edtea
Department :
Economic Development, Tourism and Environmental Affairs
PROVINCE OF KWAZULU-NATAL

	(For official use only)
EIA File Reference Number:	DM/0038/2013
NEAS Reference Number:	
Waste Management Licence Number: (if applicable)	
Date Received:	

BASIC ASSESSMENT REPORT

Submitted in terms of the Environmental Impact Assessment Regulations, 2010 promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998)

This template may be used for the following applications:

- **Environmental Authorization** subject to basic assessment for an activity that is listed in Listing Notices 1or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- **Waste Management Licence** for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

1. This **basic assessment report** meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Economic Development, Tourism & Environmental Affairs. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner ("EAP").
8. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

9. The KZN Department of Economic Development, Tourism & Environmental Affairs may require that for specified types of activities in defined situations only parts of this report need to be completed.
10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24 O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.
11. **Please note that this report must be handed in or posted to the District Office of the KZN Department of Economic Development, Tourism & Environmental Affairs to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).**

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	**DM/0038/2013**
File reference number (Waste Management Licence):	

SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Name and contact details of the EAP who prepared this report:

Business name of EAP:	Kerry Seppings Environmental Management Specialists cc (KSEMS)		
Physical address:	4 Woodville Lane, Off Hawkstone Avenue, Summerveld, Assagay		
Postal address:	P. O. Box 396, Gillitts		
Postal code:	3603	Cell:	082 823 1844
Telephone:	031 769 1578	Fax:	086 535 5281
E-mail:	ksems@ksems.co.za		

2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
Kerry Stanton	BSc (Hons) MSc	(EAPSA Certified)	18 years
Colin Holmes	BSc (Hons) MSc Cum laude	-	3
Trisha Gounden	BA (Hons)	-	1 year

3. NAMES AND EXPERTISE OF SPECIALISTS

Names and details of the expertise of each specialist that has contributed to this report:

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
Nicolette Forbes	MSc	Marine and Estuarine Specialist	Section 3	Dakota Beach Communal Ablution Block Installation:

				Specialist Report- Coast and estuary

SECTION B: ACTIVITY INFORMATION

1. PROJECT TITLE

Describe the project title as provided on the application form for environmental authorization:

The construction of community ablution blocks (CABs) and associated infrastructure in informal settlements in the Dakota Beach Informal Settlement, Isipingo.

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

As part of the "Provision of Water and Sanitation to Informal Settlements within eThekwini Municipality", certain priority informal settlements were identified within the eThekwini Municipality that urgently need ablution blocks, as well as water and sewer connections to serve the communities immediate needs. The proposed laid pipes (water and sewer) will tie-into existing reticulation and will provide future reticulation when the area is developed.

The ablution facility chosen by Council to be installed is a temporary modified container (Figure 1). This arrangement allows for future removal and re-placement to other informal settlements, as the settlements are upgraded and individual water and sewer connections are provided to each new formalised dwelling. Each "Ablution" blocks should service approximately 50-75 households and be a maximum distance of 250m from any point. Further detail of the programme scope is attached as Appendix G1 of this document

As part of the eThekwini Municipality's development goals, impoverished areas around Durban has been identified for the delivery of basic services. Basic water and sanitation are critical service deliverables that are required in these targeted areas. The Dakota Beach Informal Settlement in Isipingo Beach is one such area that require basic water and sanitation facilities. Communal ablution facilities (CAB's) have been developed as a means to targets such basic needs.

The CAB's are temporary modified containers comprising toilets, urinals, showers, basins, a store room, an external wash trough and a standpipe. The proposed sanitation infrastructure is expected to improve hygienic conditions within Dakota Beach. The proposed development in the Dakota Beach Informal Settlement will compromise of six (6) Cabs sites. Each site will include a male and female block. New water and sewer pipelines will connect the cab to existing bulk pipelines. The pipelines are made from un-plasticized Poly Vinlyul Chloride (uPVC). The sewage will be transferred via the new sewer pipelines to the Southern Waste Water Treatment works.

The Dakota Beach Informal Settlement is a relatively small informal settlement however it is highly populated. The six CAB's will be strategically placed in and around the informal settlement to service the households in different locations within the settlement.

Figure one: Illustration showing a standard CAB (Source: EWS, 2009).

3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June2010), Listing Notice 3 (GNR 546, 18June 2010) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

As part of the "Provision of Water and Sanitation to Informal Settlements within eThekwini Municipality", certain priority informal settlements were identified within the eThekwini Municipality that urgently need ablution facilities, as well as water and sewer connections to serve the communities immediate needs. The proposed laid pipes (water and sewer) will tie-into existing reticulation and will provide future reticulation when the area is developed. The ablution facility chosen by Council to be installed is a temporary modified container. This arrangement allows for future removal and re-placement to other informal settlements, as the settlements are upgraded and individual water and sewer connections are provided to each new formalised dwelling. Each "Ablution" blocks should service approximately 50-75 households and be a maximum distance of 250m from any point. Further detail of the programme scope is attached as Appendix G1 of this document.		
As per LN 1_ GNR 544_ 18th June 2010 promulgated from the 2nd of August 2010:	**No. 11** *The construction of:* *i) Canals;* *ii) Channels;* *iii) Bridges* *iv) Dams;* *v) Wiers;* *vi) Bulk stormwater outlet structures;*	The applicant proposes to construct ablution facilities and associated pipelines within the Dakota Beach Informal Settlement, eThekwini Municipality triggering activity 11 of GNR 544, infrastructure covering an area greater than 50m² within 32 meters of a watercourse.

	vii) Marinas; *viii) Jetties exceeding 50 square metres in size;* *ix) Slipways exceeding 50 square metres in size;* *x) Buildings exceeding 50 square metres in size; or* *xi) Infrastructure covering 50 square metres or more* ***Where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse**.*	
As per LN 1_ GNR 544_ 18th June 2010 promulgated from the 2nd of August 2010:	***16.** Construction or earth moving activities in the sea, an estuary, or within the littoral active zone or a distance of 100 metres inland of the high water mark of the sea or an estuary whichever is the greater in respect of-* ***(V) infrastructure covering 50 square metres or more***	*The proposed CABS are being constructed in close proximity of the 100 metres inland of the high-water mark of the Isipingo Beach.*
As per LN 1_ GNR 544_ 18th June 2010 promulgated from the 2nd of August 2010:	***18.** The infilling or deposition of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shell, shell grit, pebbles or rock of more than 5 cubic metres from* *(i) a watercourse.* ***(iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater**.*	*The proposed CABS are being constructed in close proximity of the 100 metres inland of the high-water mark of the Isipingo Beach. It is contingent that there will be potential infilling or removal of more than 5 m^3 in a watercourse.*

4. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe alternatives that are considered in this report. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the

activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

eThekwini Municipality's developmental goals acknowledge the need to formalise ablution facilities within the informal townships within the Municipality. At present, the Dakota Beach Informal Settlement does not have access to proper sanitation facilities. As such it was recognised as a key informal township that would benefit from the formalisation of sanitation facilities.

