

DRAFT BASIC ASSESSMENT REPORT

PROPOSED MONDI AIRSTRIP AT THE BENDS ON PORTION 7 ERF MORGENSTON 418, PANBULT 430 IT AND BENDS 417 IT, NEAR PIET RETIEF, MKHONDO LOCAL MUNICIPALITY, MPUMALANGA PROVINCE.

DEDET REF: 17/2/3 GS-62

*PREPARED FOR MONDI LIMITED
APRIL 2013*



JEC
JEC
Environmental Services

JANET EDMONDS CONSULTING cc.
Tel: 033 – 940 0450
Fax: 086 219 9059
Email: garth.jec@edelnet.co.za
P O Box 239, Pietermaritzburg, 3200
Website: www.jecenviro.co.za

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GLOSSARY OF TERMS

BA	BASIC ASSESSMENT
BID	BACKGROUND INFORMATION DOCUMENT
CAA	CIVIL AVIATION AUTHORITY
DEDET	DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT AND TOURISM
EAP	ENVIRONMENTAL ASSESSMENT PRACTITIONER
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
GNR	GOVERNMENT NOTICE REGULATION
IAP	INTERESTED AND AFFECTED PARTY
JEC	JANET EDMONDS CONSULTING cc
NEMA	NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 107 of 1998
NGO	NON-GOVERNMENTAL ORGANISATION

1. INTRODUCTION

JEC Environmental Services was appointed by Mondi Limited to conduct the Environmental Impact Assessment (EIA) for the proposed airstrip on Portion 7 Erf Morgenstond 418, Panbult 430 IT and Bends 417 IT near Piet Retief, Mpumalanga Province. The EIA is to follow a Basic Assessment Process as it triggers the following Listed Activities in Government Notice Regulation (GNR) 546 published in terms of Section 24(2) and 24D of the National Environmental Management Act, 107 of 1998 (NEMA).

1.1. PROJECT DESCRIPTION

The need for a new airstrip arose due to the decommissioning of an existing airstrip on the Mondi Farm Geluk which had previously been used for fire bomber aircraft. The existing, decommissioned airstrip became dangerous to use due to undulating longitudinal surface and incorrect compass bearing. The closure of this airstrip resulted in aircraft having to fly further to deliver effective aerial fire-bombing services resulting in loss of timber.

The proposed location is closer to the area requiring aerial fire-bombing services, has available water on site and is safer to operate.

The new airstrip would be 1.39km long and 30m wide with a 200m safety area at either end. An additional 15m on either side of the runway surface would be kept mown. The old airstrip would be re-established to commercial trees. The airstrip would initially be grassed, but it is likely that it would eventually be hard surfaced. A concrete area of 9m x 400m may later be established to assist the "802" Bomber aircraft with take-off. Water storage in single or multiple reservoirs with a total capacity of 350 000 litres (350m³) would be established near the airstrip. In addition a pipeline may be required to get the water to the airstrip site. The exact routing of the pipeline is not known at this stage, however, as it would not trigger any Listed Activities it is not shown on the layout. Water might be transported by tanker to the airstrip in which case a pipeline would not be necessary. No aircraft fuel would be stored on-site.

2. LEGISLATIVE FRAMEWORK

2.1. NATIONAL ENVIRONMENTAL MANAGEMENT ACT

The EIA is to follow a Basic Assessment process because it triggers listed activities in GNR 546 (Listing Notice 3) published in terms of Section 24(2) and 24D of the National Environmental Management Act as amended (NEMA, 107 of 1998). Listing Notice 3 allows for authorisation of activities within specified proximity to areas identified as endangered or earmarked for protection.

The following listed activities are triggered by the proposed airstrip due to its proximity to the Morgenstond Dam Nature Reserve:

TABLE 1: LISTED ACTIVITIES IN GNR 546 THAT ARE TRIGGERED BY THE PROPOSED AIRSTRIP.

2	<p>The construction of reservoirs for bulk water supply with a capacity of more than 250 cubic metres.</p> <p>(a) In Eastern Cape, Free State, KwaZulu-Natal, Limpopo, Mpumalanga and Northern Cape provinces:</p> <p>iii. Outside urban areas, in:</p> <p>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere.</p>
8	<p>The construction of aircraft landing strips and runways shorter than 1.4 kilometres.</p> <p>(a) In Eastern Cape, Free State, KwaZulu-Natal, Limpopo, Mpumalanga and Northern Cape provinces:</p> <p>ii. Outside urban areas, in:</p> <p>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere</p>
17	<p>The expansion of reservoirs for bulk water supply where the capacity will be increased by more than 250 cubic metres.</p> <p>(a) In KwaZulu-Natal</p> <p>i. Outside urban areas, in:</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve.</p>

2.2. OTHER APPLICABLE LEGISLATION

It is a requirement of the basic assessment process to consider all other applicable legislation which could govern the proposed activity.

TABLE 2: OTHER APPLICABLE LEGISLATION

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act (107 of 1998) as amended.	Department of Environmental Affairs	1998
National Water Act (36 of 1998)	Department of Water Affairs	1998
Government Notice Regulation's 543 and 546	Department of Environmental Affairs	2010
National Heritage Resources Act (25 of 1999)	Department of Arts and Culture	1999
Civil Aviation Act (13 of 2009)	Civil Aviation Authority	2009
Conservation of Agricultural Resources Act (43 of 1983)	Department of Agriculture, Forestry and Fisheries	1983
National Veld and Forest Fire Act (101 of 1998)	Department of Agriculture, Forestry and Fisheries	1998

2.3. SUSTAINABLE DEVELOPMENT

The principle of sustainable development has been established in the Constitution of the Republic of South Africa, and is given effect by NEMA. Section 1(29) of NEMA states that sustainable development means the integration of social, economic and environmental factors into the planning, implementation and decision-making process so as to ensure that development serves present and future generations.

