Kindly note that:

1. This Basic Assessment Report is the standard report required by DEA&DP in terms of the EIA Regulations, 2010 and must be completed for all Basic Assessment applications.

2. This report must be used in all instances for Basic Assessment applications for an environmental authorisation in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM: AQA).

3. This report is current as of 2 August 2010. It is the responsibility of the Applicant / EAP to ascertain whether subsequent versions of the report have been published or produced by the competent authority.

4. The required information must be typed within the spaces provided in the report. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. It is in the form of a table that will expand as each space is filled with typing.

5. Incomplete reports will be rejected. A rejected report may be amended and resubmitted.

6. The use of “not applicable” in the report must be done with circumspection. Where it is used in respect of material information that is required by the Department for assessing the application, this may result in the rejection of the report as provided for in the regulations.

7. While the different sections of the report 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.

8. 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 the belief that the information is protected.

9. 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. No faxed or e-mailed reports will be accepted. Please note that for waste management licence applications, this report must 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 Region A.

10. Unless indicated otherwise, two electronic copies (CD/DVD) and three hard copies of this report must be submitted to the Department.

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**DEPARTMENTAL DETAILS**

<table>
<thead>
<tr>
<th>CAPE TOWN OFFICE REGION A (Cape Winelands, City of Cape Town: Tygerberg and Oostenberg Administrations)</th>
<th>CAPE TOWN OFFICE REGION B (West Coast, Overberg, City of Cape Town: Helderberg, South Peninsula, Cape Town and Blaauwberg Administrations)</th>
<th>GEORGE OFFICE (Eden and Central Karoo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Environmental Affairs and Development Planning Attention: Directorate: Integrated Environmental Management (Region A2) Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utility Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Integrated Environmental Management (Region A2) at: Tel: (021) 483-4793 Fax: (021) 483-3633</td>
<td>Department of Environmental Affairs and Development Planning Attention: Directorate: Integrated Environmental Management (Region B) Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utility Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Integrated Environmental Management (Region B) at: Tel: (021) 483-4094 Fax: (021) 483-4372</td>
<td>Department of Environmental Affairs and Development Planning Attention: Directorate: Integrated Environmental Management (Region A1) Private Bag X 6509 George, 6530 Registry Office 4th Floor, York Park Building 93 York Street George Queries should be directed to the Directorate: Integrated Environmental Management (Region A1) at: Tel: (044) 805 8600 Fax: (044) 874-2423</td>
</tr>
</tbody>
</table>

View the Department’s website at [http://www.capegateway.gov.za/eadp](http://www.capegateway.gov.za/eadp) for the latest version of this document.
PROJECT TITLE
PROPOSED SEWER CONNECTION PIPELINE FOR ERVEN 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115 IN KUILSRIVER, CAPE TOWN, WESTERN CAPE

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

<table>
<thead>
<tr>
<th>Environmental Assessment Practitioner (EAP):</th>
<th>SEC (Sillito Environmental Consulting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person:</td>
<td>Kirsty Robinson</td>
</tr>
<tr>
<td>Postal address:</td>
<td>PO Box 30134</td>
</tr>
<tr>
<td>Telephone: (021) 712 5060</td>
<td>Cell: 076 609 9953</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:Kirsty@environmentalconsultants.co.za">Kirsty@environmentalconsultants.co.za</a></td>
<td>Fax: (021) 712 5061</td>
</tr>
</tbody>
</table>

Kirsty Robinson:
- MPhil in Climate Change and Sustainable Development (2012).
- BSc Sci in Environmental and Geographical Science and Politics (2010).

Adrian Sillito:
- MSc Geology.
- Member of the International Association for Impact Assessment (IAIA).
- Certified Environmental Assessment Practitioner (CEAPSA).

Details of the EAP’s expertise to carry out Basic Assessment procedures

The report was authored by Kirsty Robinson and edited by Adrian Sillito of SEC. Adrian Sillito is a certified environmental assessment practitioner (CEAPSA), Professional Natural Scientist (Pr.Sci. Nat) and a member of the South African branch of the International Association for Impact Assessment (IAIA).

Kirsty has a BSc Sci (Hons) in Environmental and Geographical Science and Politics (2010) and obtained her MPhil in Climate Change and Sustainable Development at the University of Cape Town in December 2012.

SEC has extensive experience in environmental assessment procedures and has completed several thousand environmental projects in most provinces in South Africa since 1998. This impact assessment report is also guided by cradle-to-grave knowledge of related activities from BIA through to construction phase, Environmental Control Officer experience and site decommissioning.
EXECUTIVE SUMMARY OF THE CONTENT OF THE BASIC ASSESSMENT REPORT:

Introduction and Background

Nine properties erven 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115, (hereafter known as “Erf 8115 and the adjacent erven”) within Kuils River are currently serviced by means of a conservancy tank situated on Erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high.

Streamline Homes (Pty) made an application for the subdivision of Erf 8111 which was approved in 1993. Erf 8111 was thereafter subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements however was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline. The purpose of this sewer connection pipeline was to service the subdivided erven and to abandon the conservancy tank system of the surrounding properties listed above. This however never materialised. Mr Daniels and Mr van Dijk bought Erf 8115 in 2005. In line with the title deed requirement, Daveng Consulting Engineers was subsequently requested by the City of Cape Town to conduct an investigation for the sewer connection pipeline for the erven which utilise the conservancy tank currently located on erf 8115.

In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide onsite water borne sewerage infrastructure in all urban areas. In line with this, and the title deed condition stipulated above, the City of Cape Town (“the applicant”) proposes to install a connector sewer pipeline to serve these erven in question.

According to the Preliminary Design Report (Daveng, 2014), Erf 8115 and the adjacent erven are situated in Kuilsriver approximately 25km east of Cape Town along Van Riebeeck Road. The properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Sarepta Road to the west. Erf 8115 and all adjacent properties, fall within the boundaries of the City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erven 10571, 18030, 915, 936, 922 and 940).

Sewerage infrastructure currently exists in the northern and western sides of Digtebij Road (Mabille Park) and in the eastern side of Van Riebeeck Road. There is a 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal. There is also an existing sewer reticulation system in Mabille Park and Sonnekul areas which are adjacent to erf 8115.

Two possible options for draining the sewage of these nine properties to the existing bulk infrastructure have been identified which include a gravity option and a pumped option.

Preferred Alternative Option 1 (Gravity Option)

The gravity option has been assessed as being the most desirable and cost effective option. The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline will most likely not fit in within the existing road reserve itself and as such will have to run through a portion of each of the adjacent erven. Should this be the case, a servitude will be registered for the following erven through which the pipeline will run: Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936, Erf 922. The total length of this proposed pipeline is approximately 510 metres with 10 (ten) manholes at a maximum depth of 2.5 metres. This option would have the capacity to service 79 equivalent erven.

Alternative Option 2 (Pumped Option)

Alternatively a second, less cost effective option (pumped system), would be to drain the sewage South-West to a proposed pump station on Erf 2423 and then pump it up gradient to the North to the existing 150mm diameter pipeline in Mabille Road. This option will require regular maintenance and it is the least desirable option.

Legislative Context

The City of Cape Town (“the Applicant”) is making an application for an Environmental Authorisation for the proposed sewer connection pipeline to connect Erf 8115 and the adjacent erven, which are currently serviced by a conservancy tank, to the existing bulk sewerage infrastructure in the area.

The application for Environmental Authorisation is being made to the Competent Authority, namely, the Provincial Department of Environmental Affairs and Development Planning (“DEA&DP”), and is required since the proposed development triggers the following activities which are listed in terms of the National Environmental Management Act (“NEMA”) Environmental Impact Assessment (“EIA”) Regulations (2010):

- **GN No. R. 544 Activity No11**: The construction of:
  - (ix) infrastructure or structures covering 50 square metres or more:
    - Where such construction occurs within a watercourse or within 32 metres of a watercourse, excluding where such construction will occur behind the development setback line.

- **GN No. R. 544 Activity No 18**: The infilling or depositing of any material of more than 5 cubic metres into, or the dredging excavation, removal or moving on soil, shells, pebbles or rock of more than 5 cubic metres from:
  - a watercourse
but excluding where such infilling, depositing, dredging, excavation, removal or moving is for the maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or occurs behind the development setback line.

In terms of the Regulations, a Basic Assessment Process must be followed, which includes the compilation of this Basic Assessment Report ("BAR").

The Application Form was submitted to the Department on 25th March 2014 and an acknowledgment of receipt and reference number was received on 31st March 2014. In adherence to the NEMA EIA Regulations 2010, the Draft BAR was submitted to the Department and circulated to all identified relevant State Departments, Community Organisations and potentially interested and affected parties for an initial 40 day commenting period between 30th July 2014 and 8th September 2014. The Final BAR (this report) includes all comments, issues and concerns raised by the above mentioned registered stakeholders during the Draft BAR phase public participation process and is now made available for public comment for a further period of 21 days.

Please note: Given the placement of the proposed pipeline, the freshwater specialist, Toni Belcher, recommended in her Freshwater Impact Assessment (June, 2014) that the Department of Water Affairs ("DWA") be approached for approval of the water use aspects of the proposed activities.

An independent Water Use License Specialist, Claret Walker, confirmed upon further consultation that a Water Use License Application ("WULA") is required for the proposed development. As such a WULA was submitted to DWA on 12th June 2014 and an acknowledgement of receipt and reference number (27/2/1/G522/121/1 was received on 25th July 2014.

A copy of the full WUL application as submitted to DWA, including proof of payment and the acknowledgment of receipt letter from DWA has been attached as part of Appendix G of this report.

Description of Receiving Environment

According to the Preliminary Design Report (Daveng, 2014), Erf 8115 and the adjacent erven are situated in Kuilsriver approximately 25km east of Cape Town along Van Riebeeck Road. The properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Digtebij Road to the west. Erf 8115 and all adjacent properties, fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community and agricultural respectively.

The preferred option (Option 1: Gravity system) would be to install a deep sewer pipeline 510m in length running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922). The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community and agricultural respectively.

According to the Freshwater Impact Assessment (Belcher, 2014), the affected erven are located within the urban area of Kuilsriver, adjacent to Van Riebeeck Road. With the exception of the river corridor and the wetland area and a surrounding open plot, the surrounding land cover consists entirely of urban development.

Figure 1: Site Map depicting the proposed pipelines.
Erf 8115 (Zoned General Business 2):
The existing conservancy tank that services erven numbers 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115 is located on the western section of erf 8115. The entire site has been developed and the Daveng Consulting Engineers office block and parking area is located on this erf.

Erf 928 (Zoned Community 1):
Hebron Christian Academy School. The site has only been developed along Digtebij Road which runs parallel to Van Riebeeck Road to the west. The remainder of the erf behind the school to the East is undeveloped.

Erf 10571 (Zoned Agricultural):
Undeveloped vacant land which according to the Freshwater Impact Assessment (Belcher, 2014) contains a large wetland area in a moderately to largely modified ecological state and is of low ecological importance.

Erf 18030 (Zoned Agricultural):
One small dwelling and a large paved truck depot.

Erf 915 (Zoned Agricultural):
Undeveloped vacant land.

Erf 935 (Zoned Agricultural):
Undeveloped vacant land.

Erf 936 (Zoned Agricultural):
Undeveloped vacant land.

Erf 922 (Zoned Agricultural):
Undeveloped vacant land.

Please see attached as Appendix A Locality and Site Maps, Appendix C for photographs of the proposed pipeline route and the surrounding area and Appendix G for all specialist reports.

Public Participation Process

A public participation process is required in order to fulfill the requirements of a Basic Assessment process. The public participation process needs to be undertaken in accordance with the 2010 NEMA EIA Regulations.

The following activities have been undertaken thus far:

Initial and Draft Basic Assessment Report Notification

Identified interested and affected parties as well as Organs of State were notified of the Basic Assessment Process and at the same time notified of the availability of the Draft Basic Assessment (Draft BAR) report for review and comment on 30th July 2014. The following parties will be notified of the availability of the Draft BAR:

- DEA&DP: Land Management (Region1).
- Department of Water Affairs.
- Department of Agriculture.
- City of Cape Town Municipality (District D).
- City of Cape Town: Roads and Stormwater.
- Municipal Ward Councillor.
- Ratepayer’s Associations.
- Relevant NGO’s.
- Landowners of the erven to be connected by the sewer pipeline.
- Landowners of the properties through which the pipeline will run.
- Landowners and occupants of properties adjacent to the site.

In addition to this, a newspaper advertisement was published in the Tygerburger local newspaper on 30th July 2014; site notices were placed at the site on the 29th July; and the Draft BAR was placed at the local Kuils River Public Library on 29th July 2014. The Draft BAR was also made available on the SEC website for review and comment between the 28th July 2014 and 10th September.

All registered stakeholders were given the opportunity to review and comment on the Draft BAR for a period of 40 days (between 30th July 2014 and 8th September 2014). Comments received and responses sent during the public comment period for the Draft BAR have been recorded in a Comments and Responses Report. In addition, all issues raised during this period have been included in the Final BAR for review by all registered stakeholders prior to the submission to the DEA&DP.

The following activities will be undertaken from this point forward:

Final Basic Assessment Report Notification:

The Final BAR (this report) includes the comments, issues and concerns raised by registered stakeholders during the Draft BAR.
phase public participation process and is now made available for public comment for further a period of 21 days.

Comments received and responses sent during the public comment period for the Final BAR will be recorded in an updated Comments and Responses Report. This, along with copies of all comments received and responses sent, will be included in the Final BAR submission when it is submitted to the DEA&DP for a decision.

Please refer to Appendix F for a full record of the public participation process undertaken to date.

Alternatives

The NEMA EIA Regulations require that an Applicant identify and investigate alternative “means of meeting the general purposes and requirements of the activity” for which authorisation is being applied for (DEA&DP Guideline on Alternatives, March 2013).

Sewerage infrastructure currently exists in the northern and western sides of Digtebij Road (Mabille Park) and in the eastern side of Van Riebeeck Road. There is a 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal. There is also an existing sewer reticulation system in Mabille Park and Sonneckull areas which are adjacent to erf 8115.

No property and location/site alternatives have been identified for the proposed activity.

Activity Alternatives

No activity alternatives were investigated as this would not meet the specific purposes and requirements of this application (to install a sewer connection pipeline to connect Erf 8115 and adjacent erven to the existing bulk sewer infrastructure). Therefore in accordance with the DEA&DP’s Guideline on Alternatives, no reasonable or feasible activity alternatives have been identified, investigated or presented here.

Design/Layout Alternatives

Two possible options for draining the sewage of Erf 8115 and the adjacent erven to the existing bulk infrastructure have been identified which include a gravity option and a pumped option:

**Preferred Alternative Option 1 (Gravity Option)**

The gravity option has been assessed as being the most desirable and cost effective option. The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline most likely will not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven. Should this be the case, a servitude will be registered for the following erven through which the pipeline will run: Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936, Erf 922. The total length of this proposed pipeline is approximately 510 metres with 10 (ten) manholes at a maximum depth of 2.5 metres. This option would have the capacity to service 79 equivalent erven.

**Alternative Option 2 (Pumped Option)**

Alternatively a second, less cost effective option (pumped system), would be to drain the sewage South-West to a proposed pump station on Erf 2423 and then pump it up gradient to the North to the existing 150mm diameter pipeline in Mabille Road.

Please note an extensive assessment of the advantages and disadvantages for each option has been addressed in Section E (a).

Technology Alternatives

According to the project consultant, Ronald van Dijk, two technology alternatives exist for the pipeline material:

- PVC (preferred material for the pipeline).
- Fibrecement (non-preferred material for the pipeline).

These have been assessed in Section E (d) of this report.

Operational Alternatives

Minor operational alternatives exist between the two proposed pipeline alternatives.

**Option 1 (Gravity Option)** - preferred option

Due to Option 1 being a gravity system, it will not entail any operational activities nor will it entail any operational running costs (other than maintenance activities as required and associated costs).

**Option 2 (Pumped Option)** - non-preferred option

The option requires annual maintenance as well as a constant supply of electricity to pump the sewage up gradient. This is at a cost to the City of Cape Town and a drain on the City’s finite energy resources.

No-Go Alternative

The No-Go Alternative means the “option of not implementing the activity”, (DEA&DP Guideline on No-Go option Alternatives, March 2013). In this case, the No-Option entails not installing the sewer connection pipeline to connect Erf 8115 and adjacent
Erf 8115 and the adjacent erven are currently serviced by means of a conservancy tank situated on Erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high. The proposed sewer pipeline will entail an immediate solution to this problem.

In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. The proposed sewer pipeline will comply with the local Municipal objectives.

In light of the above the No-Go Alternative has been found to be a non-viable option by the applicant.

Please note an extensive assessment of the advantages and disadvantages for this option have been addressed in Section E (a)

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<td>Modification of Flow</td>
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<tr>
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In 2008, the City of Cape Town Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. The proposed sewer pipeline will comply with the local Municipal objectives.

Erf 8111 was subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline. The proposed sewer pipeline will adhere to the original title deed requirements for the area.

- The preferred option (Option 1: Gravity Option) would have the capacity to service 79 additional equivalent erven whilst the non-preferred option (Option 2: Pumped Option) would only have the capacity to service erven 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115.
- The preferred option (Option 1: Gravity Option) is more cost effective than Option 2 (Non-Preferred Option: Pumped Option).
- The preferred option (Option 1: Gravity Option) will not entail any operational running costs (other than maintenance activities as required) as it is a gravity option whilst the non-preferred option (Option 2: Pumped Option) would require regular maintenance and requires a constant supply of electricity to pump the sewage up gradient which is an unnecessary drain on the City’s finite energy resources.
- According to the NID (Webley, 2014), no heritage resources will be impacted for either option.
- According to the Preliminary Design Report (Daveng, 2014), Option 1 is preferred by the City of Cape Town and forms part of the City’s service delivery plan.
- Option 2: Pumped Option would not have any potential impacts on freshwater features and a WULA would not be required. According to the Freshwater Impact Assessment (Belcher, 2014) however, during construction activities, whilst the construction phase will result in a definite loss of habitat and biota, the impact will not cause irreparable long term loss of resources as the disturbed areas can be rehabilitated immediately after construction has been completed. In addition, clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) will occur during the construction phase of Option 1: Gravity Option only resulting in an overall improvement in the ecological functioning of the wetland.
- There is a small risk of spillage from the sewer line into the wetland area or possibly the Kuils River during the operational phase of Option 1: Gravity Option. To negate this risk however the preferred material for the proposed pipeline is PVC as it is long lasting, does not breakdown and as such there is no risk of the pipes bursting due to internal weakness. In addition, the material is durable and lightweight and it lasts for up to 50 years. According to the Freshwater Impact Assessment (Belcher, 2014), provided that the mitigation measures (as contained in Section F) as well as those in the EMP and Maintenance Management Plan (“MMP”) are effectively implemented, the water quality related impacts of Option 1: Gravity Option should be limited.

The assessment of the impacts as summarised above and contained in Section F of the report found that the negative impacts associated with the preferred option (Option 1: Gravity Option), can be mitigated to an acceptable level and substantial positive impacts were found to be associated with the development.

As such, the EAP is of the opinion that the preferred alternative (Option 1: Gravity Option) should be authorised.

