

**CEN INTEGRATED ENVIRONMENTAL  
MANAGEMENT UNIT**

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**Environmental and Rural Development Specialist**

**DRAFT Basic Assessment Report:**

Construction and operation of a highway rest and service facility, tourist facilities and commercial mixed uses and associated infrastructure, including a Waste Water Treatment Plant on Ptn 147 of Farm Gedults River No 411 in the Division of Uitenhage

**Project Title:**

DRAFT Basic Assessment Report: Construction and operation of a highway rest and service facility, tourist facilities and commercial mixed uses and associated infrastructure, including a Waste Water Treatment Plant on Ptn 147 of Farm Gedults River No 411 in the Division of Uitenhage

**Project Applicant:** Suwenda 40 (Pty) Ltd

**Reference Number:**

DEDEAT: ECM1/LN1&3/M/12-04

DEA: 12/9/11/L830/1

**Environmental Assessment Practitioner:**

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**Date of submission:** July 2012

## Executive Summary

CEN Integrated Environmental Management Unit was appointed by Suwenda 40 (Pty) Ltd to undertake the necessary environmental assessments for the proposed construction and operation of a highway rest and service facility, tourist facilities and commercial mixed uses and associated infrastructure, including a Waste Water Treatment Plant on Ptn 147 of Farm Gedults River No 411 in the Division of Uitenhage (approximate GPS location 33°55'11.09"S 25°17'37.16"E).

The activities require the following assessments and authorisations: 1) A Basic Assessment and Waste Licence application to the National Department of Environmental Affairs for activities listed under the National Environmental Management: Waste Act No 59 of 2008; and 2) A Basic Assessment to the Provincial Department of Economic Development, Environmental Affairs and Tourism for activities listed in terms of the National Environmental Management Act 107 of 1998

### 1.1 Activity Description

#### 1.1.1 Listed Activities

##### **Preliminary List of Listed Activities in Terms of the EIA Regulations**

The Minister of Environmental Affairs and Tourism has in terms of sections 24 and 24D of the National Environmental Management Amendment Act (Act No. 107 of 1998), listed the activities that require an environmental assessment.

In terms of the Environmental Impact Assessment Regulations, 2010, made under section 24(5) of the Act and published in Government Notice R.543 in Government Gazette 33306 of 10 December 2010 the following activities are subject to an assessment.

No. R. 544	10 December 2010 – Listing 1
Activity number	Activity description
9	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water -

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	(i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more, excluding where: such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve;
10	The construction of facilities or infrastructure for the transmission and distribution of electricity - (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts;
13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres;
22	The construction of a road, outside urban areas, (i) with a reserve wider than 13,5 meters or, (ii) where no reserve exists where the road is wider than 8 metres,
23	The transformation of undeveloped, vacant or derelict land to – (ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares
No. R. 546	10 December 2010 – Listing 3
Activity number	Activity description
14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation: (a) In the Eastern Cape (i) all areas outside urban areas

**Listed Activities in terms of the National Environmental Management: Waste Act No. 59 of 2008**

The following waste management activities listed in GNR 718 in terms of Section 19 (1) of the National Environmental Management: Waste Act No. 59 of 2008 have been identified and require a Basic Assessment process to be conducted as stipulated in terms EIA Regulations, as part of a Waste Management License (WML):

### **Category A – GNR 718**

Activity No. 11: “The treatment of effluent, wastewater or sewage, with an annual throughput capacity of more than 2000 cubic metres but less than 15 000 cubic metres “