Thus sustainable development requires that:

- *The disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
- *That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
- *The disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;*
- *Waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;*
- *A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and*

- *Negative impacts on the environment and on people’s environmental rights be anticipated and prevented, and where they cannot altogether be prevented, are minimised and remedied.*

2.4. “POLLUTER PAYS” PRINCIPLE

The “polluter pays” principle provides that ‘the cost of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment’.

Section 28 of NEMA makes provision that anyone who causes pollution or degradation of the environment is responsible for preventing impacts occurring, continuing or recurring, and for the costs of repair of the environment. In terms of the provisions under Section 28:

Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

3. DESCRIPTION OF THE RECEIVING ENVIRONMENT

3.1. ACTIVITY LOCATION

The site is located at S26° 45' 39.600" E 30° 33' 10.800" and is approximately 10km from the town of Iswepe and approximately 40km from Piet Retief in the Mkhondo Local Municipality in south eastern Mpumalanga Province. A locality map is attached in Appendix A

3.2. ACTIVITY SIZE

The proposed airstrip would be 1 390m long by 30m wide and an additional 15m on either side would be mown short. An additional 200m safety area at the north western end is proposed to account for the power lines and 50m at the south eastern end. The total area is 98 400m².

3.3. SITE ACCESS

Site access exists for the fire lookout tower and staff quarters, which is adjacent to the proposed airstrip, off the Iswepe road. This access would be used for access to the proposed airstrip.

3.4. EXISTING LAND USE

Currently the site features commercial *Eucalyptus* plantations. Mondi would remove approximately 9.2ha of *Eucalyptus* trees to accommodate the proposed airstrip.

3.5. SURROUNDING LAND USES

To the south of the proposed airstrip is a fire lookout tower with associated sleeping quarters, borehole and JoJo water storage tanks. The borehole would be used to supply the fire fighting aircraft with water.

Electricity power lines are located along the western boundary of the proposed site. The power lines run along the main road to Panbult. This poses a safety risk in terms of damage to aircraft and potential loss of life and damage to Eskom's infrastructure and interruption of power supply should an aircraft collide with power lines. Comment has been requested from Eskom and The Civil Aviation Authority (CAA) in this regard. To date, only Eskom has provided comments in this regard. These have been included and responded to in Section 4 of this report.

Approximately 3.5km to the North West, on the edge of the Morgenstond Dam, is the Jabulani Agri-village. It is located along the flight path on a south easterly approach and potential exists for noise disturbance to affect the quality of life for the residents and visitors there.

4. FEASIBLE AND REASONABLE ALTERNATIVES

As per Section 22h of GNR 543 (EIA Regulations) “a description of any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives would have on the environment and on the community that may be affected by the activity”, must be included in the process.

To fulfil this requirement the following alternatives to the proposed site were considered:

4.1. ALTERNATIVE SITES

Three alternative sites were considered, two of which are on the Farm Ingwempisi (Ptn Morgenstond) about 3 km east of the current site and are illustrated in Figure 1.