Alternative A1 and S1 (preferred):
Prefabricated toilets at an approximate size of 8 x 9.5m will be erected within Dakota Beach. Sewage from the toilets will travel through 160mm diameter pipelines (gravity sewer main lines) to a proposed 160mm diameter bulk gravity sewer pipeline. The pipelines will measure a total of 785 m. Please refer to Appendix C for the layout of the proposed toilets and pipelines. All pipelines will be made from unplasticized poly (vinyl chloride) or uPVC. uPVC is widely used in building materials as it is known as having a strong resistance against chemicals, sunlight, and oxidation from water.

The applicant proposes to establish six (6) toilet platforms in strategic points around the informal settlement. As the informal houses which the proposed toilets intend to supply, are built in close proximity to the Isipingo Beach, sections of the proposed sanitation facilities will lie within the 100 metres inland of the high-water mark of the sea thereby triggering a Basic Assessment.

The location of the proposed CAB sites is specifically targeted for the community within the informal settlement. It is a densely populated community and the situation of the CABs has been determined to service the community as a whole. The CABS are designed to link to the existing municipal bulk infrastructure and therefore waste will not remain on site requiring disposal such as the use of VIP technology. **Thus there are no feasible or technological alternatives that will be further investigated.**

No Go Alternative i.e. not constructing the ablution facilities in Dakota Beach. The no go alternative would result in the local communities continued use of other forms of ablution and their continued exposure to unsanitary conditions. The construction of formalised sanitation facilities in the Dakota Beach is aimed at improving hygienic conditions within this area of the eThekwini Municipality, which would not result if the project did not go ahead. The No Go Alternative will also be indicative of no environmental improvement in an existing polluted area.

<u>Sections B 5 – 15 below should be completed for each alternative.</u>

5. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. List alternative sites were applicable.

Alternative: **Latitude (S):** **Longitude (E):**

Alternative S1[1] (preferred or only site alternative)			
Site Number	**Latitude (S):**	**Longitude (E):**	**Approximate Distance from the nearest watercourse**
CAB Site 1	30°0'23.324"S	30°56'16.393"E	132m
CAB Site 2	30°0'20.834"S	30°56'18.783"E	139m
CAB Site 3	30°0'19.512"S	30°56'20.534"E	154m
CAB Site 4	30°0'18.524"S	30°56'23.345"E	115m
CAB Site 5	30°0'15.569"S	30°56'27.485"E	110m
CAB Site 6	30°0'14.145"S	30°56'25.34"E	182m

6. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[2] (preferred activity alternative)	912m²
Alternative A2 (if any)	N/A
Alternative A3 (if any)	N/A

or, for linear activities:

7. SITE ACCESS

Does ready access to the site exist?	YES X	NO
If NO, what is the distance over which a new access road will be built		N/A
Describe the type of access road planned:		
N/A		

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

8. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as **Appendix A** to this report.

The site or route plans must indicate the following:

8.1. the scale of the plan which must be at least a scale of 1:500;
8.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;

[1] "Alternative S.." refer to site alternatives.
[2] "Alternative A.." refer to activity, process, technology or other alternatives.

8.4. the exact position of each element of the application as well as any other structures on the site;
8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
8.6. walls and fencing including details of the height and construction material;
8.7. servitudes indicating the purpose of the servitude;
8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
- rivers, streams, drainage lines or wetlands;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);

8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
8.10. the positions from where photographs of the site were taken.

9. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under **Appendix B** to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

10. FACILITY ILLUSTRATION

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as **Appendix C**. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

11. ACTIVITY MOTIVATION

11.1. Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R4 500 000	
What is the expected yearly income that will be generated by or as a result of the activity?	0	
Will the activity contribute to service infrastructure?	YES	NO
Is the activity a public amenity?	YES	NO
How many new employment opportunities will be created in the development phase of the activity?	30	

What is the expected value of the employment opportunities during the development phase?	R475 200
What percentage of this will accrue to previously disadvantaged individuals?	100%
How many permanent new employment opportunities will be created during the operational phase of the activity?	6

11.2. Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

According to the Constitution of the Republic of South Africa Act 108 of 1996and the Water Services Act 108 of 1997, Local Government must ensure that all their residents have access to safe water and sanitation. This project forms part of eThekwini Municipality's Provision of Water and Sanitation to Informal Settlements programme. Details of the programme are provided in Appendix G1.

The Dakota Informal Settlement within the suburb of Isipingo Beach of the eThekwini Municipality consists largely of high density informal settlements. The households in this area do not have access to formal sanitation infrastructure and are exposed to unsanitary conditions thus they have a high risk of infection with excreta-related diseases. There is a significant need for formal sanitation in the community as it will increase the living standards of the residents and reduced the amount of water borne diseases in the area. Surface and ground water contamination will be significantly reduced as residents will have formal sanitation and will not have to depend on pit latrines or watercourses for sanitation and ablution requirements.

The eThekwini Water and Sanitation Department, as part of the eThekwini Sanitation Program, proposes to formalize the ablution facilities by constructing communal ablution blocks (CAB's) in the Dakota Beach informal settlement to provide for basic sanitation services in the area. The CAB's are temporary modified containers comprising toilets, urinals, showers, basins, a store room, an external wash trough and a standpipe. The proposed sanitation infrastructure is expected to improve hygienic conditions within Dakota Beach.

Since the informal houses which the proposed toilets intend to supply, are built in proximity to the Ispingo Beach, sections of the proposed sanitation facilities will lie within a 100 metres inland of the high-water mark of the sea thereby triggering a Basic Assessment.

Indicate any benefits that the activity will have for society in general:

The formalisation of the sanitation facilities will have a positive impact on society as sanitation facilities will be provided within this impoverished community in the eThekwini Municipality. The formalisation of sanitation will significantly reduce the potential for sewage to contaminate groundwater and surrounding watercourses. It will improve the living standards of the people living within the informal settlement and reduce waterborne diseases in the area. It will reduce the negative impact that contaminants have on the surrounding environment.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

As above, basic sanitation facilities will be provided for this section of the informal settlement within Dakota Beach, eThekwini Municipality.

12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act	All organs of State.	1998
Environment Conservation Act	DEA / EDTEA	1989
Conservation of Agriculture Resources Act	EDTEA	1983
National Water Resources Strategy	DWA	2004
Occupational Health and Safety Act	DOL	1993
Hazardous Chemical Substance regulations	DOL	1995
Environmental Regulations for Workplaces	Department of Labour	1987
General Administrative Regulations	Department of Labour	2003
Construction Regulations	DOL	2003
Noise Induced Hearing Loss Regulations	Department of Labour	2003
National Environmental Management: Air Quality Act	DEA / EDTEA	2004
National Environmental Management: Waste Act	DEA / EDTEA	2008
National Road Traffic Act	DEA / EDTEA	1996
National Environmental Management Act: Protected Areas	DEA / EDTEA	2003

13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

13.1. Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES X	NO
If yes, what estimated quantity will be produced per month?		2m³

How will the construction solid waste be disposed of? (describe)

The proposed project will incorporate the construction of concrete platforms for the CAB's however there will be minimal waste. All construction waste must be collected and stored within a secure area in the construction camp.

