



# The Proposed Mondi Mill Expansion (Upgrades) Final Basic Assessment Report

**Client: Mondi Limited**  
**EIA Reference Number: DC28/0015/2012, KZN/EIA/0000757/2012**

**May 2013**

## DOCUMENT DESCRIPTION

**Client:**

Mondi Limited

**Report Name:**

Basic Assessment Report for the Proposed Mondi Mill Expansion (Upgrades), uMhlatuze District Municipality

**RHDHV Environmental Reference Number:**

E02.DUR.000494

**Authority Reference:**

DC28/0015/2012,

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**Compiled by:**

Sharleen Moodley

**Date:**

May 2013

**Location:**

Richards Bay, KwaZulu-Natal

**Reviewer and Approver:**

Siva Chetty



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Signature

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## Acronyms

AQA	Air Quality Act (National Environmental Management: Air Quality Act 43 of 1983)
DAEA	Department of Agriculture and Environmental Affairs
DM	District Municipality
DoT	Department of Transport
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EMPr	Environmental Management Programme
NAAQS	National Ambient Air Quality Standard
RBCAA	Richards Bay Clean Air Association
PM	Particulate Matter

SETP

Secondary Effluent Treatment Plant

TRS

Total Reduced Sulphur

# Basic Assessment Report



## agriculture & environmental affairs

Department:  
Agriculture  
& Environmental Affairs  
**PROVINCE OF KWAZULU-NATAL**

(For official use only)

EIA File Reference Number:  
NEAS Reference Number:  
Waste Management Licence Number:  
(if applicable)  
Date Received:

DC/
KZN/EIA/

## BASIC ASSESSMENT REPORT

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

**This template may be used for the following applications:**

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

**Kindly note that:**

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

**GIBELA UMKHUMBI OLWA NOBUBHA**

## Basic Assessment Report

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

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	DC28/0015/2012 KZN/EIA/0000757/2012
File reference number (Waste Management Licence):	

## SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

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

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

Business name of EAP:	Royal HaskoningDHV (Formerly SSI Engineers and Environmental Consultants).		
Physical address:	SSI House, 6 Payne Street, Pinetown, 3610		
Postal address:	P. O. Box 55, Pinetown		
Postal code:	3600	Cell:	082 355 4526
Telephone:	031 719 5500	Fax:	031 719 5505
E-mail:	Kushela.Naidoo@rhdhv.com		

### 2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

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

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
Mr. Kushela Naidoo	MA (Environmental Science)	IAIA, SSAG	8
Mr. Siva Chetty	MSc. Environmental Management	ECSA, Green Building Association	10
Ms. Sharleen Moodley	BSc. (Hons) Environmental Science	IAIAsa	3

### 3. NAMES AND EXPERTISE OF SPECIALISTS

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

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
Yolan Pillay of Royal HaskoningDHV	Civil Engineer	Transport	Traffic Impact Assessment	Traffic Impact Assessment, The Proposed Upgrade of Mondi Mill, Richards Bay.
Airshed Planning Professionals (Pty) Ltd.	Air Quality	Air Quality and Planning	Air Quality Assessment.	Air Quality Impact Assessment for the Proposed Mondi Richards Bay Mill Upgrade.



## SECTION B: ACTIVITY INFORMATION

### 1. PROJECT TITLE

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

Basic Assessment for the Proposed Mill Expansion at Mondi, Richard's Bay, KwaZulu-Natal.

### 2. PROJECT DESCRIPTION

Provide a detailed description of the project:

This development is proposed to take place on a property in the Uthungulu District Municipality in KwaZulu-Natal. The Mondi Richards Bay mill was commissioned in 1984. It produces two key products: Baycel, a premier grade bleached hardwood pulp made from 100-percent Eucalyptus Fibre and Baywhite, a white top Kraft Linerboard.

It is proposed that an upgrade to the production facilities of the mill take place to increase the output to approximately 820 000 tons/annum. The current capacity of the mill is approximately 750 000 tons/annum. The upgrade will involve changes to existing equipment as set out below.

The increase in output to 820 000 tons/annum is based on modifications to the existing Recovery Boiler 1 and increasing output from the drying machine. The linerboard capacity will remain unchanged as will the unbleached softwood capacity.

Changes will also take place in the hardwood screening and brown stock washing sections where new knot separation and washers will be installed. No changes will be made to the main equipment in the bleach plant, with only minor modifications to the wash presses. In order to produce the additional chlorine dioxide, the mill will revert to using an alternative chlorine dioxide production process, which was previously in place in the mill and allows additional chlorine dioxide to be produced.

The screening system of the pulp drying machine will be upgraded as well as the vacuum system and some felt cleaning equipment. Heat exchangers on the dryer will also be replaced.

A new washing system will be installed in the unbleached pulp line in order to allow for an increase in the black liquor solids. The black liquor evaporation capacity will remain unchanged.

The burning capacity for black liquor in the recovery boiler will be increased by modifications to the air system, super heaters, precipitators, pressure parts and cooling systems.

Two additional storage tanks, for unbleached pulp and heavy black liquor, will be installed and where possible equipment locations will be rationalised to reduce electrical power consumption and pumping systems. High efficiency motors designed to be energy efficient will be utilised in areas of the plant where debottlenecking is taking place and the use of renewable energy will be increased.

The upgrade will involve the following changes to existing equipment in the various parts of the plant:

Recovery Boiler:

- Electrostatic Precipitators (EP) will undergo capacity modifications,

- The upgrade will involve several retrofits including general process optimisation to achieve the increase in production capacity,

#### Pulp Drying Machine

- Improved dryer heat exchangers;
- Upgrade vacuum system;
- Upgrade various pump capacities; and
- Upgrade other equipment on pulp drying machine (such as water showers).

#### Pulp Mill

- Upgrade pulp screening equipment;
- Upgrade pulp washing equipment;
- Upgrade various pump capacities;
- Improve hydraulic systems;
- Install additional high density pulp storage capacity; and
- Upgrade electric motors and bleach press hydraulics.

#### Power and Recovery

- Refurbish precipitator four on Recovery boiler;
- Improve High Tension system reliability;
- Upgrade air compressors;
- Upgrade evaporators;
- Increase circulation through recovery boiler; and
- Increase light black liquor storage.

#### Chemical and Effluent plant

- Install new lime storage silo;
- Convert production process for the generation of chlorine dioxide from R3 process to R8 process;
- Upgrade water treatment plant control system (additional / upgrade blowers); and
- Improve lime mud filtering.

#### Woodyard

- Install new chip reclaimers.

To provide a background to the process of Mondi's operations, the Richard's Bay mill operations are detailed below.

#### WOODYARD

At Mondi's Richards Bay mill, logs are received by road and rail and offloaded at the Woodyard. Two species of wood are used, hardwood called Eucalyptus and softwood called Pine.

Hardwood logs are washed and chipped in two chippers. The chips are then screened to remove oversized chips and fines before being stored on either the Euca or Wattle chip piles. Softwood is first fed through a debarking drum before being washed, chipped, screened and stored on the Pine chip pile.

Each of the three chip piles has a storage capacity of 40 000 tons. Screws underneath the piles reclaim the chips and feed them onto a conveyor, which leads to the next stage in the process – the cooking or digester plant.

Bark from the Debarking Drum is processed through a crusher and together with the fines from the screening processes are sent to the bark pile.

Water from the washing stages is pumped into the Woodyard clarifier. Clarified water is reused in the washing stations and the underflow is pumped to the effluent plant.

#### FIBRELINE

Chips are reclaimed from the chip piles and fed into the Continuous Digester. In the digester chips are impregnated with cooking liquor called white liquor (comprising predominantly of sodium hydroxide and sodium sulphide) and cooked at temperatures of between 140°C-150°C at 4 bar pressure.

During the cooking stage, lignin, the glue that binds the cellulose fibres together is dissolved and goes into solution to form black liquor. Pulp from the digester is then discharged into two pressure diffusers where washing takes place using a fixed dilution factor so that the amount of water used, is controlled. From the Diffusers the pulp is fed into the Blow Tank. From the blow tank pulp is fed into the Knotter where knots are removed and recycled. The pulp is then screened to remove rejects before being stored in High Density Storage Towers.

Gases generated during the cooking processes are collected and separated into either High Volume Low Concentration Gases (HVLC) or Low Volume High Concentration Gases (LVHC). HVLC gases are scrubbed and introduced as secondary air into the Recovery Boilers. LVHC gases are piped to the Lime Kiln where they are combusted.

The Black Liquor extracted during the washing stages contains lignin and valuable cooking chemicals, which need to be regenerated chemically, for re-use in the digester. The black liquor is therefore collected and pumped to the Evaporator Plant.

#### BLEACH PLANT

Only Eucalyptus pulp is bleached onsite. Mondi Richards Bay mill produces an elemental chlorine free pulp meaning that elemental chlorine is not utilized in the production of fully bleached pulp.

Before the pulp goes to the bleaching plant it is delignified using oxygen. This reduces the amount of chemical consumption in the bleach plant. After oxygen delignification, the pulp goes through a four stage bleaching process, using mainly chlorine dioxide, sodium hydroxide and hydrogen peroxide. The pulp becomes progressively whiter as it passes from stage to stage.

A final washing stage follows, and the result is pulp with a high brightness which has retained good strength properties – another feature of the Kraft process. The pulp is stored in two large towers, from where it is fed to the paper machines for use on the pulp drier as well as the top liner of the liner machine.

#### LINERLINE

Chips from the Pine chip pile are reclaimed and fed into five Batch Digesters, which can be likened to huge pressure cookers of 225 cubic metres each. Each digester is charged with about 70 tons of chips and cooked using white liquor, for approximately 3 hours at 5-6 bar and 168°C. After cooking the pulp is discharged under high pressure into a blow tank. From the blow tank pulp is fed through a refiner to break down large fibre bundles, and then screened to remove the rejects. After screening the pulp is washed, first through a vacuum wash filter and then through two wash presses before being pumped to a High Density Storage Tower.

#### PULP DRYING (PM41)

Drying the pulp is the final stage before warehousing and dispatch. The bleached pulp is in a slurry form containing 90% water, and this slurry is pumped from the storage towers to the pulp dryer.

The first stage forms the pulp into a continuous sheet on a belt. The sheet is 2mm thick and 7m wide, and most of the water is removed here.

The sheet moves through the press section where more water is removed and the sheet is consolidated to be strong enough to support itself. As it moves into the dryer, the sheet contains about 55% water. This is a hot air floatation dryer and contains 1½ kilometres of pulp sheet at any one stage. Coming out of the dryer, the sheet contains 10% moisture. It is cut into square sheets, baled, wrapped and marked ready for dispatch to our customers.

#### LINERBOARD MACHINE (PM42)

Mondi's Richards Bay mill's second product is a white top linerboard called Baywhite, which is a two ply sheet of paper. The top ply is white, made from the mill's own bleached Eucalyptus pulp, and the reverse side is brown, made from its Pine pulp. The bottom layer gives the sheet its strength.