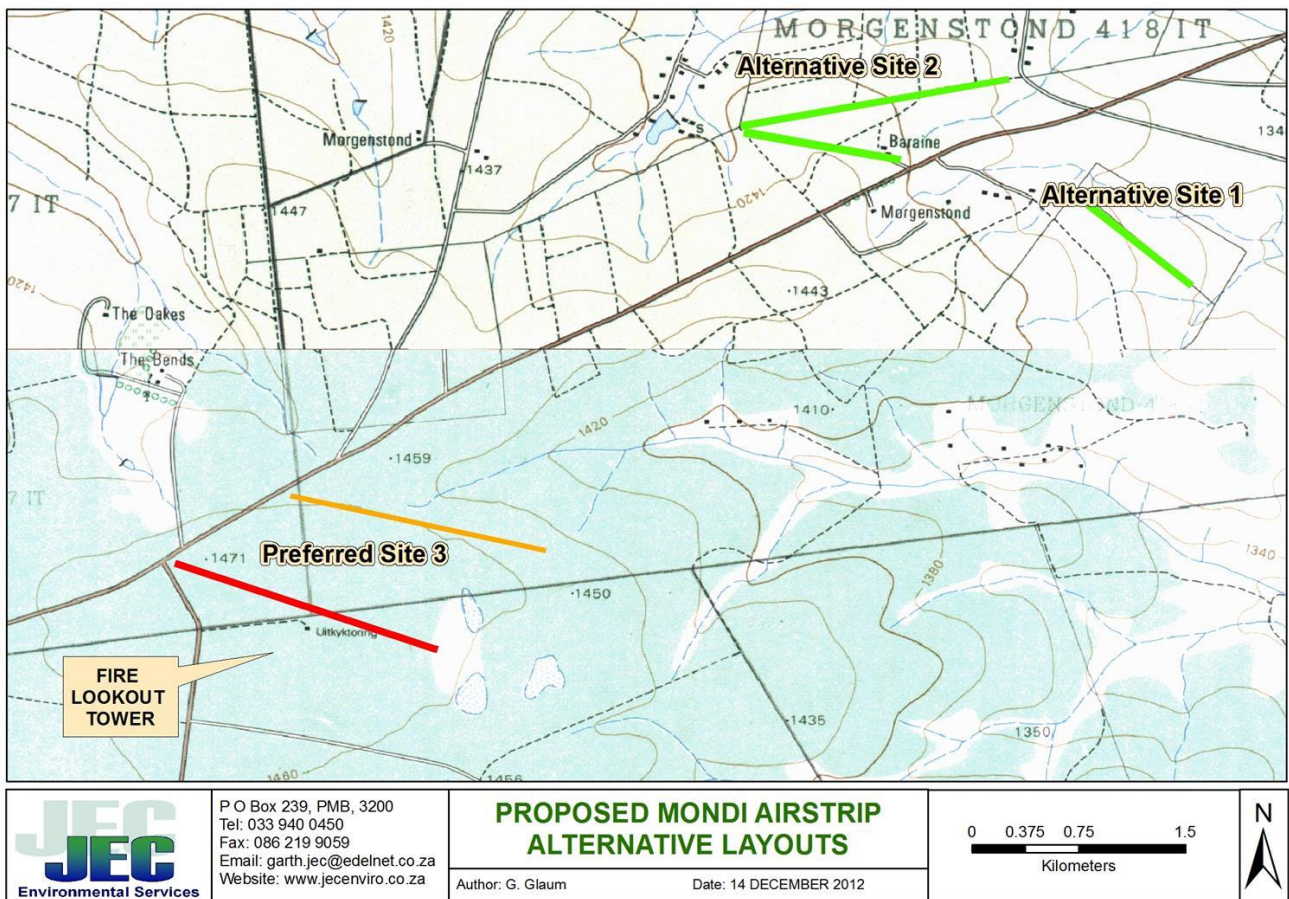


FIGURE 1: LOCATION OF PROPOSED ALTERNATIVE SITES FOR THE MONDI AIRSTRIP

PREFERRED SITE THREE

The preferred site was chosen as it has an acceptable topography and is conveniently located to ensure a quick response time in the event of a forest fire. The soils on the site are marginally productive in terms of commercial timber production, thus it was the site where little loss of productive timber would be experienced.

Additionally, there are no communities living in close proximity thus safety and security risks, both to aircraft and community members, are reduced / avoided.

ALTERNATIVE SITE ONE

This was disqualified due to its close location to the boundary with neighbour, Justin Bekker. Additionally there is a community living right on the boundary just to the west of where this alternative runway would end.

ALTERNATIVE SITE TWO

This was investigated as there was previously a runway located at this site; however, it was disqualified due to a community living on the site where this alternative runway would be located.

4.2. ALTERNATIVE LAYOUT

Alternative layouts were limited to the length of the airstrip and its location within the proposed development area. The location of proposed layout alternatives is illustrated in Figure 2.

PREFERRED LAYOUT

The length of the runway was limited by a road and power lines at the north western end, however, this location was chosen to remove potential impacts on the indigenous grassland located at the eastern end of the alternative layout. Additionally, there is potentially less impact on the power lines as there is a shorter length of power line which could potentially be affected. A detailed site layout plan is attached in Appendix A.

ALTERNATIVE LAYOUT

The length of the runway was limited by a road and power lines at the north western end and natural grassland on the south eastern end.

Aircraft are required to take-off and land into the wind to generate sufficient lift for flight, thus runways are orientated according to prevailing wind conditions at a specific location. The bearing of

this runway is determined by the prevailing wind conditions on the site. In this instance the prevailing winds blow from the North West.

There is grassland habitat to the south east of the proposed site which has been briefly assessed as being in good condition. This is not part of the runway, however, the potential exists in an emergency for aircraft to overshoot the runway and damage this area. As prevailing winds are from the North West, aircraft will be approaching over the indigenous grassland and thus maximising potential risks.

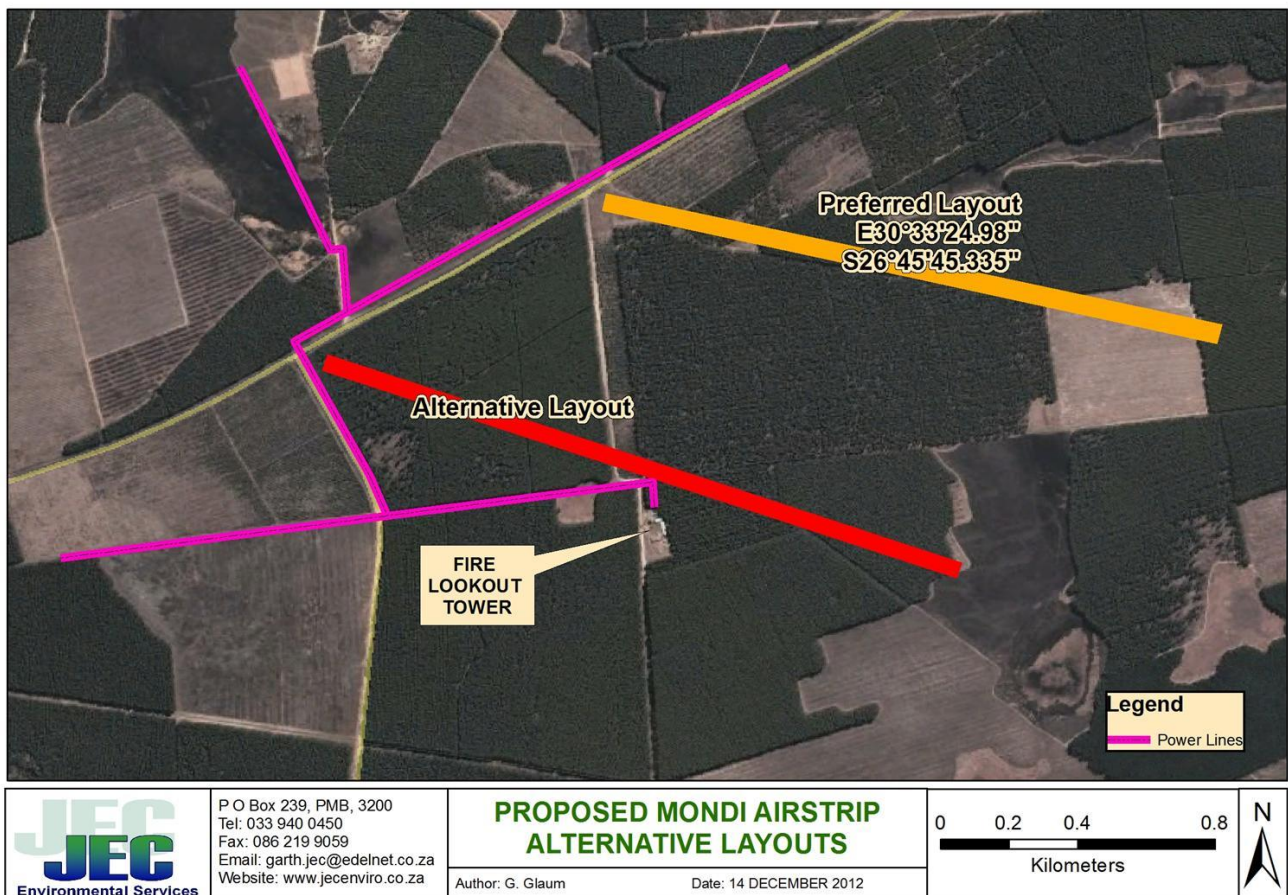


FIGURE 2: ALTERNATIVE LAYOUTS FOR THE PROPOSED MONDI AIRSTRIP

4.3. NO-GO ALTERNATIVE

This involves not constructing the airstrip and retaining the timber plantations on site. The impacts on the site would be those associated with commercial timber operations i.e. felling of trees, planting of new saplings, access for vehicles during pruning and to remove timber.