Please refer to Section E (a) to (g) for a fully comprehensive investigation of alternatives.
## SECTION A: ACTIVITY INFORMATION

### 1. PROJECT DESCRIPTION

| [a] Is the project a new development? | YES | NO |

[b] Provide a detailed description of the development project and associated infrastructure.

| Nine properties erven 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115, (hereafter known as “Erf 8115 and the adjacent erven”) within Kuils River are currently serviced by means of a conservancy tank situated on erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high. Streamline Homes (Pty) made an application for the subdivision of Erf 8111 which was approved in 1993. Erf 8111 was thereafter subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements however was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline. The purpose of this sewer connection pipeline was to service the subdivided erven and to abandon the conservancy tank system of the surrounding properties listed above. This however never materialised. Mr Daniels and Mr van Dijk bought Erf 8115 in 2005. In line with the title deed requirement, Daveng Consulting Engineers was subsequently requested by the City of Cape Town to conduct an investigation for the sewer connection pipeline for the erven which utilise the conservancy tank currently located on Erf 8115. In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. In line with this, and the title deed condition stipulated above, the City of Cape Town (“the applicant”) proposes to install a connector sewer pipeline to serve these erven in question. According to the Preliminary Design Report (Daveng, 2014), Erf 8115 and the adjacent erven are situated in Kuilsriver approximately 25km east of Cape Town along Van Riebeeck Road. The properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Digtebij Road to the west. Erf 8115 and all adjacent properties fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erf 10571, 18030, 915, 936, 922 and 940). Sewerage infrastructure currently exists in the northern and western sides of Digtebij Road (Mabille Park) and in the eastern side of Van Riebeeck Road. There is a 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal. There is also an existing sewer reticulation system in Mabille Park and Sonnekuil areas which are adjacent to erf 8115. Two possible options for draining the sewage of these nine properties to the existing bulk infrastructure have been identified which include a gravity option and a pumped option. Preferred Alternative Option 1 (Gravity Option) The gravity option has been assessed as being the most desirable and cost effective option. The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline will most likely not fit in within the existing road reserve itself and as such will have to run through a portion of each of the adjacent erven. Should this be the case, a servitude will be registered for the following erven through which the pipeline will run: Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936, Erf 922. The total length of this proposed pipeline is approximately 510 metres with 10 (ten) manholes at a maximum depth of 2.5 metres. This option would have the capacity to service 79 equivalent erven. Alternative Option 2 (Pumped Option) Alternatively a second, less cost effective option (pumped system), would be to drain the sewage South-West to a proposed pump station on Erf 2423 and then pump it up gradient to the North to the existing 150mm diameter pipeline in Mabille Road. This option will require regular maintenance and is the least desirable option. |
Figure 2: Map illustrating the proposed options for the proposed sewer connection line
List all the activities assessed during the Basic Assessment process:

<table>
<thead>
<tr>
<th>GN No. R. 544</th>
<th>Activity No(s):</th>
<th>Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 1 (GN No. R. 544)</th>
<th>Describe the portion of the development as per the project description that relates to the applicable listed activity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>The construction of: (xi) infrastructure or structures covering 50 square metres or more; Where such construction occurs within a watercourse or within 32 metres of a watercourse, excluding where such construction will occur behind the development setback line.</td>
<td>The preferred option proposed will be to construct a deep-sewer connection pipe 600mm in diameter running Southwards along Van Riebeeck Road. The total length of this proposed pipeline is approximately 510 metres with 10 (ten) manholes at an average depth of 2.5 metres. Additionally, the proposed sewer pipeline will run along the edge of a small portion of wetland area (located on Erf 10571) and connect to the existing bulk sewer main running parallel to the Kuils River Canal.</td>
<td>To lay the pipeline, material (most likely soil and rubble) will need to be excavated to a maximum depth of 2.5 metres and 3 metres in diameter, the space within which the pipeline will be laid. The proposed sewer pipeline will run along the edge of a small portion of wetland area (located on Erf 10571) and connect to the existing bulk sewer main running parallel to the Kuils River Canal.</td>
</tr>
</tbody>
</table>

Please note: Given the placement of the proposed pipeline, the freshwater specialist, Toni Belcher, recommended in her Freshwater Impact Assessment (June, 2014) that the Department of Water Affairs (“DWA”) be approached for approval of the water use aspects of the proposed activities.

An independent Water Use License Specialist, Claret Walker, confirmed upon further consultation that a Water Use License Application (“WULA”) is required for the proposed development. As such a WULA was submitted to DWA on 12th June 2014 and an acknowledgement of receipt and reference number (27/2/1/G522/121/1 was received on 25th July 2014.

A copy of the full WUL application as submitted to DWA, including proof of payment and the acknowledgment of receipt letter from DWA has been attached as part of Appendix G of this report.

<table>
<thead>
<tr>
<th>GN No. R. 546</th>
<th>Activity No(s):</th>
<th>Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 3 (GN No. R. 546)</th>
<th>Describe the portion of the development as per the project description that relates to the applicable listed activity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the application is also for activities as per Listing Notice 2 and permission was granted to subject the application to Basic Assessment, also indicate the applicable Listing Notice 2 activities:

<table>
<thead>
<tr>
<th>GN No. R. 545</th>
<th>Activity No(s):</th>
<th>If permission was granted in terms of Regulation 20, describe the relevant Scoping and EIA Activity(ies) in writing as per Listing Notice 2 (GN No. R. 545)</th>
<th>Describe the portion of the development as per the project description that relates to the applicable listed activity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Waste management activities in terms of the NEM: WA (Government Gazette No. 32368):

<table>
<thead>
<tr>
<th>GN No. 718 - Category A</th>
<th>Activity No(s):</th>
<th>Describe the relevant Category A waste management activity in writing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please 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.
If the application is also for waste management activities as per Category B and permission was granted to subject the application to Basic Assessment, also indicate the applicable Category B activities:

<table>
<thead>
<tr>
<th>GN No. 718 – Category B Activity No(s):</th>
<th>Describe the relevant Category B waste management activity in writing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Atmospheric emission activities in terms of the NEM: AQA (Government Gazette No. 33064):

<table>
<thead>
<tr>
<th>GN No. 248 Activity No(s):</th>
<th>Describe the relevant atmospheric emission activity in writing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

(d) Please provide details of all components of the proposed project and attach diagrams (e.g. architectural drawings or perspectives, engineering drawings, process flow charts etc.).

<table>
<thead>
<tr>
<th>Buildings</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide brief description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The applicant proposes to install a connector sewer pipeline to connect Erf 8115 and the adjacent erven to the existing bulk sewerage infrastructure located in the area.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infrastructure (e.g. roads, power and water supply/ storage)</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide brief description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The applicant proposes to install a sewer connection pipeline to connect Erf 8115 and the adjacent erven to the existing bulk sewerage infrastructure located in the area. The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven [Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922].</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Existing Sewerage Infrastructure**

Sewerage infrastructure currently exists in the northern and western sides of Digtebij Road (Mabille Park) and in the eastern side of Van Riebeeck Road. There is a 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal. There is also an existing sewer reticulation system in Mabille Park and Sonnekuil areas which are adjacent to Erf 8115. The proposed sewer connection pipeline will connect one of these existing systems.

**Please see attached as Appendix B, site plans detailing the proposed infrastructure options for the site as well as the design layout of the preferred option (Option 1: Gravity Option).**

<table>
<thead>
<tr>
<th>Processing activities (e.g. manufacturing, storage, distribution)</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide brief description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The applicant proposes to install a sewer connection pipeline to connect Erf 8115 and the adjacent erven to the existing bulk sewerage infrastructure located in the area. As such the proposed activity does not involve processing activities as it will not entail manufacture, storage or distribution.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage facilities for raw materials and products (e.g. volume and substances to be stored)</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide brief description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The applicant proposes to install a sewer connection pipeline to connect erven numbers 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115 to the existing bulk sewerage infrastructure located in the area. As such the proposed activity does not involve storage of any raw materials.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage and treatment facilities for solid waste and effluent generated by the project</th>
<th>Yes</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide brief description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The applicant proposes to install a sewer connection pipeline to connect Erf 8115 and the adjacent erven to the existing bulk sewerage infrastructure located in the area.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is anticipated that a limited amount of solid waste will be generated during the construction phase, mainly associated with surplus excavated material (soil and rubble). This will be reused as backfill as far as possible the remainder of which will be disposed of at a license landfill site. The activity will not produce solid waste during the operational phase.

The proposed activity will not generate effluent or waste water.
Other activities (e.g. water abstraction activities, crop planting activities)  Yes  No

Provide brief description
The applicant proposes to install a sewer connection pipeline to connect Erf 8115 and the adjacent erven to the existing bulk sewerage infrastructure located in the area.

Construction Phase
According to the project consultant, Ronald van Dijk, for any water required during the construction phase, the Contractor will apply for a metered standpipe from the local authority with which he will be able to draw water from the municipal water network by connecting the standpipe to a fire hydrant approved by the Local Authority in the immediate area of the construction site. The Contractor will be billed for the water used by the local Authority on a monthly basis.

Water will typically be filled into a water truck and carted to site and discharged in the trench by means of a fire hose in order to achieve optimum water content in the backfill material and then compact the material. Small amounts of water will also be required to mix small quantities of concrete and mortar required for the footings and benching of the sewer manholes.

Operational Phase
The preferred option for the sewer pipeline connector will not require water in its operational phase as this is a gravity option and will involve the installation of a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1).

2. PHYSICAL SIZE OF THE ACTIVITY

[a] Indicate the size of the property (cadastral unit) on which the activity is to be undertaken.

Table 1: Properties which are serviced by the conservancy tank on erf 8115:

<table>
<thead>
<tr>
<th>Erf Number</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>8112</td>
<td>591m²</td>
</tr>
<tr>
<td>8113</td>
<td>628m²</td>
</tr>
<tr>
<td>8114</td>
<td>545m²</td>
</tr>
<tr>
<td>8115</td>
<td>747m²</td>
</tr>
<tr>
<td>2426</td>
<td>1087m²</td>
</tr>
<tr>
<td>7410</td>
<td>729m²</td>
</tr>
<tr>
<td>7409</td>
<td>533m²</td>
</tr>
<tr>
<td>2424</td>
<td>847m²</td>
</tr>
<tr>
<td>2423</td>
<td>740m²</td>
</tr>
<tr>
<td><strong>Total Area</strong></td>
<td><strong>6 447m²</strong></td>
</tr>
</tbody>
</table>

Table 2: Properties through which the pipeline will most likely run through a small portion of:

<table>
<thead>
<tr>
<th>Erf Number</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>928</td>
<td>12 799m²</td>
</tr>
<tr>
<td>10571</td>
<td>1 996m²</td>
</tr>
<tr>
<td>18030</td>
<td>7 794m²</td>
</tr>
<tr>
<td>915</td>
<td>1 518m²</td>
</tr>
<tr>
<td>935</td>
<td>185m²</td>
</tr>
<tr>
<td>936</td>
<td>4 539m²</td>
</tr>
<tr>
<td>922</td>
<td>6 745m²</td>
</tr>
<tr>
<td><strong>Total Area</strong></td>
<td><strong>35 576m²</strong></td>
</tr>
</tbody>
</table>

**Total Combined Area**  42 023 m²

[b] Indicate the size of the facility (development area) on which the activity is to be undertaken.

The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through the edge of a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922).

The development footprint of the pipeline will have a maximum diameter of 3 metres, within which the pipeline will be laid. The deepest point of the excavation will be 2.5 metres.
## Size of the activity:

<table>
<thead>
<tr>
<th>Description</th>
<th>Length of Pipeline: 510m</th>
<th>Diameter of Pipeline: 3 m</th>
<th>Depth of Excavation: 2.5m</th>
</tr>
</thead>
<tbody>
<tr>
<td>(c) Indicate the physical size (footprint) of the activity together with its associated infrastructure:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through the edge of a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The development footprint of the pipeline will have a maximum diameter of 3 metres, within which the pipeline will be laid. The deepest point of the excavation will be 2.5 metres.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Indicate the physical size (footprint) of the activity:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through the edge of a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The development footprint of the pipeline will have a maximum diameter of 3 metres, within which the pipeline will be laid. The deepest point of the excavation will be 2.5 metres.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) Indicate the physical size (footprint) of the associated infrastructure:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through the edge of a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The development footprint of the pipeline will have a maximum diameter of 3 metres, within which the pipeline will be laid. The deepest point of the excavation will be 2.5 metres.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Indicate the length of the activity:</td>
<td>510m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SITE ACCESS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Is there an existing access road?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>The site of the proposed sewer connection pipeline can be accessed via Van Riebeeck Road, Kuilsriver.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) If no, what is the distance over which a new access road will be built?</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Describe the type of access road planned:</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please Note: indicate the position of the proposed access road on the site plan.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. DESCRIPTION OF THE PROPERTY ON WHICH THE ACTIVITY IS TO BE UNDERTAKEN AND THE LOCATION OF THE ACTIVITY ON THE PROPERTY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Provide a description of the property on which the activity is to be undertaken and the location of the activity on the property.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>According to the Preliminary Design Report (Daveng, 2014), Erf 8115 and the adjacent erven are situated in Kuilsriver approximately 25km east of Cape Town along Van Riebeeck Road. The properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Digtebij Road to the west. Erf 8115 and all adjacent properties, fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erfen 10571, 18030, 915, 936, 922 and 940).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The preferred option (Option 1: Gravity system) would be to install a deep sewer pipeline 510m in length running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). The proposed pipeline will most likely not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922). The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community and agricultural respectively.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>According to the Freshwater Impact Assessment (Belcher, 2014), the affected erven are located within the urban area of Kuilsriver, adjacent to Van Riebeeck Road. With the exception of the river corridor and the wetland area and a surrounding open plot, the surrounding land cover consists entirely of urban development.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Erf 8115 (Zoned General Business 2):
The existing conservancy tank that services erven numbers 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115 is located on the western section of erf 8115. The entire site has been developed and the Daveng Consulting Engineers office block and parking area is located on this erf.

Erf 928 (Zoned Community 1):
Hebron Christian Academy School. The site has only been developed along Digtebij Road which runs parallel to Van Riebeeck Road to the west. The remainder of the erf behind the school to the East is undeveloped.

Erf 10571 (Zoned Agricultural):
Undeveloped vacant land which according to the Freshwater Impact Assessment (Belcher, 2014) contains a large wetland area in a moderately to largely modified ecological state and is of low ecological importance.

Erf 18030 (Zoned Agricultural):
One small dwelling and a large paved truck depot.

Erf 915 (Zoned Agricultural):
Undeveloped vacant land.

Erf 935 (Zoned Agricultural):
Undeveloped vacant land.

Erf 936 (Zoned Agricultural):
Undeveloped vacant land.

Erf 922 (Zoned Agricultural):
Undeveloped vacant land.

Please see attached as Appendix A Locality and Site Maps, Appendix C for photographs of the proposed pipeline route and the surrounding area and Appendix G for all specialist reports.

(b) Please provide a location map (see below) as Appendix A to this report which shows the location of the property and the location of the activity on the property; as well as a site map (see below) as Appendix B to this report; and if applicable all alternative properties and locations.

### Locality map:
The scale of the locality map must be at least 1:50 000. For linear activities 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:
- 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;
- the prevailing wind direction (during November to April and during May to October); and
- GPS coordinates (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).

Please note: Site, Locality and Topographic Maps have been attached as Appendix A.

### Site Plan:
Detailed site plan(s) must be prepared for each alternative site or alternative activity. The site plan must contain or conform to the following:
- The detailed site plan must be at a scale preferably at a scale of 1:500 or at an appropriate scale. The scale must be indicated on the plan.
- 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 above or underground), water supply pipelines, boreholes, sewerage pipelines, storm water infrastructure and access roads that will form part of the development must be indicated on the site plan.
- Servitudes indicating the purpose of the 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):
  - Rivers.
- Flood lines (i.e. 1:10, 1:50, year and 32 meter set back line from the banks of a river/stream).
- Ridges.
- Cultural and historical features.
- Areas with indigenous vegetation (even if it is degraded or infested with alien species).
- Whenever the slope of the site exceeds 1:10, then a contour map of the site must be submitted.

Please note: Site Layout Plans have been attached as Appendix B.

(c) For a linear activity, please also provide a description of the route.

The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). The proposed pipeline will most likely will not fit within the road reserve itself and as such will have to run through the edge of a portion of each the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922).

Please also see attached as Appendix A and Appendix B site locality maps and site plans indicating the proposed route.

<table>
<thead>
<tr>
<th>N/A</th>
<th>Latitude (S):</th>
<th>Longitude (E):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

For linear activities:

<table>
<thead>
<tr>
<th>Starting point of the activity</th>
<th>Latitude (S):</th>
<th>Longitude (E):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>33°55'07.77&quot;</td>
<td>18°40'26.46&quot;</td>
</tr>
<tr>
<td>Middle point of the activity</td>
<td>33°55'12.11&quot;</td>
<td>18°40'30.14&quot;</td>
</tr>
<tr>
<td>End point of the activity</td>
<td>33°55'15.33&quot;</td>
<td>18°40'32.25&quot;</td>
</tr>
</tbody>
</table>

Please Note: For linear activities that are longer than 500m, please provide and addendum with co-ordinates taken every 100 meters along the route.

5. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken of the site and from 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. It 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.

Please note that site photographs have been attached as Appendix C
SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Site/Area Description

For linear activities (pipelines, etc.) as well as activities 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 which is covered by each copy No. 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 |

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 |

   [b] Please provide a description of the location in the landscape.

According to the Preliminary Design Report (Daveng, 2014), Erf 8115 and the adjacent erven are situated in Kuilsriver approximately 25km east of Cape Town along Van Riebeeck Road. The properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Digtebij Road to the west. Erf 8115 and all adjacent properties, fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erven 10571, 18030, 915, 936, 922 and 940).

The preferred option (Option 1: Gravity system) would be to install a deep sewer pipeline 510m in length running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). The proposed pipeline will most likely will not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922). The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erven 10571, 18030, 915, 936, 922 and 940).

According to the Freshwater Impact Assessment (Belcher, 2014), the affected erven are located within the urban area of Kuilsriver, adjacent to Van Riebeeck Road. With the exception of the river corridor and the wetland area and a surrounding open plot, the surrounding land cover consists entirely of urban development.
**Erf 8115 (Zoned General Business 2):**
The existing conservancy tank that services erven numbers 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115 is located on the western section of erf 8115. The entire site has been developed and the Daveng Consulting Engineers office block and parking area is located on this erf.

**Erf 928 (Zoned Community 1):**
Hebron Christian Academy School. The site has only been developed along DIGTEBIJ Road which runs parallel to Van Riebeeck Road to the west. The remainder of the erf behind the school to the East is undeveloped.

**Erf 10571 (Zoned Agricultural):**
Undeveloped vacant land which according to the Freshwater Impact Assessment (Belcher, 2014) contains a large wetland area in a moderately to largely modified ecological state and is of low ecological importance.

**Erf 18030 (Zoned Agricultural):**
One small dwelling and a large paved truck depot.

**Erf 915 (Zoned Agricultural):**
Undeveloped vacant land.

**Erf 935 (Zoned Agricultural):**
Undeveloped vacant land.

**Erf 936 (Zoned Agricultural):**
Undeveloped vacant land.

**Erf 922 (Zoned Agricultural):**
Undeveloped vacant land.

Please see attached as Appendix A Locality and Site Maps, Appendix C for photographs of the proposed pipeline route and the surrounding area and Appendix G for all specialist reports.