Bleached Eucalyptus and unbleached pine pulp are drawn separately from the storage towers and pumped to refiners, where the fibre is developed with the addition of certain chemicals to improve its paper making quality. The pulp is then ready for paper production on the linerboard machine.

The machine makes two sheets of paper simultaneously, one from bleached Eucalyptus and the other from unbleached Pine pulp. These two plies are combined in the press section, and they are dewatered to approximately 40% dryness at the same time. The two ply sheet then enters the dryer section to reduce the moisture content to 7%. Starch is applied to the white surface to improve its surface properties. At the end of the machine, the sheet is cut and reeled to customer's requirements.

#### RECOVERY

Black liquor from the Fibreline and Linerline are pumped to the Evaporators. Here the liquor is concentrated by evaporation from around 15% solids to around 80% solids. The heavy black liquor (liquor containing 80% solids) is fired into the Recovery Boilers where the organic compounds such as lignin are incinerated; the inorganic compounds are recovered in the form of smelt. The smelt is mixed with dilute white liquor from the chemical plant to form green liquor. The green liquor is pumped to the Chemical Plant where it is converted to white liquor.

The energy from the organic material is used to produce steam.

#### POWER GENERATION PROCESS

The Power plant comprises three power boilers that generate high pressure, superheated steam. Boiler 1 is both a bark and coal fired boiler while the other two boilers are only coal fired. The high pressure steam produced by both the Power Boilers and the Recovery Boilers is used to drive two cogeneration steam turbines, generating 65MW of electricity.

#### GAS TURBINE

The gas turbine comprises of four sections; the compressor, the combustion chamber, turbine or generator section and the boiler section. Air enters the compressor section, is compressed to ±1500kPa and 340°C and is introduced into the combustion chamber. At the same time compressed methane rich gas is introduced into the combustion chamber. The gases ignite and the heat energy generated is used to drive the turbine/generator. Approximately 30MW of electricity is produced by the gas turbine. Exhaust heat from

the turbine section passes through the boiler section where it heats up water to produce high pressure steam.

#### RECAUSTICISING PLANT

Pulp cooking requires strong white liquor (sodium hydroxide). This is produced through the reaction of sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) from the recovery boilers (green liquor) with calcium oxide ( $\text{CaO}$ ) to produce white liquor and calcium carbonate as a by-product. Impurities (dregs) are separated from the green liquor from the recovery boilers and land filled to a licensed landfill site.

#### CHEMICAL PLANT

Caustic used on site is produced in brine/caustic electrolyzers. The by-product of this process, chlorine ( $\text{Cl}_2$ ) gas is used in the production of hydrochloric acid ( $\text{HCl}$ ) and sodium hypochlorite ( $\text{NaOCl}$ ).

Sodium Chlorate ( $\text{Na}_2\text{ClO}_3$ ) is produced in brine electrolyzers, with hydrogen ( $\text{H}_2$ ) gas as a by-product. Sodium chlorate ( $\text{Na}_2\text{CO}_3$ ) is used in the production of chlorine dioxide ( $\text{ClO}_2$ ) solution for pulp bleaching. The hydrogen gas produced is reacted with chlorine ( $\text{Cl}_2$ ) to produce  $\text{HCl}$ . Some of the  $\text{HCl}$  is used on site and the excess is sold. The sulphur dioxide ( $\text{SO}_2$ ) used in the bleaching process is produced using molten sulphur. All vents from all tanks in the chlorine and chlorine dioxide facilities are sent to a vent system to produce sodium hypochlorite ( $\text{NaOCl}$ )

#### EFFLUENT TREATMENT PLANT

The Effluent Treatment plant comprises of two stages, the Primary Treatment stage and the Secondary Treatment plant. Acid and Alkali streams mix in the first chamber called the pre-neutralization chamber. The purpose of this chamber is to control the pH to the subsequent stages. The effluent then flows into the Flow Division chamber where the flow is split into two clarifiers

The primary function of the clarifiers is to recover any solid matter in the mill effluent. This solid matter is mainly fibre.

The underflow of the primary clarifiers is pumped to a sludge dewatering system that recovers the fibre. The recovered fibre is then recycled in other manufacturing processes such as egg box and fluting production. The filtrate from the dewatered sludge is recycled to the primary clarifiers. The overflow of the primary clarifiers combines to form the feed to the secondary effluent treatment plant (SETP).

The SETP is an aerobic process that utilizes biological means to reduce organic (COD) loading of the effluent from the mill. The plant is designed to effect a 70% reduction in COD concentration in the mill effluent. The activated sludge is settled out in the Secondary clarifier and only clarified effluent sent to sea. Excess biological sludge is pumped to the evaporator plant where it is dewatered in one of two centrifuges before being mixed with black liquor and fired into the Recovery Boilers.

Figure 1 below depicts the above process.

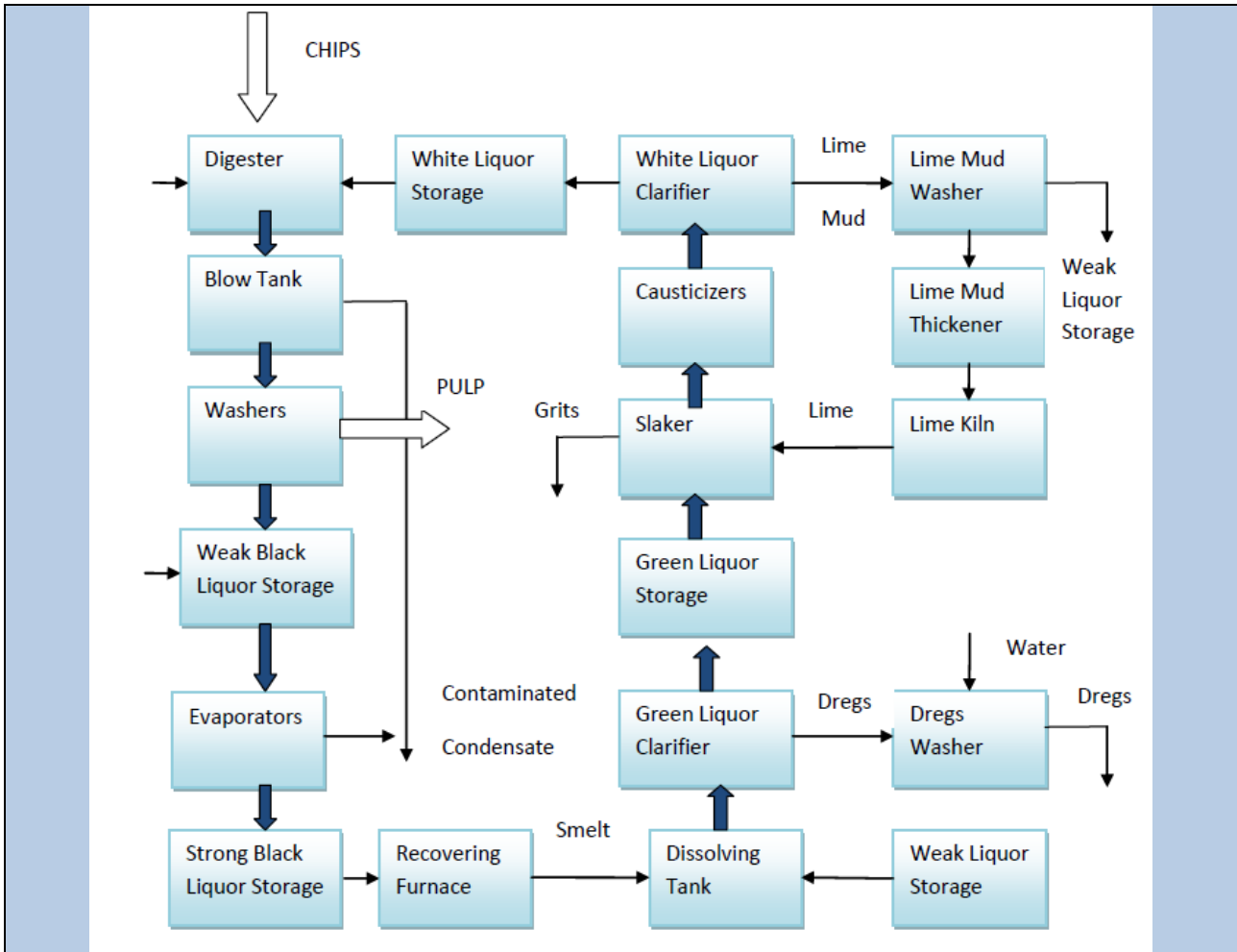


Figure 1: The Kraft Pulp Process (Source: G A Smook Handbook for Pulp and Paper Technologists.)

### 3. ACTIVITY DESCRIPTION

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

**GNR.544 of June 2010**

**Listing Notice 1**

**Listed Activity: 13**

“The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.”

*The proposed project entails the expansion of the mill to a capacity greater than 80 cubic metres but less than 500 cubic metres.*

**GNR.544 of June 2010**

**Listing Notice 1**

**Listed Activity: 28**

“The expansion of or changes to existing facilities for any process or activity where such expansion or changes to will result in the need for a permit license in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is 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 that Act will apply.”

*The proposed project entails upgrade of the processes at the mill and an amendment to the facility’s Air Emissions Licence*

**GNR.544 of June 2010**

**Listing Notice 1**

**Listed Activity: 42**

“The expansion of facilities for the storage, or storage and handling, of a dangerous good, where the capacity of such storage facility will be expanded by 80 cubic metres or more.”

*The proposed project entails the expansion of the mill to a capacity greater than 80 cubic metres but less than 500 cubic metres.*

#### 4. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

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

There are no site alternatives as the development proposed is an upgrade of the existing Mill at the Richards Bay Plant.

The design and technology alternatives in this project are limited due to the nature of the upgrade that is being proposed. This proposal aims to utilize existing installed equipment to gain maximum efficiency and increase production output by making incremental changes to



bottlenecks within the process. The design and technology options are therefore very limited to the existing installed equipment.  
As a result, the only feasible alternative that is being considered is the “no-go” alternative.

Sections B 5 – 15 below should be completed for each alternative.

### 5. ACTIVITY POSITION

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

	Latitude (S):			Longitude (E):		
<b>Alternative:</b> Alternative S1 <sup>1</sup> (preferred or only site alternative)	28°	45 ‘	44.08 “	31°	59 ‘	35.80 “
Alternative S2 (if any)						
Alternative S3 (if any)						

#### In the case of linear activities:

	Latitude (S):			Longitude (E):		
<b>Alternative:</b> Alternative S1 (preferred or only route alternative)						
• Starting point of the activity						
• Middle point of the activity						
• End point of the activity						
Alternative S2 (if any)						
• Starting point of the activity						
• Middle point of the activity						
• End point of the activity						
Alternative S3 (if any)						
• Starting point of the activity						
• Middle point of the activity						
• End point of the activity						

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 500m along the route for each alternative alignment.

