A

PRE-FEASIBILTY REPORTS

FOR

2, 50,000 TPA Rolling Mill for manufacturing Wire, Wire Rod & TMT Bars

AT

Mouja-Khidipur, Village-Gokulpur, P.O-Shyamraipur, P.S-Kharagpur (Local), Dist.- Paschim Mednipur, W.B.

Project Execution By

RASHMI METALIKS LIMITED UNIT-IV

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1. Executive Summary

1.0 Introduction

M/s Rashmi Metaliks Limited has an Integrated Steel Plant, Pellet Plant & Ductile Iron Pipe Plant and has already obtained EC No-J-11011/227/2010-IA-II (I) on 12.06.2008 further validity extended for five years till 11.06.2018 for integrated steel plant, another EC No-J-11011/604/2010-IA-II (I) on 01.06.2012 from MoEF, New Delhi for Pellet & Beneficiation plant now with OMPL (Previously by name of RML), F. No. J – 11011/372/2014-IA II (I) dated 12.02.2015 for 0.9 MTPA Pellet Plant and on 09.10.2009 for Ductile Iron Pipe Plant of 2,00,000 TPA from SEIAA West Bengal and necessary NOC, CFO for running its unit. Its registered office is at Premlata Building, 6th Floor, 39-Shakespeare Sarani, Kolkata – 700 017 in West Bengal.

M/s Rashmi Metaliks Limited at present operating Sinter Unit (50,000 TPM), Mini Blast Furnace (14,000 TPM), SMS (15,500 TPM), Ductile Iron Pipe (11833 TPM), Pellet Plant-I (75,000 TPM), Coal Gasifier (6000 Nm^3/hr) at village - Gokulpur, P.O. Shyamraipur, Kharagpur. District Paschim Mednipur in West Bengal after obtaining valid CFO from WBPCB. Detail Enclosed as **Annexure-VII.**

It is important to note that by virtue of Hon'ble Calcutta High Court order for demerger, as on date the complete Sponge Iron Plant, Captive Power Plant, MBF (1 X 320 m^2), Pellet Plant-II (0.6 MTPA), Pellet Plant-III (0.6 MTPA), Iron Ore Beneficiation Plant and Producer Gas Plant got transferred to M/s Orissa Metaliks Private Limited (OMPL). The name of plant units of RML is given in **Table 1.1.** The name of plant units of OMPL is given in **Table 1.2.**

Table 1.1 Name of Units with Rashmi Metaliks Limited

Name of the Units	Size of Units under Operation	Production Capacity	Name of Product
Mini Blast Furnace	1 x 215 m^3	168000 TPA	Molten Iron
Sinter Plant	2 x 25 m^2	600000 TPA	Sinter
Pig Casting Machine	-	120000 TPA	Pigs
SMS	-	378000 TPA	Steel

Pellet Plant	0.9 MTPA	900000 TPA	Pellets
Ductile Iron Pipe Plant	0.14 MTPA	140000 TPA	Pipe
Rolling Mill	TMT 8 - 32 mm Wire Rod 5.5 mm - 12 mm	120000 TPA	TMT Bar

Table 1.2 Name of Units with Orissa Metaliks Private Limited (By Virtue of Hon'ble Calcutta High Court Order)

Name of the Units	Size of Units under Operation	Production Capacity	Name of Product
DRI kilns	6 x 100 TPD + 1 x 350 TPD	321000 TPA	Sponge Iron
Iron Ore Beneficiation Plant	1.5 MTPA		Iron ore concentrate
Pellet Plant	2 x 0.6 MTPA	120000 TPA	Pellets
Producers Gas Plant	10 x 7500 Nm^3/ h	-	Producer gas for pellet making
CPP-WHRB	DRI based WHRB & AFBC	28 MW	Electricity

After transferred of units to M/s Orissa Metaliks Private Limited the status of units in the company name as follows.

Units under the company Name Orissa Metaliks Private limited	Units under the Company Name Rashmi Metaliks Limited
Under EC No J-11011/227/2010-IA-II (I) dated 12th, June, 2008 of MoEF, New Delhi	
DRI (10 X100 TPD; 3 X350 TPD) WITH WHRB	SINTER PLANT : 70 sqM (0.84MTPA)
MBF : 320 sqM (0.3MTPA)	STEEL MELTING SHOP : 0.5 MTPA
	OXYGEN PLANT : 60 TPD
	LIME CALCINATION : 1200 TPD
F. No. J – 11011/372/2014-IA II (I) dated 12.02.2015. of MoEF, New Delhi	
	PELLET PLANT-I -0.9 MTPA
Under EC. No. EN/256/T-II-I/047/2009 dated 09.10.2009. of SEIAA, West Bengal	
	DUCTILE IRON PIPE PLANT -2,00,000 TPA
Under EC No J-11011/604/2010-IA-II (I) dated 1st, June, 2012' of MoEF, New Delhi	
I/O BENEFICATION PLANT-1.5 MTPA	
PELLET PLANT (0.6 MTPA x2) 1.2 MTPA	
PRODUCER GAS PLANT (10 X 7500 NM^3/hr)	

As a strategic decision the company has decided to expand their business model by addition of Rolling Mill of 2,50,000 TPA at Mouza Khidipur (J.L. No.-140) Village –

Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), Dist. Paschim Mednipur in the state of West Bengal.

Rashmi Group founded in 1966 really got impetus from its real promoter. Rashmi Group of companies is a fast growing Group in the field of manufacturing steel and cement. The company has developed core competence in minerals, steel and cement with 40 years of experience. The Group's turnover is around Rs.2100 Crores and net worth is Rs.2139 Crores. Rashmi Group awarded 'Ultra Mega Project' status by Govt. of West Bengal. The Group is also engaged in import/export of Mineral & Mineral based products. The growth of the group during last few years has been phenomenal and fast catching the attention of bankers, professionals and industry as a whole.

The group has grown from merely a re-rolling mill to a fully-fledged Cement Grinding unit having capacity of 0.18 MTPA and group have already obtained EC from the SEIAA, W.B. in favour of Rashmi Cement Limited (Cement Division) vide letter no. 1276/EN/T-II-1/044/2014 on 27.05.2015 for expansion from 0.18 MTPA to 0.96 MTPA which is under commissioning stage at Jhargram in West Bengal.

In addition to this, the Group also has a Sponge Iron Plant in the name of Rashmi Cement Limited (Steel & Power Division) for which EC (File No. J-11011/227/2007-1A.II (I)) had obtained from MoEF, Delhi on 12.02.2009 for expansion of capacity from 3, 00,000 TPA TO 6, 00,000 TPA, Ferro alloy (FeMn, SiMn, FeSi & FeCr) with capacity 72,000 TPA & Power Plant 25 MW and at present we are having operation capacity of 4, 00,000 TPA Sponge Iron, Ferro alloy 24,000 TPA & Captive Power Plant WHRB based 28 MW at village - Jitusole, P.O. Jhargram, District Paschim Mednipur in West Bengal.

Also , Rashmi Group is going to set up another 1.0 million TPA Steel Plant and 200 MW power plant at Jamuria, Dist.-Burdwan in West Bengal by the name of Rashmi Cement Limited, for this MOEF, Delhi has already issued the Environmental Clearance (File No. J -11011/112/2010-IA II (I)) dated 26th August 2014.

As a strategic decision, the management has decided to expand their business model by setting up another unit in the name of **M/s Rashmi Metaliks Limited,** as a standalone **Brown Field Project** of Rolling Mill of 2, 50,000 TPA at Mouza Khidipur (J.L No. 140)

Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschmi Mednipur in West Bengal.

1.1 Present Project:

The proposed project, after obtaining the "EC" project works will be started at**.** Management has been decided to put Rolling Mill of 2,50,000 TPA at Mouza Khidipur (J.L No. 140) by the name of M/s Rashmi Metaliks Limited, Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschim Mednipur in the state of West Bengal for following reason:

A. Product like Billets from existing SMS plant of Rashmi Metaliks Limited will be used for the production of TMT Bar, Wire & Wire Rods.

B. Less energy consumption as ingot/ Billets manufactured from SMS will be used in Rolling Mill resulting less power consumption and overall reduction in carbon footprint.

C. Using the Eco-friendly clean Technology

D. Economies of scale will result in lower operating cost

E. Offers freight advantage vis-à-vis competitors

The markets in the East & North-East are potential territories for non structural steel products & offer great opportunity to infrastructures market, which is well accepted in other parts of the country.

1.2 Market Demand:

The Indian steel sector enjoys advantages of domestic availability of raw materials and cheap labour. Iron ore is also available in abundant quantities. This provides major cost advantage to the domestic steel industry. The steel industry reflects the overall economic growth of an economy in the long term as demand for steel is derived from other sectors like automobiles, consumer durables and infrastructure.

While steel continues to have a stronghold in traditional sectors such as construction, housing and ground transportation, special steels are increasingly being used in engineering industries such as power generation, petrochemicals and fertilizers.

The Indian steel industry is very modern with state-of-the-art steel mills. It has always strived for continuous modernization and up-gradation of older plants and higher energy efficiency levels. These features of the industry have made India the world's fourth largest producer of steel and the country is poised to move to second position in steel production in the next 10 years. Steel production capacity of the country expanded from about 75 million tonnes per annum (MTPA) in 2009-10 to about 101.02 million tonnes (MT) in 2013-14, when output was 81.7 MT.

India produced 7.07 MT of steel in January 2015 reporting the fourth highest production level globally which was 1.7 per cent higher than the country's steel production in the same month last year.

The steel sector in India contributes nearly two per cent of the country's gross domestic product (GDP) and employs over 600,000 people. The per capita consumption of total finished steel in the country has risen from 51 Kg in 2009-10 to about 60 Kg in 2013-14.The Government of India is aiming to scale up steel production in the country to 300 MT by 2025 from 81 MT in 2013-14.

The Ministry of Steel has announced to invest in modernization and expansion of steel plants of Steel Authority of India Limited (SAIL) and Rashtriya Ispat Nigam Limited (RINL) in various states to enhance the crude steel production capacity in the current phase from 12.84 MTPA to 21.4 MTPA and from 3 MTPA to 6.3 MTPA respectively.

The Ministry of Steel is facilitating setting up of an industry driven Steel Research and Technology Mission of India (SRTMI) in association with the public and private sector steel companies to spearhead research and development activities in the iron and steel industry at an initial corpus of Rs 200 crores (US$ 31.67 million).

Some of the other recent government initiatives in this sector are as follows:

- An Inter Ministerial Group (IMG) has been setup in the Ministry of Steel for effective coordination and expediting implementation of various investment projects in the steel sector.
- A Project Monitoring Group (PMG) has been constituted under the Cabinet

Secretariat to fast track various clearances/resolution of issues delaying the investments in the sector.

- To increase domestic value addition and improve iron ore availability for domestic steel industry, duty on export of iron ore has been increased to 30 per cent.

- Rates of custom duty on stainless steel flat products have been enhanced from 5 per cent to 7.5 per cent in the Union Budget for 2014-15.

India is expected to become the world's second largest producer of crude steel in 2015-16, moving up from the fourth position, as its capacity is projected to increase from 100 MT to about 112.5 MT in 2016. Also, India has set an output target of 300 MT of steel by 2025.

Steel bars and wire rods are used as the material of gears, bolts, springs, bearings, cables and other basic components of safety-related parts typically such as automobile engines, drive train systems and chassis. Unlike cold-rolled sheets, heavy plates, pipes, sections and other steel products, bars and wire rods are seldom used as hot rolled for final products, but they are manufactured into machine parts after undergoing one or more stages of so-called post-processing such as heat treatment, forging and wire drawing at specialist plants.

For this reason, every one of bar and wire-rod products is developed with due attention to its behaviour at the post-processing stages. What is required for a steelmaker regarding these products is good processibility and fulfilment of required properties after the processing. Furthermore, since the costs of the post-processing is sometimes several times the price of the hot-rolled steel material, it is increasingly important to reduce the total integrated manufacturing cost from the steel material to final product.

The proposed project, after obtaining 'EC' project works will be started**.** Management has decided to setup a standalone **Brown Field Project** for **Rolling Mill of 2,50,000 TPA** by the name of M/s Rashmi Metaliks Limited, at Mouza Khidipur (J.L No. 140), Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschim Mednipur in the state of West Bengal.

1.3 Process concept and Technology:

❖ Rolling Mill:

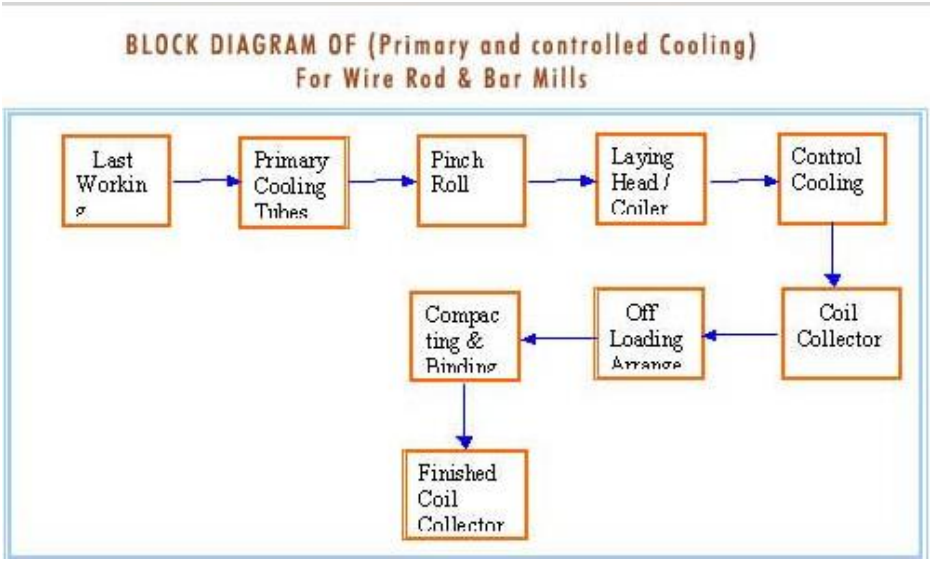
TMT Process:-

By adopting thermo mechanically treatment process higher strength of TMT bars is obtained. In this process, steel bars get intensive cooling immediately after rolling. When the temperature is suddenly reduced to make surface layer hard, the internal core is hot at the same time. Due to further cooling in atmosphere and heat from the core, the tempering takes place. This process is expected to improve properties such as yield strength, ductility and toughness of TMT bars. With above properties, TMT steel is highly economical and safe for use. TMT steel bars are more corrosion resistant than Tor steel.

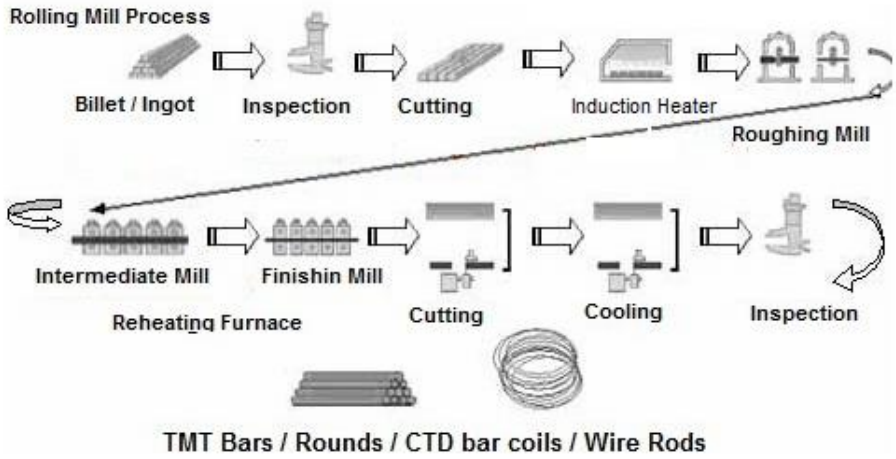
Wire & Wire Rod Mill Process:-

The objective of a wire rod mill (WRM) is to reheat and roll steel billets into wire rods. The production of wire rods in wire rod mills is subject to constant change. The growing demands on the quality of the wire rods as well as on the flexibility and cost effectiveness of the wire rod mills has necessitated the development of new and innovative technologies and processes. Modern wire rod mills are high speed mills capable of rolling of smaller dimensions at high production rates, while at the same time keeping investments and operating costs at the reasonable levels. As a rule, wire rod mills are designed for an annual output of between 300,000 t and over 800,000 t (two strand mills).

The mills are capable of rolling at speeds ranging from 50 meters per second to 120 meters per seconds. Typical product sizes are within the 5.0 mm to 20 mm range. The range of materials comprises low to high carbon steels, cold heading steels, wire drawing steels, alloy steels, spring steels, ball bearing steels, electrode quality steels, reinforcement bars and tool steels. Modern wire rod mills are expected to meet the following requirements.



(a)



(b)

Figure 1.3.2 (a), (b) - The diagram above shows the schematic of Rolling Mill

1.4 Capital Cost Estimates

The estimated capital cost, for the plant and equipment to be installed, works out to about **Rs. 25 Crores** including Machineries, Building construction, Road construction, development of existing green belt etc.

1.5 Project Schedule:

This project would be designed by Capex Projects Management division of **RASHMI METALIKS LIMITED** and will be executed by M/s Rashmi Metaliks Limited project division, which is located at Kolkata, West Bengal. The entire project will be completed within 48 months from the date of obtaining of Consent to establish.

2. Introduction of the Project

2.0 Identification of Project and Project Proponent

M/s Rashmi Metaliks Limited has an Integrated Steel Plant, Pellet Plant & Ductile Iron Pipe Plant and has already obtained EC No-J-11011/227/2010-IA-II (I) on 12.06.2008 further validity extended for five years till 11.06.2018 for integrated steel plant, another EC No-J-11011/604/2010-IA-II (I) on 01.06.2012 from MoEF, New Delhi for Pellet & Beneficiation plant now with OMPL (Previously by name of RML), F. No. J – 11011/372/2014-IA II (I) dated 12.02.2015 for 0.9 MTPA Pellet Plant and on 09.10.2009 for Ductile Iron Pipe Plant of 2,00,000 TPA from SEIAA West Bengal and necessary NOC, CFO for running its unit. Its registered office is at Premlata Building, 6th Floor, 39-Shakespeare Sarani, Kolkata – 700 017 in West Bengal.

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I/O BENEFICATION PLANT-1.5 MTPA	
PELLET PLANT (0.6 MTPA x2) 1.2 MTPA	
PRODUCER GAS PLANT (10 X 7500 NM^3/hr)	

As a strategic decision the company has decided to expand their business model by addition of Rolling Mill of 2,50,000 TPA Rolling Mill by the name of Rashmi Metaliks

Limited at Mouza Khidipur (J.L. No.-140) Village – Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), Dist. Paschim Mednipur in the state of West Bengal.

Rashmi Group founded in 1966 really got impetus from its real promoter. Rashmi Group of companies is a fast growing Group in the field of manufacturing steel and cement. The company has developed core competence in minerals, steel and cement with 40 years of experience. The Group's turnover is around Rs.2100 Crores and net worth is Rs.2139 Crores. Rashmi Group awarded 'Ultra Mega Project' status by Govt. of West Bengal. The Group is also engaged in import/export of Mineral & Mineral based products. The growth of the group during last few years has been phenomenal and fast catching the attention of bankers, professionals and industry as a whole.

The group has grown from merely a re-rolling mill to a fully-fledged Cement Grinding unit having capacity of 0.18 MTPA and group have already obtained EC from the SEIAA, W.B. in favour of Rashmi Cement Limited (Cement Division) vide letter no. 1276/EN/T-II-1/044/2014 on 27.05.2015 for expansion from 0.18 MTPA to 0.96 MTPA which is under commissioning stage at Jhargram in West Bengal.

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Also , Rashmi Group is going to set up another 1.0 million TPA Steel Plant and 200 MW power plant at Jamuria, Dist.-Burdwan in West Bengal by the name of Rashmi Cement Limited, for this MOEF, Delhi has already issued the Environmental Clearance (File No. J -11011/112/2010-IA II (I)) dated 26th August 2014.

As a strategic decision, the management has decided to expand their business model by setting up another unit in the name of **M/s Rashmi Metaliks Limited,** as a standalone **Brown Field Project** of Rolling Mill of 2,50,000 TPA at Mouza Khidipur (J.L No. 140)

Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschim Mednipur in West Bengal.

2.1 Brief Description of Nature of The Project

The proposed project, after obtaining 'EC' project works will be started**.** Management has decided to setup a standalone Brown field Project for Rolling Mill of 2,50,000 TPA by the name of Rashmi Metaliks Limited at Mouza Khidipur (J.L No. 140), at Mouza Khidipur (J.L No. 140) Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschmi Mednipur in the state of West Bengal.

2.2 Need For the Project and Its Importance to the Country and/or Region.

&

2.3 Demand- Supply Gap

The proposed project Rolling Mill by addition of a new line of 2,50,000 TPA for production of TMT Bar, Wire and Wire rods at Mouza Khidipur (J.L No. 140) Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschmi Mednipur in the state of West Bengal will help in minimizing the demand supply gap.

Steel is crucial to the development of any modern economy and is considered to be the backbone of the human civilization. The level of per capita consumption of steel is treated as one of the important indicators of socio-economic development and living standard of the people in any country. It is a product of a large and technologically complex industry having strong forward and backward linkages in terms of material flow and income generation. All major industrial economies are characterized by the existence of a strong steel industry and the growth of many of these economies has been largely shaped by the strength of their steel industries in their initial stages of development.

The mild demand in the country is going at the rate 9-10% (Compound Average Growth rate CAGR) Particularly in the southern states, due to no. of major infra-structural projects planned by State/Central Governments and also rapid growth of industries, the demand is likely to be higher than average for the country. Considering the proximity of the project site to all the three major Metros, Hyderabad, Bangalore and Chennai and

neighbouring states of Orissa, Jharkhand, Bihar and entire North East states, the growing demand can be met with less transportation costs of Mild Steel.

The Indian steel industry continued to showcase trends of higher consumption of finished steel. Currently, the steel consumption in India is second only to China. However, with the steel consumption in China expected to moderate at around 3%, India is likely to emerge as the fastest growing steel consuming nation. Further, India's current per capita finished steel consumption at 52 kg is well below the world average of 203 kg. With rising income levels expected to make steel increasingly affordable, there is vast scope for increasing per capita consumption of steel.

Being a core sector, steel industry tracks the overall economic growth in the long term. Also, steel demand, being derived from other sectors like automobiles, consumer durables and infrastructure, its fortune is dependent on the growth of these user industries. The Indian steel sector enjoys advantages of domestic availability of raw materials and cheap labour. Iron ore is also available in abundant quantities. This provides major cost advantage to the domestic steel industry.

The world Gross Domestic Product (GDP) is expected to grow by 3.4% in 2014. With advanced economies expected to do well in 2015, the global growth projection for 2015 is 5%. (Source: - IMF & SAIL annual report). This is despite the fact that there was a noticeable slowdown in the emerging market and developing economies during 2013, a reflection of the sharp deceleration in demand from key advanced economies. As such, we reckon that while global prospects have improved but the road to recovery in the advanced economies is still uncertain and volatile.

Steel demand in India has remained sluggish so far in 2014 amidst weak activity and poor sentiment; however, activity is expected to accelerate modestly in the coming years. Strengthening domestic consumption and improving external conditions will help underpin the growth of steel using sectors.

From the market analysis data, it is evident that the states of Bihar, Orissa, Jharkhand, will continue to show an above average growth of demand

The project offers an excellent opportunity **for M/s Rashmi Metaliks Limited (RML)** to set up Rolling Mill of 2, 50,000 TPA at Mouza Khidipur (J.L No. 140) in different premises adjacent to Rashmi Metaliks Limited

Following advantages can be obtained from installation of the proposed project

a. Product like Billets from existing SMS plant of Rashmi Metaliks Limited will be used for the production of TMT Bar, Wire & Wire Rods.

b. Less energy consumption as ingot/ Billets manufactured from SMS will be used in Rolling Mill resulting less power consumption and overall reduction in carbon footprint.

c. Using the Eco-friendly clean Technology

d. Economies of scale will result in lower operating cost

e. Offers freight advantage vis-à-vis competitors

2.4 Imports vs. Indigenous Production:

- **2,50,000 TPA Rolling Mill:**

Product like Billets from existing SMS will be used in proposed new line of Rolling Mill of 2,50,000 TPA for the production of TMT Bar, Wire & Wire Rods in Hot Rolling Mill. Steel bars and wire rods are used as the material of gears, bolts, springs, bearings, cables and other basic components of safety-related parts typically such as automobile engines, drive train systems and chassis.

What is required for a steelmaker regarding these products is good processibility and fulfilment of required properties after the processing. Furthermore, since the costs of the post-processing is sometimes several times the price of the hot-rolled steel material, it is increasingly important to reduce the total integrated manufacturing cost from the steel material to final product.

2.5 Domestic / Export Markets

- **2,50,000 TPA Rolling Mill:**

TMT Bar, Wire & Wire Rods manufactured in Hot Rolling Mill will be sold in the domestic market like Durgapur, Cuttack. Ranchi, Kolkata, Bhubaneswar etc. and as per

international markets demand (Bangladesh, Nepal, and Bhutan etc.) can be export by Ship through Haldia Port or Railway in near future.

2.6 Employment Generation (Direct & Indirect) due to the project:

The project will create the direct employment of 100 Peoples during the construction phase and around 50 Peoples will be involve during operational period. Skilled and unskilled people on daily average will be employed. RML will give preference to the local peoples during construction and operation phase of the project depending upon the skill, job requirement and capability. Several others around 200 indirect employment opportunities will be created in the surrounding areas by transport, business, vehicle drivers and attendants, workshops, grocery and retails, medical, etc.

3. PROJECT DESCRIPTION

3.0 Types of Project

M/s Rashmi Metaliks Limited, is going to set up a standalone Brown Field Project of Rolling Mill of 2,50,000 TPA for production of TMT Bar, Wire and Wire rods at Mouza Khidipur (J.L No. 140) Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschmi Mednipur in the state of West Bengal

3.1 Process Concept and Technology

I. 2,50,000 TPA Rolling Mill

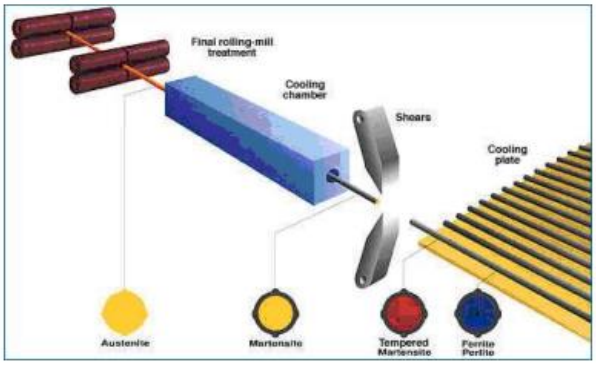
a) Process Concept and Technology

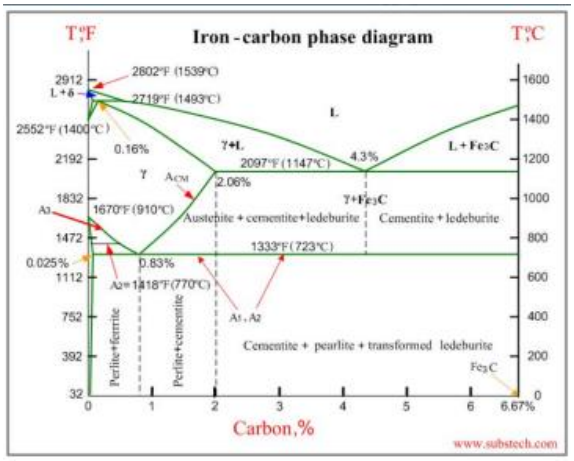
TMT Steel Bars & Wire:

The full form of TMT is Thermo Mechanical Treatment; in this the steel bars are passed through a specially designed water-cooling system. After the bars pass, the outer surface of the bars solidifies while the core remains hot. This creates a temperature gradient in the bars. After the intensive cooling, the bar is exposed to air and the core re-heats the quenched surface layer by conduction, therefore tempering the external marten site. When the bars are taken out of the cooling system, the heat flows from the core to the outer surface, further tempering of the bars, which helps them attain higher yield strength. The resulting heat-treated structure imparts superior strength and toughness to the bars.

The pre-determined cooling of the bar periphery transforms the peripheral structure to martensite and then annealed through the heat available at the core. The peripheral and core temperature difference finally equalizes at around 600 degree C and the resultant bar structure is of tempered martensite at the periphery and of fine-grained ferrite pearlite at the core. Generally speaking, the resultant soft core forms about 65-75 per cent of the area (depending upon the desired minimum yield strength) and the rest is the hardened periphery. The equalizing temperature together with the final rolling temperature is the most important parameter to achieve the required mechanical properties. Finally, when the bar is discharged on to the Cooling Beds, the remaining

austenite transforms into a very fine-grained pearlite structure. After this process of thermo mechanical treatment, a dark etched peripheral rim of tempered martensite and a grey core of ferrite pearlite get formed. The tempered martensite surface layer is very hard while the microstructure of the core is a very fine-grained ferrite and pearlite which is quite soft. The result is a structure with a high yield strength combined with high ductility.





1. Heat treatment:-

Metals can be heat treated to alter the properties of strength, ductility, toughness, hardness or resistance to corrosion. Common heat treatment processes include annealing, precipitation strengthening, quenching, and tempering. The annealing process softens the metal by allowing recovery of cold work and grain growth. Quenching can be used to harden alloy steels, or in precipitation hardenable alloys, to trap dissolved solute atoms in solution. Tempering will cause the dissolved alloying elements to precipitate, or in the case of quenched steels, improve impact strength and ductile properties.

In the production of TMT bars/ Steel Wire the carbon is restricted to below 0.20% for imparting better ductility and bend-ability and to ensure better weld-ability. The carbon equivalent of the steel is controlled by the addition of Manganese (from 0.50% to 1.0% depending on the grade of the TMT bar being produced. In case of production of corrosion resistant TMT bars, corrosion resisting elements are suitably added in the steel.

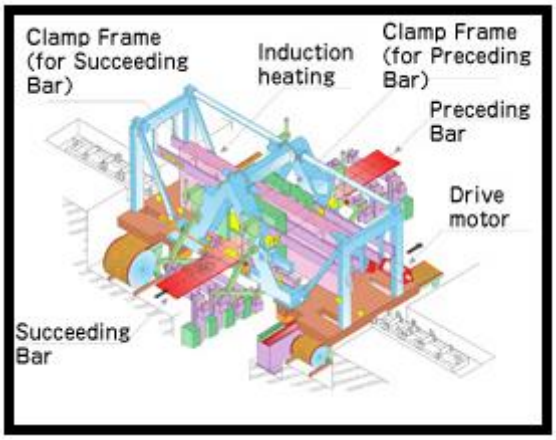
2. RAW MATERIALS

The raw materials used in production of TMT bars/Wire **is Billets.**

Billets have better finish and there is less chance of blow holes being present inside within. The final product obtained by using billets have better finish when compared to the ingots. Billets are more refined raw material which has less chance of blow holes and smooth surface finish. Billets have no standard colour coding or a standard ratio. They are entirely made as on order. But after manufacturing the billets are supplied with a Heat number (a test certificate) which elaborates the ratios of metals used and order size.

3. INDUCTION HEATER

After quality testing, the billets are ready to be fed in the Induction heater. It is necessary for the billets to have a high temperature for the rolling process through the rollers. This is where the Induction Heater comes to play. The billets are fed into the Induction Heater wherein they are constantly heated till desire temperature is obtained. The material, on exit is suitable to undergo Rolling. The Induction Heater generates heat energy by the ELECTRICITY sourced from WBSEDCL. The electricity required is 6 MVA.



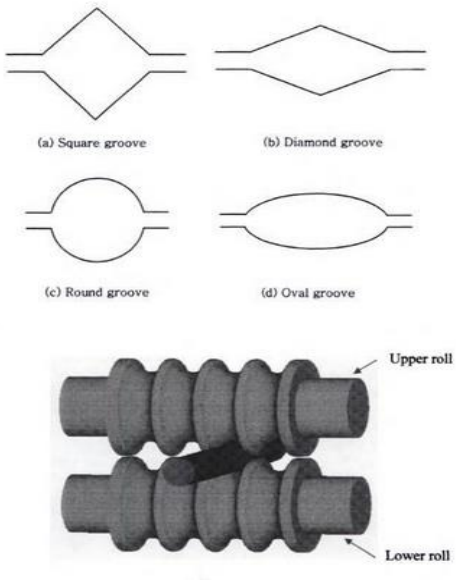
Picture-3.3 Schematic Diagram of Induction Heater

The Induction Heater has three processes:-

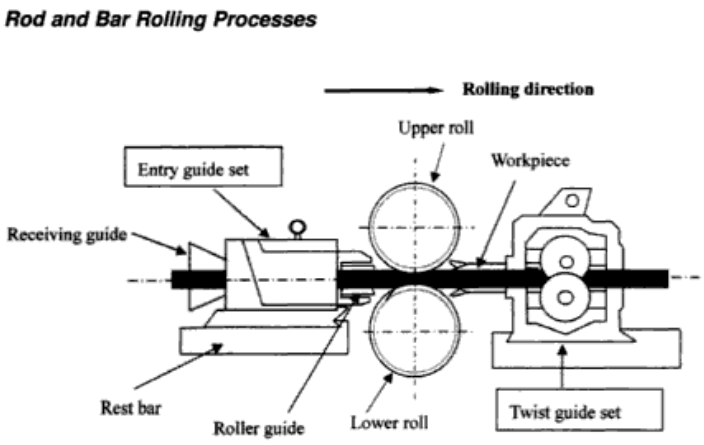
1. Feeding
2. Heating
3. Ejection

Feeding:-

The feeding of the raw material into the Induction Heater is done with the help of conveyer rollers. The billets are placed on the conveyer rollers manually; tongs are used in the positioning onto the conveyor system, which transports the raw material to the feeding bed. Once the billets are stacked one after the other on the feeding bed, they are pushed into the Induction Heater with a mechanism which consists of a worm gear pushing the billets into the Induction Heater. This mechanism is also controlled manually by a person due to discontinuity in feeding.



Picture-3.4 Different Types of Grooves for Rolling



Picture-3.5 Schematic Diagram of Rolling Mill

Heating Chamber:-

The Induction Heater, heating chamber is a place where the billets are made molten, which makes it feasible to pass it through the rollers. The furnace is a fuel consuming chamber which works on electricity. There is a preheating zone, which leads to the intermediate zone ultimately leading to the final zone. The Induction Heater interior is made of refractory bricks to withstand the high temperatures. There are also certain doors at the side for inspection during maintenance. There is another controller near the exit of the Induction Heater to guide the red hot ingots outside of the Induction Heater and position them onto the rollers; leading them to the rolling mill.

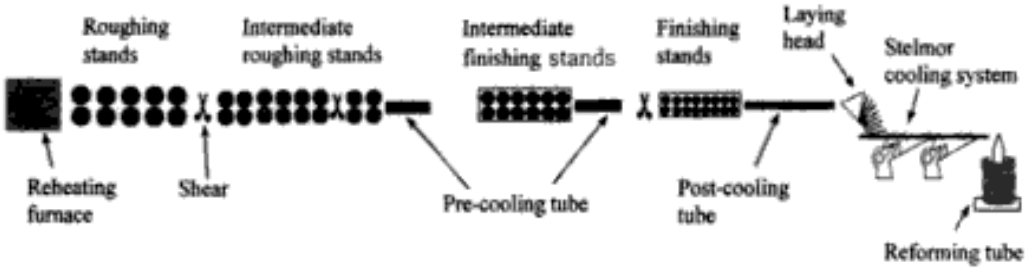
Induction Heater Exit:-

After heating, the billets, it is ready for the roughing mill. Authorized personnel are stationed at various nodal points to navigate the heated raw material from the Induction Heater to the Roughing mill. The exit door is opened by the person who removes the billet.

For the present proposal of 2, 50,000 TPA Rolling Mill for production of TMT Bar, Wire and Wire rods instead of conventional preheating furnace technology we are using 02 Nos. of Induction Heater of 20 T. Billets from existing SMS plant of RML will be heated into the induction heater which will be operated by electricity for bringing it to desire temperature and then directly transferred to the Rolling Mill.

4. ROUGHING MILL:

Just after the billet comes out of the furnace it is slowly led to the roughing mill. The mills are operated with a high capacity motor. The roughing mill is where there is very slight elongation and gradually decreases in diameter and this is the main function of the roughing mill. But the billets are still in the molten state and it continuously moves on to the next rollers through the guide ways. After the roughing mill it passes to the next mill that is the intermediate roller and to actuate its movement out of the roughing mill there are some accelerators placed at certain intervals. These are called pinch rolls. When the rollers in a mill get worn out then the same rollers are machined at the machining section of the plant. Heavy lathe machines are used. When the dimensions of the rollers slightly vary they are compensated by the universal joint which is at the shaft attached to the rollers.



Picture-3.6 Schematic Diagram of Roughing Mill

5. CUTTERS:

After the roughing mill it moves through the guide ways which are mostly made of cast iron and these guides also provide an open top just in case the rod expands and comes out of the guide. The guide ways are sometimes placed with a cone which decreases miss alignment. These guide ways helps the tip of the red hot rod to enter into the next roller that is the intermediate mill. This is the automated part of the mill which does not need the manual method of feeding like in the roughing mill.

Hence there are front and back cutters which remove the front and back tip of the hot rod as to allow proper entering into the next mill. Here the cutter blade is visible it moves in a to and fro motion and as the red hot rod is still soft it easily shears it. These shearers are sensory activated and are automated. The sheared waste pieces are put aside as scrap. They usually fall beside the cutter itself and are removed during maintenance.

After every roller there is increase in the length of the rod which results in bending or misalignment while entering into the roller. For that reason there are some special cones placed while entering into the roller. These cones help the rod to enter in and align properly and go into the allocated grove in the roller. Without this it may result in the slipping or entering into the wrong grove. These are usually made of cast iron and are long lasting. They are made in such a way so it would be easy while changing or removing the setup.

6. INTERMEDIATE MILL:

After passing through the roughing mill, the rod is led into the Intermediate mill. It should be observed that, there is a considerable decrease of the size of the rod after

passing through the Roughing mill. The main function of the Intermediate mill is to prepare the specimen for the finishing mill. After the intermediate mill, pinch rolls are placed

7. FINISHING MILL:

The finishing mill is the main roller where the required dimension is obtained. The rollers are made with precision and in such a way that the exact dimension can be obtained. Quality is of great importance, since the manufactured products are graded and approved by the ISI. This gives the company an edge over its competitors. The finishing mill also facilitates for the brand imprint to be put onto the rod. The final dimensions of the TMT steel bar are achieved by finishing rollers. The rods, after passing through the finishing rollers; are still soft due to high temperature. There is a special guide way present after the finishing rollers which leads the rods to the TMT quenching box. The conic shaped guide way helps in the alignment of the rods while movement to prevent torsion.

8. TMT/ WIRE QUENCHING BOX:

One of the most important parts of the plant is the TMT box where the hardening takes place. Water is sprayed on the red hot rod to reduce the temperature abruptly which results in the hardening of the outer surface of the rod. The amount of hardening depends on the pressure of the water from the nozzle. The rods are made to fall on the cooling bed after the TMT treatment, but the speed of the rods is too high due to the motor power and various pinch rolls. Hence to reduce the speed before the rod on exit, a breaker is used. It reduces the speed of the incoming rod. The breaker provides safety to the labour and prevents accidents. The finished products are then organized for Dispatch.

TMT Process

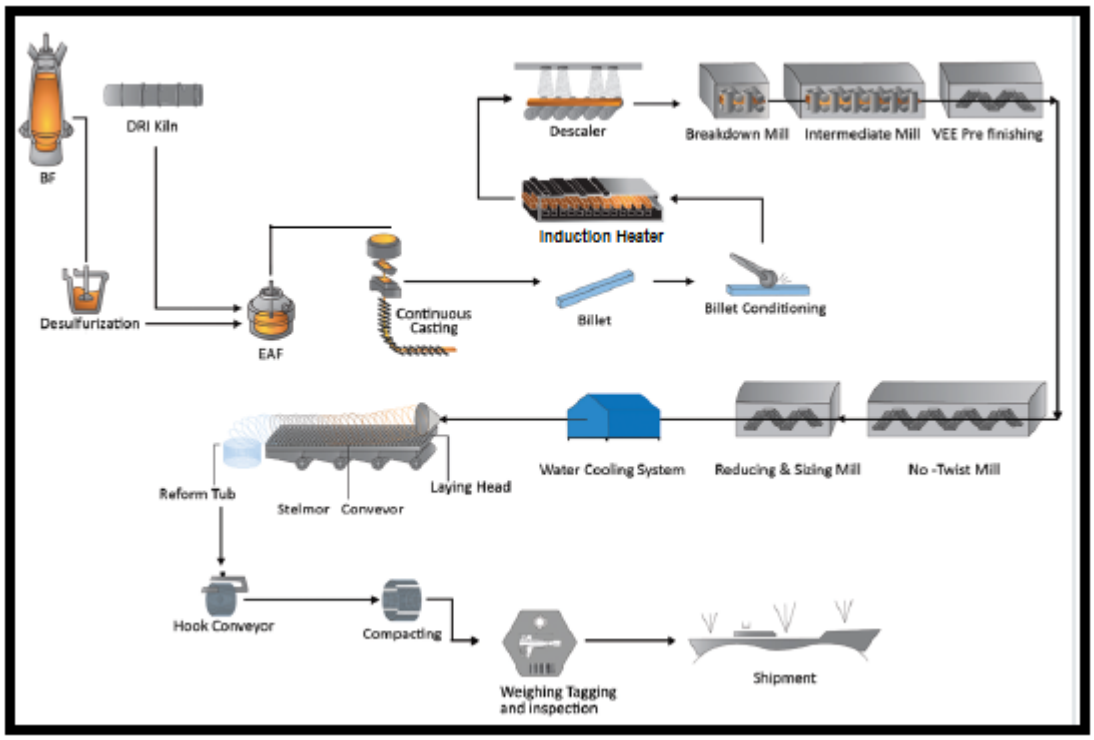
By adopting thermo mechanically treatment process higher strength of TMT bars is obtained. In this process, steel bars get intensive cooling immediately after rolling. When the temperature is suddenly reduced to make surface layer hard, the internal core is hot at the same time. Due to further cooling in atmosphere and heat from the core, the tempering takes place. This process is expected to improve properties such as yield

strength, ductility and toughness of TMT bars. With above properties, TMT steel is highly economical and safe for use. TMT steel bars are more corrosion resistant than Tor steel.

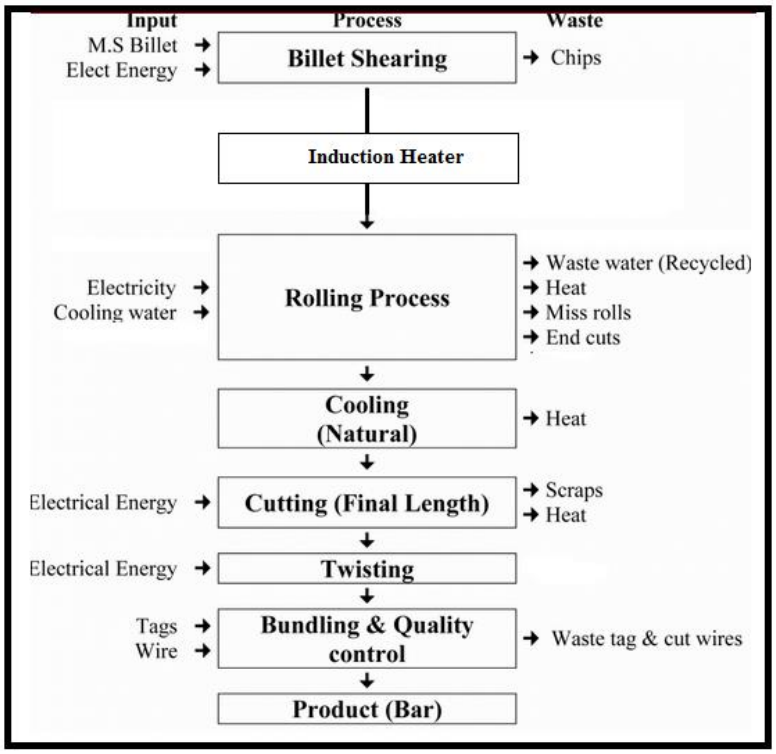
Wire Rod Mill Process

The objective of a wire rod mill (WRM) is to reheat and roll steel billets into wire rods. The production of wire rods in wire rod mills is subject to constant change. The growing demands on the quality of the wire rods as well as on the flexibility and cost effectiveness of the wire rod mills has necessitated the development of new and innovative technologies and processes. Modern wire rod mills are high speed mills capable of rolling of smaller dimensions at high production rates, while at the same time keeping investments and operating costs at the reasonable levels.

The mills are capable of rolling at speeds ranging from 50 meters per second to 120 meters per seconds. Typical product sizes are within the 5.0 mm to 20 mm range. The range of materials comprises low to high carbon steels, cold heading steels, wire drawing steels, alloy steels, spring steels, ball bearing steels, electrode quality steels, reinforcement bars and tool steels. Modern wire rod mills are expected to meet the following requirements.



Picture-3.7 Schematic Process Diagram of Rolling Mill



Picture-3.8 Schematic Flow Diagram of Rolling Mill

Shop layout

The proposed mill equipment and other associated facilities will be housed in multibay building consisting two Induction heater of 20T connected with parallel bays for mill and roll grinding and bearing inspection facilities. The main equipment of the mill and storage area will be located in a bay of 20 m width having about 200 m length. This bay will be served by EOT cranes of 05 t capacity. All technological basements like oil cellars, hydraulic pump accumulator stations, strip cooling pump house, etc. will be located in the mill bay. The water circulation system including scale pit will be located outside the main mill building. Detail List of machineries enclosed as **Annexure-III.**

b) Raw Materials Requirements :

The raw materials used in production of TMT bars/Wire **is Billets.** It will be obtained from existing SMS plant.

Sl. No.	Item	Source	Mode of Transportation	Qty/Annum	Product
1.	Billets	Rashmi Metaliks Ltd.	Through Crane/ conveying System	**2,63,000 TPA**	**2,50,00 TPA** TMT Bar (8-32 mm); Wire Rod- (5.5-12 mm) & Wire

c) Quantity of wastes to Generated and scheme for their Disposal:

The waste chips, deformed bars & rod generated during process will be again reprocessed by sending it back to the SMS plant.

3.2 Availability of Water, Energy /Power Requirement & Its Sources

- **POWER:**

The power required for the proposed plant will be sourced from **WBSEDCL.**

Table 3.3-The Total Power Requirement for the complete project is as:

SR NO	PRODUCT	GROSS CAPACITY			SPECIFIC POWER CONSUPMTION	TOTAL CONSUMED POWER	LOAD FACTOR	CONNECTED LOAD in MW
		TPA	TPD	TPH		IN KWH	IN KWH	IN KWH
1	Induction Heater	250000	833.33	34.7	180	6249.9	0.80	7812.38
2	Rolling Mill	250000	833.33	34.7	180	6249.9	0.80	7812.38
3	Office, Lighting							4
TOTAL POWER		IN KWH				**12499.8**		**15628.75**
		IN MWH				**12.49**		**15.63**

- **WATER:**

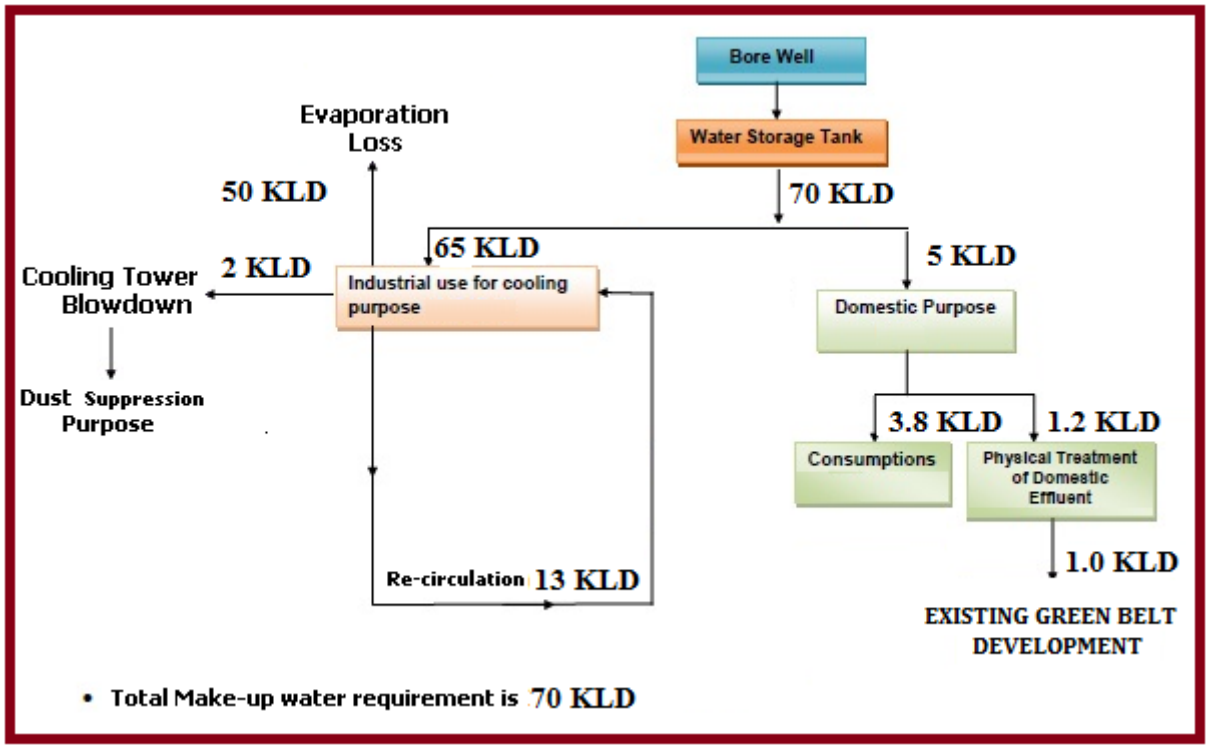
Requirement of makeup water for proposed project 2, 50,000 TPA Rolling Mill for process cooling, Housekeeping, domestic and existing Green Belt Development purpose is **70 KLD.**

This requirement will be met from the ground water sources by bore wells. RML has water withdrawal permission of 0.23 MGD. So, it is clear that required water will be managed by Bore Well and Rain Water Harvesting pond. Detail of water permission enclosed as **Annexure-IV.**

Table 3.4-The Total water Requirement for the complete project is as:

SR NO	UNIT	PRODUCT	Capacity	Type of Water	Make up Water IN KLD
1	Rolling Mill	TMT , Wire & Wire Rods	2,50,000 TPA	Indirect Cooling	65
2	Domestic				5
Total:-					**70**

An indicative water balance for the proposed plant is presented in **Figure-3.9**.



4.0 Detail of Existing Plant Operation

4.0 Introduction:

M/s Rashmi Metaliks limited was formed in the year of 2004 having its corporate office at 39, Shakespeare Sarani, Kolkata- 700017. Initially the company had planned to manufacture of pig Iron and sponge Iron for which company installed plant at Gokulpur, Kharagpur in west Bengal pig Iron Plant of capacity 14190 TPM with Grass capital investment 40.25 cores Sinter Plant of capacity 50000 TPM with Grass capital investment **40 crores**. The DRI plant of 6 x 100TPD and 1 x 350TPD was installed at Mathurakismat, Gokulpur, Shyamraipur after obtaining the permission from MoEF vide F No J-11011/365/2007 – IA II (I) dated 10th December, 2008 with a project cost of **234.32 Cores.**

Subsequently the project proponent proposed to installed MBF, SMS, Sinter, DRI, Oxygen Plant and Lime Calcination Plant located at Gokulpur and Mathurakismat with a cost of Rs 560 crores. The funds were arranged from the Bank Loan and also through Promoters for which EC was granted by the Ministry in the year 2008 , But due to constrain of the funds 4 x 100 TPD, 2 x 350TPD, MBF 1x 320 CUM, Sinter Plant 70 sq M, Oxygen plant 60 TPD, Lime Calcination Plant 1200 TPD were kept on hold .

Latter on the company expanded its unit at Gokulpur, Shyamraipur in West Bengal of Pellet plant of capacity 0.9 MTPA which was commissioned in the year of 2012 with a capital cost **Rs 170 Cores**. The fund was generated through Bank Loans and promoter's fund. There was no EC obtained for this, however Consent to Establishment and Consent to operate were obtained from the West Bengal Pollution Control Board.

As per EIA notification 2006 there was no provision for applicability of the notification to obtain EC. However as per the news published and MoEF letter File No – 11011/12/2014-IA.II (I) dated 8th September, 2014 where in M/s Ardien Steel was mentioned that all the pellets shall be coming under the purview of EIA notification. Therefore the project proponent thought to regularize the 0.9 MTPA Pellet plant which was already commissioned. Subsequently RML applied to the Ministry in the year 2014 for which ToR was granted vide letter F. No. J – 11011/372/2014-IA II (I) dated 12.02.2015.

After that M/s Rashmi Metaliks Limited requested to Ministry to Transfer the ToR in favour of M/s Orissa Metaliks Private Limited and it was transferred on 14.10.2015. The project Head also requested to Regional Office, Bhubaneswar to issue certificate of existing unit for which EC was granted. The RO inspected the side and submitted same to the Ministry on 13.8.2015.Latter on the Management thought not to transfer the pellet unit and for restoring the name change in ToR proposal submitted to the Ministry's web side. The proposal is still pending with Ministry.

Furthermore the project proponent installed 1.5 MTPA Beneficiation plant, Pellet Plant 1.2 MTPA (2x 0.6 MTPA) with Producer Gas Plant (75,000 Nm^3/hr) at Gokulpur with a project cost 330 corers which was arranged through Bank loans and Promoters Fund.

Consent to Establishment and Consent to operate have been obtained from WBPCB for all the mentioned units as an when it was required and all the certificates are in valid period.

The company thought to transfer some units to M/s Orissa Metaliks Private Limited because the company could not smoothly manage the operation of whole plant. By virtue of order of Hon'ble Calcutta High Court for demerge in the matter of Companies act 1956 and the matter of application under section 391 (2) and 394 of the said act. After transferred of units to M/s Orissa Metaliks Private Limited the status of units in the company name as follows:

Units under the company Name Orissa Metaliks Private limited	Units under the Company Name Rashmi Metaliks Limited
Under EC No J-11011/227/2010-IA-II (I) dated 12th, June, 2008 of MoEF, New Delhi	
DRI (10 X100 TPD; 3 X350 TPD) WITH WHRB	SINTER PLANT : 70 sqM (0.84MTPA)
MBF : 320 sqM (0.3MTPA)	STEEL MELTING SHOP : 0.5 MTPA
	OXYGEN PLANT : 60 TPD
	LIME CALCINATION : 1200 TPD
F. No. J – 11011/372/2014-IA II (I) dated 12.02.2015. of MoEF, New Delhi	
	PELLET PLANT-I -0.9 MTPA
Under EC. No. EN/256/T-II-I/047/2009 dated 09.10.2009. of SEIAA, West Bengal	
	DUCTILE IRON PIPE PLANT -2,00,000 TPA
Under EC No J-11011/604/2010-IA-II (I) dated 1st, June, 2012' of MoEF, New Delhi	
I/O BENEFICATION PLANT-1.5 MTPA	
PELLET PLANT (0.6 MTPA x2) 1.2 MTPA	
PRODUCER GAS PLANT (10 X 7500 NM^3/hr)	

- **Current Status of implementation of project against EC J-11011/227/2010-IA-II (I) by RML**

Name of the Units	Units, for which EC obtained	Units under Operation	Units under Construction	Units to be implemented
MBF	1X215 M^3	1X215 M^3		-
Sinter Plant	2 X 25 M^2 1X70M^2	2X25 M^2	-	1X70 M^2
Pig Casting Machine	600 TPD	0.12 MTPA	-	-
Iron ore Pellet including grinding in dry process	0.9 MTPA	0.9 MTPA		
SMS	500,000 TPA	378,000 TPA	64,000 TPA	58,000 TPA
Oxygen Plant	60 TPD	-	-	60 TPD
Lime Calcination Plant	1200 TPD	-	-	1200 TPD

- **Valid CFO Details of the Units with Rashmi Metaliks Limited**

Sl. No.	Unit Name	Product Name	Unit capacity	CFO obtained Date	CFO Valid Up to
1	Sinter	Sinter	50000 TPM	Co-45530 & CO-102808	March-2017
2	Mini Blast Furnace	Hot Metal / Pig Iron	14000 TPM		
3	SMS-Induction (Phase - I)	Billets	3750 TPM, (2 X 8 T)		
	SMS-Induction (Phase - II)		11750 TPM (2X20 T)		
	SMS-Induction (Phase - III)		1600 TPM (3X20 T)		
4	Rolling Mill	TMT Bar / Wire Rod	9600 TPM		
5	Ductile Iron Pipe Plant	Ductile Iron Pipe	11833 TPM		
7	Pellet Plant-I	Iron ore Pellet	75,000 TPM		
8	Coal Gasifier	Coal Gas	6000 Nm3 /hr		

- **Existing APC Devices Details & Technical Specification**

The detail about the existing APC device and its technical specification is described in **Table- 4.1.**

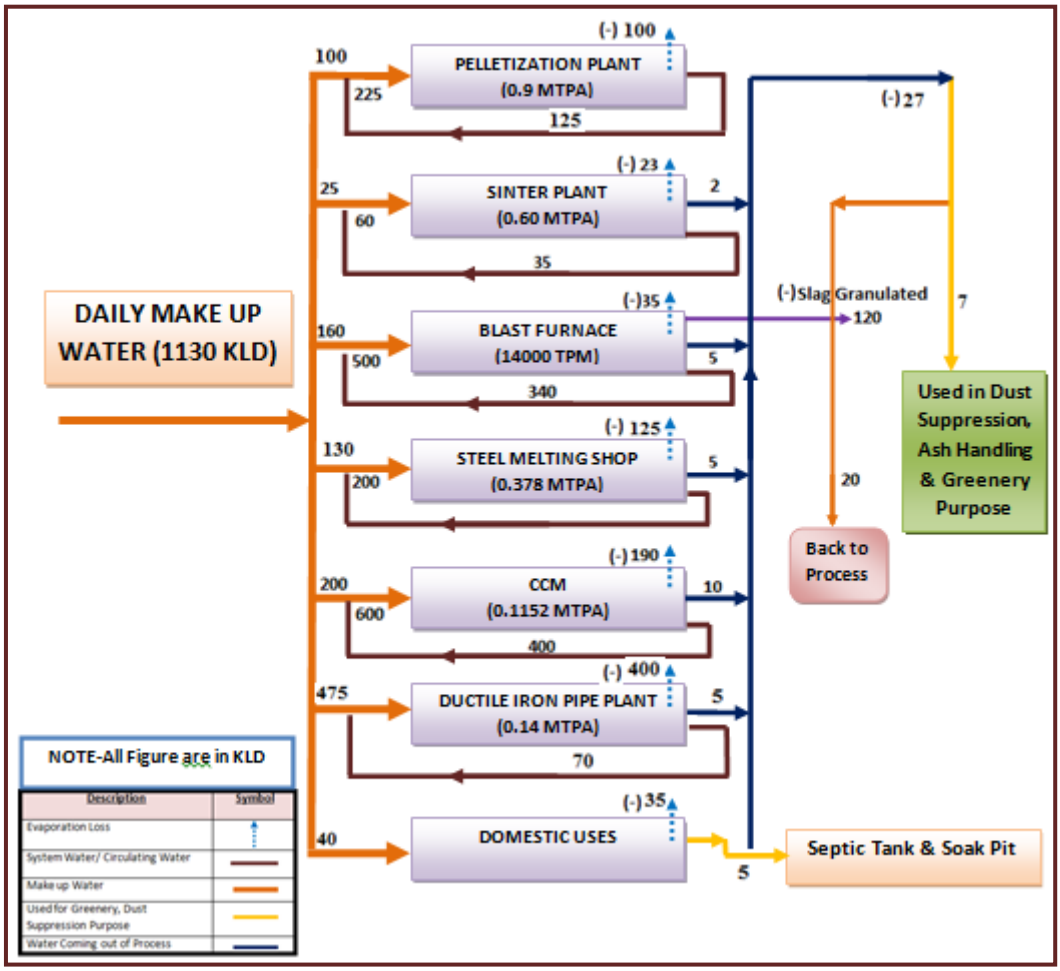
Table- 4.1

Sr.No.	Unit Name	Detail	Product Name	Unit capacity	Pollutant Emission Cause	Detail of A.P.C Devices
1.	Mini Blast Furnace		Hot Metal / Pig Iron	14000 TPM	Combustion of B.F. Gas and reduction of Coke & Iron Ore	Venturi Scrubber
2.	Sinter	Head End	Sinter	50,000 TPM	B.F. Gas & F.O	3-Field ESP Head End-2 Nos ;
		Tail End			Process Activities	3-Field ESP Tail End-1 No & Bag filter-1 no
3.	Ductile Iron Pipe Plant	DIP Induction Crucibles	Ductile Iron Pipe	11833 TPM	Chemistry Correction By adding Scrap	Bag Filter Capacity -60,000 M^3/hr
		DIP -Zn Coating Machine			Process Activities	Bag Filter Capacity -25,000 M^3/hr
		DIP -Mg Coating Machine			Conversion of Mg reaction	Bag Filter Capacity -25,000 M^3/hr
4.	SMS-Induction (Phase - I)	2X8 T Capacity	Billets	3750 TPM, (2 X 8 T)	Melting of Scraps & Sponge iron	Bag Filter Capacity -10,000 M^3/hr
	SMS-Induction (Phase - II)	2X20 T Capacity		11750 TPM (2X20 T)		Bag Filter Capacity -16,000 M^3/hr
	SMS-Induction (Phase - III)	3X20 T Capacity		16000 TPM (3 X20 T)		Bag Filter Capacity -28,000 M^3/hr
5.	Pellet Plant-I	0.9 MTPA-Rotary Kiln	Iron ore Pellet	75,000TPM	Combustion of B.F. Gas /Producer Gas/F.O.	3-Field ESP, Dry Fog System Capacity E.S.P- 50,000 m^3/hr
		Pellet Cooler-I			Process Activities	Bag Filter

- **Solid Waste Generation Detail**

Sr. No	Solid Waste	Description	Quantity in Tons/month (Approx.)	Quantity in Tons/year (Approx.)	Solid Waste Management
1	Waste From SMS	Mild Steel Slag	2917	35000	Used for filling low lying land, Internal road making.
2	Waste from MBF	Blast furnace Slag			Used in Own Cement Plant.
3	Waste from Di Pipe	Core Sand & Slug, Cement Slurry, Scrap			Filling low lying Land & Mg & Zn dust used in Sinter Plant
4	Waste From Pellet plant	Scrap			Used in Sinter Plant
4	Waste from APC Devices	APC DUST	4333	52000	Used in Sinter plant, road making after mixing it with soil, block making

- **Water Requirement/ Consumption details:**



5. SITE ANALYSIS

5.0 Connectivity

The project site is well connected to Howrah (110 Kms), Kharagpur and to Tata Nagar (120 Kms) via Ghatsila. It is nearest city Kharagpur is at a distance of 4.5 Kms and Jhargram Town 30 kms. The nearest Railway station Gokulpur railway station at a distance of about 1.0 kms is the railway station on broad gauge line of South Eastern Railway connecting Howrah and Jamshedpur. This distance chart of major cities and towns in WB from the project Site is as below.

To	Distance in kms (Approx.)
Jhargram	30
Kharagpur	4.5
Howrah	110
Tata Nagar	120
Durgapur	125
Medinipur	6.5
Haldia (Port)	92

Proposed modernization works by the name of **M/s Rashmi Metaliks Limited** for new connectivity will not require because the 2, 50,000 TPA Rolling Mill will be set up in the existing premises of Rashmi Metaliks Limited.

5.1 Land form, Land use and Land Ownership

For the proposed project around 1 acres of land will be required to set up 2, 50,000 TPA Rolling Mill. The required 1 acres land is already in possession by Rashmi Metaliks Group in the name of M/s Rashmi Metaliks Ltd.

As per existing land used pattern, land is generally flat and no major earth filling is required for the 2, 50,000 TPA Rolling Mill in the new premises adjacent to the existing Rashmi Metaliks Limited rolling mill plant.

5.2 Location of the Project

M/s Rashmi Metaliks Limited proposes to set up the 2,50,000 TPA Rolling Mill at Mouza – Khidipur (J.L No. 140) at Village – Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), Dist. Paschmi Mednipur in the state of West Bengal.

Total land requirement is 1 acre which is already in possession by Rashmi Metaliks Group in the name of M/s Rashmi Metaliks Ltd.

The proposed plant will be located at longitude 87^{0}17'36.44"E and latitude 22^{0}21'30.83"N and elevation 113 ft from mean sea level at village-Gokulpur, Dist. Paschim Medinipur, West Bengal.

The nearest airport is Netaji Subhash Chandra Bose International Airport at distance of about 123 KM from the proposed project site.

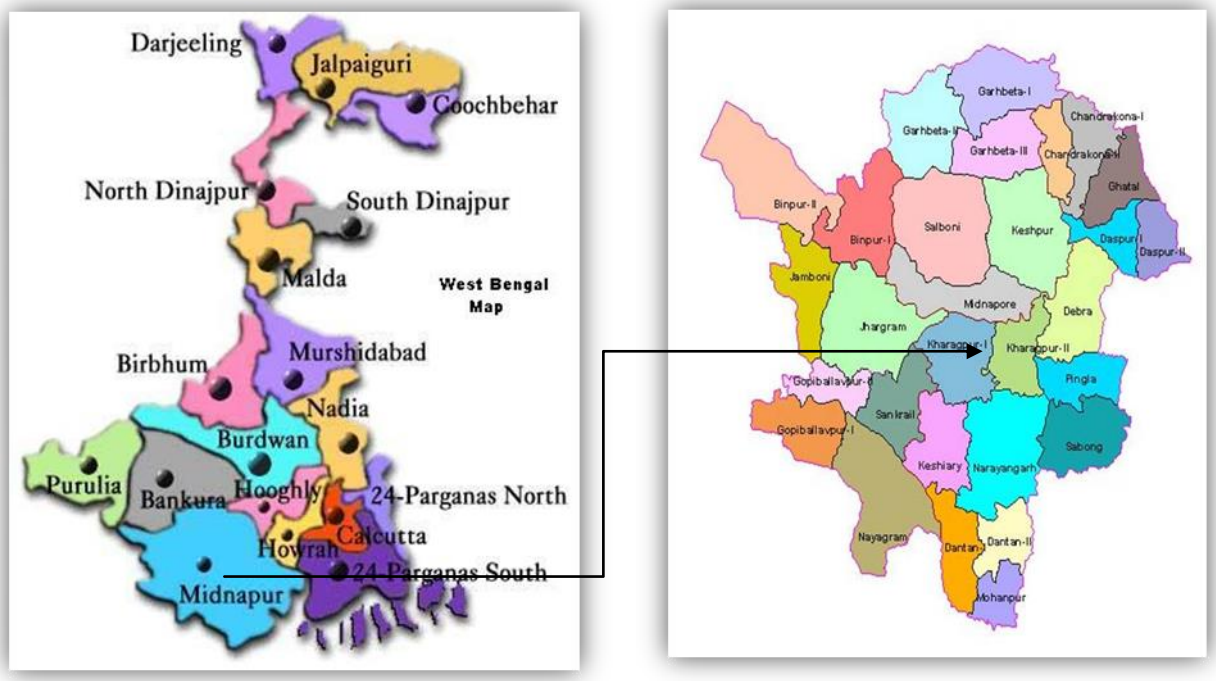
The proposed plant site is at distance of around 6.0 Km from Kharagpur Junction Railway Station on Howrah- Mumbai broad gauge railway line of South-Eastern Railway and Gokulpur Railway line is only 1.5 KM away from the project site.

Nearest port is Haldia Port which is around 135 KM away from the proposed project site. Private Railway siding of RML is around 2 KM from the proposed project site and generated power will be consumed the existing unit operation.

This site is favorable for installation of 2, 50,000 TPA Rolling Mill for following reasons

1. Availability of adequate Land
2. Availability of Railway Siding which is only 2 KM from the proposed project site.
3. Availability of Raw material for rolling mill for manufacturing of TMT Bar, Wire Road will be obtained from existing SMS plant.

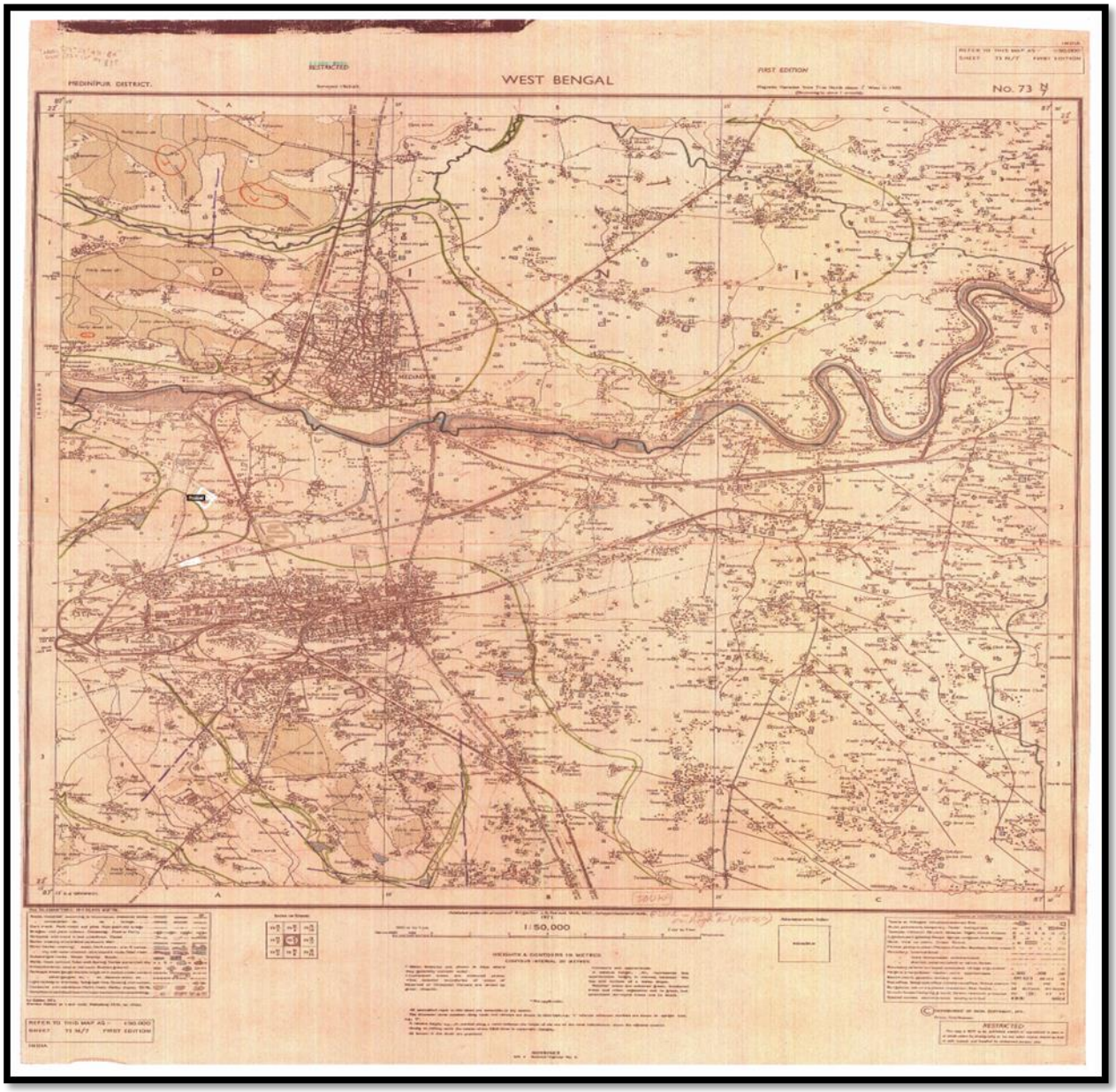
Pic.4.1: LOCATION OF THE PROPOSED PROJECT SITE



District wise State Map of West Bengal Kharagpur Block – I

SITE LOCATION ON GOOGLE VIEW

Village – Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), Dist. – Paschim Mednipur, W.B



PROPOSED PROJECT SITE ON TOPOSHEET

5.3 ALLTERNATIVE SITE SELECTION

In this case, have no option to select the alternative site because this project is within the existing premises of Rashmi Metaliks Limited

5.4 Topography (along with map)

Based on the contour map, the Digital Elevation Model has been prepared. The nearest neighbour method has been used to interpolate the elevation data to develop the

elevation model. This map gives clear picture that the South-Western part of the area having higher elevation ranges from 50-79 m. Eastern part of the area has lowest range of elevation from 22-50m. Remaining area shows the medium elevation from 35-55m.

The Digital Elevation Model for the area in 10 km radius from the proposed site is shown below.

Pic 4.4-Satelite Immage in 10 km radius

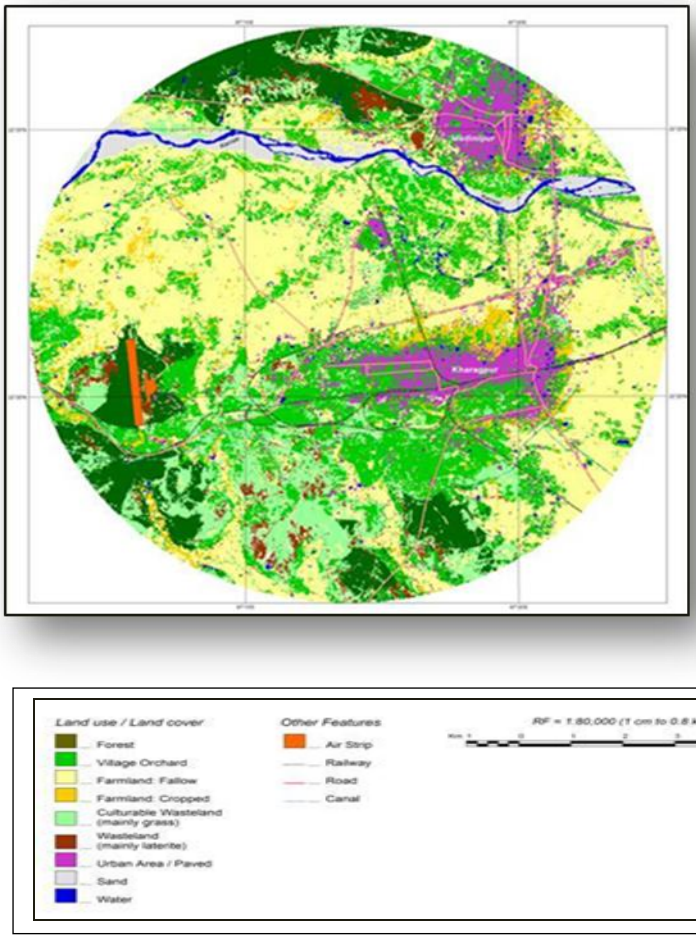
Site Location:
Village Gokulpur, Mouja-Khidipur, Tehsil- Kharagpur (Block), District Paschim Medinipur, West Bengal

Site Co-ordinate:
Latitude 22˚21′30.83″N & Longitude 87˚17′36.44″E, MSL- 113 ft

5.5 Existing Land used Pattern

The proposed project of RML is located at Mouza – Khidipur, village – Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), District – Paschim Medinipur, in West Bengal.

Proposed plant site does not falls under the CRZ area or notified industrial area. Its graphical coordinates longitude **87˚17′36.44″E** and latitude **22˚21′30.83″N** and elevation 113 ft from mean sea level (MSL). River Kangsabati are passing approx. 4 km distance in the northern side w.r.t the project site. The project site is generally flat, infertile, non-irrigated land. **Land Use Pattern of 10KM area shown below:**



Sl. No	Class	Area (km^2)	Area (%)
1	Forest	29.90	9.51
2	Village Orchard	70.33	22.38
3	Farmland: Fallow	119.42	38.00
4	Farmland: Cropped	13.71	4.36
5	Culturable Waste (mainly grass)	35.43	11.27
6	Wasteland (mainly laterite)	7.63	2.43
7	Urban Area / Paved	23.76	7.56
8	Sand	8.83	2.81
9	Water	5.28	1.68
Total of all classes		**314.29**	**100.00**

5.6 Soil Classification

Predominantly the texture of the soil is clay. Sand, slit and clay percentage ranges form 22-27%, 32-35% and 40-43% respectively.

5.7 Climate Data from Secondary Sources

A meteorological station was also established earlier at Plant site to generate site-specific meteorological data on hourly wind speed, wind direction, ambient temperature and relative humidity. Measurement techniques, instruments, specification of measurements and accuracy of instruments for meteorological parameters from the Indian Standard: 8829-1978 "Guidelines for Micrometeorological Techniques in Air Pollution Studies" were

followed for data generation. The site-specific wind-rose generated during summer season.

Temperature – December and January constitutes winter months with daily mean minimum temperature around 12.8°C and daily mean maximum temperature around26.4°C. May is the hottest month with daily mean maximum temperature at 38.4°C and daily mean minimum temperature at 25.9°C. During the study period the daily mean minimum temperature was found to be 24.3°C and daily mean maximum temperature around 38.7°C.

Relative Humidity – The air is generally dry in the region except during monsoon. April and May are driest with relative humidity between 43-66%. The maximum humidity during rainy season is 84% and minimum was 70%. High humidity is found during daytime and low humidity values during night time in all the months. During the study period the humidity levels were found to be 40 –71 %.

Rainfall – The annual total rainfall is 1478 mm. Over 80% of the total annual rainfall is received during the monsoon period between July to September.

Wind Speed– The wind speed was mostly between 3.1 – 9.0 km/hour for all the months.

WIND - The wind speed during summer season was mostly between 6.8 – 9.0 km/hr, during rainy season it was between 5.0 – 6.8 km/hr and in winter months wind speed ranges between 3.1 – 3.3 km/hr.

Wind Direction – The predominant wind direction is from South and South West for all months except winter season. During winter the wind flows from north and North West direction. The wind direction (dominant) during the study period was from south west direction.

5.8 Social Infrastructure availability:

All infrastructure facilities such as Education, Health facilities and other Social facilities are adequate at Kharagpur town which is around 4.5 KM and district head quarter Mednipur is 6.5 KM from the proposed project site. Entire area is enjoying the modern facilities. Rashmi Metaliks Group always tries to socio-economic up liftment of entire area since 2006.

6 Planning Brief

6.0 Planning Concept (types of industries, facilities, transportation etc) Town and Country planning/Development authority Classification

During planning phase of the proposed project the following steps will be carried out:

1. Feasibility studies
2. Technical appraisal and due diligence
3. Project development planning, permitting and consenting
4. Environmental audits and impact assessments
5. Financial and thermal modelling, business planning
6. Tariff studies, power purchase agreement
7. Conceptual and pre-engineering design
8. Implementation planning and cost estimating
9. Special studies and risk assessment

The proposed project 2,50,000 TPA Rolling Mill at Mouza Khidipur (J.L No. 140) Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschim Mednipur in the state of West Bengal.

As the project is envisaged to employ 100 indirect employees during construction and operation phase and 50 direct employees so the basic infrastructure facilities like medical facilities, schools, playground, drinking facilities, bank, post offices etc. will be developed and the same can also be used by nearby villages.

6.1 Population Projection

The establishment of 2, 50,000 TPA Rolling Mill at Mouza Khidipur (J.L No. 140) Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschim Mednipur in the state of West Bengal would aid in the overall social and economic development of the region. The plant will give direct employment to about 50 people; in addition there will be indirect employment to many more people in the form of out sourcing jobs, business opportunities, service facilities etc. This will enhance the economic status of the local

region. Apart from the jobs, the company will provide medical and educational facilities to the employees which can also be availed by the people around the plant.

6.2 Land use Planning

Sr. No.	Area Description	Area in (Sq. meter)
1	2,50,000 TPA Rolling Mill Without Preheating Furnace	4000
TOTAL AREA		**4000**

Land Detail Enclosed as **Annexure-II.**

6.3 Assessment of Infrastructure Demand

Adequate physical and social facilities are available in this area as the proposed 2, 50,000 TPA Rolling Mill will be implemented near to existing RML plant premises.

6.4 Amenities / Facilities

All infrastructure facilities such as education, health facilities and other social facilities are adequate at district headquarter which site makes the region adequate in amenities.

RML will take the initiative to develop the roads of the villages to provide better connectivity to the nearest State and National highways. Apart from this the following amenities will be developed:

A. Street Light and Avenue Trees
B. Well Maintained park with Children's Play area
C. Educational Institutions
D. Primary Health Centres / Hospital
E. Healthy camps and free medical check-up should be encouraged for local population.

7 Proposed Infrastructure

7.0 Industrial Area

Layout of 2,50,000 TPA Rolling Mill has been optimized considering the space requirements of the all the equipment and systems, water treatment plant, cooling water pump house, green belt etc.

All facilities of the plant area will be laid out in close proximity to each other to the extent practicable so as to minimize the extent of land required. The layout is also facilitating the movement of men and materials between the various units both during construction and subsequent operation and maintenance to entire project.

The general layout plan of the plant is attached in Annexure – I.

7.1 Residential Area

Residential colony does not required for the proposed 2,50,000 TPA Rolling Mill at Mouja- Khidipur, village – Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), District of Paschim Medinipur in West Bengal because the local unskilled worker will be engaged, they will work at plant from their own residence and the company has existing Guest house there qualified expert will get the accommodation.

7.2 Green Belt

RML has already earmarked 33% of the area for Green belt Development and will continuously try to improve aesthetics. Local, fast growing species will be used for Green Belt Development keeping in view the guidelines and directions of MOEF, Govt. of India and W.B.P.C.B as well C.P.C.B.

7.3 Social Infrastructure

M/s Rashmi Metaliks Limited has well-defined ESR policy under which will Carry out social development and welfare measures in the surrounding villages. Under ESR activity RML to create partnership with its local communities, RML, under its Enterprise Social Responsibility (ESR) will take up initiatives on three-focus areas

- Education
- Health & Sanitation

- Sustainable Livelihood

The purpose of the ESR is to bring qualitative improvements in the lives of the community residing in the vicinity of its activity of the activities. In addition to this, RML focuses on sports and youth development programme, environment protection drives and executes infrastructure development projects.

Keeping in mind the infrastructure needs of the area RML focuses on the following areas

- Improving medical facilities in the village around the project area
- Improving awareness and providing sufficient training in hygiene , sanitation and proper diet
- Encouraging people to send children to school and also educate themselves through adult literacy programs
- Improving education infrastructure by providing better teaching aid and training for teaching faculty
- Building skills among villagers as per skills requirements of the project during constructing as well as during the operation time
- Encourage entrepreneurial spirit among people and supporting such initiative by conducting training programmes to acquire and enhance skill
- Creating awareness about long term financial planning

The detail about the ESR carried out in the past by RML is enclosed **Annexure-VI.**

7.4 Connectivity

The plant site is well connected by Road, Rail, Air and Water way. Plant is connected to NH - 6 by a well maintained road which is passing at a distance of 15km from the project site in East direction. Access road and internal roads are constructed within the plant premises and maintained regularly.

Road Connectivity: The Plant site is well connected with NH-6 which is passing very closed from the proposed project site.

Rail Connectivity: Nearest Railway Station is at Gokulpur, about 1.5km in north-east and Kharagpur junction Railway station is around 5.0kM from the plant site in south-East direction.

Airport: Nearest Air Kolkata Netaji Subhash Chandra Bose International Airport which is about 130 km from the project site in North-East direction.

Port: Nearest port is at Haldia about 135 km from project site in South-East direction.

7.5 Power Requirement & Supply / Source

➢ **POWER:**

The power required for the proposed plant will be sourced from **WBSEDCL.**

Table6.1-The Total Power Requirement for the complete project is as:

SR NO	PRODUCT	GROSS CAPACITY			SPECIFIC POWER CONSUPMTION	TOTAL CONSUMED POWER	LOAD FACTOR	CONNECTED LOAD in MW
		TPA	TPD	TPH		IN KWH	IN KWH	IN KWH
1	Induction Heater	250000	833.33	34.7	180	6249.9	0.80	7812.38
2	Rolling Mill	250000	833.33	34.7	180	6249.9	0.80	7812.38
3	Office, Lighting							4
TOTAL POWER		IN KWH				**12499.8**		**15628.75**
		IN MWH				**12.49**		**15.63**

8 Environment Management Plan

Environmental Management Plan is the key to ensure a safe and clean environment. Our plant may have taken proper pollution control measures but without a management plan to assure its proper function, the desired results may not be obtained.

8.0 During Construction Phase:

- **MITIGATORY MEASURES DURING CONSTRUCTION**

The impacts of the proposed construction phase on the environment would be basically of transient nature and are expected to wear out gradually on completion of the construction program. However, once the construction of the units will be completed and its operations started, these operation stage impacts would overlap the impacts due to the construction activities.

In order to mitigate such impacts and restrict them within tolerable levels, the Authorities would adopt the following measures:

i) Designation and demarcation of sites for construction camps and ensuring due provision of necessary infrastructural services as water supply, sewerage and drainage facilities and electrification.

ii) Implementation of necessary drainage facilities, inclusive of catch pits or sedimentation basins for the drainage of construction wastewater, prior to discharge.

iii) Regular sprinkling of water around vulnerable areas of the construction sites from trucks or through installation of water sprinklers or any other suitable methods, to control fugitive dust as and when required.

- **FIRE AND SAFETY MANAGEMENT**

Full-fledged fire fighting facilities will be provided in the plant to tackle any fire contingency. Regular safety audits will be carried out for improving safety performance. Onsite and offsite Disaster Management Plans shall be developed and mock drills will be conducted at regular intervals to keep the disaster management team in a state of full preparedness.

- **ENVIRONMENTAL AWARENESS CAMPAIGN**

In addition to training of employees in various aspects of pollution control activities of the plant, program like celebration of World Environment Day, World Safety Day, screening of films on environment, tree plantation etc. will be regularly carried out in order to create greater awareness towards environment protection amongst employees and the people in the neighboring areas.

- **INFORMATION DISSEMINATION AND PUBLIC RELATIONS**

Everybody now a day is concerned about environmental pollution. A steel plant is therefore susceptible to people as a source of local pollution. It is, therefore, needed that people should be provided with environmental data related to the plant so that wrong apprehensions can be removed. This requires a well-planned public relation and information dissemination process so that unnecessary public intervention is avoided. In this connection, RML-IV will organize different programs with participation from local bodies, encouraging local community in environmental projects (like tree plantation) etc.

- **MANAGEMENT REVIEW**

In RML, there will be continuing suitability adequacy and effectiveness of the established Environment Management System. The necessary information about the system will be collected and reviewed. During awareness training program, classes on EMS will be held for the officers & staffs in regular interval.

8.1 During Operational Phase:

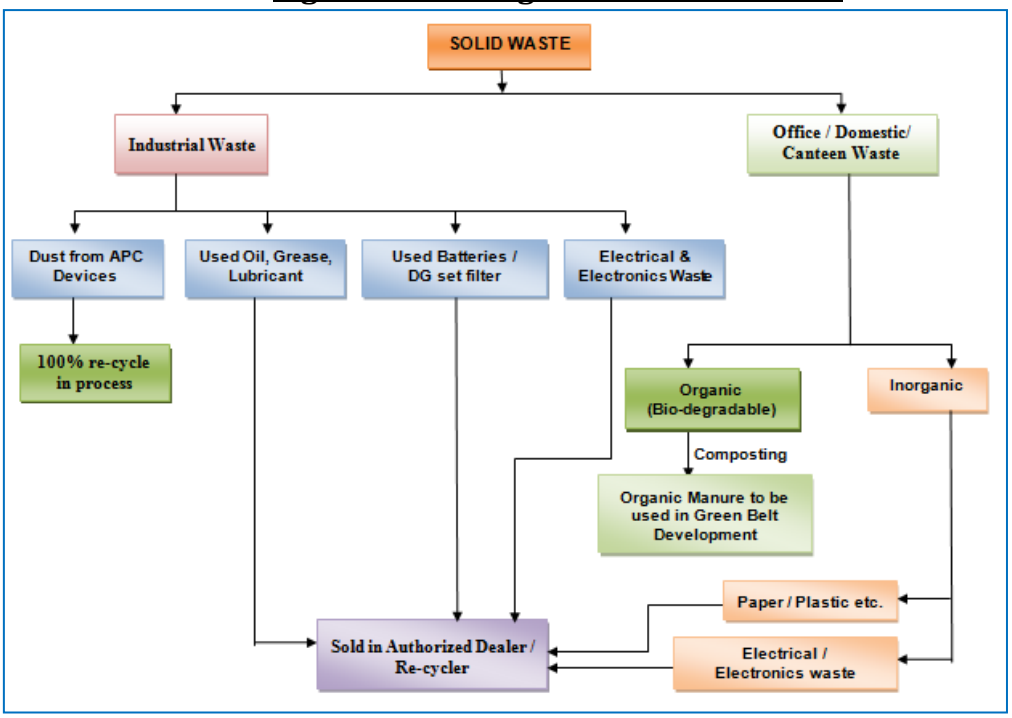
I. Solid Waste Management

From the proposed 2,50,000 TPA Rolling Mill the solid waste that will be generated and its disposal practice to be adopted is as:

- End cuts & Missed roll, scrap from rolling mill will be used in the SMS again.
- Electrical & electronic equipments and components will be handled as per e-waste Management & Handling Rules, 2011.
- All Hazardous Waste will be treated as per The Hazardous Wastes (Management, Handling & Trans-boundary Movement) Rules, 2008.

- Used oil & waste oil generating due to maintenance will be sold to authorized dealers by CPCB.
- Municipal solid waste generated from colony and plant will be segregated and disposed as per the Municipal Solid Waste Management, Handling Rules.

Figure 7.1: Management of Solid Waste



The detail of solid Waste going to Generate is given in **Table-7.1**

Sr. No	Solid Waste	Quantity in Tons/month (Approx.)	Quantity in Tons/year (Approx.)	Solid Waste Management
1	Scraps (Missed Roll / End Cuts)	1083	13000	Used in SMS plant of RML.

II. Pollution Control Measures for Point source Emission

There will be no pre heating furnace required for 2, 50,000 TPA rolling mill for manufacturing Wire, Wire Rod & TMT Bars.

Instead of conventional preheating furnace technology we are using 02 Nos. of Induction Heater. Billets from existing SMS plant of RML will be heated into the induction heater of 20T capacity each which will be operated by electricity. Therefore no APC device is required as there is no point source emission.

III. Control of Fugitive Emissions At Various Auxiliary Facilities Inside The Plant

There will be Dust Extraction / Dust Suppression Systems / Foggy Dust Arresters to control fugitive emissions from raw material handling section and various other facilities inside the plant.

Besides, the dust, collected in the bag filters will be 100% recycled in the process.

IV. Wastewater Generation & Treatment

No industrial wastewater will be generated from the process.

Domestic wastewater generated from plant will be treated in Septic Tank- Soak Pit system. The treated wastewater will be reused for various purposes including plantation, dust suppression etc.

V. Storm Water Management

The effectiveness of the drainage system depends on proper cleaning of all drainage pipes/channels. Regular checking will be done to see that none of the drains are clogged due to accumulation of sludge/sediments.

Table 7.4 Water Balance and Wastewater Management Scheme

Sr.No.	Section	Water requirement KLD	Liquid Water Discharge KLD	Disposal
1	Industrial	65	02	Harvesting Pond & Neutralizing Pit.
2	Domestic	5	1	Septic Tank followed by soaks Pit.
	Total	**70 KLD**	**3 KLD**	

VI. Land & Greenbelt Development

The proposed project will be installed on 4000 sq. meter land. **RML has already earmarked 33% area for Green belt Development.** Detail enclosed as **Annexure-V.**

While selecting trees species following things will be considered: The tree species to be selected for the plantation will be pollutant tolerant, fast growing, and wind firm, deep rooted. A three tier plantation is proposed comprising of an outer most belt of taller trees

which will act as barrier, middle core acting as air cleaner and the innermost core which may be termed as absorptive layer consisting of trees which are known to be particularly tolerant to pollutants.

Considering the need of open space for fire fighting and safety requirement, greenbelt has been planned along the periphery in addition to small patches of green area in the unutilized open space, roadside tree plantation and grass lawns.

VII. Monitoring Scheme

Third party monitoring for ambient, fugitive, noise & water carried out twice in a year by MOEF/ NABL approved laboratory. Copy of the same is enclosed as **Annexure-VIII.**

9. Rehabilitation and Resettlement (R & R) Plan

9.0 Introduction

Total land requirement is 1 acre which is already in possession by Rashmi Metaliks group in the name of M/s Rashmi Metaliks Ltd.

There was no residential habitat, so Rehabilitation and Resettlements (R&R) plant is not required.

10. Project Schedule & Cost Estimates

10.0 Likely date of start of construction and likely date of completion (time schedule for the project to be given)

Successful execution of the project largely depends on the coordinated approach of the project implementing agencies. Proper co-ordination between the various project execution agencies, monitoring of project schedules, appropriate mobilization of manpower and other resources can achieve cost control and timely completion of the project.

The proposed 2, 50,000 TPA Rolling Mill within 48 months from the date of Environment Clearance issued by WBPCB.

Civil work including building and equipment foundations are to be completed before the equipment arrives at site. All auxiliary system, Handling System, Fuel oil Handling System, fire fighting etc., Needed for commissioning the plant should be completed so as to match the schedule for initial trial of the main equipment.

10.1 Estimated project cost along with analysis in terms of economic viability of the project

The Capital costs have been worked out on the basis of prices prevailing today and do not include any provision for future escalation in costs during implementation period. The various assumptions are made while estimating the capital cost estimation. The cost estimate is based on the data available from similar type of steel projects. The Estimated cost break up is given below:

DESCRIPTION	CAPACITY	COST
For Rolling Mill	**2,50,000 TPA**	Rs. 25 Crores
Total Cost of the Project (Approx.)		**Rs. 25 Crores**

11. ANALYSIS OF PROPOSAL

11.0 Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any in the area.

Based on the growing demand in the state of West Bengal over the next 10 years, the proximity of the project location is an advantage with respect sustainable growth of the Rashmi Metaliks Group. The financial viability also shows a good Rate of return from the project for Rashmi Metaliks Group. The project is environmental friendly as it is using the Green Field Clean Technology. Considering the above, RML is planning to go-ahead with the project, once it gets all the statutory approvals.

- **Employment:** Preference will be given for locals for employment based on qualifications &requirement
- **Medical facilities:** Medical facilities will be provided for employees as well as people of nearby villages
- **Educational facilities**: Basic educational and vocational facilities will be provided for the children of employees as well as nearby villagers
- **Infrastructure facilities**: Approach roads will be developed at par with plant roads
- **Additional Facilities:** The establishment of project will facilitate additional auxiliary facilities like banking, post office & recreation facilities etc.

Other Tangible Benefits:

The overall quality of life of the people will improve due to better means of transportation and communication. As a result, mobility will increase, which will substantially increase job opportunities. The social exposure of the villagers will be enhanced and will be able to related better to the outside world.

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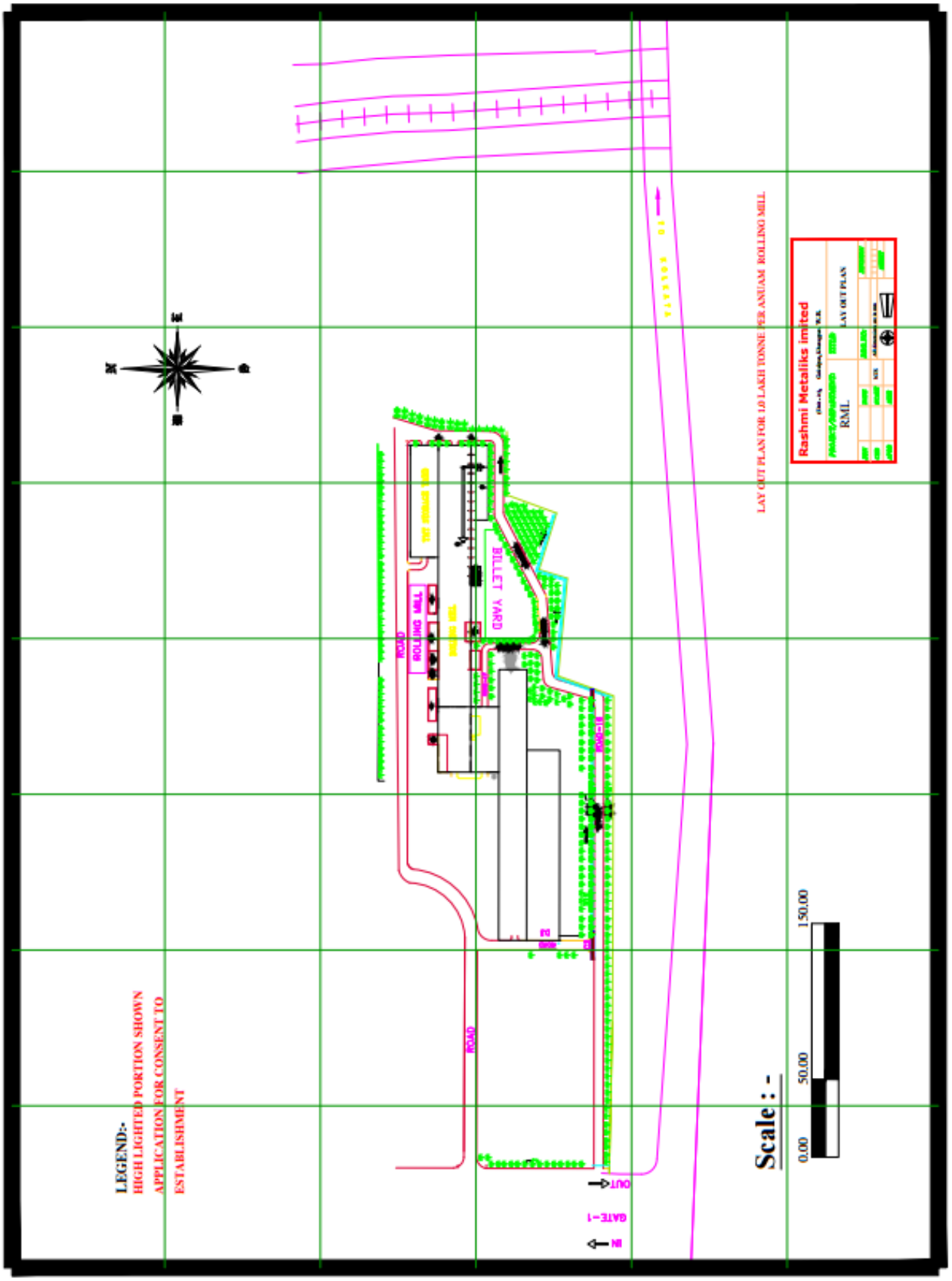
Conclusion

Rashmi Metaliks Limited at present has 0.378 MTPA Ingot/ Billet production capacity. The management in order to capture the steel market decided to install 0.25 MTPA Rolling Mill by directly feeding from SMS for manufacturing TMT Bar, Wire Rod & Wire. There will be no impact on the environment by addition of this unit as there is no point source emission. Energy consumption will be less as ingot/ Billets manufactured from SMS will be directly used in Rolling Mill after passing it from 02 Nos Induction heaters (preheater) in order to maintain the temperature of the billets followed by other assembly line resulting less power consumption and overall reduction in carbon footprint. In order to have viability, develop near by area and also provide jobs to nearby people, we wish to produce TMT Bars, Wire & Wire Rod and request to kindly amend the EC by addition of rolling mill for manufacturing 0.25 MTPA TMT Bar, Wire & wire Rods.

Further the Company will also abide by the norms stipulated by the Pollution Control Department for inclusion of Rolling Mill in our Consent to Operate approval.

ANNEXURE NO. – I

PLANT LAYOUT


LAY OUT PLAN FOR 1.0 LAKH TONNE PER ANNUM ROLLING MILL
Rashmi Metaliks limited
RML
LAY OUT PLAN
BILLET YARD
ROLLING MILL
ROAD
ROAD
OUT
GATE-1
IN
LEGEND:-
HIGH LIGHTED PORTION SHOWN
APPLICATION FOR CONSENT TO
ESTABLISHMENT
Scale : -
0.00
50.00
150.00

ANNEXURE NO. – II

LAND DETAIL

Detailed land schedule for setting up 2,50,000 TPA Rolling Mill Project at, Village- Gokulpur of Rashmi Metaliks Limited (Unit-IV)

Mouja-KHIDIPUR, J.L. No.-140				
SL. NO.	PLOT NO.	CLASSIFICATION AREA	TOTAL AREA (in Acre)	AREA REQUIRED (in Acre)
1	2	INDUSTRIAL	0.31	0.31
2	3	INDUSTRIAL	0.31	0.31
3	4	INDUSTRIAL	0.45	0.38
Total			**1.07**	**1.00**

ANNEXURE NO. – III

LIST OF MACHINERIES DETAIL

Sr. No.	Machinery	Capacity	Number
1	Induction Heater	20 MT./Hr	02 Unit
2	Hydraulic Pusher	100 Mt/Hr.	02 Unit
3	Ejector	15 Mtr./Min	02 No.
4	Rolling Mill	20"	02 Std
5	Roughing Mill	13"	08 Std
6	Intermediate Mill	12"	08 Std
7	Finishing Mill	10"	12 Std
8	Mill shed EOT Crane	10 Tonnes	02 Unit
9	Charging shed EOT Crane	05 Tonnes	02 Unit
10	Finish Product EOT Crane	05 Tonnes	02 Unit
11	Workshop EOT Crane	03 Tonnes	02 Unit
12	TMT plant with automatic PLC Controls	Upto 32 mm dis	
13	Quenching Box for TMT	40' x 2 ½"	02 Unit
14	TMT Housing with 3 Line	Ø47, Ø36, Ø20	02 No.
15	Flying Shear	Upto 12 mm dia	02 Unit
16	Cooling Bed	66 mtrs x 5 mtrs	02 Unit
17	Bar Delivery & Twin Channel	08-32 mm	02 Unit
18	Rotary Shear	Upto 32 mm dia	04 Nos.
19	Pinch Roll	Upto 32 mm dia	04 Nos.
20	Bar Speed Tail Breaker	300 Crs	04 Nos.
21	Cut to length Cold Shear	08-32 mm	02 No.
22	Finish Bar Transfer Trolley	1 Mt.	02 Unit
23	Air Compressor	500 Cft.	02 No.
24	Mill Roll Cooling Water Pump	75 m^3	06 Nos.
25	TMT Water Pump	125 m^3	06 Nos.
26	Stamping M/C	Upto 32 ɗb	04 Unit
27	CNC Rib Cutting M/C	Upto 32 ɗb	02 Unit
28	Roll Turning Lathe M/C	16"	04 Nos.
29	Roll Turning Lathe M/C	12"	04 Nos.
30	Roll Turning Lathe M/C	10"	04 Nos.
31	Roll Turning Lathe M/C	06"	04 Nos.
32	Shaper M/C	28" Stroke	04 Nos.
33	Power Hacksaw	12"	02 No.
34	Surface Grinder	18"	02 No.
35	Temperature Transmitter	0^0c to 100^0c	02 No
36	Pressure Transmitter	0 – 25 bar	02 No
37	Differential Pressure Transmitter	0-1250 m bar	02 No
38	Laser Pyrometer	300-1600^{0}C	04 Nos.
39	Thermo Couple	0^0-1600^{0}c	04 Nos.

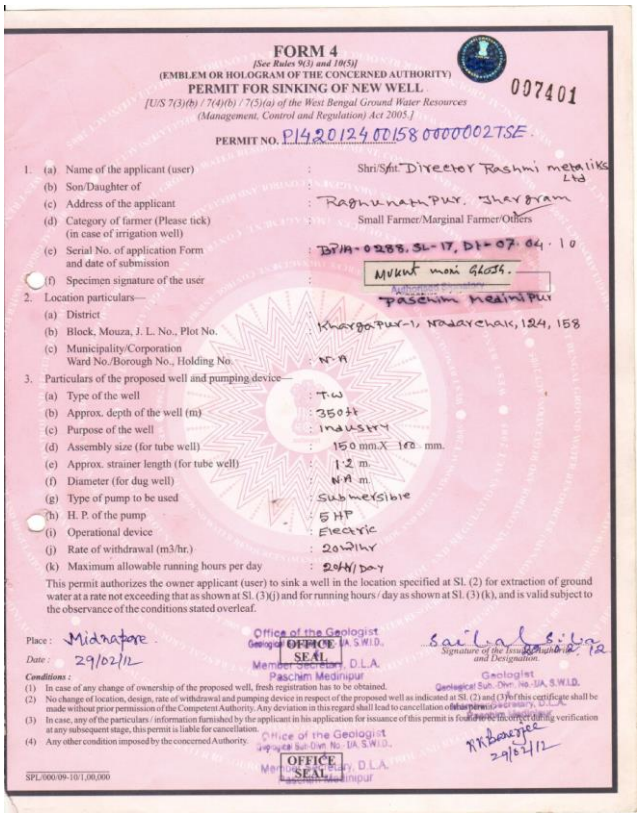
ANNEXURE NO. – IV

WATER EXTRACTION PERMISSION

DETAIL

RASHMI Metaliks Ltd.						
Sr. No.	Permit No.	Permission No.	Location	Rate of Withdrawal (m^3/hr)	Maximum Allowable running hour per day	Total per day (KLD)
1	P1420140000080000001TLE	Form-4; 009567	Khiderpur	30	06 hr/day	180
2	P1420140007290000002TLE	Form-4; 009566	Khiderpur	30	06 hr/day	180
3	P1420140007010000003TSE	Form-4; 009568	Khiderpur	20	04 hr/day	80
4	P1420740007060000004TSE	Form-4; 011087	Khiderpur	10	06 hr/day	60
5	P1420140000390000005TSE	Form-4; 011088	Khiderpur	10	06 hr/day	60
6	P1420135002370000001TSE	Form-4; 011089	Dhekia	10	06 hr/day	60
9	P1420124001580000002TSE	Form-4; 007401	Nadarchak	20	20 hr/day	400
10	P1420124000630009403TSE	Form-4; 007402	Nadarchak	20	12 hr/day	240
11	P1420124000020000004TSE	Form-4; 007403	Nadarchak	20	12 hr/day	240
12	P14020105000000000002TME	Form-4; 007592	Kasai River Bed	90	8 hr/day	720
13	P1420124000480000001TSE	Form-4; 011801	Nadarchak	9	10 hr/day	90
TOTAL						2310

Certificates



FORM 4
[See Rules 9(3) and 10(5)]
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)
PERMIT FOR SINKING OF NEW WELL
[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]

007401

PERMIT NO. P1420124 00158 0000002TSE.

1. (a) Name of the applicant (user) : Shri/Smt. Director Rashmi metaliks Ltd
(b) Son/Daughter of :
(c) Address of the applicant : Raghunathpur, Jhargram
(d) Category of farmer (Please tick) (in case of irrigation well) : Small Farmer/Marginal Farmer/Others
(e) Serial No. of application Form and date of submission : BPA-0288, SL-17, Dt-07.04.10
(f) Specimen signature of the user : Mukut moni Ghosh.
2. Location particulars—
(a) District : Paschim Medinipur
(b) Block, Mouza, J. L. No., Plot No. : Kharagpur-1, Nadarchak, 124, 158
(c) Municipality/Corporation Ward No./Borough No., Holding No. : N.A
3. Particulars of the proposed well and pumping device—
(a) Type of the well : T.W
(b) Approx. depth of the well (m) : 350ft
(c) Purpose of the well : Industry
(d) Assembly size (for tube well) : 150 mm.X 100 mm.
(e) Approx. strainer length (for tube well) : 12 m.
(f) Diameter (for dug well) : N.A m.
(g) Type of pump to be used : Submersible
(h) H. P. of the pump : 5 HP
(i) Operational device : Electric
(j) Rate of withdrawal (m3/hr.) : 20m3/hr
(k) Maximum allowable running hours per day : 20Hr/Day

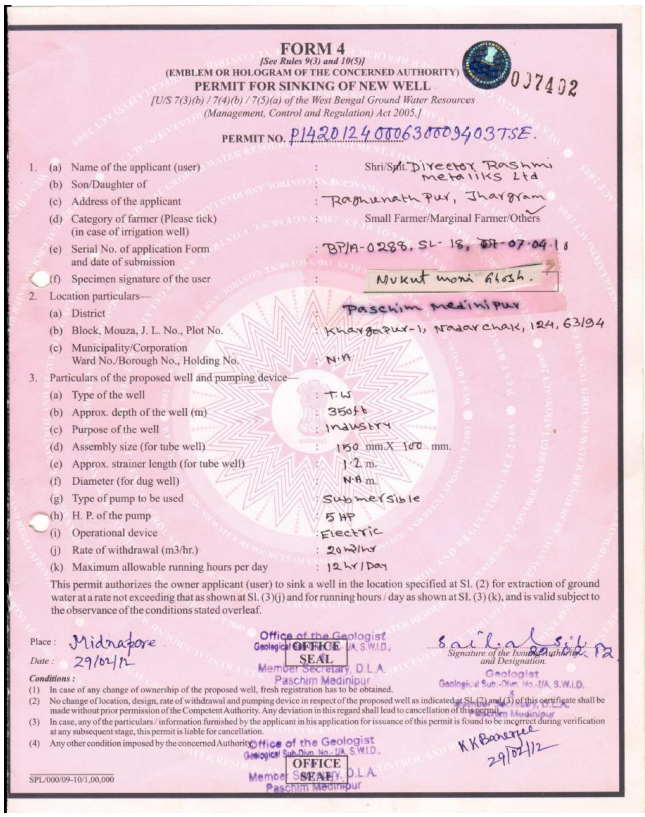
This permit authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3)(j) and for running hours / day as shown at Sl. (3) (k), and is valid subject to the observance of the conditions stated overleaf.

Place : Midnapore
Date : 29/02/12
Office of the Geologist Geological Sub. Div. No. I/A, S.W.I.D. OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur
Signature of the Issuing Authority and Designation.
Geologist Geological Sub. Div. No. I/A, S.W.I.D.

Conditions :
(1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
(2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
(3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
(4) Any other condition imposed by the concerned Authority.

Office of the Geologist Geological Sub. Div. No. I/A, S.W.I.D. OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur
K.K. Banerjee 29/02/12

SPL/000/09-10/1,00,000



FORM 4
[See Rules 9(3) and 10(5)]
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)
PERMIT FOR SINKING OF NEW WELL
[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]

007402

PERMIT NO. P1420124 00063 0009403TSE.

1. (a) Name of the applicant (user) : Shri/Smt. Director Rashmi metaliks Ltd
(b) Son/Daughter of :
(c) Address of the applicant : Raghunathpur, Jhargram
(d) Category of farmer (Please tick) (in case of irrigation well) : Small Farmer/Marginal Farmer/Others
(e) Serial No. of application Form and date of submission : BPA-0288, SL-18, 07-07-04-10
(f) Specimen signature of the user : Mukut moni Ghosh.
2. Location particulars—
(a) District : Paschim Medinipur
(b) Block, Mouza, J. L. No., Plot No. : Kharagpur-1, Nadarchak, 124, 63/64
(c) Municipality/Corporation Ward No./Borough No., Holding No. : N.A
3. Particulars of the proposed well and pumping device—
(a) Type of the well : T.W
(b) Approx. depth of the well (m) : 350ft
(c) Purpose of the well : Industry
(d) Assembly size (for tube well) : 150 mm.X 100 mm.
(e) Approx. strainer length (for tube well) : 12 m.
(f) Diameter (for dug well) : N.A m.
(g) Type of pump to be used : Submersible
(h) H. P. of the pump : 5 HP
(i) Operational device : Electric
(j) Rate of withdrawal (m3/hr.) : 20m3/hr
(k) Maximum allowable running hours per day : 12 Hr/Day

This permit authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3)(j) and for running hours / day as shown at Sl. (3) (k), and is valid subject to the observance of the conditions stated overleaf.

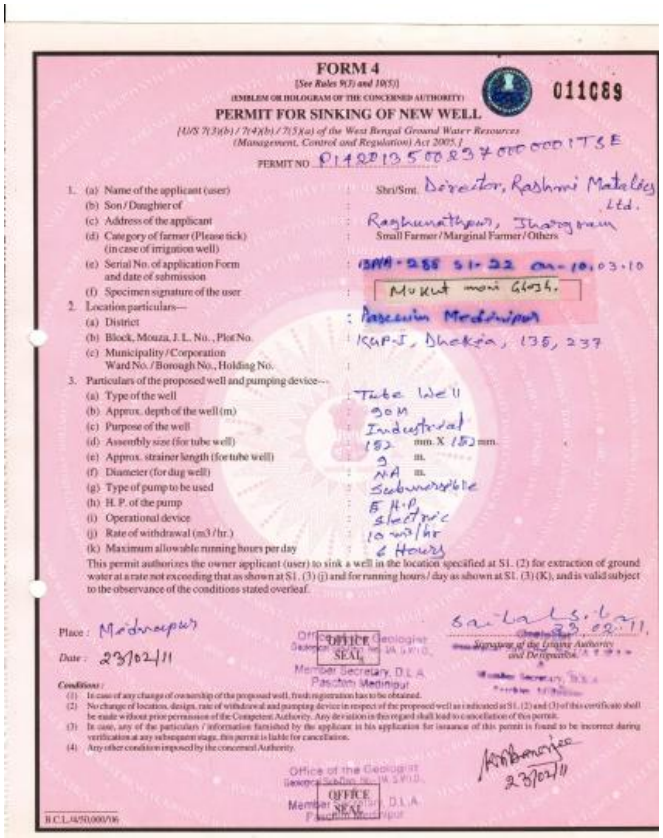
Place : Midnapore
Date : 29/02/12
Office of the Geologist Geological Sub. Div. No. I/A, S.W.I.D. OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur
Signature of the Issuing Authority and Designation.
Geologist Geological Sub. Div. No. I/A, S.W.I.D.

Conditions :
(1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
(2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
(3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
(4) Any other condition imposed by the concerned Authority.

Office of the Geologist Geological Sub. Div. No. I/A, S.W.I.D. OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur
K.K. Banerjee 29/02/12

SPL/000/09-10/1,00,000

RASHMI METALIKS LTD. KOL.



FORM 4
[See Rules 9(3) and 10(5)]
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)
011089
PERMIT FOR SINKING OF NEW WELL
[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]
PERMIT NO. P1420135002370000017SE

1. (a) Name of the applicant (user) : Shri/Smt. Director, Rashmi Metaliks Ltd.
(b) Son / Daughter of :
(c) Address of the applicant : Raghunathpur, Jhargram
(d) Category of farmer (Please tick) (in case of irrigation well) : Small Farmer / Marginal Farmer / Others
(e) Serial No. of application Form and date of submission : BPA-255 Sl-22 on-10.03.10
(f) Specimen signature of the user : Mukut moni Ghosh.
2. Location particulars—
(a) District : Paschim Medinipur
(b) Block, Mouza, J. L. No., Plot No. : KAP-I, Dhekia, 135, 237
(c) Municipality / Corporation Ward No. / Borough No., Holding No. :
3. Particulars of the proposed well and pumping device—
(a) Type of the well : Tube Well
(b) Approx. depth of the well (m) : 30M
(c) Purpose of the well : Industrial
(d) Assembly size (for tube well) : 152 mm. X 152 mm.
(e) Approx. strainer length (for tube well) : 9 m.
(f) Diameter (for dug well) : NA m.
(g) Type of pump to be used : Submersible
(h) H. P. of the pump : 5 H.P
(i) Operational device : Electric
(j) Rate of withdrawal (m3 / hr.) : 10 m3/hr
(k) Maximum allowable running hours per day : 6 Hours

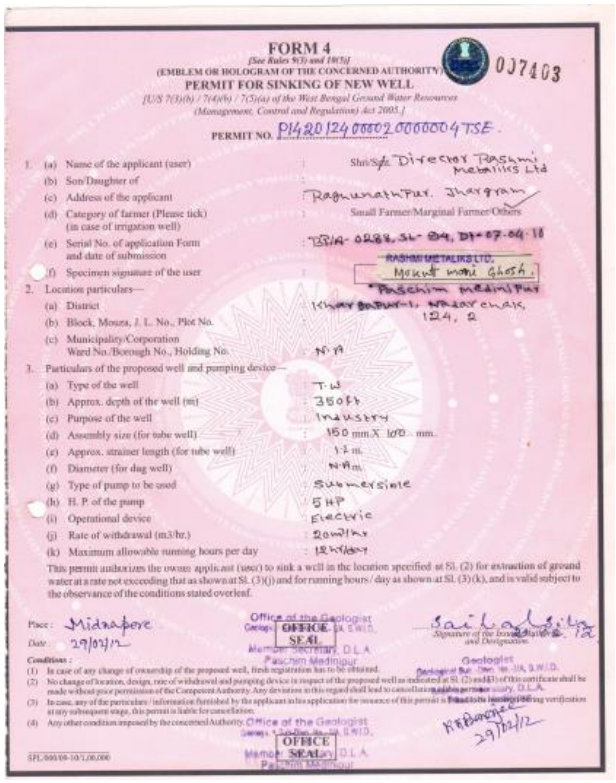
This permit authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3) (j) and for running hours / day as shown at Sl. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : Midnapur
Date : 23/02/11
Signature of the Issuing Authority and Designation
Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

Conditions :
(1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
(2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
(3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
(4) Any other condition imposed by the concerned Authority.

Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

B.C.L./4/50,000/06



FORM 4
[See Rules 9(3) and 10(5)]
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)
0J7403
PERMIT FOR SINKING OF NEW WELL
[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]
PERMIT NO. P1420124000020000004TSE

1. (a) Name of the applicant (user) : Shri/Smt. Director Rashmi Metaliks Ltd
(b) Son/Daughter of :
(c) Address of the applicant : Raghunathpur, Jhargram
(d) Category of farmer (Please tick) (in case of irrigation well) : Small Farmer/Marginal Farmer/Others
(e) Serial No. of application Form and date of submission : BPA-0282, SL-04, Dt-07.04.10
(f) Specimen signature of the user : RASHMI METALIKS LTD. Mukut moni Ghosh. Paschim Medinipur
2. Location particulars—
(a) District : Paschim Medinipur
(b) Block, Mouza, J. L. No., Plot No. : Kharagpur-I, Mouza Chak, 124, 2
(c) Municipality/Corporation Ward No./Borough No., Holding No. : N.A
3. Particulars of the proposed well and pumping device—
(a) Type of the well : T.W
(b) Approx. depth of the well (m) : 350ft
(c) Purpose of the well : Industry
(d) Assembly size (for tube well) : 150 mm.X 100 mm.
(e) Approx. strainer length (for tube well) : 12 m.
(f) Diameter (for dug well) : N.A m.
(g) Type of pump to be used : Submersible
(h) H. P. of the pump : 5HP
(i) Operational device : Electric
(j) Rate of withdrawal (m3/hr.) : 20m3/hr
(k) Maximum allowable running hours per day : 12 hrs/day

This permit authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3)(j) and for running hours / day as shown at Sl. (3) (k), and is valid subject to the observance of the conditions stated overleaf.

Place : Midnapore
Date : 29/02/12
Signature of the Issuing Authority and Designation
Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

Conditions :
(1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
(2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
(3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
(4) Any other condition imposed by the concerned Authority.

Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

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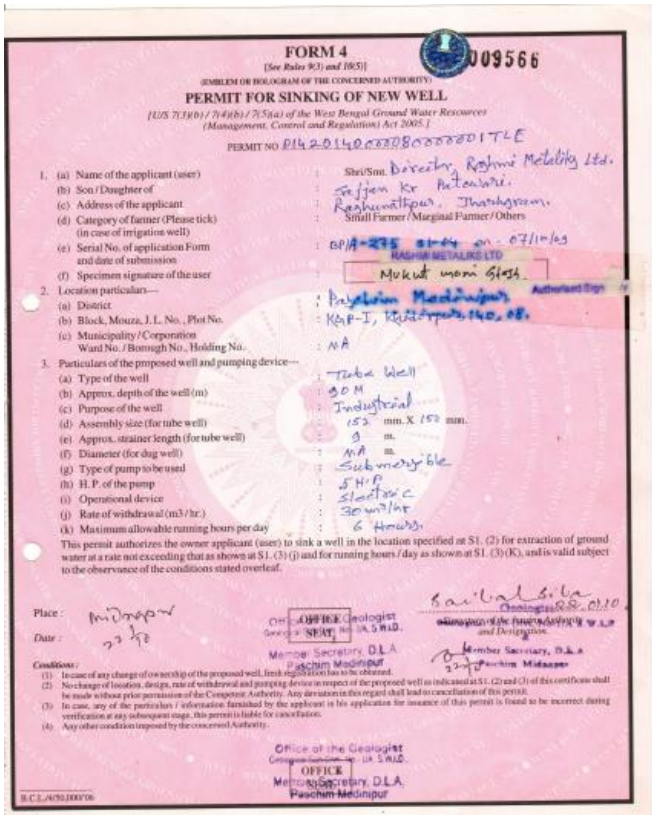


FORM 4
[See Rules 9(3) and 10(5)]
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)
009566
PERMIT FOR SINKING OF NEW WELL
[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]
PERMIT NO P1420140000800000001TLE

1. (a) Name of the applicant (user) : Shri/Smt. Director, Rashmi Metaliks Ltd.
(b) Son / Daughter of : Srijan Kr Patowari.
(c) Address of the applicant : Raghunathpur, Jhargram.
(d) Category of farmer (Please tick) (in case of irrigation well) : Small Farmer / Marginal Farmer / Others
(e) Serial No. of application Form and date of submission : BPA-275 Sl-04 on-07/10/09
(f) Specimen signature of the user : RASHMI METALIKS LTD. Mukut moni Ghosh. Authorised Signatory
2. Location particulars—
(a) District : Paschim Medinipur
(b) Block, Mouza, J. L. No., Plot No. : KAP-I, Khidirpur, 140, 08.
(c) Municipality / Corporation Ward No. / Borough No., Holding No. : NA
3. Particulars of the proposed well and pumping device—
(a) Type of the well : Tube Well
(b) Approx. depth of the well (m) : 90 M
(c) Purpose of the well : Industrial
(d) Assembly size (for tube well) : 152 mm. X 152 mm.
(e) Approx. strainer length (for tube well) : 9 m.
(f) Diameter (for dug well) : NA m.
(g) Type of pump to be used : Submersible
(h) H. P. of the pump : 5 H.P
(i) Operational device : Electric
(j) Rate of withdrawal (m3 / hr.) : 30m3/hr
(k) Maximum allowable running hours per day : 6 Hours.

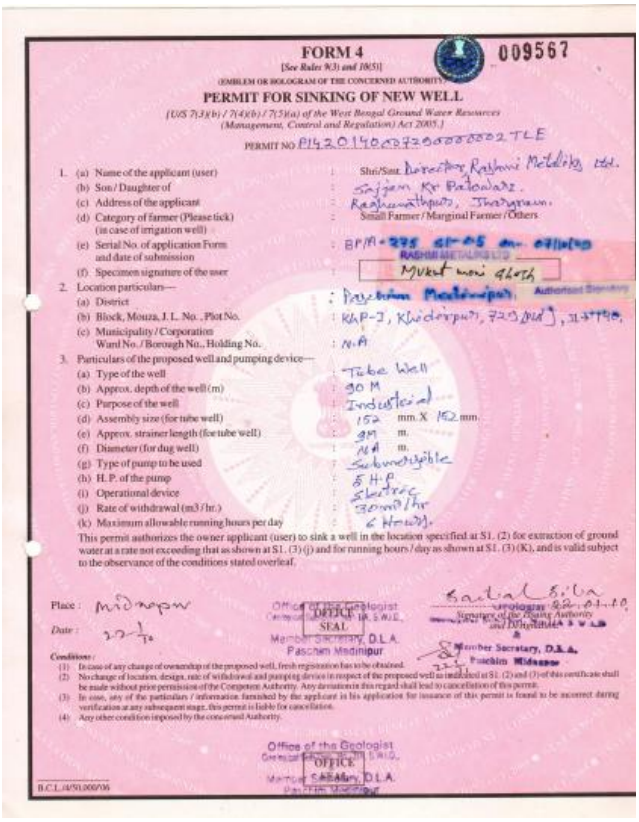
This permit authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3) (j) and for running hours / day as shown at Sl. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : Midnapur
Date : 22/2/12
Signature of the Issuing Authority and Designation
Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

Conditions :
(1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
(2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
(3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
(4) Any other condition imposed by the concerned Authority.

Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

B.C.L./4/50,000/06



FORM 4
[See Rules 9(3) and 10(5)]
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)
009567
PERMIT FOR SINKING OF NEW WELL
[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]
PERMIT NO P1420140037200000002TLE

1. (a) Name of the applicant (user) : Shri/Smt. Director, Rashmi Metaliks Ltd.
(b) Son / Daughter of : Srijan Kr Patowari.
(c) Address of the applicant : Raghunathpur, Jhargram.
(d) Category of farmer (Please tick) (in case of irrigation well) : Small Farmer / Marginal Farmer / Others
(e) Serial No. of application Form and date of submission : BPA-275 Sl-05 on-07/10/09
(f) Specimen signature of the user : RASHMI METALIKS LTD. Mukut moni Ghosh. Authorised Signatory
2. Location particulars—
(a) District : Paschim Medinipur
(b) Block, Mouza, J. L. No., Plot No. : KAP-I, Khidirpur, 729, [illegible]
(c) Municipality / Corporation Ward No. / Borough No., Holding No. : NA
3. Particulars of the proposed well and pumping device—
(a) Type of the well : Tube Well
(b) Approx. depth of the well (m) : 90 M
(c) Purpose of the well : Industrial
(d) Assembly size (for tube well) : 152 mm. X 152 mm.
(e) Approx. strainer length (for tube well) : 9m m.
(f) Diameter (for dug well) : NA m.
(g) Type of pump to be used : Submersible
(h) H. P. of the pump : 5 H.P
(i) Operational device : Electric
(j) Rate of withdrawal (m3 / hr.) : 30m3/hr
(k) Maximum allowable running hours per day : 6 Hours.

This permit authorizes the owner applicant (user) to sink a well in the location specified at Sl. (2) for extraction of ground water at a rate not exceeding that as shown at Sl. (3) (j) and for running hours / day as shown at Sl. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : Midnapur
Date : 22/2/12
Signature of the Issuing Authority and Designation
Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

Conditions :
(1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
(2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at Sl. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
(3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
(4) Any other condition imposed by the concerned Authority.

Office of the Geologist OFFICE SEAL Member Secretary, D.L.A. Paschim Medinipur

B.C.L./4/50,000/06

RASHMI METALIKS LTD. KOL.

ANNEXURE NO. – V

Existing Green Belt

ANNEXURE NO. – VI

ESR Activities Carried in Past By RML

Blanket Distribution

Amar Sathi Club Blood Donation Camp, Rajpura

Colour & Craft Workshop to School Student

Free Spectacles Distribution Camp

NH-6 To Khidirpur Road Repairing

Pachrulia School Road Construction

Nimpura Handicap School Road Construction

Free Eye Checkup Camp

ANNEXURE NO. – VII

VALID CFO & EC DETAIL

Valid CFO Details

C045530 Extension CFO REGISTERED

WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan',
Bldg. No. – 10A, Block-LA, Sector-III,
Salt Lake City, Kolkata-700 098

Memo No 5236-3888/WPB(HRO)-K/2014 Dated 08/03/2016

Consent Letter Number : .....

Memo Number :..... Date :.....

Consent to Operate

under

Section 25 & 26 of the **Water (Prevention and Control of Pollution) Act, 1974** and
Section 21 of the **Air (Prevention and Control of Pollution) Act, 1981.**

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended, and Rules and Orders made thereunder, hereby grants its consent to :

M/S. Rashmi Metaliks Ltd. (Premlata Building,39, Shakespeare sarani, 6th floor, Kol- 700 017.)
(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Gokulpur, Shyamraipur, West Midnapore 721 301.

(Detailed address of the manufacturing unit)

for a period from date of issue to 31/03/2017.

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent leter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.

For and on behalf of the State Board

Seal

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asstt. Env. Engr.)

ANNEXURE

Consent to M/S. Rashmi Metaliks Ltd.

for its unit at West Midnapore- 721 301.

Conditions :

01. This Consent is valid for the manufacture of :–

Sl. No.	Name of major products and by–products	Quantity manufactured per month
01	Iron Ore sinter	50,000 Ton.
02	Pig Iron	14,000 Ton.
03	Billets	3,750 Ton. & 11,750 Ton.
04	TMT Bar	9,600 Ton.
05	DI Pipe	11,833 Ton.
06	Iron Ore Pallet	75,000 TPM.
07	Coal Gas	6,000 Nm^3/hr.
08		
09		
10		
11		
12		

02. The *Applicant* shall remain responsible for quantity and quality of liquid effluent and air emissions.

03. **Daily** discharge of industrial liquid effluent shall not exceed 750 KL.

04. **Daily** discharge of domestic liquid effluent shall not exceed 10 + 20 KL.

05. **Daily** discharge of mixed (industrial & domestic) liquid effluent shall not exceed ..... KL.

06. The *Applicant* shall discharge liquid effluent to Recycle to process(industrial) & soakpit through septic tank(domestic (place of discharge) through 01 nos. outlets/outfalls.

07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.

08. The *Applicant* shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the *Standard* as given in Table-I in page 03.

04/08/16

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst.Env.Engr.)

Environmental Engineer,
West Bengal Pollution Control Board
Haldia Regional Office

Continued...

1st CFO renewal for 03 nos Induction Furnace of capacity 20T each

REGISTERED

WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan',
Bldg. No. - 10A, Block - LA, Sector-III,
Salt Lake City, Kolkata - 700 098

Consent Letter Number : C0102808

Memo Number : 5514-W-CO-S/10/0233

Date : 11/8/16

Consent to Operate

under

Section 25 & 26 of the **Water (Prevention and Control of Pollution) Act, 1974** and
Section 21 of the **Air (Prevention and Control of Pollution) Act, 1981**

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended, and Rules and Orders made thereunder, hereby grants its consent to :

Rashmi Metaliks Ltd. (Unit- I)

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Gokulpur, Shyamraipur, West Midnapore-721 301.

(Detailed address of the manufacturing unit)

for a period from date of issue to 31/3/2017

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.

West Bengal Pollution Control Board
Seal
Haldia Regional Office
Super Market Building Durgachak Haldia
Dist Purba Medinipur

For and on behalf of the State Board

11/08/16

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

Environmental Engineer.
West Bengal Pollution Control Board
Haldia Regional Office

RASHMI METALIKS LTD. KOL.

ANNEXURE

Consent to ..... Rashmi Metaliks Ltd. (Unit- I) .....

for its unit at ..... Gokulpur, Shyamraipur, West Midnapore- 721 301. .....

.....

Conditions :

01. This Consent is valid for the manufacture of :–

Sl. No.	Name of major products and by–products	Quantity manufactured per month
01	Billet	16,000 Ton
02	(Ref. CFO letter no C074163. dt. 29/01/2016.	
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The *Applicant* shall remain responsible for quantity and quality of liquid effluent and air emissions.

03. **Daily** discharge of industrial liquid effluent shall not exceed ..... - ..... KL.

04. **Daily** discharge of domestic liquid effluent shall not exceed ..... 3.0 ..... KL.

05. **Daily** discharge of mixed (industrial & domestic) liquid effluent shall not exceed ..... - ..... KL.

06. The *Applicant* shall discharge liquid effluent to ..... - ..... (place of discharge) through ..... - ..... nos. outlets/outfalls. As per existing CFO.

07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.

08. The *Applicant* shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the *Standard* as given in Table-I in page 03.

11/08/16

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asstt. Engr.)

Environmental Engineer
West Bengal Pollution Control Board
Haldia Regional Office

Continued.....

Valid EC Details

MOEF EC of RML

F. No. J-11011/227/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : pb.rastogi@nic.in
Telefax : 011: 2436 7668
Dated 12th June, 2008

To,

The Chief Executive Officer
M/s Rashmi Metaliks Ltd.
Premlata Building
39, Shakaspeare Sarani
6th Floor, Kolkatta 700 017
West Bengal

E-mail : sksaraf@rashmicement.com ; Fax No. : 033-22894254/03222-234533

Subject : Steel plant (5,00,000 TPA, MBF & SMS) at Shyamraipur, Gokulpur, Kharagpur, Paschim Medinipur, West Bengal by M/s Rashmi Metaliks Ltd. – Environmental clearance reg.

Sir,

Kindly refer your letter no. RML/PCB/NOC/06-07 dated 5th March, 2007 alongwith project documents including Form I, Feasibility Report and EIA/EMP and subsequent clarifications furnished vide communications dated 16th April, 2007, 29th November, 2007 and 15th April, 2008 regarding above mentioned project.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that proposal is for setting up Steel plant (5,00,000 TPA) at Shyamraipur, Gokulpur, Kharagpur, Paschim Medinipur, West Bengal. No national park, wildlife sanctuary and reserve forests are located within 10 km radius of the project. Total land acquired is 188 acres. Total cost of the project is Rs. 560.00 Crores. Following will be manufactured:

Unit	Capacity	Product	Production (TPA)
Existing Units :			
MBF	1 x 215 m^2	Hot metal	1,80,000
Sinter Plant	2 x 25 m^2	Sinter	2,50,000
Pig Casting Machine	600 TPD	Pig Iron	6,00,000
Proposed Units :			
MBF	1 x 320 m^2	Hot metal	3,00,000
Sinter Plant	70 m^2	Sinter	8,40,000
DRI Kilns	10 x 100 TPD, 3x350 TPD	Sponge Iron	6,00,000
SMS	4x40T EAF & LF	Steel Billet	5,00,000
Oxygen Plant	60 TPD	Oxygen	-
Lime Calcination Plant	1200 TPD	Calcined lime	-

2.0 Sponge iron will be produced by the reduction of iron ore with solid carbonaceous material such as coal, coke or lignite in a rotary kiln at high temperature and then cooled to zero temperature in the rotary cooler with indirect water Cooling System. The products will then screened and magnetically separated. Pig iron and sponge iron manufactured will be partially used in the SMS as well as sold to outside parties.

3.0 Electrostatic precipitator (ESP), dust settling chambers (DSC) and after burning chamber (ABC) to DRI kiln, ventury scrubbers and cyclones to blast furnace, gas cleaning system and fume extraction system to the electric arc furnace (EAF), dust extraction system to the blast furnace stock house and ladle furnace (LF) and bag filters will be provided at the transfer points to control emissions below 100 mg/Nm^3. Total water requirement from Public Health Engineering Department will be 8,160 m^3/day. Blow down water from BF, Sinter plant, Oxygen plant, SMS, Caster etc. will be recycled and reused in the process, dust suppression and green belt development. Char and coal fines will be used in FBC boiler. BF slag will be granulated and used in cement plant / sinter plant. Iron ore fines and coke fines will be used in sinter plant.

4.0. Public Hearing / Public Consultation meeting was held on 20th November, 2007.

5.0. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification, 2006 as amended subsequently subject to strict compliance of the following specific and general conditions:

A. SPECIFIC CONDITIONS :

i) Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line stack monitoring facilities for all the stacks should be provided and sufficient air pollution control devices shall be provided to keep the emission levels below 100 mg/Nm^3. Data on ambient air quality and stack emissions should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar, CPCB and W. B. Pollution Control Board (WBPCB) once in six months.

ii) As proposed, electrostatic precipitator (ESP) shall be provided to DRI kilns to control emissions within 100 mg/Nm^3. The waste gases from the DRI kiln shall be passed through the dust settling chamber (DSC) to settle the dust particles and After Burning Chamber (ABC). The hot gases from ABC shall be taken to gas cleaning plant to burn the combustibles and cleaned in ESP.

iii) Dust extraction system comprising of dry fog system including pulse jet bag filters shall be provided to the blast furnace stock house. Dust extraction system shall also be provided to the ladle furnace (LF). Ventury scrubbers and cyclones shall be provided to blast furnace. Gas cleaning system and fume extraction system shall be provided to the electric arc furnace (EAF). Bag filters shall be provided at the transfer points to control fugitive emissions. Dust suppression system shall be provided to control dust from raw material handling and storage area. The water shall be sprayed in the After Burning Chamber (ABC).

iv) Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

v) Total water requirement from Public Health Engineering Department shall not exceed 8,160 m^3/day. Effluent treatment plant (ETP) shall be installed and all the treated wastewater including blow down water from Blast furnace, Sinter plant, Oxygen plant, SMS, Caster etc. shall be recycled and reused in the process, dust suppression and green belt development. 'Zero' effluent discharge should be strictly followed and no wastewater should be discharged outside the premises.

vi) Prior 'Permission' for the drawl of 8,160 m^3/day water from the concerned department shall be obtained.

vii) All the char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else. All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization. SMS slag shall also be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.

viii) Coal and coke fines shall be recycled and reused in the process. Iron ore, fluxes, Mill scale etc. shall be recycled to sinter plant to produce sinter. Waste oil shall be sold to authorized recyclers/reprocessors.

ix) A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.

x) All the fly ash shall be utilized as per Fly Ash Notification, 1999 as amended in 2003.

xi) As proposed, green belt shall be developed in 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO.

xii) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants shall be implemented.

xiii) DRI kiln should be provided with waste heat recovery boiler (WHRB) to make use of flue gases generated during the process.

xiv) All the char from DRI plant should be utilized in AFBC boiler of power plant and no char should be disposed off anywhere else.

xv) All the slag generated from the blast furnace should be granulated and used in cement plants.

B. GENERAL CONDITIONS :

i. The project authorities must strictly adhere to the stipulations made by the West Bengal Pollution Control Board (WBPCB) and the State Government.

ii. No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.

iii. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The WBPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level shall go beyond the prescribed standards.

The interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.

iv. In-plant control measures for checking fugitive emissions from all the vulnerable sources like spillage/raw materials/coal handlings etc. shall be provided. Further, specific measures like provision of dust suppression system consisting of water sprinkling, suction hoods, fans and bag filters etc. shall be installed at material transfer points and other raw material handling areas. Centralized de-dusting system i.e. collection of fugitive emissions through suction hood and subsequent treatment through bag filter or any other device and finally emitted through a stack of appropriately designed height conforming to the standards. Fugitive emissions shall be regularly monitored and records maintained.

v. At least, four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NO_x are anticipated in consultation with the WBPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar, WBPCB and CPCB once in six months.

vi. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.

vii. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).

viii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

ix. The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.

x. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.

xi. The project authorities shall earmark Rs. 25.00 Crores and Rs. 1.55 Crores towards capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Bhubaneswar. The funds so provided should not be diverted for any other purpose.

xii. The Regional Office of this Ministry at Bhubaneswar / CPCB / WBPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.

xiii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the WBPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.

xiv. Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

6.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

7.0. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

8.0. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

9.0. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

(Dr. P. B. Rastogi)
Director

Copy to :-

1. The Secretary, Department of Environment, Govt. of West Bengal, Kolkata, West Bengal.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, West Bengal Pollution Control Board, Parivesh Bhawan, 10A Block-LA, Sector-III, Salt Lake, Kolkata - 700091, West Bengal.
4. The Chief Conservator of Forests, Regional Office (EZ),Ministry of Environment and Forests A-3, Chandrashekharpur, Bhubaneswar – 751 023, Orissa
5. Adviser (IA-II), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File.
8. Monitoring File.
9. Record File.

12/6/08.

(Dr. P. B. Rastogi)
Director

EC Validity Extension Detail

Government of India
Ministry of Environment, Forests and Climate Change
F. No. J-11011/227/2007-IA II (1)

Indira Paryavaran Bhawan Jor Bagh Road, Ali Ganj, New Delhi -110003

E-mail: adraju@gmail.com
Tele: 24695236
Dated: 12th February, 2015

To

M/s Rashmi Metaliks,
6th Floor, Premlata Building, 39,
Shakespeare Sarani,
Kolkata-700017.

E-mail: nsubbarava@rashmicement.com Fax: 033-22894254

Sub: Steel Plant (5,00,000 TP A, MBF & SMS) of M/s Rashmi Metaliks Ltd. at Shyamraipur, Gokulpur, Kharagpur, Paschim Medinipur, West Bengal - Letters dated 12.04.2013,10.12.2013 and dated 24.01.2014 seeking extension of validity of EC No.J-11011/227/2007-IA.II(I) dated 12.06.2008 - reg.

Sir,

This is with reference to your letter No. RML/EC Extension/01/April/2013 dated 12.04.2013 and dated 24.01.2014 along with the updated Form I seeking extension of validity of this ministry's environmental clearance No J-11011/227/2007-IA.II(I) dated 12.06.2008.

2. The aforesaid proposal was considered in the EAC (I) meeting held on 28th -30th July 2014. The project proponent made a presentation before the Committee. It was noted that as per the EC, following are the proposed product details:-

Unit	Capacity	Product	Production (TF
Existing Units:			
MBF	1x215 m^2	Hot metal	1,80,000
Sinter Plant	2 x 25 m^2	Sinter	2,50,000
Pig Casting Machine	600 TPD	Pig Iron	6,00,000
Proposed Units:			
MBF	1 x 320 m^2	Hot metal	3,00,000
Sinter Plant	70 m^2	Sinter	8,40,000
DRI Kilns	10x100 TPD, 3x350 TPD	Sponge Iron	6,00,000
SMS	4x40T EAF & LF	Steel Billet	5,00,000
Oxygen Plant	60 TPD	Oxygen	-
Lime Calcination Plant	1200 TPD	Calcined lime	-

3. The Committee noted that of the 6 proposed units as referred above, only 2 units -4x100 TPD Sponge Iron Plant along with 8MW Captive Power plant have been commissioned vide WBPCB's CTO No,CO 16846 dated 21.05.2012 and the remaining units could not be established within validity period of the granted Environmental Clearance mainly because of Maoist problem in this Jangal Mahal area of West Bengal and poor market sentiments.

4. After detailed deliberations, the Committee recommended for the extension of validity of EC by a period of five years with effect from 11.6.2013 subject to environmental safeguards.

5. The Ministry of Environment & Forests has accepted the aforesaid recommendation of the EAC(I) and the validity of environmental clearance is extended by a period of 5 years effective from 11.06.2013.

This issues with the approval of the Competent Authority.

(Amardeep Raju)
Scientist 'C'

Copy to:

1. The Chairman, West Bengal Pollution Control Board, Paribesh Bhawan, Bldg. No. 10-A, Block- LA, Sector 3, Salt Lake City, Kolkata - 700 091
2. The Additional Principal Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment, Forests and Climate Change (MoEF&CC), A/3, Chandrasekharpur, Bhubaneswar- 751023.

(Amardeep Raju)
Scientist 'C'

ANNEXURE NO. – VIII

AAQM/ FUGITIVE & NOISE

ANALYSIS REPORT

ENVIROCHECK
LABORATORY ACCREDITED BY NABL
189 & 190 Rastraguru Avenue, Kolkata - 700028 Phone : (033) 2579-2889/2891/2549-7490/64591174
Fax : (033) 2529-9141 / E-mail : envcheck@cal2.vsnl.net.in/ Website : www.envirocheck.org
Certificate No. : T-1761

AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	07.11.2016 – 08.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/I/16-17
5.	Analysis completed on	:	23.11.2016
6.	Reporting Date	:	24.11.2016
7.	Particular of Plant	:	Integrated Steel Plant

A] GENERAL INFORMATION

1.	Location of Sampling	:	Near Main Gate
2.	Duration of Sampling	:	24 hrs. (09:00 a.m. – 09:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	26.0
2.	Average Relative Humidity (%)	:	62.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell
5.	Weather Condition	:	Clear sky

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of $PM_{2.5}$ ($\mu g/m^3$)	USEPA 1997a, 40 CFR Part 50, Appendix L	:	53.63
2.	Concentration of PM_{10} ($\mu g/m^3$)	IS 5182 (Part 23)	:	94.50
3.	Concentration of SO_2 ($\mu g/m^3$)	IS 5182 (Part 2) & ASTM D 2914-01	:	9.98
4.	Concentration of NO_x ($\mu g/m^3$)	IS 5182 (Part 6) & ASTM D 1607-91	:	40.63
5.	Concentration of CO (mg/m^3)	IS 5182 (Part 10) & ASTM D 3162-94	:	1.36
6.	Concentration of Pb ($\mu g/m^3$)	IS 5182 (Part 22) & ASTM D 4185-06	:	<0.01
7.	Benzo (a) Pyrene (BaP) (ng/m^3)	IS 5182 (Part 12) 2004 & ASTM D 6209-98	:	0.70
8.	Benzene (C_6H_6) ($\mu g/m^3$)	IS 5182 (Part 11) 2006 & ASTM D 5466-01	:	1.56
9.	Ozone (O_3) ($\mu g/m^3$)	IS 5182 (Part-IX)	:	25.0
10.	Ammonia (NH_3) (mg/m^3)	NIOSH Manual of Analytical Method, 4th Edition 1994, Method 6015	:	<0.15
11.	Nickel (Ni) (ng/m^3)	IS 5182 (Part-22) 2004 & ASTM D 4185-06	:	<0.02
12.	Arsenic (As) (ng/m^3)	IS 5182 (Part 22) 2004 & ASTM D 4185-06	:	<0.01

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

RASHMI METALIKS LTD. KOL.

ENVIROCHECK
LABORATORY ACCREDITED BY NABL
189 & 190 Rastraguru Avenue, Kolkata - 700028 Phone : (033) 2579-2889/2891/2549-7490/64591174
Fax : (033) 2529-9141 / E-mail : envcheck@cal2.vsnl.net.in/ Website : www.envirocheck.org
Certificate No. : T-1761

AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	08.11.2016 – 09.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/III/16-17
5.	Analysis completed on	:	23.11.2016
6.	Reporting Date	:	24.11.2016
7.	Particular of Plant	:	Integrated Steel Plant

A] GENERAL INFORMATION

1.	Location of Sampling	:	Near Railway Sitting
2.	Duration of Sampling	:	24 hrs. (07:00 a.m. – 07:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	25.0
2.	Average Relative Humidity (%)	:	58.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell
5.	Weather Condition	:	Clear sky

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of $PM_{2.5}$ ($\mu g/m^3$)	USEPA 1997a, 40 CFR Part 50, Appendix L	:	56.20
2.	Concentration of PM_{10} ($\mu g/m^3$)	IS 5182 (Part 23)	:	96.80
3.	Concentration of SO_2 ($\mu g/m^3$)	IS 5182 (Part 2) & ASTM D 2914-01	:	8.03
4.	Concentration of NO_x ($\mu g/m^3$)	IS 5182 (Part 6) & ASTM D 1607-91	:	28.55

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

RASHMI METALIKS LTD. KOL.

ENVIROCHECK
LABORATORY ACCREDITED BY NABL
Certificate No. : T-1751
189 & 190 Rastraguru Avenue, Kolkata - 700028 Phone : (033) 2579-2889/2891/2549-7490/64591174
Fax : (033) 2529-9141 / E-mail : envcheck@cal2.vsnl.net.in/ Website : www.envirocheck.org

AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	08.11.2016 – 09.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/II/16-17
5.	Analysis completed on	:	23.11.2016
6.	Reporting Date	:	24.11.2016
7.	Particular of Plant	:	Integrated Steel Plant

A] GENERAL INFORMATION

1.	Location of Sampling	:	At Malancha Town
2.	Duration of Sampling	:	24 hrs. (07:00 a.m. – 07:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	25.0
2.	Average Relative Humidity (%)	:	58.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell
5.	Weather Condition	:	Clear sky

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of $PM_{2.5}$ (µg/m^3)	USEPA 1997a, 40 CFR Part 50, Appendix L	:	52.54
2.	Concentration of PM_{10} (µg/m^3)	IS 5182 (Part 23)	:	91.60
3.	Concentration of SO_2 (µg/m^3)	IS 5182 (Part 2) & ASTM D 2914-01	:	8.68
4.	Concentration of NO_x (µg/m^3)	IS 5182 (Part 6) & ASTM D 1607-91	:	35.01

Date : 24.11.2016

Authorised Signatory:

Dr. SUMIT CHOWDHURY
Technical Manager

RASHMI METALIKS LTD. KOL.

ENVIROCHECK
LABORATORY ACCREDITED BY NABL
Certificate No. : T-1751
189 & 190 Rastraguru Avenue, Kolkata - 700028 Phone : (033) 2579-2889/2891/2549-7490/64591174
Fax : (033) 2529-9141 / E-mail : envcheck@cal2.vsnl.net.in/ Website : www.envirocheck.org

AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	08.11.2016 – 09.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/IV/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016
7.	Particular of Plant	:	Integrated Steel Plant

A] GENERAL INFORMATION

1.	Location of Sampling	:	Gokulpur Village
2.	Duration of Sampling	:	24 hrs. (10:00 a.m. – 10:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	25.0
2.	Average Relative Humidity (%)	:	58.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell
5.	Weather Condition	:	Clear sky

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of $PM_{2.5}$ ($\mu g/m^3$)	USEPA 1997a, 40 CFR Part 50, Appendix L	:	47.93
2.	Concentration of PM_{10} ($\mu g/m^3$)	IS 5182 (Part 23)	:	91.58
3.	Concentration of SO_2 ($\mu g/m^3$)	IS 5182 (Part 2) & ASTM D 2914-01	:	6.07
4.	Concentration of NO_x ($\mu g/m^3$)	IS 5182 (Part 6) & ASTM D 1607-91	:	25.06

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

RASHMI METALIKS LTD. KOL.

ENVIROCHECK
LABORATORY ACCREDITED BY NABL
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Fax : (033) 2529-9141 / E-mail : envcheck@cal2.vsnl.net.in/ Website : www.envirocheck.org
Certificate No. : T-1751

AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	08.11.2016 – 09.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/V/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016
7.	Particular of Plant	:	Integrated Steel Plant

A] GENERAL INFORMATION

1.	Location of Sampling	:	Kalaikunda village
2.	Duration of Sampling	:	24 hrs. (08:30 a.m. – 08:30 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	25.0
2.	Average Relative Humidity (%)	:	58.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell
5.	Weather Condition	:	Clear sky

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of $PM_{2.5}$ ($\mu g/m^3$)	USEPA 1997a, 40 CFR Part 50, Appendix L	:	51.64
2.	Concentration of PM_{10} ($\mu g/m^3$)	IS 5182 (Part 23)	:	93.58
3.	Concentration of SO_2 ($\mu g/m^3$)	IS 5182 (Part 2) & ASTM D 2914-01	:	6.94
4.	Concentration of NO_x ($\mu g/m^3$)	IS 5182 (Part 6) & ASTM D 1607-91	:	28.63

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

RASHMI METALIKS LTD. KOL.

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FUGITIVE AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	07.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/VI/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016

A] GENERAL INFORMATION

1.	Location of Sampling	:	Sinter Unit
2.	Duration of Sampling	:	08 hrs. (10:00 a.m. – 06:00 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	27.0
2.	Average Relative Humidity (%)	:	65.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of SPM (µg/m^3)	IS 5182 (Part 4) & ASTM D 4096-91	:	382.60

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

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FUGITIVE AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	07.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/VII/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016

A] GENERAL INFORMATION

1.	Location of Sampling	:	Raw Materials Handling Plant
2.	Duration of Sampling	:	08 hrs. (10:30 a.m. – 06:30 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	27.0
2.	Average Relative Humidity (%)	:	65.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of SPM (µg/m^3)	IS 5182 (Part 4) & ASTM D 4096-91	:	412.66

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

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FUGITIVE AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	07.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/VIII/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016

A] GENERAL INFORMATION

1.	Location of Sampling	:	DIP – Unit
2.	Duration of Sampling	:	08 hrs. (11:00 a.m. – 07:00 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	27.0
2.	Average Relative Humidity (%)	:	65.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of SPM (µg/m^3)	IS 5182 (Part 4) & ASTM D 4096-91	:	320.61

Date : 24.11.2016

Authorised Signatory :

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FUGITIVE AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	07.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/IX/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016

A] GENERAL INFORMATION

1.	Location of Sampling	:	Pellet Plant Area
2.	Duration of Sampling	:	08 hrs. (09:00 a.m. – 05:00 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	27.0
2.	Average Relative Humidity (%)	:	63.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of SPM (µg/m^3)	IS 5182 (Part 4) & ASTM D 4096-91	:	356.04

Date : 24.11.2016

Authorised Signatory :

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Technical Manager

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FUGITIVE AIR ANALYSIS REPORT

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Mouza – Mathura Kismat, Gokulpur, P.O. – Shyamraipur, P.S. – Kahragpur, Paschim Midnapore
3.	Date of sampling	:	08.11.2016
4.	Report No.	:	11/EC/Nov./TR(A)/X/16-17
5.	Analysis completed on	:	11.11.2016
6.	Reporting Date	:	24.11.2016

A] GENERAL INFORMATION

1.	Location of Sampling	:	S.M.S Area
2.	Duration of Sampling	:	08 hrs. (09:00 a.m. – 05:00 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (^{0}C)	:	27.0
2.	Average Relative Humidity (%)	:	63.0
3.	Barometric Pressure (mm of Hg)	:	757.0
4.	Smell or Odour	:	No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.		RESULTS
1.	Concentration of SPM (µg/m^3)	IS 5182 (Part 4) & ASTM D 4096-91	:	325.88

Date : 24.11.2016

Authorised Signatory :

Dr. SUMIT CHOWDHURY
Technical Manager

RASHMI METALIKS LTD. KOL.

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NOISE LEVEL STUDY

I.	Name of the Industry/Factory/Company	:	Rashmi Metaliks Limited
II.	Address	:	Nh-6,Shyamraipur,Gokulpur,Kharagpur, Pin-721304, West Bengal
III.	Date of Sampling	:	08/11/2016
IV.	Reporting Date	:	26/11/2016
V.	Report No	:	178/EC/M/16-17
VI.	Method No	:	IS:10988-1984
VII.	Time of Duration of Noise	:	20 Minutes
VIII.	Height from Ground Level	:	4 feet
IX.	Type of Industry	:	Steel Plant
X.	Sample Monitoring by	:	Mr. Supriya Singha Chowdhury

RESULT OF NOISE LEVEL STUDY

DAY TIME

1. Location of Study : Near Plant Gate

Time (A.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
9:10 – 9:30	73.5	66.3	78.0	73.46
	70.1			
	77.4			
	68.3			
	71.5			
	66.3			
	69.2			
	78.0			
	74.2			
	70.6			

DAY TIME

2. Location of Study : Railway Sitting

Time (A.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:00 -10:20	75.4	70.7	84.5	80.04
	80.2			
	77.9			
	70.7			
	79.0			
	84.5			
	82.3			
	78.1			
	81.9			
	76.6			

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RESULT OF NOISE LEVEL STUDY

DAY TIME

3. Location of Study : Malancha Town

Time (A.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:30 – 10:50	76.0	65.3	79.8	74.77
	70.5			
	67.6			
	68.2			
	75.4			
	79.8			
	74.2			
	65.3			
	77.6			
	72.8			

DAY TIME

4. Location of Study : Gokulpur Village

Time (A.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
11:00 – 11:20	58.2	52.1	65.6	60.53
	61.3			
	52.1			
	54.7			
	57.8			
	63.3			
	65.6			
	59.0			
	56.5			
	60.9			

** Mean of L_{eq} - Equivalent to Sound Energy

Limit in Leq dB(A)

Category Area	Day Time dB(A)	Night Time dB(A)
A. Industrial Area	75	70
B. Commercial Area	65	55
C. Residential Area	55	45
D. Silence Zone	50	40
**Day Time is reckoned in between 6:00 A.M & 10:00 P.M	**Night Time is reckoned in between 10:00 P.M & 6:00 A.M	

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NOISE LEVEL STUDY

I.	Name of the Industry/Factory/Company	: Rashmi Metaliks Limited
II.	Address	: Nh-6,Shyamraipur, Gokulpur, Kharagpur, Pin-721304, West Bengal
III.	Date of Sampling	: 07/11/2016
IV.	Reporting Date	: 26/11/2016
V.	Report No	: 181/EC/M/16-17
VI.	Method No	: IS:10988-1984
VII.	Time of Duration of Noise	: 20 Minutes
VIII.	Height from Ground Level	: 4 feet
IX.	Type of Industry	: Steel Plant
X.	Sample Monitoring by	: Mr. Sanjoy Guha

RESULT OF NOISE LEVEL STUDY

DAY TIME

1. Location of Study : DIP (Work Zone)

Time (P.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
1:00 – 1:20	64.2	56.6	72.3	67.18
	67.1			
	70.2			
	58.4			
	56.6			
	65.6			
	69.0			
	72.3			
	64.2			
	62.3			

DAY TIME

2. Location of Study : SMS (Work Zone)

Time (P.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
1:30 – 1:50	55.1	55.1	71.7	65.64
	58.3			
	63.6			
	60.7			
	71.7			
	64.5			
	60.8			
	69.3			
	61.4			
	65.4			

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RESULT OF NOISE LEVEL STUDY

DAY TIME

3. Location of Study : Sinter (Work Zone)

Time (P.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
2:00 – 2:20	71.5	62.3	73.1	69.84
	64.6			
	67.0			
	73.1			
	70.4			
	62.3			
	66.5			
	69.1			
	70.8			
	72.2			

DAY TIME

4. Location of Study : Pellet (Work Zone)

Time (P.M)	dB(A) (Noise Data)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
2:30 – 2:50	61.9	62.3	73.1	69.84
	68.2			
	56.4			
	58.1			
	70.9			
	66.3			
	72.6			
	63.5			
	60.7			
	57.0			

** Mean of L_{eq} - Equivalent to Sound Energy

Limit in Leq dB(A)

Category Area	Day Time dB(A)	Night Time dB(A)
A. Industrial Area	75	70
B. Commercial Area	65	55
C. Residential Area	55	45
D. Silence Zone	50	40
**Day Time is reckoned in between 6:00 A.M & 10:00 P.M	**Night Time is reckoned in between 10:00 P.M & 6:00 A.M	