Potential impacts on the grassland by aircraft overshooting the runway would be removed.

The existing airstrip serving this area has become hazardous to operate and has been decommissioned. Other airstrips used by Mondi for fire fighting are located too far from the timber in the Bends area to provide effective fire fighting services in the Bends area. Fire fighting aircraft would thus have to travel further and take longer to refuel and take on additional water supplies, thus reducing the efficiency of the fire fighting services.

5. NEED AND DESIRABILITY

Mondi has more than 18 000 ha in The Bends area that is located far from present operational airstrips. The airstrip that used to service this area has been out of commission for at least six years due to limited water resources. It was constructed with the incorrect compass bearing and is dangerous to fly from due to the undulating longitudinal surface and restricted approaches at both ends.

Thus a new site for a new airstrip was necessary. This would need to be centrally located to the bulk of timber plantations in the area and be accessible with available services e.g. water and electricity.

The proposed site has electricity, water, an established standby quarters and a fire lookout tower. Most importantly, the location is ideal to provide an efficient aerial fire fighting service delivery due to greatly reduced turnaround times, as it is centrally located in the timber plantation area.

6. PUBLIC PARTICIPATION

To fulfil the necessary public participation requirements as part of the Basic Assessment (BA) Process, and in terms of Section 54 of the GNR 543 published in respect of the National Environmental Management Act (107 of 1998), the following methods of stakeholder engagement were conducted by the Environmental Assessment Practitioner (EAP):

6.1. NEWSPAPER ADVERTISEMENTS

Newspaper advertisements were published in The Highvelder on 07 October 2011 (see Figure 2) to inform the general public of the BA Application for the proposed Mondi Airstrip on Portion 7 Erf Morgenstond 418, Panbult 430 IT and Bends 417 IT near Iswepe, Mpumalanga Province.



FIGURE 3: NEWSPAPER ADVERT IN THE HIGHVELDER ON 07 OCTOBER 2011

6.2. SITE NOTICE BOARDS

Site notice boards in English were placed at the following locations on 06 September 2011:

- At the turn off to Iswepe; and
- At the entrance to the fire lookout tower.

The purpose of the notice boards is to inform neighbours and passers-by of the proposed development.

Photographs of the site notices are included below.



FIGURE 4: SITE NOTICES AT THE TURN TO ISWEPE



FIGURE 5: SITE NOTICE AT THE ENTRANCE TO THE FIRE LOOKOUT TOWER

6.3. WRITTEN NOTIFICATION TO AUTHORITIES AND NEIGHBOURS

INTERESTED AND AFFECTED PARTIES (IAPS)

A register of Interested and Affected Parties (IAPs) was compiled as per Section 55 of the EIA Regulations, 2010. This included all relevant authorities, Government Departments, the Local Municipality, the District Municipality, relevant conservation bodies and non-governmental organisations (NGO's), as well as neighbouring landowners. This register was regularly updated to include those IAPs responding to the newspaper advertisements, site notice boards and Background Information Document (BID). A copy of the IAP Register is included below

.

TABLE 3: REGISTER OF INTERESTED AND AFFECTED PARTIES (IAPS)