### 6. PHYSICAL SIZE OF THE ACTIVITY

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

N.B. The footprint of the mill will not increase since the changes that are being made take place within the existing footprint of the mill. There will be two additional storage vessels that will be added during this project; however these will be located within the existing footprint of the mill.

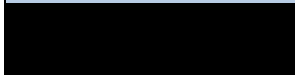
<sup>1</sup> “Alternative S..” refer to site alternatives.



**Alternative:**

Alternative A1<sup>2</sup> (preferred activity alternative)  
 Alternative A2 (if any)  
 Alternative A3 (if any)  
 or, for linear activities:

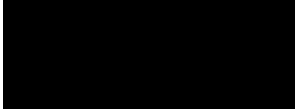
**Size of the activity:**

74 137m<sup>2</sup>  


**Alternative:**

Alternative A1 (preferred activity alternative)  
 Alternative A2 (if any)  
 Alternative A3 (if any)

**Length of the activity:**



Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

**N/A:** The footprint of the mill will not increase since the changes that are being made take place within the existing footprint of the mill. There will be two additional storage vessels that will be added during this project; however these will be located within the existing footprint of the mill. There are no site alternatives as the development proposed is an upgrade of the existing Mill at the Richards Bay Plant.  
 The design and technology alternatives in this project are limited due to the nature of the upgrade that is being proposed. This proposal aims to utilize existing installed equipment to gain maximum efficiency and increase production output by making incremental changes to bottlenecks within the process. The design and technology options are therefore very limited to the existing installed equipment.  
 As a result, the only feasible alternative that is being considered is the “no-go” alternative.

**Alternative:**


Alternative A1 (preferred activity alternative)  
 Alternative A2 (if any)  
 Alternative A3 (if any)

**Size of the site/servitude:**



**7. SITE ACCESS**

Does ready access to the site exist?

YES  


If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

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

**8. SITE OR ROUTE PLAN**

<sup>2</sup> “Alternative A..” refer to activity, process, technology or other alternatives.

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

The site or route plans must indicate the following:

- 8.1. the scale of the plan which must be at least a scale of 1:500;
- 8.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
- 8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 8.4. the exact position of each element of the application as well as any other structures on the site;
- 8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 8.6. walls and fencing including details of the height and construction material;
- 8.7. servitudes indicating the purpose of the servitude;
- 8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers, streams, drainage lines or wetlands;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 8.10. the positions from where photographs of the site were taken.

### 9. SITE PHOTOGRAPHS

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

### 10. FACILITY ILLUSTRATION

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

### 11. ACTIVITY MOTIVATION

- 11.1. **Socio-economic value of the activity**

## Basic Assessment Report

What is the expected capital value of the activity on completion?	Euro 25 million
What is the expected yearly income that will be generated by or as a result of the activity?	Unknown
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the <u>development</u> phase of the activity? <u>Existing employees to be utilised.</u>	None
What is the expected value of the employment opportunities during the development phase?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	70%
How many permanent new employment opportunities will be created during the operational phase of the activity? <u>Existing employees to be utilised.</u>	None
What is the expected current value of the employment opportunities during the first 10 years?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	NA

### 11.2. Need and desirability of the activity

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

This project proposes an upgrade to the production facilities of the mill to increase the output to approximately 820 000 tons/annum. The purpose of the project is to expand the output incrementally and not via a large re-build. The output is to be increased from 750 000 tons/annum to 820 000 tons/annum, approximately a 7-8% increase. This is in essence an optimisation or de-bottle-necking exercise; there will be an increase in efficiency throughout the plant. There will be no new sites subject to earthworks.

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

The development will enable Mondi to meet the demands they are faced with in a sustainable and environmentally conscious manner. The extension of the mill will enable an increase in capacity to approximately 820 000 Tonnes/Annum and in so doing provides job security for the 900 employees of Mondi working at this mill.

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

The development may not necessarily have any direct benefits for the local community; however, by extending the existing mill and entering into contracts in order to develop sustainable practices, Mondi is ensuring minimum impact on the local community surrounding the development site. There is also the indirect benefit on the part of Mondi employees who in turn support a number of family members as a result of their income.

## 12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Date:
2010 EIA Regulations under NEMA	National & Provincial	August 2010
Constitution of the Republic of South Africa (108 of	National, Provincial and	1996

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1966)	Local Government	
National Environmental Management Act (No 107 of 1998 (as amended))	National and Provincial	1998
National Water Act (No 36 of 1998) and regulations	Department of Water Affairs and Forestry	1998
National Environmental Management: Air Quality Act (No 39 of 2004)	Department of Environmental Affairs and Tourism	2004
National Environmental Management: Waste Act (No. 59 of 2008)	Department of Environmental Affairs	2008
Occupational Health and Safety Act (No. 181 of 1993)	Department of Labour	1993
uMhlathuze Municipality Environmental Health Bylaws: Scheduled Trade Bylaws; Chapter 9	uMhlathuze Municipality	As updated

### 13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

#### 13.1. Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	
-----	--

If yes, what estimated quantity will be produced per month?

Unknown m <sup>3</sup>
------------------------

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

Waste skips/bins will be provided throughout the construction site. The construction solid waste (rubble, old infrastructure) will be collected in skips on site and disposed of at a registered disposal facility. Paints, oils and other hazardous wastes will be disposed of to a registered hazardous landfill site.

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

All waste will be collected and disposed off at an approved waste disposal and/or recycling facilities.

Will the activity produce solid waste during its operational phase?

YES	
-----	--

If yes, what estimated quantity will be produced per month?

Unknown m <sup>3</sup>
------------------------

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

Ash from the boilers and green liquor dregs, along with a number of smaller process waste streams are disposed of on Mondi's landfill site.

Other waste streams are disposed of at registered landfill sites.

Some of the waste streams are recycled and reused, for example the fibre which is recovered from the mill's waste water treatment plant is recycled by egg box manufacturers as well as fluting manufacturers.

The mill has a system for separating recyclables like metal and plastics and these are sent for recycling.

Waste skips/bins are provided throughout the site with separate skips/bins made available for different types of solid waste. Solid waste that is unsuitable for re-use or recycling will be transported to a registered disposal facility to avoid the pollution of surrounding areas and roads, as well as to minimize nuisance impacts such as dust and odours.

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

As above.

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

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

The waste streams will not change from the existing waste – there will be an incremental increase in the process waste streams generated (i.e. less than 10% increase), and these will be handled in the same way as the existing streams are handled. There will be no new waste streams generated as a result of this upgrade.

	NO
--	----

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

Is the activity that is being applied for a solid waste handling or treatment facility?

	NO
--	----

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

### 13.2. Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

The mill currently produces liquid effluent which is treated in the mill's waste water treatment plant to a standard which is in line with international best available technology for the pulp and paper sector. After treatment the effluent is disposed of via the Mhlathuze sea outfall line. The upgrade will result in a slight increase in the volume of liquid effluent generated; however this increase will also be less than 10% and can be accommodated, furthermore, this increase will still be within the limits stipulated in Mondi's Waste Management License and will therefore not require an amendment thereof.

	NO
--	----

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

The mill currently produces liquid effluent which is treated in the mill's waste water treatment plant to a standard which is in line with international best available technology for the pulp and paper sector. After treatment the effluent is disposed of via the Mhlathuze sea outfall line. The upgrade will result in a slight increase in the volume of liquid effluent generated; however this increase will be less than 10% and can be accommodated, furthermore, this increase will still be within the limits stipulated in Mondi's Waste Management License and will therefore not require an amendment thereof.

	YES
--	-----

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

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

If yes, provide the particulars of the facility:

Facility name: [Redacted]  
 Contact person: [Redacted]  
 Postal address: [Redacted]  
 Postal code: [Redacted]  
 Telephone: [Redacted] Cell: [Redacted]  
 E-mail: [Redacted] Fax: [Redacted]

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

[Redacted]

### 13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?  YES  NO

If yes, is it controlled by any legislation of any sphere of government?  YES  NO

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

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

Limited dust liberation and emissions during construction phase due to the off loading of construction material such as sand and cement and movement of construction vehicles. The mill expansion itself will result in an incremental increase in air emissions from the site. These are detailed in the attached Air Quality Specialist Study. Mondi subscribes to a fugitive dust management plan in compliance with the Atmospheric Pollution Prevention Act (APPA) registration certificate, attached in Appendix G. Mondi Richards Bay mill is currently in the process of converting the existing APPA Registration Certificate to an Air Emission License as required in the NEM:Air Quality Act. Mondi Richards Bay has committed to addressing the impact of odour from its process on the community surrounding the mill and in 2009 work commenced on an Odour Reduction Project, refer to Appendix G.

### 13.4. Generation of noise

Will the activity generate noise?  YES  NO

If yes, is it controlled by any legislation of any sphere of government?  YES  NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

Noise levels should be regulated by local municipal by-laws, none-the-less noise generation will be forthcoming as a result of the construction phase. Noise will be limited to working hours (07h00 to 17h00) and would comprise of the use of construction machinery. Ambient noise levels are unlikely to exceed 75 dB for extended periods. Health and Safety rules will be abided on site as the mill operation generates noise levels on a regular basis. Noise receptors are limited to Mondi staff and visitors, who are advised of appropriate PPE and provided with ear plugs for use at designated areas within the Mill.

#### 14. WATER USE

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

municipal

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use permit from the Department of Water Affairs?

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

#### 15. ENERGY EFFICIENCY

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

The upgrade will involve the installation of high efficiency motors in the areas which are being debottlenecked and the additional tank capacity provides a stability advantage which ultimately contributes to less start up and upset losses – in particular energy demand. The additional output will also allow more energy to be recovered from renewable energy sources such as black liquor. The amount of fossil fuel consumed per ton of product output will therefore be slightly reduced as a result of this upgrade. The energy from the organic material of the recovery stage in the mill process is used to produce steam. Some of the proposed upgrades include improved dryer heat exchangers; upgrading of the vacuum system and upgrades to various pump capacities, which serve to improve the design of the pulp drying machines, thereby reducing energy usage. Such designs ensure energy efficiency at the Richard's Bay mill. The upgrades, modifications and installations proposed assist in the reduction of the use of energy as they serve to increase efficiency of the mill and auxiliary infrastructure. Through the increase in capacity brought about by the proposed developments in the form of upgrades, so too with the efficiency of the mill be increased thereby lessening the impact on energy usage.

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

Currently the amount of renewable energy used in the mill's processes is more than 75% of the mill's total energy consumption. This is in line with international best practice and in addition to the use of renewable energy there is also a strong focus on improving energy efficiency of the processes continually.