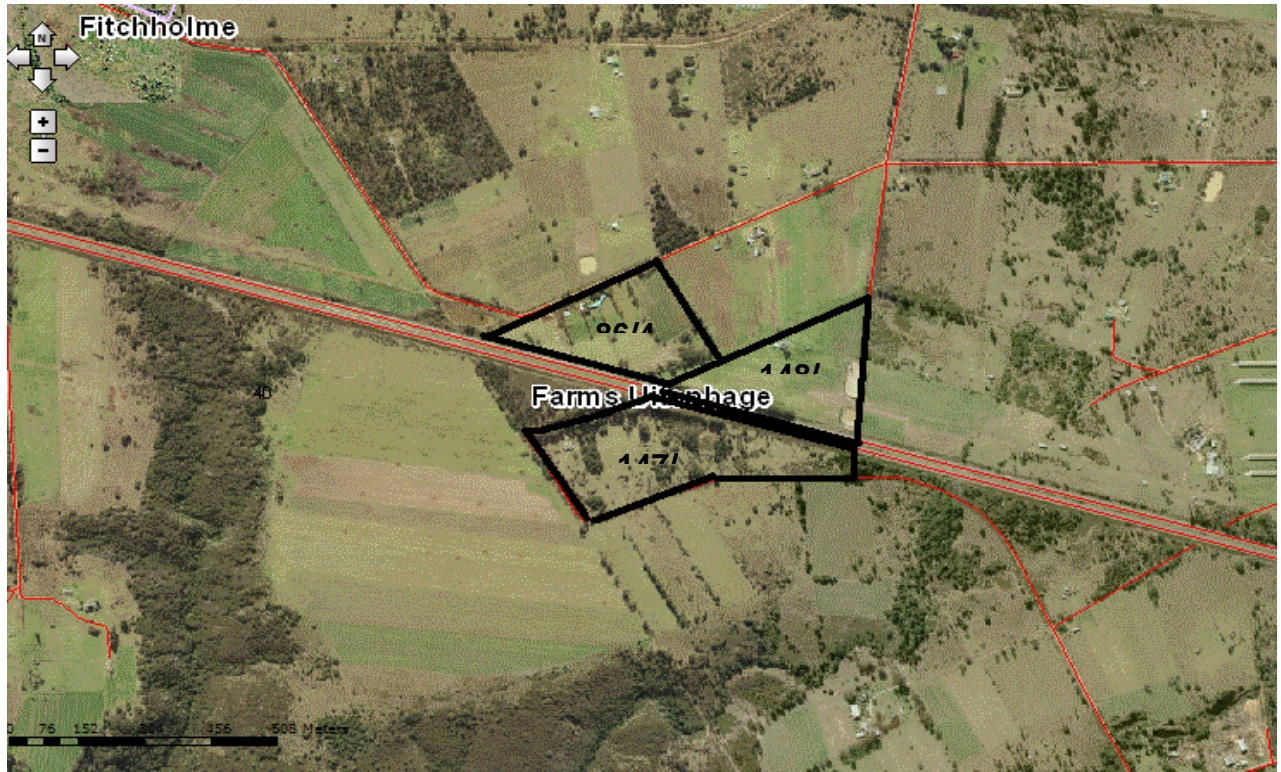
Activity No 18: “The construction of facilities for activities listed in Category A of this Schedule”.

An application for the Waste Licence is being submitted to the National Department of Environmental Affairs and a copy thereof is included in this application.

#### **1.1.2 Activity Description**

The application is for construction and operation of a highway rest and service facility, tourist facilities and commercial mixed uses and associated infrastructure, including a Waste Water Treatment Plant on Ptn 147 of Farm Gedults River No 411 in the Division of Uitenhage. The site is situated south of the N2/Great West Way (approximate GPS location 33°55’11.09”S 25°17’37.16”E) The east-bound on- and off-ramps to access the facility will be located on servitudes to be registered over Ptn 148 and Ptn 86 of Farm Gedults River No 411. The site is currently zoned as Agriculture and an application is being made to rezone it to Business Zone 5.

Figure 1 is an aerial image showing the relative location of the properties.



- **Figure 1: An aerial image showing the approximate location of the site (outlined in black).**

The facility will include the following structures and infrastructure (refer to Figure 2 and 3):

