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**AUGUST 2021**  
**DRAFT SCOPING REPORT**  
**PARK RYNIE ASPHALT PLANT**  
**UMDONI LOCAL MUNICIPALITY**  
**REF NO: DC21/0025/2021**



**This report was prepared by EnviroPro Environmental Consulting in terms of  
Appendix 1 to GNR 327**

2 (1) (a) details of (i) the EAP who prepared the report; and (ii) the expertise of the EAP. Please see Appendix A for EAP Declaration and full Curriculum Vitae;

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## Executive Summary

Shisalanga Construction (Pty) Ltd propose to operate a permanent asphalt plant on Portion 580 of the Farm Rynie No. 1666 within Ward 11 of Umdoni Local Municipality, Ugu District Municipality. The asphalt plant will be used to produce pre-mix asphalt for various road and infrastructure projects within the area. The asphalt will then be transported by truck to where it is required

The plant is currently registered as a temporary asphalt plant with the Ugu District Municipality as a controlled emitter as per Section 23(1) read with Section 24 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004, as amended). However, in anticipation of further work in the area, Shisalanga Construction (Pty) Ltd wishes to licence the plant for permanent operations which requires EA and application for an Air Emissions Licence (AEL) in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004). The AEL will be submitted online through the South African Atmospheric Emission Licencing & Inventory Portal (SAAELIP) and will run concurrent to the EIA process.

Topographically, the site is flat and covered with a mix of gravel material and indigenous vegetation and is located within the critically endangered Interior South Coast Grassland (KZN7). The total area of the proposed permanent asphalt plant site is 12 423m<sup>2</sup> (1.24ha). However, a portion of the proposed site has been previously transformed by previous activities by the landowner. The area of the site which is already transformed is 5 127m<sup>2</sup> (0.51ha), therefore, the total area of the site which requires the clearance of indigenous vegetation from within a protected ecosystem in terms of section 52 of NEMBA is 7 296m<sup>2</sup> (0.72ha). Access to the site is off a dirt road connected to the P22-1 located southwest of the site.

A Final Scoping Report will be submitted to the Department of Economic Development, Tourism and Environmental Affairs (EDTEA) for approval prior to the release of a Draft Environmental Impact Report (EIR), which will be available to all registered Interested and Affected Parties for further comment.

No fatal flaws have been identified in the Scoping Report, however, all identified impacts will be further investigated and assessed in the EIA phase of the project. An Air Quality Impact Assessment, Terrestrial Assessment, Wetland Assessment and a Geotechnical Investigation have been commissioned for the site but other specialists' studies identified in the Department of Environment, Forestry and Fisheries Screening Tool were not deemed necessary and this has been discussed in section 8.1 of this report.

Mitigation measures will be contained in a site-specific Environmental Management Programme (EMPr), to be compiled during the next phase of the EIA. The EIA phase aims to adequately assess and address all the environmental impacts which have been identified throughout the EIA, to provide EDTEA with sufficient information to make an informed decision regarding the proposed mining application.

The consultation will continue with the municipalities (Umdoni Local Municipality and Ugu District Municipality), Ward Councillor, and other authorities listed in the I&AP Register (Appendix E). Any other I&APs identified during the EIA phase will be included in the I&AP register and sufficient time provided to the I&APs to comment on the EIA reports. Consultation with authorities and I&APs is, therefore, a continuous process that takes place until the completion of the environmental investigations.

## Contents

<b>Section 1: Scope of Work and Location of Activity.....</b>	<b>6</b>
1.1. Project Title.....	6
1.2. Aim of the Scoping Report.....	6
1.3. Applicant and Independent Consultant Details .....	6
1.4. A Description of the Activities to Be Undertaken Including Associated Structure and Infrastructure As per Section 2 (d) (ii).....	7
1.5. All Listed and Specific Activities to Be Triggered and Being Applied For as Per Section 2 (d) (i) .....	8
1.6. Location of Activity as Per Section 2 (b)(i)-(iii).....	9
<b>Section 2: Alternatives as Per Section 2 (h) (i) and 2 (i) (i).....</b>	<b>13</b>
2.1. Description of Process Followed to Reach Proposed Preferred Activity, Site and Location within the Site as Per Section 2 (h) (i) .....	13
2.1.1. Site Alternatives .....	13
2.1.2. Technology Alternatives – Emissions Control Device .....	13
2.1.3. The No Go Alternative .....	13
<b>Section 3: Site Description and Surrounding Land Use as per section 2 (h) (iv) and (k).....</b>	<b>14</b>
3.1. Topography, Physical Characteristics of Site and Surrounding Land Uses .....	14
3.2. Surface Water and Ground Water .....	18
3.3. Fauna and Flora .....	19
3.4. Air Quality .....	21
3.5. Heritage and Cultural Aspects.....	21
3.6. Socio-Economic Environment .....	21
<b>Section 4: Policy and Legislative Context.....</b>	<b>23</b>
4.1. Identification of all Legislation, Policies, Plans, Guidelines, Spatial Tools, Municipal Development Planning Frameworks and Instruments As Per Section 3(e)(i) and Compliance of Proposed Activity with Legislation and Policy 2 (e).....	23
<b>Section 5: Motivation, Need and Desirability .....</b>	<b>26</b>
5.1. Need and Desirability as Per Section 2 (f).....	26
5.2. The motivation for Preferred Site and Technology Alternative as Per Section 2 (h) (x) and (xi) .....	32
5.2.1. Site Alternatives .....	32
5.2.2. Technology Alternatives – Emissions Control Device .....	32
<b>Section 6: Public Participation as per Section 2 (h) (ii) &amp; (iii) and 2 (i) (vi) &amp; (vii) .....</b>	<b>34</b>
6.1. Notification of Interested and Affected Parties .....	34
6.2. Registered Interested and Affected Parties.....	35
6.3. Comments .....	35
<b>Section 7: Preliminary Impact Assessment as Per Section 2 (h) (v) - (ix).....</b>	<b>36</b>
7.1. Methodology to Determine and Rank Nature, Significance and Consequences of Impacts Associated With all Alternative as Per Section 2 (h) (vi) and 2 (i) (v) .....	36
7.2. Impact Assessment of the Site and Design Alternatives.....	38
<b>Section 8: Plan of Study for Undertaking the EIA .....</b>	<b>50</b>
8.1. Description of Aspects to be Assessed in the EIA, including Specialist Input, and Proposed Tasks to be Undertaken as Part of the EIA as Per Section 2 (i) (ii), (iii) and (viii) .....	50
8.1.1. Specialist Assessments .....	50
8.1.2. Other Proposed Tasks .....	51
8.2. Methodology for Assessment of Environmental Aspects as Per Section 2 (i) (iv), (v) and (ix) .....	53
8.3. Conclusion .....	53

## List of Figures

Figure 1: Locality Map Indicating the Location of Park Rynie Asphalt Plant .....	10
Figure 2: Aerial Photograph Showing the Proposed Park Rynie Asphalt Plant. ....	11
Figure 3: Asphalt Plant Process Flow.....	12
Figure 4: Elevation Profile Showing The Surrounding Topography Associated With Park Rynie Asphalt Plant (Source: Google Earth Pro, 2021). ....	15
Figure 5: Aerial Photograph Showing the Land Uses within a 5km Radius around the Park Rynie Asphalt Plant .....	16
Figure 6: Aerial Photograph Showing the Land Uses around the Park Rynie Asphalt Plant. The Wind Rose Provides the Annual Prevailing Winds.....	17
Figure 7: Water Resources Associated with the Park Rynie Asphalt Plant .....	19
Figure 8: Protected Ecosystem Type for the Park Rynie Asphalt Plant .....	20
Figure 9: Habitat Sensitivities for the Park Rynie Asphalt Plant.....	20
Figure 10: Wind Rose for the Park Rynie Asphalt Plant.....	21
Figure 11: Photographs of the Site Taken on 26 <sup>th</sup> May 2021.....	22
Figure 12: Plan of Study for the EIA process for the Park Rynie Asphalt Plant .....	52

## List of Tables

Table 1: Applicant Details .....	6
Table 2: EAP Details.....	7
Table 3: Listed and Specific Activities .....	8
Table 4: Location Information .....	9
Table 5: Site Gradient.....	14
Table 6: Topographical Features.....	14
Table 7: Description of Land Uses .....	15
Table 8: U80H-05120 Sub Quaternary Reach (SQR) .....	18
Table 9: Policy and Legislative Context.....	23
Table 10: Need and Desirability as per the 2017 Guideline on Need and Desirability .....	26
Table 11: Explanation of the Scoring of the Impacts Identified in the EIA .....	37
Table 12: Specific Impacts Associated with Technology Alternative 1 (i.e. Baghouse).....	38
Table 13: Site Specific Impacts Associated with Technology Alternative 2 (i.e., Wet Scrubber).....	45
Table 14: Standard Construction Impacts Associated with Site Alternative 1 (Preferred) and Technology Alternative 1 (Preferred) and Technology Alternative 2 .....	47

## Appendices

Appendix A: EAP Declaration and Curriculum Vitae .....	54
Appendix B: Proof of Placement of Notice Board.....	55
Appendix C: Adverts .....	56
Appendix D: Proof of Notification.....	57
Appendix E: Registered I & Aps .....	58
Appendix F: Comments and Response Table and Comments Received .....	59
Appendix G: Impacts Scoring Matrix .....	60
Appendix H: General Authorisation .....	61

## Section 1: Scope of Work and Location of Activity

### 1.1. Project Title

Park Rynie Asphalt Plant located within the Umdoni Local Municipality.

### 1.2. Aim of the Scoping Report

As per Appendix 2 of the Environmental Impact Assessment Regulations<sup>1</sup>, the objective of the scoping process is to, “*through a consultative process-*

- 1) *Identify the relevant policies and legislation relevant to the activity;*
- 2) *Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;*
- 3) *Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;*
- 4) *Identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;*
- 5) *Identify the key issues to be addressed in the assessment phase;*
- 6) *Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and*
- 7) *Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.”*

The Scoping Report, therefore, aims to provide registered Interested and Affected Parties (I&APs) with sufficient information to gain an understanding of the project and the preferred site alternative so that they can provide meaningful input for further investigation in the Environmental Impact Report (EIR). Opportunity to make comments on the scoping report will be provided and meetings held on request if needed to clarify or discuss aspects of the application. The EIR will be produced after the final Scoping Report has been accepted by the Department of Economic Development, Tourism and Environmental Affairs (EDTEA), and will provide more detail on the activity on-site and address concerns raised during the “Scoping Phase”. Please see section 7.0 of the Scoping Report for the impacts section.

All registered I&APs will be given a legislated 30-day comment period to comment on the Draft Scoping Report and then later on the Draft EIR before these reports are submitted to the EDTEA<sup>2</sup>. Comments are to be submitted to the EnviroPro Consultant whose details are provided below.

### 1.3. Applicant and Independent Consultant Details

**Table 1: Applicant Details**

ITEM	APPLICANT CONTACT DETAILS
Name	Shisalanga Construction (Pty) Ltd
Contact:	Sandra Wakeford
Tel No:	031 736 2146
Fax No:	086 531 8929
E-mail Address	<a href="mailto:Sandra.w@shisalanga.com">Sandra.w@shisalanga.com</a>
Postal Address	PO Box 1657, Hillcrest, 3650

<sup>1</sup> Environmental Impact Assessment Regulations published on the 04<sup>th</sup> December 2014 in Government Gazette No. 38282 notice R982.

<sup>2</sup> “Timeframes” are outlined in Chapter 2 of the 2014 EIA Regulations.

Table 2: EAP Details

ITEM	CONSULTANT CONTACT DETAILS
Name	EnviroPro
Contact:	Dustin Bell
Tel No:	031 765 2942
Fax No:	086 549 0342
E-mail Address	<a href="mailto:dustin@enviropro.co.za">dustin@enviropro.co.za</a>
Postal Address	P.O. Box 1391, Kloof, 3640

#### 1.4. A Description of the Activities to Be Undertaken Including Associated Structure and Infrastructure As per Section 2 (d) (ii)

Shisalanga Construction (Pty) Ltd propose to operate a permanent asphalt plant on Portion 580 of the Farm Rynie No. 1666 within Ward 11 of Umdoni Local Municipality, Ugu District Municipality (Figure 1 and 2). The plant is currently registered as a temporary asphalt plant with the Ugu District Municipality as a controlled emitter as per Section 23(1) read with Section 24 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004, as amended). However, in anticipation of further work in the area, Shisalanga Construction (Pty) Ltd wishes to licence the plant for permanent operations which requires EA and application for an Air Emissions Licence (AEL) in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004). The AEL will be submitted online through the South African Atmospheric Emission Licencing & Inventory Portal (SAAELIP) and will run concurrent to the EIA process.

Topographically, the site is flat and covered with a mix of gravel material and indigenous vegetation, please refer to Figure 2. The total area of the proposed permanent asphalt plant site is 12 423m<sup>2</sup> (1.24ha). However, a portion of the proposed site has been previously transformed by previous activities by the landowner. The area of the site which is already transformed is 5 127m<sup>2</sup> (0.51ha), therefore, the total area of the site which requires the clearance of indigenous vegetation is 7 296m<sup>2</sup> (0.72ha). Access to the site is off a dirt road connected to the P22-1 located southwest of the site.

The asphalt plant will be used to produce pre-mix asphalt for various road and infrastructure projects within the area. The asphalt will then be transported by truck to where it is required. The production capacity of the plant is 120 tons per hour. The asphalt production process is as follows and has been graphically represented in Figure 3:

- Aggregate is loaded into the cold feed bins using the front-end loader
- Fuel oil is used to heat the rotating mixing drum until the desired temperature is reached
- Material enters the dryer which acts to extract moisture from the material. The heat for the dryer is provided by the burner which is fueled by Heavy Fuel Oil (HFO)
- Stockpiled aggregate is fed into the rotating mixing drum through conveyor belts
- The aggregate temperature is raised to the desired temperature inside the rotating mixing drum
- All liberated dust, steam and un-combustible gasses are passed through the baghouse before being released through the stack tower
- Pre-heated bitumen is pumped onto the pre-heated aggregate
- The rotating mixing drum ensures that the aggregate has a homogeneous covering of pre-heated bitumen
- The heated and bitumen covered aggregate combination is now called asphalt
- The asphalt is moved via skip to a silo
- Trucks park underneath the silo and the asphalt is loaded into the trucks
- Asphalt is then taken to the road where it is paved onto a prepared surface.

Asphalt plants require HFO, diesel, toluene and bitumen to be stored on site. HFO is used to fuel the burner in the production process. Diesel is required to fuel the payloaders. Toluene is used in the manufacturing of asphalt. HFO, diesel and toluene are classified as dangerous goods. Prior to the receipt of an EA for the permanent plant, all storage of dangerous goods on site will remain below the volume threshold of 30m<sup>3</sup> as per Listing Notice 3 (4<sup>th</sup> December 2014 as amended). However, as part of this application, the maximum storage of dangerous goods will include 120m<sup>3</sup> of HFO, 1m<sup>3</sup> of toluene and 28m<sup>3</sup> of diesel stored on-site which equates to a maximum total volume of 149m<sup>3</sup> of dangerous goods on-site. These goods will be stored in above-ground storage tanks that will be bunded to 110% of the storage capacity. There will also be the storage of 156 tons of bitumen on-site; however as confirmed by the Southern African Bitumen Association (SABITA), South African Bureau of Standards (SABS), straight run, paving grade bitumen is not considered a dangerous good under SANS 10234, supplement 2008 1.00: designated "List of classification and labelling of chemicals in accordance

with the Globally Harmonized Systems (GHS)". Therefore, the volumes of dangerous goods on-site will exceed 80 cubic meters in volume, however, will not exceed 500m<sup>3</sup>.