Over the last few years Mondi Richards Bay mill has been recognized for its efforts to improve energy efficiency and has received the following recognition for improvements made:

1. 2006 ETA Award for energy efficiency (sponsored by Eskom)
2. 2009 ETA Award (Eskom)
3. 2010 African Energy Award (Most innovative co-generation project)

This upgrade will not involve the use of other energy sources other than the ones that are currently used by the mill and the focus on improving energy efficiency will continue with a targeted 1% reduction in energy per ton of product annually. High efficiency motors designed to be energy efficient will be utilised in areas of the plant where debottlenecking is taking place and the use of renewable energy will be increased.



## SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

### Important notes:

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

Section C Copy No. [REDACTED]  
(e.g. A):

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

### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

The site is the existing mill at Mondi Richards Bay, with all upgrades and modifications in-situ, the mill is of flat topography.

#### Alternative S1:

Flat [REDACTED]

#### Alternative S2 (if any):

[REDACTED]

#### Alternative S3 (if any):

[REDACTED]

### 2. LOCATION IN LANDSCAPE

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

#### Alternative S1 (preferred site):

[REDACTED] Plain [REDACTED]

#### Alternative S2 (if any):

[REDACTED]

#### Alternative S3 (if any):

[REDACTED]

### 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Has a specialist been consulted for the completion of this section?

No new site is to be developed, the modifications will take place within the existing developed area.

[REDACTED] NO [REDACTED]

If YES, please complete the following:

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

[REDACTED]

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Postal code: [REDACTED]  
 Telephone: [REDACTED] Cell: [REDACTED]  
 E-mail: [REDACTED] Fax: [REDACTED]

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? NO

If YES, specify and explain: [REDACTED]

Are there any special or sensitive habitats or other natural features present on any of the alternative sites? NO

If YES, specify and explain: [REDACTED]

Are any further specialist studies recommended by the specialist?  
 If YES, specify: [REDACTED]  
 If YES, is such a report(s) attached in Appendix D? [REDACTED]

Signature of specialist: [REDACTED] Date: [REDACTED]

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

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	YES	[REDACTED]	[REDACTED]
Dolomite, sinkhole or doline areas	[REDACTED]	[REDACTED]	[REDACTED]
Seasonally wet soils (often close to water bodies)	YES	[REDACTED]	[REDACTED]
Unstable rocky slopes or steep slopes with loose soil	[REDACTED]	[REDACTED]	[REDACTED]
Dispersive soils (soils that dissolve in water)	[REDACTED]	[REDACTED]	[REDACTED]
Soils with high clay content (clay fraction more than 40%)	[REDACTED]	[REDACTED]	[REDACTED]
Any other unstable soil or geological feature	[REDACTED]	[REDACTED]	[REDACTED]
An area sensitive to erosion	[REDACTED]	[REDACTED]	[REDACTED]

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

#### 4. GROUND COVER

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

If YES, please complete the following: No new site is to be developed, the existing mill is to be extended, and therefore the site is an existing developed area.

Name of the specialist: [REDACTED]  
 Qualification(s) of the specialist: [REDACTED]

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Postal address: [REDACTED]  
 Postal code: [REDACTED]  
 Telephone: [REDACTED] Cell: [REDACTED]  
 E-mail: [REDACTED] Fax: [REDACTED]

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? NO

If YES, specify and explain: [REDACTED]

Are there any special or sensitive habitats or other natural features present on any of the alternative sites?

If YES, specify and explain: [REDACTED]

Are any further specialist studies recommended by the specialist?

If YES, specify: [REDACTED]

If YES, is such a report(s) attached in Appendix D? [REDACTED]

Signature of specialist: [REDACTED] Date: [REDACTED]

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

[REDACTED]	[REDACTED]
Paved surface	Building or other structure

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

### 5. LAND USE CHARACTER OF SURROUNDING AREA

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

Land use character			Description
Natural area		NO	
Low density residential		NO	
Medium density residential		NO	
High density residential		NO	
Informal residential		NO	
Retail commercial & warehousing		NO	
Light industrial	YES		Richards Bay Industrial Area
Medium industrial	YES		Richards Bay Industrial Area
Heavy industrial	YES		Richards Bay Industrial Area
Power station		NO	

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Office/consulting room	YES	NO	Office space.
Military or police base/station/compound		NO	
Spoil heap or slimes dam		NO	
Quarry, sand or borrow pit		NO	
Dam or reservoir		NO	
Hospital/medical centre		NO	
School/ creche		NO	
Tertiary education facility		NO	
Church		NO	
Old age home		NO	
Sewage treatment plant		NO	
Train station or shunting yard		NO	
Railway line		NO	
Major road (4 lanes or more)		NO	
Airport		NO	
Harbour		NO	
Sport facilities		NO	
Golf course		NO	
Polo fields		NO	
Filling station		NO	
Landfill or waste treatment site		NO	
Plantation		NO	
Agriculture		NO	
River, stream or wetland		NO	
Nature conservation area		NO	
Mountain, hill or ridge		NO	
Museum		NO	
Historical building		NO	
Protected Area		NO	
Graveyard		NO	
Archaeological site		NO	
Other land uses (describe)		NO	

### 6. CULTURAL/ HISTORICAL FEATURES

7.

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site? No new site is to be developed, the existing mill is to be extended, and therefore the site is an existing developed area.

NO

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

Briefly explain the recommendations of the specialist:

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

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

## SECTION D: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT

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

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  - (i) the site where the activity to which the application relates is or is to be undertaken; and
  - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (v) the local and district municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and
  - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
  - (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  - (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

### 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

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

### **3. PLACEMENT OF ADVERTISEMENTS AND NOTICES**

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

Advertisements and notices must make provision for all alternatives.

### **4. DETERMINATION OF APPROPRIATE PROCESS**

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

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

### **5. COMMENTS AND RESPONSE REPORT**

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

## 6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

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

Has any comment been received from the district municipality?

YES

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

A consultation meeting was held at the early planning stages of the BA with the district municipality on April 3<sup>rd</sup> 2012 to discuss the AEL process for the proposed project (minutes attached as appendix G3). It was concluded that the AEL and BA process would proceed concurrently and the full commitment of assessment from the district municipality is assured. In comment received in response to the review of the draft Basic Assessment Report, the uThungulu Municipality state that they have no objection to the proposed upgrades, however, did enquire whether the increase volume of liquid effluent generated by the mill will not cause any negative impact on the receiving environment. In response to this it must be noted that no negative impact will be caused to the receiving environment, due to the fact that uMhlatuze Water have stated that the volume of effluent is available at 90 000m<sup>3</sup>/day as per agreement. Mhlatuze Water do have a request in this instance to ensure that the daily total load and concentration does not increase, furthermore, the slight increase results in a volume which is still within the limit stipulated in Mondi's existing waste management license and will therefore not require an amendment.

Has any comment been received from the local municipality?

YES

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

To summarise the comment received from uMhlatuze Municipality, the local authority made the following points (Full comment is provided in the issues trail and attached in appendices):

- The project will not have direct spatial planning implications as the upgrade is confined to the existing boundary, however, due consideration must be given to future spatial plans and expansion areas in terms of the municipality's SDF. As a general comment Mondi is hence encouraged to proactively plan and engage the City Development Department in this regard.
- No additional electrical supply from the City of uMhlatuze. It is imperative that Mondi, however, consult the Electricity Supply Services on a proactive basis to discuss future scenarios.
- Recommendations and comments were offered with reference to TIA and are addressed in the Issues Trail.
- Whilst our AQ Management Unit is satisfied that most of air quality related concerns are addressed by Airshed, the following must be adhered to especially with regard to the Central Maintenance Business Unit:
  - No blasting activities to be carried out in an open area during windy conditions,
  - Disposal certificate for spent abrasives to be filed as records for verification;
  - Mondi must inform or issue details to the Air Quality Management Unit of the company performing their blasting activities. The AQMU must then check if the company has a trade schedule permit.



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Has any comment been received from a traditional authority?  NO

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

[REDACTED]

### 7. CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?  YES

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

\_\_\_\_\_

uMhlathuze Water

It is taken that the current purified water supply that Mondi has per agreement with Mhlathuze Water is sufficient as the current usage and future after the upgrade will be well below the current contracted maximum demand of 100 000m<sup>3</sup>/day, so there is sufficient installed capacity at the Nsezi water treatment plant to deliver the quantity .

The volume of effluent is also available at 90 000m<sup>3</sup>/day as per agreement. Mhlathuze Water do have a request in this instance to ensure that the daily total load and concentration does not increase, currently the compliance with regard to total suspended solids discharge does not meet the requirements and there is noncompliance reported by Mondi itself and our own sampling as well.

Department of Water Affairs

No objection to the proposed development was proposed by DWA, only the following points provided:

- It is vitally important that the storm water system is kept separate from the waste water drainage system. Under no circumstances should the storm water system be contaminated by any other water containing waste. Drainage must be controlled to ensure that run-off from the site will not culminate in off-site pollution downstream of any stormwater discharge or wetland/ecological sensitive areas.
- There must be no unacceptable impact on the quality of both surface and groundwater in the area arising from the said upgrades. The rivers/streams in the area and associates tributaries must be protected at all times and must not be degraded by activities arising from the upgrade.
- This upgrade must not be in conflict with the municipality by-laws or any other legislation.
- It is important that any significant spillage of chemicals, fuels, etc. during the construction phase is reported to this office and other relevant authorities.
- It is noted in the report that solid and hazardous waste produced during the construction phase will be disposed at a registered landfill site. The recycling suitable material is encouraged.
- Erosion control measures to be implemented in areas sensitive to erosion such as near water supply points, edges of slopes etc. Such measures could include the use of sand bags, retention or replacement of vegetation.

Sandy Camminga of the Richards Bay Clean Air Association (RBCAA)

Ms. Camminga commented with several points, summarised below. Furthermore, having not been satisfied with the initial AQA circulated, and following a clarification meeting held with Mondi, she requested a revised assessment be circulated. This was done and circulated for comment for a further two week period.

- Poorly organised and attended stakeholder meeting, with a separate meeting being held with Authorities.
- The presentation (at the stakeholder meeting) was lacking in depth and detail, and did not extend to other potential impacts.
- It is requested that in future one stakeholder meeting be held so that everyone is on the same page.

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- The situation was compounded by the fact that Airshed, who undertook the assessment, were not in attendance to present the report, or to respond to questions\concerns.
- The quality and scale of the dose maps (of first AQA) make it impossible to assess impacts at ground level on sensitive receptors.
- TRS needs to be expanded upon as this is a major source of public complaints, with the most significant reported health effects (of first AQA).
- Data on the number of measured exceedances, from both Mondi & RBCAA stations, should be included in the report (of first AQA).
- The report should include the complaints data, including reported health (of first AQA) effects\symptoms.
- Health Impacts needs to be looked at in much more detail.
- The SO<sub>2</sub> total emission rates for all current sources (43664 tpa) is almost double that recorded by the RBCAA (21146 tpa) (in first AQA).
- The particulate emission rates for all current sources as contained in the report differs from what is recorded by the RBCAA, and the current figure for Mondi differs from what Mondi has reported to the RBCAA (of first AQA).
- Further to this the RBCAA commented on the revised report, these comments can be found in the issues trail as Appendix A. In conclusion, however, the RBCAA does not support any further development in Mondi, based on the belief that it would increase the frequency of odour complaints and incidents.

