



**Assessment of Potential Listed Activities**

**File Reference Number:**

17/2/3N-227

**Project Title:**

Construction of Hlalanikahle Sewer Network, Nkangala District Municipality, Emalahleni Local Municipality, Mpumalanga Province.

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**07<sup>th</sup> February 2013 (Final)**  
**15<sup>st</sup> April 2013 (Revision 02)**

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## **Introduction**

Ecoleges was appointed on behalf of Nkangala District Municipality to undertake an Environmental Impact Assessment (EIA) for the construction of Hlalanikahle Sewer Network. The scope of work on the project was subsequently reduced as a result of budget constraints.

The following assessment includes an investigation of potential listed activities associated with the revised scope of work, and presentation of the findings.

The objective of this assessment of potential listed activities is to provide the Department with sufficient information in order to clarify which activities apply and verify whether any of those activities are triggered by the proposed project, particularly within the context of the project site.

We sincerely request that the Department to respond, in writing, and advise whether a BA is required or whether an EMPr can be compiled for the Department's approval.

**Detailed Project Description** (provided by ECA Consulting)

Four new Sewer Collector Lines will be constructed as follows:

1. A new 200mm (OD) sewer collector line, approximately 250m long, will be constructed from an existing manhole to an existing 500mm OD outfall sewer line. The design throughput is  $10\text{ls}^{-1}$ .
2. A new 200mm (OD) sewer collector line, approximately 200m long, will be constructed from an existing manhole to an existing 500mm OD outfall sewer line. The design throughput is  $10\text{ls}^{-1}$ .
3. A new 200mm (OD) sewer collector line, approximately 40m long, will be constructed from an existing manhole to an existing 800mm OD outfall sewer line. The design throughput is  $10\text{ls}^{-1}$ .
4. A new 355mm (OD) sewer collector line, approximately 550m long, will be constructed from Hlalanikahle extension 10 & 11 to an existing 800mm OD outfall sewer line. The design throughput is  $99.2\text{ls}^{-1}$ .

Manholes will be constructed at key points along the proposed collector lines.

**Detailed Site Description**

Desk Top Study

The proposed collector lines will be added to the existing Hlalanikahle Sewer Network, Emalahleni Local Municipality, Nkangala District Municipality, Mpumalanga Province (APPENDIX A: Site Layout Plan). Hlalanikahle including the immediate environ is either in or nearby a threatened ecosystem, known as the Eastern Highveld Grassland, listed as vulnerable (SANBI & DEAT 2009). Furthermore Emalahleni Local Municipality does contain Eastern Temperate Freshwater Wetlands, which are also identified as vulnerable ecosystems (SANBI & DEAT 2009). These wetlands are located around water bodies with stagnant water (lakes, pans, periodically flooded vleis, edges of calmly flowing rivers) and embedded within the grassland biome (SANBI & DEAT 2009). The latter are located in flat landscapes or shallow depressions filled with (temporary) water bodies supporting zoned systems of aquatic and hygrophilous vegetation of temporarily flooded grasslands and ephemeral herblands (SANBI & DEAT 2009).

With the exception of the end portion of Sewer Collector Line No. 1, the proposed pipelines are not located within identified geographical areas, including within 100m of a watercourse (Appendix B).

Site Assessment

A site assessment was carried out with the client’s representative on 23<sup>rd</sup> January 2013, and with Mr Sampie Shabangu, of DWA, on 07<sup>th</sup> February 2013.

1. Sewer Collector Line No. 1

	Latitude (S):		Longitude (E):	
• Starting point of the activity	25°	50.966'	29°	07.579'
• Middle point of the activity	25°	50.952'	29°	07,637'
• End point of the activity	25°	50,938'	29°	07,703'

Field Notes and Photographs:

- The end point was approximately 60m from the edge of the reed bed/bank.
- Maize fields were planted to the edge of the reed bed/bank (Figure 1).



**Figure 1:** Maize fields have been cultivated between the ‘urban edge’ and the edge of the reed bed/bank.

- Sandy soils from the end point to the edge of the reed bed/bank were sandy and indicative of a terrace or floodplain. The 1:100 year flood line is not known.
- The end point is located, where the new sewer collector line ties into the existing outfall sewer, is located beneath an illegal waste dump (Figure 2).