**1.5. All Listed and Specific Activities to Be Triggered and Being Applied For as Per Section 2 (d) (i)**

**Table 3: Listed and Specific Activities**

GNR	Activity Number	Activity as per the legislation	Activity as it applies to the proposal
Listing Notice 1; 4 <sup>th</sup> December 2014 as amended.	14	<i>The development and related operation 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 cubic metres or more but not exceeding 500 cubic metres.</i>	The applicant Shisalanga Construction (Pty) Ltd are proposing to convert the existing temporary registration for the asphalt plant to a permanent licence. The proposed permanent plant will require the storage of dangerous goods. This will include 120m <sup>3</sup> of HFO, 1m <sup>3</sup> of toluene and 28m <sup>3</sup> of diesel stored on-site which equates to a maximum total volume of 149m <sup>3</sup> of dangerous goods on-site
Listing Notice 2; 4 <sup>th</sup> December 2014 as amended	6	<i>The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding—</i> (i) <i>activities which are identified and included in Listing Notice 1 of 2014;</i> (ii) <i>activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies;</i> (iii) <i>the development of facilities or infrastructure for the treatment of effluent, polluted water, wastewater or sewage where such facilities have a daily throughput capacity of 2 000 cubic metres or less; or</i> <i>where the development is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will not exceed 50 cubic metres per day.</i>	The applicant Shisalanga Construction (Pty) Ltd are proposing to convert the existing temporary registration for the asphalt plant to a permanent licence. The proposed activity will trigger Subcategory 5.8 of GNR 893 promulgated under NEM:AQA "The production mixtures of aggregate and tar or bitumen to produce road surfacing in permanent facilities and mobile plants". Therefore, in order to obtain the AEL, an Environmental Authorisation is required.
Listing Notice 3; 4 <sup>th</sup> December 2014 as amended.	10	<i>The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.</i> <b>d. KwaZulu-Natal</b> xiii. <i>Outside urban areas:</i> (cc) <i>Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland;</i>	The applicant Shisalanga Construction (Pty) Ltd are proposing to convert the existing temporary registration for the asphalt plant to a permanent licence. The proposed permanent plant will require the storage of 149m <sup>3</sup> of dangerous goods outside an urban area with the site boundary being 35m from the edge of the delineated wetland near the site.
Listing Notice 3; 4 <sup>th</sup> December 2014 as amended.	12	<i>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</i> <b>d. KwaZulu-Natal</b> iv. <i>Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the</i>	The applicant Shisalanga Construction (Pty) Ltd are proposing to convert the existing temporary registration for the asphalt plant to a permanent licence. The proposed permanent plant will require the clearance of 7 296m <sup>2</sup> (0.7ha) of indigenous vegetation from the critically endangered Interior South Coast Grassland (KZN7).



		<i>publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004</i>	
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**1.6. Location of Activity as Per Section 2 (b)(i)-(iii)**

**Table 4: Location Information**

<b>District Municipality</b>	Ugu District Municipality																						
<b>Local Municipality</b>	Umdoni Local Municipality																						
<b>Ward</b>	11																						
<b>Area / Town / Village</b>	Park Rynie																						
<b>Co-ordinates:</b>	<b>Latitude</b>								<b>Longitude</b>														
Mid-point	30°18'45.26"S								30°43'3.73"E														
<b>Property Description:</b>	Portion 580 of the Farm Park Rynie No. 1666																						
<b>21 Digit Surveyor General's numbers:</b>	N	0	E	T	0	0	0	0	0	0	0	0	0	0	1	6	6	6	0	0	5	8	0

Figure 1: Locality Map Indicating the Location of Park Rynie Asphalt Plant

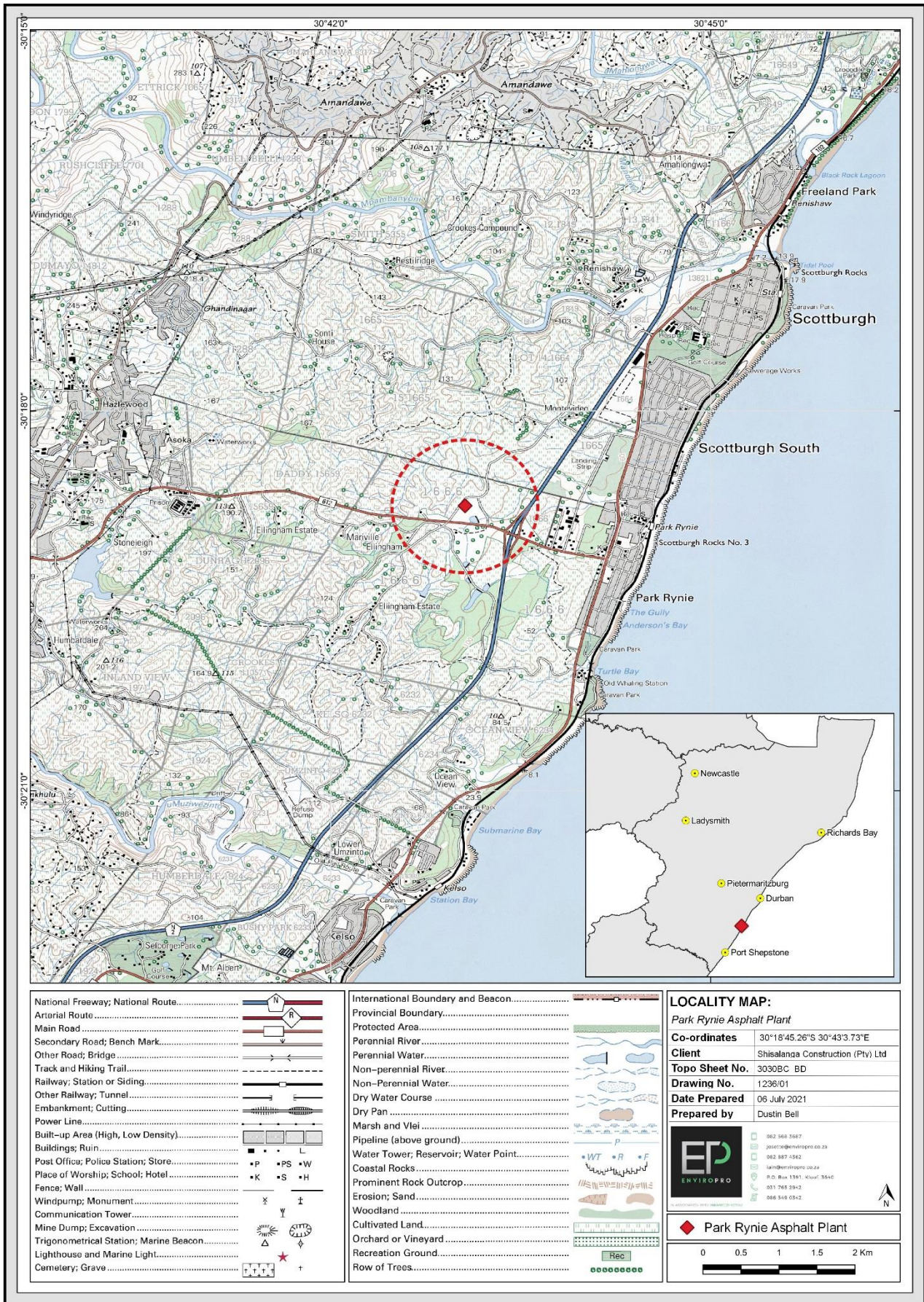
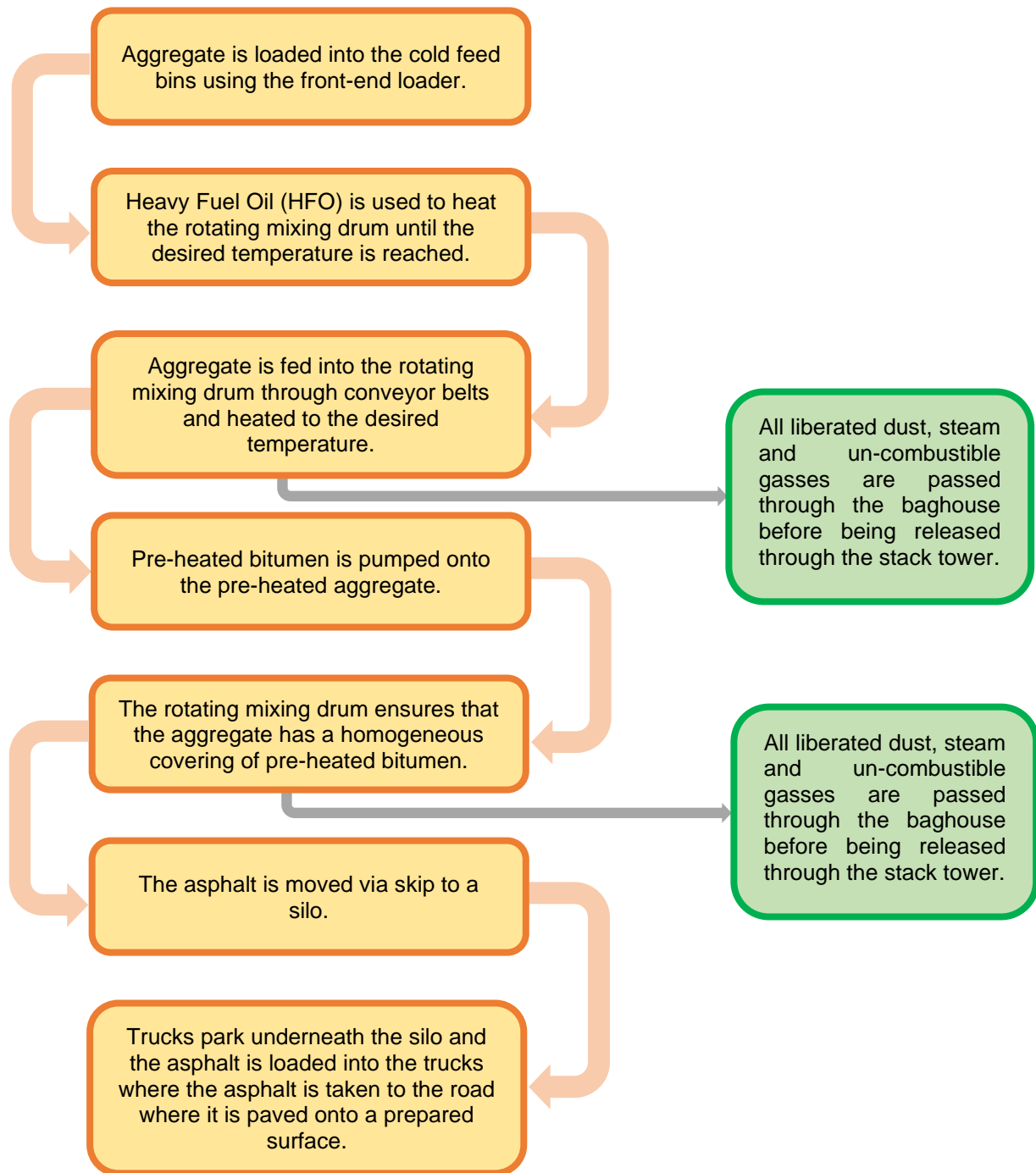


Figure 2: Aerial Photograph Showing the Proposed Park Rynie Asphalt Plant.



Figure 3: Asphalt Plant Process Flow



**Section 2: Alternatives as Per Section 2 (h) (i) and 2 (i) (i)****2.1. Description of Process Followed to Reach Proposed Preferred Activity, Site and Location within the Site as Per Section 2 (h) (i)****2.1.1. Site Alternatives**

The applicant, Shisalanga Construction (Pty) Ltd and the landowner, Ellingham Estate (Pty) Ltd, have entered into an agreement to allow for the establishment of the asphalt plant on Portion 580 of the Farm Park Rynie No. 1666. The exact position of the asphalt plant on the property has considered a number of property specific aspects in relation to site alternatives. Wetlands have been identified on-site by the specialist in the southeast of the site and therefore avoidance of these wetlands and their subsequent buffers was a key consideration (please refer to Section 3.2 for more detail). Another key consideration in determining the exact position of the asphalt plant on the property was the current state of the vegetation. The portion of the property under consideration is covered with a mix of gravel material and indigenous vegetation, please refer to Figure 2. Therefore, in order to reduce the amount of indigenous vegetation to be cleared, the proposed site boundary has been located to include as much of the transformed areas as possible. The site already has existing access therefore clearance associated with new access was also considered. Therefore, in order to prevent any unnecessary loss and/or avoidable damage to the property's environmental features the only site alternative considered was that of the previously transformed area of the property and the land directly adjacent to this transformed area. No other site alternatives have been considered in this application. Landowner consent has been given to the applicant to operate the asphalt plant at this location; refer to Appendix D.

**2.1.2. Technology Alternatives – Emissions Control Device**

Technology Alternative 1 (preferred alternative) is to utilise the baghouse system which acts to contain the dust, preventing dust from entering the stack during the asphalt mixing process. Technology Alternative 2 would be to use a wet scrubber system that uses water to contain the dust in the mixing process.

Wet scrubbers do not have as high a collection efficiency as baghouses and are much more sensitive to variations in air volume, temperature, particle size and inlet loading. Wet scrubbers are useful when emission regulations are not strict when a nearby water source is available and the operator can readily deal with scrubber blowdown (water treatment)<sup>3</sup>. Wet scrubbers can be attractive when comparing total purchase and operating costs as they cost less to purchase and run than baghouses do. The baghouse method is the preferred technology alternative for this plant.

**2.1.3. The No Go Alternative**

Once the temporary registration expires, all asphalt plant operations will have to cease. The asphalt plant will need to be removed from the site and operate at a different location. This would negatively impact the company as they will not be able to service planned and future asphalt contracts.

<sup>3</sup> EPA, (2002), EPA Air Pollution Control Cost Manual – Six Edition.

### Section 3: Site Description and Surrounding Land Use as per section 2 (h) (iv) and (k)

#### 3.1. Topography, Physical Characteristics of Site and Surrounding Land Uses

The property is located at an elevation of 117m above mean sea level.

The gradient of the site is as follows:

**Table 5: Site Gradient**

Gradient	Description
Flat	N/A
<b>1:50 – 1:20</b>	The site is located on a gentle gradient.
1:20 – 1:15	N/A
1:15 – 1:10	N/A
1:10 – 1:7,5	N/A
1:7,5 – 1:5	N/A
Steeper than 1:5	N/A

The topographical features and landforms of the site and surrounding area are as follows:

**Table 6: Topographical Features**

Topographical Feature	Description
Ridgeline	N/A
Plateau	NA
Side slope of hill/mountain	NA
Closed valley	N/A
Open valley	N/A
Plain	N/A
<b>Undulating plain/low hills</b>	The site and surrounding topography of the site is can be described as low hills.
Dune	N/A
Sea-front	N/A

Figure 4 below provides a visual representation of the location of the site with reference to the surrounding topography.

**Figure 4: Elevation Profile Showing The Surrounding Topography Associated With Park Rynie Asphalt Plant (Source: Google Earth Pro, 2021).**



Table 7 provides a description of the land uses within 5km of the site. Please also refer to Figures 5 and 6 below:

**Table 7: Description of Land Uses**

Cardinal Points		Description
North	↑	Directly north of the site agricultural land is dominant. Further north of the site is dominated by agricultural land and open space land uses.
North-East	↗	Directly north-east of the site agricultural land is dominant. Agricultural land is the dominant land use up to 3000m. Further north-east of the site is dominated by residential/commercial land uses.
East	→	Directly east of the site open space is dominant. Agricultural land is the dominant land use up to 1000m where the Parky Rynie industrial area is then located. Further east of the site is dominated by residential/commercial land uses.
South-East	↘	Directly south-east of the site open space is dominant. Agricultural land and open space are the dominant land uses up to 2000m. Further south-east of the site is dominated by residential/commercial land uses.
South	↓	Directly south of the site open space is dominant. Further south of the site is dominated by agricultural land and open space land uses.
South-West	↙	Directly south-west of the site agricultural land is dominant. Further south-west of the site is dominated by agricultural land and open space land uses with sporadic residential homesteads present.
West	←	Directly west of the site agricultural land is dominant. Further west (>3500m) of the site is dominated by residential and commercial land uses associated with Umzinto and Hazelwood.
North-West	↖	Directly north-west of the site agricultural land is dominant. Further north of the site is dominated by agricultural land and open space land uses.