Carolyn of WESSA and CoastWatch

- We look forward to understanding clearly the mill operations from the perspective of inputs (including power, water) and the different outputs including the products and waste streams and how these are dealt with.
- It is of concern that the discharge of effluent from Mondi Mill is reported to be non-compliant and an increase in production may exacerbate the situation. The source of the problem needs to be identified and remedied with the authorities satisfied that standards are met prior to an increased in production and consequently waste.
- Any development that increases the current pollution load is indeed a concern, and is certainly undesirable.
- With current capacity at approx. 750 000 t/a the proposal to increase capacity to 820 000 t/a entails changes to existing equipment.
- Notwithstanding the recommendation that no further mitigation measures are required for the Mondi Mill upgrade it is noted that there is no complete NOX emission inventory for Richards Bay. Based on this it is, therefore, recommended that NOx emissions from all industries in Richards Bay be quantified in order to establish accurate baseline conditions.
- Due to the difficulty in estimating all TRS emissions (including stack, vent and fugitives) it is said to be difficult to determine exactly what the increase in TRS emissions would be.
- TRS odours are a source of on-going complaints and it is a concern that without being able to determine exactly what the increase in TRS emissions would be the comment is made that ground level TRS concentrations were predicted to be slightly higher after the upgrade.
- WESSA and CoastWatch defer to the knowledge of the RBCAA and align themselves with the association's comments and recommendations.

*It must be noted that despite various attempts to obtain comment from the Department of Transport, no comment has been received thus far.*

*While the EKZMW did offer the following comment:*

*“Thank you for forwarding the above-mentioned application to Ezemvelo KZN Wildlife (Ezemvelo) for review and comment. Whilst Ezemvelo KZN wildlife endeavours to process application as quickly as possible, there may be delays in responding, due to current resource constraints.*

*We sincerely regret any inconvenience caused. Please direct any queries in this regard to the acting co-ordinator IEM on (Tel) 0338451425 or (email) thambud@kznwildlife.com*

*Thank you in advance for your support and understanding.”*

*We received no further comment on the proposed development.*

## SECTION E: IMPACT ASSESSMENT

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

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

1. Inadequate AQA due to various discrepancies;
2. Requested water study;
3. Increased volume in liquid effluent;
4. TIA discrepancies;
5. Concern expressed over separation of stakeholders and authorities in the public participation process.

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

1. The AQA was revised based on the issues identified and agreed upon and re-circulated for comment as requested;
2. The proposed increase in water consumption is within Mondi's monthly allocated water volume by Mhlathuze Water. Mhlathuze Water have confirmed that they have the capacity to supply Mondi with the increased water volumes and as such will be able to meet the demand. Mondi has acknowledged that they experienced problems relating to Total Suspended Solids (TSS) compliance, however, plans have been implemented and an improvement in compliance has been noted. Mondi has discussed these plans with Mhlathuze Water regularly and will continue to provide feedback to Mhlathuze Water as well as other authorities on the matter. TSS compliance remains a focus for Mondi to ensure full compliance is achieved. Mondi would also like to clarify that at no point were stakeholders misled about any of their performance parameters. It is understood that these are openly discussed with authorities and stakeholders at various forums such as the Mondi Environmental Liaison Forum Meeting which is held bi-monthly;
3. It must be noted that no negative impact will be caused to the receiving environment, due to the fact that uMhlathuze Water have stated that the volume of effluent is available at 90 000m<sup>3</sup>/day as per agreement. uMhlathuze Water do have a request in this instance to ensure that the daily total load and concentration does not increase, furthermore, the slight increase results in a volume which is still within the limits stipulated in Mondi's existing waste management license and will therefore not require an amendment;
4. The TIA discrepancies have been addressed and revised as per recommendations offered;
5. This has been noted by Mondi and will be addressed in such manner as to allow for fully inclusive and combined public participation where applicable in the future.

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

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

There are no site alternatives as the development proposed is an upgrade of the existing Mill at the Richards Bay Plant.

The design and technology alternatives in this project are limited due to the nature of the upgrade that is being proposed. This proposal aims to utilize existing installed equipment to gain maximum efficiency and increase production output by making incremental changes to bottlenecks within the process. The design and technology options are therefore limited to the existing installed equipment.

As a result, the only feasible alternative that is being considered is the “no-go” alternative.

#### a. Site alternatives

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

##### Alternative S1 (Only Site)

###### Direct impacts:

- Improved efficiency from planned developments.
- Assurance of Mondi’s ongoing commitment to better delivery while progressing to a more sustainable operation.
- Adequate provision of services and infrastructure.

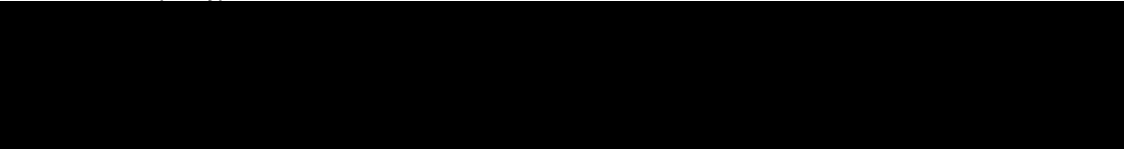
###### Indirect impacts:

- Job security for those employed by Mondi.
- Odour generated by the emissions of the mill.
- Incompetent planning could result in the implementation of development which will pose problems to the natural environment in the future.
- Provision of contractual work during the construction phase.

###### Cumulative impacts:

- Traffic congestion.

##### Alternative S2 (if any)



##### No-go alternative (compulsory)

###### Direct impacts:

- Inability to meet required increases in capacity.
- Limiting opportunities for increased efficiency and decreased energy usage.
- If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost.

###### Indirect impacts:

- Should the project not materialise, Mondi Richards Bay will lose an opportunity to improve

their competitive edge in the market of pulp production.

**Cumulative impacts:**

- Avoidance of any increased traffic during the construction phase.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative S1**

**Alternative S2**

- Evaluate designs and provide recommendations to limit and reduce potential negative environmental, social and economic impacts associated with the proposed activities.
- Provide mitigation measures to reduce effects of air emissions and pollution if required by air quality specialist study.
- Mondi should try to their best ability to include green technologies in their designs, e.g. selection of material, heat pumps, allowing for natural lighting etc.
- Ensure effective storm water management will be exercised to limit negative impacts on the environment and enhance the positive impacts, and ensure catering for the hydraulic needs of the development while minimising the associated negative environmental impacts.
- Ensure the planning undertaken by engineers appointed takes cognisance of the responsibility to preserve the natural environment.
- Ensure timeous implementation of the Air Emission License Application.

**b. Process, technology, layout or other alternatives**

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

**Alternative A1 (preferred/ only alternative)**

**Direct impacts:**

- Improved efficiency from planned developments.
- Assurance of Mondi's ongoing commitment to better delivery while progressing to a more sustainable operation.
- Adequate provision of services and infrastructure.

**Indirect impacts:**

- Job security for those employed by Mondi.
- Odour generated by the emissions of the mill.
- Incompetent planning could result in the implementation of development which will pose problems to the natural environment in the future.
- Provision of contractual work during the construction phase.

**Cumulative impacts:**

Traffic congestion.

Alternative A2 (if any)

**No-go alternative (compulsory)**

**Direct impacts:**

- Inability to meet required increases in capacity.
- Limiting opportunities for increased efficiency and decreased energy usage.
- If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost.

**Indirect impacts:**

- Should the project not materialise, Mondi Richards Bay will lose an opportunity to improve their competitive edge in the market of pulp production.

**Cumulative impacts:**

- Avoidance of any increased traffic during the construction phase.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1:**

**Alternative A2:**

- Evaluate designs and provide recommendations to limit and reduce potential negative environmental, social and economic impacts associated with the proposed activities.
- Provide mitigation measures to reduce effects of air emissions and pollution if required by findings of air quality specialist study.
- Mondi should try to the best of their ability to include green technologies in their designs, e.g. selection of material, heat pumps, allowing for natural lighting etc.
- Ensure effective storm water management will be exercised to limit negative impacts on the environment and enhance the positive impacts, and ensure catering for the hydraulic needs of the development while minimising the associated negative environmental impacts.
- Ensure the planning undertaken by engineers appointed takes cognisance of the responsibility to preserve the natural environment.

**2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

There are no site alternatives as the development proposed is an upgrade of the existing Mill at the Richards Bay Plant.

The design and technology alternatives in this project are limited due to the nature of the upgrade that is being proposed. This proposal aims to utilize existing installed equipment to gain maximum efficiency and increase production output by making incremental changes to bottlenecks within the process. The design and technology options are therefore limited to the existing installed equipment.

As a result, the only feasible alternative that is being considered is the “no-go” alternative.

**a. Site alternatives**

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



**Alternative S1 (Only site)**

**Direct impacts:**

- Pollution emanating from construction.
- Noise impacts.
- Provision of contractual work during the construction phase.
- Degradation of soil due to exposed roads and open areas.
- Traffic congestion of access.
- The road will need to be maintained /upgraded during the construction period.
- The possible contamination of surface water run-off with contaminated standing surface water.
- Noise from the hauling of construction trucks.
- Release of dust from the activity, equipment and construction vehicles into the atmosphere.
- Generation of fumes from vehicle emissions may pollute the air.
- Possible contamination of soils, surface and groundwater due to spillage, leakage, incorrect storage and handling of oils, lubricants, fuels and other hazardous materials.
- Generation and disposal of domestic and hazardous waste. In addition the generation and disposal of sewage waste from temporary construction toilets.
- Construction staff safety could be compromised during construction.
- Traffic disruptions and congestion during construction period.
- The safety of the existing mill staff could be compromised unless adequate safety measures are implemented.

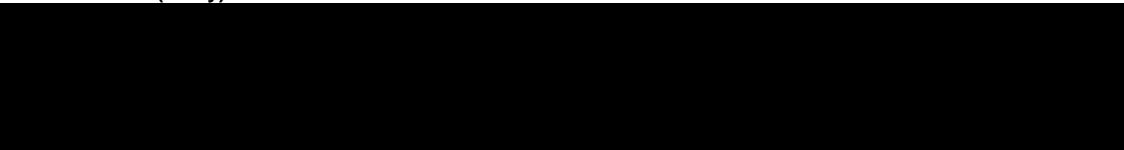
**Indirect impacts:**

- Odour generated by the emissions of the mill.
- Traffic disruption during construction period.
- Possible spillage of hazardous materials onto surfaces during usage and storage of hydrocarbon chemicals.
- Job creation during the construction phase could result in the influx of people to the area. However, this could be positive.
- Increased generation of waste.
- Pollution in the surrounding areas.
- Increased traffic and heavy vehicles and machinery on roads, leading to poorer road conditions and potential accidents and pedestrians and commuters.