MONDI AIRSTRIP - LIST OF INTERESTED AND AFFECTED PARTIES (IAPS)						
EIA REF: 17/2/3 GS-62						
Name	Company/ Private	Tel	Fax	Cell	E-mail	Postal Address
PROJECT TEAM						
Stuart McPhail	Mondi Ltd	017 824 8037	017 826 2853		stuart.mcphail@mondigroup.com	Private Bag X38, Piet Retief, 2380
Garth Glaum	JEC Environmental Services	033 001 7540	086 219 9059		garth.jec@edelnet.co.za	PO Box 239, PMB, 3200
AUTHORITIES						
Hugh Radebe	CAA					
Mr Behki Mndawe	DEDET - Gert Sibande District	(017) 811 3944 / 41	(017) 811 3994			13 De Jager Street, Ermelo, 2350
Nelisiwe Sithole	Department Of Agriculture and Land Administration	(013) 741 3218			ashabangu@mpg.gov.za	Building 6, No. 7 Government Boulevard Riverside Park Nelspruit
	Department of Public Works, Road and Transport: Mpumalanga	(017) 826 2211	(017) 826 0330			Private Bag X 1005 Balfour 2410, Civic Centre, Mark Street, Piet Retief
Kame Meso	Department Of Water Affairs	(013) 9322 061/4			mesok@dwa.gov.za	
Johan Potgieter	Dept of Water Affairs - Morgenstond Dam			079 396 1929		
Dave Lucas	Eskom	011 800 4514		082 940 4517	dave.lucas@eskom.co.za	
Jabu Mahlangu	Gert Sibande District Municipality - Economic Development, Environmental and Tourism	(013) 766 4554	(013) 766 4617		buyim@mpg.gov.za	
	Gert Sibande District Municipality - Infrastructure & Technical Services	(017) 811 1311	(017) 811 1207			Cnr Joubert & Ooshuise Streets, Ermelo, 2350
	Gert Sibande District Municipality -Municipal Manager				centrec@gsibande.gov.za	
JCPC Mabuza	Mkhondo Local Municipality	(017) 826 2211	(017) 826 0330		jabupgm@mkhondo.org.za	Private Bag X 1005, Balfour, 2410 [Civic Centre Mark Street Piet Retief]
Pam Vilakazi	Mkhondo Local Municipality				pamvilakazi@mkhondo.org.za	
Janbu Mthethwa	Mkhondo Local Municipality				jabupgm@mkhondo.org.za	
S. Mbatha	Mpumalanga Department of Roads and Transport	(013) 947 3709	(013) 947 3779			Private Bag X4018 Kwa-Mhlanga 1200
Hanli van Wyngaard	Mpumalanga Department of Water Affairs	(013) 759 7442		082 888 0594	vanwynh@dwaf.gov.za	
Mervyn Lötter	Mpumalanga Parks Board Scientific Services	(013) 759 4000	(013) 755 4109		mervyn@intekom.co.za	P Bag X 11338 Nelspruit 1200 / Private Bag X1088, Lydenburg, 1120
K. Nkambule	Mpumalanga Provincial Dept of Agriculture, Rural Dev & Land Administration	(017) 819 2076	(017) 811 0774		KNkambule@mpg.gov.za	Private Bag x 9071, Ermelo, 2350
Vaino Prinsloo	Mpumalanga Tourism & Parks Agency	017 8195346	086 609 0238		vaino@vodamail.co.za	Private Bag X11338, Nelspruit 1200
Emma Thwala	National Dept of Agric	(012) 319 7439			EmmaT@nda.agric.za	
	Roads and Transport: Mpumalanga	(013) 766 6978	(013) 766 8449			No. 7 Government Boulevard Building No. 7 Riverside Park Extension 2 Nelspruit 1200
Mr Benjamin Moduka	Provincial Heritage Resources Authority			076 937 5198	bmoduka@mpg.gov.za	
	WESSA: Northern Regions	(011) 462-5663	(011) 462-8364		info@wessanorth.co.za	P.O. Box 435, Ferndale, 2160 [18 Blackwood Street, Bryanston, Extension 3]
IAPS						
Rhudolf Muller	Mkhondo Fire Protection Association			082 233 3547	rhudolf.muller@mondigroup.co.za	
Gunther Priggie	Fire Protection Officer			082 388 3901	helgun@lantic.net	
Tommy Ferreira	Chairman - Panbult Farmers Association				tommy@lando.co.za	
Ralf Paul	Secretary - Panbult Farmers Association				paul.ralf@gmail.com	
Hans Gerken		(017) 820 0607			hgerken@lantic.net	
Justin Bekker				082 884 3114	bekkerwood@lantic.net	

BACKGROUND INFORMATION DOCUMENT (BID)

A BID was compiled and circulated to all IAPs by email, fax and post on 28 September 2011. The purpose of the BID was to provide preliminary information regarding the project and its location, as well as to explain the BA Process. Furthermore, the BID invited preliminary comments from IAPs. A copy of the BID is included in Appendix E of this report.

Comments received from IAPs following circulation of the BID are included in Appendix D and are summarized and responded to in Table 4.

TABLE 4: COMMENTS AND RESPONSES RECEIVED IN TERMS OF THE BID, SITE NOTICES AND NEWSPAPER ADVERTISEMENT

IAP	COMMENT	RESPONSE
Vaino Prinsloo – Zoologist Scientific Services Terrestrial Mpumalanga Tourism and Parks Association 06 October 2011	The Mpumalanga Tourism and Parks Agency have no objection to the proposed construction of an Airstrip, as there are no Natural Habitat on the farms. See attached map from the Mpumalanga Biodiversity Conservation Plan (C-plan).	Thank you for your response. Your comments are noted.
Dave Lucas – Corporate Specialist (Environmental Management) – Strategy and Risk Management Division Eskom 09 November 2011	Your background information on the proposed airstrip application dated September 2011 refers. We regret to inform you that Eskom is not in favour of the proposed position of the airstrip due to the following reasons: <ol style="list-style-type: none"> 1. The airstrip, as indicated on your application sketch, will be surrounded by the nearby the existing Eskom Distribution Panbult 22kV power line which will create hazardous conditions and therefore the landing strip is not according to the Eskom specifications. 2. Eskom requires detailed information on the distances between the existing power lines, landing end and approach surface of the airstrip. 3. Eskom must receive a letter from the Department of Civil Aviation as part of your application. We thank you and hope you will find the above in order. Should you have technical queries on the Eskom standards and specifications please feel free to phone our Network	I refer to the email below; I have attached the Background Information Document for your reference. With regards to the comments below, are there any specific recommendations or requirements in terms of proximity of airstrips to Eskom power lines. In order for us to discuss this with the applicant we would like to be able to tell him what the requirements are to reposition the airstrip. If the requirements are only in terms of air safety, then we will revert to the Civil Aviation Authority for their comment and recommendation.

	<p>Services Department for that area, Chief Engineer, Mr Kris Rozmiarek at Tel: 013 693 3144 or email RozmiaK@eskom.co.za</p>	
<p>Kris Rozmiarek – Chief Engineer - Power Lines Technology & Quality - Northern Region Eskom 11 January 2012</p>	<p>I have no records in my archive of any email received from you. Seeing that your query is floating in Eskom for some time already, I would like to provide you with the information and my interpretation of the requirements although procedurally, in my opinion, it should be handled by our Land & Rights Section.</p> <p>Attached please find two documents. One is an Eskom Standard dealing with aviation requirements with regards to power lines & another Eskom properties and the second is a graphical presentation of the requirements of the civil aviation authorities with regards to aerodrome design and operations.</p> <p>Eskom Standard describes what Eskom should do to meet Civil Aviation Authority’s requirements with respect to existing aerodromes. By applying Eskom Standard in reverse, the previous correspondence states that position of proposed landing strip in relation to existing power lines violates requirements.</p> <p>The option to resolve the problem is to move the position of the landing strip and apply to Eskom for confirmation or to apply to Eskom for line deviations on the customer expense. In both cases you will have to provide position of the runway and its final ground elevation levels.</p>	<p>Thank you for your response and the attachments.</p> <p>Mondi has made application to Eskom for a quotation to route the power lines underground. This application has been refused and the suggestion instead is to affix warning balls to the affected section of power line. Additionally, the applicant has decided to move the proposed airstrip approximately 600m to the north east. This would result in a smaller section of power line being exposed to the hazards of the flying aircraft.</p>