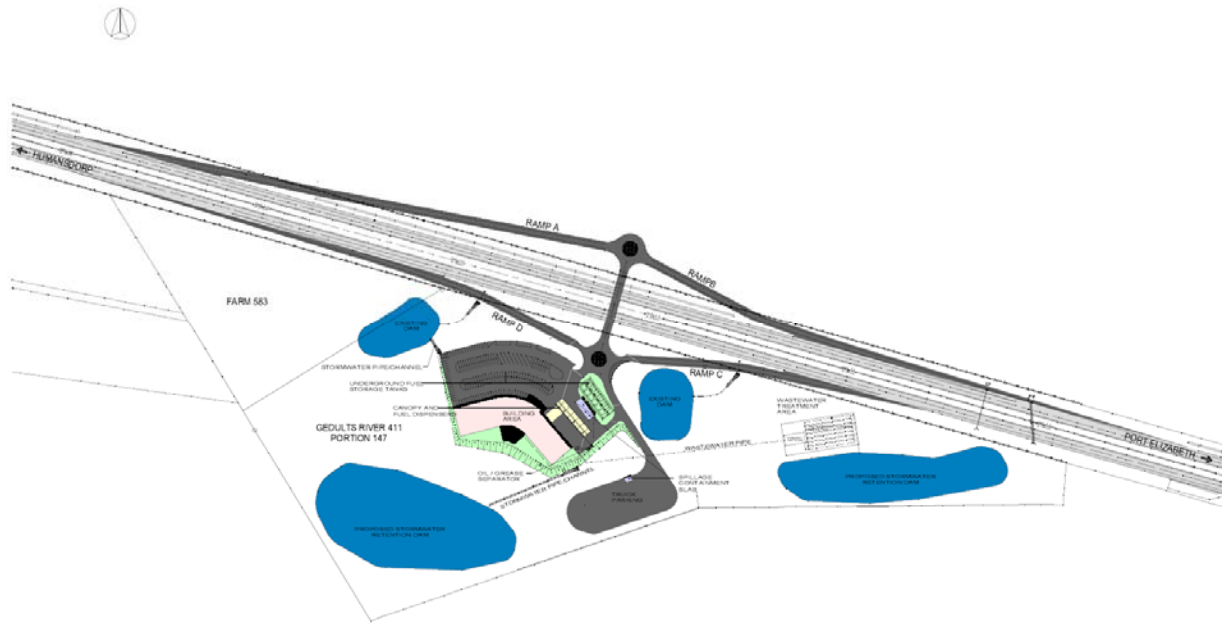
- A 6-island fuel installation for light vehicles and 1 island for trucks, with underground storage tanks
- Canopy: 520 m<sup>2</sup>
- Covered walkways: 500 m<sup>2</sup>
- Building: maximum 4000 m<sup>2</sup> consisting of a convenience store, toilets, restaurant, take away shop, information centre, storage area and offices.
- Play park, touchfarm and eco-educational facility
- Waste treatment plant: 2000 m<sup>2</sup> (a detailed description of the works with plans is given in Appendix D)

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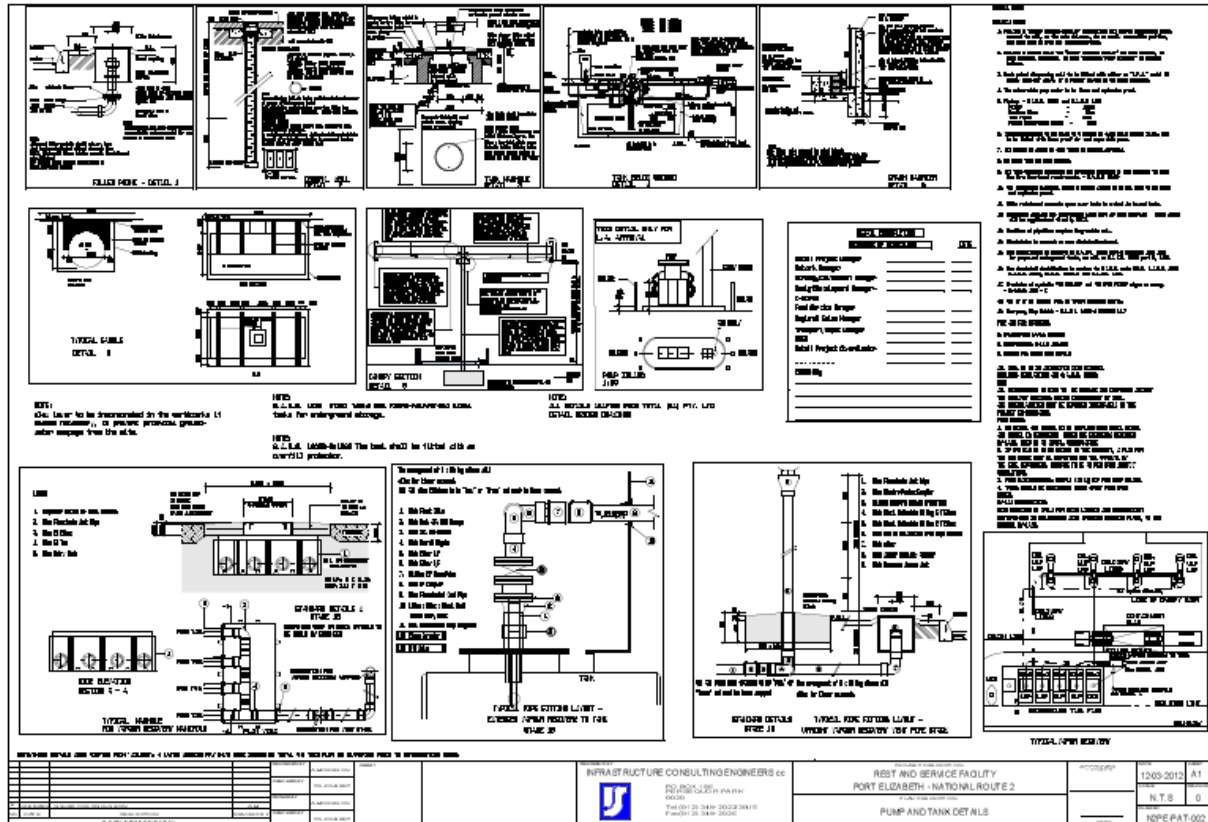
- Parking Area: ~170 vehicle parking bays, 7 caravan parking bays and 3 bus parking bays
- Full interchange consisting of on- and- off ramps and a bridge. Area occupied on site: ~10 500m<sup>2</sup>