Figure 5: Aerial Photograph Showing the Land Uses within a 5km Radius around the Park Rynie Asphalt Plant

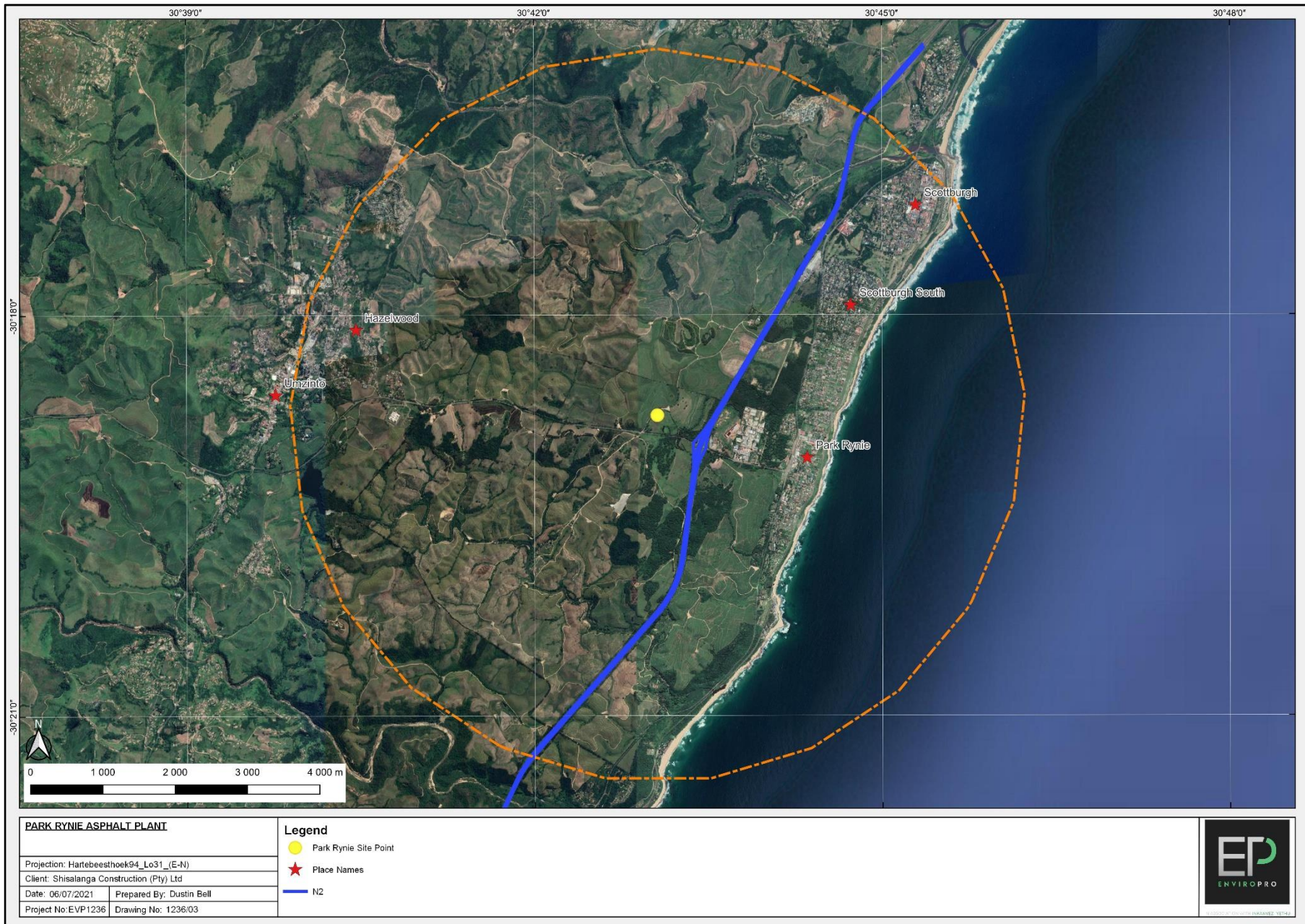
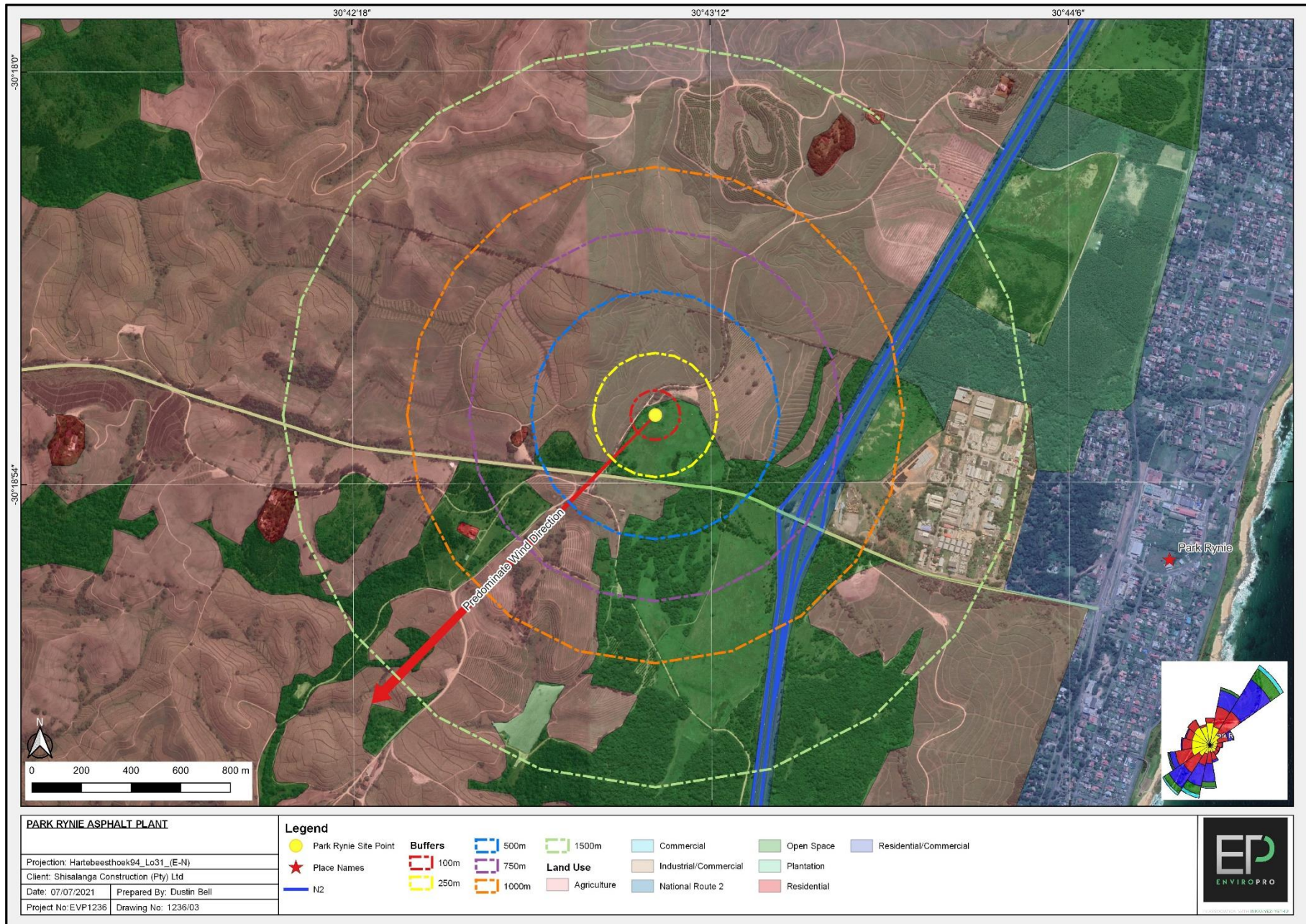




Figure 6: Aerial Photograph Showing the Land Uses around the Park Rynie Asphalt Plant. The Wind Rose Provides the Annual Prevailing Winds.



### 3.2. Surface Water and Ground Water

The project is located in the Pongola to Mtamvuna Water Management Area (WMA) within the U80H and U80K quaternary catchments. The proposed project is located in proximity to the U80H-05120 Sub Quaternary Reach (SQR). This SQR is a reach of the Mzimayi system. Please refer to Table 8 below.

**Table 8: U80H-05120 Sub Quaternary Reach (SQR)<sup>4</sup>**

U80H-05120 Sub Quaternary Reach	
Present Ecological State	Largely natural
Ecological Importance	High
Ecological Sensitivity	Very High

The South African Inventory of Inland Aquatic Ecosystems (SAIIAE) dataset<sup>5</sup> did identify natural wetlands in close proximity to the project area, however, none of these wetlands are located within 32m of the proposed site. An un-named non-perennial drainage line is located 87m east of the project area. The Biodiversity Company have been commissioned to undertake a full water resources assessment of the site; from this assessment, it was determined that there are a number of wetlands on the site. The full water resources assessment will be included in the EIR; however, the initial delineation has been indicated in Figure 7. The closest wetland located is 35m southwest of the proposed site. The land between the site and the wetland will not be altered in any way and will act as a no-go buffer. The asphalt plant is relatively flat and all-surface water discharges can be easily controlled to ensure stormwater exiting the site does not flow directly into the wetlands. Berms will be used as a means to protect the wetlands which are in close proximity to the site, the position of these berms have been indicated in Figure 7. Overall, it is considered unlikely that any wetlands or drainage lines will be impacted by the operations of the asphalt plant. The full risk assessment will be included in the EIR as part of the water resources assessment. Please note the site has been authorised with DWS through a General Authorisation process for the site being within 500m of wetland, please refer to Appendix H.

Due to the layout and operations of the asphalt plant, there should be no significant contamination of soil and groundwater. The reason for this is that all Heavy Fuel Oil (HFO) and bitumen is brought to the site in tankers and then transferred directly into the asphalt plant's above-ground storage tanks. The HFO and bitumen tanks on site are all located in a secure bund that is able to contain 110% of the tank's capacity. In addition, drip trays will be used throughout the site in conjunction with any activities which may result in soil contamination. These include placing drip trays underneath the parked plant on site.

<sup>4</sup> DWA (Department of Water Affairs) 2021. A Desktop Assessment of the Present Ecological State, Ecological Importance and Ecological Sensitivity per Sub Quaternary Reaches for Secondary Catchments in South Africa. Draft. Compiled by RQS-RDM.

<sup>5</sup> Van Deventer, H., Smith-Adao, L., Mbona, N., Petersen, C., Skowno, A., Collins, N.B., Grenfell, M., Job, N., Lötter, M., Ollis, D., Scherman, P., Sieben, E. & Snaddon, K. 2018. South African National Biodiversity Assessment 2018: Technical Report. Volume 2a: South African Inventory of Inland Aquatic Ecosystems (SAIIAE). Version 3, final released on 3 October 2019. Council for Scientific and Industrial Research (CSIR) and South African National Biodiversity Institute (SANBI): Pretoria, South Africa.

Figure 7: Water Resources Associated with the Park Rynie Asphalt Plant



### 3.3. Fauna and Flora

From a desktop perspective and according to the “National List of Ecosystems That Are Threatened and in Need of Protection” as per Section 52(1)(a) of the National Environmental Management: Biodiversity Act (No. 10 of 2004) the entire site falls within the critically endangered Interior South Coast Grassland (KZN7) ecosystem type, refer to Figure 8. The total area of the proposed permanent asphalt plant site is 12 423m<sup>2</sup> (1.24ha). Within the proposed site 5 127m<sup>2</sup> (0.51ha) has already been transformed through previous agriculture activities and therefore the site does not resemble anything of its original state. The total area of the site which requires the clearance of indigenous vegetation is 7 296m<sup>2</sup> (0.72ha).

The Biodiversity Company have been commissioned to undertake a full terrestrial assessment of the site. From this assessment, it was determined that the site varies from is transformed areas with a very low ecological importance to indigenous vegetation with medium to high ecological importance. Indigenous vegetation on-site includes the following:

- Coastal Bush
- Degraded Coastal Grassland

The full terrestrial assessment will be included in the EIR, however, the sensitivity delineation has been indicated in Figure 9.

Figure 8: Protected Ecosystem Type for the Park Rynie Asphalt Plant

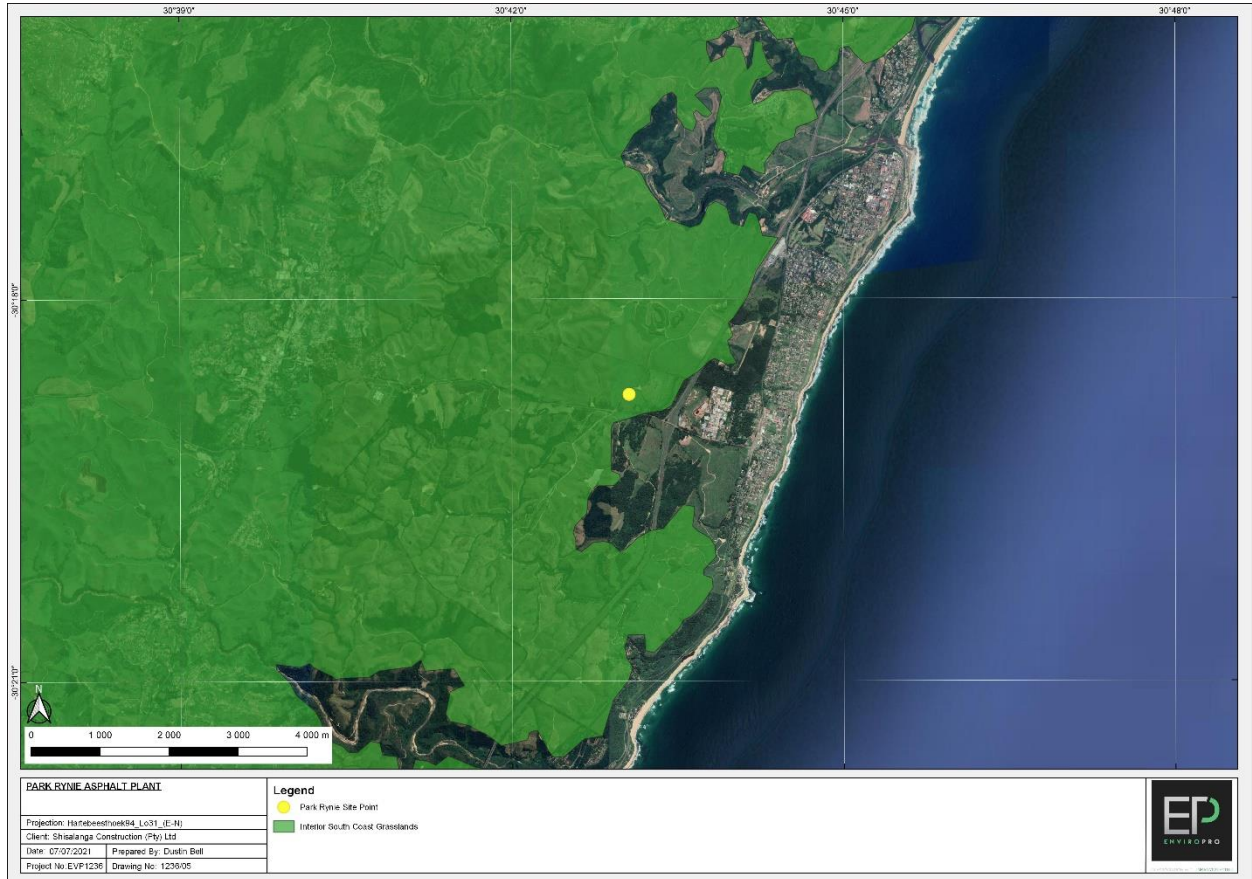
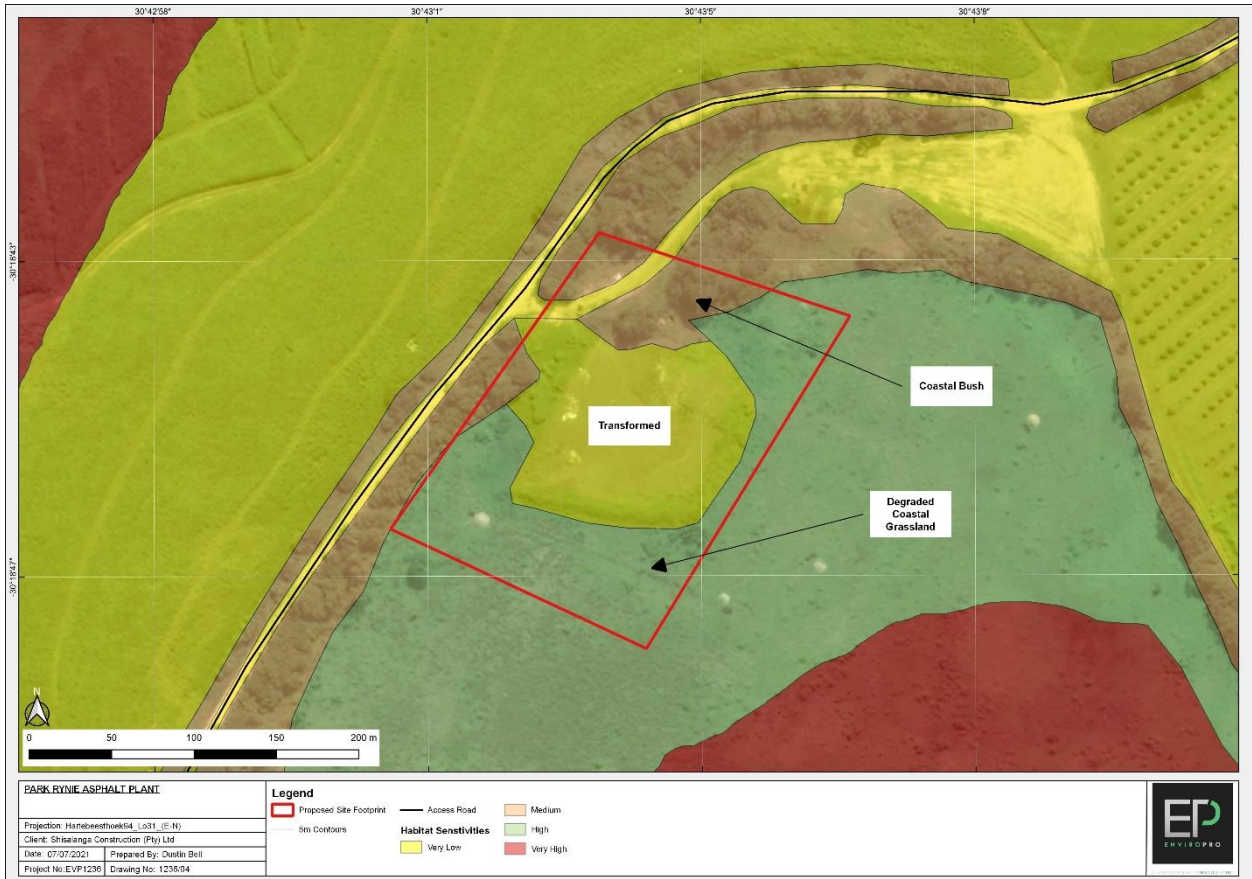