**Cumulative impacts:**

- Traffic congestion.
- Increased noise and dust.
- Increase waste material at site and at landfills.

**Alternative S2 (if any)**



**No-go alternative (compulsory)**

**Direct impacts:**

- None of the potential negatives will occur should the construction phase not commence, however, none of the potential benefits, especially those associated with infrastructural

development and socio-economic advantages will also not be realised.

- Inability to meet required increases in capacity.
- Limiting opportunities for increased efficiency and decreased energy usage.
- If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost.

**Indirect impacts:**

- Lack of infrastructure development.
- Loss of contractual labour opportunities.
- Should the project not materialise, Mondi Richards Bay will lose an opportunity to improve their competitive edge in the market of pulp production.

**Cumulative impacts:**

- Avoidance of any increased traffic during the construction phase.
- Avoidance of generated noise and dust pollution during construction phase.
- Avoidance of increased waste generated.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative S1**

**Alternative S2**

- Ensure the construction camp is within a safe and built up portion and should therefore not pose any threat to natural surfaces surrounding the site.
- All earthworks to be carried out in accordance with SABS 1200 (current version).
- The site should be graded well to permit drainage and to prevent ponding.
- Ensure all health and safety rules of Mondi Ltd are abided by all construction staff and that all construction staff view the safety video.
- All site disturbances must be limited to the areas where structure will be constructed.
- Large excavations for the contractor laydown area, storage areas or waste areas are not permitted.
- Ensure that contractors and staff are well managed and adhere to the mitigation and management measures.
- Training of contractors on environmental awareness.
- Artificial lighting must be restricted to areas under construction and not directed outwards in order to minimize the potential negative effects of the lights on the natural nocturnal activities. Where lighting is required for safety or security reasons, this should be targeted at the areas requiring attention. Yellow sodium lights should be prescribed as they do not attract as many invertebrates (insects) at night. Sodium lamps require a third less energy than conventional light bulbs.
- Water for domestic consumption will be provided at or near the contractor laydown area and from a licensed water source.
- Ensure the establishment of storm water diversion berms around the contractor laydown area and other potential contaminated areas (e.g. diesel storage tanks or refuelling station).
- All contaminated standing water should be immediately removed and treated

or disposed of appropriately.

- All incidents must be reported to the responsible site officer as soon as it occurs.
- Ensure effective storm water management will be exercised to limit negative impacts on the environment and enhance the positive impacts, and ensure catering for the hydraulic needs of the development while minimising the associated negative environmental impacts.
- Current depressions in the area should be raised to prevent stormwater ponding.
- Surfaces and conduits should be constructed to drain the run off more efficiently.
- Sheet runoff from paved surfaces and access roads needs to be curtailed. Runoff from paved surfaces should be slowed down by the strategic placement of berms.
- Provision of adequate toilet facilities must be implemented.
- All construction activities should be undertaken according to daylight working hours between the hours of 07:00 – 17:00 on weekdays and 7:30 – 13:00 on Saturdays.
- No construction activities may be undertaken on Sunday.
- All earth-moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability.
- Employees must have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMPr.
- A complaints register must be made available and should any complaints be received, these should be logged in the complaints register and reported to the responsible person on site.
- All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).
- To reduce the liberation of dust it is recommended that water be sprayed on access roads.
- There should be strict speed limits on dusty roads to prevent the liberation of dust into the atmosphere.
- Adequate communication and education of personnel of the need to mitigate against dust.
- All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time.
- The integrity of the impervious surface and bunded area must be inspected regularly and any maintenance work conducted must be recorded in a maintenance report.
- Provide proper warning signage to make people aware of the activities within designated areas.
- Employees should be provided with absorbent spill kits and disposal containers to handle spillages.
- Train employees and contractors on the correct handling of spillages and precautionary measures that need to be implemented to minimise potential spillages.
- All earth moving vehicles and equipment must be regularly maintained to

ensure their integrity and reliability. No repairs may be undertaken beyond the contractor laydown area.

- Employees should record and report any spillages to the responsible person.
- An Emergency Preparedness and Response Plan will be developed and implemented should an incident occur.
- Access to storage areas on site must be restricted to authorised employees only.
- Contractors will be held liable for any environmental damages caused by spillages.
- General waste disposal bins will be made available for employees to use throughout the project area.
- Where possible waste should be recycled or sold to the community.
- Waste will be temporarily stored on site (less than 90 days) before being disposed off appropriately.
- General waste will be disposed of an approved waste disposal facility.
- Implement proper road signs to warn motorists of construction activities ahead;
- Ensure that there are flag men and signs at access points to the construction site; and
- Refer to the Draft Records of all waste being taken off site must be recorded and kept as evidence.
- Evidence of correct disposal must be kept.
- Building rubble will be used, where possible, in construction or buried with the necessary town planning approvals. Where this is not possible, the rubble will be disposed of at an appropriate site.
- All temporary soil stockpiles, litter and rubble must be removed on completion of construction activities. No dumping of waste material in surrounding open areas.
- Hazardous materials will be generated if there are spillages during construction and maintenance periods. This waste should be cleaned up using absorbent material provided in spill kits on site.
- Absorbent materials used to clean up spillages should be disposed of in a separate hazardous waste bin.
- The storage area for hazardous material must be concreted, bunded, covered, labelled and well ventilated.
- Provide employees with appropriate PPE for handling hazardous materials.
- All hazardous waste will be disposed of in a registered hazardous waste disposal facility.
- Records of all waste being taken off site must be recorded and kept as evidence.
- On-site chemical toilets will be provided for domestic purposes during construction phase.
- The contractors will be responsible for the maintenance of the chemical toilets.
- Should any spills or incidents occur; the material will be cleaned up immediately and disposed off appropriately.
- All incidents must be reported to the responsible site officer as soon as it occurs.
- During the construction phase chemical toilets will be provided for use on site.

The chemical toilets will be cleaned and maintained on a weekly basis, minimising the potential for the generation of odours on site.

- Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
- All construction staff must have the appropriate PPE.
- The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.
- Report and record any environmental, health and safety incidents to the responsible person.
- Refer to the EMPr for additional mitigation measures.

#### **b. Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

##### **Alternative A1 (preferred alternative)**

###### **Direct impacts:**

- Pollution emanating from construction.
- Noise impacts.
- Provision of contractual work during the construction phase.
- Artificial lighting will most likely result in a moderate to high negative short, medium and long-term impact on all nocturnal animal species. Numerous species will be attracted towards the light sources and this will result in the disruption of natural cycles, such as the reproductive cycle and foraging behaviour.
- Degradation of soil due to exposed roads and open areas.
- Traffic congestion of access.
- The road will need to be maintained /upgraded during the construction period.
- The possible contamination of surface water run-off with contaminated standing surface water.
- Noise disturbance to the communities from contractors on site and construction activities.
- Noise from the hauling of construction trucks.
- Release of dust from the activity, equipment and construction vehicles into the atmosphere.
- Generation of fumes from vehicle emissions may pollute the air.
- Possible contamination of soils, surface and groundwater due to spillage, leakage, incorrect storage and handling of oils, lubricants, fuels and other hazardous materials.
- Generation and disposal of domestic and hazardous waste. In addition the generation and disposal of sewage waste from temporary construction toilets.
- Construction staff safety could be compromised during construction.
- Traffic disruptions and congestion during construction period.
- The safety of the existing mill staff could be compromised unless adequate safety measures are implemented.

###### **Indirect impacts:**

- Odour generated by the emissions of the mill.
- Traffic disruption during construction period.
- Public safety during construction period, especially due to increased construction vehicles.

- Possible spillage of hazardous materials onto surfaces during usage and storage of hydrocarbon chemicals.
- Job creation during the construction phase could result in the influx of people to the area. However, this could be positive.
- The potential job creation could result in an influx of people to the area and associated informal and uncontrolled settlements.
- Increased generation of waste.
- Pollution in the surrounding areas.
- Increased traffic and heavy vehicles and machinery on roads, leading to poorer road conditions and potential accidents and pedestrians and commuters.

**Cumulative impacts:**

- Traffic congestion.
- Increased noise and dust.
- Increase waste material at site and at landfills.

**Alternative A2**

**No-go alternative (compulsory)**

**Direct impacts:**

- None of the potential negative impacts will occur should the construction phase not commence, however, none of the potential benefits, especially those associated with infrastructural development and socio-economic advantages will also not be realised.
- Inability to meet required increases in capacity.
- Limiting opportunities for increased efficiency and decreased energy usage.
- If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost.

**Indirect impacts:**

- Lack of infrastructure development.
- Loss of contractual labour opportunities.
- Should the project not materialise, Mondi Richards Bay will lose their competitive edge in the market of paper production.

**Cumulative impacts:**

- Avoidance of any increased traffic during the construction phase.
- Avoidance of generated noise and dust pollution.
- Avoidance of increased waste generated.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1:**

**Alternative A2:**

- Ensure the construction camp is within a safe and built up portion and should therefore not pose any threat to natural surfaces surrounding the site.
- All earthworks to be carried out in accordance with SABS 1200 (current version).
- The site should be graded well to permit drainage and to prevent ponding.
- Ensure all health and safety rules of Mondi Ltd are abided by all construction staff and that all construction staff view the safety video.

- All site disturbances must be limited to the areas where structure will be constructed.
- Large excavations for the contractor laydown area, storage areas or waste areas are not permitted.
- Ensure that contractors and staff are well managed and adhere to the mitigation and management measures.
- Training of contractors on environmental awareness.
- Artificial lighting must be restricted to areas under construction and not directed outwards in order to minimize the potential negative effects of the lights on the natural nocturnal activities. Where lighting is required for safety or security reasons, this should be targeted at the areas requiring attention. Yellow sodium lights should be prescribed as they do not attract as many invertebrates (insects) at night. Sodium lamps require a third less energy than conventional light bulbs.
- Water for domestic consumption will be provided at or near the contractor laydown area and from a licensed water source.
- Ensure the establishment of storm water diversion berms around the contractor laydown area and other potential contaminated areas (e.g. diesel storage tanks or refuelling station).
- All contaminated standing water should be immediately removed and treated or disposed of appropriately.
- All incidents must be reported to the responsible site officer as soon as it occurs.
- Ensure effective storm water management will be exercised to limit negative impacts on the environment and enhance the positive impacts, and ensure catering for the hydraulic needs of the development while minimising the associated negative environmental impacts.
- Current depressions in the area should be raised to prevent stormwater ponding.
- Surfaces and conduits should be constructed to drain the run off more efficiently.
- Sheet runoff from paved surfaces and access roads needs to be curtailed. Runoff from paved surfaces should be slowed down by the strategic placement of berms.
- Provision of adequate toilet facilities must be implemented.
- All construction activities should be undertaken according to daylight working hours between the hours of 07:00 – 17:00 on weekdays and 7:30 – 13:00 on Saturdays.
- No construction activities may be undertaken on Sunday.
- All earth-moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability.
- Employees must have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMP.
- A complaints register must be made available and should any complaints be received, these should be logged in the complaints register and reported to the responsible person on site.
- All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).
- To reduce the liberation of dust it is recommended that water be sprayed on access roads.
- There should be strict speed limits on dusty roads to prevent the liberation of dust into the atmosphere.
- Adequate communication and education of personnel of the need to mitigate



against dust.