**Figure 2:** An illegal waste dump located on the edge of the township where the end point of the new collector line will tie into the existing outfall sewer.

2. Sewer Collector Line No. 2

- Starting point of the activity
- Middle point of the activity
- End point of the activity

**Latitude (S):**

**Longitude (E):**

25°	50.834'	29°	07.510'
25°	50.827'	29°	07,566'
25°	50,817'	29°	07,643'

Field Notes and Photographs:

- The end point was approximately 45m to the lower terrace or floodplain, and approximately 100m from the edge of the reed bed/bank (Figure 3). The 1:100 year flood line is not known.



**Figure 3:** Visual distance from the edge of a terrace to the edge of the reed bed/bank.

- Raw human sewerage was overflowing from a manhole and down the street (Figure 4). There is a sense of urgency in respect of the construction of the new sewer collector line to abate existing environmental and social impacts.



**Figure 4:** Raw human sewerage was flowing down the street along the proposed alignment of the new sewer collector line.

3. Sewer Collector Line No. 3

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Latitude (S):		Longitude (E):	
25°	50.110'	29°	07.364'
The vegetation was too thick to get a GPS reading			
25°	50,090'	29°	07,398'

Field Notes and Photographs:

- The end point (Figure 5) was approximately 100m from the edge of the reed bed/bank, but the full length of the proposed pipeline is situated within a disturbed wetland system (pers. comm. Sampie Shabangu, DWA).



**Figure 5:** The end point of the new collector line ties into a manhole on the outfall sewer, which is located to the left of the gravel road.

4. Sewer Collector Line No. 4

- Starting point of the activity
- Middle point of the activity
- End point of the activity

**Latitude (S):**

**Longitude (E):**

25°	50.275'	29°	06.309'
25°	50.251'	29°	06,455'
25°	50,229'	29°	06,633'

Field Notes and Photographs:

- The start point is approximately 20m from a narrow, knee-deep earth canal (man-made) that flows into a series of dams or ponds (Figure 6, 7 and 8).



**Figure 6:** A canal is located approximately 20m west of the start point of the sewer collector line.



**Figure 7:** The canal flows under a low level bridge before entering a series of dilapidated ponds or dams.





**Figure 8:** The dilapidated dams or ponds located NW of the start point of the sewer collector line.

- The remaining alignment will be constructed on the urban side of a dirt road that demarcates the edge of the existing township.
- Mr Sampie Shabangu, of DWA, confirmed that the area north of the road was a disturbed wetland system, during an inspection of the site on 07<sup>th</sup> February 2013. The uneven topography of the area denotes a previously disturbed site, possibly from the illegal dumping of and/or sand mining for material (Figure 9 and 10).



**Figure 9:** The disturbed wetland system north of (centre and right) the edge of the township (top left) and proposed Sewer Collector Line No. 4. Scattered wet patches occur in shallow depressions possibly resulting from historical disturbances.