Figure 9: Habitat Sensitivities for the Park Rynie Asphalt Plant



### 3.4. Air Quality

Wind data (speed and direction) was obtained from the appointed air quality specialist, JBenviroservices cc. It was determined that the predominant (average hourly) wind direction recorded is from the northeast, this being the most predominant, but also having a strong wind blowing from the south-western direction. Average hourly wind speeds are generally moderate to fast with wind speeds frequently exceeding 2.1 m/s and reaching maximum speeds of around 11.1 m/s; please see Figure 10 below.

Figure 10: Wind Rose for the Park Rynie Asphalt Plant



Taking into consideration the prevailing winds as per Figure 10 and the land uses as per Figure 8, the surrounding land uses that would potentially be impacted by the emissions from the asphalt plant would be the open space and agricultural land. There are no residential areas located within the direction of the prevailing winds however there's one individual homestead within 1000m of the site. The sensitivity to emissions for the dominant land uses is low when compared to large scale residential land use. The closest residential area is approximately 1000m east of the site.

The plant will not operate continuously but only when required for a specific project and thus the quantity of emissions being released from the plant on average is quite low. Therefore, taking the low production rate and low concentration of pollutants into consideration, the impact on the local and regional air quality is not expected to be significant. This will be further discussed and analysed in the EIR.

### 3.5. Heritage and Cultural Aspects

As the site is completely transformed due to the previous clearing, no archaeologically/culturally significant resources or evidence of graves were identified on-site.

### 3.6. Socio-Economic Environment

The area is rural in nature. The site is in close proximity to the P22-2 and N2 and is directly surrounded by indigenous vegetation and agricultural land. The closest land use other than open space and agricultural land - i.e., residential - is located 500m west of the site. Refer to Figures 7 and 8 above showing surrounding land-uses.

Figure 11: Photographs of the Site Taken on 26<sup>th</sup> May 2021.



**(a):** View from the site looking from the eastern portion of the transformed area towards the entrance of the site. **(b):** View from the edge of the transformed area of the site looking in an easterly direction towards the wetland 80m from the edge of the proposed boundary.



**(c):** View from the centre of the site looking in a northerly direction where a number of plant species occur associated with the coastal bush vegetation type identified by the specialist. **(d):** View of the transformed area of site.



**(e):** View of the entrance to the site looking across the transformed portion of the site in an easterly direction. **(f):** View from the south edge of the transformed portion of the site looking in a southerly direction with the wetland 35m away from the proposed boundary in view

## Section 4: Policy and Legislative Context

### 4.1. Identification of all Legislation, Policies, Plans, Guidelines, Spatial Tools, Municipal Development Planning Frameworks and Instruments As Per Section 3(e)(i) and Compliance of Proposed Activity with Legislation and Policy 2 (e)

**Table 9: Policy and Legislative Context**

Legislation	Compliance of Activity
The Constitution of South Africa (No. 108 of 1996)	The Constitution cannot manage environmental resources as a standalone piece of legislation; hence additional legislation has been promulgated in order to manage the various spheres of both the social and natural environment. Each promulgated Act and associated Regulations is designed to focus on various industries or components of the environment to ensure that the objectives of the Constitution are effectively implemented and upheld on an on-going basis throughout the country. In terms of Section 24, the constitution gives every person the right to an environment that is not harmful to their health and wellbeing.
National Environmental Management Act (Act 107 of 1998)	<p>The National Environmental Management Act (Act 107 of 1998) (NEMA) is South Africa's overarching environmental legislation. It includes a set of principles that govern environmental management and against which all Environmental Management Programmes (EMPr) and actions are measured. These principles include and relate to sustainable development, protection of the natural environment, waste minimisation, public consultation, the right to an environment that is not harmful to one's health or wellbeing, and a general duty of care.</p> <p>The Environmental Impact Assessment (EIA) Regulations, 2014: GNR.982, R.983, and R.985 under Section 24 of the NEMA define the activities that require Environmental Authorisation and the processes to be followed to assess environmental impacts and obtain Environmental Authorisation.</p> <p>An Environmental Authorisation is required for a permanent asphalt plant. Therefore, this application is in line with the requirements of NEMA.</p>
National Water Act (Act 36 of 1998)	<p>NWA states that a person may only use water if the water use is authorised by a license under NWA or if the responsible authority has dispensed with a license requirement if it is satisfied that the purpose of the NWA will be met by the granting of a license, permit or other authorisation under any other law.</p> <p>A General Authorisation has been received for the operation of the asphalt plant in terms of Section 21 (c) and (i) as the plant is within 500m of a wetland.</p>
National Environmental Management: Waste Act (Act 59 of 2008)	<p>To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement, and to provide for matters connected therewith. Section 19 allows the Minister to publish a list of activities which require a Waste Management License. The most recent list is published in Government Gazette 37083 Notice No. 921 dated 29 November 2013.</p> <p>The proposed permanent asphalt plant will not trigger a Waste Management Activity.</p>
National Environmental Management: Air Quality Act (Act 39 of 2004)	<p>To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.</p> <p>An Atmospheric Emission Licence is required for a permanent asphalt plant and an application will be submitted to the Ugu District Municipality.</p> <p>The plant has registered as a controlled emitter issued in terms of Section 23(1) read with Section 24 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004, as amended).</p>

National Environmental Management: Protected Areas Act (Act 57 of 2003)	<p>The National Environmental Management: Protected Areas Act intends to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes, for the establishment of a national register of all national, provincial and local protected areas, for the management of those areas in accordance with national norms and standards, for intergovernmental co-operation and public consultation in matters concerning protected areas, and for matters in connection therewith.</p> <p>This proposed permanent asphalt plant will not impact any formally protected area.</p>
National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008)	<p>The National Environmental Management: Integrated Coastal Management Act aims to establish a system of integrated coastal and estuarine management in the Republic, including norms, standards and policies, in order to promote the conservation of the coastal environment, and maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable, to define rights and duties in relation to coastal areas, to determine the responsibilities of organs of state in relation to coastal areas, to prohibit incineration at sea, to control dumping at sea, pollution in the coastal zone, inappropriate development of the coastal environment and other adverse effects on the coastal environment, to give effect to South Africa's international obligations in relation to coastal matters and to provide for matters connected therewith.</p> <p>The proposed permanent asphalt plant will not have an impact on any coastal areas.</p>
National Forest Act (Act 84 of 1998)	<p>To reform the law on forests as the government recognises that everyone has the constitutional right to have the environment protected for the benefit of present and future generations. Natural forests and woodlands form an important part of that environment and need to be conserved and developed according to the principles of sustainable management. Plantation forests play an important role in the economy, have an impact on the environment and need to be managed appropriately. The State's role in forestry needs to change; and the economic, social and environmental benefits of forests have been distributed unfairly in the past.</p> <p>The proposed permanent asphalt plant will not have an impact on any forest areas.</p>
Environmental Conservation Act (Act 43 of 1996)	<p>This Act makes provisions for the application of general environmental principles for the protection of ecological processes, promotion of sustainable development and the protection of the environment. This Act has mostly been repealed by NEMA.</p>
National Environmental Management: Biodiversity Act (Act 10 of 2004)	<p>The National Environmental Management: Biodiversity Act intends, to provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998, the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources, the establishment and functions of a South African National Biodiversity Institute and for matters connected therewith.</p> <p>The proposed permanent asphalt plant will result in the clearance of 7 296m<sup>2</sup> (0.72ha) of indigenous vegetation within the critically endangered ecosystem type (Interior South Coast Grassland). Therefore, this application is in line with the requirements of section 52 of the National Environmental Management: Biodiversity Act (Act 10 of 2004).</p>
National Heritage Resources Act (Act 25 of 1999)  KwaZulu-Natal Heritage Act (Act 4 of 2008)	<p>The National Heritage Act (No. 25 of 1999) aims to promote good management of the national estate in order to preserve the country's unique heritage for current and future generations. The KwaZulu-Natal Heritage Act (Act No. 4 of 2008) provides for the conservation and preservation of the physical and intangible heritage resources of the KwaZulu-Natal province.</p> <p>No significant archaeological artefacts will be disturbed during this project; therefore; no permits will be required from the provincial heritage authority, AMAFA.</p>
Mineral & Petroleum Resources Development Act (Act 28 of 2002)	<p>To provide for the sustainable development of the nation's mineral and petroleum resources which includes activities carried out for the winning of any mineral on, in or under the earth (i.e. the use of borrow pits).</p> <p>The proposed permanent asphalt plant will not result in the need to apply for a mining permit as all material will be obtained from licensed sources.</p>
Occupational Health and Safety Act (Act 181 of 1993)	<p>These regulations provide for the health and safety of persons at work, including aspects that are hazardous to health and safety. In terms of major hazardous installation, the regulations shall apply to employers, self-employed persons and users, who have on their premises, either permanently or temporarily, a major hazard installation or a quantity of a substance that may pose a risk that could affect the health and safety of employees and the public.</p>



	During the operation, all the requirements of Occupational Health and Safety Act 1993 will need to be adhered to.
Hazardous Substances Act (Act No. 15 of 1973)	<p>This Act aims to provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products, to provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products and to provide for matters connected therewith.</p> <p>A Spill Contingency Plan will be compiled for managing spills during the operation of the proposed asphalt plant.</p>
National Building Regulations and Building Standards Act (Act 103 of 1977)	This Act aims to provide for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities and for the prescribing of building standards.
Guideline on Need and Desirability (2017)	Guideline considered in determining the need and desirability of the proposed development.
<b>Municipal Planning Framework</b>	
Umdoni Local Municipality IDP 2020/2021	According to the IDP, one of the key KPAs is to ensure there is improved access to basic services with one aspect being the upgrading of existing gravel roads to asphalt. This proposal will aid in the provision of asphalt within the municipality and will contribute to the reduced cost of regional road upgrades as haulage costs will be a lot less due to reduced distances from other existing asphalt plants in the province. Therefore, this project does not contradict the findings of the IDP.
Ugu District Municipality IDP 2020/2021	<p>According to the IDP, The Ugu Growth and Development Strategy (GDS) commits all stakeholders (public, private, and civil society) to achieve a shared vision that by 2030 the Ugu District will be a leading tourism destination as well as manufacturing and agricultural hub where jobs are created, and everyone benefits equally from socio-economic opportunities and services. The DGDS has seven drivers which are:</p> <ol style="list-style-type: none"> <li>1. Spatial Integration and Facilitating Security of Tenure</li> <li>2. Strategic Infrastructure Investment</li> <li>3. Education and Skills Development</li> <li>4. Institutional Development</li> <li>5. Sectoral Development and Support</li> <li>6. Environmental Sustainability</li> <li>7. Safety Nets &amp; Civic Empowerment</li> </ol> <p>This proposal will aid in the provision of asphalt within the municipality and will contribute to infrastructural investment in the Municipality due to the provision of locally produced asphalt. Therefore, this project does not contradict the findings of the IDP.</p>
Ugu District Municipality Air Quality Management By-Law under National Environmental Management: Air Quality Management Act (Act 39 of 2004)	<p>The objectives of this by-law are to:</p> <ol style="list-style-type: none"> <li>(a) give effect to the right contained in section 24 of the Constitution by regulating air pollution within the area of the municipality's jurisdiction;</li> <li>(b) provide, in conjunction with any other applicable law, an effective legal and administrative framework, within which the Council can manage and regulate activities that have the potential to adversely impact the environment, public health and wellbeing; and</li> <li>(c) ensure that air pollution is avoided, or where it cannot be altogether avoided, mitigated or minimised.</li> </ol> <p>An Atmospheric Emission Licence is required for a permanent asphalt plant and an application will be submitted to the Ugu District Municipality. The plant has registered as a controlled emitter issued in terms of Section 23(1) read with Section 24 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004, as amended). The asphalt plant will be fitted with a suitable control mechanism to ensure all emissions are controlled as per the National Environmental Management: Air Quality Management Act (Act 39 of 2004) - i.e., a baghouse. Therefore, this project does not contradict the requirements of the by-laws as it aims to comply with all relevant national and regional air quality legislation.</p>

## Section 5: Motivation, Need and Desirability

### 5.1. Need and Desirability as Per Section 2 (f)

The information provided in Table 10 below has been extracted from the 2017 Integrated Environmental Management Guideline: Guideline on Need and Desirability compiled by the Department of Environmental Affairs.