	Any further correspondence with this regards should be directed to Land & Rights section of the Land Development Department, Mrs Annelien Pretorius and Mrs Louise Human respectively.	
Leon van den Heever Civil Aviation Authority 13/01/2012	Our telephonic conversation, regarding the above, refers. Attached please find the information as promised. Disregard the pages on aerodrome licensing.	Thank you for the information.
Lizelle Stroh Civil Aviation Authority 20/01/2012	Please could you apply this obstacle surface to your drawings and apply the markings as specified in our Technical Standards. If you need approval of proposal, please supply us with an Obstacle application and complete the excel sheet with the proposed line co-ordinates in it. Sorry for replying now as we were processing the solar projects towards Eskom, first bit that was due for the 4th November 2011.	Thank you for the information. The applicant does not wish to license the airstrip.
Benjamin Moduka - Cultural Heritage Officer: Mpumalanga Heritage Resources Authority 29/02/2012	Kindly note that the Mpumalanga Heritage Resources Authority (MHRA) received your background information document for the proposed Airstrip construction in Piet Retief. The information provided in the document and the subsequent telephonic conversation with you suggests that at this stage, there may not be resources of heritage significance on or near the proposed site as the area has already been significantly disturbed due to forest plantation and agriculture. We will appreciate to make comments on your draft basic assessment report. We do not believe that at this stage a Heritage Impact Assessment is necessary.	Thank you for your input, your comment regarding the Heritage Impact Assessment is noted.

6.4. CIRCULATION OF DRAFT BASIC ASSESSMENT REPORT FOR COMMENT

Copies of the draft BA Report were circulated to the following Authorities for review and comment on 19 April 2013:

NAME	DEPARTMENT
Hugh Radebe	Civil Aviation Authority
H Buys	Department of Agriculture, Forestry and Fisheries
K. Nkambule	Department of Agriculture, Rural Dev & Land Administration (Mpumalanga)
Ms Bulelwa Shabalala - Assessing Officer	Department of Economic Development, Environment and Tourism - Gert Sibande District
Kame Meso	Department of Water Affairs
Hanli van Wyngaard	Department of Water Affairs (Mpumalanga)
Dave Lucas	Eskom
Jabu Mahlangu	Gert Sibande District Municipality - Economic Development, Environmental and Tourism
JCPC Mabuza	Mkhondo Local Municipality
Mr Benjamin Moduka	Mpumalanga Heritage Resources Authority
Vaino Prinsloo	Mpumalanga Tourism & Parks Agency
	WESSA: Northern Regions

In addition, the draft BAR was made available for download on the JEC Environmental Services website at the following URL:

www.jecenviro.co.za (follow the link to JEC Documents)

All registered IAPs were notified of the availability of the draft BAR and their opportunity to comment before 29 May 2013.

7. ASSESSMENT AND MITIGATION OF IMPACTS

7.1. LAND USE

DESCRIPTION

The site is currently utilised for the cultivation of *Eucalyptus* trees for commercial timber. The soils in the area identified for the airstrip are characterised by ferrous concretions and productivity is marginal as a result.

IMPLICATIONS

The removal of the timber on the site would result in net loss of commercially available timber for use, however, the increased efficiency of aerial fire fighting services could potentially off-set this loss.

As a result of removing this timber, Mondi would be able to dedicate resources to more productive plantations within their operational areas. The establishment of the airstrip would lead directly to more effective fire fighting operations within this area, thus preventing any unmitigated loss of trees.

MITIGATION AND RECOMMENDATIONS

To mitigate the timber loss, it would be necessary to relocate the proposed airstrip to land where there is no timber. Mondi has identified this location as being the most feasible for the effective siting of the proposed airstrip and if it were to move, then the success of aerial fire fighting services of the airstrip would be compromised. This does not meet the purpose and need of the proposed airstrip.

7.2. POWER LINES

DESCRIPTION

The presence of power lines at the north western end of the airstrip poses a potential danger to the operation of the airstrip. The power lines are situated approximately 70m from the end of the runway and are approximately 11m high.

IMPLICATIONS

The power lines could cause harm to pilots taking off with a heavy load if they are unable to climb above the power lines. Additionally, the damage to the power lines would have cost implications to Eskom and would require costly repair of the infrastructure.

MITIGATION AND RECOMMENDATIONS

Comments from Eskom and CAA have indicated that they are not in support of the current location of the airstrip due to proximity to the power lines. One solution is to re-route the power lines underground at the north western end of the proposed airstrip, at the applicant's cost. Eskom has been contacted to provide the necessary quotation to establish whether this option is financially viable for the applicant. Eskom has indicated that they are not in favour of this option due to the cost of future maintenance on the line should it be required.

Another option is to install warning balls on the affected section of the power line. Eskom has been requested to quote on this installation to establish whether it is financially viable for the applicant.

A 200m safety area would be implemented at the north west end of the runway to provide a safe approach and take off angle on the along the runway centre line.

7.3. WATER

DESCRIPTION

A borehole exists on site that would be used to fill the proposed reservoir for storage of water for the fire fighting services. Currently this borehole is supplying water to staff quarters for the fire lookout tower and ground based fire fighting services.

IMPLICATIONS

Pumping the borehole in excess of its capacity and recharge rate would deplete groundwater resources. This has negative implications if there is a fire which needs to be put out and there is no water available.

MITIGATION AND RECOMMENDATIONS

A sustainable yield test has been conducted on the borehole to determine the yield and recharge rate. The report is attached in Appendix B. The recommended sustainable yield was determined to be 3 600 ℓ/s. The estimated water usage for an extreme fire incident is 256 500 ℓ in a 12 hour period. It would take approximately 3 days for the borehole to replenish this usage. It is important to note that there is an existing borehole of approximately 94 000 ℓ capacity on site and there would be 93 500 ℓ remaining in the proposed new borehole, therefore 187 500 ℓ of water remaining after the extreme fire incident.