---

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)?

<table>
<thead>
<tr>
<th>Condition</th>
<th>YES</th>
<th>NO</th>
<th>UNSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shallow water table (less than 1.5m deep)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonally wet soils (often close to water bodies)</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>Unstable rocky slopes or steep slopes with loose soil</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>Dispersive soils (soils that dissolve in water)</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>Soils with high clay content</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>Any other unstable soil or geological feature</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>An area sensitive to erosion</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>An area adjacent to or above an aquifer</td>
<td>YES</td>
<td></td>
<td>UNSURE</td>
</tr>
<tr>
<td>An area within 100m of the source of surface water</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   (b) If any of the answers to the above are “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. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

   (c) Please indicate the type of geological formation underlying the site.

<table>
<thead>
<tr>
<th>Granite</th>
<th>Shale</th>
<th>Sandstone</th>
<th>Quartzite</th>
<th>Dolomite</th>
<th>Dolerite</th>
<th>Other (describe)</th>
</tr>
</thead>
</table>

   Please provide a description.

   According to the 1:50 000 scale geological map series for the area (3318), the site underlain at depth by Malmesbury Group sediments comprising phyllite, greywacke and quartzitic sandstone. This is overlain by transported sediments comprising of light grey to pale red sandy soils of the Quaternary age.
According to the Freshwater Impact Assessment [Belcher, 2014], the geology of the area is characterised by two geological units:

- **Malmesbury Group Shales**
  These consist of dark grey mudstones and lighter coloured sandstones.

- **Sandveld Group sands**
  These consist of reddish to grey unconsolidated quartzose aeolian sand.

Soils underlying the site consist largely of soils with a sandy texture, leached and with subsurface accumulation of organic matter and aluminium.

Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

---

### 4. SURFACE WATER

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

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>UNSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perennial River</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Kuils River</td>
<td>YES</td>
<td>NO</td>
<td>UNSURE</td>
</tr>
<tr>
<td>Non-Perennial River</td>
<td>YES</td>
<td>NO</td>
<td>UNSURE</td>
</tr>
<tr>
<td>Permanent Wetland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland located on Erf 10571</td>
<td>YES</td>
<td>NO</td>
<td>UNSURE</td>
</tr>
<tr>
<td>Seasonal Wetland</td>
<td>YES</td>
<td>NO</td>
<td>UNSURE</td>
</tr>
<tr>
<td>Artificial Wetland</td>
<td>YES</td>
<td>NO</td>
<td>UNSURE</td>
</tr>
<tr>
<td>Estuarine / Lagoonal wetland</td>
<td>YES</td>
<td>NO</td>
<td>UNSURE</td>
</tr>
</tbody>
</table>

Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

(b) Please provide a description.
According to the Freshwater Impact Assessment (Belcher, 2014):
The freshwater features which may be impacted by the proposed activity consist of a wetland area alongside the R102 (Van Riebeeck Road in Kuils River) as well as the Kuils River itself.

**Wetland**
A large wetland area can be found on Erf 10571. The wetland area can be characterised as a hill slope seep of which the overall state was observed to be in a moderately to largely modified state with some evidence of dumping. As such, according to the freshwater specialist, the wetland was deemed to have a low ecological importance.

![Figure 3: Close up image of the wetland area located on Erf 10571 (image courtesy of Toni Belcher, 2014).](image)

**Kuils River**
The Kuils River, which originates in the hills of the Durbanville area, flows in a southerly direction to the urban area of Kuils River, where it is joined by the Bottelary River. This river system continues in a southerly direction until its confluence with the Eerste River. The upper to middle reaches of the river have been completely canalised through the Kuils River urban area and are, in general, in a poor condition within the urbanised and industrial areas of the town. At the proposed sewer line connection point, the river is completely canalised with all indigenous riparian vegetation removed. As such, according to the freshwater specialist, the portion of the river in the area where the proposed sewer line is located is in a critically modified state with little ecological functioning and as such was found to be of low ecological significance.

![Figure 4: Close up of the canalised Kuils River adjacent to the site (image courtesy of Toni Belcher, 2014).](image)

According to the Preliminary Design Report (Daveng, 2014), water table is low in the northern area and becomes high in the south western area along the Kuils River Canal.

Please refer to the Preliminary Design Report (Daveng, 2014) as contained in Appendix G.
5. **BIODIVERSITY**

**Please 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 activity(ies). To assist with the identification of the biodiversity occurring on site and the ecosystem status consult [http://bgis.sanbi.org](http://bgis.sanbi.org) or [BGIShelp@sanbi.org](mailto:BGIShelp@sanbi.org). Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (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) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

(a) Highlight the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category).

<table>
<thead>
<tr>
<th>Systematic Biodiversity Planning Category</th>
<th>If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Biodiversity Area (CBA)</td>
<td>The natural vegetation within which the study area is located consists of Cape Flats Sand Fynbos (FFd5 in the Vegetation Map attached as part of Appendix D), a vegetation type classified as “Critically Endangered”. According to the Freshwater Assessment (Belcher, 2014) however, the open area within the study area has been completely transformed by the past land use activities and currently only contains garden escapee plant species or invasive alien plants. In addition, the wetland on Erf 10571 is dominated by indigenous common reeds (<em>Phragmites australis</em>) and Arum Lilies (<em>Zantedeschia aethiopica</em>), however due to the high level of disturbance, nearly all of the surrounding vegetation consists of exotic and alien invasive plants. Please refer to the Biodiversity Vegetation Maps as attached as part of Appendix D. Please also refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.</td>
</tr>
<tr>
<td>Ecological Support Area (ESA)</td>
<td></td>
</tr>
<tr>
<td>Other Natural Area (ONA)</td>
<td></td>
</tr>
<tr>
<td>No Natural Area Remaining (NNR)</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Habitat Condition</th>
<th>Percentage of habitat condition class (adding up to 100%)</th>
<th>Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practices, presence of quarries, grazing/harvesting regimes etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>10%</td>
<td>According to the Freshwater Assessment (Belcher, 2014), the open area within the study area has been completely transformed by the past land use activities and currently only contains garden escapee plant species or invasive alien plants. In addition, the wetland on Erf 10571 is dominated by indigenous common reeds (<em>Phragmites australis</em>) and Arum Lilies (<em>Zantedeschia aethiopica</em>), however due to the high level of disturbance, nearly all of the surrounding vegetation consists of exotic and alien invasive plants. Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.</td>
</tr>
<tr>
<td>Near Natural</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>(includes areas with low to moderate level of alien invasive plants)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degraded</td>
<td>90%</td>
<td>According to the Freshwater Assessment (Belcher, 2014), the open area within the study area has been completely transformed by the past land use activities and currently only contains garden escapee plant species or invasive alien plants. In addition, the wetland on Erf 10571 is dominated by indigenous common reeds (<em>Phragmites australis</em>) and Arum Lilies (<em>Zantedeschia aethiopica</em>), however due to the high level of disturbance, nearly all of the surrounding vegetation consists of exotic and alien invasive plants. Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.</td>
</tr>
<tr>
<td>(includes areas heavily invaded by alien plants)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Transformed
(includes cultivation, dams, urban, plantation, roads, etc.) | 0%
---|---

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

<table>
<thead>
<tr>
<th>Terrestrial Ecosystems</th>
<th>Aquatic Ecosystems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)</strong></td>
<td>Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)</td>
</tr>
<tr>
<td>Critical Cape Flats Sand Fynbos</td>
<td>Estuary</td>
</tr>
<tr>
<td>Endangered</td>
<td>YES</td>
</tr>
<tr>
<td>Vulnerable</td>
<td>UNSURE</td>
</tr>
<tr>
<td>Least Threatened</td>
<td>YES</td>
</tr>
</tbody>
</table>

(d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats).

The natural vegetation within which the study area is located consists of Cape Flats Sand Fynbos (FFd5 in the Vegetation Map attached as part of Appendix D), a vegetation type classified as “Critically Endangered”.

According to the Freshwater Impact Assessment (Belcher, 2014), Cape Flats Sand Fynbos is characterised by typical Fynbos and comprises dense, moderately tall shrubland, interspersed with restios. Cape Flats Sand Fynbos is extremely high in species diversity and has a high number of “Vulnerable”, “Endangered” and “Critically Endangered” species. It is listed as “Critically Endangered”, with more than 85% of this vegetation type within the City has been transformed. Many of the remaining patches are small pockets surrounded by urban areas.

The open area within the study area has however, been completely transformed by the past land use activities and currently only contains garden escapee plant species or invasive alien plants.

A large wetland can be found along Van Riebeeck Road on Erf 10571 which is dominated by the indigenous common reed (Phragmites australis). Indigenous Arum Lilies (Zantedeschia aethiopica) can also occur along the margins however due to the high level of disturbance of the surrounding open plot, nearly all of the surrounding vegetation consists of exotic plants such as fig trees (Ficus carica), Morning Glory (Ipomoea sp.) and Elderberry bushes (Sambucus Canadensis) and invasive alien plant species such as Port Jackson Willows (Acacia saligna) and kikuyu grass (Pennisetum clandestinum).

Please refer to the Biodiversity Vegetation Maps as attached as part of Appendix D. Please also refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

6. LAND USE OF THE SITE

Please 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 activity/ies.

<table>
<thead>
<tr>
<th>Untransformed area</th>
<th>Low density residential</th>
<th>Medium density residential</th>
<th>High density residential</th>
<th>Informal residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>Commercial &amp; warehousing</td>
<td>Light industrial</td>
<td>Medium industrial</td>
<td>Heavy industrial</td>
</tr>
<tr>
<td>Power station</td>
<td>Office/consulting room</td>
<td>Military or police base/station/compound</td>
<td>Casino/entertainment complex</td>
<td>Tourism &amp; Hospitality facility</td>
</tr>
<tr>
<td>Open cast mine</td>
<td>Underground mine</td>
<td>Spoil heap or slimes dam</td>
<td>Quarry, sand or borrow pit</td>
<td>Dam or reservoir</td>
</tr>
<tr>
<td>Hospital/medical centre</td>
<td>School</td>
<td>Tertiary education facility</td>
<td>Church</td>
<td>Old age home</td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>Train station or shunting yard</td>
<td>Railway line</td>
<td>Major road (4 lanes or more)</td>
<td>Airport</td>
</tr>
<tr>
<td>Harbour</td>
<td>Sport facilities</td>
<td>Golf course</td>
<td>Polo fields</td>
<td>Filling station</td>
</tr>
</tbody>
</table>
According to the Preliminary Design Report (Daveng, 2014), Erf 8115 and the adjacent erven are situated in Kuilsriver approximately 25km east of Cape Town along Van Riebeeck Road. The properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Digtebij Road to the west. Erf 8115 and all adjacent properties, fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erven 10571, 18030, 915, 936, 922 and 940).

The preferred option (Option 1: Gravity system) would be to install a deep sewer pipeline 510m in length running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). The proposed pipeline will most likely will not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven (Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936 and Erf 922). The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community and agricultural respectively.

According to the Freshwater Impact Assessment (Belcher, 2014), the affected erven are located within the urban area of Kuilsriver, adjacent to Van Riebeeck Road. With the exception of the river corridor and the wetland area and a surrounding open plot, the surrounding land cover consists entirely of urban development.

**Erf 8115 (Zoned General Business 2):**
The existing conservancy tank that services erven numbers 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115 is located on the western section of erf 8115. The entire site has been developed and the Daveng Consulting Engineers office block and parking area is located on this erf.

**Erf 928 (Zoned Community 1):**
Hebron Christian Academy School. The site has only been developed along Digtebij Road which runs parallel to Van Riebeck Road to the west. The remainder of the erf behind the school to the East is undeveloped.

**Erf 10571 (Zoned Agricultural):**
Undeveloped vacant land which according to the Freshwater Impact Assessment (Belcher, 2014) contains a large wetland area in a moderately to largely modified ecological state and is of low ecological importance.

**Erf 18030 (Zoned Agricultural):**
One small dwelling and a large paved truck depot.

**Erf 915 (Zoned Agricultural):**
Undeveloped vacant land.

**Erf 935 (Zoned Agricultural):**
Undeveloped vacant land.

**Erf 936 (Zoned Agricultural):**
Undeveloped vacant land.

**Erf 922 (Zoned Agricultural):**
Undeveloped vacant land.

Please see attached as Appendix A Locality and Site Maps, Appendix C for photographs of the proposed pipeline route and the surrounding area and Appendix G for all specialist reports.
7. LAND USE CHARACTER OF 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.

Please 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 activity(ies).

<table>
<thead>
<tr>
<th>Untransformed area</th>
<th>Low density residential</th>
<th>Medium density residential</th>
<th>High density residential</th>
<th>Informal residential</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Heavy industrial</td>
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<td>Casino/entertainment complex</td>
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<td>Spoil heap or slimes dam</td>
<td>Quarry, sand or borrow pit</td>
<td>Dam or reservoir</td>
</tr>
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<td>School</td>
<td>Tertiary education facility</td>
<td>Church</td>
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</tr>
<tr>
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<td>Train station or shunting yard</td>
<td>Railway line</td>
<td>Major road [4 lanes or more]</td>
<td>Airport</td>
</tr>
<tr>
<td>Harbour</td>
<td>Sport facilities</td>
<td>Golf course</td>
<td>Polo fields</td>
<td>Filling station</td>
</tr>
<tr>
<td>Landfill or waste treatment site</td>
<td>Plantation</td>
<td>Agriculture</td>
<td>River, stream or wetland</td>
<td>Nature conservation area</td>
</tr>
<tr>
<td>Mountain, koppie or ridge</td>
<td>Museum</td>
<td>Historical building</td>
<td>Graveyard</td>
<td>Archaeological site</td>
</tr>
</tbody>
</table>

Other land uses (describe): The Kuils River Canal is situated to the East of the proposed pipeline route. The canal runs on a North-South trajectory and flows under Van Riebeeck Road then continues flowing along the Southern boundary of Erf 922.
Please provide a description, including the distance and direction to the nearest residential area and industrial area.

The following land users are directly adjacent to the erven through which the proposed pipeline will run along/through a small portion of:

**North**
- Van Riebeeck Road lies directly adjacent to the portion of the erven through which the pipeline will run.
- Residential properties and small roads connecting the suburbs lie beyond that (approximately 350 metres from the proposed pipeline route).
- The Kuils River Canal lies thereafter (approximately 450 metres from the proposed pipeline route).
- Residential properties lie beyond that.

**North-East**
- Van Riebeeck Road lies directly adjacent to the portion of the erven through which the pipeline will run.
- Residential properties and small roads connecting the suburbs lie beyond that (approximately 350 metres from the proposed pipeline route).
- The Kuils River Canal lies thereafter (approximately 400 metres from the proposed pipeline route).
- Residential properties lie beyond that.

**East**
- Van Riebeeck Road lies directly adjacent to the portion of the erven through which the pipeline will run.
- The Kuilsriver Hospital lies on the opposite side of the road (approximately 100 metres from the proposed pipeline route).
- Kuils River Canal lies beyond that (approximately 200 metres from the proposed pipeline route).
- Residential properties lie beyond that.

**South-East**
- Van Riebeeck Road lies directly adjacent to the portion of the erven through which the pipeline will run.
- The Kuilsriver Hospital lies on the opposite side of the road (approximately 100 metres from the proposed pipeline route).
- Kuils River Canal lies beyond that (approximately 150 metres from the proposed pipeline route).
- Residential properties lie beyond that.

**South**
- The proposed pipeline will connect to the existing bulk sewer infrastructure on Erf 922. Erf 926 lies directly south of Erf 922. Kuils River Canal lies beyond that (approximately 200 metres from the end of proposed pipeline route and continues to run south for approximately 1 km before curving to the West).

**South-West**
- The proposed pipeline will connect to the existing bulk sewer infrastructure on Erf 922. Erf 926 lies directly south of Erf 922. Residential properties lie beyond that (approximately 140 metres from the proposed pipeline route and continue for 600 metres thereafter).

**West**
- Digtebij Road lies directly adjacent to the erven.
- Residential properties lie beyond that.

**North-West**
- Digtebij Road lies directly adjacent to the erven.
- Residential properties lie beyond that (approximately 50 metres from Digtebij Road and continue for 300 metres thereafter).
- Van Riebeeck Road (approximately 350 metres from the site).
- Residential properties lie beyond that.

Please see attached as Appendix A, Locality and Site Maps, Appendix C for photographs of the proposed pipeline route and the surrounding area and Appendix G for all specialist reports.
8. SOCIO-ECONOMIC ASPECTS

Describe the existing social and economic characteristics of the community in order to provide baseline information. **Please note:** Socio-economic data has been taken from the following source:

![Figure 5: Image depicting the range of the census (July 2011).](image-url)
### Demographic Profile

#### Racial Profile

<table>
<thead>
<tr>
<th>Population</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Num</td>
<td>%</td>
<td>Num</td>
</tr>
<tr>
<td>Black African</td>
<td>6 881</td>
<td>9.9</td>
<td>6 485</td>
</tr>
<tr>
<td>Coloured</td>
<td>19 258</td>
<td>27.7</td>
<td>20 968</td>
</tr>
<tr>
<td>Asian</td>
<td>260</td>
<td>0.4</td>
<td>233</td>
</tr>
<tr>
<td>White</td>
<td>6 821</td>
<td>9.8</td>
<td>7 187</td>
</tr>
<tr>
<td>Other</td>
<td>830</td>
<td>1.2</td>
<td>591</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34 050</strong></td>
<td><strong>49</strong></td>
<td><strong>35 464</strong></td>
</tr>
</tbody>
</table>

#### Age Profile

<table>
<thead>
<tr>
<th>Age</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 4</td>
<td>1 684</td>
<td>12.6</td>
<td>3 902</td>
<td>9.7</td>
<td>32</td>
<td>6.5</td>
</tr>
<tr>
<td>5 to 14</td>
<td>1 937</td>
<td>14.5</td>
<td>6 425</td>
<td>16</td>
<td>70</td>
<td>14.2</td>
</tr>
<tr>
<td>15 to 24</td>
<td>2 497</td>
<td>18.7</td>
<td>6 858</td>
<td>17</td>
<td>82</td>
<td>16.6</td>
</tr>
<tr>
<td>25 to 64</td>
<td>6 965</td>
<td>52.1</td>
<td>21 227</td>
<td>52.8</td>
<td>296</td>
<td>60</td>
</tr>
<tr>
<td>65 years +</td>
<td>281</td>
<td>2.1</td>
<td>1 813</td>
<td>4.5</td>
<td>13</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13 364</strong></td>
<td><strong>100</strong></td>
<td><strong>40 225</strong></td>
<td><strong>100</strong></td>
<td><strong>493</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