**Figure 10:** A wetland fed by a water pipe opposite Sewer Collector Line No. 4.

## Potential Listed Activities

Table 1: Potential Listed Activities

Activity and Notice No.	Listed Activity	Motivation including Detailed Project Description of the Activity
9, GNR 544, 2010	<p>The <b>construction</b> of facilities or <b>infrastructure</b> exceeding 1000 metres in length for the bulk transportation of water, <b>sewage</b> or storm water –</p> <ul style="list-style-type: none"> <li>(i) with an internal diameter of 0.36 metres or more; or</li> <li>(ii) with a peak throughput of 120 litres per second or more,</li> </ul> <p>excluding where:</p> <ul style="list-style-type: none"> <li>a. such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or</li> <li>b. where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</li> </ul>	<p>This activity is not triggered because the new sewer collector lines range between 40m and 550m, and the peak throughput does not exceed is 99.2ls<sup>-1</sup>.</p> <p>Note: the cumulative distance of all 4 lines (200m+250m+550m+40m=1040m) will be greater than 1000m.</p>
11, GNR 544, 2010	<p>The <b>construction</b> of:</p> <ul style="list-style-type: none"> <li>(i) canals;</li> <li>(ii) channels;</li> <li>(iii) bridges;</li> <li>(iv) dams;</li> <li>(v) weirs;</li> <li>(vi) bulk storm water outlets;</li> <li>(vii) marinas;</li> <li>(viii) jetties exceeding 50 square metres in size;</li> <li>(ix) slipways exceeding 50 square metres in size;</li> <li>(x) buildings exceeding 50 square metres in size;</li> <li>(xi) <b>infrastructure</b> or structures <b>covering 50 square metres</b> or more</li> </ul> <p>Where such construction occurs within a watercourse or <b>within 32 metres of a watercourse</b>, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p><b>QUERY 1</b></p> <p>This activity will only be triggered if it is determined that the end points of Sewer Collector Lines 1 and 2, where they tie in to the existing outfall sewer, or the lengths of Lines 3 and 4, occur within 32m from the edge of a watercourse.</p> <p><b>Please verify which Sewer Collector Lines trigger this activity, particularly within the context of their locations relative to the existing Hlalanikahle Sewer Network, the edge of the township and the nature of the watercourses.</b></p> <p>“watercourse” means-</p> <ul style="list-style-type: none"> <li>(a) a river or spring;</li> <li>(b) a natural channel or depression in which water flows regularly or intermittently;</li> <li>(c) a wetland, lake or dam into which , or from which, water flows; and</li> <li>(d) any collection of water which the Minister may, by notice; the Gazette, declare to be a watercourse as defined in the National Water Act , 1998( act no. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks;</li> </ul> <p>“wetland”</p> <p>Means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.</p> <p>There is no definition for the edge of a watercourse, other than it includes the banks.</p> <p><u>Collector Line 1:</u> The end point is approximately 60m from the edge of the reed</p>

		<p>bed/bank, but soils from the end point to the edge of the reed bed/bank were sandy and indicate a potential terrace or floodplain. The 1:100yr flood line is not known. Only the end portion of this pipeline, where it ties into the existing outfall sewer, is located within 100m of the watercourse or NFEPA wetland (Appendix B).</p> <p><u>Collector Line 2:</u> The end point was approximately 45m to the terrace or floodplain, and approximately 100m from the edge of the reed bed/bank. The 1:100yr flood line is not known. The pipeline is not located within 100m of the watercourse or NFEPA wetland (Appendix B).</p> <p><u>Collector Line 3:</u> The end point was approximately 100m from the edge of the reed bed/bank, but the full length of the proposed pipeline is situated within a disturbed wetland system (pers. comm. Sampie Shabangu, DWA). The same area is not identified as a National Fresh Water Ecosystem Priority Area (Appendix B). Nor is it located within 100m of the identified watercourse or NFEPA wetland (Appendix B).</p> <p><u>Collector Line 4:</u> The start point is located close to an earth canal, which is not considered to be a watercourse. The remaining alignment will be constructed on the urban side of a dirt road that demarcates the edge of the existing township. Mr Sampie Shabangu, of DWA, confirmed that the area north of the road was a disturbed wetland system, during an inspection of the site on 07<sup>th</sup> February 2013. The same area is not identified as a National Fresh Water Ecosystem Priority Area (Appendix B).</p>
<p>18, GNR 544, 2010, as corrected</p>	<p>The <b>infilling</b> or depositing of <b>any material of more than 5 cubic metres</b> into, or the dredging, excavation, <b>removal</b> or moving of <b>soil</b>, sand, shells, shell grit, pebbles or rock of <b>more than 5 cubic metres</b> from:</p> <ul style="list-style-type: none"> <li>(i) a <b>watercourse</b>;</li> <li>(ii) the sea</li> <li>(iii) the seashore</li> <li>(iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea estuary, whichever distance is greater</li> </ul> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving;</p> <p>a. is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or</p> <p>b. occurs behind the development setback line.</p>	<p>This activity will be triggered if &gt; 5m3 of soil are excavated during the construction of Sewer Collector Line No. 3 in a disturbed wetland system and if the other Sewer Lines are determined to be within the edge of a watercourse.</p>
<p>26, GNR 544, 2010</p>	<p>Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).</p>	<p><b>QUERY 2</b></p> <p>Section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (NEMBA), provides that the Minister may, by notice in the Gazette, identify any process or activity in a listed ecosystem as a threatening process. <b>Please confirm whether any</b></p>

		<b>processes or activities have been identified in terms of section 53(1) of NEMBA as listed ecosystems or threatening process.</b> Activity 26 of LN1 cannot be triggered until such time as these processes or activities have been identified.
37, GNR 544, 2010	<p>The <b>expansion</b> of facilities or <b>infrastructure for the bulk transportation of water, sewage</b> or storm water where:</p> <p>(a) the facility or infrastructure is expanded by more than 1000 metres in length; or</p> <p>(b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more –</p> <p>Excluding where such expansion:</p> <p>(i) relates to transportation of water, sewage or storm water within a road reserve; or</p> <p>(ii) where such expansion will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</p>	<p><b>QUERY 3</b></p> <p>A new pipeline adjacent an existing pipeline does not constitute expansion. However, the new sewer collector lines will be connected to the existing outfall sewer. <b>Kindly clarify whether the Department interprets the proposed activities as ‘construction’ or ‘expansion.’</b></p> <p>“expansion” Means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;</p>
40, GNR 544, 2010	<p>The <b>expansion</b> of</p> <p>(i) jetties by more than 50 square metres;</p> <p>(ii) slipways by more than 50 square metres; or</p> <p>(iii) buildings by more than 50 square metres</p> <p>(iv) <b>infrastructure</b> by more than 50 square metres</p> <p>within a watercourse or <b>within 32 metres of a watercourse</b>, measured from the edge of a watercourse, but excluding where such expansion will occur behind the development setback line.</p>	<p>A new pipeline adjacent an existing pipeline does not constitute expansion. However, the new sewer collector lines will be connected to the existing outfall sewer. Kindly clarify whether the Department interprets the proposed activities as ‘construction’ or ‘expansion.’</p>
12, GNR 546, 2010	<p>The <u>clearance</u> of an area of 300 square metres or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation.</p> <p>(a) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>(b) Within critical biodiversity areas identified in bioregional plans; etc.</p>	<p>Sewer Collector Line No. 3 will clear indigenous vegetation. Lines 1, 2 and 4 are located within the township.</p> <p>Collector Line 3 is approximately 40m long. Assuming a working servitude of 3m, vegetation clearance should not exceed 120m<sup>2</sup>.</p> <p>The sites are not located within a critically endangered or endangered ecosystem (Appendix B).</p>
16, GNR 546, 2010	<p>The <b>construction</b> of:</p> <p>(i) jetties exceeding 10 square metres in size;</p> <p>(ii) slipways exceeding 10 square metres in size;</p> <p>(iii) buildings with a footprint exceeding 10 square metres in size, or</p> <p>(iv) <b>infrastructure</b> covering <b>10 square metres or more</b></p> <p>where such construction occurs <b>within a watercourse</b> or within 32 metres of a watercourse, measured from the edge of a</p>	<p>The relevance of this activity is dependent on whether the proposed project constitutes ‘construction’ or ‘expansion,’ whether the 4 Collector Lines are determined to be within 32m from the edge of a watercourse and whether Hlalanikahle including immediate environ is located within an identified geographical area.</p>

	watercourse, excluding where such construction will occur behind the development setback line.	
24, GNR 546, 2010	<p>The <b>expansion</b> of:</p> <ul style="list-style-type: none"> <li>(a) jetties where the jetty will be expanded by 10 square metres in size or more;</li> <li>(b) slipways where the slipway will be expanded by 10 square metres or more;</li> <li>(c) buildings where the buildings will be expanded by 10 square metres or more in size, or</li> <li>(d) <b>infrastructure</b> where the infrastructure will be expanded by <b>10 square metres or more</b></li> </ul> <p>where such construction occurs within a <b>watercourse</b> or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>The relevance of this activity is dependent on whether the proposed project constitutes 'construction' or 'expansion,' whether the 4 Collector Lines are determined to be within 32m from the edge of a watercourse and whether Hlalanikahle including immediate environ is located within an identified geographical area.</p>

**References**

SANBI & DEAT 2009. Threatened Ecosystems in South Africa: Description and Maps. Draft for Comment. South African National Biodiversity Institute, Pretoria, South Africa

**APPENDIX A:** Site Layout Plan

**APPENDIX B:** Identified Geographical (Sensitive) Areas