Where will the construction solid waste be disposed of? (provide details of landfill site)

All solid waste produced must be disposed of at the nearest available registered landfill site. The closest landfill site is the Mariannhill Landfill site approximately 36km from the site. The closest hazardous landfill site is the Umlazi IV H: h landfill situated in Isipingo Beach. Should alternative landfill sites be used, the disposal site must be fully licensed and registered and must be approved by the ECO prior to the disposal of waste at this facility.

Will the activity produce solid waste during its operational phase?	YES	NO X
If yes, what estimated quantity will be produced per month?		N/A m³

How will the solid waste be disposed of? (provide details of landfill site)

N/A

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	YES	NO X

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO X

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

13.2. Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO X
If yes, what estimated quantity will be produced per month?		N/Am^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	Yes X	NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES X	NO

If yes, provide the particulars of the facility:

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

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Reuse or recycling of waste water will not be necessary as it is anticipated that little to no wastewater will be generated during the construction phase. Wastewater will be generated during the operational phase however it will be transferred to the SVWTW where it will be treated and become available for reuse.

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	YES X	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO X

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

If no, describe the emissions in terms of type and concentration:

Dust will be produced during the construction phase (trenching and construction of the CAB platforms) as well as emissions from construction vehicles accessing the site. The vehicle emissions will be comprised predominantly of Carbon Dioxide (CO_2) and will be of a low concentration.

13.4. Generation of noise

	YES	NO
Will the activity generate noise?	X	
If yes, is it controlled by any legislation of any sphere of government?	YES	NO X

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the noise in terms of type and level:

Noise will be generated during the construction phase of the activity. Noise will be generated from construction vehicles, machinery and equipment that is being used during the construction phase. Noise levels should not exceed 85dBa.

In such cases that excessively loud noise is generated, the contractors must notify nearby neighbours of the activity prior to taking place. Workers will be trained regarding noise on site and construction hours will be kept to working hours (07h00 to 17h00). Work must not continue on weekends, after hours or public holidays, unless prior consent is obtained.

14. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box (es):

Municipal	water board	groundwater	river, stream, dam or lake	other	the activity will not use water
X					

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	N/A	
Does the activity require a water use permit from the Department of Water Affairs?	YES X	NO

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

The proposed activity requires a Water Use License Application (WULA) as deemed necessary by the Department of Water Affairs. Due to the extensive range of the CAB sites, the DWA has approved a single WULA be carried out for the entire Umlazi/ Ispingo area, proof of the application will be appended in the Final BAR.

15. ENERGY EFFICIENCY

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

Polycarbonate roof sheeting can be used as an alternative roof structure on the CAB's. Polycarbonate sheeting has a high light transmittance hence electricity will not be required during the day. It is a cost effective design measure that will reduce energy consumption and provide thermal regulation.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

It is recommended that energy saving light bulbs be used in the ablution facilities during its operational phase.

SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

Important notes:

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):	

- Subsections 1 - 6 below must be completed for each alternative.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
			X			

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site **(Please cross the appropriate box)**.

Alternative S1 (preferred site):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
		X					X	

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Has a specialist been consulted for the completion of this section?	YES	NO
	X	

If YES, please complete the following:

Name of the specialist:	Nicolette Forbes
Qualification(s) of the specialist:	Master of Science (MSc)
Postal address:	P.O. Box 417,Hyper by the Sea

Postal code:	4053				
Telephone:	031 572 2705		Cell:	082 451 8078	
E-mail:	nicolette@mer.co.za		Fax:	086 609 0162	
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?				YES	NO X
If YES, specify and explain:	N/A				
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?				YES	NO X
If YES, specify and explain:	N/A				
Are any further specialist studies recommended by the specialist?				YES	NO X
If YES, specify:	N/A				
If YES, is such a report(s) attached in Appendix D?				YES	NO

Signature of specialist: Attached in Appendix D Date:

3.1 Estuarine and Coastal Specialist Report

Marine and Estuarine Research were appointed to compile a specialist assessment of the proposed installation of the CAB's in close proximity to the Mbokodweni Estuary, Dakota Beach. Mitigation against potential impacts that may occur as a result of the proposed construction and operation of the ablution blocks were also prescribed.

3.1.1. Summary of Findings of Estuarine Assessment

Potential impacts identified during construction and operation phases include:
- Habitat loss
- Construction related disturbances
- Treated wastewater disposal
- Sewerage infrastructure underperformance or failure
- Climate Change

The Mbokodweni Estuary is classified as an Intermittently Open Estuary (IOE) and it functions with a permanent due to the increase of freshwater flow into the estuary. However permanent flood conditions and habitat loss has significantly undermined the ecological functioning of the Estuary thereby reducing the ecological status.

The Mbodkodweni Estuary has had a long history of poor water quality and the urbanisation of the area has contributed to further degradation. Recent water sampling has concluded that an increase in industrial contamination and sewage has contributed to the poor water quality. Significant habitat loss in the Estuary as a result of encroachment in the estuarine functional zone of the Prospecton industrial area and the Amanzimtoti Golf Course. As a result the estuary has been severely canalised by the two developments which are located on the north and south banks of the estuary. The development of several bridge crossings within the estuarine functional zone has further exacerbated the canalisation of the estuary.

The Estuarine specialist recommendations have been prescribed to reduce the significance of the impact to more acceptable levels. The Mbokodweni Estuary is in a severely degraded state as such the national Water Affairs recommends the rehabilitation of estuarine health category by two level. As such it is of grave importance that all the recommended mitigation measures are strictly adhered. While the proposed CAB's may have minimal impact on habitat loss, it will increase wastewater flow to the estuary thereby presenting more severe consequences as a result of estuarine contamination from raw sewage. Majority of the impacts can be mitigated against provided the mitigation measures are strictly adhered to. A complete Estuarine Report has been attached in Appendix D.

Is the site(s) located on any of the following (cross the appropriate boxes)?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES X	NO	YES	NO	YES	NO

Dolomite, sinkhole or doline areas	YES	NO X	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES X	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO X	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO X	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO X	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO X	YES	NO	YES	NO
An area sensitive to erosion	YES X	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Has a specialist been consulted for the completion of this section?				YES	NO X
If YES, please complete the following:					
Name of the specialist:	N/A				
Qualification(s) of the specialist:	N/A				
Postal address:	N/A				
Postal code:	N/A				
Telephone:	N/A		Cell:	N/A	
E-mail:	N/A		Fax:	N/A	
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?				YES	NO X
If YES, specify and explain:	N/A				
Are their any special or sensitive habitats or other natural features present on any of the alternative sites?				YES	NO X
If YES, specify and explain:	N/A				
Are any further specialist studies recommended by the specialist?				YES	NO X
If YES, specify:	N/A				
If YES, is such a report(s) attached in Appendix D?				YES	NO X

Signature of specialist: _____ Date: _____

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition[E]	Natural veld with scattered aliens[E]	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E] x	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil x

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Cross the land uses and/or prominent features that currently occur within a 500m radius of the site and give a description of how this influences the application or may be impacted upon by the application:

Land use character			Description
Natural area	YES	NO X	
Low density residential	YES	NO X	
Medium density residential	YES	NO X	
High density residential	YES X	NO	There is a residential area situated north west of the informal settlement, the surrounding environment will benefit as it will reduce groundwater pollution and it will provide a more hygienic environment as a whole.
Informal residential	YES X	NO	The proposed site is located within the Dakota Beach Informal Settlement. The proposed CAB's will have a positive impact on the informal settlement as it will improve the living standards of the residents
Retail commercial & warehousing	YES X	NO	Distribution warehouses, freight and logistics companies are situated along Ernest Clokie Road, across from the informal settlement. A shopping Mall 450m north-west of site 6, the improved environmental condition of the area may potentially create more business opportunities for the shopping mall thereby attracting more people to the area and increasing economic revenue.
Light industrial	YES	NO X	
Medium industrial	YES	NO X	
Heavy industrial	YES X	NO	There is heavy industrial situated adjacent to the informal settlement. The CAB's may

			potentially create a positive impact for the industries as they are located in close proximity.
Power station	YES	NO X	
Office/consulting room	YES	NO X	
Military or police base/station/compound	YES	NO X	
Spoil heap or slimes dam	YES	NO X	
Quarry, sand or borrow pit	YES	NO X	
Dam or reservoir	YES	NO X	
Hospital/medical centre	YES	NO X	
School/ creche	YES	NO X	
Tertiary education facility	YES	NO X	
Church	YES	NO X	
Old age home	YES	NO X	
Sewage treatment plant	YES	NO X	
Train station or shunting yard	YES	NO X	
Railway line	YES	NO	
Major road (4 lanes or more)	YES	NO X	
Airport	YES	NO X	
Harbour	YES	NO X	
Sport facilities	YES	NO X	Swimming pools are located within the residential areas and are private property of the residents thereof.
Golf course	YES	NO X	
Polo fields	YES	NO X	
Filling station	YES	NO X	
Landfill or waste treatment site	YES	NO X	
Plantation	YES	NO X	

Agriculture	YES	NO X	
River, stream or wetland	YES X	NO	The informal settlement is situated adjacent to the Isipingo Beach. The sand dunes act as a buffer between the informal settlement and the beach. The Mbokodweni River lies north west of the informal settlement. The proposed CAB's will reduce the potential further degradation of the estuary thereby reducing the potential of the Isipingo Beach becoming further polluted.
Nature conservation area	YES	NO X	
Mountain, hill or ridge	YES	NO X	
Museum	YES	NO X	
Historical building	YES	NO X	
Protected Area	YES	NO X	
Graveyard	YES	NO X	
Archaeological site	YES	NO X	
Other land uses (describe)	YES	NO X	

6. CULTURAL/ HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site?	YES	NO X

If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.

Briefly explain the recommendations of the specialist:	N/A

Will any building or structure older than 60 years be affected in any way?	YES	NO X
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO

If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.

SECTION D: PUBLIC PARTICIPATION

Public Participation commenced on 23rd May 2014. All proof of public participation has been included in Appendix G. Signboards were placed around the site. Notices were hand delivered to the community liaison officer who attended the site visit on behalf of the ward councillor and members residing in the local community.

The following authorities and interest groups were notified of the application: Department of Water Affairs (DWA), Ezemvelo KZN Wildlife and eThekwini Municipality. The Ward Councillor was also notified telephonically of the proposed project. The Background Information Document was distributed to all I & APs.

The notice of application was advertised in the Isolezwe (Regional Newspaper) on the 17th of June 2014 and in the Southern Star (Local Newspaper) on the 24th of June 2014.

Should a meeting be requested, it may be held with registered interested and affected parties (I&APs).

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

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

(c) placing an advertisement in—
  (i) one local newspaper; or
  (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  (i) illiteracy;
  (ii) disability; or
  (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and

(b) state—
  (i) that an application for environmental authorization has been submitted to the KZN Department of Economic Development, Tourism & Environmental Affairsin terms of the EIA Regulations, 2010;(ii)
  (iii) a brief project description that includes the nature and location of the activity to which the application relates;
  (iv) where further information on the application can be obtained; and
  (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE PROCESS

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Economic Development, Tourism & Environmental Affairsas appropriate for this application. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate.

Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as **Appendix E** to this report.

6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of this application and provided with an opportunity to comment.

Has any comment been received from the district municipality?	YES	NO
		X

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

N/A

Has any comment been received from the local municipality?	YES	NO
	X	

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

Enviroplan, as commissioned by Mott Macdonald PDNA were the initial environmental consultants for the proposed development. However due to insufficient information and lack of depth for the project, the project was recalled and Kerry Seppings Environmental Management Specialists cc (KSEMS) were appointed as the new EAP for the project. Thus the local municipality has provided comments on the Draft BAR as submitted by Enviroplan.

Has any comment been received from a traditional authority?	YES	NO
		X

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

7. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?	YES	NO
		X

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

No comments have been received to date for inclusion in the Draft BAR however the Comments and Response Table will be included in Appendix E of the Final BAR.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached as Appendix E to this report):

Enviroplan, as commissioned by Mott Macdonald PDNA were the initial environmental consultants for the proposed development. However due to insufficient information and lack of depth on the project, the project was recalled and Kerry Seppings Environmental Management Specialists cc (KSEMS) were appointed as the new EAP for the project. Thus the local municipality has provided comments on the Draft BAR as submitted by Enviroplan. The initial comments that have been received from the eThekwini Municipality will be submitted as Appendix E.

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

Alternative A1 and S1 (preferred alternative)
Non-compliance with legislative requirements

During the planning and design phase of the proposed development, compliance with legal requirements is carefully considered and integrated into the design and location of the CABs in order to avoid non-compliance and delays in the Basic Assessment Process. Foreseen issues are planned for and dealt with at this phase and contingency plans are developed for unforeseen impacts and delays.

2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Description Of Environmental Issues Identified, Assessment Of The Significance Of Each Issue And An Indication Of The Extent To Which The Issue Could Be Addressed By The Adoption Of Mitigation Measures [Regulation 22 (2) (i-k)].

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

Alternative S1 & A1:

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
SOIL										
Collapse and / erosion of stockpiled material (stone, sand and gravel).	Direct	Local	Construction phase (short-term)	Yes – can be managed.	No	Medium	High	Material must be stockpiled in such a way that it cannot fall or cause injury or damage to properties or the natural environment. Stockpiles must not exceed 2m in height and must be covered if exposed to heavy wind or rain. Stockpiles must not be located in close proximity to any streams or drainage lines and must not be allowed to erode into	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								these features. Alternatively, low walls or berms must be constructed around the stockpiles. A site-specific Environmental Management Programme (EMPr) has been designed to manage construction activities (Appendix F).		
The onsite erosion of exposed soil before rehabilitation is completed.	Direct	Local	Construction phase (short-term)	Yes – can be managed	No	Medium	High	As a general principle, contractors must limit vegetation clearing to the workable corridor/site along the pipelines only. The contractor must stabilise cleared areas to prevent and control erosion and/or sedimentation of the watercourses. Only vegetation that needs	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								to be removed to accommodate the proposed sewer infrastructure and pipelines must be removed in a phased and controlled manner. A site specific EMPr has been designed to manage construction activities and is attached under Appendix F.		
Risk of contamination to soil during cement mixing during toilet structure and pipe bridge construction.	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	High	High	Only minor cement mixing activities will be required but cement mixing must take place on a hard surface or cement mixing trays need to be used. Cement mixing must not be permitted to occur where run-off can enter stormwater	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								drainage lines or streams. Construction must be monitored by an independent ECO who must monitor compliance with the construction EMPr.		
STORMWATER										
Poor stormwater management during construction can lead to erosion and loss of soil.	Direct	Local	Construction phase (short-term)	Yes – can be prevented	No	Medium	High	Temporary stormwater control structures i.e. the use of Hessian sheets, silt curtains etc., must be utilised during construction. Construction must be monitored by an independent ECO who must monitor compliance with the construction EMPr (Appendix F).	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Risk of contamination of the Mbokodweni River during cement mixing.	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No, however there is a potential for resources to be lost if the River is contaminated with cement.	Medium	High	Cement mixing must take place on a hard surface or cement mixing trays must be used for this purpose. Cement mixing must not be permitted to occur where run-off can enter stormwater drainage lines or streams. This must be controlled through an EMPr (Appendix F).	Low	Low
Washing of construction vehicles on site resulting in contamination of stormwater drainage lines and/or streams	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	Medium	High	No vehicle washing must occur on site unless in a designated wash bay which must then be constructed. Wash bays must be installed with sand and grease traps if required on site.	Low	Low
FLORA										

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Soil disturbance due to construction activities resulting in a proliferation of weeds.	Direct	Local	Long-term	Yes – can be prevented.	No	Medium	High	Upon completion of construction, an alien removal programme must be implemented. The site must be re-vegetated with indigenous vegetation. The top soil must be used for rehabilitating the site and must be kept free of alien vegetation.	Low	Low
FAUNA										
Potential loss or disturbance to fauna present within the proposed site	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	Low	Low	Due to human presence and the disturbed landscape, it is unlikely that fauna species exist in large numbers at these sites, however, contractors and staff must be trained to avoid impacts on fauna. This must be	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								monitored with an EMPr (Appendix F).		
SENSITIVE ENVIRONMENTAL AREAS										
Location of the proposed CABs in close proximity to dune vegetation within the proposed site (MER, 2014).	Indirect	Local	Permanent	Yes – can be prevented.	No	High	Low	The location of CAB 1 will be slightly altered as it is situated on an area of coastal dune that has not been transformed. The location of the CAB will be slightly altered to avoid impact on coastal vegetation.	Low	Low
Potential pollution of the estuary during construction (MER, 2014).	Direct	Local	Construction phase (short term)	Yes impact can be managed.	No	High	High	Identified hazardous substances may only be stored under controlled conditions in a bunded area. Material Safety Data Sheets (MSDS) must be available on site at all times to identify hazardous substances. Hazardous substances	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								must be transported in sealed containers. An impermeable hazardous storage unit must be established within the construction camp		
Construction related disturbance on the Mbokodweni Estuary (MER, 2014).	Indirect	Local	Construction phase (short term)	Yes impact can be managed	No	High	High	The south boundary of the construction area must be well demarcated and the staff must be sufficiently trained about the environmentally sensitive surroundings. The collecting of fruit, plants and other natural resources are prohibited. The contractor must ensure that alien vegetation is removed from the construction site. Solid	Low	Medium

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								waste must be controlled to avoid local fauna being attracted to the site.		
WASTE										
Improper storage and disposal of general waste resulting in possible contamination of the surrounding environment.	Direct	Local	Construction phase (short-term)	Yes impact can be prevented.	No	Medium	High	All solid waste generated during the 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, be accessible by animals, or be placed in piles adjacent to the skips / bins. All solid waste must be disposed of at the nearest licensed landfill and safe disposal certificates must be obtained and kept on	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								site at all times during construction. The waste containers must be applicable to the waste type contained within and where necessary should be covered. This must be managed through the site specific EMPr (Appendix F) and monitored by the ECO.		
Littering around the site.	Direct	Local	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Littering on the site should be kept to a minimum and general housekeeping must be enforced. General waste bins must be readily available for litter disposal and general housekeeping. sufficient bins must be placed within the construction camp and site. The EMPr must be	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								followed during construction.		
Improper disposal of rubble i.e.: burying or neglecting building rubble resulting in direct mechanical damage to surrounding vegetation and untidiness of the site.	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Building rubble is anticipated to be minimal however rubble can be temporarily stored on site in designated skips until it is ready for disposal. All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. Where applicable construction rubble maybe used in other operations within the construction phas Any construction rubble produced must be disposed of at a designated landfill site.	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Use of the surrounding areas/ properties as toilets by contractors.	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	Medium	High	Staff must be provided with chemical toilets. The toilet waste must be disposed of at an appropriate disposal site and safe disposal certificates must be obtained. The staff may not use the surrounding areas as toilets. Workers must be briefed by the person in charge of managing construction activities on the do's and don'ts on the property, when workers arrive at the site. This must be repeated in weekly toolbox talks and monitored through a site specific EMPr (Appendix F).	Low.	Low
HAZARDOUS CHEMICALS / FUELS										

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Risk of spills from construction equipment (oils, fuels, cement etc) contaminating soil and stormwater.	Direct	Local	Construction phase (short-term)	Yes – can be managed	No	Medium	High	Any construction equipment that could leak oil must be placed on a suitably sized drip tray. Stationary construction vehicles must have a drip tray placed beneath them and any oil leaks must be controlled and attended to over a drip tray. All equipment must be in good working order to reduce the likelihood of oil leaks occurring. Any re-fuelling of equipment must occur on an impermeable surface, within a designated re-fuelling area where any spills can be contained. Construction must be monitored by an	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								independent ECO must monitor compliance with the construction EMPr. Should an incident/ spill occur, it must be cleaned up and recorded in the spill register (appendix F).		
NOISE										
Noise generated by construction workers, machinery and construction vehicles disturbing neighbours and industries.	Direct	Local (within construction site)	Construction phase (short-term)	Yes – can be managed	No	Medium	High	Excessive noise must be controlled on site. Workers will be trained regarding noise generation on site and construction hours will be kept to working hours (07h00 to 17h00).The construction activities will be monitored by an ECO who will ensure compliance with the construction EMPr. All precautions must be	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								taken to ensure that noise generation is kept to a minimum. If excessive noise is expected during certain stages of the construction, nearby residents must be notified prior to the event.		
AIR QUALITY										
Emissions generated from construction vehicles	Direct	Local	Construction phase (short-term)	Yes – can be managed	No	Low	High	The only emissions that will be generated will be from construction vehicles which will be minimal and is not expected to significantly affect the surrounding neighbours/ industries or the environment. Regular maintenance of construction vehicles must be undertaken to	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								ensure they are good working order and thereby reducing the amount of emissions generating from vehicles.		
Generation of dust being a nuisance to surrounding neighbours and industries.	Direct	Local	Construction phase (short-term)	Yes – can be managed	No	Medium	High	Emissions will only be generated from construction vehicles. Emissions will be minimal and not expected to significantly affect surrounding industries and neighbours. Dust control and must however be implemented to ensure that excessive dust levels are not experienced on site. Measures to control dust generated during construction must be	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								put controlled through the EMPr i.e. cleared areas must be rehabilitated as soon as possible behind the working front or dust suppressing of unpaved access roads, stockpiles and cleared areas. The dust levels must be kept below the required SANBS standard to ensure minimal impact on the surrounding environment.		
RESOURCE USE & CONSERVATION										
Sourcing of raw materials i.e.: (gravel, stone, sand, cement and water) from unsustainable sources	Direct	Local (potential to become regional)	Construction phase (short-term)	Yes – can be managed	No	Low	High	All materials must be obtained from a registered and sustainable source and all source statements and slips must be made available to the ECO,	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
resulting in illegal sand mining and mining operations causing significant environmental damage.								where applicable. Municipal water will most likely be used for dust suppression however should water be extracted from the watercourse, the amount must not exceed 50 000 litres per day. If this limit is exceeded, a permit is required from DWA.		
TRAFFIC										
Increased use of roads by construction vehicles increasing the risk of an accident.	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	Medium	High	Clear signs, flagsmen and/ signals must be set up where necessary. Where roads are used by children to reach school, vehicle traffic must be minimized during hours that children are travelling to and from school.	Medium - Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
SOCIO-ECONOMIC										
Interruption or damage to services (electricity, water etc.).	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	Low	High	This impact can be fully mitigated against by identifying services prior to construction and avoiding damage to existing services. Alternatively, if service disruption is unavoidable, the parties affected must be notified in advance. A site-specific EMPr has been designed to manage construction activities (Appendix F).	Low	Low
Safety of construction workers and local community members in close proximity to the trenches.	Direct	Local	Construction phase (short-term)	Yes – can be prevented.	No	Medium	High	Construction workers must be made aware of these areas where safety may be a concern (i.e. open trenches). Open trenches must be clearly demarcated	Low	Low