The borehole must be registered with the Department of Water Affairs, should it be currently unregistered.

TABLE 5: EXTREME FIRE INCIDENT EVENT WATER USAGE CALCULATIONS - THE BENDS AIRSTRIP

Resource	Units	Volume / load	Loads / hr	Hrs	Total (ℓ)	Borehole replenish rate (ℓ/hr)	Hrs	24 hr cycles
Aircraft	7	1 500	3	6	189 000			
Fire tenders 4 500 ℓ	5	4 500	0.25	12	67 500			
					256 500	3 600	71	2.97

Notes:

- 1) The borehole would start replenishing the reservoir at the beginning of the incident resulting in 43,000 ℓ already replenished within this 12 hr period.
- 2) It is very seldom that the fire incident's aerial application (189,000 ℓ / 6 hr) will continue into the second period's daylight hrs.
- 3) Although this calculation indicates that it takes 3 periods (24 hr) to fully replenish, this is perhaps a 1:3 yr occurrence.
- 4) Outside of the above extreme scenario, a likely incident rate would be a 1/3 intensity at a frequency of 8:1 yr.

7.4. NOISE

DESCRIPTION

The noise of aircraft landing and taking off would impact surrounding land users. During take-off, this would impact land users on the north western side of the runway and on landing, the south eastern side. As the aircraft are likely to be fully loaded on take-off, this impact would be greater as additional power is required to fly a heavily laden aircraft.

IMPLICATIONS

Approximately 3km to the North West, alongside the Morgenstond Dam, is the Jabulani Agri-village. This comprises residential, institutional, tourism and agricultural uses and the noise of aircraft could potentially impact on the quality of life at this location.

MITIGATION AND RECOMMENDATIONS

The fire fighting season lasts for a finite period each year, coinciding with the dry, winter months. This would coincide with the off-peak tourist season and impacts on the Jabulani Agri-village would be limited to a few months of the year. Additionally the airstrip would be located approximately 3km from

the Jabulani Agri-village and it is likely that aircraft would not have to overfly the Agri-village on every take-off, thus reducing the level of impact further.

7.5. TRAFFIC

DESCRIPTION

Sources of traffic would be limited to existing ground based fire fighting and fire lookout staff accessing the site. There would be a reduction in heavy vehicles accessing the site to remove felled timber and regular Mondi vehicles tending to the timber.

IMPLICATIONS

The reduction in heavy vehicles would result in increased longevity of the road network in the area. The traffic generation is so small that no negative impacts are anticipated.

MITIGATION AND RECOMMENDATIONS

No mitigation necessary.

7.6. CULTURAL RESOURCES

DESCRIPTION

No cultural resources are anticipated to occur on site given the disturbed nature of the development area i.e. commercial timber plantation. The Mpumalanga Heritage Resources Authority has indicated that a Heritage Impact Assessment is not required at this time.

IMPLICATIONS

None.

MITIGATION AND RECOMMENDATIONS

Should Heritage Resources be encountered on the site during construction, construction must cease and the Mpumalanga Heritage Resources Authority must be notified.

7.7. FAUNA

DESCRIPTION

Faunal biodiversity is expected to be low given the nature of the site and limited habitat available. Although the removal of timber plantations and establishment of grass would provide a habitat for a

different suite of faunal species, the disturbance caused by aircraft is unlikely to encourage any larger mammals to permanently inhabit the airstrip.

The greatest impact is likely to be on birds which could use the airstrip as a foraging site for food and some ground nesting bird species. This would not be a problem once the airstrip is hard surfaced.

The presence of animals on the airstrip also poses a safety risk to aircraft operating from the airstrip.

Mpumalanga Parks and Tourism Agency has no objection to the proposed development given there is no natural habitat remaining on the proposed site.

IMPLICATIONS

Damage caused to planes by animal strikes can become cost prohibitive to the long term operation of the facility.

If any endangered or threatened species are observed on site, these should be recorded and reported to the Mpumalanga Parks and Tourism Agency for their recommendations and the management thereof.

MITIGATION AND RECOMMENDATIONS

It is recommended that either the airstrip be fenced or a herdsman deployed when the airstrip is active to avoid local cattle and other wildlife wandering onto the airstrip. This principle is effective on another airstrip in the area.

During the operation of the airstrip and especially during the fire season, it is recommended that efforts should be made to discourage birds from habitually using the airstrip for foraging.

7.8. FLORA

DESCRIPTION

Mpumalanga Parks and Tourism Agency has no objection to the proposed development given there is no natural habitat remaining on the proposed site.

IMPLICATIONS

None.

MITIGATION AND RECOMMENDATIONS

None.

8. ASSESSMENT OF ENVIRONMENTAL IMPACTS

To assess potential environmental issues associated with the proposed development, each aspect addressed in Section 7 has been given a qualitative rating in relation to its environmental impact. Each aspect has been divided into a number of different classes, each of which has been assigned various criteria (see Table 5).

Where relevant, the following methods will be used to predict the characteristics of identified impacts:

- Professional judgement;
- Quantitative mathematical models;
- Experiments and physical models;
- Physical or visual simulations or maps (including GIS tools);
- Case studies; and
- Past experience.

TABLE 6: SUMMARY OF ASPECTS USED FOR ASSESSING ENVIRONMENTAL IMPACTS.

