



# environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

## RISK ASSESSMENT IN TERMS OF REGULATION 8 OF THE WASTE EXCLUSION REGULATIONS

<b>APPLICANT</b>	Mondi South Africa Pty Ltd (Mondi)
<b>WASTE STREAM OR PORTION OF A WASTE STREAM</b>	Sludge from effluent
<b>BENEFICIAL USE/S</b>	Landfill capping
	Reuse in the production of low-grade paper/pulp
	Agricultural mulch
	Anaerobic digestion
<b>WASTE GENERATING FACILITY</b>	Mondi Richards Bay Mill

<b>PHYSICAL ADDRESS OF FACILITY</b>	Lot 6724, Richards Bay Western Arterial, Alton, Richards Bay, 3900
<b>GPS CO-ORDINATES OF WASTE GENERATING FACILITY</b>	<ol style="list-style-type: none"> <li>1. North east corner of the Mill Latitude: 28°45'29.31" S Longitude 32°0'10.93" E</li> <li>2. South east corner of the Mill Latitude: 28°46'11.78" S Longitude 31°59'55.52" E</li> <li>3. South west corner of the Mill Latitude: 28°45'49.93" S Longitude 31°59'16.65" E</li> <li>4. North west corner of the Mill Latitude: 28°45'17.36" S Longitude 31°59'36.04" E</li> </ol>
<b>CONTACT PERSON</b>	
<b>NAME</b>	Ms. C Webb
<b>ADDRESS</b>	7 Western Arterial, Alton Richards Bay, 3900
<b>EMAIL ADDRESS</b>	<a href="mailto:Candice.Webb@mondigroup.com">Candice.Webb@mondigroup.com</a>
<b>TELEPHONE</b>	035 902 2031 082 405 1688
<b>* DETAILED DESCRIPTION OF WASTE GENERATING PROCESS</b>	<p>The Primary Effluent Treatment Plant (PETP) involves the following:</p> <ul style="list-style-type: none"> <li>• Acid and alkali effluent streams from the Mill mix in the first chamber called the pre-neutralization chamber, the purpose of which is to control the pH to the subsequent stages.</li> <li>• 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 (mainly fibre) in the mill effluent, which is</li> </ul>

stockpiled at the designated concrete slab for fibre at the effluent treatment plant then disposed of at the Mondri Alton Landfill Site.

- The underflow of the primary clarifiers is pumped to a sludge dewatering system that recovers the fibre, which 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 SETP.

The Secondary Effluent Treatment Plant (SETP) involves the following:

- The SETP is an aerobic process that utilizes biological means to reduce organic (chemical oxygen demand, COD) loading of the effluent from the Mill, and is designed to affect a 70% reduction in COD concentration.
- The activated sludge is settled out in the Secondary Clarifier and only clarified effluent sent to sea via the uMhlathuze Municipality sea outfall pipeline.
- The activated sludge is mixed with the effluent fibre during the clarifier solid recovery process and is disposed of with the effluent fibre to the registered Dolphin Coast Landfill Management (Pty) Limited (DCLM) Landfill site.
- There are two emergency ponds, namely Pond 1 and Pond 2, that form part of the effluent treatment process that are used as temporary emergency storage during operational constraints at the Mill when Mondri needs to store effluent prior to treatment at ETP.

<b>PRODUCTION PROCESS FLOW CHART</b>	<b>YES</b>	<b>X</b>	<b>NO</b>
<b>IDENTIFICATION OF HAZARDS</b>	<b>Environmental Hazards: Dust, Leachate</b>		
<b>WASTE CLASSIFICATION</b>	<b>HAZARDOUS</b>	<b>GENERAL</b>	<b>X</b>

\*A process flow chart must be attached to the process description

## RISK ASSESSEMENT WITHOUT MITIGATION

Activity	Risk Description	Environmental receptors	Impact	Assessment of the risk				
				Probability	Magnitude	Duration	Scale	Significance
Storage	Accidental spillage into the environment	Soil	Soil contamination	3	4	3	1	24
		Surface water	Contamination transported to surface water	2	4	3	2	18
		Groundwater	Percolation into groundwater	2	4	2	2	16
Transportation	Leachate from stockpiled material during rainfall	Soil	Soil contamination	4	6	3	1	40
		Surface water	Contamination transported to surface water	2	4	3	2	18
		Groundwater	Percolation into groundwater	2	4	3	2	18
Transportation	Accidental spillage into the environment	Soil	Soil contamination	3	4	3	2	27
		Surface water	Contamination transported to surface water	2	4	3	2	18
		Groundwater	Percolation into groundwater	3	4	3	2	27

Activity	Risk Description	Environmental receptors	Impact	Assessment of the risk				
				Probability	Magnitude	Duration	Scale	Significance
Use as landfill cover material	Leachate generation during rainfall	Soil	Soil contamination	3	4	3	1	24
		Surface water	Contamination transported to surface water	2	4	3	2	18
		Groundwater	Percolation into groundwater	2	4	3	2	18

**The following factors and criteria must be used to assess the impacts of the activities:**

Criteria	
<b>MAGNITUDE (Severity)</b>	<b>DURATION</b>
10 - Very high	5 - Permanent (longer than 10 years)
8 - High	4 - Long-term (5 to 10 years)
6 - Moderate	3 - Medium-term (12 months to 5 years)
4 - Low	2 - Short-term (0 to 12 months)
2 - Minor	1 - Immediate
<b>SCALE</b>	<b>PROBABILITY (Likelihood)</b>
5 - International	5 - Definite
4 - National	4 - Highly probable
3 - Regional	3 - Medium probability
2 - Local	2 - Low probability
1 - Site only	1 - Improbable
0 - None	0 - None

**Magnitude**  
Magnitude measures the size of the impact

**Duration**  
Duration refers to the lifetime of the impact i.e. how long it will last

**Scale**  
The scale refers to the extent of the impact

**Probability**  
The probability refers to the chance of impact to occur. The potential impact could be most likely to occur, unlikely, etc.

### Assessment of Significance of impact

Significance rating of the potential impacts illustrates the importance of the impact itself. The size of area affected by pollution may be extremely high but the significance of this effect is dependent on the concentration or level of pollution in that area. In order to determine the significance of impact, the following method was used:

$$\text{Significance Points (SP)} = (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability}$$

The values of SP are then ranged as follows:

Rating	Description
SP >60	An impact which could influence the decision about whether or not to proceed with the activities regardless of any possible mitigation.
SP 30 – 60	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP <30	Impacts with little real effect and which will not have an influence on or require modification of the activities.
+	An impact that is likely to result in positive consequences/effects

I, Candice Webb hereby declare that I have read the completed the Risk Assessment form and hereby confirm that the information is to the best of my knowledge true and correct.

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

Applicant (Full names) Candice Webb

Designation Environmental Manager

Signature 

Date 20/02/2020 Place Richards Bay

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Date Received			
Decision Taken	Authorised	Not Authorised (provide reasons)	
Reference Number			