**Table 10: Need and Desirability as per the 2017 Guideline on Need and Desirability**

<b>“Securing ecological sustainable development and use of natural resources”</b>	
<p><i>How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?</i></p>	<p>The asphalt plant will be located on a portion of transformed land however, in order to support permanent operations, there will be the need to clear indigenous vegetation within the critically endangered ecosystem type (Interior South Coast Grassland) and such there will be the loss of 7 296m<sup>2</sup> (0.72ha) of this ecosystem type directly adjacent to the transformed portion of the site.</p>
<p><i>How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity?</i></p> <p><i>What measures were explored to firstly avoid these negative impacts and, where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts?</i></p> <p><i>What measures were explored to enhance positive impacts?</i></p>	<p>This proposed development will result in the loss of 7 296m<sup>2</sup> (0.72ha) of indigenous vegetation however the focus of the site is on a portion of land that is already disturbed and such the loss of vegetation will be directly adjacent to this transformed land. The proposed site has been selected to ensure there is no loss of habitat interconnectivity. In order to minimise the significance of the impacts to the surrounding habitats, the applicant will be implementing Biodiversity Management Action prescribed by the biodiversity specialist. These Biodiversity Management Actions will form part of the EMP that will govern all actions on site.</p> <p>There are no positive impacts on the local environment.</p>
<p><i>How will this development pollute and/or degrade the biophysical environment?</i></p> <p><i>What measures were explored to firstly avoid these impacts and, where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts?</i></p> <p><i>What measures were explored to enhance positive impacts?</i></p>	<p>There will be the release of emissions into the environment but the use of a baghouse will reduce the level of pollutants released. This impact cannot be completely avoided due to the nature of the asphalt production process but it will be mitigated through the use of an emissions control device.</p>
<p><i>What waste will be generated by this development?</i></p> <p><i>What measures were explored to firstly avoid waste and, where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste?</i></p> <p><i>What measures have been explored to safely treat and/or dispose of unavoidable waste?</i></p>	<p>General waste and a small amount of hazardous waste such as oil spills may be generated by this development. An EMP has been provided to ensure waste is sufficiently managed on-site. The site also employs a strict waste protocol to ensure waste is minimised, reused and/or recycled.</p>
<p><i>How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage?</i></p> <p><i>What measures were explored to firstly avoid these impacts and, where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts?</i></p> <p><i>What measures were explored to enhance positive impacts?</i></p>	<p>There are no negative or positive impacts on any cultural heritage sites.</p>
<p><i>How will this development use and/or impact non-renewable natural resources?</i></p> <p><i>What measures were explored to ensure responsible and equitable use of the resources?</i></p>	<p>HFO will be used to power the asphalt plant burner which is a form of a non-renewable natural resource. The use of HFO is the industry norm; however, it is to the benefit of Shisalanga Construction to use as little HFO as possible in order to save costs associated with the purchasing of the fuel.</p>

<p><i>How have the consequences of the depletion of the non-renewable natural resources been considered?</i></p> <p><i>What measures were explored to firstly avoid these impacts and, where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts?</i></p> <p><i>What measures were explored to enhance positive impacts?</i></p>	<p>During the acquisition of this HFO, the sulphur content is always considered which ultimately controls the level of SO<sub>2</sub> being released.</p>
<p><i>How will this development use and/or impact renewable natural resources and the ecosystem of which they are part?</i></p> <p><i>Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds?</i></p> <p><i>What measures were explored to firstly avoid the use of resources or, if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?</i></p> <ul style="list-style-type: none"> <li>• <i>Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. dematerialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)</i></li> <li>• <i>Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative)?</i></li> <li>• <i>Do the proposed location, type and scale of development promote a reduced dependency on resources?</i></li> </ul>	<p>There have been no identified renewable resources on site.</p>
<p><i>How was a risk-averse and cautious approach applied in terms of ecological impacts?</i></p> <ul style="list-style-type: none"> <li>• <i>What are the limits of current knowledge? (note: the gaps, uncertainties and assumptions must be clearly stated)</i></li> <li>• <i>What is the level of risk associated with the limits of current knowledge?</i></li> <li>• <i>Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?</i></li> </ul>	<p>This proposed development will result in the loss of 7 296m<sup>2</sup> (0.72ha) of indigenous vegetation however the focus of the site is on a portion of land that is already disturbed and such the loss of vegetation will be directly adjacent to this transformed land. The proposed site has been selected to ensure there is no loss of habitat interconnectivity. Therefore, a risk-averse and cautious approach has been applied during the site selection i.e., avoiding a completely new green fields site ensures there are limited impacts to any residential areas in relation to reduced air quality.</p>
<p><i>How will the ecological impacts resulting from this development impact on people's environmental right in terms following</i></p> <ul style="list-style-type: none"> <li>• <i>Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but, if avoidance</i></li> </ul>	<p>The release of emissions will have an air quality impact on the surrounding area. However, due to the nature and scale of the asphalt plant, there are no significant negative impacts expected on the community's environmental rights. In terms of the positive impacts, the operations of the asphalt plant will have no positive impacts on the community's environmental rights.</p>

<p><i>is not possible, to minimise, manage and remedy negative impacts?</i></p> <ul style="list-style-type: none"> <li>• <i>Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?</i></li> </ul>	
<p><i>Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)</i></p>	<p>The operations of the asphalt plant will have no impact on any linkages or dependencies between human wellbeing, livelihoods and ecosystem services. In addition, the identified ecosystem impacts will have no direct correlation to any negative socio-economic impacts. There will however be the provision of positive impacts such as job creation.</p>
<p><i>Based on all of the above, how will this development positively or negatively impact ecological integrity objectives/targets/considerations of the area?</i></p>	<p>The asphalt plant should have no significant negative or positive impacts on ecological integrity based on the understanding that the plant will continue to operate within legal limits.</p>
<p><i>Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations.</i></p>	<p>The site on which the asphalt plant is situated is owned and controlled by Ellingham Estate (Pty) Ltd. A portion of the selected site is previously transformed and there is no other suitable location within the property apart from agricultural land which is actively farmed by the land owner. The selection of an undisturbed site would require more vegetation clearance from what is proposed in the same ecosystem type, which would have a greater negative impact on the biophysical environment.</p>
<p><i>Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area.</i></p>	<p>The negative cumulative impact identified is that of the impact on local air quality by contributing to the existing emissions sources within the municipality. However, if the plant operates within the legal limits this negative cumulative impact is not considered significant. Another cumulative impact identified is that of the loss of natural environments. Although this impact is unavoidable for this proposal, the vegetation clearance is limited to areas directly adjacent to a transformed portion of land and as such there would be no loss of habitat interconnectivity.</p> <p>In terms of positive cumulative impacts, there will be an increase in asphalt supply within the municipality making the asphalt market more competitive which should reduce the price of asphalt.</p>
<b>"Promoting justifiable economic and social development"</b>	
<p><i>What is the socio-economic context of the area based on, amongst other considerations, the following considerations:</i></p> <ul style="list-style-type: none"> <li>• <i>The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area?</i></li> <li>• <i>Spatial priorities and desired spatial patterns (e.g. need for integrated or segregated communities, need to upgrade informal settlements, need for densification, etc.)?</i></li> <li>• <i>Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.)? and</i></li> <li>• <i>Municipal Economic Development Strategy ("LED Strategy")?</i></li> </ul>	<p>The area is rural in nature. The site is in close proximity to the P22-2 and N2 and is directly surrounded by indigenous vegetation and agricultural land. The closest land use other than open space and agricultural land - i.e., residential - is located 500m west of the site.</p>
<p><i>Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?</i></p>	<p>The plant will be used for road paving projects in this area whilst operating. Therefore, it is a vital link between both government and private projects, most notably road construction and road rehabilitation projects. In terms of road infrastructure projects, the asphalt plant nearest to the area being worked on is generally awarded the contract. This is because road construction costs escalate the further the plant is from the area being paved due to the increase in transport costs. The construction and rehabilitation of roads have social significance for surrounding communities as</p>

	<p>roads are vital in maintaining links between communities and services. Roads provide access for emergency vehicles including ambulances, fire trucks and police vehicles which cannot respond efficiently if they are unable to access an area or are forced to access it via poorly maintained roads. Communities without road access become cut off from basic services and are unable to develop and grow.</p>
<p><i>How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?</i></p>	<p>The provision of asphalt will enable the construction and rehabilitation of roads that have social significance for the region as roads are vital in maintaining links between communities and services. Roads provide access for emergency vehicles including ambulances, fire trucks and police vehicles which cannot respond efficiently if they are unable to access an area or are forced to access it via poorly maintained roads. Communities without road access become cut off from basic services and are unable to develop and grow.</p>
<p><i>Will the development result in inequitable (intra- and inter-generational) impact distribution, in the short- and long-term?</i></p>	<p>Socio-economic impacts associated with the asphalt plant will not result in an inequitable impact in the short or long term.</p>
<p><i>Will the impact be socially and economically sustainable in the short- and long-term?</i></p>	<p>The asphalt plant will be socially sustainable as there are no significant social impacts associated with the plant. In terms of economic sustainability, positioning the plant in this area would reduce the cost of asphalt haulage for road paving projects in the region.</p>
<p><i>In terms of location, describe how the placement of the proposed development will:</i></p> <ul style="list-style-type: none"> <li>• <i>result in the creation of residential and employment opportunities in close proximity to or integrated with each other</i></li> <li>• <i>reduce the need for transport of people and goods</i></li> <li>• <i>result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport?)</i></li> <li>• <i>compliment other uses in the area</i></li> <li>• <i>be in line with the planning for the area</i></li> <li>• <i>for urban related development, make use of underutilised land available within the urban edge</i></li> <li>• <i>optimise the use of existing resources and infrastructure</i></li> <li>• <i>opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement)</i></li> <li>• <i>discourage "urban sprawl" and contribute to compaction/densification</i> <ul style="list-style-type: none"> <li>▪ <i>contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs</i></li> <li>▪ <i>encourage environmentally sustainable land development practices and processes</i></li> <li>▪ <i>take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.)</i></li> <li>▪ <i>the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential)</i></li> </ul> </li> </ul>	<p>The asphalt plant will result in a small number of employment activities; however, there will be no other positive social impacts. Negative social impacts would be linked to individual perceptions of viewsheds and a sense of place. However, the spin-off of the plant - i.e. provision of asphalt - will aid in improving the road network in the area.</p>

<ul style="list-style-type: none"> <li>▪ <i>impact the sense of history, sense of place and heritage of the area and the socio-cultural and</i></li> <li>▪ <i>cultural-historic characteristics and sensitivities of the area, and</i></li> <li>▪ <i>in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement</i></li> </ul>	
<p><i>How were a risk-averse and cautious approach applied in terms of socio-economic impacts?</i></p> <ul style="list-style-type: none"> <li>• <i>What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?</i></li> <li>• <i>What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?</i></li> <li>• <i>Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?</i></li> </ul>	<p>There have been no long-lasting significant negative socio-economic impacts identified and as such a risk-averse approach was not considered</p>
<p><i>How will the socio-economic impacts resulting from this development impact on people’s environmental right in terms following:</i></p> <ul style="list-style-type: none"> <li>• <i>Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts but, if avoidance is not possible, to minimise, manage and remedy negative impacts?</i></li> <li>• <i>Positive impacts. What measures were taken to enhance positive impacts?</i></li> </ul>	<p>There have been no long-lasting significant negative socio-economic impacts identified which will affect the local community’s environmental rights.</p>
<p><i>Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development’s socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)</i></p>	<p>The demand for asphalt in the area will drive the plant’s use of aggregate and bitumen as well as HFO. These are all non-renewable resources. However, the production of asphalt is based on demand and as such there will not be an overproduction of asphalt and hence wasteful use of resources.</p>
<p><i>What measures were taken to pursue the selection of the “best practicable environmental option” in terms of socio-economic considerations?</i></p>	<p>The proposed site is located away from residential areas and as such the social impacts associated with the plant are largely avoided. Therefore, the best practicable environmental option has been selected whereby there will be the provision of asphalt allowing for increased economic activities while at the same time avoiding significant social impacts relating to poor air quality.</p>
<p><i>What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries) and is the development located appropriately?</i></p>	<p>There have been no identified adverse environmental impacts associated with the asphalt plant.</p>
<p><i>Considering the need for social equity and justice, do the alternatives identified allow the “best practicable environmental option” to be selected, or is there a need for other alternatives to be considered?</i></p>	<p>Yes, the best practicable environmental option is selected.</p>
<p><i>What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?</i></p>	<p>The plant does not impact on anyone’s access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing.</p>
<p><i>What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development’s life cycle?</i></p>	<p>The installation of a baghouse will ensure the level of emissions released from the plant falls within the legal limits set within the NEMA: Air Quality Act. This ensures there are few environmental health and safety concerns linked to the operation of the plant.</p>

<p><i>What measures were taken to:</i></p> <ul style="list-style-type: none"> <li>• ensure the participation of all interested and affected parties?</li> <li>• provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation?</li> <li>• ensure participation by vulnerable and disadvantaged persons?</li> <li>• promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means?</li> <li>• ensure openness and transparency, and access to information in terms of the process?</li> <li>• ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition was given to all forms of knowledge, including traditional and ordinary knowledge?</li> <li>• ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein would be promoted?</li> </ul>	<p>The following steps were followed during the public participation process.</p> <ul style="list-style-type: none"> <li>• The Ward Councillor was notified telephonically and by email on the 25<sup>th</sup> February 2021.</li> <li>• A noticeboard (in isiZulu and English) was placed on the site on the 4<sup>th</sup> March 2021.</li> <li>• The adjacent landowners and key stakeholders were all suitably notified of the application on the 18<sup>th</sup> February 2021.</li> <li>• All relevant authorities were notified of the application on the 18<sup>th</sup> February 2021.</li> <li>• A Background Information Document was sent to all adjacent landowners and stakeholders as part of the notification.</li> <li>• An advert in isiZulu was published in the Ilanga newspaper on the 14<sup>th</sup> February 2021 and an English advert was placed within the Rising Sun newspaper on the 16<sup>th</sup> February 2021.</li> <li>• All relevant authorities and registered I&amp;APs will be given the opportunity to review complete copies of the Draft Scoping Report (SR) and Draft Environment Impact Report (EIR). The Draft SR and EIR will be both circulated for a legislated 30-day comment period.</li> </ul>
<p><i>Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle- and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area).</i></p>	<p>Due to the nature of the asphalt plant, there are very few negative or positive impacts on the local community apart from the provision of a few jobs.</p>
<p><i>What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?</i></p>	<p>Full health, safety and environmental inductions are completed by all employees. This induction brings to the attention of the employees all potential human health hazards and environmental dangers associated with the workings of the site. Inductions also indicate that all employees have a right to work in a clean and safe environment.</p>
<p><i>Describe how the development will impact job creation in terms of, amongst other aspects:</i></p> <ul style="list-style-type: none"> <li>• the number of temporary versus permanent jobs that will be created</li> <li>• whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area?)</li> <li>• the distance from where labourers will have to travel</li> <li>• the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits) and</li> <li>• the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).</li> </ul>	<p>Due to the nature of the asphalt plant operations, there will be very few jobs created during the operation phase.</p>
<p><i>What measures were taken to ensure:</i></p> <ul style="list-style-type: none"> <li>• that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment?</li> <li>• that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?</li> </ul>	<p>This proposed asphalt plant is a private development and as such there was no intergovernmental coordination.</p>
<p><i>What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?</i></p>	<p>The asphalt plant will result in the clearance of indigenous vegetation and there will be an environmental impact linked with the release of emissions. Although the impacts will occur, they will be localised and will not be at a level to impact land held in public trust.</p>

<i>Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?</i>	All mitigations proposed are realistic and practical for the site in question. The clearance of vegetation will be once-off, there will be no further encroachment. The only long-term environmental legacy linked to the plant will be the continuation of the release of emissions. However,, with the aid of the baghouse all emissions will be within legal limits.
<i>What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?</i>	The EMPr will designate responsibility for all conditions. This document will be legally binding and, as such, any non-compliance with the conditions of the EMPr will effectively be breaking the law. Therefore, Shisalanga Construction will prioritise these items.
<i>Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations.</i>	The site on which the asphalt plant is situated is owned and controlled by Ellingham Estate (Pty) Ltd. A portion of the selected site is previously transformed and there is no other suitable location within the property apart from agricultural land which is actively farmed by the landowner. The selection of an undisturbed site would require more vegetation clearance from what is proposed in the same ecosystem type which would have a greater negative impact on the biophysical environment.
<i>Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area.</i>	<p>The negative cumulative impact identified is that of the impact on local air quality by contributing to the existing emissions sources within the municipality. However, if the plant operates within the legal limits this negative cumulative impact is not considered significant. Another cumulative impact identified is that of the loss of natural environments. Although this impact is unavoidable for this proposal the vegetation clearance is limited to areas directly adjacent to a transformed portion of land and as such there would be no loss of habitat interconnectivity.</p> <p>In terms of positive cumulative impacts, there will be an increase in asphalt supply within the municipality making the asphalt market more competitive which should reduce the price of asphalt in the municipality.</p>

## 5.2. The motivation for Preferred Site and Technology Alternative as Per Section 2 (h) (x) and (xi)

### 5.2.1. Site Alternatives

The applicant, Shisalanga Construction (Pty) Ltd and the landowner, Ellingham Estate (Pty) Ltd, have entered into an agreement to allow for the establishment of the asphalt plant on Portion 580 of the Farm Park Rynie No. 1666. The exact position of the asphalt plant on the property has considered a number of property specific aspects in relation to site alternatives. Wetlands have been identified on-site by the specialist in the southeast of the site and therefore avoidance of these wetlands and their subsequent buffers were a key consideration (please refer to Section 3.2 for more detail). Another key consideration in determining the exact position of the asphalt plant on the property was the current state of the vegetation. The portion of the property under consideration is covered with a mix of gravel material and indigenous vegetation, please refer to Figure 2. Therefore, in order to reduce the amount of indigenous vegetation to be cleared, the proposed site boundary has been located to include as much of the transformed areas as possible. The site already has existing access therefore clearance associated with new access was also considered. Therefore, in order to prevent any unnecessary loss and/or avoidable damage to the property's environmental features the only site alternative considered was that of the previously transformed area of the property and the land directly adjacent to this transformed area. No other site alternatives have been considered in this application. Landowner consent has been given to the applicant to operate the asphalt plant at this location; refer to Appendix D.