The total site size is 11.53 ha and the proposed coverage is 75%.



➤ **Figure 2: A schematic plan of the proposed highway rest and service facility and the Waste Water Treatment Plant (Source: Infrastructure Consulting Engineers, 2012).**





➤ Figure 3: Pump and tank details

## 1.2 Methodology

### 1.2.1 Compliance with legislated requirements

The Environmental Impact Assessment Regulations (2010) clearly state the requirements that need to be fulfilled by all role-players involved in the Environmental Assessment Process. In this regard, Regulations 21 to 25 list the requirements that an EAP must fulfil in order to compile a comprehensive Basic Assessment Report. To assist with interpretation of these regulations, a set of guidelines was published by the Department of Environmental Affairs. In this regard, Guidelines 3 (General Guide to Environmental Impact Regulations (2006)), 4 (Public Participation) and 5 (Assessment of Alternatives and Impacts) were consulted.

### 1.3 Identification and Assessment of Alternatives

The methodology described in guidelines published to assist with the interpretation of EIA Regulations was followed to ensure the adequate consideration of alternatives, including the “no development” option. Seven site alternatives were investigated – the preferred site was selected from a safety and traffic volume perspective for the location of a rest and service facility. From an environmental perspective, the site is not part of the NMBM’s critical biodiversity network and has no ecological process areas that traverse it. Vegetation cover has been largely transformed from its original status by farming activities, habitat fragmentation and alien vegetation invasion. Three waste water treatment technologies were considered - activated sludge, Lilliput and rotating disc systems. The three systems were evaluated in terms of their maintenance requirements and ability to treat sewage effluent from direct access rest and service facilities. The selected treatment options provides for a low risk technology that can be implemented on remote sites. The “no-development” option was considered as a baseline throughout the prediction and analysis of impacts.

## 1.4 Prediction and Analysis of Impacts

Impacts were predicted and analysed based on observations made during site visits and discussions with authorities, review of scientific literature, analysis of various Environmental Planning Guidelines (e.g. the East Cape Biodiversity Conservation Plan (2007), the Nelson Mandela Bay Metropolitan Open Space System (2009)), aerial photography interpretation, and comments from Interested and Affected Parties.

### 1.4.1 Comments from Interested and Affected Parties

All registered Interested and Affected Parties and other stakeholders have been sent a copy of this Executive Summary and notified of the availability of the full Draft Basic Assessment Report. All I&APs have been given a 40 day period to review the draft report and submit comments.

Below is a summary table listing comments raised by registered Interested and Affected Parties in response to the public participation process to date. These have been integral in the assessment of impacts.

Interested and Affected Party	Comment	EAP response
Human Settlements Directorate (Schalk Potgieter)	<ul style="list-style-type: none"> <li>Request to be registered</li> </ul>	<ul style="list-style-type: none"> <li>Registered and will be kept informed of the process</li> </ul>
Syd Lippstreu	<ul style="list-style-type: none"> <li>Request to be registered</li> </ul>	<ul style="list-style-type: none"> <li>Registered and will be kept informed of the process</li> </ul>
Patrick Cull	<ul style="list-style-type: none"> <li>Request to be registered</li> </ul>	<ul style="list-style-type: none"> <li>Registered and will be kept informed of the process</li> </ul>
Terence Liebenberg	<ul style="list-style-type: none"> <li>Request to be registered</li> </ul>	<ul style="list-style-type: none"> <li>Registered and will be kept informed of the process</li> </ul>
Riana Nel	<ul style="list-style-type: none"> <li>The BID states that notice boards have been placed in the vicinity of the site. We did not see these?</li> </ul>	<ul style="list-style-type: none"> <li>Two notice boards were placed on site on 25 November 2011: On the northern boundary of the site along the N2; and at the start of the gravel access road as it</li> </ul>