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								during the day and night. Contractors must ensure that all workers are made aware of the associated dangers through an awareness / weekly toolbox training programme. This must be monitored through a site specific EMPr (Appendix F).		
Positive impact: Potential temporary employment during construction.	Direct	Local	Construction phase (short-term)	Positive impact no mitigation required. Skilled local community members may be granted employment during the construction phase.						

No-Go Alternative:

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
IMPACTS OF THE NO-GO OPTION										
There will not be any construction activity impacts however positive impacts such as employment opportunities will also not be created.	Direct	Local	Long term	Yes	No	High	High	The implementation of temporary sanitation facilities during the construction period and the appointment of a caretaker from the local community would be a step in a positive direction thereby creating local employment within the informal settlement.	Low	High
The local community will have limited access to waterborne sewerage connections and will be exposed to unsanitary	Direct	Local	Long term	Yes	No	High	High	The introduction of the formal CABs is aimed at improving the living standards of people and providing with basic needs. As such it will contribute to the better living standard for the residents and reduce their exposure	Low	High

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
conditions with a high risk of infection by excreta-related diseases.								to waterborne diseases.		
Continued eutrophication within the Estuary and stream units from the flow of sewerage from pit latrines directly into Estuary and stream systems.	Direct	Regional	Long term	Yes	No	High	High	Formal sanitation facilities will have a significant reduction in the volume of nutrient loading on local watercourses, this will result in the reduction of eutrophication, with an associated improvement in water quality, thereby protecting ecological integrity and the coastal processes.	Low	High

2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Subsiding of the pipeline resulting in contamination of the drainage lines and the surrounding area.	Direct	Local with the potential for a regional impact should contamination occur.	Short – term	Yes – can be prevented and managed.	No	Medium	High	The pipeline must be regularly inspected as part of a maintenance/ inspection procedure to ensure 100% integrity of the structure. eThekwini Water and Sanitation (EWS) employ and train a local community member to be a "caretaker" for the toilet blocks. The caretaker is responsible for operation maintenance and general up keep. The caretaker is to inform EWS of any maintenance issues.	Medium - Low	Low
The potential for leakages at joints and	Direct	Local with the potential	Long – term	Yes – can be prevented	No	Medium	High	It is anticipated that pipelines will develop cracks over time and	Medium	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
manhole connections resulting in soil / groundwater contamination due to development of cracks in the pipelines.		for a regional impact should contamination occur.		and managed.				this will be accelerated if the pH is above 10 or less than 7. It is recommended that a maintenance procedure be implemented to ensure that the pipelines are checked on a regular basis. Should any cracks be identified, the portion of pipe must be immediately replaced to ensure that there is no surface or groundwater contamination. The pipeline must be designed as per engineering specifications. The pipeline must be constructed according to the relevant SABS standards. Should any		

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								cracks be identified, it is recommended that a groundwater study be conducted to determine if there has been any contamination.		
Potential blockage increasing the risk of spillages along the pipe as well as manhole overflow.	Direct	Local	Long - term	Yes – can be prevented.	No	High	High	The caretaker is to inform EWS of any operational maintenance. The maintenance programme must specify the frequency and timing of manhole inspections, aimed at identifying and clearing up material deposited during overflow events. Ablution facilities must also be included in the maintenance programme and must be regularly inspected for blockages and	Medium-Low	Medium-Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								leaks. An ablution maintenance team must be set-up using local labour.		
Increase freshwater flows to the estuary as a result of wastewater disposal (MER, 2014).	Direct	Local	Long - term	No impact cannot be prevented, reversed or managed.	No	High	Low	No measure that is possible to mitigate against the increase in freshwater flow.	High	Medium-Low
Potential increase in volume of waste (sludge) sent to the South Durban Waste Water Treatment Works (WWTW).	Direct (Cumulative)	Regional	Operational phase (long term)	Yes – can be provided for.	No	High	Low	There will be an increase in the amount of sludge directed to the South Durban WWTW however there is enough capacity to handle the increase (see proof of capacity in Appendix G).	High	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Additional nutrient loading in the estuary as a result of wastewater disposal as treatment methods do not limit nutrient levels in the effluent (MER Report, 2014).	Indirect	Local	Operational phase (long term)	No – cannot be prevented, reversed or managed.	No	High	High	There are no mitigation measures against nutrient loading into the estuary.	High	Medium
Potential sewerage infrastructure failure (MER, 2014).	Indirect	Local	Operational phase (long term)	Yes – can be managed.	No	High	Medium	The development of maintenance plans for the CABs to ensure the site is in good working order.	Low	Low
Effect of the project on the estuary with projected climate change (MER, 2014).	Indirect	Local	Medium – long term	Yes impact can be managed.	No	Medium	Medium	Sewerage infrastructure must not be situated in areas that are susceptible to coastal erosion in the short-term. Any	Medium	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								infrastructure that are located in high risks areas should have a projected lifespan of 5-10 years.		
Positive Impact. Local community households' connection to waterborne sewerage.	Direct	Local	Long - term	Positive impact, no mitigation required. The result of the infrastructure provision is the reduced exposure to unsanitary conditions and a decrease in potential infection by excreta-related diseases.						
Positive Impact. Reduced risk to the catchment due to the containment of existing raw sewage.	Indirect	Regional	Long – term	Positive impact, no mitigation required.						

