PANGKALAHATANG BUOD

BUOD NG IMPORMASYON TUNGKOL SA PANUKALANG PROYEKTO

Impormasyon sa Proyekto	
Pangalan ng Proyekto	**Panukalang Proyektong Scrap Recycling Steel Mill Plant**
Lugar kung nasaan ang Proyekto	Sitio Kirahon, Brgy. San Martin, Municipality of Villanueva, Misamis Oriental
Sukat ng Proyekto	248,035 $m^{2.}$ Ipinapakita sa Figure 0.1 ang mapa ng lokasyon ng proyekto.
Uri ng Proyekto	Iron and steel mill; Steel manufacturing
Kapasidad ng Proyekto	500,000 MTPY Rebar 500,000 MTPY Scrap Recycling Plant
Paglalarawan ng Proyekto	Ang panukalang proyekto ay isang scrap recycling steel mill para makagawa ng structural shapes at sections gamit ang makabagong teknolohiya ng scrap recycling.
Rationale	Ang industriya ng bakal sa Pilipinas ay isa sa pinakalumalagong industriya. Ang bakal ay pangunahing kinakailangan sa pagsulong ng isang bansa sa kaunlaran at industriyalisasyon. Ang papel ng industriya ay dahil sa mga pagkakaugnay nito sa maraming sektor, kung saan ang mga produkto ay nagsisilbing isang mahalagang input sa hindi mabilang na paraan, tulad ng konstruksyon, automotive, paggawa at pagsasa-ayos ng barko, electronics, packaging, at iba pa at ang mahalagang kontribusyon sa pagbuo ng trabaho, paglago, at pagsusulong ng aktibidad na pang-industriya, at iba pa. Samakatuwid, ang pagtiyak ng isang malakas na industriya sa paggawa ng bakal at industriyang nakabase sa bakal ay mahalaga upang matugunan ng isang bansa ang mga hamon ng globalisasyon. Ang panukalang proyekto ay inaasahan din na makapagbibigay ng mga sumusunod: • **Hanapbuhay:** 700 hanapbuhay sa loob ng planta ang maibibigay ng projecto dagdag pa sa 3,500 na trabahong maari nitong malikha sa labas ng Planta. • **Dagdag kita sa pamahaalan at Pangangalagang Pangkabuhayan:** Siguruhin na ang kitang maaring maibigay ng proyekto ay mananaliti sa lugar na kinatatyuan nito at sa pamahalaan ng Pilipinas • **Paniniguro ng Kalidad ng Produkto:** Siguruhin na ang mga produkto ay tunay na nasa kalidad hindi gaya ng mga substandard na bakal na galling sa ibang bansa.
Components ng Proyekto	Ang mga components ng Proyekto ay ang mga sumusunod: **A. Major Component** 1. Rebar Rolling Mill • Reheating furnace • Rolling train • Block mill • Quenching • Cooling bed (For Rebar) • Bundling (For Rebar) • Laying Head (For Wire Rod) • Cooling Conveyor (For Wire Rod) • Roll Shop • QA laboratory 2. Melt Shop • Electric Arc Furnace • Ladle Furnace • Continuous Casting Machine

Impormasyon sa Proyekto	
	• Circulating Water Treatment Plant • Make-up Water System • Soft Water Cooling System • Indirect Cooling Water System • Direct Cooling Water System • Sludge Treatment System **B. Support Facilities** 1. Electrical Substation 2. Generator Set/Emergency Power System 3. Water Catchment Pond 4. Drainage System 5. Compressed Air Station 6. Cranes 7. Firefighting System 8. Fuel Tank **C. Pollution Control Devices** 1. Sewerage Treatment Plant 2. Flue Stack 3. Dedusting System 4. Slag Treatment System 5. Material Recovery Facility
Manggagawa	Panahon ng KOnstruksyon: 1500 Operasyon ng Plata: • Sa loob ng Planta: 700 • Sa labas ng Planta: 3,500
Tagal ng Proyekto	Ang proyekto ay inaasahan na mag-operate sa hindi bababa na 40 taon.
Iskedyul ng Proyekto	Matapos makuha ang lahat ng kinakailangan at clearance at permit, kasama ang ECC Amendment, ang pagtatayo ng mga karagdagang pasilidad kasama ang pagsasa-ayos ng kagamitan ay magsisimula at makukumpleto sa loob ng 19 na buwan.
Kabuuang Gastos sa Proyekto	PhP 10,000,000,000.00.
Pagkakakilanlan ng Kumpanyo	
Pangalan ng Kumpanya	SteelAsia Manufacturing Corporation (SAMC)
Address	25th Floor Ore Central Building, 31st Street corner 9th Avenue Bonifacio Global City, Taguig City, Philippines 1634
Awtorisadong Lagda / Kinatawan	**Mr. Romeo R. Soliven** Vice President for Rolling Mill Operations
Mga Detalye ng Pakikipag-ugnay	Telephone No.: +63 2 858 0500 Mobile No.: 09175873348 Email address: rrsoliven@steelasia.com
Pagkakakilanlan ng Preparer	
EIA Preparer	**Mediatrix Business Consultancy**
Consultant's Address	L29 Joy-Nostalg Center, 17 ADB Ave., Ortigas Center, Pasig City
Contact Person	Matilde R. Jimenez-Fernando, LL.B. Owner and General Manager
Detalye ng Pakikipag-ugnay	Telephone No.: (02) 689 7114 Mobile Number: 0917-5064499 Email Address: mrjfernando@mediatrixph.com

Proseso ng Dokumentasyon sa Pagsasagawa ng EIA

EIA Team

Ang SteelAsia Mnaufacturig Corporation ay nakipagkasundo sa Mediatrix Business Consultancy upang isagawa ang EIA para sa proyekto at ihanda ang Environmental Impact Statement (EIS) Report. Ang EIA team, na binubuo ng mga dalubhasa sa kani-kanilang larangan kasama ng mga teknikal na tao mula sa kumpanya, ay binuo batay sa pangangailangan ng EIA ng proyekto. Makikita sa Table ES-1 ang komposisyonng EIA Team.

Table ES-1: EIA Team

NAME	DESIGNATION	IPCO NUMBER	EXPERTISE	PARTICIPATION
Ms. Matilde Fernando, LL.B.	Project Manager / EIA Team Leader	IPCO-035	Socio-Economic, Public Participation and community engagement, Public Health and Safety, Waste Management (Solid and Hazardous wastes Management)	Preparation of Study/ Report and consolidation of documents for the whole project study; Actual measurement of the facility, and preparation of As-built plans of the structure relevant to the requirements needed for the application
Engr. Fritzie Jane Salido	Chemical Engineer	IPCO - 113	Air and water and report consolidation	Report Consolidator
Reynaldo S. Tejada	Chemical Engineer	IPCO-036	Air and noise modeling	Air and Water Module
Hernani Bayani	Geologist	IPCO-058	GAR, EGGAR	Geology Module
Mark Angelo Bucay	Wildlife expert	-	Wildlife expert	Terresrial Flora and Fauna / Wildlife
Benjamin Francisco	Marine and freshwater ecology expert	IPCO-038	Marine and freshwater ecology expert	Marine and Freshwater Ecology
Mr. Alexis Fernando	Researcher	IPCO-034	Research and community engagement	Gathering of secondary information
Engr. Ria Caramoan	Assistant Team Leader	IPCO-106	Air and water	Preparation of Project Description and water module
Mr. Juvinal Esteban	Social Worker	IPCO-091	Social work and community engagement	Preparation of socio module

EIA Schedule

Ang Mediatrix Business Consultancy kasama ang SAMC ay gumawa ng EIA at nakipagugnayan sa mga stakeholders upang maghanda para sa paunang proseso ng EIA, at Information, Education, and Communication (IEC) noong Marso 13, 2018 at Public Scoping noong Hunyo 18, 2018, at ang Technical Scoping noong Hulyo 16, 2018. Ang paggawa ng EIA baseline studies at impact assessment ay ginawa naman noong Hulyo 2018 at natapos ang EIS noong December 2018. Ang buod ng mga aktibidad na isinagawa ay nakalista sa **Table ES-2**.

Mediatrix, together with the SAMC, commenced the EIA Study by EIA planning, and project and stakeholder profiling for the preparation of I

Table ES2: EIA Milestone and Schedules

EIA Activity/Stage	Date
IEC	March 13, 2018
Initial Perception Survey	March 15 to 17, 2018
Public Scoping	June 18, 2018
Technical Scoping	July 16, 2018
Data Collection/Baseline Studies	July to December 2018
EIA Study, Impact Assessment and Mitigation Plan	
EIS Report Preparation	
Report Submission to EMB	July 24, 2019
1st Review	July 31, 2019
First EIARC Meeting (resubmission)	17 May 2021
Submission of AI (Revised EIS with AI Locator)	21 May 2021

EIA Activity/Stage	Date
Issuance of Notice of Public Hearing	June 18, 2021
Posting of Notice of PH with EIS and Exec Summary in English and Filipino in EMB Website	June 18, 2021
1st Publication on Newspaper	June 21, 2021
2nd Publication on Newspaper	June 28, 2021
Tentative Public Hearing	July 6, 2021, 9am
Submission of PH Documentation	July 7, 2021
Posting of PH Report and EIS in EMB Website	July 8, 2021
2nd EIARC Meeting (Final Draft of ECC)	July 15/16, 2021

EIA Study Area

Ang sinakop nap ag-aaral ng EIS Report na ito ay ang kabuuang luwang ng Proyekto na 248,035 m^2 sa Sitio Kirahon, Barangay San Martin, bayan ng Villanueva sa Misamis Oriental.

EIA Methodology

Alinsunod sa Department Administrative Order (DAO) No. 30 Series of 2003 ng Revised Procedural Manual of the Philippine EIS System (PEISS) at EMB Memorandum Circular 005 na may petsang Hulyo 7, 2014, ang proyekto ay nauri bilang Category A - Environmentally Critical Projects (ECPs) na nangangailangan ng EIS Report para sa aplikasyon ng Environmental Compliance Certificate (ECC).

Ang EIA ay alinsunod sa Revised Procedural Manual para sa DENR Administrative Order (DAO) 2003-30 at DAO 2017-15 sa pagsasagawa ng mga sumusunod na aktibidad, na: (i) IEC at Scoping, (ii) koleksyon ng pauna at pangalawang data, (iii) identification/prediction/assessment ng mga epekto sa kapaligiran, (iv) pagbabalangkas ng EMP, at (v) pagbuo ng EMoP. Ang pangunahin at pangalawang impormasyon ay nakuha mula sa Local Government Units (LGUs) at iba pang mga ahensya ng gobyerno. Ang nakolektang mga datos ay batay sa EIA Scoping at Screening Form na ipinakita sa **Annex ES-2**, na natapos habang Technical Scoping noong Hulyo 16, 2018.

Ipinapakita sa **Table ES-3** ang detalyadong EIA methodology kada sector ng kapaligiran at tinatalakay kung ano ang kasalukuyang estado nito na wala pa ang Proyekto.

Table ES3: EIA Methodology

EIA Study Module	Parameters/Scope	Methodology and Approach on Impact Assessment
Land		
Geology/Geomorphology, Pedology, Land Use and Classification	Reconnaissance, land use, land classification assessment, slope, soil types and classification, erosion	• Assessment of the compatibility of the proposed project vis-à-vis approved land use plan and zoning classification. • Review of available reports, geologic literature and information from Mines and Geosciences Bureau (MGB), Philippine Institute of Volcanology and Seismology (PHIVOLCS), Philippine Atmospheric, Geophysical and Astronomical Services (PAGASA), and National Mapping and Resource Information Authority (NAMRIA) • Conduct of field surveys and collection of soil samples • Assessment of construction and operation impacts based on the construction and operation activities of the proposed project, and the susceptibility of the project area to natural hazards.
Terrestrial Biology – Wildlife and Vegetation	Flora and fauna species inventory, species endemicity and conservation status as per DAO 2017-11, species abundance, frequency and distribution	• Conduct of field surveys • Assessment of impacts based on the construction and operation activities of the proposed project to the existing ecosystem
Water		
Hydrology/ Hydrogeology	Regional hydrogeology, catchment and drainage system	• Review of existing literatures and maps from DENR, MGB, and JICA.

EIA Study Module	Parameters/Scope	Methodology and Approach on Impact Assessment
		• Assessment of impacts based on the construction and operation activities of the proposed project to the existing environment and the susceptibility of the project area to flooding.
Water Quality	Physico-chemical and bacteriological characteristics of groundwater and freshwater	• Collection of groundwater and freshwater samples for analysis of physical, chemical, microbiological, micro-nutrient and heavy metal analyses.
Freshwater Ecology	Benthic habitats, species, composition, density, and diversity of sea grass resources and associated macro benthic algae in front of the project site, commercially-important macro invertebrates in the inter-tidal areas, plankton community	• Use of primary and secondary data and interviews • Assessment of impacts based on the construction and operation activities of the proposed project to the existing ecosystem.
Air		
Meteorology/Climatology	Monthly average rainfall, climatological normal and extremes, wind rose diagrams, and frequency of tropical cyclones	• Assessment of impacts based on the construction and operation activities. • Calculation of GHG emissions using emission factor-based estimation method prescribed in The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard, Revised Edition, World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI), 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories and 2014 IPCC Assessment Report. • Projection of monthly average temperature and rainfall and frequency of extreme events under.
Air Quality and Noise Level	Ambient air quality and noise levels	• Ambient air quality and noise sampling and laboratory analysis • Conduct of ambient air quality monitoring at eight (8) established sampling stations to measure the Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), Total Suspended Particulates (TSP), and Particulate Matter of less than 10µm (PM_{10}) concentration in the project area and its vicinity. • Assessment of operation impacts on air quality using the prediction model by AERMOD • Conduct of noise level measurement at five (5) established sampling stations
People		
Socio-economic and Public health	Morbidity and mortality trends, Demographic data of impact area: - Number of households and household size - Land area - Population - Population density /growth - gender and age profile, - literacy rate, profile of educational attainment Socioeconomic data: Main sources of Income, Employment rate/ profile, sources of livelihood, Poverty incidence, commercial establishments and activities, banking and financial institutions	• Conduct of IEC, Public Scoping, and Perception Survey • Review of CLUP and other secondary data from LGU and PSA. • Assessment of impacts based on the results of IEC, Public Scoping, perception survey and construction and operation activities of the proposed project.
Environmental Risk Assessment		
Risk Assessment	Safety risks and physical risks	Conduct consequence and Frequency analyses using the methodology described in the Revised Procedural Manual (RPM) for DAO 2003-30

Public participation, scoping and consultation in the conduct of the EIA Study

Alinsunod sa DAO 2003-30, MC 2010-14, at DAO 2017-15, nagsagawa ang SAMC ng aktibidad sa publiko sa pamamagitan ng pre-scoping Information, Education and Communication (IEC), perception survey at public scoping kasama ang mga Opisyal ng Munisipyo at Barangay ng San Martin at Villanueva.

Information, Education and Communication

Isinagawa ang IEC noong Marso 13, 2018 sa Barangay Hall ng San Martin upang magbigay ng impormasyon tingkol sa proyekto at hikayatin ang mga stakeholders na lumahok sa proceso ng EIA. Ang mga dokumentong patungkol sa IEC gaya ng attendance, listahan ng mga isyung tinalakay at mga larawan ay nasa **Annex ES-3**.

Initial Perception Survey

Ang perception survey ay isinagawa noong Marso 13, 2018 pagkatapos ng IEC sa may 1,165 households ng host Barangay na San Martin. Tinalakay ng survey ang populasyon, pinagkakakitaan, pangkabuhayan, sanidad at kalusugan, edukasyon, hanapbuhay at kaalaman tungkol sa proyekto. Ang resulta ng perception survey ay nasa **Annex ES-4**.

Public Scoping

Isinagawa ang Public Scoping noong Hunyo 18, 2018 sa Villanueva Multi-purpose Covered Court, Villanueva, Misamis Oriental upang ipakilala ang EIA Process at ang panukalang Proyekto ng sa publiko at upang makakalap ng site-specific na concerns/inputs at suggestions na magiigng kalakip ng EIA Study. Ang mga tinalakay na issues/concerns, kopya ng mga tinanggap na imbitasyon, attendance sheets at larawan ay nasa **Annex ES-5**.

Summary of Alternatives

Siting

Ang mga sumusunod na lugar isinaalang-alang sa pagpili ng project site:

- PHIVIDEC Villanueva sa tabi ng Macajalar Bay
- Barangay San Martin sa tabi ng San Martin Steel, Inc.'s Plant
- Sitio Kirahon in Barangay San Martin, Villanueva, Misamis Oriental

Subalit base sa mga sumusunod na criteria, ang project site sa Sitio Kirahon sa Barangay San Martin, Villanueva, Misamis Oriental ang napiling pinakatugma sa pangangailangan ng proyekto:

- **Logistics.** Ang steel manufacturing ay parang isang transportation business dahil nangangailangan ito ng maraming paglipat ng mga raw na materyales at finished goods. Ang planta ay nakatayo malapit sa daungan at mga pangunahing daanan kung saan maaaring i-optimize ng mga mamimili ang gastos sa logistik.

- **Land.** Dapat kasya ang lahat ng mga pasilidad na kinakailangan sa lugar at nasa maayos na pamamaraan. Bilang karagdagan, hindi ito dapat mangailangan ng mahabang oras para sa land conversion at mamahaling site development. Dapat magkaroon ito ng sapat na taas para sa pagbaha. Ang site ng Project ay mayroon nang planta sa loob ng isang pang-industriya na lugar.

- **Carbon Footprint.** Ang patakaran ng kumpanya ay mabawasan ang paggamit ng gasolina. Kasama rito ang na-optimize na pagpaplano/pagruruta ng biyahe upang magamit ng wasto ang gasolina, bawasan ang haba ng byahe ng bawat trak araw-araw at paliitin ang oras ng paglalakbay. Ipinatutupad ito ng SteelAsia dahilan kung bakit ito matatagpuan sa mga lugar na malapit sa mga development area.

- **Social.** Ang Social environment ay isa sa mga ginamit na pamantayan at napatunayang tugma sa proyekto dahil ang land use ay industrial.

- **Environment.** Ang proposed na lokasyon ay halos clear at patag na lugar. Dahil dito, ang mga hazards na maaring idulot ng slope instability, erosion at mass wasting ay hindi mararanasan. Pinagbatayan din ang geohazard susceptibility ayon sa impormasyon ng Mines and Geosciences Bureau (MGB) at Philippine Institute of Volcanology and Seismology (PHIVOLCS). Sa kabuuan, ang project area ay may mababang

susceptibility sa earthquake-triggered slope failure, rainfall-triggered slope failure, at pagbaha pati na rin sa seismic vulnerability at liquefaction potential.

- **Technology and Design.** Ang teknolohiyang gagamitin ay nagmula sa top steel equipment companies, ang SMS Group ng Germany, na may track record na 140 taon at ang Fives Stein ng France na may track record na 205 years sa pagdedesign ng equipment, engineering at manufacturing. Gagamitin ng Proyekto ang makabagong henerasyon ng scrap recycling mini-mill technology. Ang basehan ng teknolohiya ay ang efficiency nito na makagawa ng produkto ayon sa target na production rate sa equipment's rated capacity.

  Ang paggamit ng Electric Arc Furnace (EAF) para sa melt shop ang pinakatugmang ruta sa paggawa ng kalidad na bakal. Pino-promote nito ang pagggamit ng mga scrap na bakal sa bansa kung saan karamihan ay ineexport. Dagdag pa dito, maraming iba-ibang teknolohiya ang mayroon para mas ma-capture ng EAF ang mga waste na maaring ma-produce habang nagtutunaw ng bakal. Merong waste heat recovery system na nagrerecycle ng waste heat ppara painitin ang in-feeding scrap upang maabot nito ang 500 to 600°C bagi i-charge sa furnace. Ang feeding system ay ginawa para i-divert ang hot waste gases mula sa EAF papunta sa heat ng scrap bago pumunta sa fume treatment plant (FES). Nakakatipid ng electrical energy consumption na halos 350kW-hours per tonne ng liquid steel; kumpara sa 550kW-hours per tonne para sa conventional EAF's sa ASEAN region.

- **Environmental Impacts of Each Alternative.** Ang mga potential na impacts sa mga pinagpiliang lugar ay halos pare-pareho. Subalit sa ibang lugar na hindi napili, ang mga sumusunod ay ang mga dahilan:
  - Mayroong mangrove plantation
  - Kulang sa sustainable na supply ng tubig at source ng kuryente
  - Ang klasipikasyon ng lupa ay hindi pa industrial

Summary of Key Environmental Impacts and Management Plan

Ang pangunahing epekto ng Proyekto sa panahon ng tagtuyot ay ang kumpetisyon sa paggamit ng tubig. Gayunpaman, pagdating ng oras na iyon, mapipilitang itigil ng Proyekto ang operasyon nito sapagkat hindi magagawa na mapatakbo ang mill sa ganitong sitwasyon.

Kabilang sa mga hakbang upang matugunan ang mga isyu sa kumpetisyon ng mapagkukunan ng tubig ay ang muling paggamit ng tubig at pag-recycle upang mabawasan ang kinakailangan ng tubig at water harvesting. Ipinapakita sa **Table ES-4** ang buod ng key environmental impacts ng panukalang proyekto at ang karampatang management plan at mitigating measures nito.

Table ES-4: Summary of Key Environmental Impacts and Management Plan

Major Activities Description/ Key Environmental Aspects	Significant Issues/Impacts	Impact Mitigation, Built-In Management Measures and Facilities Planned	Rating/ Performance off Mitigating Measures
Construction Phase			
Site Clearing and Construction of Facilities	Generation of construction debris such as excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills	• Temporary area within the site near the construction site will be designated for storage and segregation • Implement RA 9003 thru provision for Material Recovery Facility (MRF) and practice good housekeeping through segregation of wastes • Implement RA 6969 through Proper segregation and storage of hazardous waste and allocation of Hazardous Waste Facility Area	100% removal of construction wastes and debris

Major Activities Description/ Key Environmental Aspects	Significant Issues/Impacts	Impact Mitigation, Built-In Management Measures and Facilities Planned	Rating/ Performance off Mitigating Measures
	Soil erosion due to heavy rainfall	• Scheduling of construction works during dry months to avoid heavy rainfall periods • Contouring and minimizing length of steepness of slopes in case cut and fill will be implemented • Providing effective short-term measures for slope stabilization, sediment control, and subsidence control until long-term measures for the operational phase can be implemented	100% slope stabilization and sediment control achieved
	Contribute to water pollution due to domestic wastewater discharges	• Provision of at least 3 units portable toilets at the construction site and will be added when necessary • Provision of septic tanks in all the permanent project facilities	100% containment of domestic wastewater
	Dust generation due to transport of building materials	Water sprinkling during wet season will be 2x a day while four (4x) times a day during dry season.	100% reduction of fugitive dust from transport vehicles
	Noise and vibration due to operation of pile drivers, earth moving and excavation equipment, concrete mixers, cranes and transportation of equipment and materials	Consult with local communities on scheduling of activities with the greatest potential to generate noise during periods of the day that will result in least disturbance.	100% compliance to noise standards during construction
	Safety and health hazards	• Strict implementation of Health and Safety Policies at the Plant • Regular conduct of employee safety inspections and toolbox meetings • Regular APE and strict implementation on the use of PPEs • Regular conduct of First Aid Training • Provision of Fire Fighting System	100% compliance to safety and health standards
	Traffic and road safety	• Implement traffic management through proper scheduling of delivery. • Installation of adequate signages approaching National Highway • Provide personnel to manage or direct the vehicle going in and out of the premises. • Coordination with the LGU	100% compliance to traffic and road safety rules
	Generation of domestic wastewater discharges	• Runoffs will be channeled into the rainwater catchment which will be used as process water once the Plant is in	100% containment of domestic wastewater

Major Activities Description/ Key Environmental Aspects	Significant Issues/Impacts	Impact Mitigation, Built-In Management Measures and Facilities Planned	Rating/ Performance off Mitigating Measures
		operation. • Barracks is equipped with sanitary facilities such as three chamber septic tank	
	Degradation of air quality due to SOx and NOx emissions from motor vehicles	• Regular maintenance of heavy equipment at least once a year and motor vehicles at least twice a year	100% compliance to air quality standards and Clean Air Act
Operations Phase			
Operation of Electric Arc Furnace for scrap recycling	Mixing of low and high quality scrap metals to be melted	• Sorting out low and high quality scrap metals and putting them on separate stockpiles • Metals from filter dust, slag, and waste metals to be collected and sold to sintering plants or selling it as a raw material to cement plants, use it for social development / livelihood programs or corporate social responsibility.	100% elimination of low quality scraps to avoid production of dioxins and furans
	Generation of particulate matter during melting, oxygen injection and decarbonizing phases (primary off gas emissions), and harging/ tapping (secondary off-gas emissions)	Quick cooling of gas emissions from EAF, followed by bag filters	99-99.7% reduction efficiency
	Generation of slag	• Proper stockpiling of slag in a landfill • Proper disposal thru DENR-accredited TSD	100% containment of slags generated
	Generation of dioxins and furans	Ensure complete combustion by achieving temperature above 1200°C	100% reduction of dioxins and furans in the flue gas
		Use of oxygen injection and post combustion of the EAF off-gas to ensure complete combustion	
Operation of the Rolling and Finishing Mills	Solid waste generation	• Operation and maintenance of Material Recovery Facility (MRF) • Segregation or establishment segregation within the area is strictly enforced. • Coordination with the local government units for schedule of collection.	100% reduction of solid wastes in the facilities
	Effluent generation from cooling and quenching, containing scales and emulsified oil	Construction of wastewater treatment plant for removal of oil and sediments in the process water	95% of overall water demand recycled
	Formation of sludge, containing heavy metals, and oil and grease, from wastewater	Desludging and collection of sludge from wastewater treatment facility for proper disposal at least once a year	100% elimination of sludge
	Emissions containing SO_2 and NO_2	Use of Low Sulfur Fuel Oil (LSFO), or a mix of LSFO and Diesel as fuel for the reheating furnace	>90% reduction of SO_2 and NO_2 emissions
	Possible depletion of ground water source as used by the community	Provide rainwater water harvesting system	100% containment of hazardous wastes

Major Activities Description/ Key Environmental Aspects	Significant Issues/Impacts	Impact Mitigation, Built-In Management Measures and Facilities Planned	Rating/ Performance off Mitigating Measures
	Domestic wastewater generation	Provision of septic tanks in all the permanent project facilities	100% containment of domestic wastewater
	Generation of hazardous wastes such as used oil, used batteries, contaminated rags, busted bulbs and lamps	• Provision of a Hazardous Waste Storage Area with proper labeling, segregation and storage of wastes • Implement RA 6969 through Proper segregation and storage of hazardous waste and allocation of Hazardous Waste Facility Area • Transport, treatment, and disposal by DENR accredited third-party contractors	100% containment of hazardous wastes and proper disposal thru DENR accredited third-party contractors
	Water pollution from run-off and domestic wastes	Construction of rainwater cisterns and collection ponds	95% of overall water demand recycled
		Domestic wastewater management by connecting it to the water treatment facility for reuse as process cooling water	
	Resource use competition for use of river water for make up water and process water	• Recycling of water from Rainwater Catchment Basin • Construction of cooling towers • Construction of wastewater treatment plant for removal of oil and sediments in the process water	95% of overall water demand recycled
	Possible increase in ambient concentration of PM10, CO2, CO, SOx and NOx	• Regular maintenance of equipment and making sure the recuperator system is always working • Use of low sulfur fuel (LSFO or mixing with Diesel at 60/40 proportion/ratio) • Use of enclosures for equipment and insulation for structures • Quarterly monitoring of the ambient air to ensure the project's operation is compliant with the clean air act	100% compliance to air quality standards and Clean Air Act
	Degradation of air quality due to fugitive dusts from equipment and vehicles	• Strict implementation of speed limits in vehicles • Proper maintenance of equipment • Designation of no idling zone • Strict implementation of routine plant maintenance and good house keeping • Regular wet suppression or water spraying during dry weather condition of the access road	100% compliance to air quality standards and Clean Air Act

Major Activities Description/ Key Environmental Aspects	Significant Issues/Impacts	Impact Mitigation, Built-In Management Measures and Facilities Planned	Rating/ Performance off Mitigating Measures
		• Regular maintenance of trucks to reduce or maintain tailpipe emissions	
	Generation of Air Pollution from all sources (Point, Area, Volume, Line, generator set, reheating furnace, rolling mill)	Regular stack test monitoring	100% compliance to air quality standards under the Clean Air Act
	Emissions containing SO_2 and NO_2	Use of Low Sulfur Fuel Oil (LSFO), or a mix of LSFO and Diesel as fuel for the reheating furnace	>90% reduction of SO_2 and NO_2 emissions
	Noise due to plant operations (scrap and product handling, waste or by-product gas fans, process cooling and draft fans, dedusting systems, furnace charging, EAF melting processes, fuel burners, cutting activities, wire rod pay-off units, and transport and ventilation system)	• Enclose the process buildings and/or insulate structures • Cover and enclose scrap and plate/slab storage and handling areas • Enclose cooling fans • Insulate ventilation pipes and use dampers • Limitation of scrap handling and transport during nighttime, where required • Establishment of buffer zones planted with trees	100% noise abatement
	Noise from vehicles	Contractor's compliance to noise standards.	100% noise abatement
	Health and safety hazards	• Strict implementation of Health and Safety Policies at the Plant • Regular conduct of employee safety inspections and toolbox meetings • Regular APE and strict implementation on the use of PPEs • Regular conduct of First Aid Training and proper observance of health and safety protocol • Provision of Fire Fighting System	100% compliance to health and safety standards
Operation and maintenance of facilities	Solid wastes generation	• Operation and maintenance of Material Recovery Facility (MRF) • Segregation or establishment segregation within the area is strictly enforced. • Coordination with the local government units for schedule of collection.	100% reduction of solid wastes in the facilities
	Domestic wastewater generation	Provision of septic tanks in all the project facilities	100% containment of domestic wastewater

Major Activities Description/ Key Environmental Aspects	Significant Issues/Impacts	Impact Mitigation, Built-In Management Measures and Facilities Planned	Rating/ Performance off Mitigating Measures
	Generation of hazardous wastes such as used oil, used batteries, contaminated rags, busted bulbs and lamps	• Provision of a Hazardous Waste Storage Area with proper labeling, segregation and storage of wastes • Transport, treatment, and disposal by DENR accredited third-party contractors	100% containment of hazardous wastes
	Water pollution from run-off and domestic wastes	Construction of rainwater cisterns and collection ponds Domestic wastewater management by connecting it to the water treatment facility for reuse as process cooling water	95% of overall water demand recycled
	Resource use competition for use of river water for make up water and process water	• Recycling of water from Rainwater Catchment Basin • Construction of cooling towers • Construction of wastewater treatment plant for removal of oil and sediments in the process water	50% of overall water demand recycled
	Noise due to plant operations (scrap and product handling, waste or by-product gas fans, process cooling and draft fans, dedusting systems, furnace charging, EAF melting processes, fuel burners, cutting activities, wire rod pay-off units, and transport and ventilation system)	• Enclose the process buildings and/or insulate structures • Cover and enclose scrap ad plate/slab storage and handling areas • Enclose fans, insulate ventilation pipes, and use dampers • Limitation of scrap handling and transport during nighttime, where required • Establishment of buffer zones	100% noise abatement

Risks and Uncertainties relating to the findings and implications for decision-making

Batay sa isinagawang EIA, wala masyadong risk and uncertainties sa Proyekto sapagkat mitigation at management plans ay inilatag Proponent's mother company, ang SteelAsia Group of Company ay nasa negosyo nang higit sa 52 taon.