	<ul style="list-style-type: none"> <li>• The site falls within an area that is a 'farming community'</li> <li>• The site is within the reception area of the Geduldsrivier</li> <li>• A request was submitted for a detailed project description – i.e. what structures and infrastructure is planned</li> <li>• A query was raised regarding the suitability of the site selected based on its location in a farming community and also the relatively close proximity of Jeffreys Bay and Port Elizabeth</li> <li>• Why is it necessary to build a new on-and-off ramp when there are other sites nearby to two existing bridges over the freeway?</li> <li>• The infrastructure in this particular location is not sufficient as it is a farming community, where further down the road is a better suitable area (towards Jeffreys Bay) – The Van Standens River bridge / Uitenhage interception</li> <li>• What roads will be used to carry the building material etc. in construction phase? Currently, the local roads are not in good condition and are not regularly maintained. If heavy trucks use it on a daily basis, the roads will deteriorate</li> <li>• Will the local people receive the benefit of jobs – building and working at the proposed Petroport?</li> <li>• Will the local people be able to sell</li> </ul>	<p>branches off the R102</p> <ul style="list-style-type: none"> <li>• Noted, thank you. The site falls within an area classified as 'rural zone 2' in the Nelson Mandela Bay Spatial Development Framework Plan (see extract from the SDF in Appendix G). The desirability of the proposed development has been motivated by Urban Dynamics in the town planning report (refer to Appendix D). The report concludes that the development is desirable and would have a positive impact on the precinct.</li> <li>• Noted, thank you. We have consulted various environmental guideline documents available for the study area (e.g. the East Cape Biodiversity Conservation Plan, the NMBM Metropolitan Open Space System, and a 1:50 000 topographical map – refer to Appendix G). All maps extracted show that no drainage areas traverse the site boundary or occur within at least 300 m of the site boundary. However, surface water runoff from the site may drain into the Geduldsrivier and impacts associated have been addressed in the environmental assessment. Recommendations have been given to avoid risks of contaminating both surface and groundwater. A geotechnical study has also been done for the site which showed that the site is suitable for underground storage tanks and that based on soil type and depth and the absence of shallow groundwater, treating sanitation effluent should pose a low risk on groundwater.</li> <li>• This was sent to the I&amp;AP and is included in this Draft BAR</li> <li>• An investigation of the section of N2 between Port Elizabeth and Humansdorp was done to determine the best location for the facility. The preferred site was</li> </ul>
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	<p>their fresh products etc. in the proposed Petroport or can their products be market there?</p> <ul style="list-style-type: none"> <li>• How will you ensure that the waste water treatment plant will be successful where it has not been anywhere else in the country?</li> <li>• The area is not connected to municipal services</li> <li>• The location will evolve in a Taxi Rank for the unemployed locals</li> <li>• There is a squatter camp 1 km from this location and bring more safety hazards and concerns</li> <li>• Pollution will not only affect and occur in and around the located area, but for kilometres along the N2:             <ul style="list-style-type: none"> <li>○ Who will clean this area on a regular basis?</li> <li>○ Where will you find the man power for that?</li> </ul> </li> <li>• What will be done if sanitation spills etc. flow into the river?             <ul style="list-style-type: none"> <li>○ Who will clean the spills?</li> <li>○ Monitor the spills?</li> <li>○ Maintain the situation?</li> <li>○ If a problem occurs, who can be called out and how long will it take for the situation to be stabilised and resolved?</li> </ul> </li> <li>• Why don't you consider building this Petroport at the existing on-and-off ramp to Van Stadens River bridge / Uitenhage? The infrastructure is already there; there is a bridge, on-and-off ramps, there is also incoming traffic from Uitenhage, Port</li> </ul>	<p>selected from a safety and traffic volume point of view. Direct Rest and Service Facilities are crucial elements of road systems. This is evident from research that indicates interception rates of between 15 and 20% at similar locations. Further research indicates that less than 50% of vehicles turning into Rest and Service Facilities refuel at the facility. The facilities are primarily used for relaxation and use of the toilets, convenience stores and food offering. The South African National Roads Agency Limited (SANRAL) acknowledges the need for direct access rest and service facilities. In Paragraph 4.4.1 of their Policy in Respect of Road Planning and Design it states that "Road users travelling on the network have a need for roadside services and rest areas along the network of national roads at reasonable intervals, in balance with road safety and sound traffic management. To this end, the private sector may take the initiative to identify and acquire service area sites." Currently there are no direct access rest and service facilities on the N2 between Grahamstown and Tsitsikamma, a stretch of road of approximately <b>260 km</b> in length. According to SANRAL Regulations, the minimum spacing between direct access rest and service facilities on national roads with traffic volumes such as at the study site should be <b>30 km</b>. It must be noted that similar facilities in major towns and cities along the route (e.g. Port Elizabeth, Jeffreys Bay) cannot be considered in the comparison. Research has shown that long distance road users do not turn off the national routes into cities and towns for the purpose of refuelling, relaxing or use of toilets. Existing facilities in</p>
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	<p>Elizabeth – via the Old Cape Road and the surrounding locals coming from Sunnyside, Thornhill, Hankey, etc. on the Old Cape Road. There is existing roads to travel on when building material etc. need to be delivered. The necessary sanitation, water connection and electricity is existing</p>	<p>Jeffreys bay and Port Elizabeth are designed for the needs of urban road users and do not cater for long distance road users. Research has shown that toilets at urban sites cannot cope with the needs of long distance road users</p> <ul style="list-style-type: none"> <li>• It is a requirement of SANRAL that a bridge must be provided at the facility. The reason is to prevent dangerous U-turn movements of delivery trucks and other road users. The existing bridges are not close enough to the proposed facility to prevent dangerous manoeuvres. The proposal is however to build a facility only on the southern side of the N2. For this purpose a full interchange is therefore proposed to make the facility accessible to both directions of travel</li> <li>• The required infrastructure will be established at the mentioned location. Locations in the close proximity of the Van Stadens pass, R334 Uitenhage interchange will not meet SANRAL's safety requirements</li> <li>• The existing provincial and local road system will be used</li> <li>• Every effort will be made to utilize the local labour force with suitable skills. Specialised work such as fuel installations will be done by specialist contractors</li> <li>• Every effort will be made to source produce sold at the facility from the local community</li> <li>• The waste water treatment technology to be used at the site was originally sourced from Germany and adapted for local conditions. Nine of these plants are currently operational throughout South Africa. Monitoring of effluent quality at these facilities shows that it meets national standards. The Waste Licence application in conjunction with this BAR</li> </ul>
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		<p>that is being submitted to the National Department of Environmental Affairs has considered the risks that the treatment plant may pose on the surrounding environment, in particular contamination of surface and groundwater, and odour. Emergency measures will be in place in the event of plant failure or electricity shut down, and the plant will be designed to retain effluent for the minimum of amount of time required to remedy the problem so that untreated effluent is not discharged into the surrounding area. A review of available monitoring results of effluent from similar treatment plants used in South Africa shows that effluent quality meets DWA standards for irrigation.</p> <ul style="list-style-type: none"> <li>• A sewage treatment facility will be established on site and the existing water connection on the farm will be utilized</li> <li>• The facility is designed for long distance road users and will provide access from the N2 only. The facility will not provide access to adjacent properties. Taxis will however be welcome to use the facility</li> <li>• Highway rest and service facilities are well managed facilities with on-site security personnel and should therefore not contribute to safety risks to the local community</li> <li>• Highway rest and service facilities are well maintained facilities and are designed to avoid pollution as best as possible. Mitigation measures have been included in the BAR to address waste managed during construction and operational phases</li> <li>• This has been addressed under surface and groundwater impacts</li> <li>• The applicant did an extensive investigation of the N2 between Port Elizabeth and Jeffreys Bay to determine</li> </ul>
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		<p>a suitable site for the proposed facility. The investigation concluded that the most suitable site for development of such a facility, in accordance with the needs of long distance road users, is at the proposed site. A 'need and desirability' component has been included in the Basic Assessment report that is available available for public comment</p>
<p>Adriaan Venter Attorneys and Associates</p>	<ul style="list-style-type: none"> <li>The dispatch of the BID document over the festive season is viewed as inappropriate and not permissible in terms of the National Environmental Management Act. The process should be properly and duly repeated after the festive season has terminated, schools have re-opened and people have returned to their offices and normal daily activities</li> </ul>	<ul style="list-style-type: none"> <li>Background Information Documents and posters were sent out and placed for public comment on 25 November 2011 until 13 January 2012. Regulation 54(8) states that no public participation should occur between 15 December and 2 January. We have allowed a 30 day comment period –             <ul style="list-style-type: none"> <li>25 November to 15 December = 20 days</li> <li>3 January to 13 January = 10 days</li> <li>Additional Period = 19 days</li> </ul> </li> <li>We extended public participation over the December period to include any potential holiday-makers that travel on the N2 into Port Elizabeth who may be interested in providing comment on the proposed fuel station.</li> </ul>
<p>Maartin Friedrich and Andre du Toit on behalf of Engen Petroleum Ltd</p>	<ul style="list-style-type: none"> <li>The impact of the proposed facility on the proliferation of similar types of facilities (petroports) and filling stations in the sub-region must be considered</li> <li>The sustainability of the proposed facility in relation to the sustainability of similar facilities (petroports) and filling stations must be considered</li> </ul>	<ul style="list-style-type: none"> <li>Currently there are no direct access rest and service facilities on the N2 between Grahamstown and Tsitsikamma, a stretch of road of approximately 260 km in length. The closest similar facility to the west of the site is the Total Petroport at Storms River Bridge (~140 km to the west). To the east, the closest facility with rest areas and toilets is at the Nanaga Farm stall (~80km east) – this facility is however not directly accessible off the N2 and has no filling station.</li> </ul>



		<p>According to SANRAL regulations, the minimum spacing between direct access rest and service facilities on national roads with traffic volumes such as at the specific site should be 30 km. It is thus clear that there is a need for a facility. Long distance road users do not turn off the national routes into cities and towns for the purpose of refuelling, relaxing or use of toilets. There is a need for long distance road users to relax and use toilet facilities. Existing facilities in Jeffreys bay and Port Elizabeth are designed for the needs of urban road users and do not cater for long distance road users. Toilets at urban sites can clearly not cope with the needs of long distance road users.</p> <ul style="list-style-type: none"> <li>• SANRAL's "Policy in Respect of Road Planning and Design" notes the following: On National Roads, the minimum allowed spacing between service areas will depend on the Average Annual Daily Traffic in both directions. Spacing less than these limits will not be approved, unless in the sole opinion of SANRAL, the benefits to the road user, the economy and the opportunity for work creation are considered highly desirable.</li> </ul> <table border="1" data-bbox="1046 1599 1382 1783"> <thead> <tr> <th>AADT Veh/day</th> <th>Spacing Kilometre</th> </tr> </thead> <tbody> <tr> <td>&lt;5 000</td> <td>50</td> </tr> <tr> <td>5 000-50 000</td> <td>30</td> </tr> <tr> <td>&gt;50 000</td> <td>10</td> </tr> </tbody> </table> <p>The above table has been derived using the estimated traffic volumes required to sustain facilities in the long term. SANRAL thus dictates the</p>	AADT Veh/day	Spacing Kilometre	<5 000	50	5 000-50 000	30	>50 000	10
AADT Veh/day	Spacing Kilometre									
<5 000	50									
5 000-50 000	30									
>50 000	10									

		<p>spacing according to what they deem to be sustainable. There is no similar service and rest facility within 100 km of the site.</p> <p>An application has been submitted for a filling station ~13 km south-east of the site in a mixed-use development. However, the filling station is not designed as a rest facility for highway motorists, but rather as part of a shopping complex and new residential development.</p>
<p>Mazizi Masutu (Bay West Development)</p>	<ul style="list-style-type: none"> <li>• Concern raised over the co-existence of a wastewater treatment plant and the Bay West City Precinct</li> <li>• What will the visual impacts be of the facility on the Bay West City Development?</li> <li>• Air pollution impacts associated with the project</li> <li>• Health risks associated with the project in relation to residential areas located within the precinct</li> </ul>	<ul style="list-style-type: none"> <li>• The site is location ~13 km west of the Bay West development. Potential concerns regarding wastewater treatment plants include odour and surface and groundwater contamination. Considering the significant distance of the Bay West development from the site, if odours were to be created, they would be sufficiently dissipated before reaching the precinct. Surface water runoff and any potential contamination from the site would drain into the Geduldsriver which is part of the Van Standens River corridor. This is in no way connected with the drainage system that occurs in the Bay West precinct (i.e. the Baakens River system). Therefore if contamination were to occur, it would not impact on the precinct. In addition to the above, the waste water treatment plant has been designed to avoid odours and contamination. A geotechnical study has been done which shows that the site is suitable for a waste water treatment plant and that groundwater is not at risk of contamination in the case of plant failure (please refer to the Waste Licence application).</li> <li>• The facility will be visible for 2 km in either direction, and the Bay West development is ~13 km east of the site. Visual impacts of the facility on the development are therefore not expected.</li> </ul>

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		<ul style="list-style-type: none"> <li>Dust creation has been identified as a potential impact in construction phase. This can be mitigated through standard measures as listed in this BAR and in the Construction EMPR.</li> <li>Potential health risks associated with wastewater treatment plants and fuel storage include odour, and surface and groundwater contamination, and safety risks (e.g. fires and explosions). These have been assessed in the BAR.</li> </ul>
Department of Water Affairs	<ul style="list-style-type: none"> <li>commented on the need to apply for a Water Use Authorisation and to supply more detailed information when it is available</li> </ul>	<ul style="list-style-type: none"> <li>The applicant will apply for a Water Use Authorisation in terms of Section 21 of the National Water Act. DWA is registered as an I&amp;AP and will be sent a copy of the Draft and Final BAR for comment.</li> </ul>

### 1.5 Summary of Predicted Impacts

Section D of the Basic Assessment Report details the assessment of impacts.

The table below is a summary of predicted impacts in construction and operational phases:

Impact	Construction phase		Operational Phase	
	No-go	Preferred alternative	No-go	Preferred alternative
<b>Biodiversity</b>	Short term, Low -	Short term, Low -	Long term, Low -	Long term, Low -
<b>Noise</b>	No impact	Short term, Low -	No impact	No impact
<b>Air quality (dust)</b>	No impact	Short term, Low -	No impact	No impact
<b>Air quality (odour)</b>	No impact	No impact	No impact	Long term, low -
<b>Soil erosion</b>	No impact	Short term, Low -	No impact	No impact (if site

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Impact	Construction phase		Operational Phase	
	No-go	Preferred alternative	No-go	Preferred alternative
				successfully rehabilitated)
<b>Surface and groundwater contamination</b>	Long term, Moderate – (alien tree invasion)	Short term, Moderate – (cannot be reduced to low – because of the proximity to the Gedulds Rivier) Short term, Moderate + (clearing of alien trees)	No impact	Long term, low – (mostly from sanitation effluent that will be treated on-site and fuel storage)
<b>Waste management</b>	No impact	Short term, low -	To be addressed under provision of services	
<b>Archaeological impacts</b>	No impact	Unlikely impact based on findings of specialist report No impact		
<b>Traffic impacts</b>	No impact	Short term Local and provincial roads: low – National road: moderate -	No impact	Long term, low -
<b>Visual impacts</b>	No impact	No impact	No impact	Long term, moderate reduced -
<b>Odour</b>	No impact	No impact	No impact	Long term, low -

Impact	Construction phase		Operational Phase	
	No-go	Preferred alternative	No-go	Preferred alternative
<b>Fires and explosions</b>	No impact	No impact	No impact	Long term, low -
<b>Services</b>	No impact	Short term, low -	No impact	Long term, low -
<b>Socio-Economic Impacts</b>				
<b>Employment creation</b>	Short term, low -	Short term, low +	Long term, low -	Long term, low +
<b>Sustainability of the facility and impact on similar facilities in the sub-region</b>	No impact	No impact	No impact	Based on a review of available SANRAL regulations and spacing of facilities on the N2 and other major roads in the sub-region, the facility is needed and will be sustainable. Impacts on similar facilities are not expected based on the spacing distance recommended

Impact	Construction phase		Operational Phase	
	No-go	Preferred alternative	No-go	Preferred alternative
				by SANRAL.
<b>Road safety</b>	Addressed under traffic impacts		Long term, moderate +	Long term, moderate +

### 1.5.1 Environmental Impact Statement and Recommendations

Several impacts were identified for construction and operational phases and after assessment, none were shown to create impacts that would be unacceptable. It is recommended that all mitigation measures contained in the Basic Assessment report be included in an environmental authorisation, should one be issued.