No-Go Alternative:

IMPACTS OF THE NO-GO OPTION										
Nature of Impact (potential)	**Direct or Indirect**	**Extent of Impact**	**Duration of Impact**	**Can impact be prevented**	**Will irreplaceable**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**

				/reversed or managed ?	**resources be lost?**					
There will be no negative construction impacts however positive impacts such as employment opportunities and improved standard of living will not be created. Residents and households in this area will continue to have limited access to waterborne sewerage connections and will be exposed to unsanitary conditions with a high risk of infection by excreta-related diseases. In addition there will be continued eutrophication within the estuary from the flow of sewerage from pit latrines.										

2.4. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING OR CLOSURE PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

Nature of Impact (potential)	**Direct or Indirect**	**Extent of Impact**	**Duration of Impact**	**Can impact be prevented /reversed or managed ?**	**Will irreplaceable resources be lost?**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
SOIL										
Potential contamination of the Mbokodweni	Direct	Local	Short – term	Yes – can be managed.	No	Medium	High	It must be ensured that that all pipes and ablution facilities are pumped empty prior to decommissioning.	Low	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Estuary with raw sewage.								When removing the ablution facilities and pipes, any spills or leaks must be immediately cleaned up. All piping leading to the ablutions must be carefully removed if necessary, ensuring that the material contained in the pipes is not allowed to leak or enter watercourses. All trenches along the pipes must be covered. If the tanks or pipes have to be washed prior to removal, the wastewater must be treated as contaminated.		
Potential contamination of the	Direct	Local	Short – term	Yes – can be prevented.	No	Medium	High	Rubble can be temporarily stored on site in a designated skip	Low	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Mbokodweni Estuary with rubble and waste.								until it is ready for disposal. All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. Any rubble produced must be disposed of at a designated landfill site. This must be monitored through a site specific decommissioning EMPr.		
Decommissioning activities causing erosion near the Mbokodweni Estuary.	Direct	Local	Short – term	Yes – can be prevented.	No	Medium	High	Temporary erosion control measures must be implemented to prevent erosion to any watercourse during decommissioning. All exposed areas resulting from decommissioning activities must be	Low	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								rehabilitated with indigenous vegetation to prevent potential erosion on the exposed areas. Decommissioning must be managed with an EMPr that has been designed specifically for the site. A site specific EMPr must be designed to guide the decommissioning process should decommissioning need to occur.		
The onsite erosion of exposed soil before rehabilitation is completed.	Direct	Local	Short – term	Yes – can be prevented.	No	Medium	High	As a general principle, contractors must limit vegetation clearing to the workable corridor/site along the pipelines only. The contractor must stabilise cleared areas	Low.	Low

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented /reversed or managed ?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								to prevent and control erosion and/or sedimentation. Only vegetation that needs to be removed to accommodate the decommissioning must be removed in a phased and controlled manner.		
Poor stormwater management during decommissioning can lead to erosion and loss of soil.	Direct	Local	Short – term	Yes – can be managed.	No	Medium	High	Temporary stormwater structures i.e. the use of Hessian bags etc. must be utilised during decommissioning. Decommissioning must be monitored by an independent ECO who must monitor compliance with the decommissioning EMPr	Low	Low

2.5. PROPOSED MONITORING AND AUDITING

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

Alternative A1 and S1 (preferred site)
Construction phase: It is recommended that monitoring be done through monthly environmental construction audits thereby ensuring compliance with the Environmental Management Programme (EMPr) and Environmental Authorisation (EA). An independent ECO must be appointed to undertake this monitoring process. **Operation phase**: The applicant must ensure inspections and scheduled maintenance of infrastructure take place on a regular basis. A Post Construction Audit (PCA) must be undertaken by the ECO to ensure the EMPr and EA requirements have been met. It is further recommended that a second PCA take place 3 or 4 months after rehabilitation to monitor the efficiency of the rehabilitation and erosion control.

Assumptions, Uncertainties and Gaps In Knowledge [Regulation 22 (2) (m)]

There are no uncertainties or gaps in the information provided and the EAP is confident that sufficient information has been provided to allow an assessment of the proposal.

3. ENVIRONMENTAL IMPACT STATEMENT

Environmental impact statement with a reasoned opinion as to whether the activity should be authorised or not be authorized; [Regulation 22 (2) (n)]

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

It is the opinion of the EAP that the application submitted for the proposed CABs be approved. Estuarine specialist recommendations have been incorporated into the Environmental Management Programme (EMPr), which is to be strictly adhered to during construction, the proposal would result in minor environmental impacts.

There is a significant need for formal sanitation in the community as it will increase the living standards of the residents and reduced the amount of water borne diseases in the area. The EAP is of the opinion that the proposed development will be of an environmental and social benefit. The recommendations as outlined by the estuarine specialist provides mitigation measures to safeguard the Mbokodweni Estuary from further degradation and contamination of the beach.

The activity would have a positive social impact on the local community by providing them access to formal sanitation facilities and reducing their exposure to unsanitary conditions that are currently experienced in the area. Employment opportunities for construction and maintenance of the pipelines within the local community will also benefit this area.

Alternative A1 and S1 (preferred site)

As part of Durban, eThekwini Water and Sanitation (EWS) is the authority responsible for providing water and sanitation to the city's population. As such EWS has undertaken an ongoing, full-scale project which has the fundamental purpose of upgrading or installing structures for community based water and sanitation.

This proposed development necessitates the construction of Communal Ablution Blocks (CABs) and associated infrastructure which will service the informal settlements in the Dakota Beach Informal Settlement situated in Isipingo Beach. EWS propose to construct six (6) Communal Ablution Blocks (CAB's) within the informal settlement, in addition, the development will include new pipelines which will link the various CAB toilet platforms to existing main pipelines.

Prefabricated toilets approximately 8 x 9.5m in area will be erected within Dakota Beach. Sewage from the toilets will travel through 160mm diameter pipelines (gravity sewer main lines) to a proposed 160mm diameter bulk gravity sewer pipeline. The pipelines will measure a total of 785 m. Please refer to Appendix C for the layout of the proposed toilets and pipelines. All pipelines will be made from unplasticized poly (vinyl chloride) or uPVC. uPVC is widely used in building materials as it is known as having a strong resistance against chemicals, sunlight, and oxidation from water.

The applicant proposes to establish approximately 6 toilet platforms in strategic points around the informal settlement. As the informal houses which the proposed toilets intend to supply, are built in proximity to the Ispingo Beach, sections of the proposed sanitation facilities will lie within a 100 metres inland of the high-water mark of the sea thereby triggering a Basic Assessment

All potential impacts that may occur during the construction and operational phase of the CAB's and pipeline have been identified in Section E above and key impacts and mitigation measures are discussed below.

An Estuarine Assessment Report was undertaken by Marine and Estuarine Research, and is available in Appendix D. The estuarine specialist acknowledged the degraded state of the estuary therefore a number of site specific recommendations were made by the specialists which must be adhered to throughout the construction process. These have been incorporated into the attached EMPr. Majority of the negative impacted can be managed provided that the specific recommendations are adhered to.