### 5.2.2. Technology Alternatives – Emissions Control Device

Technology Alternative 1 (preferred alternative) is to utilise the baghouse system which acts to contain the dust, preventing dust from entering the stack during the asphalt mixing process. Technology Alternative 2 would be to use a wet scrubber system that uses water to contain the dust in the mixing process.



Wet scrubbers do not have as high a collection efficiency as baghouses and are much more sensitive to variations in air volume, temperature, particle size and inlet loading. Wet scrubbers are useful when emission regulations are not strict, when a nearby water source is available and the operator can readily deal with scrubber blowdown (water treatment)<sup>6</sup>. Wet scrubbers can be attractive when comparing total purchase and operating costs as they cost less to purchase and run than baghouses do. The baghouse method is the preferred technology alternative for this plant.

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<sup>6</sup> EPA, (2002), EPA Air Pollution Control Cost Manual – Six Edition.

## Section 6: Public Participation as per Section 2 (h) (ii) & (iii) and 2 (i) (vi) & (vii)

As per Section 2 (h) (ii) and (iii), below are the details of the public participation process followed to date and a summary of the issues raised by interested and affected parties. Copies of supporting documents and inputs have been included in Appendices B - F.

### 6.1. Notification of Interested and Affected Parties

- 1) *fixing a noticeboard at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of-*
  - i. *the site where the activity to which the application or proposed application relates is or is to be undertaken; and*
  - ii. *any alternative site;*

A noticeboard (in isiZulu and English) was placed on the site on the 4<sup>th</sup> March 2021. The noticeboard detailed the applicant's proposed plan to undertake a Scoping and EIR process for the permanent asphalt plant. See Appendix B for proof of placement of the noticeboards.

- 2) *giving written notice, in any of the manners provided for in section 47D of the Act, to-*
  - i. *the occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;*
  - ii. *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;*
  - iii. *the municipality which has jurisdiction in the area;*
  - iv. *any organ of state having jurisdiction in respect of any aspect of the activity, and;*
  - v. *any other party as required by the competent authority;*

The following steps were undertaken during the public participation process:

- The Ward Councillor was notified telephonically and by email on the 25<sup>th</sup> February 2021.
- A noticeboard (in isiZulu and English) was placed on the site on the 4<sup>th</sup> March 2021.
- The adjacent landowners and key stakeholders were all suitably notified of the application on the 18<sup>th</sup> February 2021.
- All relevant authorities were notified of the application on the 18<sup>th</sup> February 2021.
- A Background Information Document was sent to all adjacent landowners and stakeholders as part of the notification.
- An advert in isiZulu was published in the Ilanga newspaper on the 14<sup>th</sup> February 2021 and an English advert was placed within the Rising Sun newspaper on the 16<sup>th</sup> February 2021.
- All relevant authorities and registered I&APs will be given the opportunity to review complete copies of the Draft Scoping Report (SR) and Draft Environment Impact Report (EIR). The Draft SR and EIR will be circulated for a legislated 30-day comment period.

See Appendix D – Proof of Notification.

- i. *owners, persons in control of, 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;*

A map showing the properties directly adjacent to the site has been provided in Appendix D. Notifications to all adjacent landowners were sent out on the 18<sup>th</sup> February 2021. Proof of notification of the adjacent landowners is attached under Appendix D.

- 3) *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;*
- 4) *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 paragraph (c)(ii);and*

An advert in isiZulu was published in the Ilanga newspaper on the 14<sup>th</sup> February 2021 and an English advert was placed within the Rising Sun newspaper on the 16<sup>th</sup> February 2021. The adverts detailed the proposed project, Scoping/EIA process and provided contact details for EnviroPro should anyone wish to register as I&AP. Proof of adverts is provided in Appendix C.

## **6.2. Registered Interested and Affected Parties**

42. *A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, which register must contain the names, contact details and addresses of-*
- (a) all persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP;*
  - (b) all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and*
  - (c) all organs of the state which have jurisdiction in respect of the activity to which the application relates.*

The contact details of all I&APs that have registered have been provided in the Registered I&AP list in Appendix E.

## **6.3. Comments**

Comments of interested and affected parties to be recorded in reports and plans.

- 1) The applicant must ensure that the comments of interested and affected parties are recorded in reports and plans and that such written comments, including responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.*
- 2) Where a person desires but is unable to access written comments as contemplated in sub regulation (1) due to-*
  - i. a lack of skills to read or write;*
  - ii. disability; or*
  - iii. any other disadvantage;*
  - iv. reasonable alternative methods of recording comments must be provided for.*

All comments received from I&APs to date have been recorded in the comments and response table. The original comments have been provided together with the comments and response table. See Appendix F for the Comments and Response Table and all comments received to date.

**Section 7: Preliminary Impact Assessment as Per Section 2 (h) (v) - (ix)****7.1. Methodology to Determine and Rank Nature, Significance and Consequences of Impacts Associated With all Alternative as Per Section 2 (h) (vi) and 2 (i) (v)**

Impacts are assessed qualitatively and quantitatively, looking at the duration/frequency of the activity and likely impacts associated with that activity during construction, operation and closure. If the activity happens frequently, the risk of the associated impact occurring is much higher than if the activity happens less frequently. The geographical extent of the impact is assessed - i.e. will the impact be restricted to the point of occurrence or will it have a local or regional effect? Impacts are also reviewed looking at severity levels and consequences should the impact occur - i.e. will the severity be low, medium or high? - and then probability of the impact occurring is taken into account.

Whether or not the impact can be mitigated and the extent to which it can be avoided, managed, mitigated or reversed is assessed - i.e. the probability of occurrence after mitigation has been applied. This also takes into account likelihood of human error based on construction and operational auditing experience - i.e. even though spills can be completely mitigated and prevented, there is always a small chance that spills will still occur (residual risk). Based on all of these factors, the impact is then rated to determine its significance. As an example, an impact can have a regional effect with severe environmental implications; however the probability of it occurring is very low and the implementation of the proposed mitigation measures means that the ultimate rating is medium or low.

Please see below a description of the scoring. The full impact scoring tables detailing how the significance rating was calculated can be found in Appendix G, as per section 2 (h) (ix).

**Table 11: Explanation of the Scoring of the Impacts Identified in the EIA**

Scoring of Impacts	
Duration / Frequency of activity likely to cause impact	0 = No impact 1 = Short term / once off 2 = Medium term / during operation 3 = Long term / permanent
Geographical Extent	0 = No impact 1 = Point of impact / restricted to site 2 = Local / surrounding area 3 = Regional
Severity (level of damage caused) if impact were to occur	0 = No impact 1 = Minor 3 = Medium 5 = Major
Probability of impact without mitigation	1 - 5 = Low. 6 -10 = Medium. 11 -14 = High.
Significance before application of Mitigation Measures	A score of between 1 and 5 is rated as low. A score of between 6 and 10 is rated as medium. A score of between 11 and 14 is rated as high.
Will activity cause irreplaceable loss of resources?	10 = Yes 0 = No
Mitigation measures	0 = No impact - 5 = Can be fully mitigated - 3 = Can be partially mitigated -1 = Unable to be mitigated
Probability of impact after mitigation	0 = No impact 1 = Low 2 = Medium 3 = High
Significance after application of Mitigation Measures	A score of between 1 and 5 is rated as low. A score of between 6 and 10 is rated as medium. A score of between 11 and 14 is rated as high.

The impacts in the table below will be expanded on in the EIR once a more detailed assessment has been done. Impacts scoring a higher significance in the Scoping Report will receive more attention in the EIR. Therefore, those identified below are not the complete list, as there may be more identified through the public participation process. Please note that scoring and assessment of impacts as well as discussion of mitigations below are **preliminary** and the final impact assessment will be provided in the EIR.

## 7.2. Impact Assessment of the Site and Design Alternatives

**Table 12: Specific Impacts Associated with Technology Alternative 1 (i.e. Baghouse)**

See Appendix G for the full impacts scoring matrix, which assesses the impacts on the below identified sensitive environmental aspects. The specific activities and associated impacts identified in Table 12 below are site-specific and relate to the Preferred Site and Technology Alternatives.

Aspect	Nature and Consequences of impact	Sig. rating of impacts <sup>7</sup> :	Proposed mitigation and Extent to which impact can be reversed/avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
<b>Construction</b>				
<b>A. Clearing of vegetation for the establishment of the site (Listing Notice 3 Activity 12)</b>	<b>1) Direct Impact:</b> Degradation, destruction and loss of 7 296m <sup>2</sup> (0.72ha) of medium to high sensitive habitats.	8 (Medium)	This impact cannot be completely mitigated as there will be vegetation loss, however, the following measures must be carried out to mitigate unnecessary and preventable vegetation clearing and to limit the damage: <ul style="list-style-type: none"> <li>Sensitive areas must be specifically demarcated to prevent the movement of workers into sensitive surrounding environments. All areas outside the proposed site must be demarcated as a 'no-go' zone. No site staff are permitted to enter these areas.</li> <li>A Biodiversity Impact Assessment will be conducted to assess the vegetation to be cleared. Any recommendations will be included as mitigating measures.</li> </ul>	6 (Medium)
	<b>2) Direct Impact:</b> Disruption/alteration of species activities (breeding, migration, feeding) due to noise, vibration and dust	6 (Medium)		4 (Low)
	<b>3) Direct Impact:</b> Direct mortality of fauna	6 (Medium)		4 (Low)
	<b>4) Direct Impact:</b> Removal of alien invasive vegetation found within the site.	0 (Positive)	This is a positive impact.	4 (Low)
<b>Operation</b>				
<b>B. Operation of the asphalt plant. (Listing Notice 2 Activity 6)</b>	<p><b>5) Direct impact:</b> Release of dust and other harmful emissions from the plant during operation reducing air quality in the municipality.</p> <p>Key legislated emissions from an asphalt plant are VOCs, SO<sub>2</sub> and Particulate Matter (dust-PM). The primary emission expected from an asphalt plant is dust which is released from the stone used to produce the asphalt. Apart from dust, another primary emissions source is the burning of the fuel to run the burner. As a hydrocarbon, the fuel contains hydrogen and carbon atoms producing carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O) during complete combustion. However, no combustion process ever completely burns all of the fuel, meaning that the exhaust stream will include</p>	7 (Medium)	<p><b>Management Mitigations</b></p> <p>The impact cannot be avoided, but it can be managed by implementing the following mitigation measure on-site to ensure compliance with legal limits:</p> <ul style="list-style-type: none"> <li>Ensure the baghouse fitted to the asphalt plant is in good working order and is serviced at regular intervals.</li> <li>Ensure fuel used in the asphalt production process has a low sulphur content.</li> <li>Continue stack emission testing, implementing recommendations based on the outcome of the results.</li> <li>Screen all aggregate to remove all fines prior to the addition in the mixing process.</li> <li>Wet roadways and speed control on the site.</li> </ul>	5 (Low)

<sup>7</sup> See Appendix G for more details.

	<p>moisture, particulate matter, products of combustion, and unconsumed nitrogen and oxygen molecules from the air. The products of combustion generally include carbon monoxide, (CO), oxides of nitrogen (NOx), sulphur dioxide (SO2), and hydrocarbons. These hydrocarbons can fall into several categories, including volatile organic compounds (VOCs).</p>		<ul style="list-style-type: none"> <li>An Air Quality Impact Assessment will be conducted for the plant. Any recommendations will be included as mitigating measures.</li> </ul>	
	<p><b>6) Direct impact:</b> Impact of emissions on neighbours and residential areas negatively impacting their health.</p>	<p>7 (Medium)</p>	<p><b>Existing Mitigating Factors</b></p> <ul style="list-style-type: none"> <li>The nearest residential area is 500m to the west.</li> <li>It is not anticipated that this area will be significantly or noticeably affected by emissions from the plant as these emissions will tend to disperse as one moves away from the site.</li> <li>It must be noted that air pollution impacts generated from asphalt plants can vary due to changes in emission rates and prevailing meteorological conditions which will affect dispersion.</li> <li>It is also noted that the asphalt plant does not operate on a continuous basis, only for certain hours each week; therefore, the impact and resultant concentrations are not continuous.</li> </ul> <p><b>Management Mitigations</b> The impact cannot be avoided, but it can be managed by implementing the following mitigation measure on-site to ensure compliance with legal limits:</p> <ul style="list-style-type: none"> <li>Ensure the baghouse fitted to the asphalt plant is in good working order and is serviced at regular intervals.</li> <li>Ensure fuel used in the asphalt production process has a low sulphur content.</li> <li>Continue stack emission testing, implementing recommendations based on the outcome of the results.</li> <li>Screen all aggregate to remove all fines prior to the addition in the mixing process.</li> <li>Wet roadways and, speed control on the site.</li> <li>An Air Quality Impact Assessment will be conducted for the plant. Any recommendations will be included as mitigating measures.</li> </ul>	<p>5 (Low)</p>
	<p><b>7) Direct impact:</b> During operation, the plant generates noise and noise can have an impact on human health.</p>	<p>7 (Medium)</p>	<p><b>Existing Mitigating Factors</b></p> <ul style="list-style-type: none"> <li>Given the surrounding land use and distance from residential areas (500m), it is not expected that the levels of noise generated are of significant concern.</li> </ul>	<p>5 (Low)</p>

	<p>Noise is caused by the operation of the burner and exhaust but primarily from the loading of aggregate and movement of trucks and loaders</p>		<ul style="list-style-type: none"> <li>The noise is also not continuous and will only occur when the plant operates which is only for a few hours when required.</li> </ul> <p><b>Management Mitigations</b> The impact cannot be avoided, but it can be managed by implementing the following mitigation measures on-site to ensure compliance with legal limits</p> <ul style="list-style-type: none"> <li>The plant must be maintained as per a daily, weekly, monthly and annual maintenance checklist.</li> <li>These checklists must be kept on file for review by the ECO.</li> <li>If noise complaints are ever received a noise survey must be conducted to ensure the plant is operating as per Noise Control Regulations in Terms of Section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989).</li> </ul>	
	<p><b>8) Direct impact:</b> Spillage of lubricants and oils used on the plant resulting in soil and water pollution.</p>	<p>9 (Medium)</p>	<p><b>Management Mitigations</b> The impact can be avoided by implementing the following mitigation measures on-site to ensure soil and water pollution do not take place:</p> <ul style="list-style-type: none"> <li>Precautions must be taken when using oils and lubricants for plant maintenance. Oils and lubricants must be stored in a hazardous store area that is hard-surfaced and banded.</li> <li>During usage, operators must keep the oils and lubricants on a drip tray and any spills must be cleaned immediately and stored in a sealed container for disposal as hazardous waste.</li> <li>Any waste oils and lubricants must also be stored as hazardous waste in the hazardous store area.</li> <li>Where possible, oils and lubricants must be recycled by a recognised oil recycler and records of safe disposal must be kept.</li> </ul>	<p>5 (Low)</p>
	<p><b>9) Direct impact:</b> Suitability of operation with respect to surrounding land use.</p>	<p>7 (Medium)</p>	<p><b>Existing Mitigating Factors</b></p> <ul style="list-style-type: none"> <li>The site is located on a relatively flat portion of land.</li> <li>The site is not located adjacent to any sensitive receptors and the surrounding area, for the most part, is largely undeveloped.</li> </ul>	<p>5 (Low)</p>
	<p><b>10) Direct Impact:</b> Degradation of medium to high sensitive habitats adjacent to the site from careless activities on the site.</p>	<p>10 (High)</p>	<p>The following measures must be carried out to mitigate unnecessary and preventable vegetation:</p> <ul style="list-style-type: none"> <li>The site boundary must be specifically demarcated to prevent the movement of workers into sensitive surrounding environments. All areas outside the proposed site must be</li> </ul>	<p>5 (Low)</p>