- All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time.
- The integrity of the impervious surface and bunded area must be inspected regularly and any maintenance work conducted must be recorded in a maintenance report.
- Provide proper warning signage to make people aware of the activities within designated areas.
- Employees should be provided with absorbent spill kits and disposal containers to handle spillages.
- Train employees and contractors on the correct handling of spillages and precautionary measures that need to be implemented to minimise potential spillages.
- All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor laydown area.
- Employees should record and report any spillages to the responsible person.
- An Emergency Preparedness and Response Plan will be developed and implemented should an incident occur.
- Access to storage areas on site must be restricted to authorised employees only.
- Contractors will be held liable for any environmental damages caused by spillages.
- General waste disposal bins will be made available for employees to use throughout the project area.
- Where possible waste should be recycled or sold to the community.
- Waste will be temporarily stored on site (less than 90 days) before being disposed off appropriately.
- General waste will be disposed of an approved waste disposal facility.
- Implement proper road signs to warn motorists of construction activities ahead;
- Ensure that there are flag men and signs at access points to the construction site; and
- Refer to the Draft Records of all waste being taken off site must be recorded and kept as evidence.
- Evidence of correct disposal must be kept.
- Building rubble will be used, where possible, in construction or buried with the necessary town planning approvals. Where this is not possible, the rubble will be disposed of at an appropriate site.
- All temporary soil stockpiles, litter and rubble must be removed on completion of construction activities. No dumping of waste material in surrounding open areas.
- Hazardous materials will be generated if there are spillages during construction and maintenance periods. This waste should be cleaned up using absorbent material provided in spill kits on site.
- Absorbent materials used to clean up spillages should be disposed of in a separate hazardous waste bin.
- The storage area for hazardous material must be concreted, bunded, covered, labelled and well ventilated.
- Provide employees with appropriate PPE for handling hazardous materials.



- All hazardous waste will be disposed of in a registered hazardous waste disposal facility.
- Records of all waste being taken off site must be recorded and kept as evidence.
- On-site chemical toilets will be provided for domestic purposes during construction phase.
- The contractors will be responsible for the maintenance of the chemical toilets.
- Should any spills or incidents occur; the material will be cleaned up immediately and disposed off appropriately.
- All incidents must be reported to the responsible site officer as soon as it occurs.
- During the construction phase chemical toilets will be provided for use on site. The chemical toilets will be cleaned and maintained on a weekly basis, minimising the potential for the generation of odours on site.
- Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
- All construction staff must have the appropriate PPE.
- The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.
- Report and record any environmental, health and safety incidents to the responsible person.
- Refer to the EMPr for additional mitigation measures.

### 2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

N.B There are no site alternatives as the development proposed is an upgrade of the existing Mill at the Richards Bay Plant.

The design and technology alternatives in this project are limited due to the nature of the upgrade that is being proposed. This proposal aims to utilize existing installed equipment to gain maximum efficiency and increase production output by making incremental changes to bottlenecks within the process. The design and technology options are therefore very limited to the existing installed equipment.

As a result, the only feasible alternative that is being considered is the “no-go” alternative.

#### a. Site alternatives

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

##### Alternative S1 (preferred alternative)

##### Direct impacts:

- The modifications and upgrades are likely to result in increased air emissions;
- Possible increase in traffic congestion;
- Release of dust from the activity, equipment and on site vehicles into the atmosphere.
- Generation of fumes from vehicle emissions may pollute the air.
- Generation and disposal of increased domestic and hazardous waste.
- Increased capacity of the mill which is a positive direct impact;
- Increased efficiency of the mill which is a positive direct impact;

**Indirect impacts:**

- Job security for those employed by Mondi.
- Increased efficiency of the mill will result in more efficient use of natural resources;
- The increase in air emissions will result in an increase in odour;
- The potential job creation could result in an influx of people to the area and associated informal and uncontrolled settlements.
- Possible increased generation of waste.
- Increased traffic and heavy vehicles and machinery on roads, leading to poorer road conditions and potential accidents and pedestrians and commuters.
- Increase in particulates (PM)(Predicted 8.6%), Sulphur Dioxide (SO<sub>2</sub>)(Predicted 3.5%), oxide of Nitrogen (NO<sub>x</sub>) (Predicted 11.8%) and Total Resolved Sulphur (TRS) (approximately 1tonne/annum increase predicted).
- Increase in the above could lead to an increase in health impacts and odour nuisance.
- The proposed upgrade will result in an increase of 0.4% SO<sub>2</sub>, 1.8% PM and 10.7% NO<sub>x</sub> emissions relative to all current RBCAA sources.
- Both highest daily and annual average ground level PM<sub>10</sub> and PM<sub>2.5</sub> concentrations are predicted to be slightly higher in the vicinity of the Mondi Richards Bay Mill due to the Mondi upgrade.
- Highest hourly, highest daily and annual average ground level SO<sub>2</sub> concentrations are predicted to remain almost unchanged after the Mondi Richards Bay mill upgrade.
- Highest hourly NO<sub>x</sub> concentrations are predicted to increase slightly, but the South African hourly NAAQS are not predicted to be exceeded during either the current or future scenarios. Although future annual average NO<sub>x</sub> concentrations are slightly higher than current concentrations, ground level NO<sub>x</sub> concentrations are predicted to be well below the South African annual NAAQS.
- Ground level TRS concentrations were predicted to be slightly higher after the upgrade using both the Lower and Upper TRS Emission scenarios. Using the Lower Emission Estimate, the spatial extent is predicted to increase, with more of the industrial area and Acton experiencing exceedances of the H<sub>2</sub>S 50% recognition odour threshold. However, with the Upper Emission Estimate, only small changes in the impact were predicted.

**Cumulative impacts:**

- Traffic congestion.
- Increased traffic and heavy vehicles and machinery on roads, leading to poorer road conditions and potential accidents and pedestrians and commuters.

**Alternative S2 (if any)**

**No-go alternative (compulsory)**

**Direct impacts:**

- None of the potential negative impacts will occur should the upgrades not take place, however, none of the potential benefits will be realised either.
- Inability to meet required increases in capacity.
- Limiting opportunities for increased efficiency and decreased energy usage.
- If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost.

**Indirect impacts:**

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- Lack of infrastructure development.
- Loss of contractual labour opportunities.
- Inability to meet required increases in capacity will result in the loss of the opportunity to ensure greater efficiency of the mill.
- Should the project not materialise, Mondi Richards Bay will lose their competitive edge in the market of paper production.

### Cumulative impacts:

- Avoidance of any increased traffic congestion.

Indicate mitigation measures to manage the potential impacts listed above:

#### Alternative S1

#### Alternative S2

- Ensure that the AEL Process takes place ensuring that the recommendations and thresholds are adhered to;
- Mondi Richards Bay conducts an odour abatement programme, which is in its second phase, this must be continued as it has significantly reduced the impact of odour;
- All earthworks to be carried out in accordance with SABS 1200 (current version).
- All incidents must be reported to the responsible site officer as soon as it occurs.
- Ensure effective storm water management will be exercised to limit negative impacts on the environment and enhance the positive impacts, and ensure catering for the hydraulic needs of the development while minimising the associated negative environmental impacts.
- Employees must have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMP.
- A complaints register must be made available and should any complaints be received, these should be logged in the complaints register and reported to the responsible person on site.
- All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).
- All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time.
- Provide proper warning signage to make people aware of the activities within designated areas.
- Employees should be provided with absorbent spill kits and disposal containers to handle spillages.
- Mondi's Emergency Preparedness and Response Plan must be adhered to at all times.
- General waste disposal bins will be made available for employees to use throughout the project area.
- Where possible waste should be recycled or sold to the community.
- Waste will be temporarily stored on site (less than 90 days) before being disposed off appropriately.
- General waste will be disposed of an approved waste disposal facility.

- All hazardous waste will be disposed of in a registered hazardous waste disposal facility.
- Records of all waste being taken off site must be recorded and kept as evidence.
- Every effort should be made by the environmental management of Mondi to move toward the use of alternative energy, initiate greener practices and keep abreast with international sustainable standards.
- Refer to the EMPr for additional mitigation measures.

**b. Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

**Alternative A1 (preferred alternative)**

**Direct impacts:**

- The modifications and upgrades are likely to result in increased air emissions;
- Possible increase in traffic congestion;
- Release of dust from the activity, equipment and on site vehicles into the atmosphere.
- Generation of fumes from vehicle emissions may pollute the air.
- Generation and disposal of increased domestic and hazardous waste.
- Increased capacity of the mill which is a positive direct impact;
- Increased efficiency of the mill which is a positive direct impact;

**Indirect impacts:**

- Job security for those employed by Mondi.
- Increased efficiency of the mill will result in more efficient use of natural resources;
- The increase in air emissions will result in an increase in odour;
- The potential job creation could result in an influx of people to the area and associated informal and uncontrolled settlements.
- Possible increased generation of waste.
- Increased traffic and heavy vehicles and machinery on roads, leading to poorer road conditions and potential accidents and pedestrians and commuters.
- Increase in particulates (PM)(Predicted 8.6%), Sulphur Dioxide (SO<sub>2</sub>)(Predicted 3.5%), oxide of Nitrogen (NO<sub>x</sub>) (Predicted 11.8%) and Total Resolved Sulphur (TRS) (approximately 1tonne/annum increase predicted).
- Increase in the above could lead to an increase in health impacts and odour nuisance.
- The proposed upgrade will result in an increase of 0.4% SO<sub>2</sub>, 1.8% PM and 10.7% NO<sub>x</sub> emissions relative to all current RBCAA sources.
- Both highest daily and annual average ground level PM<sub>10</sub> and PM<sub>2.5</sub> concentrations are predicted to be slightly higher in the vicinity of the Mondi Richards Bay Mill due to the Mondi upgrade.

**Cumulative impacts:**

- Traffic congestion.
- Increased traffic and heavy vehicles and machinery on roads, leading to poorer road conditions and potential accidents and pedestrians and commuters.

**Alternative A2**

**No-go alternative (compulsory)**

**Direct impacts:**

- None of the potential negative impacts will occur should the upgrades not take place, however, none of the potential benefits will be realised either.
- Inability to meet required increases in capacity.
- Limiting opportunities for increased efficiency and decreased energy usage.
- If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost.