#### Education Profile

<table>
<thead>
<tr>
<th>Adult Education</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Schooling</td>
<td>201</td>
<td>2.5</td>
<td>336</td>
<td>1.3</td>
<td>3</td>
<td>0.9</td>
</tr>
<tr>
<td>Some primary</td>
<td>549</td>
<td>6.7</td>
<td>1 554</td>
<td>5.9</td>
<td>12</td>
<td>3.6</td>
</tr>
<tr>
<td>Completed primary</td>
<td>261</td>
<td>3.2</td>
<td>912</td>
<td>3.5</td>
<td>9</td>
<td>2.7</td>
</tr>
<tr>
<td>Some secondary</td>
<td>2 811</td>
<td>34.3</td>
<td>8 298</td>
<td>31.5</td>
<td>66</td>
<td>19.6</td>
</tr>
<tr>
<td>Grade 12</td>
<td>2 391</td>
<td>29.2</td>
<td>8 100</td>
<td>30.8</td>
<td>108</td>
<td>32.1</td>
</tr>
<tr>
<td>Higher</td>
<td>1 914</td>
<td>23.4</td>
<td>7 011</td>
<td>26.6</td>
<td>135</td>
<td>40.2</td>
</tr>
<tr>
<td>Other</td>
<td>66</td>
<td>0.8</td>
<td>120</td>
<td>0.5</td>
<td>3</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8 193</strong></td>
<td><strong>100</strong></td>
<td><strong>26 331</strong></td>
<td><strong>100</strong></td>
<td><strong>336</strong></td>
<td><strong>100</strong></td>
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</tbody>
</table>
### Economic Profile

#### Employment Rates

<table>
<thead>
<tr>
<th>Labour Force Indicators</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population aged 15 to 64</td>
<td>9 462</td>
<td>28 083</td>
<td>378</td>
<td>9 879</td>
<td>996</td>
<td>48 798</td>
</tr>
<tr>
<td>Labour Force Employed</td>
<td>6 465</td>
<td>19 491</td>
<td>258</td>
<td>7 161</td>
<td>711</td>
<td>34 086</td>
</tr>
<tr>
<td>Unemployed</td>
<td>4 986</td>
<td>17 097</td>
<td>243</td>
<td>6 846</td>
<td>609</td>
<td>29 781</td>
</tr>
<tr>
<td>Not Economically Active</td>
<td>1 479</td>
<td>2 394</td>
<td>15</td>
<td>315</td>
<td>102</td>
<td>4 305</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>2 997</td>
<td>8 592</td>
<td>120</td>
<td>2 718</td>
<td>285</td>
<td>14 712</td>
</tr>
</tbody>
</table>

#### Monthly Household Income

<table>
<thead>
<tr>
<th>Monthly Household Income</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Income</td>
<td>525</td>
<td>930</td>
<td>9</td>
<td>384</td>
<td>69</td>
<td>1 917</td>
</tr>
<tr>
<td>R1-1600</td>
<td>540</td>
<td>858</td>
<td>8.4</td>
<td>180</td>
<td>42</td>
<td>1 626</td>
</tr>
<tr>
<td>R1601-3200</td>
<td>501</td>
<td>921</td>
<td>9.0</td>
<td>189</td>
<td>42</td>
<td>1 659</td>
</tr>
<tr>
<td>R3201-6400</td>
<td>411</td>
<td>1 089</td>
<td>10.6</td>
<td>516</td>
<td>39</td>
<td>2 064</td>
</tr>
<tr>
<td>R6401-12800</td>
<td>369</td>
<td>1 458</td>
<td>14.2</td>
<td>846</td>
<td>54</td>
<td>2 748</td>
</tr>
<tr>
<td>R12801-25600</td>
<td>474</td>
<td>2 082</td>
<td>20.3</td>
<td>1 242</td>
<td>45</td>
<td>3 879</td>
</tr>
<tr>
<td>R25601-51200</td>
<td>405</td>
<td>2 034</td>
<td>19.8</td>
<td>1 158</td>
<td>30</td>
<td>3 660</td>
</tr>
<tr>
<td>R51201-102400</td>
<td>135</td>
<td>711</td>
<td>6.9</td>
<td>318</td>
<td>18</td>
<td>1 197</td>
</tr>
<tr>
<td>R102401 and more</td>
<td>30</td>
<td>171</td>
<td>1.7</td>
<td>96</td>
<td>3</td>
<td>303</td>
</tr>
<tr>
<td>Unspecified</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>3 393</td>
<td>10 257</td>
<td>100</td>
<td>4 929</td>
<td>342</td>
<td>19 059</td>
</tr>
</tbody>
</table>

### Dwelling Profile

#### Type of Dwelling

<table>
<thead>
<tr>
<th>Type of Dwelling</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal Dwelling</td>
<td>2</td>
<td>967</td>
<td>94.1</td>
<td>136</td>
<td>97.8</td>
<td>291</td>
</tr>
<tr>
<td>Informal Dwelling/Shack in Backyard</td>
<td>601</td>
<td>512</td>
<td>50.0</td>
<td>1</td>
<td>0.7</td>
<td>0.1</td>
</tr>
<tr>
<td>Informal Dwelling/Shack NOT in Backyard</td>
<td>208</td>
<td>44</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>52</td>
<td>0.5</td>
<td>2</td>
<td>1.4</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>10</td>
<td>255</td>
<td>100</td>
<td>139</td>
<td>100</td>
</tr>
</tbody>
</table>

#### Tenure Status

<table>
<thead>
<tr>
<th>Tenure Status</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned and Paid Off</td>
<td>645</td>
<td>2 594</td>
<td>23.3</td>
<td>17</td>
<td>21.1</td>
<td>1480</td>
</tr>
<tr>
<td>Owned and Not Paid Off</td>
<td>936</td>
<td>4 425</td>
<td>43.1</td>
<td>73</td>
<td>52.1</td>
<td>1940</td>
</tr>
<tr>
<td>Rented</td>
<td>1 404</td>
<td>2 488</td>
<td>24.3</td>
<td>43</td>
<td>30.7</td>
<td>1405</td>
</tr>
<tr>
<td>Occupied Rent-Free</td>
<td>281</td>
<td>404</td>
<td>3.9</td>
<td>5</td>
<td>3.6</td>
<td>73</td>
</tr>
<tr>
<td>Other</td>
<td>122</td>
<td>344</td>
<td>3.4</td>
<td>2</td>
<td>1.4</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>3 388</td>
<td>10</td>
<td>255</td>
<td>100</td>
<td>140</td>
<td>4 929</td>
</tr>
</tbody>
</table>

### Labour Force Indicators
9. HISTORICAL AND CULTURAL ASPECTS

(a) Please be advised that if section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), is applicable to your proposed development, then you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Section 38 of the Act states as follows: “38. (1) Subject to the provisions of subsections (7), (8) and (9), anyone 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;

(i) any development or other activity which will change the character of a site-
(ii) exceeding 5 000 m² in extent; or
(iii) involving three or more existing erven or subdivisions thereof; or
(iv) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
(v) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
(d) the rezoning of a site exceeding 10 000 m² 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 National Heritage Resources Act, 1999 (Act No. 25 of 1999), must also be investigated, assessed and evaluated. Section 3(2) states as follows: "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;

I historical settlements and townscapes;
(d) landscapes and natural features of cultural significance;
(e) geological sites of scientific or cultural importance;
(f) archaeological and paleontological 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—

(ii) 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)."

<table>
<thead>
<tr>
<th>Is section 38 of the National Heritage Resources Act, 1999, applicable to the development?</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
</tr>
</tbody>
</table>

If YES, explain: The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeek Road and connecting to the existing 600mm diameter sewer (FS1). The total length of this proposed pipeline is approximately 510 metres with 10 (ten) manholes at a maximum depth of 2.5 metres. As such the proposed pipeline triggers Section 38 (1) (a) of the National Heritage Resources Act (Act No. 25 of 1999) namely: “Construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length”.
Archaeologist, Lita Webley, compiled a Notice of Intent to Develop ("NID") for the site. This was submitted to Heritage Western Cape ("HWC") on 30th May 2014.

In a Final Comment from HWC dated 10th July 2014, HWC confirmed that further processes under Section 38 of the National Heritage Resources Act (Act No. 25 of 1999) do not apply.

However, should any evidence of the human burials be discovered during the excavation of the activities, all works must be stopped immediately and HWC notified without delay.

Please refer to the Notice of Intent to Develop (Webley, 2014) attached as part of Appendix G and the Final Comment of HWC attached as part of Appendix F.

<table>
<thead>
<tr>
<th>Will the development impact on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999?</th>
<th>YES</th>
<th>NO</th>
<th>UNCERTAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, explain:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the Notice of Intent to Develop (Webley, 2014), there will be no impacts on heritage resources resulting from the construction of the 510 metre underground sewer pipeline which will run along the existing R102 (Van Riebeeck Road) and through the existing residential properties.

There is a small possibility of isolated stone artefacts being uncovered during the construction of the sewer pipeline. Given that this area has already been impacted by the construction of houses and roads however, the artefacts will no longer be in situ and impacts on archaeological and palaeontological resources are considered unlikely.

Please refer to the Notice of Intent to Develop (Webley, 2014) attached as part of Appendix G.

<table>
<thead>
<tr>
<th>Will any building or structure older than 60 years be affected in any way?</th>
<th>YES</th>
<th>NO</th>
<th>UNCERTAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, explain:</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please Note: If uncertain, the Department may request that specialist input be provided.

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

[a] Please list all legislation, policies and/or guidelines that have been considered in the preparation of this Basic Assessment Report.

<table>
<thead>
<tr>
<th>LEGISLATION</th>
<th>ADMINISTERING AUTHORITY</th>
<th>TYPE Permit/license/authorisation/comment/relevant consideration (e.g. rezoning or consent use, building plan approval)</th>
<th>DATE (if already obtained):</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIA Regulations in terms of Chapter 5 of the NEMA, 1998, Regulations R543, R544 and R546 of August 2010</td>
<td>DEA/DEA&amp;DP</td>
<td>Environmental Authorisation</td>
<td>Pending</td>
</tr>
<tr>
<td>Section 21 (c) and (l) of the National Water Act, Act No. 36 of 1998</td>
<td>Department of Water Affairs</td>
<td>Water Use License Application</td>
<td>Pending</td>
</tr>
<tr>
<td>National Heritage Resources Act, 1999 (Act No. 25 of 1999)</td>
<td>Heritage Western Cape</td>
<td>Notice of Intent to Develop in terms of Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999)</td>
<td>Pending</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POLICY/ GUIDELINES</th>
<th>ADMINISTERING AUTHORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEGISLATION / POLICY / GUIDELINE</td>
<td>DESCRIBE HOW THE LEGISLATION / POLICY / GUIDELINE WERE TAKEN INTO ACCOUNT (e.g. describe the extent to which it was adhered to, or deviated from, etc.)</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>The National Environmental Management Act, Act 107 of 1998, as amended.</td>
<td>The National Environmental Management Principles contained in Chapter 1 of the Act are the principles against which the need and desirability of the development has been investigated.</td>
</tr>
<tr>
<td>DEA Integrated Environmental Management Guideline Series, Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006.</td>
<td>This guideline was consulted during the impact assessment phase of the Basic Assessment and guided the impact assessment criteria and methodology used.</td>
</tr>
<tr>
<td>DEA&amp;DP Guideline Document: Guideline on Public Participation, March 2013.</td>
<td>The public participation requirements contained in Chapter 6 of the NEMA EIA Regulations were interpreted in conjunction with the recommendations contained in this guideline.</td>
</tr>
<tr>
<td>DEA&amp;DP Guideline Document: Guideline on Alternatives, March 2013.</td>
<td>The investigation and/or assessment of alternatives, including the No-Go Option, were guided by this guideline.</td>
</tr>
<tr>
<td>DEA&amp;DP Guideline Document: Guideline on Need and Desirability, March 2013.</td>
<td>The investigation into the Need and Desirability of the development was guided by this guideline.</td>
</tr>
<tr>
<td>The Provincial Urban Edge Guideline, December 2005.</td>
<td>The investigation into the appropriateness of the development given the receiving environment was guided by this document.</td>
</tr>
<tr>
<td>The Western Cape Provincial Spatial Development Framework (PSDF), November 2009.</td>
<td>The principles governing development in the Western Cape, which are contained in the PSDF, were referred to in the investigation of the Need and Desirability of the development.</td>
</tr>
<tr>
<td>DEA (2010) Companion to the EIA Regulations 2010, Integrated Environmental Management Guideline Series 5, Department of Environmental Affairs</td>
<td>The NEMA EIA Regulations relevant to this application were interpreted with the assistance of this guideline documents.</td>
</tr>
</tbody>
</table>

Please note: Copies of any permit(s) or licences received from any other organ of state must be attached this report as Appendix E.
**SECTION C: PUBLIC PARTICIPATION**

The public participation process must fulfil the requirements outlined in NEMA, the EIA Regulations, and if applicable the NEM: WA and/or the NEM: AQA. This Department’s Guideline on Public Participation (August 2010) and Guideline on Exemption Applications (August 2010), both of which are available on the Department’s website [http://www.capegateway.gov.za/eadp](http://www.capegateway.gov.za/eadp), must also be taken into account.

Please highlight the appropriate box to indicate whether the specific requirement was undertaken or whether there was a deviation that was agreed to by the Department.

1. Were all potential interested and affected parties notified of the application by –

| (a) fixing a notice board at a place conspicuous to the public at the boundary or on the fence of - |
| (i) the site where the activity to which the application relates is to be undertaken; and |
| (ii) any alternative site mentioned in the application; |
| N/A | YES | DEVIATED |

| (b) giving written notice to – |
| (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land; |
| (ii) the occupiers of the site where the activity is to be undertaken and to any alternative site where the activity is to be undertaken; |
| (iii) owners and occupiers of land adjacent to the site where the activity is to be undertaken and to any alternative site where the activity is to be undertaken; |
| (iv) the municipal councillor of the ward in which the site and alternative site is situated and any organisation of ratepayers that represent the community in the area; |
| (v) the municipality which has jurisdiction in the area; |
| (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and |
| (vii) any other party as required by the competent authority; |
| YES | YES | DEVIATED | YES | DEVIATED | YES | DEVIATED | YES | DEVIATED | YES | DEVIATED | YES | DEVIATED | YES | DEVIATED | YES | DEVIATED |

| (c) placing an advertisement in - |
| (i) one* local newspaper; and |
| (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 | YES | DEVIATED | N/A | YES | DEVIATED | 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 local municipality in which it is or will be undertaken. |
| YES | YES | DEVIATED | N/A |

*Please note:* In terms of the NEM: WA and NEM: AQA a notice must be placed in at least two newspapers circulating in the area in which the activity applied for is to be carried out.

2. Provide a list of all the state departments that were consulted:

**Department of Environmental Affairs and Development Planning: Land Management Region 1**

Ms Vanessa Lakay

2nd Floor
1 Dorp Street
Cape Town
8001

Tel: 021 483 0778
Fax: 021 483 3633
Email: Vanessa.lakay@westerncape.gov.za

**Department of Water Affairs**

Derril Daniels

52 Voortrekker Road
Bellville
7532

Private Bag X16
<table>
<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanlamhof</td>
<td>Tel: 021 950 7267 Fax: 086 556 9985 Email: <a href="mailto:danielsd@dwaf.gov.za">danielsd@dwaf.gov.za</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Joyene Isaacs Department of Agriculture: Western Cape Private Bag X1 Elsenburg 7607 Tel: 021 808 5005 Fax: 021 808 5000 Email: <a href="mailto:Info@elsenburg.com">Info@elsenburg.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Cape Town Municipality:</td>
<td>District D Crispin Barret Postal Address: Private bag X4 7499 Tel: 021 444 8898 Fax:086 5762 919 Email: <a href="mailto:crispin.barret@capetown.gov.za">crispin.barret@capetown.gov.za</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Cape Town:</td>
<td>Roads and Stormwater Department Grant Rigby Tel: 021 938 8449 Cell: 084 620 6024 Email: <a href="mailto:grant.rigby@capetown.gov.za">grant.rigby@capetown.gov.za</a></td>
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<tr>
<td>DEA&amp;DP: Pollution Management</td>
<td>Gunther Frantz 2nd Floor, 1 Dorp Street Cape Town 8001 Tel: 021 483 2975 Fax: 021 483 3186 Email: <a href="mailto:Gunther.Frantz@westerncape.gov.za">Gunther.Frantz@westerncape.gov.za</a></td>
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<tr>
<td>Heritage Western Cape</td>
<td>Ronny Nyuka Protea Assurance Building Green Market Square Cape Town 8000 Tel: 021 483 9691 Fax: 021 483 9842 Email: <a href="mailto:Ronny.nyuka@westerncape.gov.za">Ronny.nyuka@westerncape.gov.za</a></td>
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<tr>
<td>Cape Nature</td>
<td>Rhett Smart Assegaibosch Nature Reserve Jonkershoek Stellenbosch 7599 Tel: 021 866 8000 Fax: 086 526 4992 Email: <a href="mailto:landuse@capenature.co.za">landuse@capenature.co.za</a></td>
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3. Please provide an overall summary of the Public Participation Process that was followed. (The detailed outcomes of this process must be included in a comments and response report to be attached to the final Basic Assessment Report [see note below] as Appendix F).

A public participation process is required in order to fulfil the requirements of a Basic Assessment process. The public participation process needs to be undertaken in accordance with the 2010 NEMA EIA Regulations.

Initial and Draft Basic Assessment Report Notification

Identified interested and affected parties as well as Organs of State were notified of the Basic Assessment Process and at the same time notified of the availability of the Draft Basic Assessment (Draft BAR) report for review and comment on 30th July 2014. The following parties will be notified of the availability of the Draft BAR:

- DEA&DP: Land Management [Region1].
- Department of Water Affairs.
- Department of Agriculture.
- City of Cape Town Municipality [District D].
- City of Cape Town: Roads and Stormwater.
- Municipal Ward Councillor.
- Ratepayer’s Associations.
- Relevant NGO’s.
- Landowners of the erven to be connected by the sewer pipeline.
- Landowners of the properties through which the pipeline will run.
- Landowners and occupants of properties adjacent to the site.

In addition to this, a newspaper advertisement was published in the Tygerburger local newspaper on 30th July 2014; site notices were placed at the site on the 29th July; and the Draft BAR was placed at the local Kuils River Public Library on 29th July 2014. The Draft BAR was also made available on the SEC website for review and comment on the 28th July 2014.

All registered stakeholders were given the opportunity to review and comment on the Draft BAR for a period of 40 days (between 30th July 2014 and 8th September 2014). Comments received and responses sent during the public comment period for the Draft BAR have been recorded in a Comments and Responses Report. In addition, all issues raised during this period have been included in the Final BAR for review by all registered stakeholders prior to the submission to the DEA&DP.

The following activities will be undertaken from this point onwards:

Final Basic Assessment Report Notification:

The Final BAR (this report) includes the comments, issues and concerns raised by registered stakeholders during the Draft BAR phase public participation process and is now made available for public comment for further a period of 21 days.

Comments received and responses sent during the public comment period for the Final BAR will be recorded in an updated Comments and Responses Report. This, along with copies of all comments received and responses sent, will be included in the Final BAR submission when it is submitted to the DEA&DP for a decision.

Please refer to Appendix F for a full record of the public participation process undertaken to date.

Please note:

Should any of the responses be "No" and no deviation or exemption from that requirement was requested and agreed to /granted by the Department, the Basic Assessment Report will be rejected.

A list of all the potential interested and affected parties, including the organs of State, notified and a list of all the register of interested and affected parties must be submitted with the final Basic Assessment Report. The list of registered interested and affected parties must be opened, maintained and made available to any person requesting access to the register in writing.

