is planned to be upgraded to a roundabout as part of the Buh Rein development. The Darwin Road/Mosselbank Road intersection will operate at acceptable levels-of-service after these upgrades during the weekday peak hours. All the other study intersections operate at acceptable levels-of-service during the typical weekday peak hours. All the study intersections will continue to operate at acceptable levels-of-service with the upgrades being implemented.

Access is proposed via two locations along the future Class 4 road between the Okavango Road/Pinehurst Drive intersection and Sarel van Deventer Road. A roundabout is proposed at the Class 4 intersection. A priority controlled intersection is proposed for the residential portion of land approximately 380m to the west of Sarel van Deventer Road.

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.

In view of the above, the NEMA principles, compliance with the conditions stipulated in this Environmental Authorisation, and compliance with the EMPr, the competent authority is satisfied that the proposed listed activities will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the NEMA and that any potentially detrimental environmental impacts resulting from the listed activity can be mitigated to acceptable levels.

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