



**DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED
UPGRADE AND EXPANSION OF THE STORMWATER SYSTEM
AT NO. 1 SOUTH BEACH ROAD, UMDLOTI, ETHEKWINI
MUNICIPALITY, KWAZULU-NATAL**

AUGUST 2017

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SYNOPSIS

Basic Assessment for the proposed upgrade and expansion of stormwater system at No. 1 South Beach Road, Umdlotti


KEY WORDS:





Stormwater, Basic Assessment, Environmental Management Programme, EIA Regulations (2014, as amended), GNR 326.

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This report has been prepared under the controls established by a quality management system that meets the requirements of ISO9001: 2008 which has been independently certified by DEKRA Certification under certificate number 90906882



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EXECUTIVE SUMMARY

JG Afrika (Pty) Ltd has been appointed by eThekweni Municipality's Engineering Unit: Coastal, Stormwater and Catchment Management D, to undertake the environmental services required for the proposed upgrade and expansion of the stormwater system at No. 1 South Beach Road, Umdloti, eThekweni Municipality, KwaZulu-Natal. The proposed development requires Environmental Authorisation and a Water Use Licence prior to construction commencing. It is to be noted that the Water Use Licence Application will be undertaken by the eThekweni Municipality in due course.

The proposal entails the replacing of the existing stormwater system with a new underground culvert beneath the parking lot at No. 1 South Beach Road, Umdloti. The culvert will be approximately 115m in length and 1m in width. The existing outlets, which are continuously blocked by debris and beach sand, will be abandoned. The new culvert will be provided with manholes along its alignment to provide access for maintenance purpose. The proposed stormwater culvert will tie into the existing discharge point located to the north of the site. The discharge point will be upgraded to a 1.2m x 0.8m headwall.

The Public Participation Process involved consultation with the relevant authorities, non-government organisations (NGO's), neighbouring landowners, community members and other identified Interested and Affected Parties (IAPs). A Pre-Application Meeting was held with the Department of Economic Development, Tourism and Environmental Affairs (EDTEA): eThekweni District on 16 May 2017. English site notices were erected on site on 10 January 2017 to notify members of the general public of the proposed development. An Environmental Screening Report was distributed by email to neighbouring landowners, the Ward Councillor, the Umdloti Urban Improvement Precinct (UIP) and identified Key Stakeholders, including the Department of Water and Sanitation, the EDTEA: eThekweni District; EDTEA: Coastal Management Unit, the eThekweni Municipality's Environmental Planning & Climate Protection Department (EPCPD), Ezemvelo KZN Wildlife (EKZNW) and Coastwatch. An English newspaper advertisement was published on 24 July 2017 in the North Coast Courier newspaper. To-date, no issues or concerns have been raised by stakeholders and Interested and Affected Parties (IAP's).

The Draft Basic Assessment Report (BAR) and Environmental Management Programme (EMPr) are currently being circulated for comment for a period of 30 days as per Sub-regulation 3(8) of the EIA Regulations (2014, as amended). All State Departments are reminded that failure to submit comments within 30 days will, in terms of Sub-regulation 3(4) of the EIA Regulations (2014, as amended), be regarded as having no comments to offer. All comments received will be consolidated into the Final BAR, to be submitted to the Competent Authority (EDTEA) for a decision on Environmental Authorisation.

This BAR been drafted in accordance with the EIA Regulations (2014, as amended) and adheres to the requirements contained in Appendix 1 of GNR 326, as noted in Table 1-1.

TABLE 1-1: Structure of Basic Assessment Report

2014 EIA Regulations	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in Report
Appendix 1, Section 3 (a)	Details of – (i) The EAP who prepared the report; and the expertise of the EAP; and (ii) The expertise of the EAP, including a curriculum vitae.	Section 2 & Appendix 1
Appendix 1, Section 3 (b)	The location of the activity, including – (i) The 21-digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; (iii) Where the required information in items (i) and (ii) is not available, coordinates of the boundary of the property or properties	Section 3
Appendix 1, Section 3 (c)	A plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.	Section 4
Appendix 1, Section 3 (d)	A description of the scope of the proposed activity, including – (i) All listed and specified activities triggered; (ii) A description of the activities to be undertaken, including associated structures and infrastructure.	Section 4
Appendix 1, Section 3 (e)	A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.	Section 5
Appendix 1, Section 3 (f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Section 6
Appendix 1, Section 3 (h)	A full description of the process followed to reach the proposed preferred activity, site and location within the site, including: (i) Details of all alternatives considered; (ii) Details of the Public Participation Process undertaken in terms of Regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which the impacts- (aa) Can be reversed; (bb) May cause irreplaceable loss of resources; and (cc) Can be avoided, managed, or mitigated. (vi) The methodology used in deterring and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community, that may be affected focusing on the geographic, physical, biological, social, economic, heritage and cultural aspects; (viii) The possible mitigation measures that could be applied and level of residual risk; (ix) The outcome of the site selection matrix;	Section 7 Section 8 Section 8 Section 9 Section 10 Section 10 Section 10 Section 10 Section 11

2014 EIA Regulations	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in Report
	<p>(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and;</p> <p>(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity.</p>	<p>Section 7</p> <p>Section 12</p>
Appendix 1, Section 3 (i)	<p>A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including-</p> <p>(i) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and</p> <p>(ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.</p>	Section 10
Appendix 1, Section 3 (j)	<p>An assessment of each identified potentially significant impact and risk, including-</p> <p>(i) Cumulative impacts;</p> <p>(ii) The nature, significance and consequences of the impact and risk;</p> <p>(iii) The extent and duration of the impact and risk;</p> <p>(iv) The probability of the impact and risk occurring;</p> <p>(v) The degree to which the impact and risk can be reversed;</p> <p>(vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and</p> <p>(vii) The degree to which the impact and risk can be avoided, managed or mitigated.</p>	Section 11
Appendix 1, Section 3 (k)	Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report.	Section 10
Appendix 1, Section 3 (l)	<p>An environmental impact statement which contains-</p> <p>(i) A summary of the key findings of the environmental impact assessment;</p> <p>(ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and</p> <p>(iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.</p>	Section 9 and Section 12
Appendix 1, Section 3 (m)	Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management outcomes for the development for inclusion in the EMPr.	Section 10
Appendix 1, Section 3 (n)	Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.	Section 14
Appendix 1, Section 3 (o)	A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Section 15
Appendix 1, Section 3 (p)	A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	Section 13
Appendix 1, Section 3 (q)	Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised.	Section 14
Appendix 1, Section 3 (r)	<p>An undertaking under oath or affirmation by the EAP in relation to:</p> <p>(i) The correctness of the information provided in the report;</p> <p>(ii) The inclusion of the comments and inputs from stakeholders and interested and affected parties;</p> <p>(iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and</p>	Section 16

2014 EIA Regulations	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in Report
	(iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	
Appendix 1, Section 3 (s)	Where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts.	-
Appendix 1, Section 3 (t)	Where applicable, any specific information required by the Competent Authority.	-
Appendix 1, Section 3 (u)	Any other matter required in terms of section 24(4) (a) and (b) of the Act.	-

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DRAFT BASIC ASSESSMENT REPORT:
PROPOSED UPGRADING AND EXPANSION OF THE STORMWATER SYSTEM AT NO. 1
SOUTH BEACH ROAD, UMDLOTI, ETHEKWINI MUNICIPALITY, KWAZULU-NATAL

1. INTRODUCTION

The eThekweni Municipality Engineering Unit: Coastal, Stormwater and Catchment Management division, appointed JG Afrika (Pty) Ltd as their independent Environmental Assessment Practitioner (EAP) to undertake the environmental services required for the proposed upgrading and expansion of the stormwater system at No. 1 South Beach Road, Umdloti, eThekweni Municipality. The proposed development requires Environmental Authorisation and Water Use Licence prior to construction commencing.

The proposal entails the replacing of the existing stormwater system with an in-situ culvert to be constructed below the pedestrian walkway adjacent to the parking lot underground culvert beneath the parking lot at No. 1 South Beach Road, Umdloti. The culvert will be approximately 115m in length, 1m in width and 200m² in extent. The existing outlets, which are continuously blocked by beach sand, will be abandoned. The new stormwater culvert will be provided with manholes along its alignment to provide access for maintenance purpose. The proposed stormwater culvert will tie into the existing discharge point located to the north of the site. The discharge point will be upgraded to a 1.2m x 0.8m headwall.

As per GN R326 of the Environmental Impact Assessment (EIA) Regulations (2014, as amended), a Basic Assessment (BA) Process must be undertaken in such a manner that the environmental outcomes, impacts and residual risks of the proposed activities are assessed accordingly by the EAP. In this regard, the requirements of the BA Process are noted in the EIA Regulations (2014, as amended), Appendix 1 of GNR 326 and are consequently adhered to in this report (please refer to Table 1-1 of the Executive Summary).

Ultimately, the outcome of the BA Process is to provide the Competent Authority; the Department of Economic Development, Tourism and Environmental Affairs (EDTEA), with sufficient information to provide a decision on the Application in terms of Environmental Authorisation, to avoid or mitigate any detrimental impacts that the activity may inflict on the receiving environment.

2. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Details of the qualified EAPs involved in the undertaking the BA Process are noted in Table 2-1 and the Curriculum Vitae (CV) of the relevant EAPs attached as Appendix 1.

TABLE 2-1: Details of EAP

COMPANY NAME: JG AFRIKA (PTY) LTD			
EAP	Qualifications & professional affiliations	Experience at environmental assessments	Contact details
Mr M. van Rooyen Executive Associate	MPhil (Environmental Management), Pr. Sci. Nat; IAIAsa	14 years	JG Afrika (Pty) Ltd Tel: (033) 343 6700 Email: vanrooyenm@jgafrika.com

Ms I. summers Environmental Consultant	BSc. Hons Environmental Management; IAIAAsa	6 years	JG Afrika (Pty) Ltd Tel: (033) 343 6700 Email: summersi@jgafrika.com
Ms B. Ndaba Environmental Consultant	Adv. Diploma Nature Conservation; IAIAAsa	2 years	JG Afrika (Pty) Ltd Tel: (033) 343 6700 Email: ndabab@jgafrika.com

3. LOCATION OF THE ACTIVITY

The proposed infrastructure will be placed below the pedestrian walkway located adjacent to the parking lot in front of Umdloti Centre at No. 1 South Beach Road, Umdloti and extends approximately 115m to the north, to an existing drainage outlet which is to be upgraded. The surrounding land use is commercial. The site is bounded to the east by the Umdloti coastline, to the west by the Umdloti Centre, and to the north and south by apartment blocks and holiday homes.

The property description, 21-digit Surveyor General (SG) code and property co-ordinates are provided in Table 3-1. A Locality Map is provided in Figure 3-1.

TABLE 3-1: Property description, Northern Property

NORTHERN PROPERTY DETAILS	
LANDOWNER	eThekwini Municipality ¹
PROPERTY DESCRIPTION	Farm Cotton Lands, Portion 1191 of Farm Number 1575
21 DIGIT SG CODE	N0FU00000000157501191
Extent	115m long, 1m wide and 200m ² in extent
CO-ORDINATES	Start: 29°40'15.70" S; 31°07'03.84" E End: 29°40'16.26" S; 31°07'03.25" E

TABLE 3-2: Property description, Southern Property

SOUTHERN PROPERTY DETAILS	
LANDOWNER	eThekwini Municipality ¹
PROPERTY DESCRIPTION	Farm Cotton Lands, Portion 275 (Remaining Extent) of Farm Number 1575
21 DIGIT SG CODE	N0FU00000000157500275
Extent	115m long, 1m wide and 200m ² in extent
CO-ORDINATES	Start: 29°40'16.26" S; 31°07'03.25" E End: 29°40'18.86" S; 31°07'01.67" E

¹ As per confirmation from the Applicant.