It is important to conserve the natural environment therefore rehabilitation must take place immediately after construction activities. The applicant must ensure that a maintenance plan has been drawn up to continuously monitor the operational phase of the activity. Should there be a leak detection or malfunction within the CAB's the maintenance plan must be implemented to prevent negative impacts on the environment and force the community to regress to previous sanitation facilities.

The construction and operational phase of the proposed development is also anticipated to provide employment to members of the community members thus assisting in poverty reduction in this area as well as benefiting the community's health and safety.

The EMPr produced for this development is attached under Appendix F and includes methods and protocol to be followed by each of the parties involved during the construction phase (including estuarine specialist recommendations). It is envisaged that, provided the EMPr is strictly adhered to during the construction process, it is not expected that the proposal will have significant impacts on the environment. In conclusion, if all the suggested mitigation methods outlined in this report are followed, then impacts can be rated as low.

No-go alternative (compulsory)

The 'No-Go' alternative will lead to the primary goal of providing sewer connections to toilet blocks in the informal settlement within eThekwini Municipality not being met. The significance of this is that the local community members will be forced to continue to use other forms of informal ablution facilities and would thus continue to be exposed to unsanitary conditions and potential excreta-related disease. While the risk of leaking sewerage pipelines would not be an impact for the no-go alternative, the watercourse would continue to receive raw sewage from the informal facilities currently in use.

SECTION F. RECOMMENDATION OF EAP

	YES	NO
Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report?	X	
If "NO", please contact the KZN Department of Economic Development, Tourism & Environmental Affairs regarding the further requirements for your report.		

If "YES", please attach the draft EMPr as Appendix F to this report and list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

1. It is recommended that alternative A1 and S1 (i.e. formalisation of ablution facilities in Dakota Beach be accepted from an environmental and social perspective.
2. The applicant must ensure that mitigation measures and controls as outlined in the EMPr are adhered to. The construction of the pipelines and ablution facilities must be monitored by an independent ECO who must ensure compliance with the construction component of the EMPr.
3. It is recommended that environmental construction audits be conducted on a monthly basis. In addition a pre-construction audit and post-construction audit (PCA) must be conducted. A second PCA must take place three (3) or four (4) months after rehabilitation to monitor the effectiveness of the rehabilitation and erosion control.
4. The contractor and his staff must attend an environmental awareness training course, presented by the site engineer or a suitably qualified EO from the engineers / contractors, prior to construction commencing. The environmental awareness training course should cover the following key aspects: (a) basic awareness and understanding of key environmental features of the work site and the surrounding environment, (b) understanding the importance of, and reasons why, the environment must be protected, (c) ways to minimize environmental impacts, and (d) requirements of the Environmental Authorisation and EMPr. The EAP must be on hand to aid with any environmentally-based questions.
5. Construction activities must comply with designated working hours and surrounding industries must be informed prior to commencement of construction activities.
6. Emergency contact numbers must be placed at the construction camp.
7. Adequate chemical toilet facilities must be provided for all staff members as per standard construction requirements. The chemical toilets must be from a registered company and

contracted company must dispose of all sewage at an appropriate facility. Safe disposal certificates must be kept on record.

8. Existing infrastructure (i.e. electricity lines, water pipelines) must be identified prior to construction. Any costs associated with negative impacts to these services must be accepted by the applicant and should the need arise to disrupt these services for any reason, the relevant authority must be contacted for permission. The details of the disruption must be communicated to the affected surrounding industries.
9. As there are no formal stormwater drainage facilities on site, the contractor must prepare a Stormwater Control Method Statement (MS) to ensure that all construction methods adopted on site do not cause, or precipitate, soil erosion. The designated responsible person on site, as indicated in the Stormwater MS (usually the contractor) should ensure that no construction work takes place before the stormwater control measures are in place. The Stormwater MS must be submitted to the ECO prior to implementation.
10. The duration of exposed soil must be kept to a minimum and rehabilitation of the disturbed area must be initiated as soon as construction is completed.
11. Materials must be stockpiled in appropriate areas where storm water runoff cannot erode into the stockpile.
12. Dust control must be implemented throughout the construction phase.
13. Any alien vegetation found within the construction site must be cleared to ensure that invasion of disturbed areas does not occur.
14. Cement mixing must take place on an impermeable surface or on cement mixing trays. Cement mixing will not be permitted to occur where run off can enter the watercourses. In addition cement and fuels must be stored within bunded and hard surfaced areas.
15. Littering must not be permitted on the site and general housekeeping must be enforced.
16. Waste must be stored in the bins within the waste collection area in the construction camp. Where possible the contractor must ensure recycling bins are available on site. Waste must be disposed of according to their denomination and recycled as such. Waste must be disposed of at an appropriate landfill site and safe disposal slips must be retained on site at all times. Hazardous waste must be stored on a hard surface within a bunded area and must not be allowed to enter watercourses and the surrounding environment.
17. All excess material and rubble must be removed from the site so as not to restrict the rehabilitation process. All excess material and rubble must go to an approved, designated landfill and a safe disposal certificate must be obtained.
18. The watercourse may not be used as a water source by staff unless water abstraction is approved and permitted by DWA. Should the DWA approve such water sources, written proof must be obtained by the contractor.
19. A spill response procedure must be designed to manage spills during construction. Suitable spill kits must be available at all times on site and staff must be made aware of the spill response procedure.
20. A maintenance plan for the operational phase of the development must be drawn up to monitor and identify any potential spills or leaks along the pipeline or at the ablution facilities.
21. In the event of Heritage resources or artefacts being uncovered during construction, activities around the site must cease immediately and AMAFA must be contacted to investigate the findings.
22. CAB 1 must be moved slightly to protect ecological integrity and coastal processes.

23. Hazardous materials must be identified and stored in secure bunded areas. MSDSs must be readily available on site for all chemical and hazardous substances.
24. Hazardous materials must be transported in sealed containers or bags.
25. No hunting, gathering of fruit or plants is permitted.
26. Invasive alien plants must be destroyed using methods that do not pose a risk to the estuary.
27. The southern boundary of the construction zone must be well demarcated.
28. Maintenance plans must be developed to ensure sewerage infrastructure in low lying areas is maintained and in good working order.

SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

Appendix A – Site Plan(s)

Appendix B – Photographs

Appendix C – Facility Illustration(s)

Appendix D – Specialist Reports

Appendix E –Comments and Responses Report

Appendix F –Environnemental Management Programme

Appendix G – Other Information

Public Participation Process

- Signboards
- Notification of Landowner
- Notification of Authorities
- Ward Counsellor consent to inform local community
- Newspaper adverts
- Distribution of BID and BID
- Communications with I & APs
- Registered I & APs
- Public Meeting Minutes, Distribution and Attendance Register
- Notification of release of Draft BAR
- Other Information

Signboards:

Notification of Landowner

As per original Application, eThekwini Municipality has been identified as the Land Owner

Notification of Authorities:

Ward Counsellor (Ward 90) consent to inform local communities:

Newspaper Adverts:

Distribution of Background Information Document

Communications with I & APs:

Registered I & APs:

Public Meeting Minutes, Distribution and Attendance Register:

Notification of release of Draft BAR

Other Information