**Indirect impacts:**

- Lack of infrastructure development.
- Loss of contractual labour opportunities.
- Inability to meet required increases in capacity will result in the loss of the opportunity to ensure greater efficiency of the mill.
- Should the project not materialise, Mondi Richards Bay will lose their competitive edge in the market of paper production.

**Cumulative impacts:**

- Avoidance of any increased traffic congestion.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1**

**Alternative A2**

- Ensure that the AEL Process takes place ensuring that the recommendations and thresholds are adhered to;
- Mondi Richards Bay conducts an odour abatement programme, which is in its second phase, this must be continued as it has significantly reduced the impact of odour;
- All earthworks to be carried out in accordance with SABS 1200 (current version).
- All incidents must be reported to the responsible site officer as soon as it occurs.
- Ensure effective storm water management will be exercised to limit negative impacts on the environment and enhance the positive impacts, and ensure catering for the hydraulic needs of the development while minimising the associated negative environmental impacts.
- Employees must have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMPr.
- A complaints register must be made available and should any complaints be received, these should be logged in the complaints register and reported to the responsible person on site.
- All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).
- All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time.

- Provide proper warning signage to make people aware of the activities within designated areas.
- Employees should be provided with absorbent spill kits and disposal containers to handle spillages.
- Mondi's Emergency Preparedness and Response Plan must be adhered to.
- General waste disposal bins will be made available for employees to use throughout the project area.
- Where possible waste should be recycled or sold to the community.
- Waste will be temporarily stored on site (less than 90 days) before being disposed off appropriately.
- General waste will be disposed of an approved waste disposal facility.
- All hazardous waste will be disposed of in a registered hazardous waste disposal facility.
- Records of all waste being taken off site must be recorded and kept as evidence.
- Every effort should be made by the environmental management of Mondi to move toward the use of alternative energy, initiate greener practices and keep abreast with international sustainable standards.
- Refer to the EMPr for additional mitigation measures.

#### 2.4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING OR CLOSURE PHASE

No impacts have been assessed for this section as the closure phase is not envisaged for this development.

##### a. Site alternatives

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

###### Alternative S1 (preferred alternative)

[Redacted]

###### Alternative S2

[Redacted]

###### No-go alternative (compulsory)

[Redacted]

Indicate mitigation measures to manage the potential impacts listed above:

###### Alternative S1

###### Alternative S2

[Redacted]

##### b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

###### Alternative A1 (preferred alternative)

[Redacted]

###### Alternative A2

[Redacted]

###### No-go alternative (compulsory)

[Redacted]

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Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1**

**Alternative A2**

## 2.5. PROPOSED MONITORING AND AUDITING

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

**Alternative S1 (preferred site)**

**Alternative S2**

### Construction:

- All waste to be disposed at a registered landfill.
- Limit construction activities resulting in noise generation to day time only.
- Optimise re-use of existing infrastructure.
- Limit dust generation and implement dust suppression if required.
- Minimise usage of natural resources through prevention of wastage.
- Demarcate no-go areas.
- Demarcate construction sites / areas and prevent access to these sites.
- Monitor complaints, investigate and implement rectifying measures.
- Monitor areas for pollution and degradation. Ensure implementation of identified rectifying measures.
- Ensure compliance of EMPr and environmental authorisation by contractors.

### Operation:

- Reduce waste to landfill by minimizing wastage on site, and sorting and recycling waste generated on site.
- Maintain the odour abatement programme;
- Ensure compliance with the requirements of the AEL;
- Ensure appropriate annual budgets for maintenance and implement appropriate maintenance.
- Implement a process to capture & address public recommendations, complaints and / or requests.

### Audit:

- An Environmental Control Officer (ECO) will be appointed to ensure the implementation of the measures outlined in the Basic Assessment Report, inclusive of plans and layouts and the comments contained in the EMPr.
- Site inspections and audits will be carried out as per frequency indicated in the EMPr by a suitably qualified person.
- During the construction phase, environmental incidents and complaints from I&AP's will be investigated, recommendations will be made to mitigate and prevent further impacts and the incidents reported, where relevant, to the Applicants and/or Authorities.

**Alternative A1 (preferred/ only alternative)**

**Alternative  
A2**



**Construction:**

- All waste to be disposed at a registered landfill.
- Limit construction activities resulting in noise generation to day time only.
- Optimise re-use of existing infrastructure.
- Limit dust generation and implement dust suppression if required.
- Minimise usage of natural resources through prevention of wastage.
- Demarcate no-go areas.
- Demarcate construction sites / areas and prevent access to these sites.
- Monitor complaints, investigate and implement rectifying measures.
- Monitor areas for pollution and degradation. Ensure implementation of identified rectifying measures.
- Ensure compliance of EMPr and environmental authorisation by contractors.

**Operation:**

- Reduce waste to landfill by minimizing wastage on site, and sorting and recycling waste generated on site.
- Maintain the odour abatement programme;
- Ensure compliance with the requirements of the AEL;
- Ensure appropriate annual budgets for maintenance and implement appropriate maintenance.
- Implement a process to capture & address public recommendations, complaints and / or requests.

**Audit:**

- An Environmental Control Officer (ECO) will be appointed to ensure the implementation of the measures outlined in the Basic Assessment Report, inclusive of plans and layouts and the comments contained in the EMPr.
- Site inspections and audits will be carried out as per frequency indicated in the EMPr by a suitably qualified person.
- During the construction phase, environmental incidents and complaints from I&AP's will be investigated, recommendations will be made to mitigate and prevent further impacts and the incidents reported, where relevant, to the Applicants and/or Authorities.

### 3. ENVIRONMENTAL IMPACT STATEMENT

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

**Alternative S1 (preferred site)**

There are no alternatives to the site listed as the development proposed is the upgrade and modification of the existing Mill at Mondi Richards Bay. No fatal flaws were identified during the Basic Assessment process, which included a comprehensive Public Participation Process with



a stakeholder and authorities meeting. Most of the impacts will occur during the construction phase, and will therefore be for a limited period and can be adequately mitigated to have a low or insignificant impact. Mitigation measures for the planning and design and operational phases also ensures that potential impacts can be mitigated to acceptable levels. The EMPr (Appendix F) has been developed to provide adequate mitigation measures for all phases of the proposed development and include specialist recommendations and stakeholder requirements.

The upgrades to the mill allow for incremental increase to the capacity of the mill and will increase the efficiency of the mill, thereby enabling Mondi to reduce their use of natural resources. Mondi Richards Bay is committed to a sustainable mill operation as well as being committed to the reduction in social impacts, through their recycling and odour reduction initiatives. It is imperative that the sustainability initiatives of Mondi Richards Bay are considered, as well as the fact that the proposed upgrades will result in minimal negative impact as no additional components are proposed, but rather modifications which will optimise the existing facility.

The proposed Mondi Richards Bay Mill upgrade is unlikely to have a noticeable impact on the current Air Quality Buffer Zones since the predicted increases in cumulative Particulate Matter (PM), SO<sub>2</sub> and NO<sub>x</sub> impacts are very low. These Buffer Zones were based on the 2004 RBCAA database, with the health screening based on a set of international criteria. These buffer zones may need to be updated based on the latest RBCAA database and incorporating the NAAQs for South Africa.

Furthermore, the Traffic Impact Assessment shows that the proposed Mondi Mill Expansion has the potential to generate minimal volumes of additional traffic. No significantly negative impacts were identified at the current intersections of Western Arterial/John Ross Parkway and Western Arterial/Kraft Link. Therefore the Mondi Mill expansion will be acceptable in terms of estimated traffic impact on the road network in the vicinity of the plant.

Mondi Richards Bay is committed to addressing the impact of odour from its process on the community surrounding the mill and in 2009 work commenced on an Odour Reduction Project. Another one of Mondi's key commitments is the reduction in waste to landfill and between 2009 and 2010 there has been a strong focus on finding alternative uses for various by-products of the production process. The amount of recovered fibre sent to landfill was significantly reduced during the course of the year by increasing the amount of fibre recycled and identifying alternative uses for the recovered fibre. During 2009 as much as 4000tons/month of the fibre, which is recovered via the primary clarifiers in the effluent plant, was land filled and, as a result of the re-use and recycling initiatives implemented, by the end of 2010 this was reduced to 0 tons/month.

Based on the findings of the basic assessment, the proposed development will be beneficial and should the impacts of air pollution and odour be properly managed, no fatal flaws will be associated with the proposed developments.

#### **Alternative S2**

#### **Alternative A1 (preferred alternative)**

The proposed upgrades have been carefully planned to reduce significant negative environmental impacts. The design and technology alternatives in this project are limited due to

the nature of the upgrade that is being proposed. This proposal aims to utilize existing installed equipment to gain maximum efficiency and increase production output by making incremental changes to bottlenecks within the process. The design and technology options are therefore very limited to the existing installed equipment.

**Alternative A2**

**No-go alternative (compulsory)**

If the project does not go ahead the opportunity to utilize existing equipment to its full potential is lost and an opportunity to improve the contribution to the economy is lost. Considering the development will not result in significant increases in negative impacts, there lacks a concrete reason to not implement the planned modifications.

## SECTION F. RECOMMENDATION OF EAP

Is the information contained in this report and the documentation attached hereto in the view of the EAP sufficient to make a decision in respect of this report?

YES

If "NO", please contact the KZN Department of Agriculture & Environmental Affairs regarding the further requirements for your report.

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

No fatal flaws have been identified for the proposed upgrade project during the basic assessment process that included a full public participation process. The development is designed at the planning stage to be environmentally cognisant, taking environmentally sound measures which ensure well rounded sustainability.

All impacts identified during the planning and design, construction and operational phases can be adequately mitigated and mitigation recommended by the EAP is provided for within the EMPr. Impacts identified and addressed through mitigation included: air emissions and odour.

No concerns were raised by I&AP (public and stakeholders) for the development beyond those of air quality issues pertaining mainly to odour or TRS, for which Mondi Ltd has developed a strategic and on-going odour abatement plan, and it is therefore the EAP's recommendation that the option be approved for the proposed development. Considering the development will not result in significant increases in negative impacts, there lacks a concrete reason to not implement the planned modifications. Furthermore, the proposed upgrades can only result in greater efficiency and no greater negative impact. Any negative environmental impacts associated with Mondi are those which are common to the trade and already in existence, with a competent team with years of experience in mitigating such impacts, and as stated by local authorities, have provided benchmark initiatives in the field of odour abatement.

The following may be considered for inclusion in the environmental authorisation:

- The draft EMPr and conditions thereto should be adhered to.
- An ECO must be appointed and all contractor staff to be trained on the EMPr and Environmental Authorisation requirements prior to commencement of activities.
- Environmental monitoring to be conducted during construction and incidents recorded and addressed accordingly.
- Recommendations and requirements of the AEL to be adhered to at all times.

## SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information