

## TABLE OF CONTENTS

<b>LIST OF TABLES .....</b>	<b>VI</b>
<b>LIST OF FIGURES.....</b>	<b>VII</b>
<b>EXECUTIVE SUMMARY.....</b>	<b>VIII</b>
<b>CHAPTER 1 INTRODUCTION.....</b>	<b>1</b>
1.1 BACKGROUND.....	1
1.1.1 <i>History of the Project</i> .....	1
1.2 LEGISLATION AND GUIDANCE FOR THE EIA REPORT.....	2
1.3 PROJECT PROPONENT.....	2
1.4 RT KNITS LTD -SUSTAINABLE DEVELOPMENT AND PRODUCTION.....	5
1.5 PROJECT RATIONALE .....	10
1.6 AIM OF THE PROJECT.....	11
1.7 LIAISON WITH AUTHORITIES.....	12
1.8 STRUCTURE OF THE EIA REPORT.....	12
<b>CHAPTER 2 LEGISLATIVE FRAMEWORK .....</b>	<b>14</b>
2.1 INTRODUCTION .....	14
2.2 ENVIRONMENTAL PROTECTION ACTS 2002.....	14
2.3 REGULATIONS.....	15
2.3.1 <i>Introduction</i> .....	15
2.3.2 <i>Emissions to air</i> .....	15
2.3.2.1 Smoke and Particulate matter (PM <sub>10</sub> ).....	16
2.3.2.2 Oxides of nitrogen.....	16
2.3.2.3 Sulphur dioxide (SO <sub>2</sub> ).....	17
2.3.2.4 Carbon monoxide (CO).....	17
2.3.3 <i>Effluent discharge limits</i> .....	17
2.3.4 <i>Noise</i> .....	19
2.3.5 <i>Hazardous wastes</i> .....	19
<b>CHAPTER 3 PROJECT DESCRIPTION.....</b>	<b>21</b>
3.1 GENERAL DESCRIPTION.....	21
3.2 PROJECT COMPONENTS .....	21
3.3 SITE FEATURES.....	22
3.3.1 <i>Project site location and surroundings</i> .....	22
3.3.2 <i>Site plan and building plan layout</i> .....	24

3.3.3	<i>Ownership of land</i> .....	24
3.3.4	<i>Zoning of the site</i> .....	24
3.3.5	<i>Existing land use</i> .....	24
3.3.6	<i>Site topography</i> .....	24
3.4	RAW MATERIALS USED .....	25
3.4.1	<i>Grey knitted fabric</i> .....	25
3.4.2	<i>Dyes/Chemicals and auxiliaries</i> .....	25
3.4.2.1	Chemical Storage Facilities .....	25
3.4.2.2	Mode of chemical storage.....	26
3.5	PROCESS DESCRIPTION.....	27
3.5.1	<i>Process technology</i> .....	27
3.5.2	<i>Fabric delivery</i> .....	27
3.5.3	<i>Fabric reception and unloading</i> .....	28
3.5.4	<i>Fabric storage</i> .....	28
3.5.5	<i>Fabric feed</i> .....	30
3.5.6	<i>Dyeing and Finishing Processes</i> .....	30
3.5.6.1	Fabric preparation.....	30
3.5.6.2	Fabric dyeing .....	30
3.5.6.3	Finishing processes.....	32
3.5.7	<i>Final product</i> .....	34
3.5.7.1	Fabric inspection and testing.....	34
3.5.7.2	Fabric release.....	34
3.6	UTILITIES REQUIREMENT .....	35
3.6.1	<i>Electricity use</i> .....	35
3.6.2	<i>Water use</i> .....	35
3.6.3	<i>Compressed air</i> .....	35
3.6.4	<i>Heavy Fuel Oil (HFO)</i> .....	36
3.6.5	<i>Liquefied Petroleum Gas (LPG)</i> .....	36
3.7	INFRASTRUCTURAL AND OTHER FACILITIES .....	37
3.7.1	<i>Accessibility</i> .....	37
3.7.2	<i>Drainage</i> .....	37
3.7.3	<i>Water supply and source</i> .....	37
3.7.4	<i>Electricity power supply</i> .....	37
3.8	THE DYEHOUSE.....	38
3.8.1	<i>Dye house building</i> .....	38
3.8.2	<i>Dyeing and finishing section</i> .....	39
3.8.3	<i>Boiler room</i> .....	39

3.8.4	<i>Chimney stack</i> .....	40
3.8.5	<i>Softener room</i> .....	40
3.8.6	<i>Chemical and dyestuffs store</i> .....	40
3.8.7	<i>Offices and administration</i> .....	40
3.8.8	<i>Workshop</i> .....	41
3.8.9	<i>Water storage</i> .....	41
3.8.10	<i>Drainage</i> .....	41
3.8.11	<i>Roads and Parking</i> .....	41
3.9	EFFLUENT TREATMENT .....	42
3.9.1	<i>Wastewater treatment facilities</i> .....	42
3.9.2	<i>Wastewater re-use</i> .....	42
3.10	GENERAL MAINTENANCE .....	45
3.11	STAFFING REQUIREMENTS .....	45
3.12	ZERO DEVELOPMENT .....	46
<b>CHAPTER 4</b>	<b>BASELINE ENVIRONMENTAL CONDITION</b> .....	<b>49</b>
4.1	INTRODUCTION .....	49
4.2	CLIMATE AND METEOROLOGY .....	50
4.3	TOPOGRAPHY AND GEOLOGY.....	50
4.3.1	<i>Topography</i> .....	50
4.3.2	<i>Geology</i> .....	51
4.4	AIR QUALITY .....	51
4.4.1	<i>Stack emissions quality</i> .....	51
4.4.2	<i>Ambient air quality</i> .....	52
4.5	NOISE .....	54
4.6	WATER AND EFFLUENT .....	55
4.7	TRAFFIC AND INFRASTRUCTURE.....	55
4.8	LANDSCAPE AND VISUAL.....	56
4.8.1	<i>Planning characteristics of site</i> .....	56
4.9	DRAINAGE .....	57
4.10	FLORA AND FAUNA .....	57
4.10.1	<i>Flora</i> .....	57
4.10.2	<i>Fauna</i> .....	58
4.11	VALUE OF SITE AND CULTURAL HERITAGE.....	58
<b>CHAPTER 5</b>	<b>ASSESSMENT OF ENVIRONMENTAL EFFECTS</b> .....	<b>59</b>
5.1	IMPACTS AT PROJECT CONCEPTUAL LEVEL .....	59

5.2	AESTHETICS AND VISUAL IMPACTS.....	60
5.3	IMPACTS DURING IMPLEMENTATION PHASE.....	60
5.3.1	<i>Noise nuisance</i> .....	61
5.3.2	<i>Dust emissions</i> .....	61
5.3.3	<i>Water pollution (equipment and staff)</i> .....	62
5.3.4	<i>Solid wastes</i> .....	63
5.3.5	<i>Traffic impact</i> .....	63
5.3.6	<i>Employment opportunities</i> .....	64
5.4	IMPACTS DURING OPERATION PHASE.....	65
5.4.1	<i>Noise nuisance</i> .....	65
5.4.2	<i>Air emissions</i> .....	66
5.4.2.1	Climate.....	67
5.4.2.2	Local Metrological Data.....	67
5.4.2.3	Terrain data.....	67
5.4.2.4	Buildings.....	68
5.4.3	<i>Process effluents</i> .....	68
5.4.4	<i>Solid waste handling and management</i> .....	69
5.4.5	<i>Traffic impact</i> .....	70
5.4.6	<i>Public utilities</i> .....	71
5.4.6.1	Water supply.....	71
5.4.6.2	Electricity.....	71
5.4.6.3	Telecommunication.....	71
5.4.7	<i>Hazards during operation</i> .....	72
5.4.8	<i>Employee health and safety</i> .....	72
5.4.9	<i>Employment opportunities</i> .....	73
<b>CHAPTER 6 ENVIRONMENTAL MANAGEMENT PLAN: PROPOSED MITIGATION MEASURES</b>		<b>74</b>
6.1	MITIGATION MEASURES.....	74
6.1.1	<i>Landscape and visual impact</i> .....	74
6.1.2	<i>Noise pollution</i> .....	75
6.1.3	<i>Dust emissions and air pollution</i> .....	77
6.1.4	<i>Generation of wastewater</i> .....	79
6.1.5	<i>Stormwater management</i> .....	80
6.1.6	<i>Solid wastes</i> .....	81
6.1.7	<i>Traffic impact</i> .....	83
6.1.8	<i>Utilities</i> .....	84
6.1.9	<i>Employment</i> .....	85
6.1.10	<i>Hazards Prevention and Control</i> .....	86

6.1.10.1	Control Measures .....	87
6.1.10.2	Emergency Preparedness and Response Plans.....	87
6.1.11	<i>Occupational Health and Safety Hazards</i> .....	88
<b>CHAPTER 7</b>	<b>ENVIRONMENTAL MONITORING PLAN (EMP) .....</b>	<b>90</b>
7.1	OBJECTIVES OF THE EMP.....	90
7.2	SCOPE OF THE EMP.....	90
7.3	ENVIRONMENTAL MONITORING AND AUDITING REQUIREMENTS.....	91
7.3.1	<i>Air quality</i> .....	91
7.3.2	<i>Noise</i> .....	92
7.3.3	<i>Solid wastes</i> .....	93
7.3.4	<i>Wastewater</i> .....	93
7.4	ENVIRONMENTAL REPORTING .....	93
7.5	ENVIRONMENTAL MANAGEMENT PLAN.....	94
7.6	ENVIRONMENT ENHANCEMENT .....	95
7.6.1	<i>Planting of trees</i> .....	95
7.6.2	<i>Infrastructure</i> .....	95
7.6.3	<i>Green spaces</i> .....	95
7.6.4	<i>Access and security</i> .....	96
<b>CHAPTER 8</b>	<b>EXPERTISE OF CONSULTANCY TEAM .....</b>	<b>97</b>
<b>CHAPTER 9</b>	<b>SUMMARY AND CONCLUSION .....</b>	<b>100</b>
9.1	FINDINGS OF THE EIA REPORT .....	100
9.1.1	<i>Minimum impacts</i> .....	101
9.1.2	<i>Impacts during construction and operational phase</i> .....	101
9.1.3	<i>Environmental impacts and mitigation measures</i> .....	101
9.2	OVERALL POSITIVE IMPACT .....	105
9.2.1	<i>Social and Economic issues</i> .....	105
9.2.2	<i>Socio-economic benefits</i> .....	105
9.3	OVERALL CONCLUSION .....	106
<b>ANNEXES</b>	<b>.....</b>	<b>107</b>

## LIST OF TABLES

Table 2.1: National air emission standards (EPA 1998).....	16
Table 2.2: Characteristics and limits for effluent discharge for existing dye house at Terre Rouge (December 2014).....	18
Table 2.3: Noise Exposure Limits.....	19
Table 2.4: Types of hazardous wastes .....	20
Table 3.1: Dimensions of stack and characteristics of flue gas .....	40
Table 4.1: Measured Pollutant Concentrations in the vicinity of actual dyehouse (Le Hochet, Terre Rouge) .....	52
Table 4.2: Measured Pollutant Concentrations from emissions at various Locations in the vicinity of actual dyehouse (Le Hochet, Terre Rouge).....	53
Table 4.3: Noise survey in the dyehouse .....	54
Table 6.1: Waste types and their disposal methods .....	83
Table 7.1: Stack emissions limits for optimized boiler operations.....	92
Table 9.1: Summary of potential impacts and mitigation measures .....	102

## LIST OF FIGURES

Figure 1-1: RT Knits, La Tour Koenig .....	3
Figure 1-2: Use of natural lighting for illumination in the Store .....	5
Figure 1-3: Openings at ground level facing the South East Trade winds and extractor fans .....	6
Figure 1-4: Large volume active water heating for dormitory .....	7
Figure 1-5: Active solar water heating system for boiler feed water .....	7
Figure 1-6: Industrial air coolers for large volume air-cooling .....	8
Figure 1-7: Infiltration basins for collecting storm water .....	9
Figure 3-1: Process flowchart of the dyehouse .....	29
Figure 3-2: Reversing machine .....	30
Figure 3-3: Dyeing machine .....	xyz32
Figure 3-4: Stenter .....	33
Figure 3-5: Fabric inspection machine .....	34
Figure 3-6: Preliminary treatment of dye house effluent prior to discharge in sewer .....	44
Figure 3-7: Existing dyehouse location at Le Hochet, Terre Rouge .....	48
Figure 3-8: Proposed dyehouse location at La Tour Koenig, Pointes Aux Sables after relocation .....	48
Figure 4-1: Project area .....	58
Figure 6-1: One of the existing infiltration basins at La Tour Koenig. ....	81