			<p>demarcated as a 'no-go' zone. No site staff are permitted to enter these areas.</p> <ul style="list-style-type: none"> <li>• A Biodiversity Impact Assessment will be conducted to assess the vegetation to be cleared. Any recommendations will be included as mitigating measures.</li> </ul>	
	<p><b>11) Indirect impact:</b> Unsustainable sourcing of raw materials such as gravel, sand, water etc. which could result in the promotion of illegal mining operations which can cause significant damage to the environment.</p>	12 (High)	<p>This impact can be avoided through proper management. The material required to produce the asphalt is sourced from legal sources.</p> <ul style="list-style-type: none"> <li>• The applicant to maintain records of aggregate used.</li> </ul>	8 (Medium)
	<p><b>12) Indirect impact:</b> Provision of local employment.</p>	0 (Positive)	<p>At least 4 people will be employed on the site in association with the operation of the plant.</p>	0 (Positive)
	<p><b>13) Indirect impact:</b> Provision of locally available asphalt for road construction and upgrade projects.</p>	0 (Positive)	<p>There is a knock-on effect in that the plant provides a source of locally available asphalt which reduces road construction costs by reducing transport costs. It will also reduce traffic on roads, reduced vehicle emissions and lower carbon footprint from transport activity.</p>	0 (Positive)
	<p><b>14) Cumulative impact:</b> The cumulative impact on local air quality by contributing to the existing emissions sources within the municipality.</p>	8 (Medium)	<p>This impact cannot be avoided but can be managed.</p> <p><b>Existing Mitigating Factors</b></p> <ul style="list-style-type: none"> <li>• It is not anticipated that the asphalt plant will have a long-term adverse impact on air quality in this area.</li> <li>• The key emissions from the plant from a cumulative impact point of view are particulate matter (PM) i.e., dust due to the location of the plant to the AfriSam Quarry as well as the potential Aqua Asphalt Plant.</li> <li>• Therefore, dust generated (particulate matter) from the heavy vehicle movement in and around the asphalt plant and the sites stockpiles is expected to have the greatest cumulative impact on the immediate area surrounding the plant.</li> </ul> <p><b>Management Mitigations</b>The following mitigation measures must be implemented on-site to ensure compliance with legal limits:</p> <ul style="list-style-type: none"> <li>• Ensure the baghouse fitted to the asphalt plant is in good working order and is serviced at regular intervals.</li> <li>• Ensure fuel used in the asphalt production process has a low sulphur content.</li> <li>• Continue stack emission testing, implementing recommendations based on the outcome of the results.</li> <li>• Screening all aggregate to remove all fines prior to the addition in the mixing process.</li> <li>• Wet roadways and speed control on the site.</li> </ul>	6 (Medium)

			<ul style="list-style-type: none"> <li>An Air Quality Impact Assessment will be conducted for the plant. Any recommendations will be included as mitigating measures.</li> </ul>	
<b>C. Handling of baghouse dust</b>	<p><b>15) Direct impact:</b> uncontrolled release of dust decreasing the local air quality which can also impact human health.</p> <p>Baghouse dust (a by-product) of the asphaltting manufacturing process can have an impact on human health if not adequately managed and disposed of.</p>	9 (Medium)	<p>This impact can be avoided through the implementation of appropriate management measures.</p> <p>The management and disposal of baghouse dust will be addressed and further investigated in the EIR phase of this application.</p>	5 (Low)
<b>D. Movement of vehicles on site</b>	<p><b>16) Direct impact:</b> Generation of fugitive dust due to the movement of vehicles around the site.</p>	9 (Medium)	<p><b>Management Mitigations</b></p> <p>The impact cannot be avoided, but it can be managed by implementing the following mitigation measures on-site:</p> <ul style="list-style-type: none"> <li>When conditions dictate (very dry, windy, etc.), all roadways and working areas must be adequately watered to minimise the impact of airborne dust being created as the result of vehicle traffic. The site must be assessed regularly to determine the need for dust control.</li> <li>The speed of vehicular traffic must be controlled by setting speed limits on internal roads (i.e. 20 km/hr). Reduced speed limits reduce the amount of airborne dust created because of vehicle traffic.</li> <li>All vehicles delivering aggregate to the site must be tarped.</li> <li>An Air Quality Impact Assessment will be conducted for the plant. Any recommendations will be included as mitigating measures.</li> </ul>	5 (Low)
<b>E. Stockpiling of aggregate on site</b>	<p><b>17) Direct impact:</b> The release of dust from the aggregate piles decreasing the local air quality which can also impact human health.</p>	8 (Medium)	<p>This impact can be avoided through the implementation of appropriate management measures.</p> <ul style="list-style-type: none"> <li>All stockpiled material will be kept within the site.</li> <li>The aggregate will only be brought to the site as and when required for the asphalt process.</li> <li>The management of stockpiles on site will be addressed and further investigated in the EIR phase of this application.</li> </ul>	6 (Medium)
<b>F. Storage and handling of bitumen on site</b>	<p><b>18) Direct impact:</b> Spillage or leakage of bitumen during handling, storage or production.</p> <p>Bitumen is an end product of the refinery process of crude petroleum and is primarily used in asphalt for road paving while other uses include roofing, waterproofing, sealing and painting. It is not</p>	9 (Medium)	<p>This impact can be avoided through the implementation of appropriate management measures.</p> <ul style="list-style-type: none"> <li>Bitumen will be stored in banded tanks on site.</li> <li>Liquid bitumen must be handled with care and must not be spilt or disposed of in a liquid state.</li> </ul>	5 (Low)

	<p>classified as hazardous to the environment (<a href="#">MSDS will be provided in the EIR</a>) and is not viewed as toxic as it is insoluble but will adhere to soil particles and will not biodegrade. Bitumen is not soluble in water but may physically impede aquatic organisms.</p>		<ul style="list-style-type: none"> <li>• Hardened bitumen can be treated as general waste and either re-used in the processor or disposed of at a permitted landfill.</li> <li>• During offloading, precautions must be taken to ensure that spills do not occur. The hard-surfaced and banded area around the tank provides protection from spills while the tank is filled.</li> <li>• If there are any leakages from the truck or pipe during filling, drip trays must be placed to capture these.</li> <li>• Any spills must be cleaned up and spilt material stored for later disposal and a copy of the MSDS must be kept on site. Bitumen used in the plant to produce the pre-mix is injected directly into the plant drum thereby minimising handling and risk of spills. Bitumen is not considered a dangerous good; however, it must be handled with caution.</li> <li>• Any spills of raw bitumen in a liquid state must be treated as hazardous until the liquid has cooled and hardened. If any bitumen is disposed of, safe disposal certificates for its disposal at a permitted landfill must be retained.</li> </ul>	
	<p><b>19) Direct impact:</b> While in a hot and liquid state, bitumen may cause burns and therefore it must be handled with caution. Under certain conditions, it can be flammable and the molten liquid can splatter or erupt if brought into contact with water. According to the WHO<sup>8</sup> report, the application of bitumen may generate hazardous emissions. The WHO report concluded that straight-run bitumen and their emissions during road paving could be classified as “possibly carcinogenic to humans” (Group 2B). According to the NIOSH report on asphalt fumes from roofing, paving, and other uses<sup>9</sup>, it was concluded that asphalt could be associated with irritation of the eyes, nose, and throat. The report also concluded that the collective data currently available from studies on paving asphalt provided insufficient evidence for an association between lung cancer and exposure to asphalt fumes during paving. It did state that the available data did not preclude a carcinogenic risk from asphalt fumes generated during paving operations.</p>	<p>9 (Medium)</p>	<p>This impact can be avoided through the implementation of appropriate management measures.</p> <ul style="list-style-type: none"> <li>• NIOSH, recommend minimising possible acute or chronic health effects from exposure to asphalt, asphalt fumes and vapours, by adhering to their recommended exposure limits of 5 mg/m<sup>3</sup> during any 15min period and by implementing the following practices: <ul style="list-style-type: none"> <li>○ Prevent dermal exposure. Keep the application temperature of heated asphalt as low as possible. Use engineering controls and good work practices at all worksites to minimise worker exposure to asphalt fumes and asphalt-based paint aerosols. Use appropriate respiratory protection.</li> </ul> </li> <li>• Based on available information, there are health risks associated with the handling and use of bitumen and asphalt, therefore, appropriate Occupational Health and Safety measures must always be implemented to limit and reduce human exposure.</li> </ul>	<p>5 (Low)</p>

<sup>8</sup> International Agency for Research on cancer. World health Organisation. (2011). Occupational exposures to bitumens and their emissions.

<sup>9</sup> National Institute for Occupational Safety and Health (NIOSH). (2000) Hazard review: Health effects of occupational exposure to asphalt

			<ul style="list-style-type: none"> <li>• However, it is not expected that the storage of bitumen on-site results in significant fugitive emissions nor that this could have had a significant impact off-site.</li> <li>• Heated asphalt is flammable due to the presence of hazardous vapours released when it is heated to above its flash point, but this flashpoint is very high at 2300C; therefore, strict precautions are applied when handling to prevent fires.</li> <li>• Asphalt is not flammable in air. Provided the necessary measures to prevent incidents are taken and that necessary firefighting equipment is kept on-site, this can be managed.</li> <li>• It is also recognised that heated asphalt does not remain on-site indefinitely as it is removed by truck to where it is required for road upgrade projects as soon as it has been produced. It cannot be produced and stored ahead of time as it needs to be kept in a liquid heated state until applied.</li> </ul>	
<p><b>G. Storage and handling of hazardous substances (Listing Notice 1 Activity 14 and Listing Notice 3 Activity 10)</b></p>	<p><b>20) Direct impact:</b> Spillage or leakage of HFO and diesel during handling or storage resulting in soil and water pollution.</p>	9 (Medium)	<p>This impact can be avoided through the implementation of appropriate management measures as follows:</p> <ul style="list-style-type: none"> <li>• The bunded hard-surfaced area around the tank provides protection in case of a spill during offloading but drip trays must be on standby and used in case of any leaks in the pipes or from the truck.</li> <li>• Any spills must be immediately cleaned up and stored in a sealed drum as hazardous waste.</li> <li>• Contaminated soil must be disposed of as hazardous waste at a permitted hazardous landfill and safe disposal certificates must be retained.</li> <li>• A record of all spills and how and where they were disposed of must be retained on site.</li> <li>• The storage tank is placed on a hard-surfaced area.</li> <li>• The tank must be regularly monitored for leaks and any leaks must be reported immediately and repaired.</li> <li>• Spill kits containing absorbent material must be available on site.</li> <li>• All staff must be trained on what to do in the event of a hazardous substance spillage.</li> </ul>	5 (Low)
<p><b>H. Delivery of aggregate and asphalt</b></p>	<p><b>21) Direct impact:</b> Increasing traffic to and from the site putting pressure on the local road network</p>	7 (Medium)	<p>This impact cannot be avoided but it can be managed through appropriate management measures as follows:</p> <ul style="list-style-type: none"> <li>• Appropriate safety signage must be erected along all access roads to the site warning of the potential hazards related to the movement of heavy vehicles.</li> <li>• Flagmen must be in attendance to direct traffic during large scale asphalt collections.</li> </ul>	5 (Low)

			<ul style="list-style-type: none"> <li>All drivers must be appropriately licenced and trained.</li> <li>All drivers must operate within the speed limits, and due caution must be exercised especially when pedestrians are on the road.</li> </ul>	
I. Decommissioning of the plant if the plant is not authorised and the applicant is instructed to remove it from the site	22) <b>Direct impact:</b> Generation of dust during the demolition of bunded areas and concrete bases impacting the local air quality	7 (Medium)	This impact cannot be avoided but it can be managed through appropriate management measures as follows: A water cart must be used to control dust generated during demolition.	3 (Low)
	23) <b>Indirect impact:</b> The removal of the plant will mean that the applicant will not be able to meet contractual requirements to supply asphalt for projects in the area.	11 (High)	Asphalt will need to be transported from other sites, increasing the cost of construction projects in the area.	13 (High)

**Table 13: Site Specific Impacts Associated with Technology Alternative 2 (i.e., Wet Scrubber)**

See Appendix G for the full impacts scoring matrix, which assesses the impacts on the above system. The impacts relating to the Technology Alternative 1 (Preferred Technology Alternative) and Technology Alternative 2 are very similar, therefore the impacts below include the impacts which differentiate the most between the two Technology Alternatives.

Aspect	Nature and Consequences of impact	Sig. rating of impacts <sup>10</sup> :	Proposed mitigation and Extent to which impact can be reversed/avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
<b>Construction</b>				
Construction related impacts for Technology Alternative 1 (Preferred Technology Alternative) and Technology Alternative 2 are identical.				
<b>Operation</b>				
J. Operation of the asphalt plant.	24) <b>Direct impact:</b> Increased release of dust from the plant during operation negatively impacting the local air quality.	9 (Medium)	<p>This impact cannot be avoided, but the operation of the wet scrubber will mitigate these impacts:</p> <p><b>Operation of a Wet Scrubber</b></p> <ul style="list-style-type: none"> <li>A wet scrubber operates by introducing the dirty gas stream with a scrubbing liquid – typically water. Wet scrubbers are much more sensitive to variations in air volume, temperature, particle size and inlet loading. Wet scrubbers are useful when emission regulations are not strict (which is not the case) there is a reliable water source, and the operator can readily deal with scrubber blowdown (water treatment).</li> <li>The wet scrubber will be used to reduce the concentrations of pollutants released from the plant's stack. In addition, the continual pre-screening of gravel prior to the use in the asphalt plant removes a large portion of fines from the material. This then</li> </ul>	7 (Medium)

<sup>10</sup> See Appendix G for more details.

			<p>results in a gravel generating less dust during the production of the asphalt.</p> <ul style="list-style-type: none"> <li>Should a wet scrubber be used at the facility, a municipal water source will need to be established which will result in an unnecessary increase in water use at the site.</li> </ul> <p><b>Management Mitigations</b> The following management mitigation measures must be implemented on-site to ensure compliance with legal limits:</p> <ul style="list-style-type: none"> <li>Ensure the wet scrubber fitted to the asphalt plant is in good working order and is serviced at regular intervals.</li> <li>Ensure fuel used in the asphalt production process has a low sulphur content.</li> <li>Continue stack emission testing, implementing recommendations based on the outcome of the results.</li> <li>Screening all aggregate to remove all fines prior to the addition in the mixing process.</li> <li>Wet roadways and use speed control on the site.</li> <li><a href="#">An Air Quality Impact Assessment will be conducted for the plant. Any recommendations will be included as mitigating measures.</a></li> </ul>	
	<p><b>25) Direct impact:</b> Generation of the scrubber blowdown resulting in greywater which can impact soil and stormwater if released into the environment</p>	<p>6 (Medium)</p>	<p>The generation of scrubber blowdown is unavoidable; however, the prevention of this by-product entering the environment must be prioritised. The impacts associated with it can be mitigated as follows:</p> <ul style="list-style-type: none"> <li>All liquid must be suitably contained on-site prior to it being disposed of at a registered facility able to accept this type of waste.</li> <li>Safe disposal certificates must be obtained and kept on file.</li> <li><a href="#">The impacts of this scrubber blowdown will be discussed in detail in the EIR.</a></li> </ul>	<p>4 (Low)</p>

**Table 14: Standard Construction Impacts Associated with Site Alternative 1 (Preferred) and Technology Alternative 1 (Preferred) and Technology Alternative 2**

See Appendix G for the full impacts scoring matrix, which assesses the generic impacts associated with the project and to all site and technology alternatives.