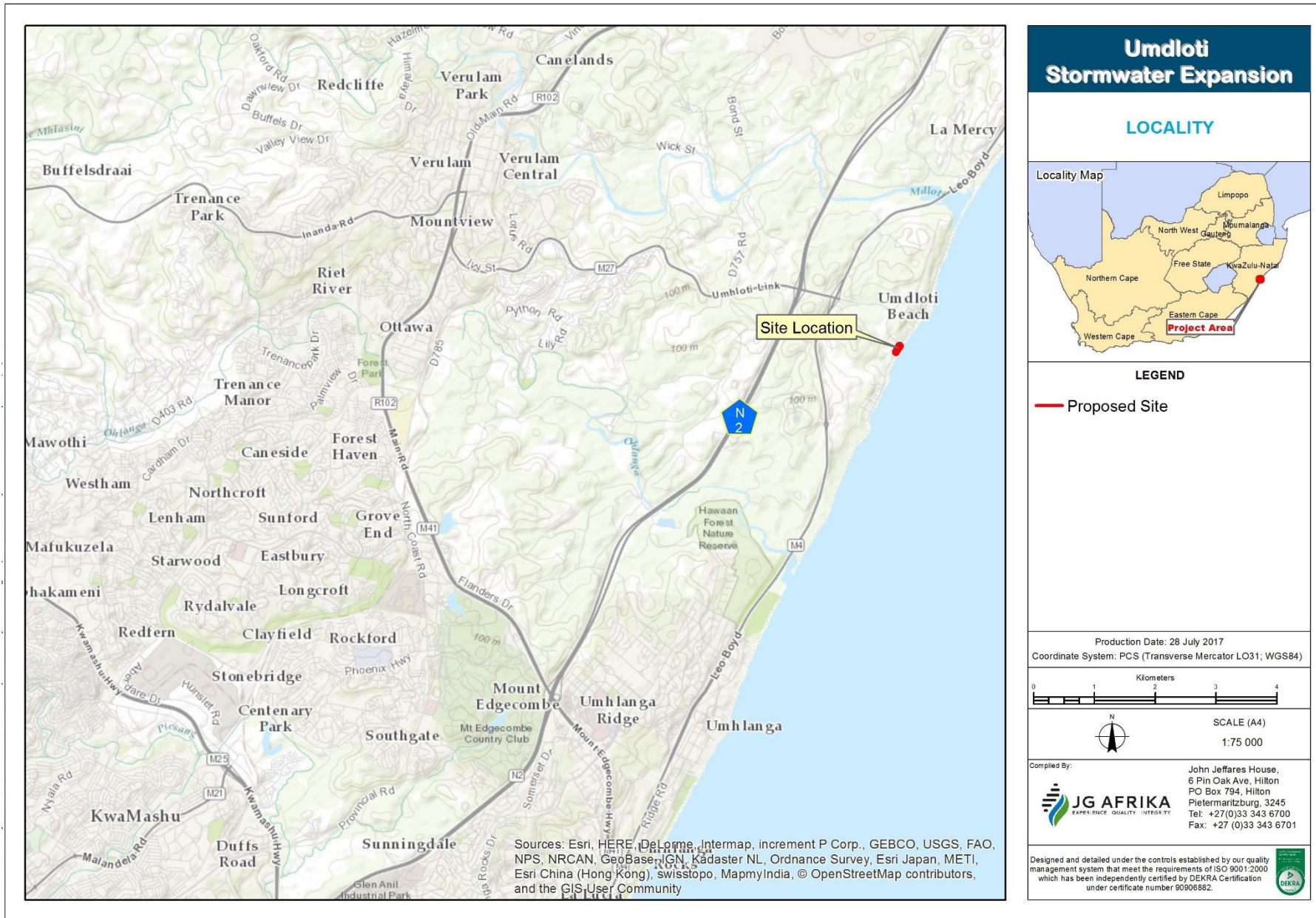


FIGURE 3-1: Topographical Map of the proposed stormwater expansion.

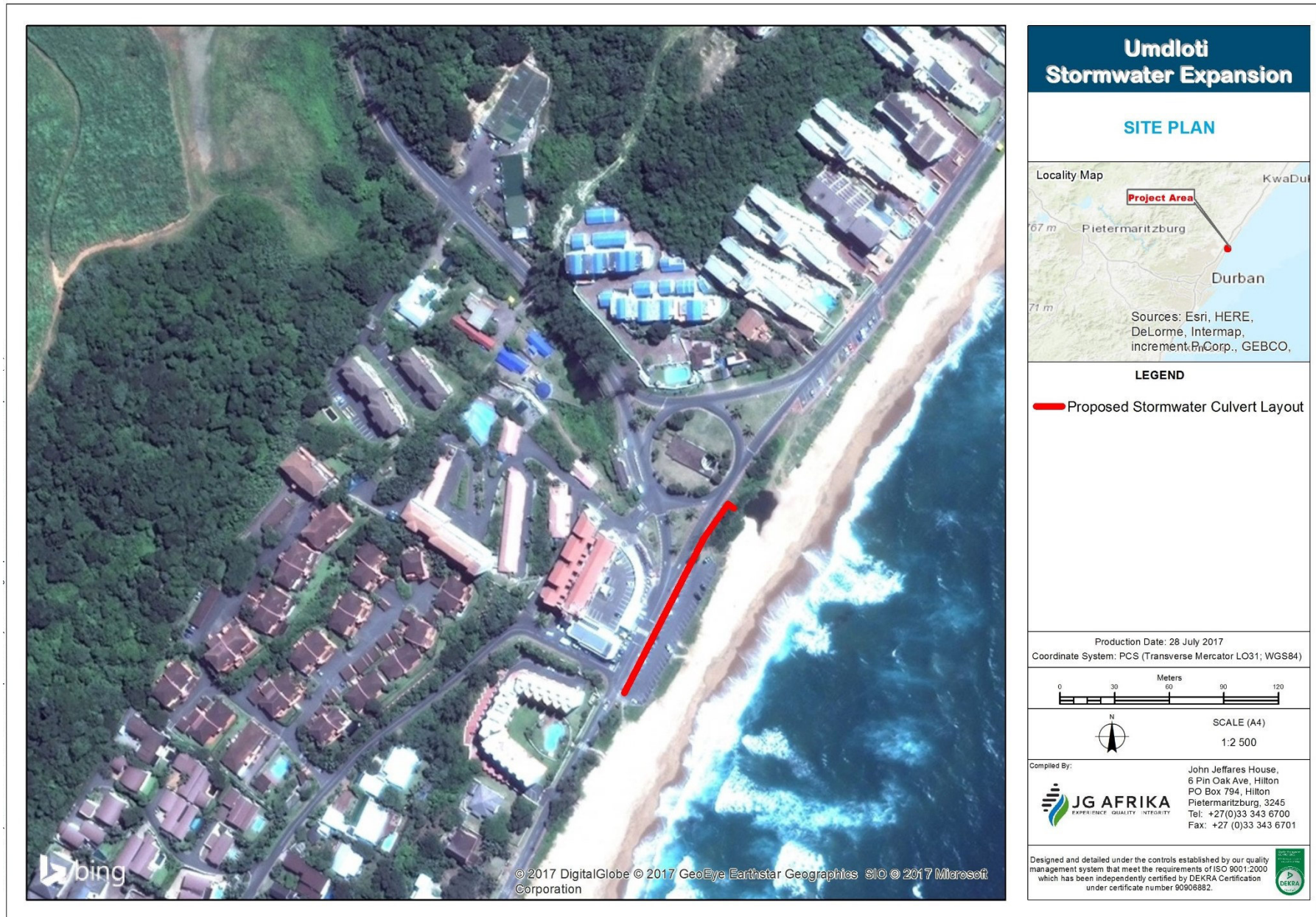


FIGURE 3-2: Locality map of the proposed stormwater expansion.

4. ACTIVITY DESCRIPTION

4.1. LEGISLATION

4.1.1. EIA REGULATIONS (2014, AS AMENDED)

In terms of the EIA Regulations (2014, as amended), promulgated under the National Environmental Management Act (Act No. 107 of 1998) (NEMA), certain Listed Activities are specified for which either a BAR (GNR 327 and GNR 324) or a full Scoping and EIA (GNR 325) is required.

TABLE 4-1: Applicable Listed Activities as per NEMA (Act 107 of 1998): EIA Regulations (2014, as amended)

LISTING NOTICE & ACTIVITY	LISTED ACTIVITY AND TRIGGER AS PER THE PROJECT DESCRIPTION
GNR 327 (Listing Notice 1): <u>Activity 19A</u>	<p><i>“The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from;</i></p> <p><i>(ii) the littoral active zone, an estuary or a distance of 100 metres inland of the higher water mark of the sea or an estuary, whichever distance is the greater.”</i></p> <p>- <u>The expansion of the stormwater infrastructure will fall within 100m of the high-water mark and the construction process will result in the infilling or deposition of at least 5m³ or more of material within 100m inland of the high water mark of the sea. As such this listed activity will be triggered.</u></p>
GNR 324 (Listing Notice 3): <u>Activity 14</u>	<p><i>“The development of (vi) bulk storm water outlet structures exceeding 10 square metres in size; and (xii) infrastructure or structures with a physical footprint of 10 square metres or more; Where such development occurs –</i></p> <p><i>In front of a development setback</i></p> <p><i>In KwaZulu-Natal:</i></p> <p><i>xi. In urban areas:</i></p> <p><i>(cc) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined.”</i></p> <p>- <u>The expansion of the stormwater infrastructure will fall within an urban area, within 100m of the high-water mark and will exceed 10m² in size. As such this Listed Activity is triggered.</u></p>
GNR 324 (Listing Notice 3): <u>Activity 23</u>	<p><i>“The expansion of (ii) infrastructure or structures where the physical footprint is expanded by 10 square metres or more;</i></p> <p><i>Where such expansion occurs-</i></p> <p><i>(b) in front of a development setback adopted in the prescribed manner; or</i></p> <p><i>(d) KwaZulu-Natal</i></p> <p><i>xi. Inside urban areas;</i></p> <p><i>(cc) Areas seawards of the development setback line or within 100metres from the high water-mark of the sea if no such development setback line is determined.</i></p> <p>- <u>The expansion of the stormwater infrastructure will fall within an urban area, within 100m of the high-water mark and will exceed 10m² in size. As such this Listed Activity is triggered.</u></p>

Based on the above, a Basic Assessment Process is required. No Listed Activities under GNR 325 (Listing Notice 2) are triggered by the proposed development. The associated Environmental Authorisation Application form is attached as Appendix 2 and an organogram of the BA Process is provided in Figure 4-1 for reference purposes.