ASPECT	CLASS	CRITERIA
NATURE OF IMPACT	Positive	The impact on the environment will be positive.
	Negative	The impact on the environment will be negative.
	Direct	The impact is caused directly by the activity and generally occurs at the same time and at the place of the activity.
	Indirect	The impact induces changes that may occur as a result of the activity.
PROBABILITY OF IMPACT OCCURRING (with mitigation)	Cumulative	The impact is a result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities.
	Definitely	The impact will definitely occur even with mitigation (100%).
	Likely	It is likely that the impact will occur (60%-99%).
	Fair	There is a fair chance that the impact will occur (30% -59%).
REVERSIBILITY (with mitigation)	Unlikely	It is unlikely that the impact will occur (0% - 29%).
	Possible	It is possible to reverse the impact.
	Partly	It is partly possible to reverse the impact.
EXTENT OF IMPACT (with mitigation)	Not possible	It is not possible to reverse the impact.
	Site	The impact will be limited to the site.
	Local	The impact will affect the local area (within a radius of 40km).
	Provincial	The impact will affect areas beyond the site but within the boundaries of KwaZulu-Natal.
DURATION (with mitigation)	National	The impact will affect areas beyond the Province but within the boundaries of South Africa.
	Short-term	0-5 years (Construction Phase).
	Medium-term	5-40 years (construction and operation).

ASPECT	CLASS	CRITERIA
	Long-term	(>40 years).
	Permanent	Permanent damage to the environment.
SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	Low	Small impact / disturbance.
	Medium	Moderate impact / disturbance expected.
	High	Significant impact / disturbance expected.
SIGNIFICANCE OF IMPACT POST-MITIGATION	Low	Small impact / disturbance.
	Medium	Moderate impact / disturbance expected.
	High	Significant impact / disturbance expected.

Table 6 lists potential impacts associated with the proposed development, and details what mitigation measures should be taken to minimise these impacts.

TABLE 7: ASSESSMENT OF POTENTIAL IMPACTS ASSOCIATED WITH THE PROPOSED DEVELOPMENT.

ENVIRONMENTAL ASPECT	DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT	MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					MITIGATION		MITIGATION		MITIGATION		MITIGATION			
					WITHOUT	WITH	WITHOUT	WITH	WITHOUT	WITH	WITHOUT	WITH		
CHANGE OF LAND USE	Loss of commercial timber plantations	None	Positive Direct	High	Definitely	-	Possible	-	Site	Site	Long term	Long term	Low	Low
POWER LINES	Safety risk	Re-route power lines underground or install warning balls	Negative Direct	High	Unlikely	Unlikely	Possible	Possible	Local	Local	Medium term	Medium term	Medium	Low
WATER	Water shortage	Sustainable yield test	Negative Direct	High	Fair	Unlikely	Possible	Possible	Site	Site	Short term	Short term	High	Low
NOISE	Disturbance to local residences	Change flight path after take-off	Negative Direct	Medium	High	Low	Not possible	Possible	Local	Local	Short term	Short term	Medium	Low
TRAFFIC	Reduction in heavy timber vehicles	None	Positive Indirect	Low	High	-	High	-	Local	-	Long term	-	Low	-
CULTURAL RESOURCES	No cultural resources predicted to occur on site	None	Positive Direct	High	Low	Low	Not possible	Possible	Site	Site	Long term	Short term	High	Low
FAUNA	Impacts on foraging birds	Fence the airstrip	Negative Direct	Low	Low	Low	Not possible	Not possible	Site	Site	Long term	Long term	High	Medium
FLORA	No natural habitat remaining on site	None	Positive Direct	Medium	Unlikely	Unlikely	Partly	Partly	Site	Site	Long term	Long term	High	Medium

9. ENVIRONMENTAL IMPACT STATEMENT

The following impacts can be successfully mitigated provided that the recommendations contained in this report are adhered to:

- Change of land use impacts are negligible;
- The danger posed to safe operation of the airstrip by the existing power lines can be mitigated by installing warning balls on the power lines;
- Water is readily available on site via a borehole. Sustainable yield tests and borehole registration must be carried out prior to operation;
- The impacts of noise are not anticipated to affect the quality of life for surrounding land users;
- Negative traffic impacts are not anticipated;
- Heritage resources are not expected to be present on site and thus impacts on cultural objects are not anticipated; and
- Minor impacts on fauna and flora can be expected, however, the fire season lasts for a finite period and thus these impacts are limited to this period.

Alternative sites and layouts were considered and assessed. The preferred site was chosen for the following reasons:

- Ability to deliver effective fire fighting services in the chosen area;
- Marginal productivity of the soils on site, in terms of timber production;
- Proximity to water resources for filling fire bomber aircraft;
- Proximity to access roads;
- There are no communities living in close proximity to the proposed site; and
- The applicant would offset loss of income from commercial timber removal, by being better positioned to extinguish fires.

The preferred layout (A2) was chosen for the following reasons:

- The prevailing winds are from the north west, thus the airstrip must be orientated in this direction for the safe operation of the facility;
- The extent of power lines affected is less than for A1; and
- The potential impact on indigenous grassland associated with A1 is removed.

The preferred site and layout would have the least impact on the biophysical, geographical and social environments.

10. RECOMMENDATION OF EAP

The EAP recommends the proposed airstrip be authorised at the preferred site and according to the preferred layout attached in Appendix A. The mitigation measures recommended in Section 7 and 8 of this report should be included as conditions of the environmental authorisation.

10.1. PROPOSED MONITORING

A site specific Environmental Management Programme (EMPr) has been drawn up to outline mitigation measures for the impacts identified in the Basic Assessment Process. The EMPr should be consulted during the construction phase to determine if the appropriate mitigation is in place. The EMPr is attached in Appendix C.

It is thus recommended that during the construction phase, monitoring take place on a weekly basis, using the EMPr as a reference against which to determine compliance. The construction phase is anticipated to be of short duration, thus weekly monitoring would seem appropriate. A monthly monitoring report should be submitted to the competent authority.

No external monitoring is necessary during the operational phase of the airstrip; however, the Environmental Management Programme will outline specific items which will need to be monitored by the Applicant.

APPENDIX A: LOCALITY MAP AND SITE LAYOUT

APPENDIX B: BOREHOLE SUSTAINABLE YIELD TEST REPORT

APPENDIX C: ENVIRONMENTAL MANAGEMENT PROGRAMME

APPENDIX D: COMMENTS

APPENDIX E: BACKGROUND INFORMATION DOCUMENT

APPENDIX F: PHOTOGRAPHS