The draft Basic Assessment Report must be submitted to the Department before it is made available to interested and affected parties, including the relevant organs of State and State departments which have jurisdiction with regard to any aspect of the activity, for a 40-day commenting period. With regard to State departments, the 40-day period commences the day after the date on which the Department as the competent/licensing authority requests such State department in writing to submit comment. The applicant/EAP is therefore required to inform this Department in writing when the draft Basic Assessment Report will be made available to the relevant State departments for comment. Upon receipt of the Draft Basic Assessment Report and this confirmation, this Department will in accordance with Section 24O (2) and (3) of the NEMA request the relevant State departments to comment on the draft report within 40 days.
All comments of interested and affected parties on the draft Basic Assessment Report must be recorded, responded to and included in the Comments and Responses Report included as Appendix F to the final Basic Assessment Report. If necessary, any amendments in response to comments received must be effected in the Basic Assessment Report itself. The Comments and Responses Report must also include a description of the public participation process followed.

The final Basic Assessment Report must be made available to registered interested and affected parties for comment before submitting it to the Department for consideration. Unless otherwise indicated by the Department, a final Basic Assessment Report must be made available to the registered interested and affected parties for comment for a minimum of 21-days. Comments on the final Basic Assessment Report does not have to be responded to, but the comments must be attached to the final Basic Assessment Report.

The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants must also be submitted as part of the public participation information to be attached to the final Basic Assessment Report as Appendix F.

Proof of all the notices given as indicated, as well as of notice to the interested and affected parties of the availability of the draft Basic Assessment Report and final Basic Assessment Report must be submitted as part of the public participation information to be attached to the final Basic Assessment Report as Appendix F.
SECTION D: NEED AND DESIRABILITY

Please Note: Before completing this section, first consult this Department’s Guideline on Need and Desirability (August 2010) available on the Department’s website (http://www.capegateway.gov.za/eadp).

1. Is the activity permitted in terms of the property’s existing land use rights? **YES**  **NO** Please explain

The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline most likely will not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven. Should this be the case, a servitude will be registered for the following erven through which the pipeline will run: Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936, Erf 922.

The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community (Erf 928), and agricultural (Erfen 10571, 18030, 915, 936, 922 and 940).

2. Will the activity be in line with the following?

   (a) Provincial Spatial Development Framework (PSDF) **YES**  **NO** Please explain

The proposed pipeline adheres to the following objective and policy as set out in the statutory document, namely: Objective 2 – Deliver human development programs and basic needs programmes wherever they may be required.

   (b) Urban edge / Edge of Built environment for the area **YES**  **NO** Please explain

The site is located within the urban edge. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east, Erf 926 to the south and Digtebij Road to the west. Erf 8115 and all adjacent properties, fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community and agricultural respectively.

   (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

➢ In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas.

➢ In 1993, Erf 8111 was subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline to service the subdivided erven and to abandon the conservancy tank system of the surrounding properties. This has not yet been realised.

As a result of the above, the proposed activity is not in conflict with the IDP and the SDF of the City of Cape Town Municipality.

   (d) Approved Structure Plan of the Municipality **YES**  **NO** Please explain

➢ In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas.

➢ In 1993, Erf 8111 was subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline to service the subdivided erven and to abandon the conservancy tank system of the surrounding properties. This has not yet been realised.

As a result of the above, the proposed activity is not in conflict with the Structure Plan of the Municipality.

   (e) An Environmental Management Framework (EMF) adopted by the 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

Confirmation is still to be obtained from the City: District D (Crispin Barret) with regards to whether the proposed activity is in conflict with the EMF adopted by the Department.

The proposed activity is in line with all Municipal structure plans.

   (f) Any other Plans (e.g. Guide Plan) **YES**  **NO** Please explain

At this stage, no further developments are proposed to take place and no other plans apply.

3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority (i.e., is the **YES**  **NO** Please explain
The proposed activity is not in conflict with the IDP and SDF of the local municipality.
In addition, in 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas.

As a result of the above, the proposed activity is regarded as desirable as it would be in the fulfilment of the provision of basic sewers service infrastructure for the area.

- Erf 8115 and the adjacent erven are currently serviced by means of a conservancy tank situated on erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high.
- In addition, in 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas.

As a result of the above, the proposed activity is regarded as desirable as it would be in the fulfilment of the provision of basic sewers service infrastructure for the area.

The necessary services with adequate capacity are currently available in the area and as such no additional capacity is required to cater for the development.

The project consultant has confirmed the following however:
- A dense network of roads surrounds the proposed pipeline site. Erf 8115 and the adjacent erven are bounded by Van Riebeeck Road to the north and Digebijl Road to the west as such no roads need be created for the proposed development.
- The Kuils River area has full access to Municipal Water. According to the project consultant, Ronald van Dijk, for any water required during the construction phase, the Contractor will apply for a metered standpipe from the local authority with which he will be able to draw water from the municipal water network by connecting the standpipe to a fire hydrant approved by the Local Authority in the immediate area of the construction site. The Contractor will be billed for the water used by the Local Authority on a monthly basis. Water will typically be filled into a water truck and carted to site and discharged in the trench by means of a fire hose in order to achieve optimum water content in the backfill material and then compact the material. Small amounts of water will also be required to mix small quantities of concrete and mortar required for the footings and benching of the sewer manholes.
- The Kuils River area has full access to the Municipal power supply, according to the project consultant, Ronald van Dijk, any power required for the construction phase however will be sourced from generators which will be brought to the site.
- The proposed activity will not generate effluent or waste water and will not require electricity during the construction phase. Should water be required during the construction phase, the Contractor will apply for a metered standpipe from the local authority with which he will be able to draw water from the municipal water network by connecting the standpipe to a fire hydrant approved by the Local Authority in the immediate area of the construction site. The Contractor will be billed for the water used by the local Authority on a monthly basis. Water will typically be filled into a water truck and carted to site and discharged in the trench by means of a fire hose in order to achieve optimum water content in the backfill material and then compact the material. Small amounts of water will also be required to mix small quantities of concrete and mortar required for the footings and benching of the sewer manholes.
- The proposed activity will not generate effluent or waste water; it will not require water and will not require electricity during the operation phase.
- The activity will not produce solid waste during the operational phase.

It is anticipated that a limited amount of solid waste will be generated during the construction phase, mainly associated with surplus excavated material (soil and rubble). This will be reused as backfill as far as possible however and the remainder of will be disposed of at a license landfill site.
As such, no additional capacity need be created for the proposed activity.

7. Is this development 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 final Basic Assessment Report as Appendix E]

In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. As such the proposed pipeline has been considered in the Municipality’s infrastructure plans.

8. Is this project part of a national programme to address an issue of national concern or importance?

N/A

9. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)

- Erf 8115 and all adjacent properties are situated opposite the intersection of Van Riebeeck Road and Digtebij Road. The properties are bounded by Van Riebeeck Road to the north, the Kuils River Canal to the east. Erf 926 to the south and Digtebij Road to the west, Erf 8115 and all adjacent properties, fall within the boundaries of The City. The properties through which the preferred option will run are situated in an urban area and zoned general business (Erf 8115), community and agricultural respectively.
- Sewerage infrastructure currently exists in the northern and western sides of Digtebij Road (Mabille Park) and in the eastern side of Van Riebeeck Road. There is a 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal. There is also an existing sewer reticulation system in Mabille Park and Sonnekull areas which are adjacent to erf 8115.
- The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline most likely will not fit within the road reserve itself and as such will have to run through the edge of a portion of each of the undeveloped adjacent erven.
- It is anticipated that the pipeline will most likely not fit in within the existing road reserve itself and as such will have to run through a portion of each of the adjacent erven. Should this be the case, a servitude will be registered for the following erven through which the pipeline will run: Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936, Erf 922.

10. How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?

The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline most likely will not fit within the road reserve itself and as such will have to run through a portion of each of the undeveloped adjacent erven.

**Freshwater Impacts**
- According to the Freshwater Impact Assessment [Belcher, 2014], the open area through which the pipeline will run has been completely transformed by the past land use activities and currently only contains garden escapee plant species or invasive alien plants. As such the land is deemed to have low ecological importance with little ecological functioning.
- A small portion of the wetland on Erf 10571 (deemed to have low ecological importance and functioning) will be temporarily impacted during the installation and trenching phase required to lay the pipeline. According to the Freshwater Impact Assessment [Belcher, 2014] this will entail a definite loss of wetland habitat and biota. The assessment does however outline clear mitigation measures (which have been contained in Section F as well as the EMP) which will allow the portion of the impacted wetland to recover quickly and as such the potential long term impacts are anticipated to be low. In addition, alien vegetation such as the Port Jackson Willows (Acacia saligna) can be cleared to improve the overall ecological functioning of the ecosystem.

**Heritage Impacts**
- According to the Notice of Intent to Develop [Webley, 2014], there will be no impacts on heritage resources resulting from the proposed pipeline.
- There is a small possibility of isolated stone artefacts being uncovered during the construction of the sewer pipeline. Given that this area has already been impacted by the construction of houses and roads however, the artefacts will no longer be in situ and impacts on archaeological and paleontological resources are considered unlikely.

Please refer to the Freshwater Impact Assessment [Belcher, 2014] and the Notice of Intent to Develop [Webley, 2014] attached as part of Appendix G.
11. How will the development impact on people’s health and wellbeing (e.g. in terms of noise, odour, visual character and sense of place, etc.)?

**YES**  **NO**  **Please explain**

It was determined that during the construction phase, physical impacts such as noise, vibration and dust will occur associated with the vehicles and equipment which will be utilised for the trenching and pipeline installation phases of the project. These may potentially impact people’s health and wellbeing. As such, mitigation measures have been recommended in order to minimise these impacts.

The proposed activity is however regarded as desirable as it would be in the fulfilment of the provision of basic sewerage service infrastructure for the area.

The anticipated impacts of the proposed sewer pipeline and mitigation measures have been assessed in further detail in Section F below.

12. Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?

**YES**  **NO**  **Please explain**

An opportunity cost is defined in the DEA&DP’s guidelines (2013) on Need and Desirability as “the net benefit that would have been yielded by the next best alternative”.

The preferred route will provide Erf 8115 and the adjacent erven which are currently serviced by means of a conservancy tank with access to the municipal sewer system. In addition, given the length and size of the pipeline, and the subsequent carrying capacity of the sewer line, this option would have the capacity to service 79 additional equivalent erven.

As such, the proposed activity does not result in unacceptable opportunity costs but rather services and immediate need and creates future development opportunities in the area.

13. What will the cumulative impacts (positive and negative) of the proposed land use associated with the activity applied for, be?

**YES**  **NO**  **Please explain**

As described in Section F below, the following potential cumulative impacts were determined to be associated with the proposed activity:

**Negative**
- Temporary physical impacts such as noise, dust and vibration. This is associated with the vehicles and equipment which will be utilised for the trenching and pipeline installation phases of the project.
- Temporary traffic impacts associated with the trenching and installation phase.
- Temporary disturbance of the vegetation along the pipeline route (associated with the pipeline installation phase of the project). The area in question has already been historically disturbed by the surrounding urban development as well as by day to day degradation (littering etc.)
- During the construction phase, a definite loss of habitat within the wetland and associated biota is anticipated.

The negative impacts that arise as a result of the surrounding land uses of the proposed pipeline area which are already a source of noise (traffic), dust (open vacant land) and vibration (as a result of heavy traffic utilising Van Riebeeck Road particularly).

The cumulative impacts on the wetland arise as a result of historical degradation as well as current littering and dumping.

**Positive**
- Temporary socio-economic impacts associated with the trenching and installation phases (this will be in terms of temporary employment for previously disadvantaged individuals for the duration on the trenching and installation phases)

This will be a cumulative positive impact in terms of employment creation since other employment opportunities already exist within the area which also provides employment opportunities to the local communities such as the residential area, business uses and the Kuilsriver Hospital.

14. Is the development the best practicable environmental option for this land/site?

**YES**  **NO**  **Please explain**

The DEA&DP’s Guideline on Need and Desirability references the NEMA as stating that the “best practicable environmental option” means the option that provides “the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as the short term”:

- Despite the majority of the proposed pipeline route being zoned “agriculture”, the area does not lend itself to viable agriculture due to the close proximity of urban development and the small sizes of the erven. The proposed pipeline route comprises an area of open land and a wetland area.
- According to the Freshwater Impact Assessment (Belcher, 2014), the open area through which the pipeline will run has been completely transformed by the past land use activities and currently only contains garden escape plant species or invasive alien plants. As such the land is deemed to have low ecological importance with little ecological functioning.
- A small portion of the wetland on Erf 10571 (deemed to have low ecological importance and functioning) will be temporarily impacted during the installation and trenching phase required to lay the pipeline. According to the
The development proposal has been informed by independent specialist input in order to determine an appropriate development design (and other appropriate mitigation measures such as No-Go areas) which will allow the portion of the impacted wetland to recover quickly and as such the potential long term impacts are anticipated to be low. In addition, alien vegetation such as the Port Jackson Willows (Acacia saligna) can be cleared to improve the overall ecological functioning of the ecosystem.

As a result of the above and the benefits associated with the proposed pipeline in terms of society as well as improvements to the wetland, the proposed activity is regarded as desirable as it would be in the fulfilment of the provision of basic sewerage service infrastructure for the area. As such the development is not considered to have unacceptable negative impacts on the surrounding environment or the local community.

Please see the Freshwater Assessment Report (Belcher, 2014) as contained in Appendix G.

15. What will the benefits be to society in general and to the local communities?

- Erf 8115 and the adjacent properties are currently serviced by means of a conservancy tank situated on erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high. Further, given the length and size of the pipeline, and the subsequent carrying capacity of the sewer line, this option would have the capacity to service 79 additional equivalent erven in the future.
- In addition, in 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas.

As such, the benefits for society will entail not only an immediate solution to the erven currently serviced by a conservancy tank system but the proposed pipeline will allow for the potential of further future integrated urban development within the area in the long term.

16. Any other need and desirability considerations related to the proposed activity?

N/A

(17) Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account:

- The development proposal has been informed by independent specialist input in order to determine an appropriate development design (and other appropriate mitigation measures such as No-Go areas) which will allow the portion of the impacted wetland to recover quickly and as such the potential long term impacts are anticipated to be low.

(18) Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account:

The Application for Environmental Authorisation has been undertaken in accordance with the NEMA EIA Regulations (2010), the provisions of which themselves take into account the general objectives of the principles of Environmental Management in Section 2 of the NEMA as well as that of Section 23 of NEMA as outlined above.
SECTION E: ALTERNATIVES

Please Note: Before completing this section, first consult this Department’s Guideline on Alternatives (August 2010) available on the Department’s website (http://www.capegateway.gov.za/eadp).

“Alternatives”, in relation to a proposed activity, means different means of meeting the general purposes and requirements of the activity, which may include alternatives to –
(a) the property on which, or location where, it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

The NEMA 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 NEMA and the National Environmental Management Principles set out in 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 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 NEMA.

1. In the sections below, please provide a description of any identified and considered alternatives and alternatives that were found to be feasible and reasonable. Please note: Detailed written proof the investigation of alternatives must be provided and motivation if no reasonable or feasible alternatives exist.

(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:

The NEMA EIA Regulations require that an Applicant identify and investigate alternative “means of meeting the general purposes and requirements of the activity” for which authorisation is being applied for (DEA&DP Guideline on Alternatives, March 2013).

Sewerage infrastructure currently exists in the northern and western sides of Digtebij Road (Mabille Park) and in the eastern side of Van Riebeeck Road. There is a 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal. There is also an existing sewer reticulation system in Mabille Park and Sonnekuil areas which are adjacent to erf 8115.

No property and location/site alternatives have been identified for the proposed activity.

(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 activity alternatives were investigated as this would not meet the specific purposes and requirements of this application (to install a sewer connection pipeline to connect Erf 8115 and adjacent erven to the existing bulk sewer infrastructure).

The proposed activity takes into account the following:
- The need of Erf 8115 and the adjacent erven to abandon the conservancy tank system and connect to the existing bulk sewer infrastructure.
- The City of Cape Town, Water and Sanitation Standard (2008), the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. The proposed sewer pipeline will comply with the local Municipal Objectives.
- Erf 8111 was subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline. The proposed sewer pipeline will adhere to the original title deed requirements for the area.

Therefore in accordance with the DEA&DP’s Guideline on Alternatives, no reasonable or feasible activity alternatives have been identified, investigated or presented here.
Two possible options for draining the sewage of these nine properties to the existing bulk infrastructure have been identified which include a gravity option and a pumped option:

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<tr>
<th>Preferred Alternative Option 1 (Gravity Option)</th>
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<tr>
<td>The gravity option has been assessed as being the most desirable and cost effective option. The preferred option (gravity system) would be to install a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1). It is anticipated that the pipeline most likely will not fit within the road reserve itself and as such will have to run through a portion of each of the adjacent erven. Should this be the case, a servitude will be registered for the following erven through which the pipeline will run: Erf 8115, Erf 928, Erf 10571, Erf 18030, Erf 915, Erf 935, Erf 936, Erf 922. The total length of this proposed pipeline is approximately 510 metres with 10 (ten) manholes at a maximum depth of 2.5 metres. This option would have the capacity to service 79 equivalent erven.</td>
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**Advantages of Option 1**
- Erf 8115 and adjacent erven would be able to connect to the 600mm diameter bulk sewer main running in a north east direction parallel to the Kuils River Canal.
- This option would have the capacity to service 79 additional equivalent erven. As such it would facilitate future integrated urban development opportunities in the area which could connect to the pipeline negating the need for further sewerage connection pipeline development.
- The option is a more sustainable option.
- The option is more cost effective than Option 2 (Pumped Option).
- The option will not entail any operational running costs (other than annual maintenance) as it is a gravity option.
- According to the NID (Webley, 2014), no heritage resources will be impacted.
- According to the Preliminary Design Report (Daveng, 2014), this option is preferred by the City of Cape Town and forms part of the City’s service delivery plan.
- According to the Freshwater Impact Assessment (Belcher, 2014), during construction activities, clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) will occur resulting in an overall improvement in the ecological functioning of the wetland.

**Disadvantages of Option 1**
- During the construction phase (anticipated to be one month), due to the proximity of the hospital noise impacts could negatively impact patients receiving care at the hospital (mitigation measures to reduce noise impacts have been outlined in Section F and if implemented correctly should significantly minimise the impacts of noise in the area).
- A small portion of the wetland (deemed to have low ecological importance and functioning) will be temporarily impacted during the installation and trenching phase required to lay the pipeline. According to the Freshwater Impact Assessment (Belcher, 2014) this will entail a definite loss of wetland habitat and biota. The assessment does however outline clear mitigation measures (which have been contained in Section F as well as the EMP) which will allow the portion of the impacted wetland to recover quickly and as such the potential long term impacts are anticipated to be low. Due to the fact that the preferred alternative includes the need for construction through a portion of a wetland as well as along the Kuils River itself, a WULA is required and has been applied for accordingly (Reference number: 27/2/1/G522/121/1).
- Construction of the underground sewer line within the wetland and river area may have the potential to alter some of the subsurface flow characteristics of the wetland area and the Kuils River. According to the Freshwater Impact Assessment (Belcher, 2014), these impacts can easily be mitigated and should it occur it is expected to have a low overall significance. Please see Section F as well as the EMP for proposed mitigation measures.
- There is a small risk of contaminated runoff from construction activities (building materials/waste and chemicals) into the wetland area and possibly the Kuils River during the trenching phase as well as the pipeline installation phase. According to the Freshwater Impact Assessment (Belcher, 2014), provided that the mitigation measures are effectively implemented (as contained in Section F as well as the EMP), the water quality related impacts of the proposed development should be limited.
- There is a small risk of spillage from the sewer line into the wetland area or possibly the Kuils River during the operational phase. To negate this risk however the preferred material for the proposed pipeline is PVC as it is long lasting, does not breakdown and as such there is no risk of the pipes bursting due to internal weakness. In addition, the material is durable and light weight and it lasts for up to 50 years. According to the Freshwater Impact Assessment (Belcher, 2014), provided that the mitigation measures (as contained in Section F) as well as those in the EMP are effectively implemented, the water quality related impacts of the proposed development should be limited.
Alternative Option 2 (Pumped Option)

Alternatively a second, less cost effective option (pumped system), would be to drain the sewage South-West to a proposed pump station on Erf 2423 and then pump it up gradient to the North to the existing 150mm diameter pipeline in Mabille Road.