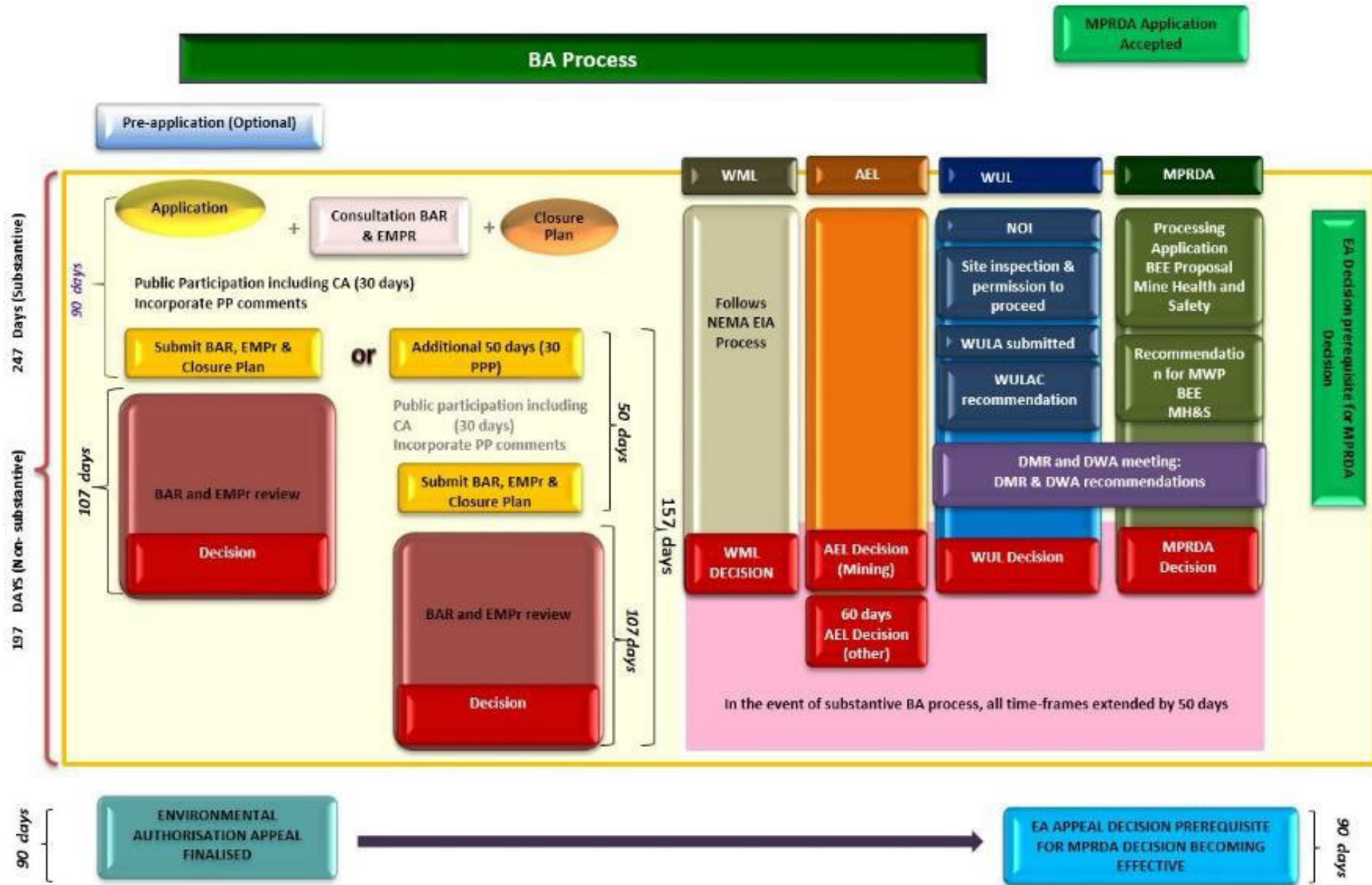


FIGURE 4-1: Basic Assessment Process Flow

4.1.2. WATER USE LICENCE

In terms of the National Water Act (Act 36 of 1998) (NWA), there are certain water uses that require authorisation through the undertaking of a Water Use Licence Application (WULA). The objective of the WULA process is to submit a complete application required for the Department of Water and Sanitation (DWS) to make an informed decision regarding the possible granting of a Water Use Licence (WUL) related to this study. In this regard, it is anticipated that the following water uses will be necessary in terms of Section 21 of the NWA:

- Section 21(c): impeding or diverting the flow of water in a watercourse; and
- Section 21 (i): altering the bed, banks, course or characteristics of a watercourse.

As the above Section 21 water uses are proposed to be triggered, a Water Use Licence Application will have to be undertaken in terms of the NWA. The eThekweni Municipality is aware of this matter and will engage independently with the Department of Water and Sanitation (DWS) in this regard. The WULA is therefore a separate activity and is not addressed further in this assessment.

4.1.3. LOCAL REGULATIONS: ETHEKWINI MUNICIPALITY BY-LAWS

By-laws are laws passed by the Executive Council of a municipality to regulate the affairs and the services it provides within its area of jurisdiction. A municipality derives the powers to pass a by-law from the Constitution of the Republic of South Africa, which gives certain specified powers and competencies to local government.

A review of the eThekweni Municipality's by-laws notes that by-laws will be applicable to an Application of this nature and in the proposed location. With respect to the by-laws, the Applicant is deemed to be responsible for administering these through the relevant municipal processes.

4.2. EDTEA PRE-APPLICATION MEETING

A Pre-Application Meeting was held with Ms Y. Naicker of the EDTEA: eThekweni District on 16 May 2016. The minutes thereof are attached as Appendix 3. The purpose of the Pre-Application Meeting was to introduce the project to the Competent Authority, present and confirm the relevant Listed Activities and identify the required Specialist Studies to be conducted. In this regard, EDTEA confirmed the applicability of the identified Listed Activities and agreed that no Specialist Studies would be required.

4.3. DESCRIPTION OF THE ACTIVITY

4.3.1. PROJECT OVERVIEW

The existing stormwater outlets at No. 1 South Beach Road, which discharge onto the beach, are continually being blocked by sand due to tidal activity. This results in the back flooding of the stormwater onto the car park and adjacent roads and the undermining of the car park and existing staircase leading from the car park onto the beach front. The proposed upgrade and expansion includes the construction of a subsurface stormwater culvert to be placed below the pedestrian walkway located adjacent to the parking lot in front of Umdloti Centre. The stormwater culvert will discharge onto the beach at a point to the north of the parking lot.

The proposed activity entails the construction of an underground stormwater culvert consisting of a new 1.2 x 0.6m in-situ box culvert. The stormwater culvert will be approximately 115m long, 1m wide and will be 2m deep. The upgraded stormwater culvert will be provided with manholes along its alignment to provide access for maintenance purposes. The existing stormwater infrastructure will feed into an existing stormwater outlet. The existing stormwater outlet, located to the north of the parking area, will be upgraded through the construction of a 1.2m x 0.8m headwall. See Figure 4-2 for details thereof. The existing stormwater outlets will be blocked off and abandoned where they presently intersect with the existing stormwater pipeline (See Figure 4-3 for details thereof).

The construction period is expected to last 16 weeks and will affect the existing servitudes. Access to the parking lot from the northern entrance will be restricted for a portion of the construction phase. Traffic control measures will be required at the turning circle (the proposed location of the site camp), and on the road servitude (adjacent to the construction footprint). Pedestrians will also not be able to use part of the walkway as it will be dug up for the placing of the stormwater culvert. The proposed layout of the stormwater upgrade and the construction camp, is provided in Figure 4-4.

4.3.2. SITE ACCESS

The site is accessible from the Umdloti South Beach Road. As the proposed development will entail the construction of an underground stormwater culvert proposed to be placed beneath the existing pedestrian walkway, certain portions of the pedestrian walkway along South Beach Road, and in particular along the pedestrian walk way at the car park in front of Umdloti Centre, will not be accessible during the construction phase.

4.3.3. CONSTRUCTION CAMP

The site falls within a tourism area which is popular all year round. The site is also surrounded by a built-up area and existing infrastructure, resulting in very little open space. In this regard, cognisance has been given to the location of the site construction camp due to the limited availability of land in close proximity to the site. The Applicant has proposed that in order to create the least amount of disturbance to the surrounding environment and community, the site construction camp will be located on the existing traffic circle at the intersection of the M27 with North and South Beach Roads. The construction camp will be established adjacent to the eThekweni Metro Wastewater infrastructure. Refer to Figure 4-4.

The site construction camp will be comprised of one, lockable container for the storage of goods, as well as the stockpiling and storage of construction materials, include the ready-made box culverts, granular sand material, import fill material etc. The site construction camp will be appropriately fenced and sign-posted to prevent public access, as well as to provide adequate details of the construction project and contractor.

Construction is anticipated to take 16 weeks to complete. Post construction, all necessary infrastructure contained within the construction camp will be removed and rehabilitation measures, including re-grassing, will be implemented. The existing vegetation located within the site camp will not be tampered with / cut down, for any reason.

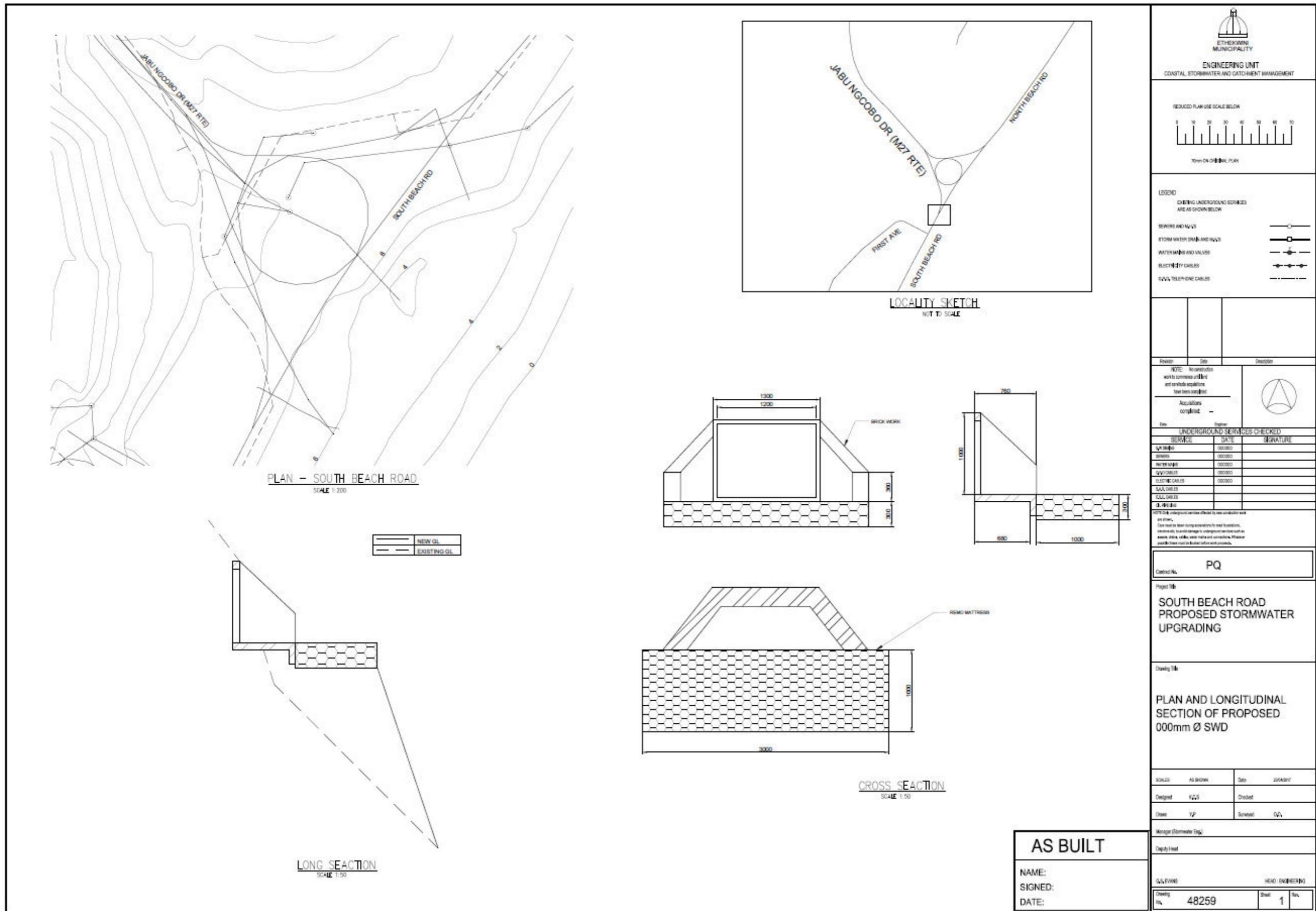


FIGURE 4-2: Facility drawing showing the proposed stormwater upgrade [Source: eThekweni Municipality Engineering Unit: Coastal, Stormwater and Catchment Management].



FIGURE 4-3: The points at which the existing stormwater outlets (illustrated in purple), which intersect with a portion of the existing stormwater pipeline (illustrated in blue) will be blocked off and abandoned.



FIGURE 4-4: Proposed location of the stormwater culvert and the construction camp.

4.1.1. ACTIVITIES TO BE UNDERTAKEN DURING CONSTRUCTION

The following activities will be involved during construction of the underground stormwater culvert and the headwall:

- Excavation of trenches and preparation for the new stormwater culvert;
- Establishment of the site camp on the turning circle (municipal owned land);
- In-situ box culvert;
- Construction of a headwall at the discharge point;
- Mixing of concrete to replace damaged / removed curbs; and
- Rehabilitation of the site on completion of the project.

Construction vehicles may need to access the beach during the construction of the headwall at the discharge point. Should any construction vehicle need to access the coastal zone (i.e. beach), the appointed contractor is to obtain a letter from the Municipality granting permission, which will stipulate the duration of construction, as well as any specific requirements, prior to access.

4.1.2. ACTIVITIES TO BE UNDERTAKEN POST-CONSTRUCTION

Once construction is complete, the underground stormwater culvert will be backfilled. The working area will be rehabilitated. Paving will be replaced along the pedestrian walkway and the road surface at the point of the parking lot access will be reinstated. The area occupied by the site camp will be re-grassed. Should any indigenous flora need to be removed during the construction of the headwall discharge point, then this will be replaced during the rehabilitation phase.

