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1 EXECUTIVE SUMMARY

1.1 Introduction

M/s Kashi Vishwanath Steels Private Limited (KVS) is an existing industry and located at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand, involved for production of M S Billet/Rolled products (TMT Bars) through Induction Furnace – CCM – Rolling Mill route for production of 57600 TPA & 88200 TPA MS Billets/Ingots & Rolled product respectively using Sponge Iron, Iron Scrap, Ferro allows for making MS ingots/billets as basic raw material & Ingots/Billets/blooms etc eventually utilized for making rolling products.

M/s Kashi Vishwanath Steels Private Limited (KVS) is planning for capacity expansion by replacing the existing Induction Furnaces 5 Tons (02 Nos.) and 4 Tons (02 Nos.) with 6 Tons (03 Nos. - replacement of existing IFs) and 10 Tons (01 No. replacement & 02 Nos. new) capacity and modernize Continuous Casting Machine (CCM) & increasing the output (speed) of existing Rolling Mill through modernization to enhance the annual production capacity from existing MS Ingots 57,600 TPA to 1,42,400 MTPA and Steel Bars 88,200 to 1,11,800 TPA through augmentation in the existing Induction Furnace capacity & required Utilities to meet the increasing steel demand. After proposed expansion production capacity of MS Ingots and Steel Bars will become @200000 MTPA each.

The company was set up in the year 1985 initially and obtain NOC from Uttar Pradesh Pollution Control Board on Dated 12.12.1985 for setting up of small Steel industry for the production of 30.0 MTPD Steel plates, Angles & Channels at Narain Nagar Industrial Estate, Bazpur Road, Kashipur. Further NOC expansion was taken on dated 24.06.1992 with an expanded capacity of 100 MTPD. Again, NOC expansion was taken by the company on dated 21.12. 2005 for the production of MS Ingots – 160 MTPD by installing additional 05 MT capacity Induction Furnace. On 26.04.2006 further the existing unit was expand by obtaining prior NOC from UPPCB to produce MS Bars, Angles & Channels – 245 MTPD. M/s KVS has a valid CCA issued by UEPPCB for the Period 01.04.2017 to 31.03.2018 & now applied for further renewal.

Project falls under Category A due to general condition as the project site is located within 05 kms radius from interstate boundary (Uttar Pradesh and Uttarakhand) as Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MoEF &

CC.

Water for construction and domestic purpose will be drawn from borewell. Approximately 201.0 KLD fresh water will be used for industrial and domestic purposes as well other pollution controlling purposes. Total electrical power requirement will increase additionally by about 10 MW to run the additional plant and machinery and after expansion the total power requirement will be around 26.5 MW. The electrical power will be sourced from UPCL. Total land area available with the industrial unit is around 14.78 Acers (59817.00 m^2).

1.2 Synopsis of the Report

The pre-feasibility report includes a brief introduction of the company, need and justification of the project, process description, required and available resources, land-use and proposed infrastructure, project schedule, cost estimate for conducting the EIA studies. M/s Kashi Vishwanath Steels Pvt Ltd has engaged the services of M/s Earth Hood Services Private Limited, Gurugram (Haryana) for carrying out the EIA studies for obtaining Environmental Clearance (EC) for the proposed project.

2 INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 Identification of the Project and Project Proponent

M/s Kashi Vishwanath Steels Private Limited (KVS) is located at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand. Due to huge demand of steel products, the proponent plans to enhance the production capacity of the plant and proposed the production capacity of MS Ingots from 57,600 TPA to 200000 TPA and Steel Bars/Sections 88,200 to 200000 TPA through augmentation in the existing Induction Furnace capacity & required Utilities to meet the increasing steel demand. The details of the project are given in Table below.

Table 2-1: Project Details

S. No	Parameters	Description
1	Identification of project	Project falls under Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MoEF&CC.
2	Project Proponent	M/s Kashi Vishwanath Steels Pvt Ltd.
3	Brief description of nature of the project	The proposed project is for the expansion of the production capacity of MS Ingots from 57,600 TPA to 2,00,000 TPA with additional increase of 1,42,400 and Steel Bars 88,200 to 2,00,000 TPA with additional increase of 1,11,800 within existing premises only.
4	**Salient Features of the Project**	
4.1	Proposed production capacity	• ~2,00,000 TPA by using multiple induction furnaces having aggregate melting capacity of ~48 T/heat • ~2,00,000 TPA of steel bars
4.2	Total Plot Area	Total plot area –14.78 Acres, (59,817.00 Sqm)
4.3	Location	Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.
4.4	Water requirement	Water requirement will be met from existing Borewell. Total water will be required approximately 506.0 KLD in which 201.0 KLD water will be required as fresh and remaining 305.0 KLD water will be recycled during operational phase.

S. No	Parameters	Description
4.5	Source of water	Borewell
4.6	Waste Water Management Waste water generation Mode of Disposal	Proposed Sewage Treatment Plant (Capacity –25.0 KLD) 18.0 KLD Reused in Green belt
4.7	Man Power	Existing – 400 Nos. Proposed – 100 Nos. Total – 500 Nos.
4.8	Electricity/Power requirement	Existing – 16.5 MW Proposed – 10.0 MW Total – 26.5 MW (Sources from UPCL) DG set Details- Existing – 63 KVA (to be replaced) Proposed – 685 KVA (125, 160 & 400 KVA on standby basis)
4.9	Alternative site	The proposed addition will be established in the existing plant premises only. No additional land will be covered.
4.10	Land form, Land use and land ownership	Private land, owned by M/s Kashi Vishwanath Steels Pvt Ltd and used as industrial purposes.
5.0	Project cost	The estimated cost of the Project is approximately Rs.12.00 Crores.

2.2 Brief Description of Nature of the Project

M/s Kashi Vishwanath Steels Pvt. Ltd is an existing industrial unit which plans to enhance the production capacity up to ~2,00,000 TPA for MS ingots/Billets and Rolled Products each. The existing setup include 5 Tons (02 Nos.)& 4 Tons (02 No) with 2 reheating furnaces along with 2 rolling mills for production of ingots/Billets 57600 TPA and rolled products around ~88200 TPA.

2.3 Need for the Project and Its Importance to the Country and or Region

India is the world's third-largest producer of crude steel (up from eighth in 2003) and is expected to become the second-largest producer by 2016. The growth in the Indian steel sector has been driven by domestic availability of raw materials such as iron ore and cost-effective labor. Consequently, the

steel sector has been a major contributor to India's manufacturing output.

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. While plant closures and privatization are rare in India, the private sector is considered to be the engine of growth in the steel industry and technological changes and modernization are taking place in both the public and the private sector integrated steel plants in India.

2.4 Demand –Supply Gap

Steel production of India accounted for 14.33 million tons in 1990-91, which gradually increased to 36.12 million tons in 2003-04. Rapid rise in production has resulted in India becoming the 3rdlargest producer of crude steel in 2015 and the country continues to be the largest producer of sponge iron or DRI in the world. As per the report of the Working Group on Steel for the 12th Five Year Plan, there are many factors exists which carry the potential of raising the per capita steel consumption in the country. These include among others, an estimated infrastructure investment of nearly a trillion dollars, a projected growth of manufacturing from current 8% to 11-12%, increase in urban population to 700 million by 2030 from the current level of 400 million, emergence of the rural market for steel currently consuming around 10 kg per annum. At the time of its release, the National Steel Policy 2005 had envisaged steel production to reach 110 Million Tonnes (MMT) by 2019-20. However, based on the assessment of the current ongoing projects, both in Greenfield and Brownfield, the Working Group on Steel for the 12th Five Year Plan has projected that domestic crude steel capacity in the county is likely to be 140 MT by 2016-17 and has the potential to reach 149 MT if all requirements are adequately met. The National Steel Policy 2005 is currently being reviewed keeping in mind the rapid developments in the domestic steel industry (both on the supply and demand sides) as well as the stable growth of the Indian economy since the release of the Policy in 2005.India is expected to become the world's second largest producer of crude steel in the next 10 years, moving up from the third position, as its capacity is projected to increase to about 300 MT by 2025. Huge scope for growth is offered by India's comparatively low per capita steel consumption and the expected rise in consumption due to increased infrastructure construction and the thriving automobile and railways sectors.

2.5 Employment Generation (Direct) Due to Project

Total manpower of the proposed project would be around 500. The detail is given below-

Table 2-2: Employment Details (direct)

Sl. No.	Category	No. of Employees			Functional Area
		Existing	Proposed	Total	
01.	Key Managerial Staff	15	05	20	Finance, Marketing, Production, Quality control, R&D, Logistics etc.
02.	Administration	25	05	30	Office
03.	Plant Staff	75	25	100	Production Process, Maintenance, stores, Safety & Un skilled
04.	Skilled & semiskilled	175	25	200	Production Process
05.	Contract	110	40	150	Plant activities
Total		**400**	**100**	**500**	

During Construction phase the labors and workers will be sourced locally.

3 PROJECT DESCRIPTION

3.1 Type of Project

M/s Kashi Vishwanath Steels Private Pvt. Ltd propose for expansion of the existing Unit to produce Mild Steel Billets/Ingots and MS Bars/Sections (Capacity – 2,00,000 MTPA each) through augmentation in the existing Induction Furnaces capacity at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand by using existing manufacturing and infrastructure facilities. Various utilities viz. new Induction Furnace, cooling tower, & DG set, etc. will be proposed to install to meet the requirements.

Total capital investment in the proposed expansion project activities will be Rs. 12.0 Crore. It includes construction, plant machineries and installation, environment protection measures cost, etc.

The proposed project belongs to expansion of production capacity and augmentation of the existing unit. Salient feature of the plant is given in Table below.

Table 3-1: Salient Features of the Project

S. No.	Particulars	Existing	Proposed addition	Total
1.	Unit processes/ machinery (Melting Division)	Induction furnaces (~18 MT/heat) Continuous casting (concast) machine Reheating furnace Two Rolling mills and Utilities	Induction furnaces (~30 MT/heat) Ladle Augmentation in Rolling mills and Required Utilities	Induction furnaces (~48 MT/heat)
2.	Gross melting capacity	~62254.08 TPA	~153905.92 TPA	~216160.0 TPA
3.	Installed production capacity (Melting	57600 TPA	142400 TPA	2,00,000 TPA

S. No.	Particulars	Existing	Proposed addition	Total
	Division)			
4.	Gross Rolling capacity	89543 TPA	113502.54 TPA	203045.68 TPA
5.	Installed production capacity (Rolling Division)	~88,200 TPA	~1,11,800 TPA	~2,00,000 TPA
6.	Fixed capital investment	3600 lacs	~ 1200 lacs	~4800 lacs
7.	Electrical power requirement	~16.5 MW	~10.0 MW	~26.5 MW
8.	Raw material requirement	~62254.08TPA (sponge iron, iron scrap/pig iron, Ferro-Alloys)	~153905.92TPA (sponge iron, iron scrap/pig iron, Ferro-Alloys)	~216160.0TPA(sponge iron, iron scrap/pig iron, Ferro-Alloys)
9.	Land area	~14.78 Acres, (59,817.00Sqm)	NIL	~14.78 Acres, (59,817.00Sqm)
10.	Manpower requirement	~400	~100	~500
	Water requirement			
11.	CCM & Rolling Mill Process – Direct Cooling	~150.0 KLD	~90.0 KLD	~240.0 KLD
12.	Industrial Cooling	~80.0 KLD	~120.0 KLD	~200.0 KLD
13.	Miscellaneous i.e. Dust suppression	~3.5 KLD	--	3.5 KLD
14.	Domestic Purpose	~18.0 KLD	~4.5 KLD	~22.5 KLD
15.	Green Belt	~24.0 KLD	~16.0 KLD	~40.0 KLD
16.	Gross water requirement	~275.5 KLD	~230.5 KLD	~506.0 KLD

S. No.	Particulars	Existing	Proposed addition	Total
17.	Solid waste generation • Slag • Mill scale	 ~14.14MT/day ~0.50 MT/day	 ~21.20 MT/day ~ 0.74 MT/day	 ~35.34 MT/day ~ 1.24 MT/day
18.	Hazardous waste • APCD dust • Spent lubricant	 ~200 kg/day ~100 L/year	 ~800 kg/day ~500 L/year	 ~1000 kg/day ~600 L/year
19.	Dust processing Unit (Installed Capacity-4.0 MT per Day)	Nil	01No.	01No. *Metal recovered after processing of dust which shall be arrested from APCS and then sold
Industry will manufacture MS Billets/Ingots for existing rolling products facility or sold it directly. Steel Bars/sections will be manufactured either using existing Billets/Ingots or through purchased Ingots from other industries on campaign basis so that the maximum production capacity will not exceed 2,00,000 MT/Annum each of ingots/billets and rolled products.				

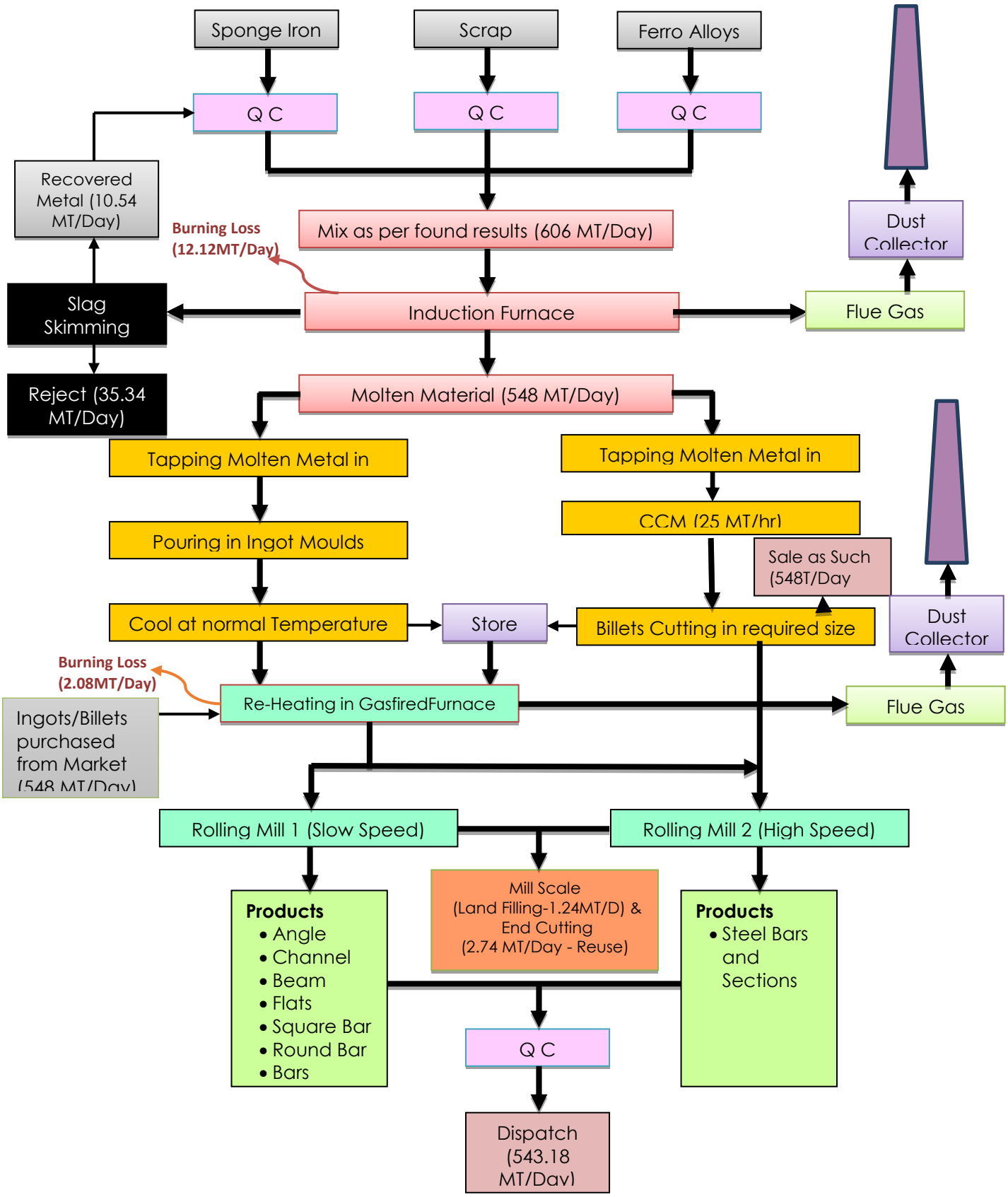


Figure 3-1: Idealized Material Balance

3.2 Location

Proposed expansion of Existing Unit to Produce Mild Steel Billets/Ingots and MS Bars/Sections (Capacity – 2,00,000 MTPA each) through augmentation in the existing Induction Furnaces capacity in the existing complex by M/s Kashi Vishwanath Steels Private Limited at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.

The project site is located Latitude: 29°11'21.16" N, Longitude: 79°00'09.86" E(central) and Altitude: 235.0 Meters (MSL). Corner coordinates of the existing site is as below:-

Table 3-2: Coordinate of the project site

Sr. No.	Point/Direction	Latitude	Longitude
1.	A - SE	29˚11'16.07'' N	79˚00'10.54'' E
2.	B - E	29˚11'19.35'' N	79˚00'13.16'' E
3.	C - E	29˚11'21.16'' N	79˚00'09.86'' E
4.	D - NE	29˚11'25.10'' N	79˚00'11.46'' E
5.	E - NW	29˚11'25.10'' N	79˚00'04.68'' E
6.	F - SW	29˚11'20.41'' N	77˚00'01.29'' E

Figure 3-2: Location Map of the Project Site

3.3 Details of Alternate Sites

No alternate site was considered –

The basis of selection of this site is that the State of Uttarakhand is providing suitable Industrial environment with proper infrastructure support.

The availability of Raw Material, Power and other infrastructure. Our Finished Products buyers are also located in Uttarakhand State.

- **Land requirement and availability**:
  Land is already available in plant premises at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.
- **Land ownership Details**:
  M/s Kashi Vishwanath Steels Private Limited at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.
  Land document is attached as ***Annexure II.***

3.4 Size and Magnitude of operation

The industry "M/s Kashi Vishwanath Steels Private Limited (KVS)" is a large scale industrial unit with a total capital investment of Twelve Crores only for the proposed expansion. Annual Production of Mild Steel Billets/Ingots and Bars/Sections products will be 2,00,000 MTPA each after proposed expansion through augmentation in the existing Induction Furnaces capacity. Company is proposed to replace the existing Coal fired Furnace with natural gas based fuel under the cleaner technology.

3.5 Project Description with Process Details

3.5.1 Raw materials

The basic raw materials required for producing liquid steel are Sponge Iron, Iron Scrap, Ferro-Alloys etc. The main raw materials and their annual requirement along with the source of the raw materials for the proposed Project are given below:-

Table 3-3: Quantity Raw Material with source of supply

For making of MS Billets/Ingots (Melting Division)

S. No.	Raw Materials	Ratio	Quantity (Tons/annum)			Source of Supply
			Existing	Additional	Total	
1.	Sponge Iron	77.0	47935.64	**118507.56**	166443.20	Koenjhar, Orissa
2.	Iron Scrap/ Pig Iron	22.50	14007.17	**34628.83**	48636.00	Delhi & UP
4.	Ferro-Alloys	0.50	311.27	**769.53**	1080.80	Raipur & UP
Total		**100**	**62254.08**	**153905.92**	**216160.0**	

For making of MS Bars/Section (Rolling Division)

S. No.	Raw Materials	Quantity (Tons/annum)			Source of Supply
		Existing	Additional	Total	
1.	MS Billets/Ingots	89543.0	113502.54	203045.68	Open Market

3.5.2 Induction furnace

Induction furnace is basically furnaces meant for use of Sponge Iron as major raw material to produce mild steel. These furnaces work on the principal of electromagnetic induction. After the furnace is switched on, current start flowing at a high rate and comparatively low voltage through the induction coil of the furnace, producing an induced magnetic field inside the central space of the coils where the crucible is located. The induced magnetic field thus generated cut through the packed charge in the crucible. As the magnetic flux cut through the scrap and complete the circuit, they generate an induced current in the scrap. The induced current as it flows the highly resistive path of scrap mix, generate tremendous amount of heat and melting the scrap. When these additives have melted completely, the power input may be increased to bring the temperature of metal up to the point most desirable for pouring. The current is then turned off and the furnace is tilted for pouring into the ladle. As soon as pouring has ceased, the crucible is cleaned completely from any slag or metal droplets adhering to the wall of the crucible and the furnace is now ready for charging again.

The slagging & pouring usually takes 15 – 20 minutes and one cycle/heat is

completed in about 2 hrs. During charging of sponge iron, Ferro alloys &Scrap and also during pouring, some hot gases and small amount of smoke (resulting from burning of carbon & gangue materials in the charge) comes out from the mouth(top opening) of the furnace. These gases & smoke are taken care of. For 10 ton furnace where up to 10heats can be obtained by using 70% sponge iron and 30% melting grade pig iron/ferro alloys/scrap. The installed capacity and number of heats can be calculated as below for 70:30 (sponge/ pig iron) charge.

Table 3-4: Induction Furnace Capacity (Existing & Proposed)

Parameters	Existing	After Expansion
Furnace capacity	5 Tons (02 Nos.) and 4 Tons (02 No)/heat = 18 Tons / heat	6 Tons (03 Nos.) And 10 Tons (03 Nos.)/heat = 48 Tons/heat
Tap-to-tap cycle time/min	120	120
Number of heat/day	11-12	12
No. of operating days	330	360
Equivalent liquid steel	1,45,800	2,00,000
Production of Cast billet/ Ingots or Bars/ Sections tons/year	1,45,800	2,00,000

It may be seen from Table above that tap to tap time has been aimed at approx. 120 minutes enabling production of 12 heats per day from each Induction Furnace. The Induction Furnace lining will require repair/replacement after about 15-16 heats. Lining repair will be done in-situ. In order to ensure uninterrupted operations a second crucible, lined and ready should be available.

Thus, each furnace station will consist of two crucibles complete with all fitting and auxiliaries installed adjacent to each other.

Molten metal in an induction furnace is caused to circulate automatically by electromagnetic action. When alloy additions are made to molten metal, the stirring action results in creating a homogenous product at minimum time. For

making medium carbon steel in electric induction furnace, the foremost consideration is the optimum utilization of the furnace with emphasis on elimination of delays so as to save power i.e. the most effective cost.

However, time between tap and charge, charging time, power delays etc. are items of utmost importance for meeting the objective of maximum output with lower operational cost. First of all the crucible/furnace is brought to a vertical position and after checking all safety conditions, powers switched on immediately; molten heel is formed at the bottom of the crucible. Now sponge iron is charged in buckets by the crane and pig iron is charged either by electromagnet or buckets by overhead crane. The charging usually takes 15minutes. Thereafter, the furnace lid is closed and melting continues for about an hour. Alloy additions and de-oxidants are added as from the top into the molten metal.

Once the furnace contains the full capacity of molten steel (1600 – 1650 °C); slag is manually skimmed off from the top. The slag is skimmed into a slag pot kept near the mouth of the furnace on the furnace platform. Next the hydraulic tilting device is actuated and liquid metal from the ladle is discharged in there factory lined central pouring trumpet, which then flows through the bottom plate runners and comes up through bottom hole of the ingot moulds. Arranged properly molten metal is poured through the tunic. Two sets of pencil ingot moulds are usually kept, where one cools the other is prepared etc. for the next pouring.

The most advantageous aspect of Induction Furnace is that they are relatively low in capital cost as compared to other types of melting units. Its installation is comparatively easier and its operation is also simpler. Among other advantages, there is very little heat loss due to radiation from the furnace as the bath is constantly covered and there is practically no noise in attending their operation. However, time between tap and charge, charging time, power delays etc. are items of utmost importance for meeting the objective of maximum output with lower operational cost. At the ladle treatment station, liquid steel is ringed with nitrogen to homogenize its temperature and composition.

High Tension power supply is transferred to the converter through step down

transformers where power is converted from AC to DC. 605 KVA (132, 33, 440 KVA) Furnace Transformer has been provided with each furnace and 220 KVA Auxiliary Transformer.

The three phases Oil Immersed Transformer is rugged designed to meet the requirement of lad redefining operation. It will be of continuous duty. The selection of secondary voltage is effected by means of triple pole remote operated on load, tap changer. The transformer is designed for forced cooling and the oil is circulated in the heat exchanger (mounted on tank) by means of an oil pump, and is cooled by water. In the water circuit, a flow meter with electrical contacts is provided which gives an alarm in case the cooling water rate falls below the set value. The primary terminals of the transformer are terminated on top of the tank into HV bushings and the secondary terminals in heavy sectional copper bars

DM Plant: Apart from the above, the electrical control panel of Induction furnace needs to be cooled by De-mineralized water primarily to avoid any electrical conduction through cooling water. To achieve this, 2 nos. of DM Plant of capacity 10,000 LPD, each have been provided.

Cranes: 2x25/10 MT and 2x10/5 MT EOT cranes to handle the raw material and finished product have been provided. All cranes will comply IS 3177 – Code of practice for electric overhead travelling cranes and IS-807 – Code of practice for electric overhead traveling cranes, which is meant for EOT cranes in steel plants.

Cooling Water System: The system will take care of cooling water requirement of Induction Coil, magnetic yokes, and water cooled cables. 2 nos. of Cooling Towers of capacity 210 Cubic meters have been provided. While 2 nos. of Cooling Towers of capacity 240 Cubic meters are proposed.

Ventilation Plant: Ventilation system for Air cooling of the electrical room and the electrical equipment comprising of blower fan and exhaust fan, fan motor and filters are housed in the same building. Air from the blower leads to the electrical room through ducts.

b) Continuous Casting Machine: The ladle containing liquid steel is placed on the turret and brought over the tundish. The tundish act as a buffer and enable

the liquid steel to move homogeneously down through the nozzles, provided at the bottom of the tundish into moulds. The automatic mould level controller controls the steel level in the mould. The subsequent primary and secondary cooling transform the liquid steel into billets of the required dimensions and is drawn out with the help of a withdrawal and straightened unit and cut into required length by the shear provided in each strand. Once a ladle is emptied another ladle is brought into the casting position and the casting continues. The billets are gradually shifted to the rolling mill through conveyer or stacked orderly at the dispatch end for outside dispatch or for rolling plant. The details about the cast number and quality of billets are marked on the billet stack.

CCM is used to produce billets of cross sections 100mm x 100mmto 125mm x 125mm directly from molten metal by passing the same through mould tubes designed to produce specific sections. Molten metal passes through the mould tubes by gravity where solidification of outer layer of the metal occurs due to Mould tube cooling by cooling water. As the metal moves out of the tube &progresses along a curve from vertical to horizontal direction, water through nozzles is sprayed over the metal shell which results in thickening of the shell. This thickness continuously increases with cooling as the metal (section produced after passing through mould tube) progresses & the section finally becomes solid. As the section becomes horizontal, it is passed through straightening & withdrawal unit where it is straightened. The section (billet) is then cut online into pieces of desired length.

c) Plant Water System: Water required in Cooling Tower as make up. Raw water requirement for CT, DM plant, area cleaning system etc. shall be met through bore-wells. Water tank of adequate capacity (depending upon equipment requirement & workforce) has been constructed within the premises.

d) Compressed Air System: Compresses air is required primarily at three locations in the plant viz.in Induction Furnace, in CCM & in Dust Extraction System (bag filter).

e) Fire Protection System: Adequate fire-fighting equipment has been provided for each production unit. Following systems of fire protection has been provided in the steel plant:

- Water hydrants network around all the shops.
- Smoke detectors in critical areas such as control rooms
- CO_2 type portable fire extinguishers for electrical rooms flooding system and
- Foam type fire extinguishers near lubrication, hydraulic and fuel oil installation.

Adequate number of portable fire extinguishers will be provided at various locations in the plant shed, LT panel room & DG set room.

f) Plant Electrical System: Plant Electrical System will have a 132/33/440/220 kV outdoor type sub-station. The power supply through furnace transformers will be supplied to furnace whereas power supply through auxiliary transformer which will be used for EOT crane operations, CCM operations, furnace auxiliaries, pumps for cooling water, lighting etc.

g) Emergency Back-up Power: 1 no. of 63 KVA silent type DG set has been provided already which to be replaced&685 KVA (125, 160 & 400 KVA on standby basis)DG Set is proposed for power to the auxiliaries of plant when UPCL power is not available. This will also be useful for emergency power to take care of safe shut down of important auxiliaries of plant. During total power failure, above DG set will also support for Emergency lighting for personnel movement in some main location of steel plant.

h) Storage Yard: Raw material shall be brought to the yard by trucks are unloaded and stacked indifferent piles by pay loaders.

i) Emission control System i.e. a compartment type bag house having 8 to 10 compartments with polyester felt filter bags is installed to comply with the emission norm from the Induction Furnace. The flue gases from furnace is being drawn through an interconnecting ductwork by induced draft fan & exhaust to the chimney. The system will meet the emission standards during operation of the plant and ensure clean plant operation. The fume exhaust hood with duct provided around the furnace circumference to capture the fumes generated during tapping operation. Cyclone separator and Bag Filter are also provide to control the emission. Emission level at the outlet for Induction Furnace is ensured less than 50 mg/ Nm^3.

Reheating Furnace

Reheating furnace is used for heating of billets before hot rolling in Rolling Mill. Coal based furnace is used as fuel in reheating furnace. The billets manufactured as described above are cut into required sizes and then fed into a reheating furnace where it is reheated to temperatures up to of1050°C; the rate at which heat is absorbed by the billet has to be controlled to avoid partial rolling. Company is now proposed to replace the existing Coal fired Furnace with natural gas as fuel under the cleaner technology, thereby reducing the emission tremendously.

At present Billets are directly fed from CCM to the Rolling Mill bypassing the Reheating Furnace. Reheating Furnace is used only when there is no feed from CCM.

Rolling Mill

The billets produced in CCM (Size-100x100 to 125x125 mm) will be fed directly to Rolling Mill of the steel plant. There will be One Hi speed rolling mill for of capacity 1x20 TPH for production of TMT bars varying from 12mm to 28mm in size.

Proposed expansion may leeds a feasibility to produce Mild Steel Billets/Ingots thru existing/proposed facility & it may either used for making Bars/Sections by itself or sold to the market as such. Meanwhile it may purchase the Billets/Ingots from respective industries/local market for making Bars/Sections as per eventually changes in the market.

Machinery & Equipment Details

The detailed list of machinery & equipment's in the industry are appended in the Tables below:-

Table 3-5: List of the machinery & equipment's

Sr. No.	Facilities	Existing (Nos.)	Proposed (Nos.)	Total (Nos.)
1.	3200 kW / Induction Furnace	5 Tons (02 Nos.) 4 Tons (02 No)	Proposed: 6 Tons (03 Nos. -	6 Tons (03 Nos.) and

			replacement of existing IFs) and 10 Tons (01 no. replacement & 02 nos. new)	10 Tons (03 Nos.)
2.	CCM (2 Strand, 4/7 m radius)	01 No.	01 No.	2 Nos.
3.	Coal based Furnace	2 Nos. (Reheating at Rolling Plant)	Fuel as Coal will be replaced by Natural Gas	2 Nos.
4.	500 kg Furnace for Dust processing unit	--	1 No.	1 No.
5.	3200 kW Furnace Transformer	2 Nos.	2 Nos.	4 Nos.
6.	1000 kVA Auxiliary Transformer	2 Nos.	1 Nos.	3 Nos.
7.	E.O.T Crane	4 Nos.	4 Nos.	8 Nos.
8.	Cooling Tower	3 Nos.	2 Nos.	5 Nos.
9.	Water Softener Plant	1 Nos.	1 Nos.	2 Nos.
10.	Air compressor	3 Nos.	3 Nos.	6 Nos.
11.	Mono Block pumps & Bore well	Lot	One No. Bore well	Two No. Bore well
12.	H.T Sub-station with breaker, Control Panel, Control Cable	Lot	Lot	Lot
13.	L.T Panel, M.C.C Panel, VCB, DBS,FDBS,LT Cables, Lightlifting, Man Cooler Fan, Switch Gear etc.	Lot	Lot	Lot
14.	Weigh Bridge 60/100 Ton Capacity	2 No.	1 No. (60 Ton)	3 Nos.

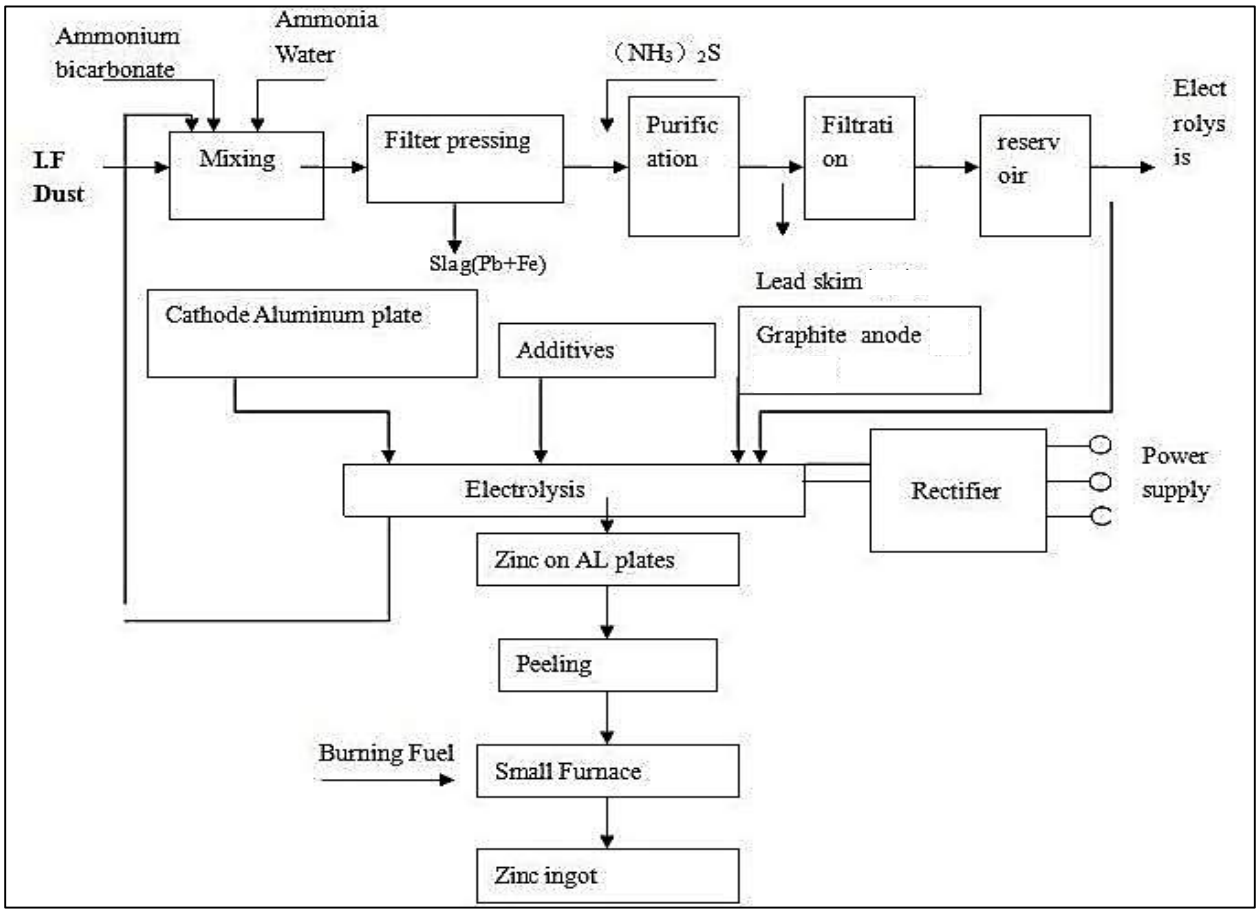
15.	Mould Stand, Charging Box, Tundas, Teramer Table, Span etc.	Lot	Lot	Lot

Induction furnace dust recycling process

During processing with Induction furnace, many fumes are generated because of the combustion of Scrap or DRI. These fumes/dust are not only Hazardous to the health of the nearby workers but is also harmful to the Atmosphere and Human Life. Since, the dust has many harmful impurities so it must be disposed of properly. Company is proposed a matured technology to dispose of this dust properly. The harmful impurities will be extracted and could be sold as a raw material to the concerned industry. For e.g. Lead extracted would be sent to lead industry as raw material.

The process consists of extracting harmful elements from the fumes/dust which are produced during the melting of scrap in Induction furnaces. 100% of Lead and Iron will be extracted from the Furnace dust. Along with the impurities, some important elements will also be extracted in this process such as Zinc. This is a Green process, no Harmful chemical will used in this process. No any waste water will be generated from the process and all additives used in this process are easily available and are safe to use.

A 500 kg Furnace (01No.) shall be installed for metal recovered from the APCS dust.



3.5.3 Source of Pollution and it's Control

A) Flue Gas management

The flue gases generated during melting of scrap are the major source of air pollution. Quality and quantity of flue gases mainly depends upon type of Scrap used in Furnace, i.e. degree of contamination in the scrap. These flue gases need proper treatment for removal of dust particles before being discharged into the atmosphere. Major pollutants generated in the process will be carbon dioxide, carbon monoxide, suspended dust (PM 10, PM 2.5, heavy metals like As, Cr, Pb, Cd, Zn & Mn), sulphur dioxide(traces), oxides of nitrogen(in low concentration, depending on the temp of the process), and emissions from the DG sets.

The air pollution control device (APCD) is proposed to have cyclone (as spark arrestor) followed by bag-house filters will be installed to cleanse the process emissions with in the permissible statutory limits before being discharged into the

atmosphere through stack of adequate height.

B) Hazardous Waste Management

Spent Oil and APCS Dust are the hazardous waste generated. Spent oil shall be stored and transported to TSDF site. Dust arrested by APCS shall be collected & processes through proposed dust processing unit.

C) Green Belt

Local native species suitable for this region will be planted in compliance of conditions of environmental clearance. With a view to attenuate air pollutants, to resist noise propagation from proposed DG set and uptake of treated effluent to some extent, the green belt all around the periphery of project sites and in vacant areas (33% of the total acquired land) will be developed. Tree plantation will be undertaken in a large scale on land vacated after cessation of construction activities. Open spaces, where tree plantation is not possible will be planted with flowering herbs and grass which act as soil binders and also helpful in preventing erosion of topsoil. Proposed green belt will be being strengthened regularly.

Total 59817.00 Sq m land area is available at site; out of this 19740.00 Sq m (i.e. 33.0 % of total area) shall be developed as greenbelt and other forms of greenery by planted the native plant species. Approx. 20% (11963.0 Sq m) of the area has been developed as Green Belt and being maintained. Additionally 13% of the area from open space (vacant land) is also proposed to be developed as Green Belt after completion of construction phase of proposed expansion. Total 1800 Nos. of plants of various plant species are planted under greenbelt development.

Locally available Tree Species and other Aromatic Plants are sown in linear parallel fashion all along the periphery at 2.5 M c/c spacing. Green belt also developed along with the roads as well as the fence and all the open land available at premises. Different Plant Species belong with a number of relevant characteristic features viz. tolerance or towards air pollution, habit growth rate, flowering phenology, canopy shape and approximate surface area etc.

Plants are grown in such a way to function as Pollutants sinks as well as it improve the aesthetics of the area and provide possible habitats for Birds, thus

increasing hospitable nature also. As per the concern of proposed Project new trees will be planted to strengthen the existing Green belt.

Figure 3-3: Existing Green Belt area

3.6 Resource optimization/Recycling and reuse

Various steps shall be taken for recycle/ reuse in the proposed project is as mentioned below:

- Waste water generated shall be mainly from cooling and same shall be reused within the plant premises by neutralizing.
- Spent Oil & APCS dust are hazardous materials generated on site, will be stored and transported to TSDF site as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 & amended thereof. Dust arrested by APCS shall be collected & processes through proposed dust processing unit.

- Metal shall be recovered from Slag generated in Melting division and the rejects shall be used for land filling/road development.

3.7 Availability of water its source, Energy/Power requirement and source

After proposed expansion, the Unit at full capacity will demand 26.5 MW of power, which shall be supplied through Grid (UPCL). Existing power demand is 16.5 MW.

Existing DG Set is 63 KVA capacity, which to be replaced. Now company proposes to install D.G. set of 685 KVA (125, 160 & 400 KVA on standby basis) each to serve as an alternative source of power supply (for essential services) to this unit during emergency in case of power failure.

3.8 Quantity of wastes to be generated (liquid and solid) and scheme for their Management/disposal

Water demand and wastewater/effluent discharge.

Source of water supply: Ground water i.e. Bore wells
Total number of employees: 500 Nos.
Per capita water demand: 45 LPCD, therefore water demand for human consumption is 22.5 KLD.

WATER BALANCE:

The break-up of the consumption of water is as presented in table below:

Sr. No.	Particulars	Existing Water requirement (KLD)	After proposed Expansion Total water requirement (KLD)	Additional water requirement (KLD)
1.	CCM & Rolling Mill Process – Direct Cooling	150.0	240.0	90.0
2.	Industrial Cooling	80.0	200.0	120.0
3.	Miscellaneous i.e. Dust suppression	3.5	3.5	--
4.	Domestic Purpose	18.0	22.5	4.5

5.	Green Belt	24.0	40.0	16.0
Total		**275.5**	**506.0**	**230.5**

Total water requirement: 506.0 KLD

Fresh water requirement: 201.0 KLD

Recycle/reuse water: 305.0 KLD

Water consumption and discharge (KLD)

Table 3-6: Water consumption and discharge (KLD)

Sr. No.	Requirement for	Water Consumption	Process Losses	Waste water generation	STP losses	Recycled/ Reuse
A.	Industrial Process					
	CCM & Rolling Mill Process – Direct Cooling	240.0	132.0	00		108.0
	Industrial Cooling	200.0	20.0	*5.0		175.0
	Miscellaneous i.e. Dust suppression	3.5	3.5	00		00
	Total (Industrial)	**443.5**	**155.5**	***5.0**		**283.0 + 5.0 as CT blow down**
B.	Domestic	22.5	4.5	18.0		00
C.	Green belt	40.0	40.0	00		00
Total input water to STP				18.0	1.0	17.0
Total (KL/Day)		**506.0 201.0 (Fresh) + 305.0 (Recycle/Reuse)**	200.0	23.0	1.0	305.0

Note:

- 18.0 KLD of waste water will be generated from the Domestic uses after proposed Expansion. All the generated sewage will be treated in the

proposed STP (Capacity - 25.0 KLD) & reuse in green belt for irrigation purpose.

- No waste water generation from industrial process except CT & Softener Plant Bleed (5.0 KLD) which shall be reused in the green belt development & Dust Suppression respectively.

Zero discharge will be achieved.

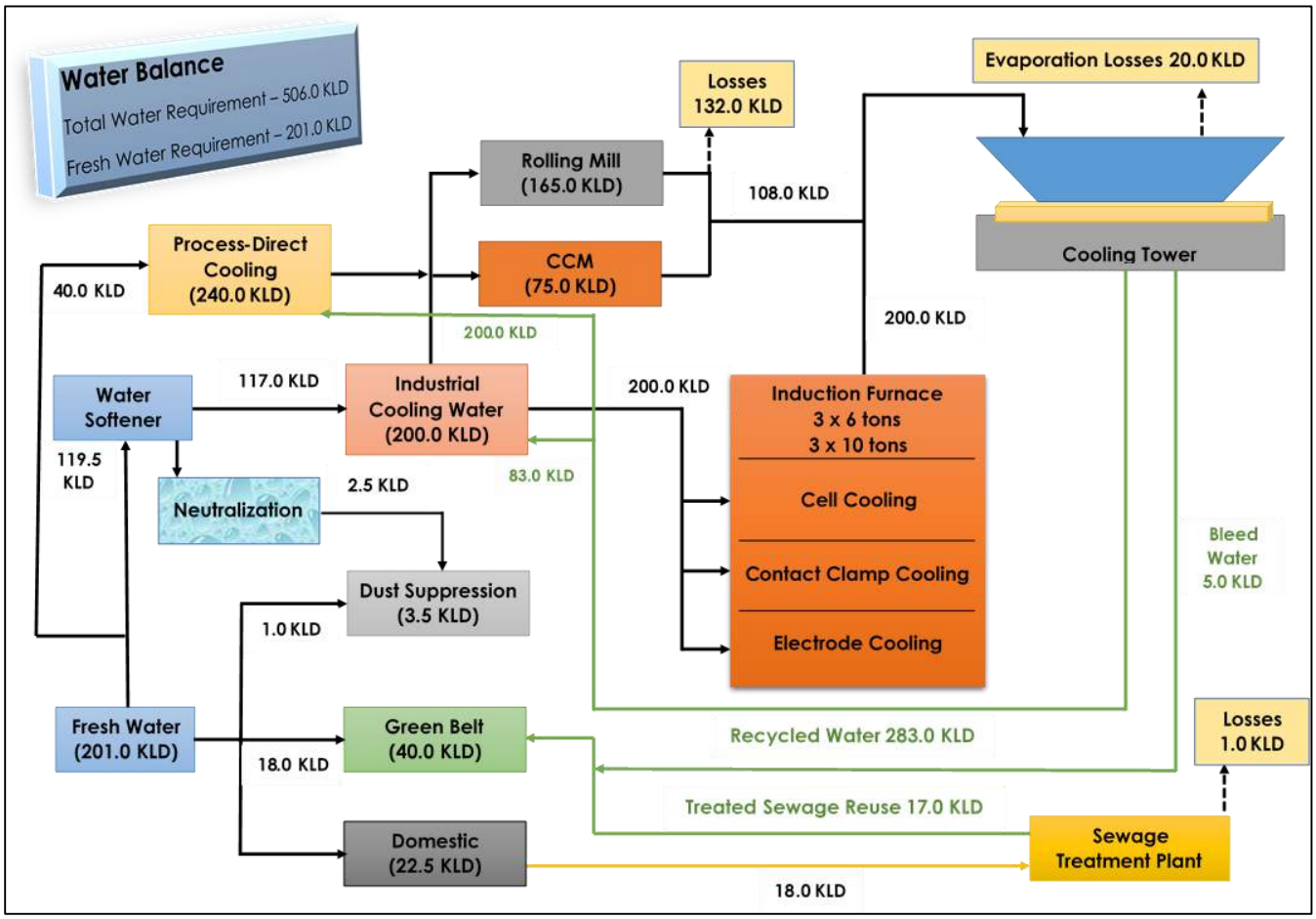


Figure 3-4: Water Balance

4 SITE ANALYSIS

4.1 Connectivity

Proposed Expansion& modernization of the existing Unit to produce Mild Steel Billets/Ingots and Bars/Sections (Capacity - 2, 00,000 MTPA each) through augmentation in the existing Induction Furnaces capacity is located at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand. The nearest National Highway NH – 309 is 0.30 km S away from the site. The nearest Railway station Kashipur is 4.5 Km NW away from the site. Pant Nagar Airport is 48.71 Km SE (aerial) from the site.-

4.2 Land Form, Land use and Land ownership

M/s Kashi Vishwanath Steels Private Limited (KVS) has acquired 14.78 Acres (59,817.0 Sq. m) land in notified industrial estate (Notified by Govt. of Uttarakhand vide letter no. 1052/ID/07-Industry/2004-05, dated 15 January 2005) at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.

4.3 Existing Land Use pattern

The existing industrial land is in Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.The land break-up details are shown in below Table:-

Table 4-1: Land break-up details

S. No.	Construction	Area (Sq m.)	Area (%)
1.	Built up area for Plant & Facilities (ground coverage)	28737.70	48.04
2.	Roads and Drains	4470.00	7.47
3.	Greenbelt	19740.00	33.00
4.	Common Plot Area	6869.30	11.49
Total Land		**59817.00**	**100.00**

Approx. 20% (11963.0 Sq m) of the area has been developed as Green Belt and being maintained. Additionally 13% of the area from open space (vacant land) is also proposed to be developed as Green Belt after completion of

construction phase of proposed expansion.

A detailed layout map along with the area statement is attached as **Annexure-3**.

4.4 Topography

Proposed Expansion & Modernization will be carried out in the existing Unit to Produce Mild Steel Billets/Ingots/Bars/Sections& situated at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.

The area is located in the survey of India Topo Sheet No. 55O4and Coordinates Latitude: 29°11'21.16" N, Longitude: 79°00'09.86" E. Buffer Maps of the proposed expansion site is attached as **Annexure – 1.**
The site lies in seismic zone IV as per Seismic zonation & intensity Map of Uttarakhand and has the low seismic potential.

Climate:

The climate varies from Sub-tropical and sub-humid with three distinct seasons i.e. summer, monsoon (rainy season) and winter. The rainy season starts from the month of middle June to September end, and followed by the winter season, which starts from the end of October and goes up to February. The winter rains are generally experienced in late December or early January, which brings down the temperature and that's how December and January are the coldest months in the district. The summer season starts from March and it goes up to June. The hottest months of the year are May and June. The maximum temperature in the district goes up to 42˚C during the summers and the minimum temperature is between 1 and 4˚C, further north of the district, the temperature comes down to 0.4˚C in winter season. Rainfall, spatially, is highly variable depending upon the altitude. The intensity of the rainfall increases from south to north and the amount of rainfall decreases in generally from west to east. About 90% of the rainfall received during the monsoon period, and the remaining 10% of the rainfall in non-monsoon period. The average annual rainfall is 1296.85 mm (Year; 2004).

4.5 Soil Classification:

Udham Singh Nagar district may be broadly divided into two physiographic units

from north to south viz., Bhabar and Tarai respectively. Since the area is located in the Himalayan foothills, a very thick column of alluvium is deposited, which further is classified into two distinct divisions:

(A) The piedmont fan deposits known as Bhabar

(B) The Tarai Alluvium

These zones spread in northeast – southwest direction all along the foothills of the Siwalik formation having a maximum width of less than 30 km. The general gradient towards south varies from 9 to 17 m/km. The slope gradually decreases towards south in the Tarai region and becomes almost flat close to the boundary between Tarai and Central Ganga plains, which exists few km south of the southern boundary of the study area. The geomorphology of an area plays a very significant role in the groundwater movement and occurrence.

The soil types are controlled by the topography and rock types. Based on the National bureau of soil Survy and Land Use Planning (ICAR) Nagpur, the soils of the district Udham Singh Nagar can be classified into UdifluventicUstochrepts, TypicUstipsamments, UdicUstochrepts, UdicHaplusstolls, TypicUstochrepts as determined by their diagnostic properties. The Bhabar soils lay at the northern extremity of Khatima and Bazpur blocks, part of the alluvial fan deposits. Soils are shallow with sandy to loamy texture, poorly sorted, comprising mainly of gravel, sand, silt, clay with pebbles etc.

The Tarai soils run all along the northern extremity of the district, form continuous fringe with the Bhabar Zone. Bhabar formation is found in extreme northern parts of the Khatima and Bazpur blocks, boundary demarcated by the contact of Tarai and Bhabar. The Tarai belt is 8–25 km in width, and the general slope is <1% towards south. Soil is calcareous, moderately productive and suitable for extensive cultivation of high yielding variety of crops like rice and sugar cane. Soils typify marshy and swampy environment.

4.6 Existing Infrastructure

It is a proposal of expansion & modernization of existing unit so infrastructure such as Drinking water facility, First-aid facility, Toilet facility are adequately available and shall be provided during construction and operation phase. Proposed Plant facilities will be developed inside the plant premises once all the statutory clearances are obtained.

Land: The Company has acquired 14.78 Acres i.e. 59,817.00 Sq mt land in Government approved industrial area as Narain Nagar Industrial Estate, BazpurRoad, Kashipur, District Udham Singh Nagar, Uttarakhand. Vacant land 3705.4Sqm) shall be used for proposed expansion activities within the existing production shed.

Power: After proposed expansion, the Unit at full capacity will demand 26.5 MW of power, which shall be supplied through Grid (UPCL). Existing power demand is 16.5 MW.

Existing DG Set is 63 KVA capacity, which shall be replaced. Green insulated DG Set of 685 KVA (125, 160 & 400 KVA on standby basis) is proposed. Proposed DG Set will be operated during emergency in case of power failure only.

Water: Water is required for production process, domestic utility and Green belt. Initially total water demand is 506.0 KLD and recycled water is 305.0 KLD. Fresh Water required for Production of Mild Steel Billets/Ingots/Bars/Sections will be 201.0 KLD after proposed expansion, which will be met from existing Bore well.

01 No. bore well is proposed to be drilled & which will work as stand by during maintenance. Approval for additional abstraction of water to be taken from CGWA. Necessary provision for storage of water and water supply has been made in project cost.

Storage: Company has sufficient provision for storage of raw material & finished goods.

Transportation: Adequate resources / infrastructure for transportation of raw Material and finished goods are available in Kashipur area.

Connectivity: The Project site is connected by 20 meter wide connecting road to the Highway.

All the other infrastructural facilities are expected to be adequately available to the Unit.

4.7 Social Infrastructure available

Infrastructure is the basic physical and organizational structures needed for the operation of a society or enterprise or the services and facilities necessary for an economy to function.

The term typically refers to the technical structures that support a society, such as roads, water supply, sewers, electrical grids, telecommunications and so forth and can be defined as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions.

Viewed functionally, infrastructure facilitates the production of goods and services, and also the distribution of finished products to markets, as well as basic social services such as schools and hospitals; for example, roads enable the transport of raw materials to a factory.

Kashipur is a major transport hub in Uttarakhand, acting as a gateway for the cities of Ranikhet, Pauri and Gairsain. The city is served by the National Highways NH 309 and NH 734. The NH 734 (formerly NH 74) connects to Najibabad via Jaspur and Nagina, while the NH 309 connects Kashipur to Rudrapur in the east, and the cities of Ramnagar and Srinagar to the north.

Major tourist attractions in the city include:

- DronaSagar Lake
- Shree MoteshwarMahadevMandir
- MaaBalsundariMandir
- ChaitiMela
- Gurudwara Shri Nankana Sahib
- Tumaria Dam
- GiriSarovar
- Arya SamajMandir

Kashipur is home to four colleges affiliated to the Kumaun University, Nainital: Radhey Hari Government P.G. College, Chandrawati Tewari Girls P. G. College, Sriram Institute of Management and Technology and Kashipur college of Education. The city also hosts the campus of an Indian Institute of Management.

The Indian Institute of Management Kashipur, also known as IIM Kashipur, is a public business school located in the Escorts Farm area of the city. It is one of the thirteen Indian Institutes of Managements the government has set up during the Eleventh Five-year Plan.

5 PLANNING BRIEF

5.1 Planning concept (type of industries, facilities, transportation etc.) Town and country, planning/ development authority classification

M/s Kashi Vishwanath Steels Private Limited is having the existing production capacity of MS Ingots 57,600 TPA and Steel Bars 88,200. Now Company is proposed for expansion of the existing Unit by increase in the Production capacity of MS Ingots - 1,42,400 MTPA and Steel Bars - 1,11,800 through augmentation in the existing Induction Furnace capacity & required Utilities. After proposed expansion production capacity of MS Ingots and Steel Bars will become @200000 MTPA each.Company is also proposed to replace the existing Coal fired Furnace with natural gas based fuel under the cleaner technology.

5.2 Population Projection

Existing employment is 400 persons. After proposed expansion, the total direct employment potential of the existing industry would be about 500 people. However, apart from this there will be significant non estimated employment generation at the supplier firms and service industry providing services to the company. Company shall be giving preference to people from economically weaker sections for employment in various semiskilled/ unskilled jobs thereby contributing to their upliftment.

5.3 Land use planning (breakup along with green belt etc.)

The open space inside the plant area will suitably landscape and covered with the vegetation of indigenous variety. Green Belt area will be developed as per the CPCB guidelines.

5.4 Assessment of infrastructure demand (physical and the social)

M/s Kashi Vishwanath Steels Private Limited, is proposing for expansion & modernization of existing Unit to produce Mild Steel Billets/Ingots and MS Bars/Sections (Capacity – 2,00,000 MTPA each) through augmentation in the existing Induction Furnaces capacity at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand.

5.5 Amenities/Facilities

The following facilities are provided in this plant:

a. Administrative Building, Service Building
b. Construction offices and stores
c. Time and security offices
d. First Aid and firefighting station
e. Canteen
f. Toilets
g. Car parks and cycle/ scooter stands
h. Training Centre

Office space are provided as per good practice and canteens, toilets and restrooms according to norms laid down in relevant factories act. The above facilities are also be adequately furnished and equipped.

6 PROPOSED INFRASTRUCTURE

6.1 Industrial area (processing area)

Site Infrastructure:

- The site already having administrative and site control office with latest equipment like computers, walkie-talkie & computerized weigh-bridge, printers, fax, Xerox machine, etc.
- Sufficient power load exists to meet the current requirement.
- Water for construction and domestic purpose as well industrial purposes will be drawn from borewell.

6.2 Residential Area (non- Processing area)

The employee rest rooms are provided within the plant premises. During construction period, the manpower would be hired from nearby areas.

6.3 Green Belt

The main objective of the green belt is to provide a barrier between the plant and surroundings areas. Green belt will be developed according to CPCB guidelines.

6.4 Social Infrastructure

Schools, colleges, hospitals & healthcare centers, shops & bazaars, community centers, etc. are all available in nearby area.

6.5 Connectivity

Proposed Expansion & modernization of the existing Unit to produce Mild Steel Billets/Ingots and Bars/Sections (Capacity - 2, 00,000 MTPA each) through augmentation in the existing Induction Furnaces capacity is located at Narain Nagar Industrial Estate, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand. The nearest National Highway NH – 309 is 0.30 km S away from the site. The nearest Railway station Kashipur is 4.5 Km NW away from the site. Pant Nagar Airport is 48.71 Km SE (aerial) from the site.

6.6 Water Management (Source and Supply of Water)

The water requirement of the unit will be fulfilled from ground water source i.e.

bore wells. Quality water from DM (softener) plant will be utilized in the industrial cooling and IF's cell, contact clamp & electrode cooling. While raw water shall be utilized direct cooling, green belt & domestic purpose. Initially total water demand is 506.0 KLD and recycled water is 305.0 KLD. Fresh Water required for Production of Mild Steel Billets/Ingots and Bars/Sections will be 201.0 KLD after proposed expansion, which will be met from existing Bore well.

6.7 Sewerage System

Sewage Treatment Plant (Capacity – 25.0 KLD) will be installed to treat the Domestic sewage. No waste water generation from industrial process except CT & Softener Plant Bleed which shall be reused in the green belt development & Dust Suppression respectively. Treated sewage will be reused in green belt for irrigation purpose. No effluent will be discharged outside the premises.

6.8 Industrial Waste Management

Solid waste produced from proposed expansion is dust; scrap i.e. end cuttings and slag. Iron bearing dust will be reused in the IF's itself. Slag from melting process will be granulated and after iron recovery, residue will be sending for road development. Metals i.e. Zinc & Lead will be extracted from IF dust generated during process. Hazardous Wastes i.e. spent oil generated during Operation phase dealt as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

6.9 Solid Waste Management

Construction Waste will be generated, out of which:-

- Recyclable waste (Metal, Plastic Bags etc) will be segregated & sold to the respective vendors.
- The inert waste (Brick, Masonry, Aggregates Concrete etc.) will be used for filling of Low lying Areas.

Solid waste produced from proposed expansion is dust, scrap i.e. end cuttings and slag. Iron bearing dust will be reused in the IF's itself. Slag from melting process will be granulated and after iron recovery, residue will be sending for road development.

Metals i.e. Zinc & Lead will be extracted from IF dust generated during process.

6.10 Power Requirement & Supply/source

After proposed expansion, the Unit at full capacity will demand 26.5 MW of power, which shall be supplied through Grid (UPCL). Existing power demand is 16.5 MW.

Existing DG Set: 63 KVA (which to be replaced). Green insulated DG Set of 685 KVA (125, 160 & 400 KVA on standby basis) is proposed (Proposed DG Set to be operated during emergency in case of power failure only).

7 REHABILITATION AND RESETTLEMENT (R & R) PLAN

No, Rehabilitation and Resettlement (R & R) Plan required.

8 PROJECT SCHEDULE & COST ESTIMATES

The Project is envisaged to be undertaken immediately after getting statutory approvals.

8.1 Total Project Cost

Initiated Project cost is estimated as under. The details of the breakup is given in Table below-

Table 8-1: Total Project Cost

Details	**Rs. in Lacs**
Land	00
Civil & Structural Cost	400
Plant & Machinery	800
Total	**1200**

Means of Finance:

Details	**Rs. in Lacs**
Internal Accrual/Finance	1200
Total	**1200**

The proposed expansion & modernization project will become beneficial to the surrounding area or community in terms of infrastructural development, social development, employment and other benefits. The proposed project has a potential for employment of skilled, semiskilled and unskilled employees during construction phase as well as operation phase. Additionally 100 nos. of person is likely to get employment due to the project. The project will spend 2.5 % of project cost for socio-economic development & for nearby educational institutes.

9 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

To make end product economically viable in present fluctuating market, M/s KVS have decided to go for expansion by replacement of the existing 5 Tons (02 Nos.)&4 Tons (02 No) Induction Furnaces with 6 Tons (03 Nos. - replacement of existing IFs) and 10 Tons (01 no. replacement & 02 nos. new) capacity Induction Furnaces and modernize Continuous Casting Machine (CCM) &increasing the output (speed) of existing Rolling Mill through modernization to enhance the annual production capacity from existing MS Ingots 57,600 TPA and Steel Bars 88,200 to 2,00,000 TPA respectively. Company is also proposed to replace the fuel of existing Coal fired Furnace with Natural Gas under the cleaner technology.

Capacity expansion by replacing the existing Induction Furnaces will essentially meet the increasing steel demand. Expansion shall take place within the existing plant area of 14.78 Acres (59817.0 Sqm). No additional land shall be required for the project. The company has sound financial background and good market base which they will use to replace existing Induction Furnace with higher capacity to become economic steel producer of the region. In Rolling Mill motors with the Rollers shall be replaced with high speed motors to meet the annual production of 2,00,000 Tons of rolled product. The steel industries in general are on priority list as they contribute in overall development of the country and in particular will produce steel and steel products at economic cost and also have export potential to earn/save foreign exchange.

Proposed expansion may leeds a feasibility to produce Mild Steel Billets/Ingots thru existing/proposed facility & it may either used for making Bars/Sections by itself or sold to the market as such. Meanwhile it may purchase the Billets/Ingots from respective industries/local market for making Bars/Sections as per eventually changes in the market.

Project will create direct & indirect employment opportunities within the surrounding region. Unit will use good faith efforts to employ local people from the nearby villages depending upon the availability of skilled & un-skilled man-power surrounding the project site.

In operation phase, the proposed project would require significant workforce of non-technical and technical persons. Migration of highly education and skilled experience will result in increase of skill in the surrounding villages. In addition, the proposed project shall enhance the prospects of employment.

It can be concluded from the matrices that the resultant impact is beneficial in the interest of common man, the society, the state and as the country as a whole. The benefits can be summarized as below:

- The proposed project will provide quality steel product to the users. This project is essential in-view of production of high value downstream products. KVS Premiere group is endeavoring in manufacturing Construction Steel & Structural Sections as per BIS Specifications 2830:2012, 2831:2012, 1786:2008, 2062:2011, 15911:2010.
- There should be positive impact on the socio-economic condition of the area in terms of direct and indirect employment due to the proposed expansion project.
- Numbers of local trained persons are likely to find jobs.
- This is cost effective & energy efficient proposal and aims at sustainable development.
- These products also have export potential. Hence, possibility of earning foreign exchange.

The project will spend 2.5 % of project cost for Social Welfare programme and Ecological conservation.