Advantages of Option 2

- Erf 8115 and adjacent erven would be able to connect to the existing sewer reticulation system in Mabille Park and Sonnekus areas which are adjacent to Erf 8115.
- The alternative sewer pipeline route would not have any potential impacts on freshwater features and a WULA would not be required.

Disadvantages of Option 2

- This option, whilst shorter and does not impact the wetland area, will require that the existing road infrastructure along Digtebij Road be dug up in order to lay the sewer connection pipeline. This not only will entail remaking of the road once the pipeline has been made but will impact on the dense residential homes and local businesses in the area (in terms of access, traffic and noise).
- This option will require regular maintenance during the operational phase at a cost to the City of Cape Town.
- The option requires a constant supply of electricity to pump the sewage up gradient which is an unnecessary drain on the City’s finite energy resources.
- Additionally, according to the project consultant, Ronald van Dijk, should the electricity supply be disconnected, due to the small size of the system this could result in an overflow of sewage into the adjacent area resulting in environmental impacts. This is of concern particularly due to the close proximity of the Hebron Christian Academy directly adjacent to the non-preferred option proposed pipeline location.
- The proposed pipeline will only have the capacity to service Erf 8115 and the adjacent erven due to space limitations. As such, should future urban development be required in the area, additional sewerage pipelines will have to be laid to allow for this development. The only foreseeable option would be the current preferred option.
- This option is more expensive during the construction and operational phases.
- According to the Preliminary Design Report (Daveng, 2014), in the City of Cape Town’s opinion, this option is the least desirable.
- There will be no clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) that could result in an overall improvement in the ecological functioning of the wetland.

Please refer to the NID (Webley, 2014), the Preliminary Design Report (Daveng, 2014) as well as the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

According to the project consultant, Ronald van Dijk, two technology alternatives exist for the pipeline material:

**PVC** (preferred material for the pipeline):
- Long lasting (expected to last between 25 and 50 years if not exposed to UV).
- Doesn’t break down and as such there is no risk of the pipes bursting due to internal weakness.
- Durable.
- Light weight and as such is very easy to assemble which will reduce the construction phase timeframe.
- Long term and deemed to be the most sustainable option.

**Fibrecement** (non-preferred material for the pipeline):
- Life expectancy of 20 years.
- Decay and fire resistant.
- Vulnerable to decomposition in alkaline environments.
- Bulky, heavy and require careful transport and handling.
- The pipes are rigid and require a uniformly level bed for laying. The preferred option will not be on a level plain but instead will gently slope as such this material is not considered suitable.
- Not a long term solution.

(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:
Minor operational alternatives exist between the two proposed pipeline alternatives as outlined below:

**Option 1 (Gravity Option): preferred option**
Due to Option 1 being a gravity system, it will not entail any operational activities nor will it entail any operational running costs (other than annual maintenance activities and costs).

**Option 2 (Pumped Option): non-preferred option**
The option requires annual maintenance as well as a constant supply of electricity to pump the sewage up gradient. This is at a cost to the City of Cape Town and a drain on the City’s finite energy resources.

(I) the option of not implementing the activity (the No-Go Option):

**No-Go Alternative**
The No-Go Alternative means the “option of not implementing the activity”, [DEA&DP Guideline on No-Go option Alternatives, March 2013].

In this case, the No-Option entails not installing the sewer connection pipeline to connect Erf 8115 and adjacent erven to the existing bulk sewer infrastructure.

**Negatives**
- Erf 8115 and adjacent properties would continue to be serviced by means of the conservancy tank situated on Erf 8115. This would result in a continuation of the City of Cape Town’s Water and Sanitation Department having to pump this conservancy tank twice a week with high associated operation and maintenance costs.
- As a result of the pipeline not being constructed, no additional erven would have the opportunity to connect to the system.
- The primary objective of the Water and Sanitation Standard (2008) which is to provide on-site water borne sewerage infrastructure in all urban areas would not be realised.
- The title deed condition which stipulates that one of the subdivision requirements is to lay a sewer pipeline to connect Erf 8115 and adjacent erven to the City of Cape Town’s bulk sewer system would not be met.
- There will be no clearing of the invasive alien plants and in particular Port Jackson Willows (*Acacia saligna*) that could result in an overall improvement in the ecological functioning of the wetland.

**Positives**
- Construction costs that would have been incurred as a result of laying the pipeline will be avoided.
- There will be no temporary noise, dust, and vibration or traffic impacts associated with the No-Go option and as such the surrounding hospital, residential areas and local businesses will not be impacted.
- According to the Freshwater Impact Assessment [Belcher, 2014], the wetland located on Erf 10571 was deemed to have a low ecological importance. The condition of the wetland area would remain the same.
- According to the Freshwater Impact Assessment [Belcher, 2014], the portion of the river in the area where the proposed sewer line is located is in a critically modified state with little ecological functioning and as such was found to be of low ecological significance. The condition of the area would remain the same.

The No-Go Alternative has been considered by the Applicant and has been found to be neither reasonable, feasible nor desirable in terms of fulfilling the purposes of this application, which is to connect Erf 8115 and adjacent erven to the existing bulk sewer system.

[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 other alternatives were identified as reasonable or feasible. As such, no other alternatives have been investigated for this application.

[h] Please provide a summary of the alternatives investigated and the outcomes of such investigation:

Please note: if no feasible and reasonable alternatives exist, the description and proof of the investigation of alternatives, together with motivation of why no feasible or reasonable alternatives exist, must be provided.
Summary of Alternatives Investigated and Outcomes of the Investigation

Erf 8115 and the adjacent erven are currently serviced by means of a conservancy tank situated on Erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high. The proposed sewer pipeline will entail an immediate solution to this problem.

In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. The proposed sewer pipeline will comply with the local Municipal objectives.

Erf 8111 was subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline. The proposed sewer pipeline will adhere to the original title deed requirements for the area.

- The preferred option (Option 1: Gravity Option) would have the capacity to service 79 additional equivalent erven whilst the non-preferred option (Option 2: Pumped Option) would only have the capacity to service erven 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115.
- The preferred option (Option 1: Gravity Option) is more cost effective that Option 2 (Non-Preferred Option: Pumped Option).
- The preferred option (Option 1: Gravity Option) will not entail any operational running costs (other than maintenance activities as required) as it is a gravity option whilst the non-preferred option (Option 2: Pumped Option) would require regular maintenance and requires a constant supply of electricity to pump the sewage up gradient which is an unnecessary drain on the City’s finite energy resources.
- According to the NID (Webley, 2014), no heritage resources will be impacted for either option.
- According to the Preliminary Design Report (Daveng, 2014), Option 1 is preferred by the City of Cape Town and forms part of the City’s service delivery plan.
- Option 2: Pumped Option would not have any potential impacts on freshwater features and a WULA would not be required. According to the Freshwater Impact Assessment (Belcher, 2014) however, during construction activities, whilst the construction phase will result in a definite loss of habitat and biota, the impact will not cause irreplaceable long term loss of resources as the disturbed areas can be rehabilitated immediately after construction has been completed. In addition, clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) will occur during the construction phase of Option 1: Gravity Option only resulting in an overall improvement in the ecological functioning of the wetland.
- There is a small risk of spillage from the sewer line into the wetland area or possibly the Kuils River during the operational phase of Option 1: Gravity Option. To negate this risk however the preferred material for the proposed pipeline is PVC as it is long lasting, does not breakdown and as such there is no risk of the pipes bursting due to internal weakness. In addition, the material is durable and light weight and it lasts for up to 50 years. According to the Freshwater Impact Assessment (Belcher, 2014), provided that the mitigation measures (as contained in Section F) as well as those in the EMP and Maintenance Management Plan ("MMP") are effectively implemented, the water quality related impacts of Option 1: Gravity Option should be limited.

The assessment of the impacts as summarised above and contained in Section F of the report found that the negative impacts associated with the preferred option (Option 1: Gravity Option), can be mitigated to an acceptable level and substantial positive impacts were found to be associated with the development.

As such, the EAP is of the opinion that the preferred alternative (Option 1: Gravity Option) should be authorised.

Please refer to Section E (a) to (g) for a fully comprehensive investigation of alternatives.
SECTION F: IMPACT ASSESSMENT, MANAGEMENT, MITIGATION AND MONITORING MEASURES

Please note: The information in this section must be duplicated for all the feasible and reasonable alternatives (where relevant).

1. PLEASE DESCRIBE THE MANNER IN WHICH THE DEVELOPMENT WILL IMPACT ON THE FOLLOWING ASPECTS:

   [a] Geographical and physical aspects:

   **Option 1- Gravity System (Preferred Option)**
   
   **Dust and Noise Impacts**
   During the construction phase of the project, it is anticipated that there will be an increase in dust and noise in association with the trenching phase of the project. These impacts can be mitigated by implementing the construction phase mitigation measures contained in Section F (6) as well as the EMP attached as Appendix H.

   **Traffic**
   During the construction phase, traffic impacts associated with the movement of construction-type vehicles on and adjacent to the site are anticipated. This will result in a temporary increase in traffic in the local vicinity. These impacts can be mitigated by implementing the construction phase mitigation measures as contained in Section F (6) and the EMP attached as Appendix H.

   Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

   **Option 2- Pumped System (Non-Preferred Option)**
   
   Please note that dust, noise and traffic impacts will be the same as for Option 1.

   [b] Biological aspects:

   **Will the development have an impact on critical biodiversity areas (CBAs) or ecological support areas (CSAs)?**
   
<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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<tr>
<td>If yes, please describe:</td>
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   **Option 1- Gravity System (Preferred Option)**
   
   The natural vegetation within which the study area is located consists of Cape Flats Sand Fynbos (FFd5 in the Vegetation Map attached as part of Appendix D), a vegetation type classified as “Critically Endangered”.

   According to the Freshwater Assessment (Belcher, 2014), the open area within the study area has been completely transformed by the past land use activities and currently only contains garden escapee plant species, exotics or invasive alien plants. In addition, on Erf 10571 where the wetland is located, whilst there are indigenous common reeds (*Phragmites australis*) and Arum Lilies (*Zantedeschia aethiopica*); nearly all of the surrounding vegetation consists of exotic and alien invasive plants.

   As such, whilst the proposed development will involve a definite loss of habitat within the wetland and associated biota, this will not impact on any critical biodiversity areas as the proposed area has already been transformed. Further, according to Belcher, 2014, the impact will not cause irrereplaceable long term loss of resources as the disturbed areas can be rehabilitated immediately after construction has been completed and clearing of all invasive alien plants and in particular Port Jackson Willows (*Acacia saligna*) will occur resulting in an overall improvement in the ecological functioning of the wetland.

   Please refer to the Biodiversity Vegetation Maps as attached as part of Appendix D. Please also refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

   **Option 2- Pumped System (Non-Preferred Option)**
   
   N/A
   This option will not have any potential biological impacts as it will not run through any terrestrial vegetation or wetland habitat areas.

   **Will the development have on terrestrial vegetation, or aquatic ecosystems (wetlands, estuaries or the coastline)?**
   
<table>
<thead>
<tr>
<th>YES</th>
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<td>If yes, please describe:</td>
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</table>
### Option 1 - Gravity System (Preferred Option)

According to the Freshwater Impact Assessment (Belcher, 2014) during the construction phase, plants will have to be removed to make space for the pipeline. This will mean that a small portion of the wetland (deemed to have low ecological importance and functioning) will be temporarily impacted during the installation and trenching phase required to lay the pipeline. According to the Freshwater Impact Assessment (Belcher, 2014) this will entail a definite loss of wetland habitat and biota. Potential impacts on the open plot and the wetland area are however considered negligible as the assessment outlines clear mitigation measures (which have been contained in Section F as well as the EMP) which will allow the portion of the impacted wetland to recover quickly and as such the potential long term impacts are anticipated to be low.

In addition, during construction activities, clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) will occur resulting in an overall improvement in the ecological functioning of the wetland.

Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

### Option 2 - Pumped System (Non-Preferred Option)

N/A This option will not have any potential biological impacts as it will not run through any terrestrial vegetation or wetland habitat areas.

### Will the development 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?

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<tr>
<th>YES</th>
<th>NO</th>
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If yes, please describe:

### Option 1 - Gravity System (Preferred Option)

According to the Freshwater Impact Assessment (Belcher, 2014) during the construction phase, plants will have to be removed to make space for the pipeline. This will mean that a small portion of the wetland (deemed to have low ecological importance and functioning) will be temporarily impacted during the installation and trenching phase required to lay the pipeline. According to the Freshwater Impact Assessment (Belcher, 2014) this will entail a definite loss of wetland habitat and biota.

The open area within the study area has however been completely transformed by the past land use activities and currently only contains garden escapee plant species, exotics or invasive alien plants. In addition, on Erf 10571 where the wetland is located, whilst it is dominated by indigenous common reeds (Phragmites australis) and Arum Lilies (Zantedeschia aethiopica); nearly all of the surrounding vegetation consists of exotic and alien invasive plants.

Potential impacts on the open plot and the wetland area are however considered negligible as the assessment outlines clear mitigation measures (which have been contained in Section F as well as the EMP) which will allow the portion of the impacted wetland to recover quickly and as such the potential long term impacts are anticipated to be low.

In addition, during construction activities, clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) will occur resulting in an overall improvement in the ecological functioning of the wetland.

As such, the proposed pipeline is not anticipated to have any significant long-term impact on any populations of threatened plant or animal species or on a habitat that may contain a unique signature of plant.

Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

### Option 2 - Pumped System (Non-Preferred Option)

N/A This option will not have any potential biological impacts as it will not run through any terrestrial vegetation or wetland habitat areas.

Please describe the manner in which any other biological aspects will be impacted:

Please refer to the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

### (c) Socio-Economic aspects:

What is the expected capital value of the activity on completion?

| Option 1: | R820 000 |
| Option 2: | R1 120 000 |

Please note that the capital values are based on estimates made in 2013 and do not reflect inflation. As such, it is anticipated that these costs will be proportionally higher in 2014/2015.

What is the expected yearly income or contribution to the economy that will be generated by or as a result of the activity?

N/A The proposed sewerage connection pipeline will not contribute to a yearly income once it has been installed.
Will the activity contribute to service infrastructure?  

<table>
<thead>
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<th>YES</th>
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How many new employment opportunities will be created in the construction phase of the activity?  

It is anticipated that 8 previously disadvantaged individuals will be hired on a temporary basis for the construction phase (approximately one month).  

| R4000.00 per person per month. |
| R32 000 in total |

What is the expected value of the employment opportunities during the construction phase?  

It is anticipated that the 8 individuals employed will be paid R200.00 per working day. This will amount to R4000.00 per person per month and R32 000 in total employment costs.  

| 100% |

What percentage of this will accrue to previously disadvantaged individuals?  

How will this be ensured and monitored (please explain):  

Daveng Consulting Engineers will ensure payment of all individuals employed for the construction phase.

How many permanent new employment opportunities will be created during the operational phase of the activity?  

N/A  

The laying of the proposed sewer connection pipeline is a once off activity.

What is the expected current value of the employment opportunities during the first 10 years?  

N/A  

The laying of the proposed sewer connection pipeline is a once off activity.

What percentage of this will accrue to previously disadvantaged individuals?  

N/A  

The laying of the proposed sewer connection pipeline is a once off activity.

How will this be ensured and monitored (please explain):  

N/A  

The laying of the proposed sewer connection pipeline is a once off activity.

Any other information related to the manner in which the socio-economic aspects will be impacted:  

N/A

(d) Cultural and historic aspects:  

According to the Notice of Intent to Develop (Webley, 2014), there will be no impacts on heritage resources resulting from the construction of the 510 metre underground sewer pipeline which will run along the existing R102 (Van Riebeeck Road) and through the existing residential properties.

There is a small possibility of isolated stone artefacts being uncovered during the construction of the sewer pipeline. Given that this area has already been impacted by the construction of houses and roads however, the artefacts will no longer be in situ and impacts on archaeological and paleontological resources are considered unlikely.

Please refer to Section B(9) of this report as well as the NID (Webley, 2014) as contained in Appendix G.

2. WASTE AND EMISSIONS

(a) Waste (including effluent) management

<table>
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Will the activity produce waste (including rubble) during the construction phase?  

If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?  

Unknown M³  

It is anticipated that a limited amount of solid waste will be generated during the construction phase, mainly associated with surplus excavated material (soil and rubble). This will be reused as backfill as far as possible the remainder of which will be disposed of at a license landfill site. The activity will not produce solid waste during the operational phase.

Will the activity produce waste during its operational phase?  

N/A The proposed activity will not generate waste during the operational phase.
Where and how will the waste be treated / disposed of (describe)?

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 development?

It is anticipated that a limited amount of solid waste will be generated during the construction phase, mainly associated with surplus excavated material (soil and rubble). This will be reused as backfill as far as possible the remainder of which will be disposed of at a licensed landfill site. The activity will not produce solid waste during the operational phase.

Has the municipality or relevant authority confirmed that sufficient capacity exist for treating / disposing of the waste to be generated by this activity (ies)? If yes, provide written confirmation from Municipality or relevant authority

Will the activity produce waste that will be treated and/or disposed of at another facility other than into a municipal waste stream?

If yes, has this facility confirmed that sufficient capacity exist for treating / disposing of the waste to be generated by this activity (ies)? Provide written confirmation from the facility and provide the following particulars of the facility:

Facility name:
Contact person:
Postal address:
Postal code:
Telephone:
Cell:
E-mail:
Fax:

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

During the construction phase, it is anticipated that a limited amount of solid waste will be generated, mainly associated with surplus excavated material (soil and rubble). This will be reused as backfill as far as possible.

During the construction phase, as far as possible, South African suppliers and products will be utilised as opposed to imported materials. This will reduce the resources required for transporting these materials and thus reduce the overall “human footprint” of the construction phase. The local economy will also benefit.

Recycling and reuse of materials should be promoted as opposed to utilising new materials. This is both in terms of sourcing materials and the reuse/recycling of waste products at the site itself.

[b] Emissions into the atmosphere

Will the activity produce emissions that will be disposed of into the atmosphere?

If yes, does it require approval in terms of relevant legislation?

Describe the emissions in terms of type and concentration and how it will be treated/mitigated:

During the construction phase, dust will be generated during the trenching phase. Additionally, emissions in the form of exhaust fumes are anticipated from the construction machinery.

This will result in a temporary impact on the ambient air quality.

To reduce the impact, mitigation measures have been assessed. These are contained in Section F [6] as well as the EMP attached as H.