Once operational, the asset underground stormwater culvert will be handed over to the Roads and Stormwater Maintenance Department, who will take over the maintenance operations required on an ad hoc basis. To avoid triggering any potentially applicable Listed Activities contained within the EIA Regulations (relevant at the time), the Applicant i.e. the eThekweni Municipality's Coastal, Stormwater and Catchment Management Department must compile and submit a Maintenance Management Plan to EDTEA for approval. This is, however, being dealt with separately to this Application and as such not appended to this report.

5. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

Table 5-1 provides a list of all the applicable legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA Regulations (2014, as amended).

TABLE 5-1: *Applicable legislation, policies and/or guidelines.*

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act (Act 107 of 1998) – for its potential to cause degradation of the environment (Section 28).	Department of Environmental Affairs, Pretoria, South Africa	1998
Environmental Conservation Act (Act 73) – for potential environmental degradation.	Department of Environmental Affairs, Pretoria, South Africa	1989
National Water Act (Act 36 of 1998) – for potential to cause pollution of water resources defined under the Act (Section 19).	Department of Water Affairs and Forestry	1998
National Environmental Management: Biodiversity Act, 2004 (Act 10 of	Department of Agriculture and Environmental Affairs &	2004

Title of legislation, policy or guideline:	Administering authority:	Date:
2004) – for protection of biodiversity.	Ezemvelo KZN Wildlife	
National Environmental Management: Integrated Coastal Management Act – for protection of the coastal environment	Department of Environmental Affairs, Pretoria, South Africa	2009
National Heritage Resources Act (Act No 25 of 1999 as amended) – for the identification and preservation of items of heritage importance.	Department of Arts and Culture (Amafa KwaZulu-Natal)	1999
Department of Environmental Affairs (2017), Public Participation guidelines in terms of the NEMA EIA Regulations.	Department of Environmental Affairs, Pretoria, South Africa	2017
Integrated Environmental Management Guideline; Guideline on Need and Desirability (2017).	Department of Environmental Affairs, Pretoria, South Africa	2017
Guideline 7: Detailed Guide to Implementation of the Environmental Impact Assessment Regulations (2006).	Department of Environmental Affairs and Tourism	2007
eThekweni Municipality: Beaches By-laws	eThekweni Municipality	2015
eThekweni Municipality: Integrated Development Plan. 5 Year Plan: 2017/2018 to 2021/2022. Annual Review 2016/2017.	eThekweni Municipality	2016
Design Manual: Guidelines and policy for the designs of stormwater Drainage and Stormwater Management System (Vade Mecum).	eThekweni Municipality	2008

6. DEVELOPMENT MOTIVATION

6.1. NEED

The car park and staircase at Umdloti beach are continuously undermined as a result of erosion. Due to the location of the stormwater outlet pipes on the beach, the pipes continuously get blocked by sand due to natural deposition. This causes a backwater effect² where stormwater floods back into the car park and adjacent roads. The resultant runoff of this accumulation of water contributes to the erosion of the site.

6.2. DESIRABILITY

The upgrading of the stormwater system will prolong the lifespan of nearby roads, reduce the potential flooding of neighbouring properties, as well as prevent erosion of the surrounding environment. Improved stormwater infrastructure will result in a reduced need for maintenance and infrastructure costs, as currently required by existing infrastructure. This will ensure the longevity of the infrastructure in and around the beach and car park.

Should the stormwater infrastructure not be constructed, the desirability of Umdloti Beach as a tourism and recreational resource may decrease as the infrastructure will continue to be undermined.

² Backwater effect: The effect which a dam or other obstruction or construction has in raising the surface of the water upstream from it.

6.3. PLANNING INITIATIVES

6.3.1. INTEGRATED DEVELOPMENT PLAN

As per the eThekweni Municipality's Integrated Development Plan (IDP)³, two objectives identified within the Eight Point Plan can be achieved through the proposed development (*albeit* on a small scale applied to the Umdloti region). The first of these is to create a quality living environment for citizens and visitors alike. This is achieved in part through the maintenance of infrastructure and assets to ensure that the existing services continue to be delivered. This reduces costs in the long term by avoiding the need to replace infrastructure due to lack of maintenance. Services that are being targeted include stormwater, water, electricity, solid waste, sanitation, roads and sidewalks etc.

Another objective identified within the Eight Point Plan is to develop and sustain the spatial, natural and built environment. The desired outcome of this objective is to allow citizens and visitors access to and the use of resources to meet their needs without compromising the amenity for others and the resource base of the Municipality in the present and in the future. This ensures that facilities, infrastructure and services are maintained at an international standard. Key maintenance projects include supporting the beaches, parks and other iconic facilities provided by the City.

In this regard, the upgrade and expansion of the stormwater infrastructure at No. 1 South Beach Road is in keeping with objectives identified in the IDP, given the need to maintain and service existing infrastructure, whilst developing and sustaining the built environment for all. It is therefore in the interests of the municipality to ensure an efficient and effective stormwater control system, which provides a quality living environment to locals and tourists alike and which does not detract from a clean beach aesthetic.

7. MOTIVATION FOR THE PREFERRED SITE, ACTIVITY AND TECHNOLOGY ALTERNATIVE

The proposed development triggers Listing Notice GNR 327, Activity 19A and Listing Notice GNR 324, Activities 14 and 23 of the EIA Regulations (2014, as amended). As per GNR 326, Appendix 1(2)(b), alternatives for the proposed development are to be identified and considered. Chapter 1 of the EIA Regulations (as amended, 2014) provides an interpretation of the word "alternatives", which is to mean "*in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the –*

- a) *Property on which or location where the activity is proposed to be undertaken;*
- b) *Type of activity to be undertaken;*
- c) *Design or layout of the activity;*
- d) *Technology to be used in the activity; or*
- e) *Operational aspects of the activity;*

And includes the option of not implementing the activity."

Based on the above, the following alternatives are presented for the proposed development.

³ eThekweni Municipality. Integrated Development Plan. 5 year plan: 2017/18 to 2021/22. Adopted by eThekweni Council on 31 May 2017. Accessed: 12/07/2017 http://www.durban.gov.za/City_Government/City_Vision/IDP/Documents/IDP%202017%202018.PDF

7.1 PREFERRED SITE ALTERNATIVE

The preferred site alternative entails the upgrade and expansion of existing stormwater infrastructure located at No. 1 South Beach Road (Farm Cotton Lands, Number: 1575, Portion 1191 and Portion 275 (Remaining Extent), Umdloti. The proposed subsurface infrastructure is to be constructed below the pedestrian walkway located adjacent to the parking lot in front of Umdloti Centre and will discharge onto the beach at a point to the north of the parking lot. The proposed upgraded and expanded stormwater infrastructure will service stormwater drains leading from 1st Avenue and the surrounding built up environment. The location of the proposed infrastructure is therefore the most feasible site alternative as it is already utilized for the purpose of stormwater management. In addition, the proposed infrastructure is being constructed within the existing footprint of the existing stormwater system, thereby reducing the area of disturbance. No other sites have therefore been investigated due to the need to provide services to control the stormwater and prevent erosion at the discharges points.

Constructing the proposed development elsewhere would create additional, unnecessary disturbance to another portion of the Umdloti beachfront. This will involve considerable capital investment as the current stormwater network would need to be realigned. Additional impacts to the sensitive coastal zone would also be required if the realignment of infrastructure were to be implemented. As such, the preferred site is considered the only feasible site suitable to meet the need and desirability of the Application efficiently and effectively. Plates 7-1 to 7-4 provide an overview of the site.



PLATE 7-1: The approximate alignment of the proposed in-situ culvert to be constructed below the pedestrian walkway adjacent to the parking lot.



PLATE 7-2: The Umdloti Centre and parking lot adjacent to the proposed stormwater infrastructure.



PLATE 7-3: The existing stormwater outlets which become blocked by beach sand and which will be abandoned.



PLATE 7-4: The existing discharge point, to be upgraded, into which the proposed stormwater infrastructure will tie into.

7.2 PREFERRED TECHNOLOGY ALTERNATIVE

The existing stormwater network drains the South Beach, 1st Avenue and surrounding catchments which presently discharge onto Umdloti Beach via existing outfall pipes. These existing outfall conduits are continuously blocked by beach sand and no longer function sufficiently. The blocked stormwater pipes also cause blockages and consequent pooling of water within the parking lot and along the South Beach Road. It and is therefore proposed to upgrade and expand the existing infrastructure with an *in-situ* box culvert and associated manholes for future maintenance. The stormwater culvert will tie into the headwall of the existing discharge point, which is proposed to be expanded and upgraded to a 1.2m x 0.8m headwall.

This technology alternative has been proposed by the eThekweni Municipality's Engineering Unit as the most suitable and efficient layout given the physical attributes of the site, while taking into consideration the existing stormwater infrastructure located in the area. As a result, this is the only technology alternative considered which meets the need and desirability of the Application.

7.3 NO-GO ALTERNATIVE

The no-go alternative refers to the option of not implementing the proposed activity. In the case of this Application, it would mean that the back water effect of the stormwater into the car park and the adjacent roads and the undermining of the car park and beach staircase would continue during rainfall events. This would could pose a safety risk to road users and those who utilize the parking lot to access the Umdloti Centre.

It is one of the eThekweni Municipality's mandates to manage urban stormwater. This must be conducted in a

responsible manner that considers public safety, infrastructure and environmental integrity. The proposed construction of the stormwater system meets these criteria, as well as those stipulated in the eThekweni Municipality's IDP. On this basis, the no-go alternative should not be considered.

8. PUBLIC PARTICIPATION

To fulfil the necessary public participation required as part of the BA Process, the following methods of stakeholder engagement were conducted by the EAP, as outlined below:

8.1 NEWSPAPER ADVERTISEMENT

A newspaper advertisement was published to inform the public of the BA Process. The advertisement was published on 28 July 2017 in the North Coast Courier. The advertisement was published in English. Proof of publication is provided in Figure 8-1 and attached in Appendix 5(i).

**1001
PUBLIC NOTICES**

NOTICE OF AN ENVIRONMENTAL IMPACT ASSESSMENT APPLICATION FOR THE PROPOSED UP-GRADING & EXPANSION OF THE STORMWATER SYSTEM AT 1 SOUTH BEACH ROAD, UMDLOTI, ETHEKWINI METROPOLITAN MUNICIPALITY, KWAZULU-NATAL (JG AFRIKA (PTY) LTD REF NO.: 4413)

Notice is hereby given in terms of the National Environmental Management Act (NEMA, Act 107 of 1998), published in Government Notice No. R326 (2017), as amended, of the intent to carry out a Basic Assessment Process for the abovementioned development.

Proposed activity:
The proposed development entails the construction of a new underground stormwater channel below the existing pedestrian walkway along 1 South Beach Road. The stormwater channel will be approximately 100m in length, 1m in width and will tie into the existing discharge point located to the north of the site. The existing outlets will be abandoned.

Proposed location:
Approximate start co-ordinate: 29°40'18.33" S; 31°07'01.99" E.
Approximate end co-ordinate: 29°40'15.57" S; 31°07'03.68" E.

Applicant:
eThekweni Municipality's Engineering Unit: Coastal, Stormwater and Catchment Management.

Should you wish to register as an Interested and Affected Party (IAP) in this Application, please submit your name, contact information and interest in the matter, as well as any comments or queries you may have to:
JG Afrika (Pty) Ltd.
Contact Person:
Imke Summers
summersi@jgafrika.com
Address: JG Afrika
PO Box 794
Hilton, 3245
Tel: 033-3436700
Fax: 033-3436701

FIGURE 8-1: Newspaper advertisement placed in the North Coast Courier newspaper on 28 July 2017.

8.2 SITE NOTICE BOARDS

Site notices were placed on site at the outset of the project. The purpose of the site notice boards was to inform community members and passers-by of the BA Application. The site notice boards included project specific details, a map indicating the location of the proposed development and the contact details of the EAP should any member of the public require additional information, or wish to register as an IAP in the Application.

Three site notice boards were placed on site on 10 January 2017. The site notice boards were written in English and each had the following dimensions: 60cm x 42cm. Figure 8-2 provide copies of the site notice board, while Figure 8-3 provides a map of where the site notice boards were placed in relation to the proposed development. Photographs of the site notice boards are provided in Plates 8-1 to 8-3.