Aspect	Nature and Consequences of impact	Sig. rating of impacts <sup>11</sup> :	Proposed mitigation and Extent to which impact can be reversed/avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
<b>K) Cleared exposed surfaces from the construction activity.</b>	<b>26)</b> Direct impact: On-site erosion due to improper management of stormwater by the contractor during construction.	7 (Medium)	<p>Areas exposed to erosion must be protected. The following apply to erosion control on site:</p> <ul style="list-style-type: none"> <li>• Sandbags, berms, stone pitching must be used to control erosion from forming during construction.</li> <li>• No excavated material or fill material may be stored outside the project boundary.</li> <li>• Bedding material that will be re-worked may not be stored outside the project boundary.</li> <li>• Temporary stormwater measures should be implemented to ensure that material does not wash off the surface into any watercourse during construction.</li> </ul>	3 (Low)
<b>L) Construction vehicles driving along gravel roads and moving across areas of exposed soil, dusty conditions generated during construction and by construction vehicles.</b>	<b>27)</b> Direct impact: Dusty conditions impacting on air quality affecting community members and fauna along the construction route.	8 (Medium)	<p>There will be increased dust generated during the construction phase; however, this will be on a temporary basis - i.e. the site will be worked continuously for a few months until construction is completed. Further to this:</p> <ul style="list-style-type: none"> <li>• Vehicle speed limits within the construction areas must be reduced to 40km/hr to reduce the amount of dust raised along the gravel roads to and from the site.</li> <li>• The material being transported to the site in the back of the trucks must be covered.</li> <li>• Water carts must be used on-site should dust levels elevate to a nuisance level.</li> <li>• Shade cloth must be utilised for stockpiled materials where required.</li> <li>• The applicant must comply with the National Dust Regulations (Government Notice R827, 2013) with regard to dust levels produced on site.</li> </ul>	5 (Low)
<b>M) Construction vehicles and personnel working in the area during construction.</b>	<b>28)</b> Direct impact: Creating a nuisance to the surrounding area and residents.	7 (Medium)	<ul style="list-style-type: none"> <li>• The work area must be designated to prevent trespassing onto adjacent properties.</li> <li>• Speed limits will be obeyed and enforced by the contractor.</li> <li>• A complaints register will be kept on-site in the environmental file.</li> </ul>	3 (Low)
<b>N) Increase the daily presence of heavy vehicles and plant traffic</b>	<b>29)</b> Indirect impact: Impacting existing traffic conditions and pedestrians.	7 (Medium)	<p>The construction activity will pose an increased risk to pedestrians and traffic. This cannot be avoided as traffic will increase during the construction phase temporarily (for a few months) until construction is completed.</p> <ul style="list-style-type: none"> <li>• Appropriate construction safety signage must be erected to notify of construction activities and potential hazards on site</li> <li>• Flagmen must be in attendance to direct traffic where required.</li> </ul>	5 (Low)

<sup>11</sup> See Appendix H for more details.

Aspect	Nature and Consequences of impact	Sig. rating of impacts <sup>11</sup> :	Proposed mitigation and Extent to which impact can be reversed/avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
on adjacent roads.				
O) An increase in heavy vehicles and plant.	30) Indirect impact: Emissions from construction vehicles associated with the construction activities.	6 (Medium)	The construction phase of the project will see the increase in vehicles moving through the area which will result in the increase of emissions into the atmosphere. <ul style="list-style-type: none"> <li>All construction vehicles operating on the site must be fitted with the appropriate silencers and exhausts in order to reduce the emissions and noise into the atmosphere.</li> </ul>	4 (Low)
P) Excavations taking place on-site.	31) Direct impact: Unidentified existing services being impacted on-site.	8 (Medium)	Services have been identified on the site; however, any unidentified services that will be impacted must follow: <ul style="list-style-type: none"> <li>As standard construction practice, the engineer and contractor must identify any potential existing services that may be affected before construction.</li> <li>Any infrastructure that is removed must be replaced, and any damage caused by construction must be repaired.</li> </ul>	4 (Low)
Q) Generation and storage of waste during construction.	32) Direct impact: Improper storage of waste on-site resulting in littering and impact on the environment on-site affecting the surrounding community. Incorrect disposal of waste leading to pollution at the dumpsite or at sites where waste may be illegally disposed of.	8 (Medium)	The construction phase of the project will see an increase in workers on-site and therefore an increase in waste in the area. <ul style="list-style-type: none"> <li>Littering will not be permitted in the study area</li> <li>Designated waste storage areas with appropriate waste receptacles must be set up within the construction site camp</li> <li>Waste will be removed from the site and disposed of at a registered waste disposal site</li> <li>Safe disposal slips for the disposal of all waste must be obtained and kept on-site as proof of safe disposal</li> <li>Waste management will be controlled through the implementation of the EMPr. This impact can be managed and mitigated.</li> </ul>	4 (Low)
R) Insufficient number of toilet facilities on site	33) Direct impact: Construction staff having to use the surrounding areas as ablutions, resulting in contamination of the environment.	9 (Medium)	The increase in construction personnel during the construction phase will require an appropriate number of toilet facilities for the site. <ul style="list-style-type: none"> <li>Appropriate and sufficient toilet facilities (1 toilet per 15 employees) must be provided by the operator;</li> <li>All toilet facilities must be checked on a daily basis</li> <li>All toilet facilities must be emptied and cleaned on a weekly basis.</li> </ul>	5 (Low)
S) Inappropriate disposal of toilet waste.	34) Indirect impact: Resulting in the contamination of the environment.	7 (Medium)	The following mitigation measures must be adhered to: <ul style="list-style-type: none"> <li>All toilet facilities on site utilised by the construction personnel must be checked on a daily basis and emptied on a weekly basis by the contractor</li> <li>A registered waste removal contractor must remove sewage waste from the site or sewage waste must be disposed of at a permitted Waste Water Treatment Site</li> <li>Safe disposal slips for the disposal of effluent waste must be obtained and kept on-site as proof of safe disposal.</li> </ul>	2 (Low)
T) Generation of noise associated	35) Direct impact: Excessive noise pollution on site.	8 (Medium)	The construction phase of the project will see an increase in vehicles moving through the area which will result in an increase in noise.	5 (Low)



Aspect	Nature and Consequences of impact	Sig. rating of impacts <sup>11</sup> :	Proposed mitigation and Extent to which impact can be reversed/avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
with the construction plant and activity.			<ul style="list-style-type: none"> <li>All construction vehicles operating on-site must be fitted with standard silencers to reduce the noise levels produced.</li> </ul>	
U) Construction work taking place outside of the construction footprint.	36) Direct impact: Damage to adjacent properties during construction.	7 (Medium)	<p>The following mitigation measures must be adhered to:</p> <ul style="list-style-type: none"> <li>All services must be identified prior to construction by notifying surrounding stakeholders prior to any potential traffic congestion</li> <li>The contractor must create alternative access routes to the properties where required</li> <li>The contractor must be aware of the stakeholders' movements and where possible, disruptive activities must be scheduled outside of peak traffic hours</li> <li>Surrounding landowners and stakeholders must be notified prior to disruptive activities during construction</li> <li>Any infrastructure that gets removed must be replaced and any damage caused by construction must be repaired.</li> </ul>	3 (Low)

## Section 8: Plan of Study for Undertaking the EIA

### **8.1. Description of Aspects to be Assessed in the EIA, including Specialist Input, and Proposed Tasks to be Undertaken as Part of the EIA as Per Section 2 (i) (ii), (iii) and (viii)**

No fatal flaws have been identified in the Scoping Report; however, all identified impacts will be further investigated and assessed in the EIA phase of the project. Additional impacts may be added to the Impacts Table on receipt of comments from all I&APs.

#### **8.1.1. Specialist Assessments**

Please note the temporary asphalt plant has been registered on land that has been previously transformed. An Air Quality Impact Assessment, Terrestrial Assessment, Wetland Assessment and a Geotechnical Investigation have all been commissioned for the site; however please see the below reasons for not including any of the identified specialists as per the Department Forestry, Fisheries and the Environment Screening Tool.

##### ***Agricultural Impact Assessment***

The asphalt plant is not located on any agricultural land. The site is located in close proximity to agricultural land however the operations of the plant will not impact these crops as, apart from air emissions, all impacts will be restricted to the project boundary. It was determined that an agricultural impact assessment is not required.

##### ***Landscape/Visual Impact Assessment***

The land users adjacent to the site are all currently agricultural or open spaces. Therefore, the site is not located within proximity to any sensitive receptors and the surrounding area, for the most part is largely undeveloped. There are no tourism accommodation facilities to be impacted. The closest residential area is approximately 500m away situated below the site in a separate valley and as such there have been no visual impacts identified. It was determined that a visual impact assessment is not required.

##### ***Archaeological and Cultural Heritage Impact Assessment***

The asphalt plant is located on a portion of land that is previously transformed. During the site visit by the EAP, no obvious archaeological and/or cultural aspects were noted therefore it was determined that input from a heritage specialist is not required.

##### ***Palaeontology Impact Assessment***

The asphalt plant is located on a portion of land that is previously transformed; the remaining untransformed land has some level of disturbance. Therefore, the potential of any palaeontological items to be present on the site is low. However, as per the SAHRIS PalaeoSensitivity map, a portion of the site falls with land that has been categorised as having a high sensitivity and such a desktop study is required. Therefore a Desktop Palaeontological Study has been commissioned

##### ***Terrestrial Biodiversity Impact Assessment***

There will be the clearance of indigenous vegetation for the establishment of the permanent asphalt, therefore a full Terrestrial Biodiversity Assessment has been commissioned.

##### ***Aquatic Biodiversity Impact Assessment***

There are no aquatic environments on-site; however, a full Wetland Assessment has been commissioned as there are a number of wetlands within the property.

##### ***Hydrology Assessment***

The closest drainage line is located 87m east of the site so there are no requirements to determine the relevant flood line. It was determined that input from a hydrology specialist is not required.

##### ***Noise Impact Assessment***

During operation, the plant generates noise. Noise is caused by the operation of the burner and exhaust but primarily from the loading of aggregate and movement of trucks and loaders. Given the surrounding agricultural land use and open space, it is not expected that the levels of noise generated will be of significant concern. The noise will also not be continuous and will only occur when the plant operates which will only be for a few hours when required. It was determined that input from a noise specialist is not required.

**Traffic Impact Assessment**

Traffic volumes to and from the site are also quite low as the plant does not operate continuously but rather when the asphalt is required. It was determined that input from a traffic specialist is not required.

**Health Impact Assessment**

Due to the plant having been fitted with a Baghouse all emissions should be within legal limits so there have been no health impacts identified. It was determined that input from a health specialist is not required. The plant will also have Health & Safety measures for all staff on-site as per the Occupational Health and Safety Act.

**Socio-Economic Assessment**

At least 4 people will be employed on the site in association with the operation of the plant. The plant will also contribute to improving infrastructural service delivery -i.e. road provision – so the plant will have a positive social-economic impact. Therefore, there have been no negative socio-economic impacts identified. It was determined that input from a socio-economic specialist is not required.

**Ambient Air/Air Quality Impact Assessment**

An Air Quality Impact Assessment has been commissioned for the plant. The report will be included and assessed in the EIR

**Plant Species Assessment**

There will be the clearance of indigenous vegetation for the establishment of the permanent asphalt plant, therefore a full Terrestrial Biodiversity Assessment has been commissioned which will include an assessment of the site's plant species.

**Animal Species Assessment**

There will be the clearance of indigenous vegetation for the establishment of the permanent asphalt plant, therefore full Terrestrial Biodiversity Assessment has been commissioned which will include an assessment of the site's animal species.

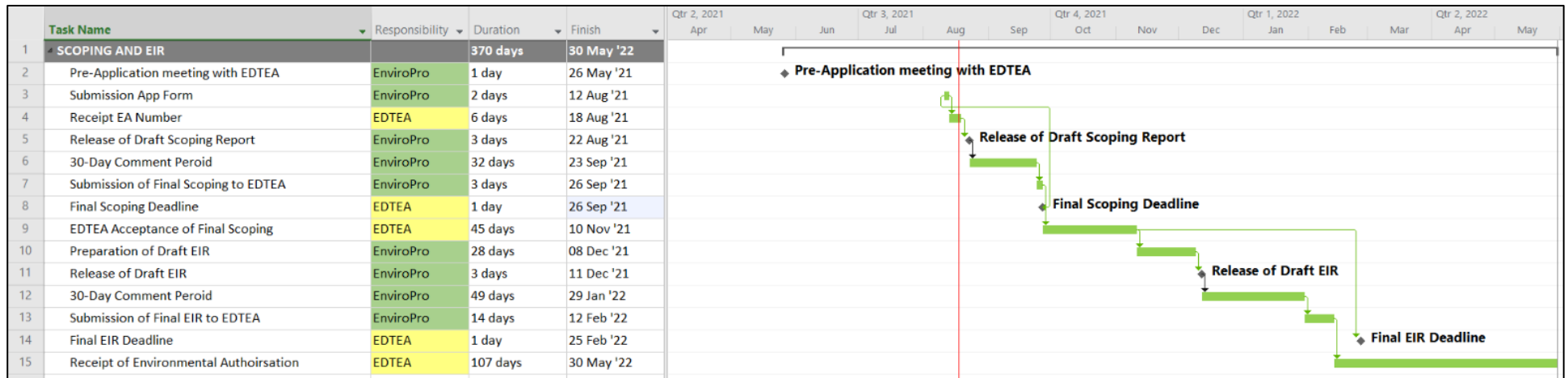
**8.1.2. Other Proposed Tasks**

Mitigation measures will be contained in a site-specific Environmental Management Programme (EMPr), which will be compiled during the next phase of the EIA. The EIA phase aims to adequately assess and address all the environmental impacts which have been identified throughout the EIA, to provide EDTEA with sufficient information to make an informed decision regarding the proposed mining application.

The consultation will continue with the municipalities (Umdoni Local Municipality and Ugu District Municipality), Ward Councillor, and other authorities listed in the I&AP Register (Appendix E). Any other I&APs identified during the EIA phase will be included in the I&AP register and sufficient time provided to the I&APs to comment on the EIA reports. Consultation with authorities and I&APs is, therefore, a continuous process that takes place until the completion of the environmental investigations.

Figure 12 below provides the plan of study for the remainder of the EIA according to legislated timelines provided in the Environmental Impact Assessment Regulations, 2014 published on the 04<sup>th</sup> December 2014 in Government Gazette No. 38282 Notice No. R.982.

Figure 12: Plan of Study for the EIA process for the Park Rynie Asphalt Plant



## **8.2. Methodology for Assessment of Environmental Aspects as Per Section 2 (i) (iv), (v) and (ix)**

The impacts identified in the Impacts Table (section 7.0 above), as well as additional impacts raised during the comments period, will be discussed in further detail in the EIR. The same methodology described in section 7.1 above for rating impacts identified in the Scoping Report will be used to assess the environmental aspects in the EIR. However, the ratings will be more accurate with input obtained from the EIA process.

The duration/frequency of the activity and likely impacts associated with that activity during construction, operation and closure will be rated. The geographical extent of the impact will be assessed as well as the severity levels and consequences should the impact occur. The probability of the impact occurring will be taken into account. Whether or not the impact can be mitigated and the extent to which it can be avoided, managed, mitigated or reversed is assessed - i.e. the probability of occurrence after mitigation has been applied. Based on all of these factors, the impact is then rated to determine its significance. Table 11 above explains the scoring system that will be used in the EIR to rate the significance of the impacts before and after mitigation.

## **8.3. Conclusion**

The intent of this Scoping Report has been to provide a background to the proposal and a description of the site and activities so that I & APs and authorities can provide preliminary feedback on the proposal for further investigation in the EIR. All information provided should be considered the preliminary subject to further investigation and confirmation as per the plan of study for EIA. The public participation process should be seen as ongoing and I & APs will continue to be given opportunities to review and comment on all information pertaining to the proposal. At this stage, no fatal flaws have been identified during the scoping process.

**Appendix A: EAP Declaration and Curriculum Vitae**

**Appendix B: Proof of Placement of Notice Board**

**Appendix C: Adverts**



**Appendix D: Proof of Notification**

**Appendix E: Registered I & Aps**

**Appendix F: Comments and Response Table and Comments Received**

**Appendix G: Impacts Scoring Matrix**

**Appendix H: General Authorisation**