3. WATER USE

Please indicate the source(s) of water for the activity by ticking the appropriate box (es)

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:

Construction Phase
According to the project consultant, Ronald van Dijk, for any water required during the construction phase, the Contractor will apply for a metered standpipe from the local authority with which he will be able to draw water from the municipal water network by connecting the standpipe to a fire hydrant approved by the Local Authority in the immediate area of the construction site. The Contractor will be billed for the water used by the local Authority on a monthly basis.

Water will typically be filled into a water truck and carted to site and discharged in the trench by means of a fire hose in order to achieve optimum water content in the backfill material and then compact the material. Small amounts of water will also be required to mix small quantities of concrete and mortar required for the footings and benching of the sewer manholes.

Operational Phase
The preferred option for the sewer pipeline connector will not require water in its operational phase as this is a gravity option and will involve the installation of a deep sewer pipeline running in a south-eastern direction along Van Riebeeck Road and connecting to the existing 600mm diameter sewer (FS1).

Please provide proof of assurance of water supply (e.g. Letter of confirmation from municipality / water user associations, yield of borehole)

Does the activity require a water use permit / license from DWAF?

Given the placement of the proposed pipeline, the freshwater specialist, Toni Belcher, recommended in her Freshwater Impact Assessment (June, 2014) that the Department of Water Affairs ("DWA") be approached for approval of the water use aspects of the proposed activities.

An independent Water Use License Specialist, Claret Walker, confirmed upon further consultation that a Water Use License Application ("WULA") is required for the proposed development. As such a WULA was submitted to DWA on 12th June 2014 and an acknowledgement of receipt and reference number (27/2/1/G522/121/1 was received on 25th July 2014.

If yes, please submit the necessary application to Department of Water Affairs and attach proof thereof to this application.

A copy of the full WUL application as submitted to DWA, including proof of payment and the acknowledgment of receipt letter from DWA has been attached as part of Appendix G of this report.

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

N/A

4. POWER SUPPLY

Please indicate the source of power supply e.g. Municipality / Eskom / Renewable energy source

According to the project consultant, Ronald van Dijk, any power required for the construction phase will be sourced from generators which will be brought to the site.

If power supply is not available, where will power be sourced from?

N/A

5. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

N/A The proposed activity is for the installation of a sewer connection pipeline to connect Erf 8115 and adjacent erven to the existing bulk sewer infrastructure in the area. As such, design measures are not applicable.
Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

**N/A** The proposed activity is for the installation of a sewer connection pipeline to connect Erf 8115 and adjacent erven to the existing bulk sewer infrastructure in the area. As such, alternative energy sources are not applicable.
6. DESCRIPTION AND ASSESSMENT OF THE SIGNIFICANCE OF IMPACTS PRIOR TO AND AFTER MITIGATION

Please note: While sections are provided for impacts on certain aspects of the environment and certain impacts, the sections should also be copied and completed for all other impacts.

(a) Impacts that may result from the planning, design and construction phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the planning, design and construction phase.

Please note: With the exception of the freshwater ecology, flow modification and surface water quality impacts addressed at the end of this section which pertain to Option 1 only, the assessment of the construction phase impacts apply to both options.

<table>
<thead>
<tr>
<th>Potential impacts on geographical and physical aspects:</th>
<th>Dust Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of impact:</td>
<td>Dust associated with the trenching phase of the construction phase.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact is anticipated to be one month and will cease once the construction phase is over.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Definite.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>The impact cannot be reversed but it can be mitigated.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irreparable loss of resources:</td>
<td>The impact will not cause irreparable loss of resources.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>The impact can be considered cumulative due to the close proximity of the surrounding roads, particularly Van Riebeeck Road adjacent to the proposed pipeline routes which is heavily trafficked by construction and passenger vehicles.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)</td>
<td>Low.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>The impact can easily be mitigated with appropriate dust suppression and avoidance measures.</td>
</tr>
</tbody>
</table>
| Proposed mitigation: | Proposed mitigation measures include:  
➢ The use of water bowsers.  
➢ Wetting down the site.  
➢ Erection of shade netting to prevent off site dust migration.  
➢ Regular manual sweeping of the surrounding roads and sidewalks |
| Cumulative impact post mitigation: | The cumulative dust impacts associated with the construction phase of the proposed sewer connection pipeline once all recommended measures are implemented are considered minor. |
| Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High) | Low. |

<table>
<thead>
<tr>
<th>Potential impacts on geographical and physical aspects:</th>
<th>Traffic Impacts</th>
</tr>
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<tbody>
<tr>
<td>Nature of impact:</td>
<td>Increase in traffic on road adjacent to the site, particularly Van Riebeeck Road as a result of an increase in construction vehicles located at the site.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact is anticipated to be one month and will cease once the construction phase is over.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Definite.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>The impact cannot be reversed but can be mitigated.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irreparable loss of resources:</td>
<td>The impact will not cause irreparable loss of resources.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>The impact will have a cumulative impact on the surrounding roads, particularly Van Riebeeck Road.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)</td>
<td>Medium.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>The impacted can be mitigated should the mitigation measures outlined below as well as the additional measures contained in the</td>
</tr>
</tbody>
</table>
Proposed mitigation:

- The contractor must provide a traffic marshal for situations where construction traffic may impede normal traffic flows on particularly Van Riebeeck Road adjacent to the site.
- All vehicles will be legally compliant.
- All drivers will be competent and in possession of an appropriate valid driver’s license.
- All vehicles travelling on site will adhere to the specified speed limits.
- The movement of all vehicles will be controlled such that they remain on designated routes.
- No member of the workforce will be permitted to drive a vehicle under the influence of alcohol or narcotic substances.

Cumulative impact post mitigation:
The proposed activity will have a cumulative impact on the surrounding roads, particularly Van Riebeeck Road as there is heavy traffic on Van Riebeeck Road with associated traffic impacts.

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High) Low.

<table>
<thead>
<tr>
<th>Potential noise impacts:</th>
<th>Noise impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of impact:</td>
<td>This is associated with the construction vehicles and equipment which will be utilised for the trenching and pipeline installation phases of the project.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact is anticipated to be one month and will cease once the construction phase is over.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Definite.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>The impact cannot be reversed however mitigation measures can be implemented to ensure that the noise levels remain acceptable both for the neighbouring properties (particularly Kuils River hospital) and the workers on site.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irreplaceable loss of resources:</td>
<td>The impact will not cause irreplaceable loss of resources.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>The impact can be considered cumulative as noise generating activities (mostly associated with the traffic on the adjacent Van Riebeeck Road) also occur within the area.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)</td>
<td>Medium.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>The impact can be mitigated by implementing appropriate noise reduction and management measures.</td>
</tr>
</tbody>
</table>

Proposed mitigation measures include:

- The construction contractor must use modern equipment, which produces the least noise.
- Any unavoidably noisy equipment must be identified and located in an area where it has least impact.
- The use of noise shielding screens must be considered and the operation of such machinery restricted to when it is actually required.
- No noise generating work is to be conducted outside of normal working hours as approved by the local authority.

In addition, proposed mitigation measures as stipulated by DEA&DP Directorate: Pollution Management in accordance with the Western Cape Noise Control Regulations of 20th June 2013 (P.N 200/2013) are listed as follows:

- The contractor must strictly adhere to the approved working hours as set out by the local authority and no work may take place on Sundays.
- The contractor must inform surrounding landowners and the Hospital of the approved working hours, and if any urgent work is to take place outside of these times.
- According to Table 2 of the South African National Standard Codes (SANS) 10103 of 2008, the hospital falls (most likely) in ‘Urban districts with one or more of the following: main roads’. For this type of zonation the outdoor daytime rating level is 60dB. Where possible, the contractor and ECO must ensure that noise levels are kept below this level.
- The applicant must adhere to all noise mitigation measures as
Cumulative impact post mitigation: Low. Once all mitigation measures have been implemented the cumulative impact will be limited.

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High) Low.

<table>
<thead>
<tr>
<th>Potential visual impacts:</th>
<th>Visual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of impact:</td>
<td>The construction vehicles and machinery will have a minor visual impact on the surrounding environment.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact is anticipated to be one month and will cease once the construction phase is over.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Definite.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>The impact cannot be reversed but can be mitigated.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irrereplaceable loss of resources:</td>
<td>The impact will not cause irrereplaceable loss of resources.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>The impact cannot be considered cumulative as the surrounding areas adjacent to the site have been fully developed and with the exception of a portion of the proposed pipeline route of Option 1, no natural environment remains.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)</td>
<td>Medium-Low.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>The impact can be easily mitigated with the measures outlined below and contained the EMP (attached as Appendix H).</td>
</tr>
</tbody>
</table>
| Proposed mitigation: | Proposed mitigation measures include:  
  - Screening of the site during construction activities.  
  - Management of the placement of vehicles and materials placed on site. Vehicles can be parked in one specific area whilst materials placed on site can be placed in neat piles in specified sections of the site prior to use. |
| Cumulative impact post mitigation: | N/A |
| Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High) | Low. |

<table>
<thead>
<tr>
<th>Potential impacts on cultural-historical aspects:</th>
<th>Heritage Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of impact:</td>
<td>According to the Notice of Intent to Develop (Webley, 2014), there will be no impacts on heritage resources resulting from the proposed sewer pipeline. There is a small possibility of isolated stone artefacts being uncovered during the construction of the sewer pipeline. Given that this area has already been impacted by the construction of houses and roads however, the artefacts will no longer be in situ and impacts on archaeological and paleontological resources are considered unlikely.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact is anticipated to be one month and will cease once the construction phase is over.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Unlikely.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>Low.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irrereplaceable loss of resources:</td>
<td>Negligible as any artefacts found will no longer be in situ.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>Medium. This area has already been impacted by the construction of houses and roads in the area.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)</td>
<td>Medium.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>High.</td>
</tr>
<tr>
<td>Proposed mitigation:</td>
<td>As there is a small chance of finding artefacts during the trenching phase, should this occur, Heritage Western Cape and the South African Heritage Resources Agency should be contacted immediately.</td>
</tr>
<tr>
<td>Cumulative impact post mitigation:</td>
<td>Low.</td>
</tr>
<tr>
<td>Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)</td>
<td>Low.</td>
</tr>
</tbody>
</table>
### Potential impacts on socio-economic aspects:

<table>
<thead>
<tr>
<th>Nature of impact:</th>
<th>Income and Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent and duration of impact:</td>
<td>The construction activities will have a small scale impact on local employment opportunities and income for local construction workers (positive).</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Definite.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>N/A the impact is a positive.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irreplaceable loss of resources:</td>
<td>N/A the impact is a positive.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>The benefits on local employment opportunities are considered cumulative as the surrounding area (small businesses as well as the Kuils River hospital) are an additional source of employment.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, Very-High):</td>
<td>N/A the impact is a positive.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>N/A the impact is a positive.</td>
</tr>
<tr>
<td>Proposed mitigation:</td>
<td>N/A the impact is a positive.</td>
</tr>
<tr>
<td>Cumulative impact post mitigation:</td>
<td>N/A the impact is a positive.</td>
</tr>
<tr>
<td>Significance rating of impact after mitigation (Low, Medium, Medium-High, High, Very-High):</td>
<td>N/A the impact is a positive.</td>
</tr>
</tbody>
</table>

### Additional impacts associated with Option 1:

Please also see the Freshwater Impact Assessment (Belcher, 2014) as contained in Appendix G.

<table>
<thead>
<tr>
<th>Potential impact on biological aspects:</th>
<th>Impacts on the Freshwater Ecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of impact:</td>
<td>During the construction phase, a definite loss of habitat within the wetland and associated biota is anticipated.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact is anticipated to be short term.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Definite.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>The impact cannot be reversed however according to the Freshwater Impact Assessment, due to the nature of the existing indigenous vegetation; the wetland area can be easily rehabilitated.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irreplaceable loss of resources:</td>
<td>Should the mitigation measures outlined in the Freshwater Impact Assessment Report (Belcher, 2014) be implemented, the impact will not cause irreplaceable long term loss of resources as the disturbed areas can be rehabilitated immediately after construction has been completed.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>Impacts associated with the construction phase are anticipated to be cumulative as there are other activities within the area that negatively impact the wetland area (historical land degradation as well as current dumping and littering at the wetland).</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, Very-High):</td>
<td>High.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>Medium-High.</td>
</tr>
</tbody>
</table>
| Proposed mitigation: | Proposed mitigation measures as outlined in the Freshwater Impact Assessment Report (Belcher, 2014) are as follows:  
  - The construction activities should be limited as far as possible within the wetland area and the disturbed area should be rehabilitated immediately afterwards.  
  - During the construction, the Phragmites reeds should be kept aside for revegetating the disturbed areas immediately after the construction has been completed.  
  - All invasive alien plants, in particular the Port Jackson Willows should be cleared.  
  - The soil and cover vegetation removed to excavate the channel in which the sewer is to be laid should be replaced over the underground sewer at the same level as the existing level.  
  - No machinery should be driven through the wetland area.  
  - The minimum area for the construction and laying of the sewer line should be demarcated and the wetland area outside of the construction area treated as a no-go area. |
| Cumulative impact post mitigation: | The significance of the impact on the aquatic ecosystems with |
### Modification of Flow

#### Nature of impact:
Construction of the underground sewer line within the wetland and river area may have the potential to alter some of the subsurface flow characteristics of the wetland area and the Kuils River.

#### Extent and duration of impact:
The extent of the impact will be local to the vicinity of the construction site itself. The duration of the impact, should it occur, is anticipated to be permanent.

#### Probability of occurrence:
Unlikely.

#### Degree to which the impact can be reversed:
Should the impact occur, it can be reversed by repositioning the pipeline in line with the subsurface flow.

#### Degree to which the impact may cause irreplaceable loss of resources:
The impact will not cause irreplaceable loss of resources.

#### Cumulative impact prior to mitigation:
The proposed activities would be expected to have a very limited impact on the flow to the wetland and within the river.

#### Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)
Medium-High.

#### Degree to which the impact can be mitigated:
The impact can be easily mitigated.

#### Proposed mitigation:
- The soil and cover vegetation removed to excavate the channel in which the sewer is to be laid should be replaced over the underground sewer line at the same level as the existing level.
- Work within the wetland area and its surroundings should be limited to the construction corridor.
- No machinery should be driven into the wetland area.
- Any measures to protect the underground sewer line should not impede the subsurface flow.
- Limit work (spatially and temporally) in the river bed as far as possible.
- Construction activities should take place during the low flow, with limited impedance of flows.
- Any structure within the river channel related to the pipeline should not impede the flows after installation.
- All rubble associated with construction activities should be removed after the construction phase is complete.

#### Cumulative impact post mitigation:
A localised impact of medium to low intensity that is expected to have a very low overall significance.

#### Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)
Very Low.

### Impact of Surface Water Quality

#### Nature of impact:
Contaminated runoff from construction activities (building materials/waste and chemicals) into the wetland area and possibly the Kuils River during the trenching phase as well as the pipeline installation phase.

#### Extent and duration of impact:
The extent of the impact would be within the wetland itself and the Kuils River. The duration of the impact would be short term.

#### Probability of occurrence:
Unlikely should the proposed mitigation measures outlined below be strictly implemented.

#### Degree to which the impact can be reversed:
The impact cannot be reversed should contaminated runoff reach the wetland and Kuils River.

#### Degree to which the impact may cause irreplaceable loss of resources:
The impact will be of a low negative impact and as such will not cause irreplaceable loss of resources.

#### Cumulative impact prior to mitigation:
Impacts associated with the construction phase are anticipated to be cumulative as there are other activities within the area that negatively impact the wetland area (historical land degradation, surface runoff from the adjacent roads, as well as current dumping and littering at the wetland).

#### Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)
Medium-High.

#### Degree to which the impact can be mitigated:
The impact can be entirely mitigated should the proposed mitigation measures outlined below be strictly implemented.
Proposed mitigation measures as outlined in the Freshwater Impact Assessment Report (Belcher, 2014) are as follows:

- Potentially contaminated runoff from the pipeline installation site should be prevented from directly entering the wetland area or the river.
- Construction of the sewer line should preferably be undertaken in the low rainfall months when the water quality impacts from the construction activities can be contained.
- The construction site should be located away from the wetland and river areas.
- All materials on the construction site should be properly stored and contained.
- Disposal of waste from the site should be properly managed.
- Construction workers should be given ablution facilities at the site that are located away from the wetland area (at least 30m) and regularly serviced.
- All measures should be addressed, implemented and monitored in terms of the EMP for the construction phase.

Additional mitigation recommendations as outlined by Cape Nature:

- All the proposed recommendations contained within the freshwater impact assessment (Belcher, 2014) and the EMP must be implemented in full.
- The applicant must ensure that no spillages of sewerage occurs into the Kuils River.

Proposed mitigation measures as outlined by the Department of Water Affairs are as follows:

- Chemical toilets that will be utilised during the construction phase should be located such that they do not pose a risk of water pollution. The contents thereof must be disposed of at an appropriate facility.
- Clean stormwater must be separated from dirty stormwater and measures to control illegal dumping of construction waste must be put in place to avoid pollution to the surface water run-off.
- Oil spillage from vehicles on site must be controlled to prevent pollution of water resources.
- Soil erosion must be prevented at all times both during and post construction activities.
- Stormwater runoff must be controlled to ensure that on-site activities do not culminate in off-site pollution.
- All water use activity that is not a Schedule 1 water use must be registered and authorised in terms of Section 22 of the National Water Act, 1998 (Act No. 36 of 1998).
- All relevant sections and regulations of the National Water Act 1998 (Act No. 36 of 1998) regarding water use must be adhered to.

Cumulative impact post mitigation: Provided that the mitigation measures are effectively implemented, the water quality related impacts of the proposed development should have a limited cumulative impact.

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High) Low

(b) Impacts that may result from the operational phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the operational phase.

Please note: There is only one operational phase impact associated with Option 1 as listed below. No other operational phase impacts are anticipated for the proposed activity.

Other:

<table>
<thead>
<tr>
<th>Nature of impact:</th>
<th>Impact of Surface Water Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a small risk of spillage from the sewer line into the wetland area or possibly the Kuils River.</td>
<td>The extent of the impact would be within the wetland itself and the Kuilsriver. The duration of the impact would be short term but of a high level impact.</td>
</tr>
</tbody>
</table>

Probability of occurrence: Unlikely should the proposed mitigation measures outlined below be strictly implemented.
Degree to which the impact can be reversed: The impact cannot be reversed should the overflow reach the wetland and Kuils River.

Degree to which the impact may cause irreplaceable loss of resources: The impact will be of a low negative impact and as such will not cause irreplaceable loss of resources.

Cumulative impact prior to mitigation: The impact would have a short term but high level of impact. The impact is considered cumulative due to the road runoff associated with Van Riebeeck Road as well as the historic and current polluting and littering of the Kuils River and the existing wetland.

Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High): High.

Degree to which the impact can be mitigated: The impact can be entirely mitigated should the proposed mitigation measures outlined below be strictly implemented.

**Proposed mitigation:**

- Proposed mitigation measures as outlined in the Freshwater Impact Assessment Report (Belcher, 2014) are as follows:
  - All possible measures should be taken during the construction of the pipeline to prevent the occurrence of sewage spills into the freshwater features.
  - PVC piping should be used to reduce the risk of pipe bursts.
  - Manhole covers should be above the 1:100 flood levels and fitted with water tight covers and frames to ensure sewage is contained within the piped system and flood water is kept out.
  - The pipeline should be regularly monitored and maintained to ensure that any problems with the pipeline are rectified before it can impact the river and wetland area.