NOTICE OF AN ENVIRONMENTAL IMPACT ASSESSMENT APPLICATION (BASIC ASSESSMENT) FOR THE EXPANSION OF THE STORMWATER SYSTEM AT 1 SOUTH BEACH ROAD, UMDLOTI
EDTEA REFERENCE: Pending

Notice is hereby given in terms of Regulation 41 of the National Environmental Management Act, Act 107 of 1998 (NEMA) Regulations, published in the Government Notice No. R.982, 983, 984 and 985, from 8 December 2014 of the intent to carry out an Environmental Impact Assessment. The Application will be lodged with the Department of Economic Development, Tourism and Environmental Affairs (EDTEA).

LOCATION: The site is located along the beachfront at 1 South Beach Road, Umdloti, within the eThekweni Municipality.

SCOPE OF WORKS:

At present the car park and staircase at Umdloti Beach are being undermined due to erosion. Existing stormwater outlets are being continually blocked by sand due to the natural deposition of sand at the site. This in turn is causing the back flooding of stormwater onto the car park and the adjacent roads. The resultant runoff of this accumulation of water contributes to the erosion of the site and the continued undermining of infrastructure. The proposed development will consist of a new precast channel be constructed along the parking lot. The channel will be approximately 100m in length and 1m wide and will have a removable lid for maintenance purposes. The existing stormwater lines will feed into this culvert. Existing outlets are to be abandoned. A new discharge point will be constructed north of the parking lot consisting of a 1.2 x 0.8m headwall. The existing staircase will be reinstated.

PROPONENT: eThekweni Municipality's Engineering Unit: Coastal, Stormwater and Catchment Management

CONTACT: Imke Summers
 JG Afrika (Pty) Ltd
 PO Box 794, Hilton, 3245
 Phone: 033 343 6789
 Fax: 033 343 6701
 E-mail: summersi@jgafrika.com

In order to ensure that you are identified as an interested and/ or affected party please submit your name, email address, and other contact information and interest in the matter, in writing, to the contact person given above.



FIGURE 8-2: The poster placed on site.



FIGURE 8-3: Location of site notices in relation to the proposed development [Map Source: Google Earth, 2017].



PLATE 8-1: Site Notice 1 located at the access stairs to Umdloti Beach.



PLATE 8-2: Site Notice 2 placed on the periphery of the parking lot, overlooking Umdloti Beach.



PLATE 8-3: Site Notice 3 placed on the periphery of the North Beach Road parking lot.

8.3 WRITTEN NOTIFICATION TO AUTHORITIES AND NEIGHBOURS

8.3.1 INTERESTED AND AFFECTED PARTIES (IAPS)

A register of IAPs has been compiled as per Section 42 of the EIA Regulations, 2014 as amended. This includes all relevant authorities, Government Departments, the Municipality, relevant conservation bodies, non-governmental organisations (NGOs), body corporates of surrounding apartment blocks / holiday homes and members of the public that have requested to be registered. The IAP register was updated to include those IAPs responding to the newspaper advertisement, site notice boards and Notification Letters. A copy of the IAP Register is included in Appendix 5(ii) of this report.

8.3.2 NOTIFICATION LETTER

At the commencement of the project, an Environmental Screening Report was compiled to confirm the Listed Activities to be applied for, to determine the sensitivity of the receiving environment and to determine whether the watercourse into which the discharge point will connect to, is considered an estuarine system. The Environmental Screening Report was submitted to the eThekweni Municipality: Environmental Planning & Climate Protection Department for review and comment. The EPCPDE confirmed the Listed Activities to be applied for, as well as noting that the present discharge point is not considered an estuarine system.

As the Environmental Screening Report contained information regarding the receiving environment as well as details of the proposed development, it was circulated to Ezemvelo KZN Wildlife, Amafa aKwazulu-Natali, the Department of Water and Sanitation, Department of Transport, EDTEA: Coastal Management Unit, Coastwatch, Eskom, Telkom and the Ward Councilor. The Chairperson of the Umdloti Urban Improvement Precinct, and the relevant parties for the body corporates of the Sea Lodge, Bahia Village Estates, Umdloti Cabana's, Perna Perna, Umdloti Resort, Tahiti and the Umdloti Centre were also issued with copies of the Environmental Screening Report. As the Environmental Screening Report included information regarding the receiving environment as well as details of the proposed development

A copy of the Environmental Screening Report is included as in Appendix 5(iii) of this report.

8.4 PUBLIC MEETING

A public meeting was not held due to limited interest in the proposed activity.

8.5 COMMENT RECEIVED

Table 8-1 represents the comment received to-date following the placement of the advertisement, the site notices and the circulation of the Environmental Screening Report.

TABLE 8-1: IAP comments

IAP / STAKEHOLDER	COMMENT	EAP RESPONSE
Mr G. Pullan Ward 58 Councillor 22/01/2017	Hi Imke, please register my interest in this EIA. I am the Cllr for Ward 58, in which this project falls. I have copied in some interested residents.	Noted. All parties referred to have been registered as IAP's.
Mr W. Holland Sealodge 23/01/2017	Please confirm my registration as an IAP and forward the BID documents by return.	Noted. A copy of the Environmental Screening Report was emailed to Mr Holland.
Ms T. Rens Umdloti Urban Improvement Programme 23/01/2017	The UIP reconstructed the stairs at the commercial car park as they had collapsed due to the stormwater being blocked. We have also planted over 30 <i>Aloe Transkii</i> in that area. Should the team arrive to do any work in that area, we would appreciate the Aloes being retained or at least moved until the project is complete.	Existing infrastructure damaged during the construction process will be replaced. Indigenous vegetation, such as the <i>Aloe transkii</i> planted by the UIP in and around the footprint of the construction site, will be removed and maintained for the duration of the construction phase. Should any aloe plants be accidentally destroyed during the construction phase, they will be replaced.
Mr R. Couch Telkom	No Telkom SA SOC Ltd infrastructure will be affected. Telkom SA SOC Ltd has no objection to the Application.	Noted.

IAP / STAKEHOLDER	COMMENT	EAP RESPONSE
Ref: EWIP_NSIQ0741_17 11/04/2017	Approval of the proposed is valid for six months. If construction has not yet commenced within this time period, then the file must be resubmitted for approval. Any changes/deviations from the original planning construction must be immediately communicated to the office.	
S.P. Dlamini eThekweni Environmental Planning Climate Protection Department (EPCPD) 03/05/2017	<p>1. Biodiversity: In terms of biodiversity, it is acknowledged that the area, is:</p> <ol style="list-style-type: none"> 1) Within the KwaZulu-Natal Coastal Belt Grassland (CB3)-critically endangered 2) Characterised by Mucina & Rutherford (2006)¹ as Northern Coastal Forest (F0z 7) 3) Within DMOSS 4) Within 5km of the Umhlanga Lagoon protected area. <p>However, given that the project area is extensively developed and is already a parking lot with adjacent stormwater discharge points, the ecological sensitivities prescribed for the various rating systems for this site are invalid as these rating systems assume natural or pristine biodiversity state. Very little, if any, biodiversity of value stills exists at the adjacent drainage line / watercourse discharge to the sea. As such, EPCPD has no biodiversity concerns related to the proposed upgrade.</p> <p>JG Afrika has defined the adjacent drainage line / watercourse as an estuary using the definition in the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008) (ICMA): “estuary” means a body of surface water – (a) that is part of a water course that is permanently or periodically open to the sea...”</p> <p>It could be intended that this watercourse discharging to the beach is not a body of surface water and thus not an estuary in terms of the definition. The argument is supported by a study undertaken by marine and Estuarine Research of the Municipality’s estuaries, which did not recognise this watercourse as an estuary particularly given the context of its location; substantial degradation and development over the drainage line; the nature of the surrounding development area; and the lack of estuarine functional value.</p> <p>2. EIA requirements: The review of the possible listed activities is based on 2014 EIA Regulations under the National Environmental Management Act (Act No. 107 of 1998) (NEMA) (as amended) which have recently been amended (as per the 2017 amendment). Included in the amendments and of relevance to this assessment are increases in the threshold volumes from 5m³ to 10m³ for Listed Activity 19 of GNR 327. It is assumed, though, that the construction process will still result in the infilling or deposition of 10m³ or more. As such, the trigger still applies.</p> <p>The remaining triggers as presented in the Screening Report, still apply and as such, the proposed development will require Environmental Authorisation from the Department of</p>	<p>1. Biodiversity: It is noted that the discharge point is not considered an estuarine system.</p> <p>2.EIA Requirements: Noted.</p> <p>3.Water Use Licence Requirements: The eThekweni Municipality is aware of this matter and will engage independently with the Department of Water and Sanitation (DWS) in this regard. The WULA is therefore a separate activity and is not addressed further in this assessment.</p>

IAP / STAKEHOLDER	COMMENT	EAP RESPONSE
	<p>Economic Development, Tourism and Environmental Affairs (DEDTEA) prior to construction.</p> <p>S63 of the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008) must also be considered in the Environmental Authorisation Process.</p> <p>3. Water Use Licence Requirements: Section 21 of the National Water Act (Act No 36 of 1998) details water uses which require a licence in order to undertake the activity. For this project, water use “(c) impeding or diverting the flow of water in a watercourse” and “(i) altering the beds, banks, course or characteristics of a watercourse” may be applicable and a Water Use Licence may need to be obtained from the Department of Water and Sanitation (DWS).</p> <p>It is thus recommended that the applicant present the project at the next monthly Water Use Licence (WUL) Forum meeting to confirm the Water Use Licence requirements. Please book a slot with Ms. Shoni Makhwedzha (Shoni.Makhwedzha@durban.gov.za). Withstanding the above, the responsibility lies on the proponent/department to comply with the duty of care and remediation of damage in terms of s28 of the National Environmental Management Act 107 of 1998).</p>	
<p>Mr S. Sikhosana</p> <p>Department of Water and Sanitation</p> <p>06/04/2017</p>	<p>Good day Imke, please note I am no longer dealing with comments, I have cc my colleagues responsible for the area.</p>	<p>Noted. No other comment has been received from the DWS to date.</p>
<p>Mr D. Smit</p> <p>IAP</p> <p>06/04/2017</p>	<p>Please cc the DA Ward Cllr, namely Councillor Geoff Pullan at the following email address: geoffpullan@iafrica.com</p>	<p>Noted. Mr Pullan has been registered as an IAP.</p>
<p>Ms. H Douglas</p> <p>Manager of Tahiti</p> <p>06/04/2017</p>	<p>Thank you for forwarding this to me. I manage Tahiti, a block of 32 apartments adjacent to the main circle in Umdloti. I'll forward this to the trustees for comment.</p>	<p>Noted.</p>
<p>Ms T. Rens</p> <p>Umdloti Urban Improvement Programme</p> <p>11/04/2017</p>	<p>Just so you are aware, the eMdloti UIP are working on a programme to get the stream which flows into eMdloti upgraded and replanted with indigenous and endemic vegetation. The area where the planned upgrade of the stormwater pipe has a number of Thraskii which the UIP planted, as well as other dune vegetation to assist in stabilising the bank. The staircase going down to the beach was also recently upgraded by the UIP, as well as a number of the post and rail railings at the car park area.</p> <p>Our plan to improve the Sweetwater stream includes upgrading the traffic circle back to its former state of a</p>	<p>It is to be noted that the footprint of the stormwater culvert falls beneath the pedestrian walkway and as such, minimal indigenous vegetation is anticipated to be impacted upon. Vegetation may be impacted upon during the upgrade of the existing discharge point. However, any indigenous vegetation damaged /</p>

IAP / STAKEHOLDER	COMMENT	EAP RESPONSE
	<p>dam/park to assist in pedestrianising that entire “entrance” area of eMdloti. This future plan includes moving the taxi stop area out of the entrance to eMdloti to the back of beach area which will include back of beach parking.</p> <p>At the planned stormwater upgrade, there is also a “vendor” area which we have tried getting our informal traders to move onto, to ensure the stabilising of the dunes at Perna Perna, which is currently the positioning of the informal traders.</p>	<p>removed during construction will be replaced. In addition, the <i>Aloe Thraskii</i> planted on the periphery of the parking lot and adjacent to the staircase, will not be impacted upon and does not fall within the project footprint. Likewise, the staircase leading to the main beach will not be impacted upon and does not fall within the project footprint.</p>

8.6 CIRCULATION OF DRAFT BASIC ASSESSMENT FOR COMMENT

Notification of the availability of the Draft Basic Assessment Report (this report) have been circulated to the following Key Stakeholders and IAPs for review and comment:

- Ezemvelo KZN Wildlife: Mr Dominic Wieners / Ms Jenny Longmore;
- Coastwatch: Ms Di Jones
- Amafa Akwazulu-Natal: SAHRIS;
- Department of Water and Sanitation: Ms N.Mokoena;
- eThekweni Municipality: Environmental Planning & Climate Protection Department: Ms S. Makhwedza, and Mr R. Stow;
- EDTEA: Coastal Management Unit: Mr A. Matsheke and Mr O. Parak; and
- EDTEA: eThekweni District: Ms Y. Naiker.
- Department of Transport: Judy Reddy;
- Telkom: Mr Raymond Couch;
- Eskom: Michelle Nicol
- Ward 58 Councilor: Geoff Pullan
- Umdloti Improvement Precinct/ Project: Terry-Ann Rens and Wade Holland;
- Umdloti Centre: Russell Bonnin; and
- Body corporate / managers of housing / apartment blocks surrounding the development.

All registered IAPs were notified of the availability of the Draft BAR, with the deadline for comments being on or before 30 August 2017.

Further, one copy of the report was placed in the Umdloti Library for public review and comment. A complete copy of the report has also been uploaded onto the JG Afrika (Pty) Ltd website (<http://www.jgafrika.com/public-participation/>).

9. DESCRIPTION OF THE BASELINE ENVIRONMENT

9.1 CLIMATE

The Umdloti region falls within a subtropical climate which experiences summer rainfall, with scattered rainfall in winter. Summers are humid with temperatures general peaking at 32.6°C. Winters are temperate, with minimum temperatures rarely dropping below 5.8°C. Mean annual precipitation is approximately 989 mm, requiring sufficient management of stormwater and consequently infrastructure.

The coast of South Africa is continually exposed to hazards from the sea, which threaten the well-being of coastal communities through loss of infrastructure and services, and have and long-lasting social, economic and environmental implications. In recent years (2007-2008 and 2011), extreme weather events from the sea have caused much damage all along the coast.⁴ These impacts have highlighted the need for more proactive management of the coastline. In addition, the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008) requires that all proposed coastal developments take into consideration future climate change and sea level rise.⁵ This places the onus of responsibility on the Municipality to maintain existing infrastructure along the coastline, as well planning sufficiently for future impacts so as to limit the impact on the receiving environment and infrastructure. The proposed stormwater infrastructure takes these impacts into account as it will limit the backwater effect associated with blocked stormwater, thereby limiting future impacts.

9.2 GEOLOGY AND SOILS

The area is predominantly underlain by the Vryheid and Berea Formations. Materials can consist of anything ranging from sandstones, grit beds, shales and siltstones; sporadically interspersed by coal and sands. Appendix 7(iv) provides an illustration of the Geological Map of the greater Umdloti region (Sheet 2930, Durban).

9.3 VEGETATION

As per Mucina & Rutherford (2006)⁶ the historical vegetation classification for the site consists of two vegetation types (Appendix 7(v)). The first is KwaZulu-Natal Coastal Belt Grassland (CB3). This highly dissected biome consists of coastal plains interspersed by subtropical coastal forest. The vegetation type has been extensively impacted upon by agricultural and development activities, leaving it in a critically endangered state.

The remainder of the site is characterised by Northern Coastal Forest (FOz 7). The sub-tropical coastal forests

⁴ Mather, A. & Theron, A., 2012: *Recent Extreme Events Along the Coastline of South Africa*. Accessed: 15/03/2017
<http://www.cfoo.co.za/docs/stormsurge/Item%203%20Extreme%20events%20AM%20et%20al%20revised.pdf>

⁵ Mather, A., & Stretch, D.D., 2012: A Perspective on Sea Level Rise and Coastal Storm Surge from Southern and Eastern Africa: A Case Study Near Durban, South Africa. *Water* 4:pp 237-259

⁶ Mucina, L. & Rutherford, M.C. (eds) 2006. The vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

are located on coastal plains and dunes. Eight sub-types occur. The vegetation type has been extensively impacted upon by agricultural and development activities, leaving it in a critically endangered state.

However, it is to be noted that whilst the vegetation on site is characterised by endangered species very little indigenous vegetation exists within the development footprint, with the majority of the proposed footprint falling within a paved area. Vegetation comprises a mix of indigenous and exotic species. Should vegetation need to be removed during the construction process, it will be replaced with indigenous species during the rehabilitation phase.

9.4 PROTECTED AREAS

The beach on the eastern periphery of the site and the outlet point is designated by Durban Metropolitan Open Space System (D'MOSS) (2016) as a Marine Habitat and by the South African National Biodiversity Institute (SANBI) database (2013) as a Critically Endangered Ecosystem due to the presence of Northern Coastal Grassland (see the map provided in Appendix 7(vi)). As per the Ezemvelo KZN Wildlife Protected Areas database, the proposed development site falls within 5km of the Umhlanga Lagoon on protected area (see Appendix 7(vi)).

However, as per the 2008 EKZNW Transformation Landcover database, the area surrounding the site is classified as transformed. This was confirmed during the site inspection where it was noted that the surrounding landscape is dominated by an urban neighbourhood located along the main precinct/neighbourhood spine of Umdloti. This suburban landscape along the beach frontage buffers the development from any endangered vegetative ecosystems. As such, the ecological sensitivities prescribed for this site are considered invalid as these rating systems assume a natural or pristine biodiversity state. In this area much of the vegetation has been severely encroached upon by alien invasive species. Very little, if any, biodiversity of value exists on site. The eThekweni's EPCDP, noted that they have no biodiversity concerns related to the proposed upgrade. During construction (presuming Environmental Authorisation is granted) best environmental practise is to be implemented, as per the recommendations of the Environmental Management Programme (EMPr) (Appendix 6).

9.5 SURFACE HYDROLOGY

A review of the Ezemvelo KZN Wildlife's (EKZNW) Wetland database (2014) and National Freshwater Ecosystem Priority Areas (NFEPA) database (2011) indicates that there are no wetlands or estuaries present within the immediate vicinity of the proposed development, but that various wetland systems are situated within a 1km radius of the site, including the Umhlanga Lagoon, to the south of the development (see Appendix 7(vii)) However, it is not anticipated that the proposed development will have any impact, be it positive or negative, on the surrounding wetland systems / estuaries.

The EPCDP has noted that whilst the site of the outfall is not characterised as an estuarine system (as per a study by the Marine and Estuarine Research Division of the Municipality), it is characterised as the Umdloti River. The river is dammed up at the water treatment works (approximately 90m upstream of the proposed discharge point to be upgraded) and canalised to flow beneath the existing turning circle, to discharge onto

the beach. Works within the Umdloti River, namely the upgrade of the existing discharge point, will therefore require a Water use Licence Application in terms of Section 21 of the National Water Act (Act 36 of 1998), to be obtained from the Department of Water and Sanitation (DWS). The Water Use License application processes will be undertaken by the eThekweni Municipality. The proposed development will, however, pose no risk to the Umdloti River during the operational phase.

9.6 CURRENT LAND USE

The proposed development falls within an existing built up area dominated by the tourism industry. Areas surrounding the site include permanent residential and holiday homes, apartment blocks, rental properties, restaurants, shops and offices.

As per the eThekweni Municipality's Corporate GIS Public Map Viewer, the proposed site is zoned as "existing road". The proposed activity will be beneficial to the surrounding community by improving stormwater management in the area via the expansion and upgrade of the stormwater system. This will maintain service provision and prevent the backwater effect and ponding of stormwater in the parking lot and along the South Beach Road. The proposed development is therefore not expected to result in any potential significant adverse impacts to land use.

9.7 SOCIAL IMPACTS

The surrounding community will be directly affected during the construction phase as it will result in the possible closure of one lane of traffic on South Beach Road, adjacent to the proposed stormwater outlet, as well as the closure of the access point to the parking lot. However, it is anticipated that these impacts will not exceed 16 weeks. In addition, the parking lot will be accessible from the exit point and it is not anticipated that a significant number of parking bays will be affected. Wherever possible, construction will take place within the existing servitude. Signage and traffic marshals will be operational. The proposed development should in no way impact access to the beach.

At the end of construction, the project will result in an overall benefit for the environment and the Umdloti businesses and community in the form of improved stormwater management.

10. IMPACT ASSESSMENT AND MITIGATION MEASURES

10.1 IMPACT ASSESSMENT METHODOLOGY

The EIA Regulations, 2014, as amended, prescribe requirements to be adhered to and objectives to be reached when undertaking Impact Assessments. These are noted in the following sections contained within the EIA Regulations (2014) as amended:

- Regulation 326, Appendix 1, Section 2 and Section 3 – Basic Assessment Impact Requirements; and
- Regulation 326, Appendix 2 and Appendix 3 – Environmental Impact Assessment Requirements.

In terms of these Regulations, a description and assessment of the significance of any environmental impact should be considered when undertaking an Impact Assessment. This includes the following:

- Cumulative impacts that may occur because of the undertaking of the listed activity during the project

- life cycle;
- Nature of the impact;
 - Extent and duration of the impact;
 - The probability of the impact occurring;
 - The degree to which the impact can be reversed;
 - The degree to which the impact may cause irreplaceable loss of resources; and
 - The degree to which the impact can be mitigated.

The overall significance of an impact / effect has been ascertained by attributing numerical ratings to each identified impact. The numerical scores obtained for each identified impact have been multiplied by the probability of the impact occurring before and after mitigation. High values suggest that a predicted impact / effect is more significant, whilst low values suggest that a predicted impact / effect is less significant.

The interpretation of the overall significance of impacts is presented in Table 10-1.

TABLE 10-1: Interpretation of the significance scoring of a negative impact / effect.

SCORING VALUE	SIGNIFICANCE
>35	Very high - The impact is total / consuming / eliminating - In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or some combination of these. Social, cultural and economic activities of communities are disrupted to such an extent that these come to a halt. Mitigation may not be possible / practical. <u>Consider a potential fatal flaw in the project.</u>
25 - 35	High - The impact is profound - In the case of adverse impacts, there are few opportunities for mitigation that could offset the impact, or mitigation has a limited effect on the impact. Social, cultural and economic activities of communities are disrupted to such an extent that their operation is severely impeded. Mitigation may not be possible / practical. <u>Consider a potential fatal flaw in the project.</u>
20 – 25	Medium - The impact is considerable / substantial - The impact is of great importance. Failure to mitigate with the objective of reducing the impact to acceptable levels could render the entire project option or entire project proposal unacceptable. <u>Mitigation is therefore essential.</u>
7 – 20	Medium - The impact is material / important to investigate - The impact is of importance and is therefore considered to have a substantial impact. <u>Mitigation is required to reduce the negative impacts and such impacts need to be evaluated carefully.</u>
4 – 7	Low - The impact is marginal / slight / minor - The impact is of little importance, but may require limited mitigation; or it may be rendered acceptable in light of proposed mitigation.
0 – 4	Very low - The impact is unimportant / inconsequential / indiscernible – no mitigation required, or it may be rendered acceptable in light of proposed mitigation.

The significance rating of each identified impact / effect was further reviewed by the Environmental Assessment Practitioner (EAP) by applying professional judgement. For this assessment, the impact significance for each identified impact was evaluated according to the following key criteria outlined in the sub-sections below.

NATURE OF IMPACT

The environmental impacts of a project are those resultant changes in environmental parameters, in space and time, compared with what would have happened had the project not been undertaken. It is an appraisal of the type of effect the activity would have on the affected environmental parameter. Its description includes what is being affected and how.

SPATIAL EXTENT

This addresses the physical and spatial scale of the impact. A series of standard terms and ratings used in this assessment relating to the spatial extent of an impact / effect are outlined in Table 10-2.

TABLE 10-2: Rating scale for the assessment of the spatial extent of a predicted effect / impact.

RATING	SPATIAL DESCRIPTOR
7	International - The impacted area extends beyond national boundaries.
6	National - The impacted area extends beyond provincial boundaries.
5	Ecosystem - The impact could significantly affect functioning ecosystems linked to the site.
4	Regional - The impact could affect the greater area including the neighbouring areas, transport routes and surrounding towns etc.
3	Landscape - The impact could affect all areas generally visible, including ecosystems linked to the site.
2	Local - The impacted area extends slightly further than the actual physical disturbance footprint and could affect the whole, or a measurable portion of adjacent areas.
1	Site Related - The impacted area extends only as far as the activity e.g. the footprint. The loss is inconsequential in terms of the spatial context of the relevant environmental or social aspect.

SEVERITY / INTENSITY / MAGNITUDE

This provides a qualitative assessment of the severity of a predicted impact / effect. A series of standard terms and ratings used in this assessment which relate to the magnitude of an impact / effect are outlined in Table 10-3.

TABLE 10-3: Rating scale for the assessment of the severity / magnitude of a predicted effect / impact⁷.

RATING	MAGNITUDE DESCRIPTOR
7	Total / consuming / eliminating - Function or process of the affected environment is altered to the extent that it is permanently changed.
6	Profound / considerable / substantial - Function or process of the affected environment is altered to the extent where it is permanently modified to a sub-optimal state.
5	Material / important - The affected environment is altered, but function and process continue, albeit in a modified way.
4	Discernible / noticeable - Function or process of the affected environment is altered to the extent where it is temporarily altered, be it in a positive or negative manner.
3	Marginal / slight / minor - The affected environment is altered, but natural function and process continue.
2	Unimportant / inconsequential / indiscernible - The impact temporarily alters the affected environment in such a way that the natural processes or functions are negligibly affected.
1	No effect / not applicable

DURATION

This describes the predicted lifetime / temporal scale of the predicted impact. A series of standard terms and ratings used in this assessment are included in Table 10-4.

TABLE 10-4: Rating scale for the assessment of the temporal scale of a predicted effect / impact.

⁷ **Source:** adapted from Glasson J, Therivel R & Chadwick A. *Introduction to Environmental Impact Assessment, 2nd Edition*. 1999. pp 258. Spoon Press, United Kingdom.

RATING	TEMPORAL DESCRIPTOR
7	Long term – Permanent or more than 15 years post decommissioning. The impact remains beyond decommissioning and cannot be negated.
3	Medium term – Lifespan of the project. Reversible between 5 to 15 years post decommissioning.
1	Short term – Quickly reversible. Less than the project lifespan. The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than any of the project phases or within 0 -5 years.

IRREPLACEABLE LOSS OF RESOURCES

Environmental resources cannot always be replaced; once destroyed, some may be lost forever. It may be possible to replace, compensate for or reconstruct a lost resource in some cases, but substitutions are rarely ideal. The loss of a resource may become more serious later, and the assessment must take this into account. A series of standard terms and ratings used in this assessment are included in Table 10-5.

TABLE 10-5: Rating scale for the assessment of loss of resources due to a predicted effect / impact.

RATING	RESOURCE LOSS DESCRIPTOR
7	Permanent – The loss of a non-renewable / threatened resource that cannot be renewed / recovered with, or through, natural process in a time span of over 15 years, <u>or by artificial means.</u>
5	Long term – The loss of a non-renewable / threatened resource that cannot be renewed / recovered with, or through, natural process in a time span of over 15 years, <u>but can be mitigated by other means.</u>
4	Loss of an ‘at risk’ resource - one that is not deemed critical for biodiversity targets, planning goals, community welfare, agricultural production, or other criteria, but cumulative effects may render such loss as significant.
3	Medium term – The resource can be recovered within the lifespan of the project. The resource can be renewed / recovered with mitigation or will be mitigated through natural process in a span between 5 and 15 years.
2	Loss of an ‘expendable’ resource - one that is not deemed critical for biodiversity targets, planning goals, community welfare, agricultural production, or other criteria.
1	Short-term – Quickly recoverable. Less than the project lifespan. The resource can be renewed / recovered with mitigation or will be mitigated through natural process in a span shorter than any of the project phases, or in a time span of 0 to 5 years.

REVERSIBILITY / POTENTIAL FOR REHABILITATION

The distinction between reversible and irreversible impacts is a very important one and the irreversible impacts not susceptible to mitigation can constitute significant impacts in an EIA (Glasson et al, 1999). The potential for rehabilitation is the major determinant factor when considering the temporal scale of most predicted impacts. A series of standard terms and ratings used in this assessment are included in Table 10-6.

TABLE 10-6: Rating scale for the assessment of reversibility of a predicted effect / impact.

RATING	REVERSIBILITY DESCRIPTOR
7	Long term – The impact / effect will never be returned to its benchmark state.
3	Medium term – The impact / effect will be returned to its benchmark state through mitigation or natural processes in a span shorter than the lifetime of the project, or in a time span between 5 and 15 years.
1	Short term – The impact / effect will be returned to its benchmark state through mitigation or natural processes in a span shorter than any of the phases of the project, or in a time span of 0 to 5 years.

PROBABILITY

The assessment of the probability / likelihood of an impact / effect has been undertaken in accordance with

ratings and descriptors provided in Table 10-7.

TABLE 10-7: Rating scale for the assessment of the probability of a predicted effect / impact⁸

RATING	PROBABILITY DESCRIPTOR
1.0	Absolute certainty / will occur
0.9	Near certainty / very high probability
0.7 – 0.8	High probability / to be expected
0.4 - 0.6	Medium probability / strongly anticipated
0.3	Low probability / anticipated
0.2	Possibility
0.0 - 0.1	Remote possibility / unlikely

10.2 MITIGATION

The potential to mitigate negative impacts is determined and rated for each identified impact. Similarly, the mitigation objective that results in a measurable reduction or enhancement of the impact, is determined and rated. The significance of environmental impact and mitigation measures are assessed. The significance of the impact “without mitigation” is therefore the prime determinant of the nature and degree of mitigation required.

10.3 IDENTIFIED IMPACTS

The preferred site alternative is the expansion and upgrade of existing infrastructure at No. 1 South Beach Road, Umdloti. The site is considered favorable given that it already serves as a stormwater channel i.e. the existing stormwater network in the area feeds into this stormwater channel. In addition, the proposed outlet point is an established and existing piece of infrastructure, which will be upgraded.

As a significant portion of the proposed footprint falls within the parking lot and the pedestrian walkway, it will not pose a threat to any sensitive flora.

Construction impacts of the proposed stormwater culvert are therefore the focus of assessment. These include:

- Waste management;
- Impact on traffic;
- Air quality and noise impacts;
- Surface water quality;
- Impacts on vegetation;
- Socio-economic impacts;
- Health, safety and security impacts; and
- Sense of place / visual impacts.

The impacts identified for the proposed activity and the associated mitigation measures which directly and indirectly relate to the Listed Activities being applied for, are provided in Table 10-8.

⁸ Source: adapted from Glasson, J., Therivel, R. & Chadwick, A., 1999: *Introduction to Environmental Impact Assessment, 2nd Edition*. Spoon Press, United Kingdom.

TABLE 10-8: Construction Phase Impacts identified and associated mitigation measures

CONSTRUCTION RELATED IMPACTS		
IMPACT	DESCRIPTION	MITIGATION MEASURES
Waste Management	<ul style="list-style-type: none"> • Accumulation of construction rubble and litter at the site during construction activity. • Solid waste will be generated by construction activities and may include: <ul style="list-style-type: none"> - Solid waste - plastics, metal, wood, concrete, stone, asphalt; - Chemical waste- petrochemicals, resins and paints; concrete washout; and - Sewage as may be generated by employees. • If not properly managed and contained, these items may accumulate on site and <ul style="list-style-type: none"> - Become windblown; and / or - Find their way into the sea where they will cause pollution. • Contaminated waste may result from accidental spillage of fuels, oil, cement, cement-laden water, paints and other chemicals. This will be transported as contaminated runoff onto the beach or occur via seepage, which pollutes the soil and groundwater. 	<ul style="list-style-type: none"> • No litter, refuse, waste, rubbish, rubble, debris and builders waste generated on site may be placed, dumped or deposited on adjacent or surrounding properties including roads verges, pedestrian walkways or public places and open spaces; • All solid waste generated on-site during construction process must be placed in a designated waste collection area within the construction camp and must not be allowed to blow around the site or placed in piles adjacent the waste skips/bins; • All construction/solid waste shall be disposed of off-site at a registered landfill site. safe disposal certificate must be obtained and kept on site for the duration of the construction phase; • Separate waste skips/bins for the different waste must be available; • Regular survey of the beach must be undertaken and any accumulation of waste removed and disposed of at an appropriate disposal facility; • All hazardous waste must be carefully stored in appropriate hazardous waste receptacles and disposed of offsite at the licenced hazardous landfill site; • Any significant spills on-site must be reported to the relevant Authority (e.g. EDTEA, Department of Water and Sanitation and eThekweni Municipality etc.) and must be remediated immediately, in accordance with the Environmental Management Programme (EMPr) (attached as Appendix 6); • Refuse bins are to be provided throughout the construction footprint; • Adequate sanitary and ablution facilities must be provided for construction workers. These facilities are to be cleaned regularly to prevent public nuisance. Workers are to be encouraged to use these facilities; • Spill kits must be made available for use wherever necessary; and • On completion of the project, the appointed contractor shall ensure that all waste rubble generated during construction are removed.

CONSTRUCTION RELATED IMPACTS

IMPACT	DESCRIPTION	MITIGATION MEASURES
Traffic impacts	<ul style="list-style-type: none"> • Increase in number of construction vehicles in the area; • Possible, traffic delays and congestion during construction; • Possible closure of one lane of traffic around the turning circle; • Close of the access (but not exit point) of the parking lot adjacent to Umdloti Centre; and • If not properly maintained, increased road use to existing surrounding road infrastructure, for access purposes by construction personnel, may cause damage to the existing infrastructure. 	<ul style="list-style-type: none"> • Complete construction within the road at the shortest time possible; • The Contractor is to provide a Traffic Management Method Statement clarifying how traffic will be managed; • Employ flag personnel to regulate the traffic; • Ongoing consultation with business owners regarding the loss of parking bays along No. 1 South Beach Road; • Implement appropriate traffic control measures to alleviate traffic congestion; • Suitable construction sign boards must be clearly displayed in areas affected by the proposed project; • Only designated areas are to be utilised for loading/unloading; and • The appointed contractor is to obtain the necessary permits / permissions from the eThekweni Municipality to enable them to drive on the beach, should this be required, prior to action being implemented.
Air quality and noise pollution impacts	<ul style="list-style-type: none"> • Air quality impacts from construction vehicle emissions; and • Noise impacts from construction activities: <ul style="list-style-type: none"> - May present a nuisance to beach users, tourist/visitors and residents. 	<ul style="list-style-type: none"> • All construction machinery and vehicles are to be maintained in good working order to prevent air quality and noise nuisance impacts; • The appointed Contractor shall be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation. The contractor shall avoid construction activities outside of “normal working hours”; • No sound amplification equipment such as sirens, loud hooters are to be used on site except in emergencies and no amplified music is permitted on site; and • A complaints register is to be kept at the construction site to record all complaints received from the community.

CONSTRUCTION RELATED IMPACTS

IMPACT	DESCRIPTION	MITIGATION MEASURES
Marine and surface water quality impacts	<ul style="list-style-type: none"> • Construction activities on beach: <ul style="list-style-type: none"> – Contamination of Umdloti beach from hazardous building material (e.g. hydrocabons). Improper management of hazardous building materials may result in the pollution of beach sand and sea through surface and subsurface drainage. – Lack of ablution facilities for construction workers. Pollution of beach sand and sea through surface and subsurface drainage. • Contamination of the Mdloti River and the sea by cementitious waste / runoff is to be avoided at all costs. 	<ul style="list-style-type: none"> • The site must be managed in a manner that prevents pollution of stormwater resulting from suspended solids, silt or chemical pollutants; • Provision of adequate sanitation facilities; • Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and working areas; • Potential hazardous substance must be stored on an impervious surface in a designated bunded area, able to accommodate 110% of the total volume of material stored at any given time; • Train on site personnel regarding the correct handling of spills, as well as precautionary measures that need to be implemented to minimise potential spillages; • Any contaminated water associated with construction activities must be captured and contained in waterproof drums or similar and disposed of appropriately; • The contractor to exercise strict care in the disposal of construction waste, with proof of disposal at an approved site provided after offloading each waste load; • Refuse and litter is to be removed from the beach continuously; • On completion of the project, the appointed contractor must ensure that all structures, equipment, materials, waste, rubble used during construction are removed from site. • Concrete mixing is to take place on an impermeable surface; • No mixing of concrete shall take place on the beach or within the Mdloti River; • No equipment / plant used for concrete mixing is to be washed on site / within the Umdloti River; • All concrete spills must be collected from site and disposed of in accordance with the EMPr.
Sense of place / visual impacts	<ul style="list-style-type: none"> • Construction activity; • Increase in littering on site from labour force and construction activities; and • The presence of heavy duty vehicles, equipment, temporary structures on site and material stockpiles may result in temporary impacts on the general aesthetic and landscape character of the No. 1 South Beach Road area. 	<ul style="list-style-type: none"> • Storage areas should be properly fenced off; • Provide waste disposal facilities and enforce the collection of litter; • Monitor housekeeping, littering and illegal dumping; and • Construction impacts will be short term.

CONSTRUCTION RELATED IMPACTS

IMPACT	DESCRIPTION	MITIGATION MEASURES
Soil and vegetation impacts	<ul style="list-style-type: none"> • Impact on the remaining indigenous vegetation during construction of the head wall at the discharging point situated north of the parking area; • Disturbance of soil due to location of site camp. • Excavation and movement of beach sand: • Hydrocarbon spillages onto sand from construction vehicles; <ul style="list-style-type: none"> - Should a large storm event occur during the replacement of the exiting outfall conduit, stormwater may disperse onto the beach. This may scour the beach and deposit potential pollution loads onto the beach. 	<ul style="list-style-type: none"> • The extent of earth works must be minimised and restricted to the required areas only. Flora may not be removed, damaged or destroyed unless necessary for carrying out the works; • Grass and topsoil is to be cleared where site camp is proposed and utilised post construction for rehabilitation purposes; • No material is to be stored beyond the boundaries of the site camp; • All invasive species identified within the study area should be removed from the development footprint; • Disturbed areas must be immediately rehabilitated to prevent erosion; • Ensure that contractors and staff are well managed and adhered to the mitigation and management measures listed in the EMPr (Appendix 6); • Any hydrocarbon spill and or polluted loads identified within the construction footprint are to be removed immediately, together with the contaminated soil / sand and disposed of in a dedicated, impermeable container; • Construction vehicles are to be monitored for hydrocarbon leakages daily. Any vehicles found to be leaking are, under no circumstances, permitted to drive on the beach (should this be required) until repaired; • Should any construction associated with the outlet point be required on the beach, the beach construction area must be cordoned off from the public utilising shade cloth or similar; and • No vehicle maintenance or refuelling of vehicles is to occur on the beach.
Material handling and storage	<ul style="list-style-type: none"> • The incorrect storage and handling of hazardous materials can result in the contamination of the receiving environment; and • The incorrect stockpiling of excavated materials and construction materials can result in sedimentation of the stormwater system. 	<ul style="list-style-type: none"> • Areas for temporary stockpiling of excavated and imported material and other construction material shall be agreed to by the RE and ECO; • Any hazardous or dangerous goods utilised during construction must be stored on an impermeable surface that is bunded, fenced, locked and covered; • A spill kit must available on site at all times; • Suitable firefighting equipment shall be stored and easily accessible at the site camp; • Drip tray shall be provided for stationery plants; • Any accidental leak / spilling of hydrocarbons is to be reported to the RE or ECO immediately so that remediation methods can be quickly implemented.

CONSTRUCTION RELATED IMPACTS

IMPACT	DESCRIPTION	MITIGATION MEASURES
Socio-economic impacts	<ul style="list-style-type: none"> • Creation of job opportunities for skilled personnel (e.g. engineers, specialists etc.) and non-skilled personnel (e.g. construction labourers); • Social anxiety may arise should the surrounding community not be adequately notified of the proposed activity; and • Economic benefits to local suppliers of building materials as goods and services may be purchased from these entities during the construction phase. 	<ul style="list-style-type: none"> • Inform the surrounding communities and public of the proposed activity as soon as possible. This will serve to ease potential social anxiety; • Provide clear and realistic information regarding employment opportunities and other benefits to prevent unrealistic expectations; • Make use of local labour, material, goods and services as far as possible; • Training of labours to benefit individuals beyond completion of the project; and • Monitor complaints by the general public.
Health, safety and security	<ul style="list-style-type: none"> • Construction personnel / construction vehicles – movement of construction personnel and vehicles may pose a potential health and safety risk to road users and beach users; • Theft of construction materials should sufficient security not be put in place. 	<ul style="list-style-type: none"> • Excavated trenches are to remain open for as short a duration as possible; • All excavations are to be cordoned off and safety signage is to be established; • Undertake appropriate waste management practices; • Implement good housekeeping practice at the construction camp; • Construction workers' / construction vehicles must take heed of normal road safety regulations; thus all personnel must obey and respect the law of the road. A courteous and respectful driving manner should be enforced and maintained so as not to cause harm to any individual; • Cordon off the construction site and construction camp. If possible, a security guard or night watchman is to be placed on site; • Care is to be taken to ensure that any bulky or dangerous materials are secured when transporting; • Control traffic and pedestrian movement during construction on the beach, should it be required; • Improved signage, speed control and designated walkways will reduce health and safety risks; and • No fires are permitted on site. Fire extinguishers are required.

11. IMPACT ASSESSMENT

Table 11-1 presents the impact assessment findings, with and without mitigation, in relation to the proposed construction phase.

TABLE 11-1: Assessment of Construction Impacts

Nature of Project Impact	Spatial Extent		Severity / intensity / magnitude		Duration		Resource loss	Reversibility		Probability		Significance without mitigation	Significance with mitigation
	Without Mitigation	With Mitigation	Without Mitigation	With Mitigation	Without Mitigation	With Mitigation		Without Mitigation	With Mitigation	Without Mitigation	With Mitigation		
Waste management	2	1	4	2	1	1	1	2	1	0.6	0.3	6	1.8
Traffic impacts	3	2	3	1	1	1	1	1	1	0.6	0.3	5.4	1.8
Air quality and noise pollution	2	1	3	1	1	1	1	1	1	0.6	0.2	4.8	1
Surface water quality	3	1	3	1	1	1	1	1	1	0.6	0.2	5.4	1
Impact on vegetation	2	1	4	2	1	1	1	1	1	0.6	0.2	5.4	1.2
Social and socio-economic Impacts	3	2	4	1	1	1	1	1	1	0.6	0.2	6	1
Material handling and storage	2	1	4	2	1	1	1	1	1	0.6	0.2	5.4	1.2
Health, safety and security	2	1	3	1	1	1	1	1	1	0.4	0.2	3.2	1
Sense of place / visual impacts	2	2	3	2	1	1	1	1	1	1	0.9	8	6.3
IMPACT SIGNIFICANCE												5.5	1.8

11.1 SIGNIFICANCE

Based on the outcome of the significance scoring noted in Table 11-1, the overall significance impact without mitigation, is considered to be LOW, with a score of 5.5. With mitigation, the overall significance impact is considered to be VERY LOW, with score of 1.8

The greatest impact of significance is considered to be the sense of place / visual impact with a score of 8 without mitigation and 6.3 with mitigation. This is related to the construction activities and associated traffic / noise / aesthetic impacts that the surrounding community and tourists will be exposed to during the construction phase. This is, however, a temporary impact, the duration of which is anticipated to last 16 weeks. The need to the upgrade and expand the stormwater system to minimise the impacts associated with the backlog and ponding of water also outweigh the temporary impacts associated with sense of place / visual impacts.

Further, it is the eThekweni Municipality's mandate to manage urban stormwater and infrastructure. This must be conducted in a responsible manner that considers public safety, infrastructure and environmental integrity. The proposed stormwater system meets these criteria based on the impacts identified and assessed.

All other remaining impacts are low and can be mitigated against provided the EMPr (Appendix 6) is implemented.

12. ENVIRONMENTAL IMPACT STATEMENT

Assuming the conditions stated in the EMPr (Appendix 6) are adhered to, it is believed that the impacts associated with the proposed construction will have no significant, adverse environmental impact on the surrounding environment.

Positive impacts associated with construction include the following:

- Prevent the backlog and ponding of stormwater at the car park and surrounds;
- Manage stormwater runoff;
- Protect all life and property from damage by floods and stormwater;
- Continued use of existing stormwater management infrastructure will tie into the existing municipal stormwater infrastructure;
- Employment opportunities and skills development; and
- Maintenance of a public amenity through adequate stormwater management (i.e. Umdloti Beach).

These positive impacts will be long-term and will have sustainable benefits to the Umdloti town, in particular those properties and businesses in and around No. 1 South Beach Road.

In terms of negative impacts, general construction related activities pose a risk to the surrounding environment and the business / home owners / apartments. The significance ratings associated with the construction phase are however very low, provided the EMPr is implemented.

All construction impacts are short-term, barring the upgrade and expansion of the stormwater culvert. The proposal is therefore considered to be sustainable.

13. RECOMMENDATION OF THE EAP

The proposed development should not result in impacts on the natural or social environment that are highly detrimental, or result in undue risks to the natural environment. The nature and types of negative impacts identified do not outweigh the potential benefits of this project, provided that the short-term localised impacts of the construction phase are adequately mitigated. In this regard, an EMPr has been compiled and is attached to this report (see Appendix 6). It is recommended that external EMPr monitoring takes place by an independent Environmental Control Officer (ECO) during the construction phase to ensure that the requirements of the EMPr are being correctly implemented, thus ensuring the protection of the surrounding environs.

As per the requirements of the EIA Regulations 2014, GNR 982: Appendix 1, the EAP is to provide any Conditions of Authorisation which were conditional to the findings of the assessment. In this regard, the following Conditions of Authorisation are provided:

- Permissions to drive construction vehicles on the beach are to be sought by the relevant parties prior to undertaking the activity;
- All waste generated to be separated and re-used or recycled where feasible. No waste is to be allowed to collect on site. General waste to be disposed to a registered waste disposal site. Hazardous waste such as oil spillages to be prevented through maintenance of vehicles and use of drip trays. Refuelling is to take place over drip trays at all times, and not within any watercourse;
- The aesthetics of the area are to be maintained as far as possible; shade cloth is to be used to limit the view of the construction site, housekeeping is to be maintained, safety and warning signage is to be erected throughout the construction footprint and all excavations are to be clearly demarcated and cordoned off;
- No concrete is to be mixed on the beach / within the existing stormwater conduit;
- After construction, reinstatement of the environment is to be implemented to the standard equal to or exceeding the present status. All indigenous vegetation is to be replaced should it be re/moved and regrassing is to take place at the site camp; and
- A Maintenance Management Plan is to be developed by the Applicant /eThekweni's stormwater maintenance department and approved by the EDTEA.

Further, in terms of Environmental Monitoring, the following is recommended:

- An independent, external ECO must audit the construction site during the construction phase of the project on a bi-monthly basis, unless otherwise specified by the EDTEA; and
- A monthly construction Environmental Audit Report is to be drafted and submitted to the EDTEA: Compliance and Monitoring Department for the duration of the construction period.

The above recommendations have been incorporated into the EMPr (Appendix 6).

Based on the above, it is the opinion of the EAP that the Applicant should be granted a positive Environmental Authorisation to upgrade the stormwater system at No. 1 South Beach Road, Umdloti, Durban.

14. CONSTRUCTION TIMEFRAMES

Construction will be completed within 16 weeks. It is requested that the Environmental Authorisation, if issued by the Competent Authority, be valid for a period of five (5) years from the date of signature.

15. SUBMISSION AND CONSIDERATION OF DOCUMENTATION BY THE COMPETENT AUTHORITY

It is to be noted that in terms of the EIA Regulations (2014), GNR 326 43(2) as amended, all State Departments that administer a law relating to a matter affecting the environment, specific to the Application, must submit comments within 30 days to the EAP as per the request of the EAP. Should no comment be received within the 30-day commenting period, it will be assumed that the relevant State Department has no comment to provide.

All comments received in response to the BAR will be attached to, summarized and responded to in a final version of the BAR (i.e. Final BAR), which will be submitted to the Competent Authority, (i.e. EDTEA) for consideration in terms of issuing an Environmental Authorisation.

16. UNDERTAKING

JG Afrika (Pty) Ltd hereby confirms that the information provided in this report is correct at the time of compilation and was compiled with input provided by the eThekweni Municipality Engineering Unit: Coastal, Stormwater and Catchment Management Department.

JG Afrika (Pty) Ltd further confirms that all comments received from Key Stakeholders and registered IAPs to-date have been included in this report. Further, a record has been created and will continue to be updated with comments received in respect of this Environmental Authorisation Application. All comments received will be consolidated and incorporated into all subsequent reports, either submitted to IAPs for comment, or the EDTEA for consideration and decision-making.

For JG Afrika (Pty) Ltd:



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ENVIRONMENTAL CONSULTANT



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