Please note: A Maintenance Management Plan (MMP) for all future site and river maintenance work related to GN. No. R544, Activity 18 has been included as an Appendix to the EMP contained in Appendix H of this report.

Cumulative impact post mitigation: Provided that the mitigation measures contained above as well as those in the EMP are effectively implemented, the water quality related impacts of the proposed development should be limited.

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High): Low.

Please note: There is only one operational phase impact associated with Option 2 as listed below. No other operational phase impacts are anticipated for the proposed activity.

<table>
<thead>
<tr>
<th>Other</th>
<th>Physical environmental impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of impact:</td>
<td>Due to the small size of the pumped system, should the electricity supply be disconnected, this could result in an overflow of sewage into the adjacent area resulting in negative environmental impacts.</td>
</tr>
<tr>
<td>Extent and duration of impact:</td>
<td>The extent of the impact will be local to the vicinity of the sewerage tank itself. The duration of the impact is anticipated to last as long as the power supply is cut off and a clean-up team can be mobilised.</td>
</tr>
<tr>
<td>Probability of occurrence:</td>
<td>Unlikely should there be a constant power supply.</td>
</tr>
<tr>
<td>Degree to which the impact can be reversed:</td>
<td>The impact, should it occur, cannot be reversed but can be mitigated to a small degree.</td>
</tr>
<tr>
<td>Degree to which the impact may cause irreplaceable loss of resources:</td>
<td>The impact will not cause irreplaceable loss of resources.</td>
</tr>
<tr>
<td>Cumulative impact prior to mitigation:</td>
<td>The impact is not considered cumulative as the surrounding sewer systems are contained.</td>
</tr>
<tr>
<td>Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High):</td>
<td>High.</td>
</tr>
<tr>
<td>Degree to which the impact can be mitigated:</td>
<td>The impact can be entirely mitigated should the proposed mitigation measures outlined below be strictly implemented.</td>
</tr>
</tbody>
</table>

Proposed mitigation:

- Proposed mitigation measures as outlined in the Freshwater Impact Assessment Report (Belcher, 2014) are as follows:
  - A constant electricity supply must be ensured to avoid risk of overflow.
  - All possible measures should be taken during the construction of the pipeline to prevent the occurrence of sewage spills into the surrounding area.
  - Manhole covers should be above the 1:100 flood levels and fitted with water tight covers and frames to ensure sewage is contained within the piped system.
  - The pipeline should be regularly monitored and maintained to
ensure that any problems with the pipeline are rectified before it can impact the surrounding areas.

Cumulative impact post mitigation: Provided that the mitigation measures contained above as well as those in the EMP are effectively implemented, the environmental risk of the proposed development should not have a cumulative impact.

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High) Low.

(c) Impacts that may result from the decommissioning and closure phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase.

Please note: There are no anticipated impacts associated with the decommissioning of the proposed pipeline as once installed it will form part of the permanent infrastructure for the area.

7. SPECIALIST INPUTS/STUDIES AND RECOMMENDATIONS

Please note: Specialist inputs/studies must be attached to this report as Appendix G. Also take into account the Department’s Guidelines on the Involvement of Specialists in EIA Processes available on the Department’s website [http://www.capegateway.gov.za/eadp].

Specialist inputs/studies and recommendations:

Preliminary Design Report (Daveng, 2014)
The findings of the Preliminary Design Report are as follows:
- Erf 8115 and the adjacent erven currently utilise a conservancy tank located on Erf 8115.
- The current conservancy tank system is not sustainable and has to be replaced with a waterborne sewerage system.
- The sewerage connector pipeline was one of the subdivision requirements of the previous developer, namely Streamline Homes (Pty) Ltd.
- Two options were investigated namely a pumped option and a gravity option.
- The gravity option is the more cost effective option and in addition would benefit 79 equivalent erven in the future. It also forms part of the City’s service delivery plan.
- The gravity option is the preferred option.

Notice of Intent to Develop Input and Recommendations (Webley, 2014).
The findings of the NID are as follows:
- There will be no impacts on heritage resources resulting from the construction of the 510 metre underground sewer pipeline which will run along the existing R102 (Van Riebeeck Road) and through the existing residential properties.
- There is a small possibility of isolated stone artefacts being uncovered during the construction of the sewer pipeline. Given that this area has already been impacted by the construction of houses and roads however, the artefacts will no longer be in situ and impacts on archaeological and paleontological resources are considered unlikely.

Freshwater Impact Assessment Input and Recommendations (Belcher, 2014)
The findings of the Freshwater Assessment of the freshwater features along the route of the proposed sewer line are summarized as follows:
- Freshwater features that may possibly be impacted by the proposed activity consist of a wetland area alongside the R102 (Van Riebeeck Road in Kuils River) as well as the Kuils River itself.
- The Kuils River at the proposed sewer line connection point is in a critically modified state, being completely canalised with little ecological functioning. It was found to be of low ecological significance. Thus the potential impact of the proposed sewer line on the river at the site was deemed to be negligible.
- The wetland area was characterized to be a hill slope that is deemed to be in a moderately to largely modified ecological condition with a low ecological importance.
- The construction phase will entail a definite loss of wetland habitat and biota. Should mitigation measures be implemented correctly, the portion of the impacted wetland will recover quickly and as such the potential long term impacts are anticipated to be low. In addition, alien vegetation such as the Port Jackson Willows (Acacia saligna) can be cleared to improve the overall ecological functioning of the ecosystem.
- All mitigation measures should be addressed, implemented and monitored in terms of the EMP for the proposed activity.
- Due to the fact that the preferred alternative includes the need to construct a sewer line through the Kuils River and the wetland, a full WULA is required.
- The alternative sewer line route would not have any potential impacts on freshwater features and would also not require a WULA.
8. IMPACT SUMMARY

Please provide a summary of all the above impacts.

The following impacts have been determined by the independent specialists and the EAP to be associated with the proposed construction of the sewer connection pipeline. The nature and significance of the impacts after mitigation have been included below:

### Construction Phase

<table>
<thead>
<tr>
<th>Impact</th>
<th>Significance rating of impact prior to mitigation</th>
<th>Significance rating of impact after mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1 (Gravity Option)</strong>: Preferred Alternative</td>
<td>(Low, Medium, Medium-High, High, or Very-High)</td>
<td>(Low, Medium, Medium-High, High, or Very-High)</td>
</tr>
<tr>
<td>Dust</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Traffic</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Noise</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Visual</td>
<td>Medium-Low</td>
<td>Low</td>
</tr>
<tr>
<td>Heritage</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Income and Employment</td>
<td>N/A Positive</td>
<td>N/A Positive</td>
</tr>
<tr>
<td>Freshwater Ecology</td>
<td>High</td>
<td>Very Low</td>
</tr>
<tr>
<td>Modification of Flow</td>
<td>Low</td>
<td>Very Low</td>
</tr>
<tr>
<td>Surface Water Quality</td>
<td>Medium-High</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Option 2 (Pumped Option)</strong>: Non Preferred Alternative</th>
<th>(Low, Medium, Medium-High, High, or Very-High)</th>
<th>(Low, Medium, Medium-High, High, or Very-High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Traffic</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Noise</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Visual</td>
<td>Medium-Low</td>
<td>Low</td>
</tr>
<tr>
<td>Heritage</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Income and Employment</td>
<td>N/A Positive</td>
<td>N/A Positive</td>
</tr>
</tbody>
</table>

### Operational Phase

<table>
<thead>
<tr>
<th>Impact</th>
<th>Significance rating of impact prior to mitigation</th>
<th>Significance rating of impact after mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1 (Gravity Option)</strong>: Preferred Alternative</td>
<td>(Low, Medium, Medium-High, High, or Very-High)</td>
<td>(Low, Medium, Medium-High, High, or Very-High)</td>
</tr>
<tr>
<td>Surface Water Quality</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Option 2 (Pumped Option)</strong>: Non Preferred Alternative</th>
<th>(Low, Medium, Medium-High, High, or Very-High)</th>
<th>(Low, Medium, Medium-High, High, or Very-High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical environmental impacts</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
9. OTHER MANAGEMENT, MITIGATION AND MONITORING MEASURES

(a) Over and above the mitigation measures described in Section 6 above, please indicate any additional management, mitigation and monitoring measures.

| The general pre-construction and construction phase’s site management measures should be strictly adhered to in order to minimise particularly environmental risk associated with the development. Please note all recommended mitigation measures are contained in the EMP and MMP. These documents have been attached as Appendix H. |

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

| The recommended measures, as contained in the EMP, will be undertaken by the applicant, the City of Cape Town, as part of the project planning and execution. Please note: A draft ENVIRONMENTAL MANAGEMENT PROGRAMME must be attached this report as Appendix H. |
SECTION G: ASSESSMENT METHODOLOGIES AND CRITERIA, GAPS IN KNOWLEDGE, UNDERLAYING ASSUMPTIONS AND UNCERTAINTIES

(a) Please describe adequacy of the assessment methods used.

The assessment of the impacts associated with the facility was guided by the DEA’s 2006 Integrated Environmental Management Guideline Series, Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations.

The DEA&DP guidelines published in March 2013 also informed the approach taken during this Basic Assessment process, which has been an integrated environmental management approach in alignment with Section 23 of the NEMA and with the National Environmental Management Principles contained in Chapter 1 of the NEMA.

The assessment has also been guided by professional knowledge and experience, as well as specialist input.

The assessment methodology utilized is therefore considered to be entirely adequate for the purposes of assessing the environmental impacts associated with the proposed development in order to ascertain whether the development is in fact necessary and desirable given its impacts on the receiving environment.

In addition, SEC has extensive experience in environmental assessment procedures and has completed several thousand applications across South Africa since 1998. This basic assessment is also guided by cradle to grave EIA knowledge related to construction through to site closure.

The EAP feels it reasonable to conclude that the criteria listed in the above references ensured and adequate assessment of this environmental application.

(b) Please describe the assessment criteria used.

This Basic Assessment was undertaken in accordance with the principles of Integrated Environmental Management as detailed in Section 23 of NEMA and in the NEMA EIA Regulations (2010).

The standard assessment criteria were used by the EAP. All potential impacts have been assessed in terms of their significance based on the following criteria:

- Intensity (or magnitude)
- Duration
- Extent
- Probability
- Confidence.

Practicable mitigation measures (where warranted) have been identified to minimize the potential impacts associated with construction of the proposed pipeline. The significance of any potential impact before and after mitigation is also provided to give an indication of the efficacy of the proposed mitigation measure/s.

(c) Please describe the gaps in knowledge.

The following uncertainties and gaps in knowledge were identified in the assessment undertaken:

- That the information provided by the applicant for the completion of this Basic Assessment Report is correct and complete.
- That the available data, including Topocadastral maps, Orthophotographs, geological maps and DWA national ground water database information, are reasonably accurate.
- That Specialist Studies and all information extracted from these studies in order to complete the assessment are correct.

(d) Please describe the underlying assumptions.

- That the information provided by the applicant for the completion of this Basic Assessment Report is correct and complete.
- That the available data, including Topocadastral maps, Orthophotographs, geological maps and DWA national ground water database information, are reasonably accurate.
- That Specialist Studies and all information extracted from these studies in order to complete the assessment are correct.

(e) Please describe the uncertainties.

There are no uncertainties which have arisen from investigations undertaken by the EAP and by specialists which materially affect this application.
### SECTION H: RECOMMENDATION OF THE EAP

<table>
<thead>
<tr>
<th>Activity should be authorised:</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erf 8115 and the adjacent erven are currently serviced by means of a conservancy tank situated on Erf 8115. The City of Cape Town’s Water and Sanitation Department pump this conservancy tank twice a week and as such, the operation and maintenance costs are high. The proposed sewer pipeline will entail an immediate solution to this problem.</td>
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</table>

In 2008, the City of Cape Town, Water and Sanitation Standard was published, the primary objective of which is to provide on-site water borne sewerage infrastructure in all urban areas. The proposed sewer pipeline will comply with the local Municipal objectives.

Erf 8111 was subdivided into erven 8112, 8113, 8114 and 8115. One of the subdivision requirements was to lay a sewer pipeline which would connect to the City of Cape Town’s bulk sewer pipeline. The proposed sewer pipeline will adhere to the original title deed requirements for the area.

- The preferred option (Option 1: Gravity Option) would have the capacity to service 79 additional equivalent erven whilst the non-preferred option (Option 2: Pumped Option) would only have the capacity to service erven 2423, 2424, 2426, 7409, 7410, 8112, 8113, 8114 and 8115.
- The preferred option (Option 1: Gravity Option) is more cost effective that Option 2 (Non-Preferred Option: Pumped Option).
- The preferred option (Option 1: Gravity Option) will not entail any operational running costs (other than maintenance activities as required) as it is a gravity option whilst the non-preferred option (Option 2: Pumped Option) would require regular maintenance and requires a constant supply of electricity to pump the sewage up gradient which is an unnecessary drain on the City’s finite energy resources.
- According to the NID (Webley, 2014), no heritage resources will be impacted for either option.
- According to the Preliminary Desing Report (Daveng, 2014), Option 1 is preferred by the City of Cape Town and forms part of the City’s service delivery plan.
- Option 2: Pumped Option would not have any potential impacts on freshwater features and a WULA would not be required. According to the Freshwater Impact Assessment (Belcher, 2014) however, during construction activities, whilst the construction phase will result in a definite loss of habitat and biota, the impact will not cause irreplaceable long term loss of resources as the disturbed areas can be rehabilitated immediately after construction has been completed. In addition, clearing of all invasive alien plants and in particular Port Jackson Willows (Acacia saligna) will occur during the construction phase of Option1: Gravity Option only resulting in an overall improvement in the ecological functioning of the wetland.
- There is a small risk of spillage from the sewer line into the wetland area or possibly the Kuils River during the operational phase of Option 1: Gravity Option. To negate this risk however the preferred material for the proposed pipeline is PVC as it is long lasting, does not break down and as such there is no risk of the pipes bursting due to internal weakness. In addition, the material is durable and light weight and it lasts for up to 50 years. According to the Freshwater Impact Assessment (Belcher, 2014), provided that the mitigation measures (as contained in Section F) as well as those in the EMP and Maintenance Management Plan (“MMP”) are effectively implemented, the water quality related impacts of Option 1: Gravity Option should be limited.

The assessment of the impacts as summarised above and contained in Section F of the report found that the negative impacts associated with the preferred option (Option 1: Gravity Option), can be mitigated to an acceptable level and substantial positive impacts were found to be associated with the development.

As such, the EAP is of the opinion that the preferred alternative (Option 1: Gravity Option) should be authorised.

Please refer to Section E (a) to (g) for a fully comprehensive investigation of alternatives.

<table>
<thead>
<tr>
<th>If you are of the opinion that the activity should be authorised, then please provide any conditions, including mitigation measures that should in your view be considered for inclusion in an authorisation.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The recommended mitigation measures contained in Section F as well as those contained in the EMP, particularly those pertaining to the freshwater impacts, must be strictly adhered to.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Duration and Validity:**
Environmental authorisations are usually granted for a period of three years from the date of issue. Should a longer period be required, the applicant/EAP is requested to provide a detailed motivation on what the period of validity should be.

Given the placement of the proposed pipeline, the freshwater specialist, Toni Belcher, recommended in her Freshwater Impact Assessment (June, 2014) that the Department of Water Affairs ("DWA") be approached for approval of the water use aspects of the proposed activities.

An independent Water Use License Specialist, Claret Walker, confirmed upon further consultation that a Water Use License Application ("WULA") is required for the proposed development. As such a WULA was submitted to DWA on 12\textsuperscript{th} June 2014 and an acknowledgement of receipt and reference number (27/2/1/G522/121/1 was received on 25\textsuperscript{th} July 2014.

A period of up to 3 years is required to allow for this process.

Given the time it takes to issue a water use license, the EAP recommends that a period of 5 years is granted.
### SECTION I: APPENDICES

The following appendices must be attached to this report:

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
<th>Attached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A:</td>
<td>Locality map - Site Map, Locality Map, Topographic Map</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix B:</td>
<td>Site plan(s) - Site Layout (Both options), Proposed Sewer Main (Preferred Option), Proposed Sewer Main Design Layout (Preferred Option)</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix C:</td>
<td>Photographs</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix D:</td>
<td>Biodiversity overlay map - National Vegetation Map, National Threatened Ecosystem map, National Landcover Map</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix E:</td>
<td>Permit(s) / license(s) from any other organ of state including service letters from the municipality - Letter from the Municipality</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix F:</td>
<td>Public participation information: including a copy of the register of interested and affected parties, the comments and responses report, proof of notices, advertisements and any other public participation information as required in Section C above. - Landowner Notification proofs, Initial stakeholder table, Registered Stakeholder Table, Copies of Cover Letters sent to Organs of State, Copies of the Notification Letters, Site Notices and Advert, Proof of Deliveries of Notification Letters &amp; Hand Deliveries and delivery of the Draft BAR to Organs of State and the Library, Proof of placement of Site Notice and Advert, Copies of Comments and Responses received and sent during the Draft BAR public participation period, Comments and Responses Report, Site Meeting Minutes</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix H:</td>
<td>Environmental Management Programme</td>
<td>Yes</td>
</tr>
<tr>
<td>Appendix I:</td>
<td>Additional information related to listed waste management activities (if applicable)</td>
<td>N/A</td>
</tr>
<tr>
<td>Appendix J:</td>
<td>Any Other (if applicable) (describe) - Title deed of transfer for Erf 8115</td>
<td>Yes</td>
</tr>
</tbody>
</table>
DECLARATIONS

THE APPLICANT

I …………………………………., in my personal capacity or duly authorised (please circle the applicable option) by ……………………………………………………………… thereto hereby declare that I:

- regard the information contained in this report to be true and correct, and
- am fully aware of my responsibilities in terms of the National Environmental Management Act of 1998 ("NEMA") (Act No. 107 of 1998), the Environmental Impact Assessment Regulations ("EIA Regulations") in terms of NEMA (Government Notice No. R. 543 refers), and the relevant specific environmental management Act, and that failure to comply with these requirements may constitute an offence in terms of the environmental legislation;
- appointed the environmental assessment practitioner as indicated above, which meet all the requirements in terms of regulation 17 of GN No. R. 543, to act as the independent environmental assessment practitioner for this application;
- have provided the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the environmental legislation including but not limited to –
  - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
  - costs incurred in respect of the undertaking of any process required in terms of the regulations;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the regulations;
  - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
  - the provision of security to ensure compliance with the applicable management and mitigation measures;
- am responsible for complying with the conditions that might be attached to any decision(s) issued by the competent authority;
- have the ability to implement the applicable management, mitigation and monitoring measures;
- hereby indemnify, the government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of, inter alia, the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Please 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 company:

__________________________________________________________
Date:
I .................................................., as the appointed independent environmental practitioner ("EAP") hereby declare that I:

- act/ed as the independent EAP in this application;
- regard the information contained in this report to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the application was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all interested and affected parties were considered, recorded and submitted to the competent authority in respect of the application;
- have kept a register of all interested and affected parties that participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

**Note:** The terms of reference must be attached.

________________________________________
Name of company:

________________________________________
Date:
THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I……………………………………., as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have any vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Note: The terms of reference must be attached.

______________________________
Signature of the specialist:

______________________________
Name of company:

______________________________
Date: