

# PROJECT DESCRIPTION

This document presents the specific details of the proposed Ore Blend Project of Philippine Sinter Corporation. Among the significant information discussed in this section include the project location, accessibility, impact area, rationale, components/facilities, activities during project phases, manpower, and project investment cost.

## 1.0 PROJECT BACKGROUND

### 1.1 Background of the Project

Project Name:	<b>PSC Expansion Project (Ore Blend Facility and New Berth Facility)</b>
Nature of Project:	<b>Manufacturing</b>
Total Area and Production Capacity:	<b>133 hectares</b> <b>9 MMTPY (Blend ore)</b> <b>5 MMTPY (Sintered Ore)</b> <b>7 MMTPY (Iron Pellet)</b>
Site Location:	<b>Phividec Industrial Authority, Municipality of Villanueva, Province of Misamis Oriental</b>

### 1.2 Profile of the Proponent

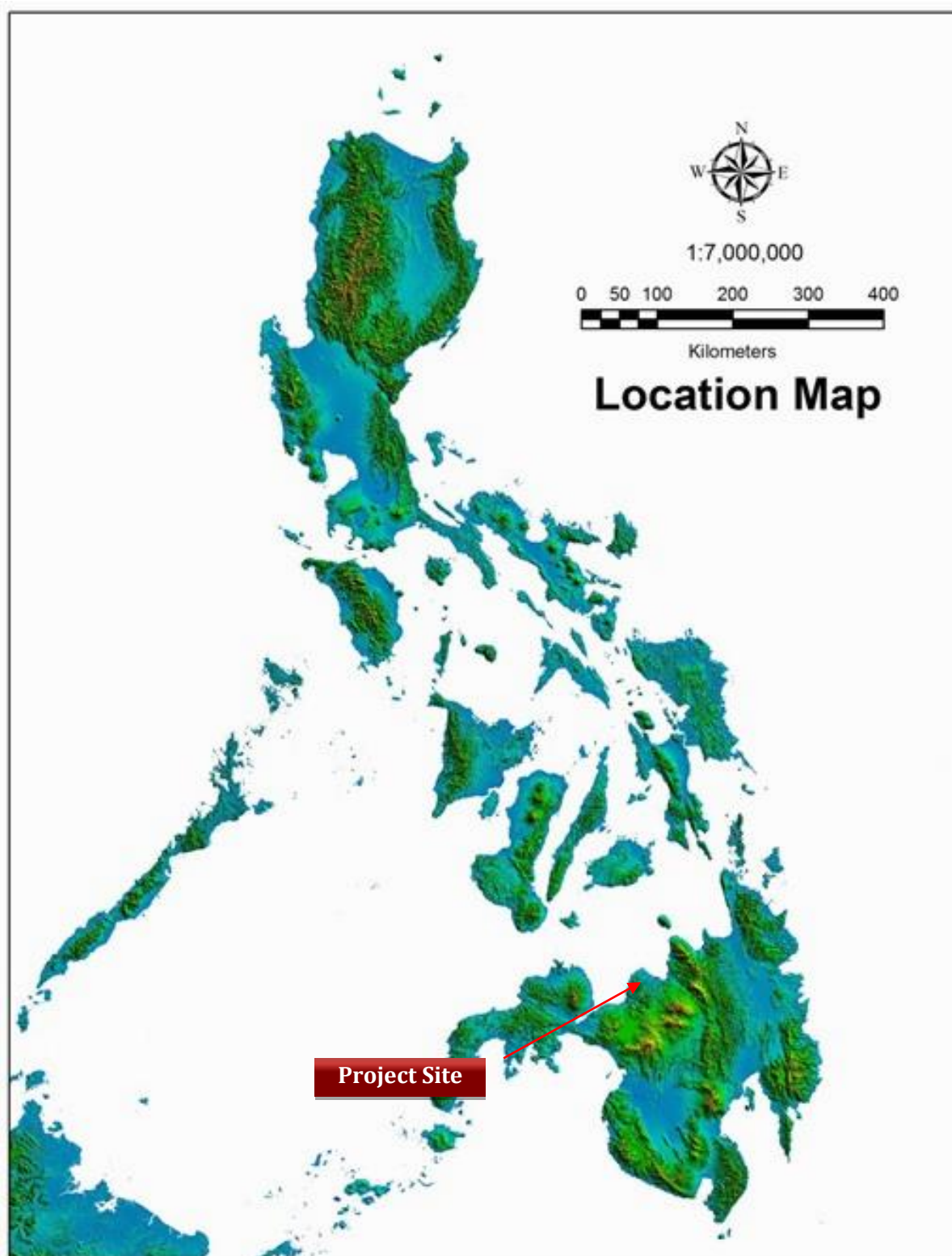
Name of Proponent:	<b>Philippine Sinter Corporation</b>
Office Address:	<b>23F Oledan Square</b> <b>6788 Ayala Avenue, Makati City</b>
Contact Person:	<b>Mr. Nilo C. Sagrado</b> <b>VP &amp; Resident Manager – Sinter Plant</b>
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## 2.0 PROJECT LOCATION AND AREA

### 2.1 Location and Accessibility

The Philippine Sinter Corporation plant is located within the PHIVIDEC Industrial Estates in the Municipality of Villanueva, Province of Misamis Oriental within the geographic coordinates 8°34'32" N; 124°45'44" E. The PSC complex covers some 144 ha located within Barangay Katipunan. **Figures 1 and 2** respectively present the location and vicinity maps of the project site. **Figure 3** shows the relative location of the project site to the PHIVIDEC Industrial Authority (PIA) while **Figure 4** depicts the lot area of PSC.

From the Capital City of Manila, the project site can be reached through a 90-minute commercial flight to Laguindingan Airport in Misamis Oriental and a 2-hour land travel. Various land transportation modes (e.g., buses, jeepneys, cars) are readily available in the area.

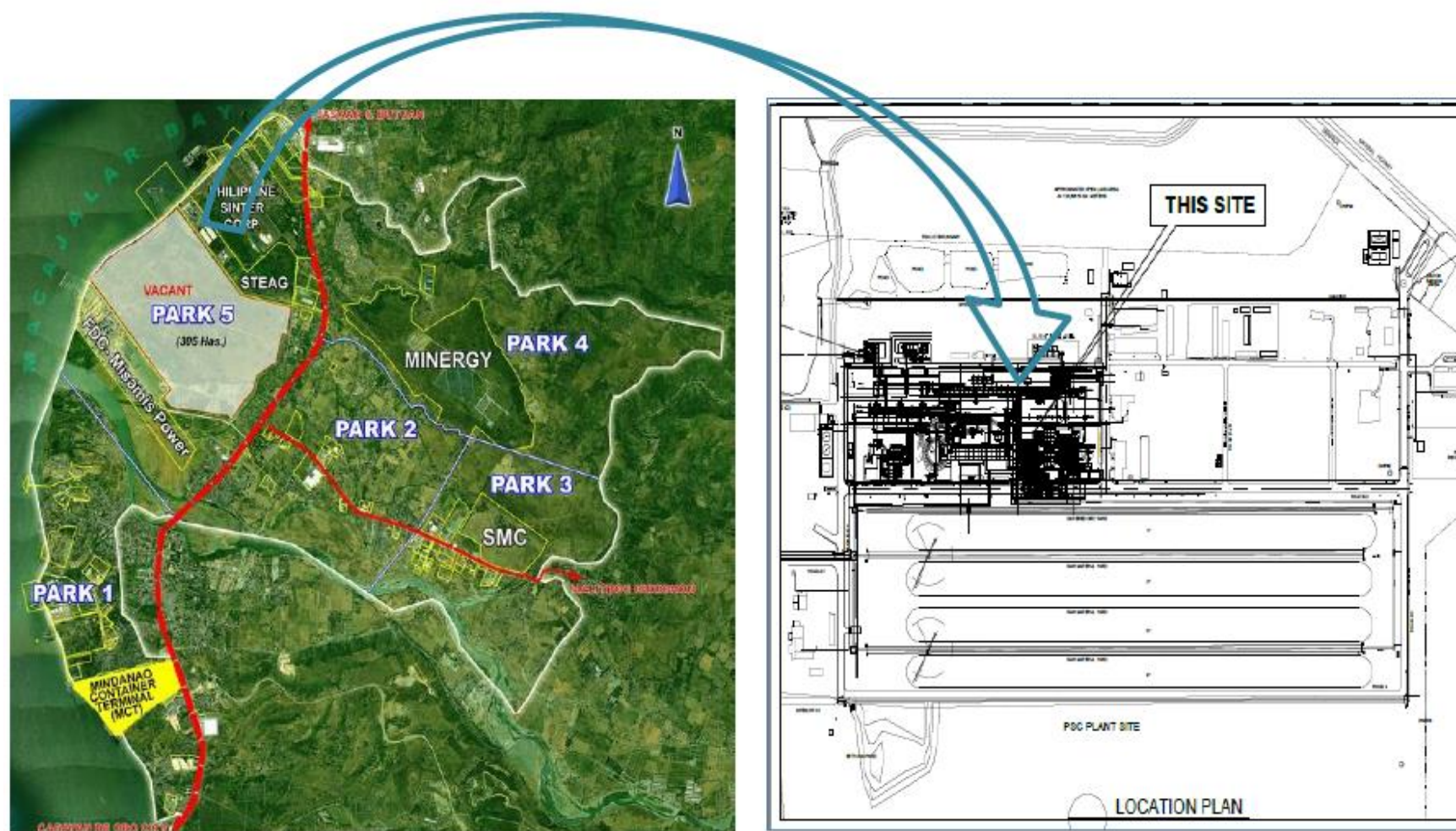


**Figure 1.** Location map of the proposed PSC Expansion Project



**Figure 2.** Vicinity map of the proposed Ore Blend and New Berth Facility Project of PSC





**Figure 3.** Location of the PSC Expansion Project relative to the PHIVIDEC Industrial Authority (PIA) vicinity



**Figure 4.** Lot area of the PSC

**Table 1. Geographic coordinates of PSC's existing project**

Perimeter/Boundary points (based on OCT/TCT/etc)	Latitude	Longitude
Corner 1	8°33'59.40"N	124°45'48.96"E
Corner 2	8°34'27.48"N	124°45'25.92"E
Corner 3	8°34'34.32"N	124°45'32.04"E
Corner 4	8°34'35.40"N	124°45'34.56"E
Corner 5	8°33'36.48"N	124°45'36.00"E
Corner 6	8°34'37.56"N	124°45'38.52"E
Corner 7	8°34'41.52"N	124°45'43.92"E
Corner 8	8°34'40.08"N	124°45'45.00"E
Corner 9	8°33'43.68"N	124°45'48.96"E
Corner 10	8°34'43.68"N	124°45'50.76"E
Corner 11	8°34'47.64"N	124°45'54.36"E
Corner 12	8°34'47.28"N	124°45'55.44"E
Corner 13	8°33'32.88"N	124°45'06.96"E
Corner 14	8°34'32.52"N	124°45'08.04"E
Corner 15	8°34'32.52"N	124°45'11.64"E
Corner 16	8°34'31.80"N	124°45'12.36"E
Corner 17	8°33'11.64"N	124°45'14.52"E
Corner 18	8°34'04.44"N	124°45'16.32"E
Corner 19	8°34'04.80"N	124°45'10.20"E
Corner 20	8°33'09.12"N	124°45'06.60"E
Corner 21	8°33'10.20"N	124°45'02.64"E

## 2.2 Proof of Authority over the Project Site

PSC has an existing Contract Lease with the Philippine Industrial Authority (PIA). Please refer to **Attachment 1**.

## 2.3 Predicted Impact Area

Based on the proposed site development plan of PSC and its projected operation, the impact area of the proposed Ore Blend and New Berth Facility Project is confined only within the existing site located in Phividec Industrial Estate in the Municipality of Villanueva, Province of Misamis Oriental, Mindanao Island.

**Figure 5** shows the satellite image of the proposed project area from Google Earth. **Figure 6** also depicts the aerial photo of the project site.



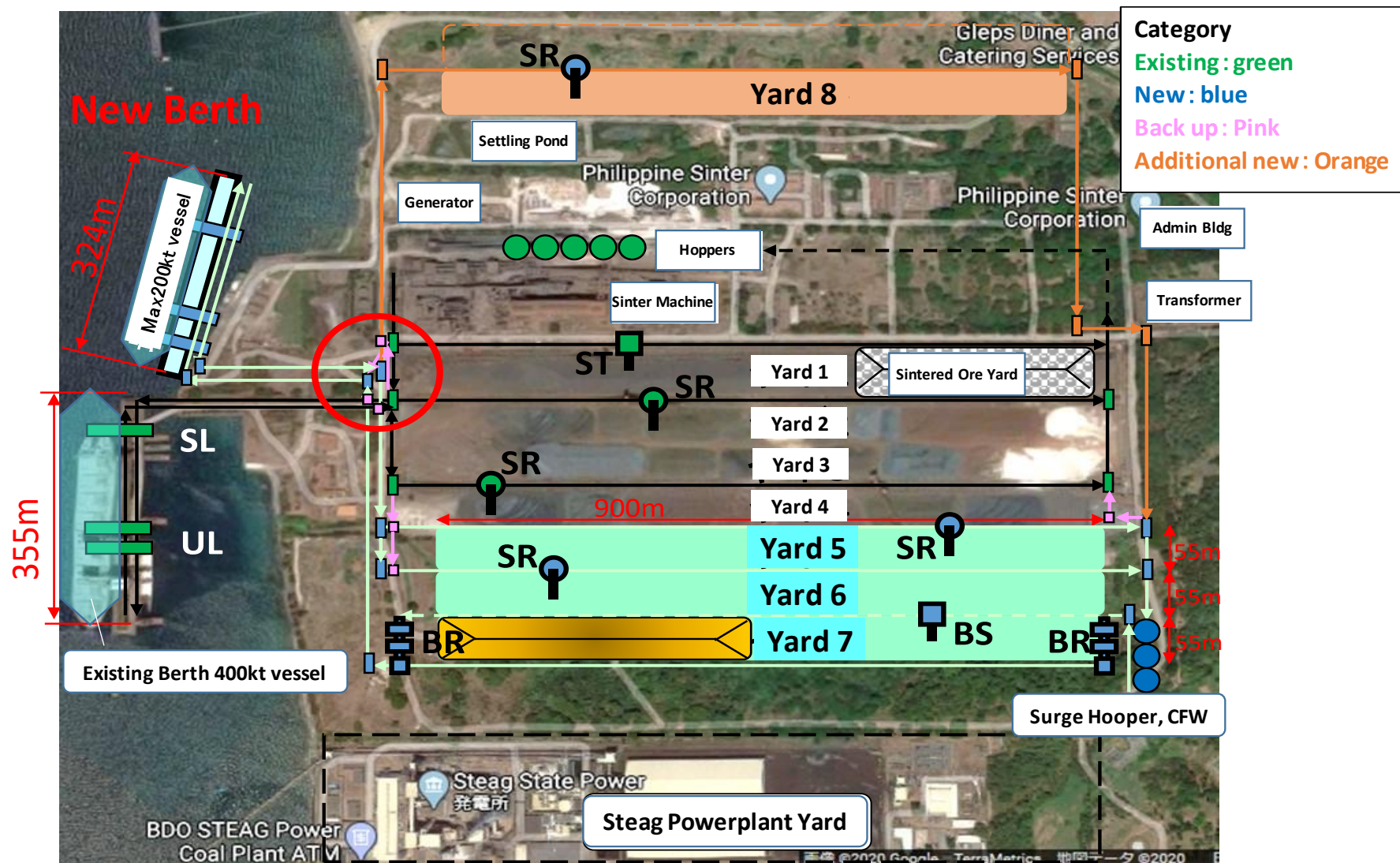


Figure 5. Projection of the area of the proposed Ore Blend and New Berth Facility Project of PSC



**Figure 6.** Aerial image of the host community of the proposed project area

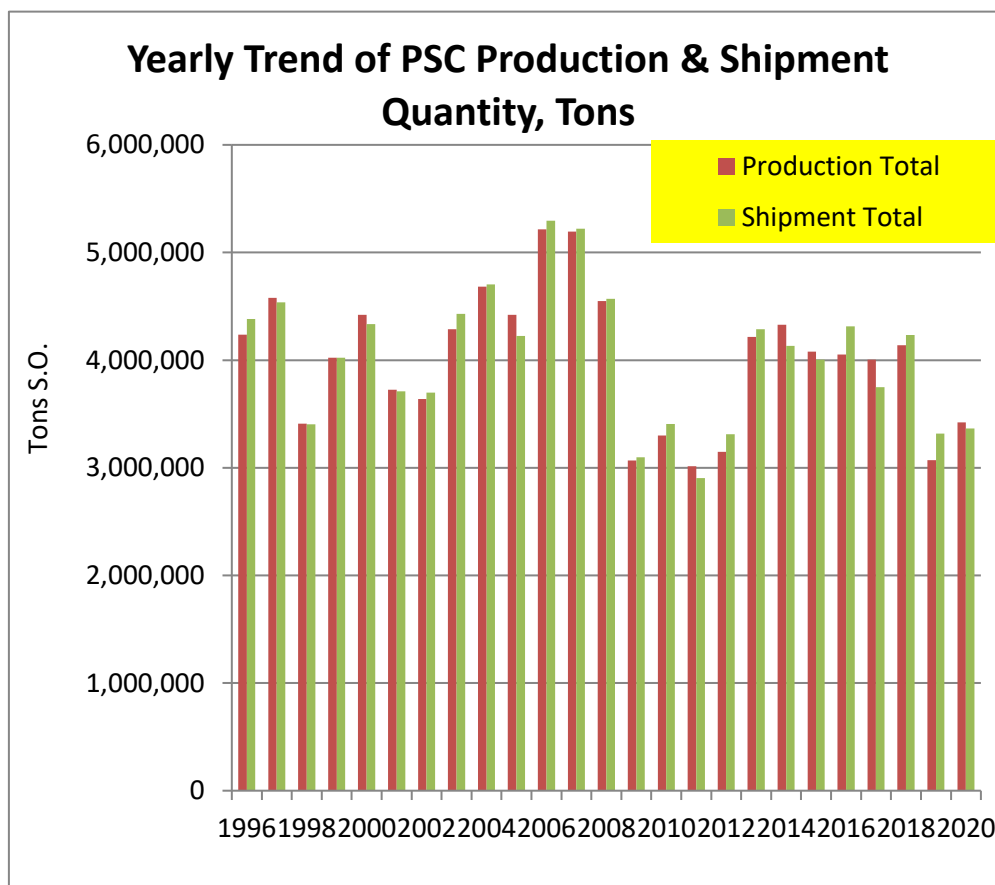




**Figure 7.** Drone images of selected areas within the PSC Complex (yard, sintering facility and portion of pier area)

### 3.0 PROJECT RATIONALE

Japan's JFE Steel Corporation, PSC's mother company produces steel using various iron ores sourced out from foreign countries. As to the current operation, the existing berth of PSC, utilization ratio is already high due to increase in production and shipment after the Sinter Machine Extension in year 2019. For cost competitiveness, PSC accommodates huge vessels (>200,000 MT capacity) which cannot be docked in Japan ports due to the shallow depth of its ports. As such, PSC plans to receive various raw iron ore by large vessel, blend them and then distribute to each Japanese steel plant. For this project, PSC shall develop part of the existing port to maximize its efficiency and operation in accommodating the raw materials. The Main Berth serves the existing Sinter Plant. It is where all the raw Materials for Sintering are unloaded and where Sinter products are loaded. With the expected volume of blended ore are 9.0 MMT/year Blended Ore, the existing berth is no longer enough to handle the additional ore volume required and for the shipment of required blended ore without reducing the requirement of the Sinter Plant.



The demand of traditional PSC product, sintered Ore, has reduced significantly since its peak in year 2006. It is necessary for PSC to diversify its product portfolio to address changes demands of the international steel industry for it to remain competitive.

In the overall perspective, there is a need for the project to proceed, to improve the accommodation capacity of the berth allowing the added blended ore product of PSC. Moreover, PSC also aims to develop the ore yard facility of the PSC for blending of the ore materials which will eventually require additional workforce from the local community. The huge investment associated with the proposed



Ore Blending Project will benefit the national economy and is also expected to generate business activities both local and national during the construction and operation stage of the plant contributing to the overall stability of labor environment, increased in volume of trade and related government taxes and revenues in the country. If the proposed project will not be implemented and with the fluctuating demand of PSCs sinter, PSC is bound to lose this opportunity to improve its competitiveness against domestic sinter plants in Japan resulting to decline of its business operation and activities here in Philippines.

#### 4.0 PROJECT ALTERNATIVES

The summary of the project alternatives considered in the planning of the proposed project is provided in **Table 2**.

**Table 2. Project alternatives of the proposed PSC Expansion Project**

Aspect	Standard Criteria	Options Considered	Assessment
Siting	<ul style="list-style-type: none"> <li>Location</li> <li>Availability</li> <li>Land use</li> </ul>	<p>The proposed project shall be situated within Phividec Industrial Estate in the Municipality of Villanueva, Province of Misamis Oriental.</p> <p>No other alternative sites in Mindanao was chosen.</p>	<p>In spite of the on-going pandemic, the demand on sintered ore is still rising coping with the requirements of economic development. The existing PSC plant within Phividec is considered superior in terms of location as documented by in the JFE Technical Report<sup>1</sup>. The following salient features of the site are:</p> <ol style="list-style-type: none"> <li>Location on shipping routes to Japan for overseas iron ore resources, contributing to excellent transportation efficiency.</li> <li>Deep water port, enabling reduction of freight costs by use of large ships.</li> <li>Mild weather year-round, with virtually no typhoons or other bad weather conditions.</li> <li>Availability of sub-raw materials (limestone, dolomite) from nearby islands.</li> <li>Relationship of trust based on long history with the Philippine government.</li> </ol> <p>Based on the zoning clearance, the property is within an economic zone. Lease Agreements are included as <b>Attachment 1</b>.</p>
Project type, components, and size	<ul style="list-style-type: none"> <li>Applicability</li> <li>Process</li> <li>Safety</li> </ul>	<p>Blending operation as it is independent from the sinter operation shall produce approximately 9MTPY.</p>	<p>The establishment of the ore blending facility and new berth shall augment the efficiency of the entire operation of PSC.</p>

<sup>1</sup> JFE Technical Report 2009

Aspect	Standard Criteria	Options Considered	Assessment
		<p><u>Blending yard</u> The ore blending will be set-up in four (4) yards, three (3) of which are located right beside the existing yard of PSC. All the necessary measures to ensure safety of workers will be administered. Using computerized system of process monitoring and period maintenance, efficiency and agile response to any mechanical errors will be addressed thus accident and mechanical failure will be avoided.</p> <p><u>New berth facility</u> The existing pier yard will be utilized for the development of the new berth facility. PSC will not construct a new pier area as there is still space to accommodate the new berth.</p>	
Process/ Technology		<p>PSC considers the conventional use of conveyor, stacker, and reclaimers. The process from the unloading of raw materials to the yard will be supported mechanically by these equipment. To ensure that fugitive dust will be suppressed in the entire process, a fully-covered conveyor system will be installed.</p> <p>PSC will use a Distributed Control System (DCS) for monitoring and controlling weight in Weighers along the BC line. On the other hand, Programmable Logic Controller (PLC) will be utilized for sequential running of motors to drive conveyors.</p> <p>The stacker, reclaimers, unloader and shiploader will have its own in depended PLC system.</p> <p>The existing radar system of PSC will be utilized to monitor vessel movements not only the Main Berth but also the new berth.</p> <p>PSC maintains a Holding Station (Material Recovery Facility) used as temporary storage area for recyclable solid waste and a hazardous solid waste storage/disposal area. Hazardous wastes are temporarily stored for treatment by an EMB-accredited treater. Thus, the technical life of the temporary waste disposal facility, which is essentially for asbestos and mercury bulbs only, is approximately twenty-five (25) years.</p>	<p>PSC invests on technological advancement leading to constant efficiency of plant operation. The need to acknowledge and adopt an advanced technological system guarantees high quality output.</p> <p>Since the proposed expansion includes only the construction of a new additional berth, improvement of the exiting berth, and development of the ore yard facility, discharges of chemical wastes will be mainly generated from the motorpool during the construction and offices during the operations phase. These are mainly asbestos and mercury bulb. Furthermore. Thus, regular waste collection and treatment shall address its proper disposal.</p>
Supply of raw materials	<ul style="list-style-type: none"> <li>Source</li> </ul>	<p>The materials will be imported from Brazil, Canada, India, and Australia. PSC is still open to source from other countries such as the Ukraine. The Company is also searching for new source of raw materials but still with uncertainty.</p>	<p>These countries are long time source of raw materials for PSC and will continue to supply the Company as it provides the specifications required by the plant.</p> <p>PSC may consider future options</p>



Aspect	Standard Criteria	Options Considered	Assessment
			depending on the economy, quality of materials and other considerations. Due to the very specific requirements of PSC on the raw materials, careful selection must be done to ensure that the same good quality of ore will be produced.
Source of power	<ul style="list-style-type: none"> <li>• Availability</li> <li>• Total power requirement</li> <li>• Source</li> </ul>	PSC generates part of its power requirement mainly through its Sinter Heat Recovery Facility and supplemented by its diesel and dual-fuel generators. The remaining requirement is sourced from power utility company CEPALCO (Cagayan Electric Power and Light Company). For this expansion project, a total of 1,400 kW/day of power will be consumed during the operation. During the construction phase, about 1,594,000 kW of electricity will be utilized.	The existing local supplier is capable of supplying the required power of the new facilities using its current load. Issue on power interruption even at PSC's full operation is not seen to occur.
Water management system	<ul style="list-style-type: none"> <li>• Availability</li> <li>• Total water requirement</li> <li>• Source</li> </ul>	<p>PSC has three (3) functional deep wells within the plant. DW4 and DW6 are used for general plant operation while DW3 is only used during sintered ore loading operation.</p> <p>For this expansion project, the sources of water will only be Deep wells No. 4 and 6. The proposed project will entail a total of 17,220 m<sup>3</sup> of water per month enough to be utilized for general cleaning works, dust control, and equipment cooling.</p> <p>Currently, PSC has the following pollution control facilities:</p> <ul style="list-style-type: none"> <li>• Main gas handling equipment</li> <li>• Room dedusting equipment</li> <li>• 1 unit of Electrostatic Precipitator (39,000 m<sup>3</sup>/min) Lurgi Type</li> <li>• 1 unit of Electrostatic Precipitator (18,000 m<sup>3</sup>/min) Lurgi Type</li> <li>• Drainage System</li> <li>• Pavement under belt conveyor</li> <li>• Pavement around sinter area</li> <li>• Unloader water spray system</li> <li>• Belt conveyor cover, chute</li> <li>• Main blower silencer</li> <li>• Ignition fan silencer</li> <li>• Water circulating system</li> <li>• Waste Disposal Facility</li> <li>• Hazardous waste storage/disposal area</li> </ul> <p>To maximize and ensure that the proposed ore blending and new berth project will cause no significant impacts to the people and environment, a conveyor system shall be installed from the ore blending yard to the berth facility. The main conveyor system will be covered to prevent fugitive dust. PSC will allocate about PhP21.9M for</p>	Deep wells 4 and 6 will be able to provide the needed water of the additional facility from construction to operation phase. As minimal usage for general maintenance of the ground and equipment, including domestic use, the existing water source will be adequate. Moreover, issue on water competition may be one of the concerns that may be raised by the surrounding communities, which need to be addressed by PSC by ensuring that adequate supply of water will be available in the impact areas even at plant's full operation. Careful study on water availability including discharges must be implemented.

Aspect	Standard Criteria	Options Considered	Assessment
		the installation of belt covers to ensure further environmental protection.	
Manpower	<ul style="list-style-type: none"> <li>Method of hiring</li> <li>Available positions</li> </ul>	<p>During the operation period, the additional workers for the ore blending and new berth facilities will be hired directly by the Company while others will be engaged thru a manpower agency.</p> <p>There will be a total of 22,476 man-months for various workers consisting of mechanical, electrical and civil workers during the construction period. During the operations phase, additional positions such as administrative, maintenance, and engineering, among others. Will be opened to qualified individuals giving priority to local dwellers.</p>	One of the most pressing issues in any kind of development is the need for manpower and benefits of the local community from the project in terms of employment. Especially during the construction period, both skilled and non-skilled workers will be needed, PSC must ensure that local dwellers who are qualified to do the job will be properly screened and accepted to do the job. The use of a manpower agency as also considered by the Company must be a venue to guarantee that workers from other areas will be the least priority.

## 5.0 PROJECT COMPONENTS

### 5.1 Existing Sinter Manufacturing Process

The sintering operation (as being done by PSC) is the second step after mining, in iron-making process. Basically, the sintering operations involved the preparation of ore for the smelting process. The process involves the mixing of iron ore with coke breeze and limestone to produce sintered ore. The sinter facility was covered by ECC No. 9807-004-120, the Hydrated and Burnt Lime Kiln with ECC No. 01-01-028-120, the Sinter Cooler Waste Heat Recovery with ECC No. 10 (43)06-08 4262-41100, and ECC No. 9207-006-120A for the 5.5 MW stand-by generator set. In 2009, PSC was granted an amended ECC (ECC No. 0807-021-2711) incorporating all of the existing operations including the Iron Ore Pellet Facility. Considering global situation of the steel industry affecting JFE Steel production forecast, which is the major customer of PSC, the construction of the iron ore pellet facility was put on hold as consistently reported in the Compliance Monitoring Report (CMR) duly submitted to the EMB since 2017.

### Project Components

The current PSC operations have four (4) major components. These are discussed in the succeeding sections.

#### a. The Port

The PSC port measures some 355 m with a mooring depth of 25 m. It has two (2) berths. The main berth can accommodate up to 400,000 Dead Weight Ton (DWT) vessels and a smaller cargo berth with a net length of 230 m and 6 m mooring depth.

The main berth is used for the delivery of raw materials such as fine iron ore, limestone, dolomite, and carbon materials using bulk carriers ranging in size from 40,000 DWT to 400,000 DWT vessels (**Plates 1 and 2**). The smaller cargo berth is used for receiving delivery of industrial fuel oil using 1 M liter capacity tanker vessels.





Plate 1. Side view of the existing berth facility

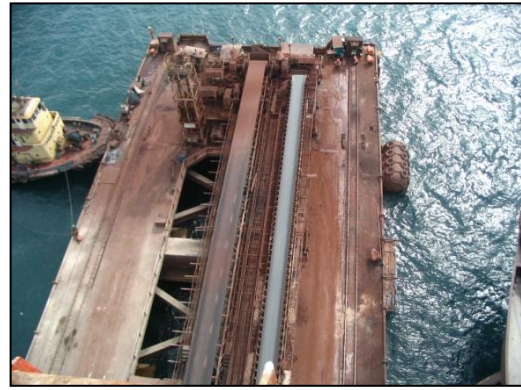


Plate 2. Another view of the existing berth facility

The following facilities are available on the port:

- Two (2) units of rail mounted bulk unloaders (1800 MTPH) with an automatic recovery conveyor
- A pump and pipeline system to convey industrial fuel oil from delivery vessels to the storage tanks.
- Rail mounted shiploader with movable trimming chute (6,000 MTPH).

Support systems include two (2) barges of 6,000 DWT capacity each. The tugging /pushing services are currently being sourced out from a contractor.

#### b. The Ore Yard

Material unloaded from the cargo ships are stockpiled in designated places at the ore yard (**Plates 3 and 4**).

- One (1) unit rail-mounted single wing 800 MTPH stacker
- One (1) unit rail mounted 1,800/3,600 MTPH stacker reclaimers
- One (1) unit rail mounted 1,800/6,000 MTPH stacker reclaimers
- Two (2) units 800 TPH Portable Stacker

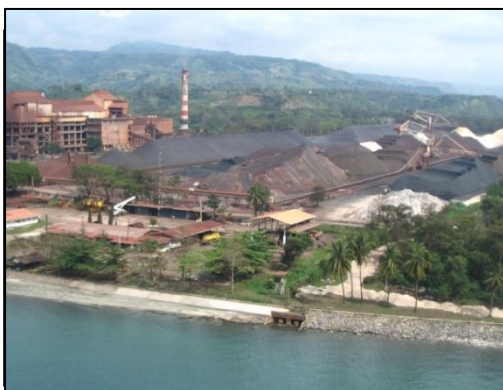


Plate 3. Far view of the ore stockyard



Plate 4. Closer view of the ore stockyard

Support systems include the following:

- Five (5) units bulldozers
- Four (4) mobile truck cranes

**c. The Burnt Lime Facility**

The PSC operations use different types of material including limonite ore. To improve the sinter machine productivity, burnt lime is used. Using Bunker C, limestone is heated to produce burnt lime and stored in a hopper. The major equipment present in the burnt lime facility are:

- Three (3) units Chisaki kiln;
- Eleven (11) sets of belt conveyor;
- One (1) unit burnt lime hopper;
- One (1) unit fine hopper;
- One (1) unit burnt lime crusher (cage mill type);
- Three (3) sets bucket elevator;
- Two (2) units vibrating feeder; and
- One (1) unit screw feeder.

**d. The Sintering Facility**

The raw materials such as iron ore, coke, and limestone are reclaimed and delivered by belt conveyors to the individual blending hoppers. The mixture is spread in a uniform bed thickness of about 56 to 65 cm on pallets and sintered. The product is then crushed into 150mm size lumps. The components of the sinter plant are:

- 17 units blending hopper: 15 units with  $>600\text{m}^3$  capacity as per design; one (1) unit with  $400\text{m}^3$  capacity; and one (1) with  $136\text{m}^3$  capacity
- One (1) unit  $136\text{m}^3$  capacity blending hopper;
- One (1) Dwight Lloyd type sinter machine with  $715\text{m}^2$  grate area;
- One (1) unit Rotary Drum Mixer with 1,600 tons per hour capacity;
- One (1) unit High Speed Mixer, EIRICH DW40 with 1,000 tons per hour capacity;
- One (1) unit circular type sinter cooler with  $457\text{m}^2$  bed area and  $15,000\text{m}^3/\text{min}$  capacity;
- Three (3) cooling fans each  $1,500\text{m}^3/\text{min}$  capacity; and
- Two (2) units double suction type main blower with  $20,000\text{m}^3/\text{min}$  capacity.

**The Manufacturing Process**

The whole sintering operation is composed of four (4) major steps. These are:

- Receiving of ores from bulk shipment;
- Stockpiling of ores at the yard;
- Feeding to the hoppers and sintering; and
- Stockpiling of final product for shipment.

Sintering consists of mixing fine iron ore with solid fuel and flux such as limestone and burning the mixture under controlled condition to produce hard but permeable lumps, which are ideal blast furnace feed. This mixture is spread evenly over a continuous train of pallets of the sintering machine in a uniform bed of thickness and then ignited with oil burners. The entire strand is under induced pressure provided by huge blowers. The blended materials are then subjected to high temperature indurations and agglomerated into big blocks of sintered ore. A crusher breaks these blocks into lumps below 150-mm size which are then cooled.

The sintered ore is brought to the cooler from the sinter machine at temperature approximately 650°C. At the sinter cooler, ore is cooled down to below 100°C by cooling air. Cooling air is heated when passed through the sintered ore layer and blown off to the atmosphere and hot gas at temperature from 400° to 450°C is extracted by the Sinter Heat Recovery Facility's Induced Draft Fan (IDF) to the Boiler for super-heated steam generation and consequently, power generation. The current production process is shown as **Figure 8 to 11**.

The final product is bought to the stockyard to await shipment. The sintered iron ore is used in iron and steel making process using blast furnace.

**Figure 12** presents the plant lay-out of PSC.



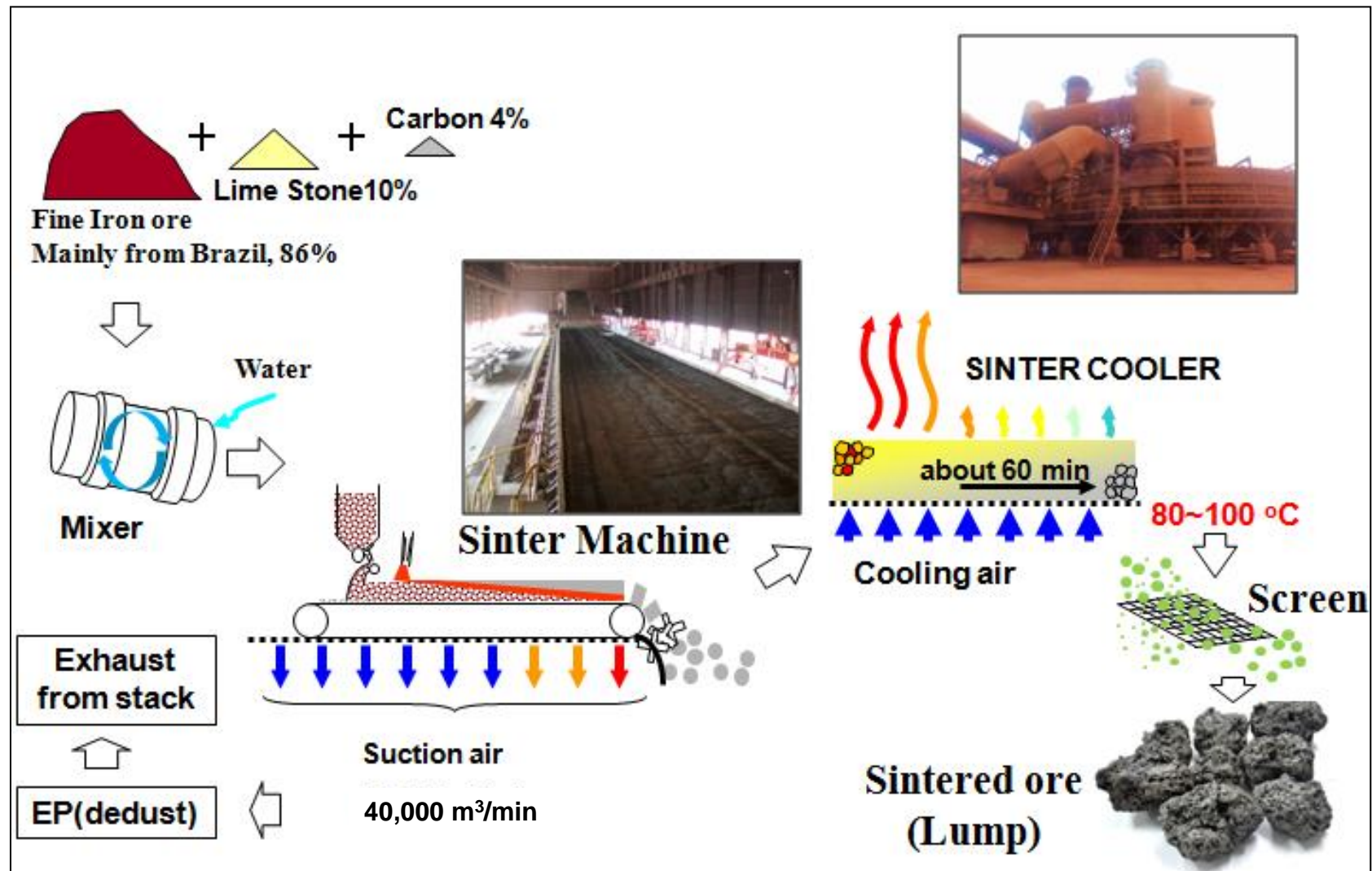


Figure 8. The PSC sintering process

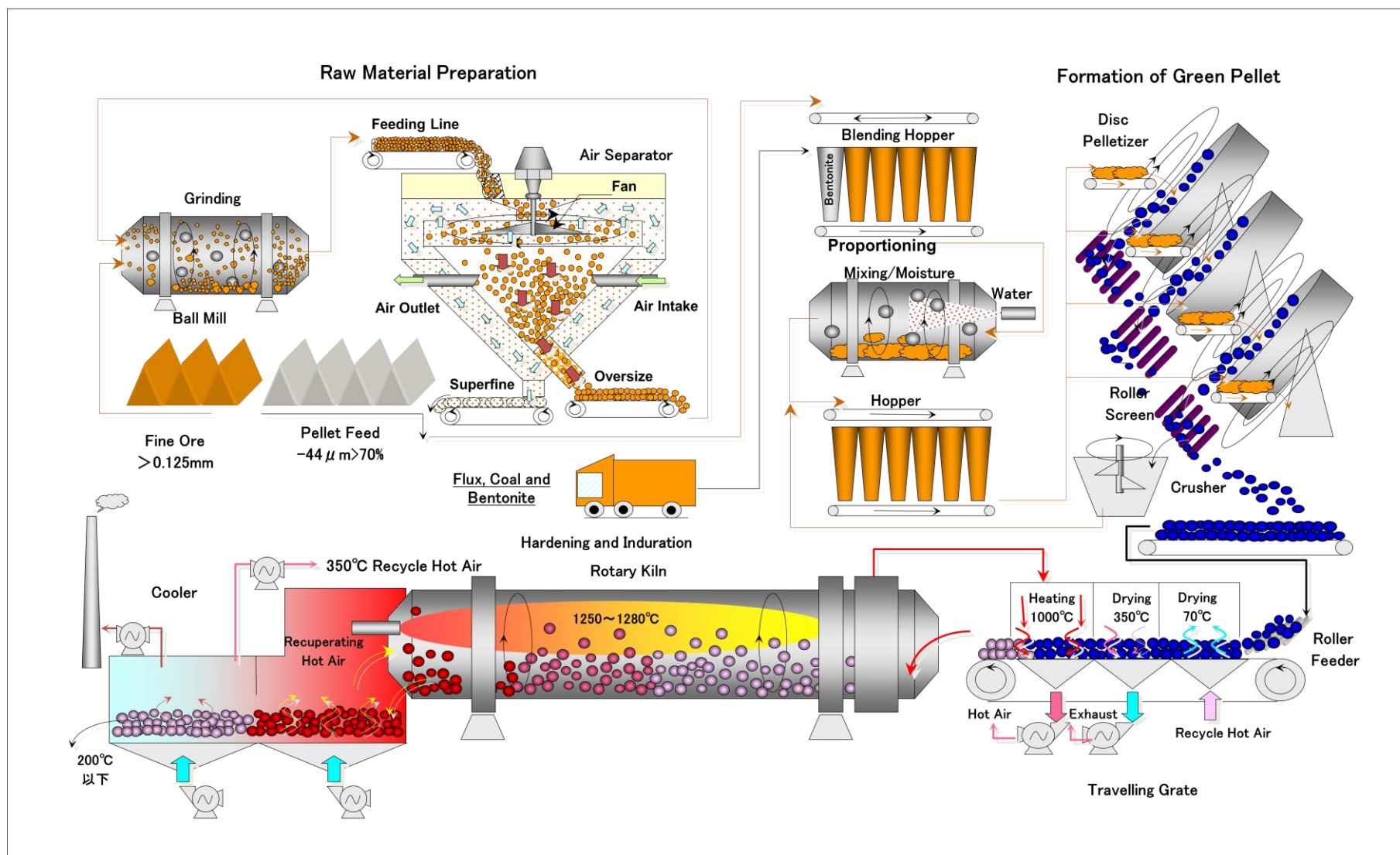


Figure 9. Grate kiln process flow diagram

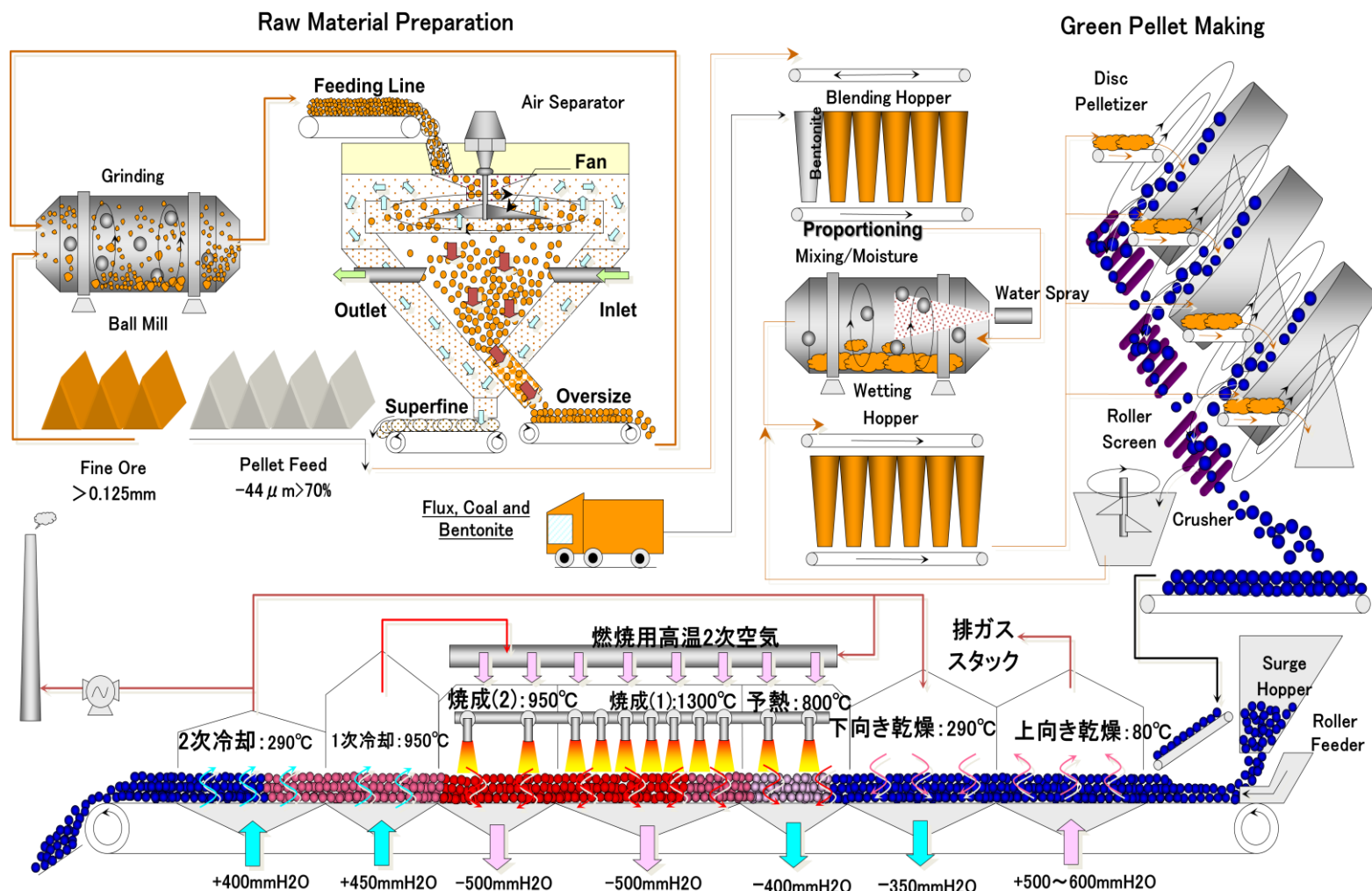




Figure 10. Downdraft Dwight Lloyd Sintering Process diagram

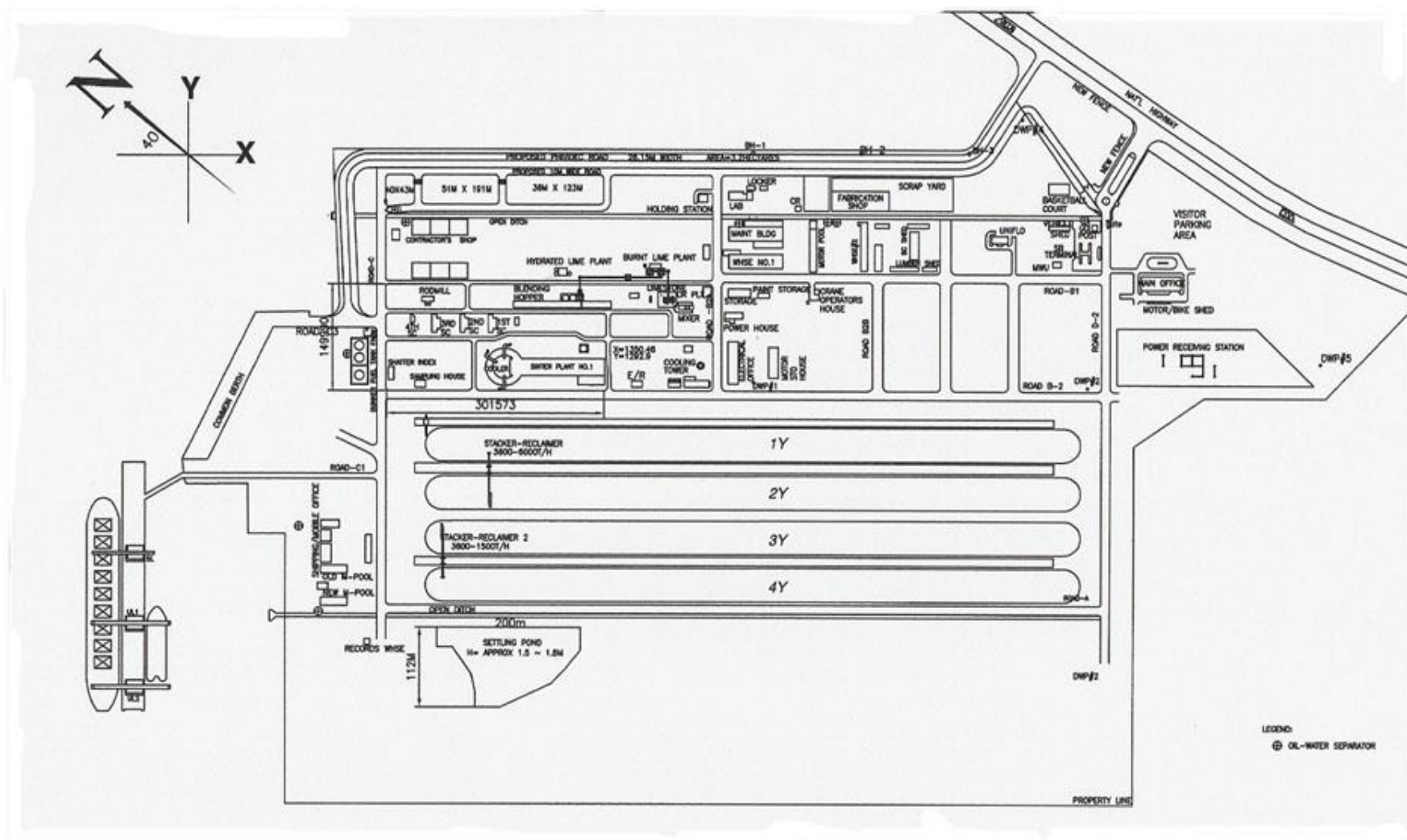


Figure 11. Plant lay-out of PSC

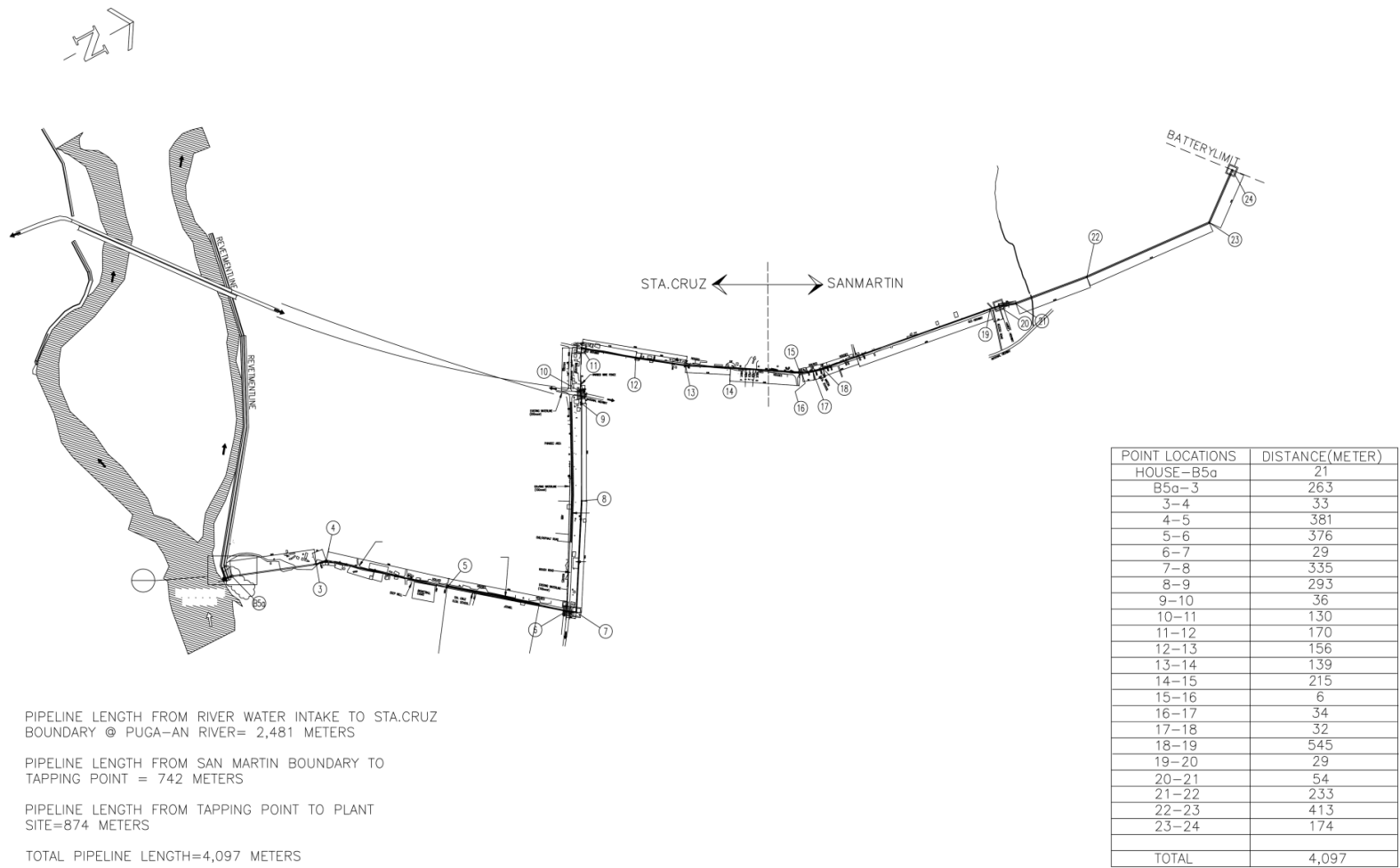


Figure 12. Water intake and pipeline systems

Green balls are feed to the roller feeder to the travelling grate for induration. The balls are dried and heated to increase their strength and conveyed to the kiln. Pellets are hardened by firing with temperatures up to 1380°C before discharged to the annular cooler and cooled to 120°C. After the pellets are cooled, these will be sampled and screened to remove the undersized balls.

### **Sinter Cooler Waste Heat Recovery Operations**

PSC embarked on the Sinter Cooler Waste Heat Recovery Project to maximize resource use by tapping of heat generated by the sintering operations to produce power. Improvement in the current technology and the implementation of the CDM mechanism of the Kyoto Protocol<sup>2</sup> allows PSC and JFE to tap this resource for power generation. This heat recovery project is covered by ECC No. 10 (43)06-08 4262-41100.

### **Project Components**

The power generation operations of the sintering plant have five (5) major components. These are:

#### **Heat Recovery Boiler (HRB)**

One (1) unit of a forced circulation type heat recovery boiler was installed. It has an evaporating ratio of approximately 85 ton/hr and generate steam pressure of 2.13 MpaG at temperatures 380°C. The system has been precisely designed using the airflow rates and temperatures and the contact time required to meet the steam evaporation rate and temperatures required at the steam turbine.

#### **Steam Turbine**

One (1) unit condensing type steam turbine with installed speed reduction gear. It has a rated output of 18,600 kW. It operates at a speed of 5,100 rpm, using steam at a pressure of 1.96 Mpa and temperature at 345°C (valve inlet). Exhaust steam vacuum is 700 mm Hg and steam flow at rated outlet is 84,700 kg/hr.

#### **Generator**

One (1) unit totally enclosed, air cooled, brushless synchronous generator was installed. It has a rated capacity (output) of 23,250 KVA (18,600 KW) and voltage of 11,000V with a frequency of 60 Hz and rotating speed of 1,800 rpm.

#### **Water Treatment Plant**

The water treatment plant produces demineralized water for use in the boiler. Initial feed water was estimated at 200 m<sup>3</sup> and make-up water of 5m<sup>3</sup>/hr. The facility utilizes ion exchanger for the demineralization process of water softening.

#### **Cooling Water System**

The primary cooling water circuit consists of a once-through seawater cooling system at a constant flow rate of 6,500 m<sup>3</sup>/hour (maximum). After passing through the condenser, the seawater goes to the discharge channel and is discharged back to the sea.

#### **Power Generation Process**

The Sinter Cooler Waste Heat Recovery Power Generation Project utilizes the waste heat carried by the sinter cooling gases, which were previously lost (by dissipation) to the atmosphere to generate electricity. The process involves the recovery of the hot air from the sinter cooler which are then passed through the Heat Recovery Boiler (HRB). At the HRB, pure water is turned into superheated

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<sup>2</sup> The KYOTO Protocol is the operational procedure of the United Nations Framework Convention on Climate Change (UNFCC) to help reduce the amount of greenhouse gases (GHG) in the atmosphere in order to arrest global warming.



steam by heat transfer from the hot air. Superheated steam is expanded at the turbine and thus, generating electrical power. Using the turbine which is connected to a generator, 18,600 KW of electricity is generated. The simplified diagram of the power generation process is presented in **Figure 13**.

**Table 3. Summary of the existing PSC facilities**

Facilities/Equipment	Number	Specifications/Remarks
<b>Port/Berth</b>		
Rail mounted bulk unloaders	2	1800 MTPH with an automatic recovery conveyor;
Pump and pipeline system		to convey industrial fuel oil from delivery vessels to the storage tanks
Rail mounted shiploader with movable trimming chute		6,000 MTPH
Berth	2	Main Berth (355 m); 400,000 DWT capacity Berth No. 2 (230 m)
<i>Support systems</i>		
Barges	2	6,000 DWT capacity each
<b>Ore Yard</b>		
Stacker	2	800 TPH portable stacker
Stack reclaimers	1	rail mounted 1,800/3,600 MTPH
<i>Support systems</i>	1	
Bulldozers	5	
Mobile trucks	4	
<b>Sintering</b>		
Blending hopper	14	600m <sup>3</sup> capacity each
Sinter machine	1	Dwight Lloyd type with 715m <sup>2</sup> grate area
Sinter Cooler	1	circular type with 457m <sup>2</sup> bed area and 15,000 m <sup>3</sup> /min capacity
main blower	2	double suction type with 20,000 m <sup>3</sup> /min capacity
<b>Burnt Lime</b>		
Chisaki kiln	3	
Belt conveyor	11 sets	
Burnt lime hopper	1	
fine hopper	1	
burnt lime crusher	1	cage mill type
bucket elevator	3 sets	
vibrating feeder	2	
screw feeder	1	
<b>Sinter Cooler Waste Heat Recovery Operations</b>		
Heat Recovery Boiler	1	Forced circulation type
Steam turbine	1	Condensing type; 18,600 kW rated output; 5,100 rpm speed; 1.96 Mpa pressure; 345°C temperature (valve inlet); 700 mm Hg exhaust steam vacuum at 84,700 kg/hr rated outlet
Generator	1	totally enclosed, air cooled, brushless synchronous generator was installed. It has a rated capacity (output) of 23,250 KVA (18,600 KW) and voltage of 11,000V with a frequency of 60 Hz and rotating speed of 1,800 rpm.
Water Treatment Plant	1	200 m <sup>3</sup> feedwater and 5m <sup>3</sup> /hr make-up water



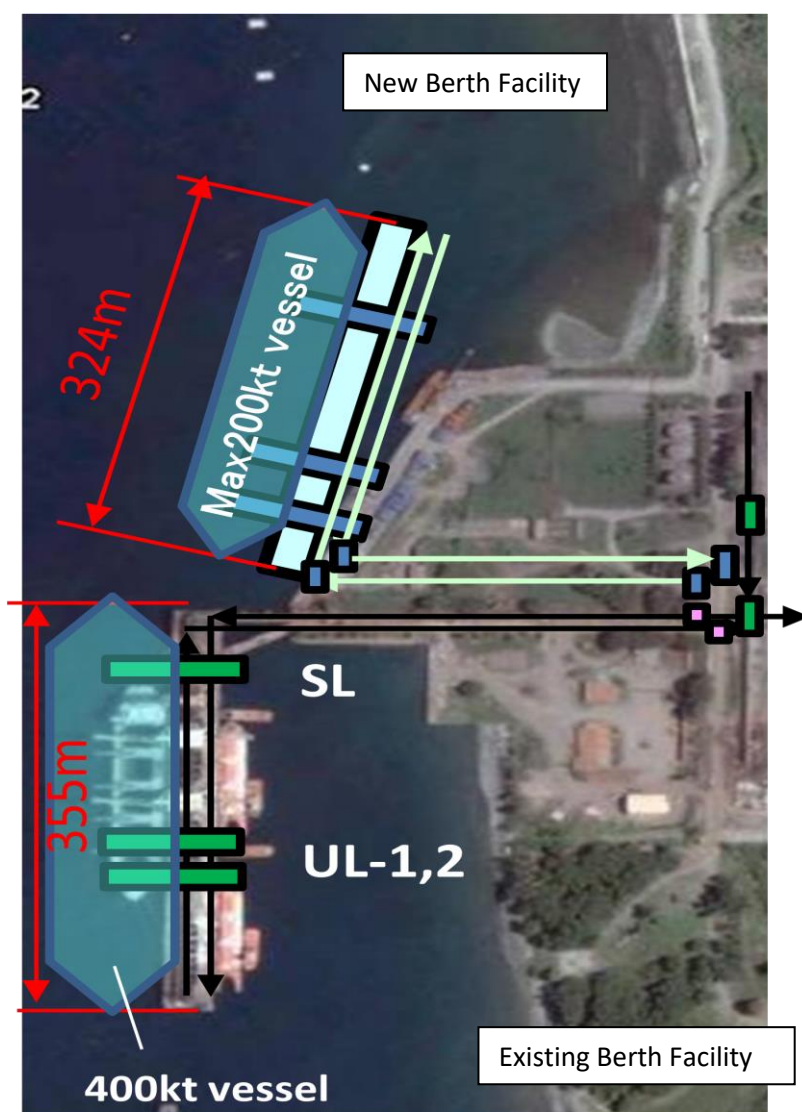
The proposed ore blending facility is expected to produce approximately 9MMTPY of blend ore. The facility will be composed of various components including the establishment of a new berth facility with a total length of 324m and with a maximum barge capacity of 200kT and loading volume of approximately 14.4 MMTPY. Likewise, four (4) new yards each with a total length of 900m and width of 55m will be developed; three (3) yards beside the existing yard facility and another one in the east side, between the settling pond extending towards the eastside boundary. Other components include three (3) new stack reclaimers with a total capacity of 3,600 T/H for stacking and 3,800 T/H for reclaiming, a blending stacker with a capacity of 3,800 T/H, two (2) blending reclaimers with each having a capacity of 2,600 T/H, and three (3) surge hopper each with a capacity of 80 m<sup>3</sup>.

Likewise, the existing 355m berth facility will also be developed and enhanced to increase the maximum capacity from 300kt to 400kt with a loading volume of 11.2MMTPY. Please see **Table 4** for the specifics. Among the improvements in the existing berth includes the enhancement of beam

above sea, fender renewal for 400kt barge), light weight grab bucket, increasing equipment availability, increasing, and installation of berth corridors) (**Figure 14**).

**Table 4. Specifications of berth**

Berth	Specifications				
	Length, <i>m</i>	Volume of Material, <i>Mt/Y</i>	UL, <i>T/H</i>	SL, <i>T/H</i>	BC, <i>T/H</i>
New	324	Unloading: 5.0 Loading: 14.4 (Sintered Ore + Blended Ore)	1,800 x 2 units	6,000 x 1 unit	UL: 1,800 x 2 units SL: 6,000 x 1 unit
Existing	355	Unloading: 11.2 (Raw Materials)	1,800 x 2 units	6,000 x 1 unit	6,000 x 1 unit  UL: 1,800 x 2 units SL: 6,000 x 1 unit



**Figure 14. Berth construction and enhancement**



### c. Power Requirements

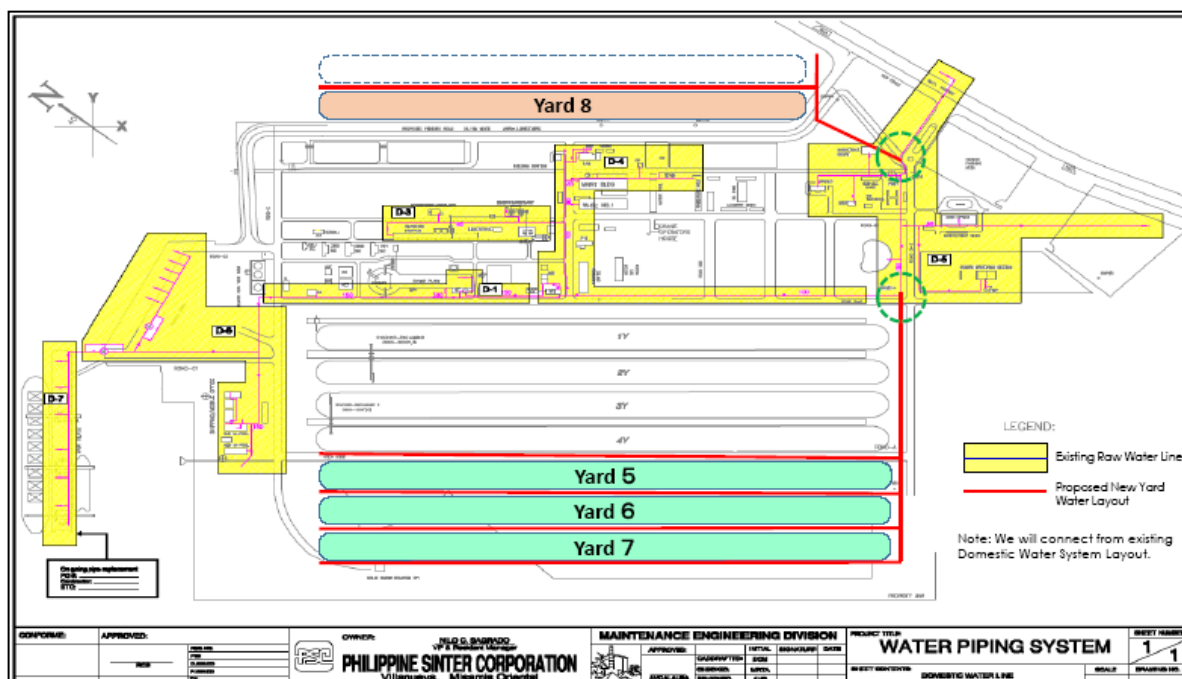
Approximately 1,594,000 kWh of power will be used during the construction phase. These include lighting at the site office, workshop, and warehouse, site lighting, welding, and power tool operations. **Table 5** summarizes the temporary facilities to be constructed, tools to be used during the construction phase and the corresponding power requirements.

**Table 5. Summary of power requirements during the construction period**

Temporary facilities or tools	Capacity, kW	Operating Time, h/day	Load Factor, (-)	Duration, day/mo	Duration, month	Power Consumption, kWh	
Mechanical							
Site Office/Workshop/ Warehouse	30.0	8	0.80	26	120	599,040	
Site lighting	1.0	4	1.00	26	705	73,320	
Welder	15.0	4	0.17	26	45	11,700	
Power tool	1.0	4	0.17	26	660	11,400	
Total	47.0					695,500	
Electrical							
Temporary facilities or tools	Quantity, (-)	Capacity, kW	Operating Time, h/day	Load Factor, (-)	Duration, day/mo	Duration, month	Power Consumption, kWh
Site Office/Workshop/ Warehouse	4	30.0	8	0.80	26	9.0	179,712
Site lighting	80	1.0	4	1.00	26	6.0	49,920
Welder	20	15.0	4	0.17	26	3.0	15,600
Power tool	40	1.0	4	0.17	26	3.0	2,080
Total		47.0					247,312
Civil works	Including activities at the new berth, common berth and civil works						650,000

### d. Water Requirements

During the operation phase, approximately 574 m<sup>3</sup>/day will be used for domestic, mechanical, and maintenance works. PSC shall facilitate proper flow of domestic water and discharge during the ore blending operation (**Figure 15**).



**Figure 15.** Waterline lay-out of domestic water during ore blending process

### e. Fuel Requirements

During the construction phase, the use of cranes (65T rough terrain, 120T crawler, and 200T crawler) will have a total consumption of 218.4 m<sup>3</sup> while the use of engine welder will consume about 7.8 m<sup>3</sup> during the entire construction period. An additional 2,120,000 liters will be used for civil works during the construction phase. During the operation period, fuel use will be limited to gasoline use for motorcycles of inspectors and diesel as fuel for maintenance vehicles, which are expected to be very minimal.

**Table 6. Fuel consumption during the construction phase**

Capacity	Fuel	Tank Capacity	Operating time (hrs/day)	Unit consumption (L/h)	Usage ratio/term	Working days per month	Usage per month (m <sup>3</sup> )
<b>Crane</b>							
65T rough terrain crane	Diesel	300	1	30	180	26	140.4
120T crawler crane		450		45	30	26	35.1
200T crawler crane		500		50	33	26	42.9
Remarks			Equivalent full load operation time (assumption)	10% tank capacity in case of full load (assumption)			
<b>Total</b>							<b>218.4</b>
<b>Engine Welder</b>							
5kW	Gasoline	15	8	1.67	0.5	26	7.8
Remarks				9 hours in case of 50% usage ratio			
<b>Total</b>							<b>7.8</b>
<b>Civil Works</b>							
<b>Total</b>							<b>2,120,000 L</b>

Since there will be no combustion process during the operation of the ore blending facility, fuel requirements is nil.

## 6.0 PROJECT SIZE

### 6.1 Comparison of the Existing and Proposed Project

Descriptor	Current Operation (ECC No. 0807-021-2711)		Proposed Expansion	
	Components	Area Allocated	Components	Area Allocated
Capacity	12 MMTPY		9 MMTPY	
Production Process	Downdraft Dwight Lloyd Sintering Process (Process flow in <i>Figure 3.3-1</i> )  Grate Kiln Method (Process flow in <i>Figure 3.2-1</i> and Process block diagram in <i>Figure 3.4-4</i> )		Use of ore blend reclaimer and stacker	
ECCs issued	<b>ECC Ref. Code 0807-021-2711</b> Expansion of the Iron Ore Sintering Facility and Consolidation of ECC of the Existing Operations of the Philippine Sinter Corporation Plant			
Utilities Requirement	<b>Water</b> – 1,637m <sup>3</sup> /day		<b>Water</b> - 574 m <sup>3</sup> /day	

Descriptor	Current Operation (ECC No. 0807-021-2711)		Proposed Expansion	
	Components	Area Allocated	Components	Area Allocated
	<b>Electricity:</b> For Sintering CEPALCO – 24MW (less generation of SSHR & Generators (usually >10MW) Self generated – Design: 18.6 Actual: 13 MW (max)  Sintering – 21.5 MW Power plant – 3 MW  For Iron Ore Pellet 23.2 MWH (additional)		<b>Electricity:</b> New Berth – 270,000 kWh New Common Berth – 160,000 kWh New Yard – 220,000 kWh	
Project Components	Port/Berth <ul style="list-style-type: none"> <li>2 rail mounted bulk unloaders (1800 MTPH with an automatic recovery conveyor)</li> <li>Pump and pipeline system</li> <li>Rail mounted shiploaded with movable trimming chute</li> <li>Main berth (355m with 400,000 DWT capacity)</li> <li>Berth No. 2 (230 m)</li> </ul>	11,005.00 m <sup>2</sup>	<ul style="list-style-type: none"> <li>Four (4) yards (900m x 55m)</li> <li>Surge hoppers</li> <li>New berth (324m x 31m)</li> <li>Conveyors (8,711 total length)</li> </ul>	198,000 m <sup>2</sup>  2,000 m <sup>2</sup>  10,044 m <sup>2</sup>  13,868 m <sup>2</sup>
	Ore yard (including conveyors) <ul style="list-style-type: none"> <li>2 stacker (800 TPH potable)</li> <li>1 rail mounted stack reclaimer (1,800/3,600 MTPH)</li> </ul>	265,264.20 m <sup>2</sup>		
	Sintering Equipment and facilities <ul style="list-style-type: none"> <li>14 blending hopper (600 m<sup>3</sup> capacity)</li> <li>1 Dwight Lloyd type sinter machine (715 m<sup>2</sup> grate area)</li> <li>1 circular type sinter cooler with 457 m<sup>2</sup> bed area and 15,000 m<sup>3</sup>/min capacity</li> <li>2 mainblower with double suction type with 20,000 m<sup>3</sup>/min capacity</li> </ul>	133,445.75		
	Burnt Lime Facility <ul style="list-style-type: none"> <li>3 Chisaki kiln</li> <li>11 sets of belt conveyor</li> <li>1 burnt lime hopper</li> <li>1 cage mill type burnt lime crusher</li> <li>3 sets bucket elevator</li> <li>2 vibrating feeder</li> <li>1 screw feeder</li> </ul>	442.00 m <sup>2</sup>		
	Project Components	Sinter Cooler Waste Heat	1,174.60 m <sup>2</sup>	



Descriptor	Current Operation (ECC No. 0807-021-2711)		Proposed Expansion	
	Components	Area Allocated	Components	Area Allocated
	Recovery <ul style="list-style-type: none"> <li>1 forced circulation type heat recovery boiler</li> <li>1 condensing type steam turbine (18,600 kW rated output; 5,100 rpm speed; 1.96 Mpa pressure; 345°Ctemperature (valve inlet); 700 mm Hg exhaust steam vacuum at 84,700 kg/hr rated outlet)</li> <li>1 totally enclosed generator (air cooled, brushless synchronous generator was installed. It has a rated capacity (output) of 23,250 KVA (18,600 KW) and voltage of 11,000V with a frequency of 60 Hz and rotating speed of 1,800 rpm)</li> <li>1 water treatment plant (200 m<sup>3</sup> feedwater and 5m<sup>3</sup>/hr make-up water)</li> </ul>			
	Iron Ore Pelletizing Facility(enhanced port, ore yard, sintering facility of 12 MTPY)	Yard: 22 ha Jetty: 100 m long Plant: 10.965 ha		
	Administration Building, Gate and Garage/Terminal	5,971.70 m <sup>2</sup>		
	Recreational (park and courts)	13,905.01 m <sup>2</sup>		
	Uniflow kitchen	235.00 m <sup>2</sup>		
	Laboratory	1,178.50 m <sup>2</sup>		
	Warehouse	9,511.30 m <sup>2</sup>		
	Maintenance Building and Shops	4,649.90 m <sup>2</sup>		
	Waste Holding Station	164.00 m <sup>2</sup>		
	Electrical facilities	19,052.26 m <sup>2</sup>		
	Hydrated lime plant	125.00 m <sup>2</sup>		
	Material Handling Offices/Customs	1,729.92 m <sup>2</sup>		
	Cargo Berth Area and Storage Facilities	16,595.70 m <sup>2</sup>		
	Roads	67,537.00 m <sup>2</sup>		
	Settling ponds (total area including walkway)	66,387.23 m <sup>2</sup>		
	Others(fabrication areas/scrap yards)	30,631.00 m <sup>2</sup>		
	<b>Fuel (monthly) for Sintering</b> 806,245.22 liters Bunker C 147,964.58 liters Diesel		<b>Fuel during construction:</b> New Berth – 520,000 L Existing Berth Facility – 720,000 L	

Descriptor	Current Operation (ECC No. 0807-021-2711)		Proposed Expansion	
	Components	Area Allocated	Components	Area Allocated
Raw Materials/Inputs	3,617.58 liters Gasoline  <b>Fuel (monthly) for Iron Ore Pellet</b> Soft (Bituminous) coal: 14.1 kg Heavy oil: 3.8 kg Diesel: 4.7 kg [note: GK method is chosen due to its energy efficiency. It's estimated that the heat requirement for the GK method will be as low as 292 Mcal/tp as compared to current level of 493 Mcal/tp]  <b>Raw Materials for Sintering (per ton sintered ore) :</b> 1,029 kg of main iron blend including dolomite 112 kg of limestone; 67.3 kg of carbon source; and 0.76 L of fuel oil/ton SO  Typical blend of iron ore: 65% Rio Doce 28% Carajas 7% Dolomite  <b>Raw Materials for Iron Ore Pellet (per ton sintered ore):</b> 957.5 kg of iron 7.5 kg of bentonite 45.8 kg of limestone; 12 kg of dolomite 16.5 kg of Anthracite Coal [note: in addition to the fine ore that can be processed using the current facility/process, the proposed expansion will also be able to process <i>super fine ores</i> ]		New Yard – 880,000 L	
Manpower Requirement	200 – permanent 640 – contractual		Please provide during operations phase (additional from the existing) Permanent – 24 Contractual – 30	
Discharges/Emissions	<b>Raw material handling</b> – Suspended particulates <b>Windbox</b> – iron oxides, sulfur oxides, carbonaceous compounds, aliphatic hydrocarbons, and chlorides <b>Sinter Plant</b> – Suspended particulates, CO, NO <sub>x</sub> , SO <sub>x</sub> and heat, Petroleum products container and contaminated materials <b>Limekiln Operations</b> – Heat, suspended particulates and noise, Petroleum products container and contaminated materials <b>Power generation</b> – Thermal water, sludge from demineralization, Petroleum products container and contaminated materials <b>Administration office</b> – Papers, packaging, office wastes <b>Laboratory</b> – Spent acids, organic and inorganic washings and spills <b>Canteen</b> – Food wastes, packaging materials, contaminated water from oil and grease <b>Motorpool</b> – Petroleum products container and contaminated materials, spent acids, battery			

## Water Balance

The sinter plant's daily requirement for freshwater will increase from 2,600 m<sup>3</sup> to 3,174m<sup>3</sup>. Deepwell No. 4 and 6 will be the source of freshwater supply for the proposed expansion project. From the 3,696m<sup>3</sup> available freshwater supply for the sinter plant, PSC still has 522m<sup>3</sup> available freshwater reserved for the planned new berth. Freshwater supply from Deepwell No. 3 will be used for SO loading and emergency needs of the sinter plant operation. **Figure 16** presents the water balance diagram.



## PSC Water Balance after PSC blend (New berth plan)

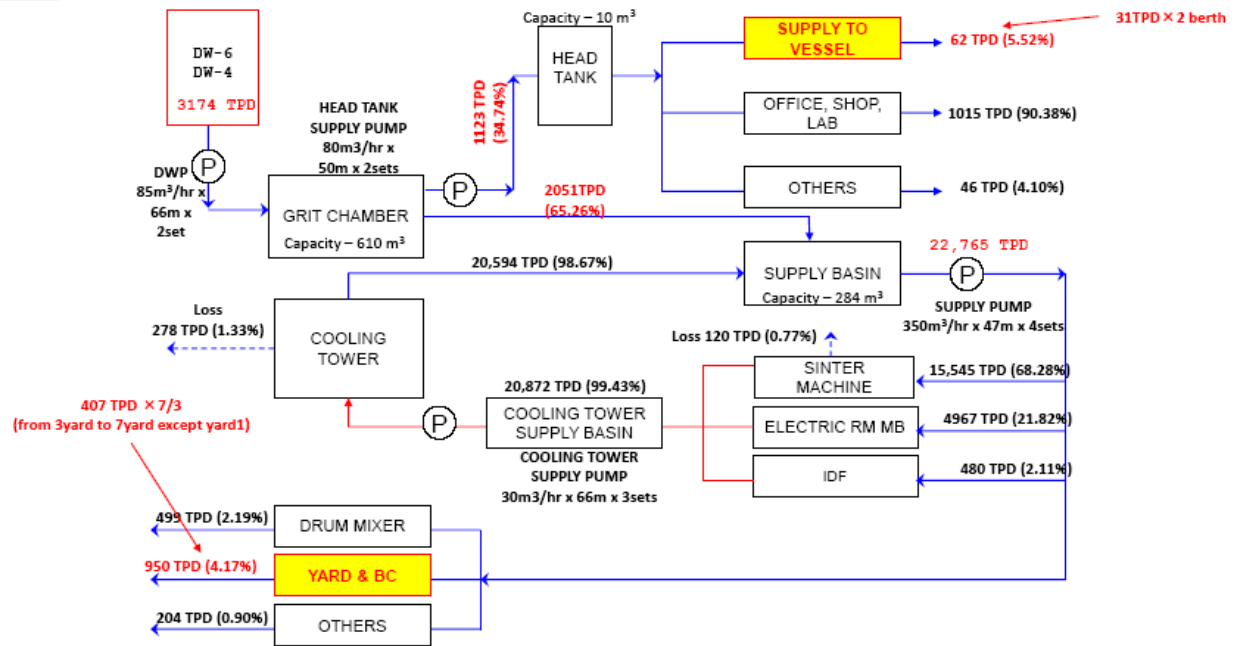


Figure 16. Water balance of the proposed new berth facility

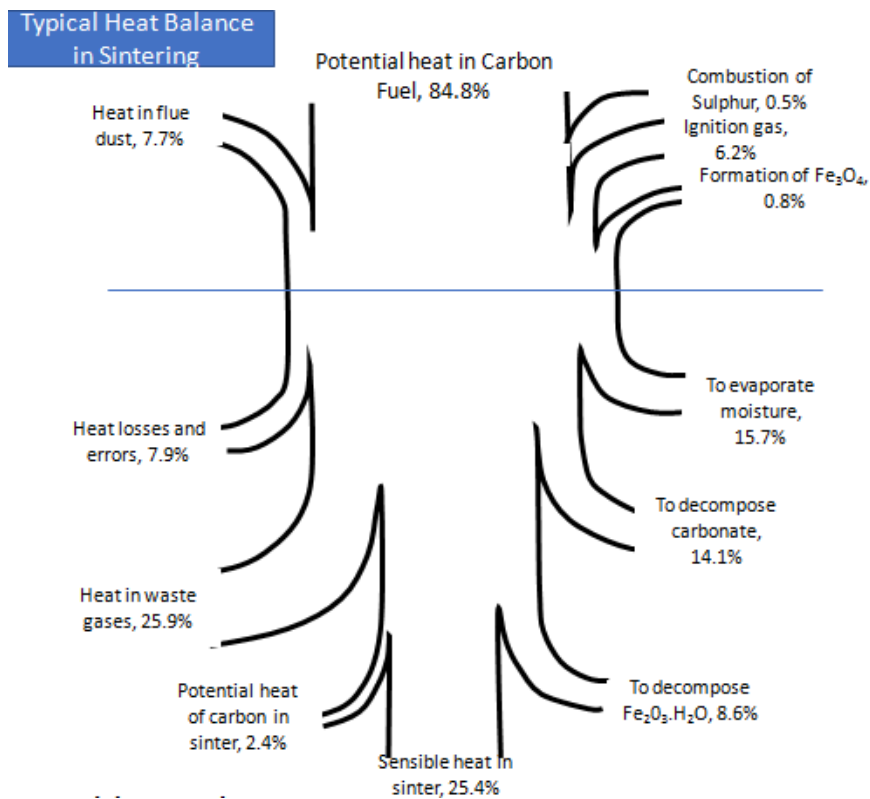


Figure 17. Typical heat balance in sintering (Heat Balance)<sup>3</sup>

<sup>3</sup> Source: Sintering Technology Handbook



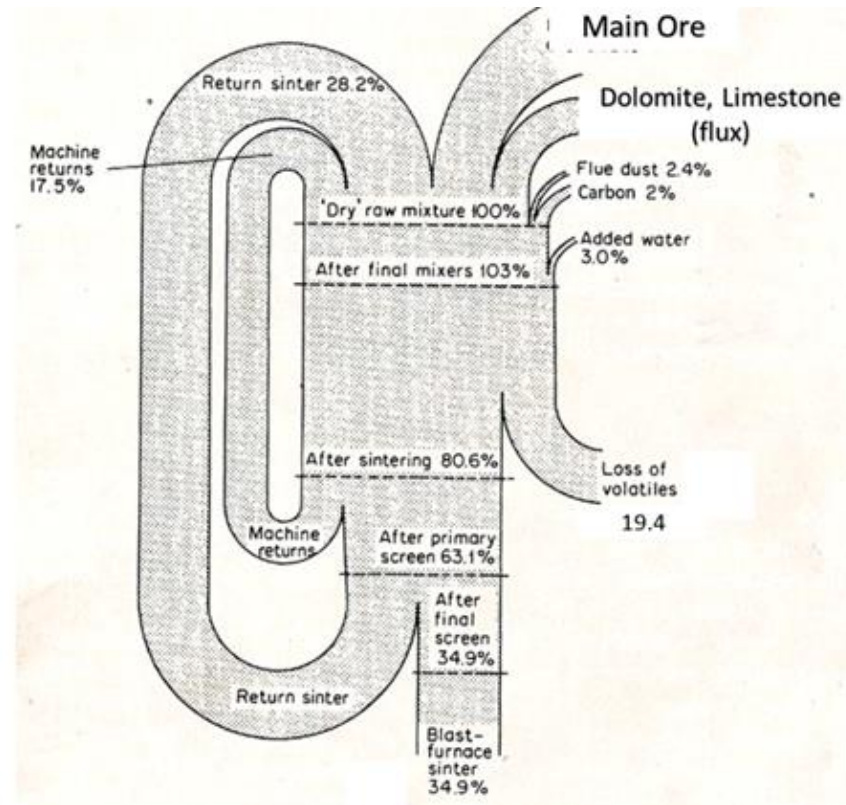


Figure 18. Typical material balance in sintering<sup>3</sup>

## Quality of Raw Material

### Material Balance

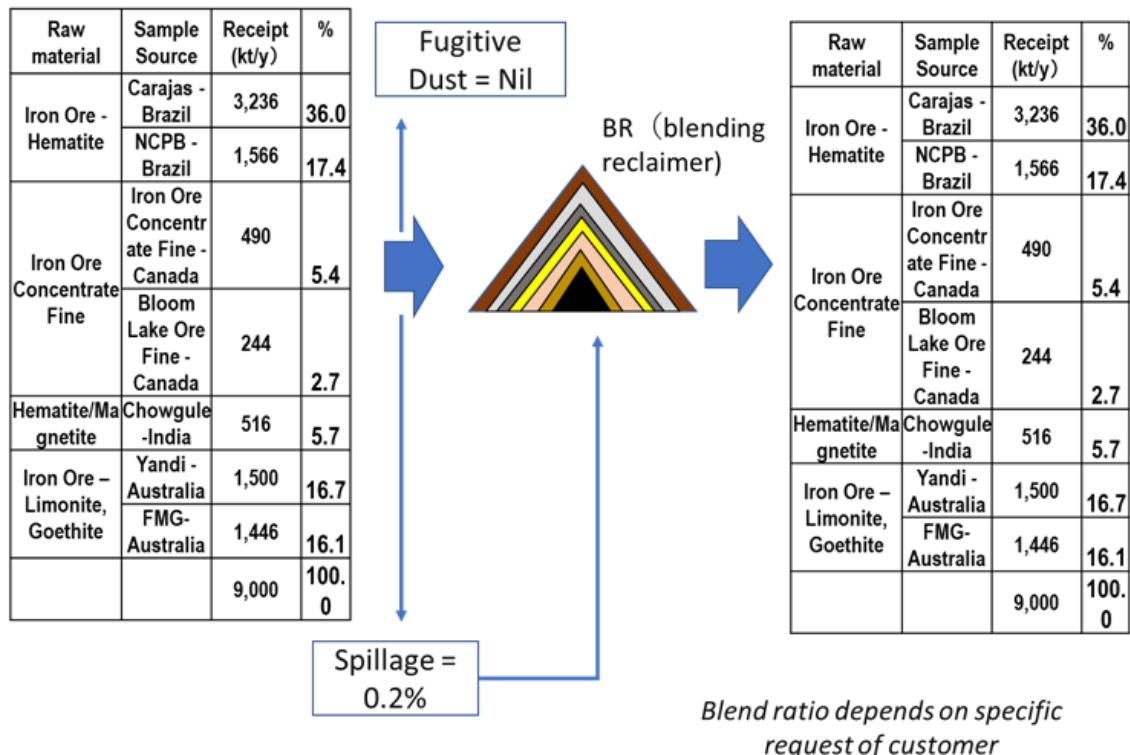


Figure 19. Material balance of raw material

## 7.0 DESCRIPTION OF PROJECT PHASES

### 7.1 Pre-Construction Phase

During the pre-construction period, among the significant activities include site surveying preliminary project area assessment. This is followed by the preparation of the Environmental Performance Report and Management Plan (EPRMP) for the ECC application. The EPRMP includes the assessment and documentation of performance of the PSC operations through time and the potential impacts and necessary mitigation and enhancement measures of the proposed expansion project.

### 7.2 Construction Phase

The construction phase involves various activities including site clearing and preparation, backfilling and applicable civil works, equipment installation, and testing and pre-commissioning. PSC shall abide by the standards and regulations pertaining to safety and quality of construction works to ensure structural integrity of the proposed expansion project.

#### **Clearing and Site Preparation**

The proposed site area will be cleared and leveled according to the technical specifications. Minimal excavation, filling, compaction, and backfilling shall be done if necessary. A thorough geotechnical investigation will also be done on-site to ensure geotechnical stability of the ground where the foundation structures for the proposed new berth facility and conveyor system will be laid-out. Safety signages will be set-up in strategic locations to ensure safety of workers.

#### **Backfilling and Foundation Establishment**

##### **Conveyor Systems**

For the construction of the conveyor system foundation, backfilling and sloping will be done to attain the desired grade. Excavation for isolated footing foundation will be established along the strategic areas based on the technical plans. Reinforcing bars for the foundation will be installed to reinforce the concrete. Foundations, once erected, will be left for some time for concrete curing. The construction of the conveyor belt system is expected to be completed within approximately 22 months.

##### **New Berth Facility**

It is estimated that the construction of the new berth facility will be finished within 27 months while the enhancement of the common berth facility is expected to be accomplished within 23 months.

Activities such as soil boring, hydrogeographic survey, dredging, pile driving, concrete works, and rail, anode and fender installation are the major works during the construction of the new berth facility.

##### **Stackers and Reclaimers**

Among the civil work activities that will be involved in the development of the yard facility include works for conveyor foundation, retaining wall, drainage system, ballast for yard equipment, trench for electrical cable, electrical room, foundation of hopper, and transformer.

#### **General Civil Works**

The overall construction works for the project is expected to be completed within 27 months.

Civil works is divided into two (2) phases: earthworks and main civil works. During the earthworks, the following activities shall be employed:

- Construction of staging areas and temporary facilities for the labor force;
- Installation of provisional site utilities such as water, electricity, illumination, and waste disposal;
- Site drainage construction;
- Mobilization of major construction equipment and tools (e.g., bulldozers, cranes, dump trucks, vehicles) and manpower levels to accomplish the sequence of establishment activity;
- Establish main site logistics and transport requirements; and
- Delivery of construction materials and supplies that will be used.

During the main civil works, the following activities will be done:

- Excavation of the main foundation areas (conveyor system, silos and bulk loading facility) for consolidation;
- Forming and pouring of the foundations for equipment and construction of other major components;
- Civil works; and
- Finishing works.

### **Equipment Installation**

After the main civil works, the installation of stackers, reclaimers, and conveyor system, will be done. Drive motors of the conveyor system will be installed at the loading and transfer points together with the rollers and cleaners along the conveyor belt. Self-alignment rollers and safety equipment are included in the system that will ensure continuous delivery of cement from unloading facility to the cement silos.

At the berth facility, iron cast for mooring and side rubber stoppers for vessels/barge protection will also be installed.

### **Testing and Pre-Commissioning**

The Pre-start up and test operation (commissioning) are expected to begin by October 2024. These activities will primarily involve the inspection and pre-operational check-up of all major equipment/components including control logic. Many of these pre-operational checks are conducted in parallel with other construction activities. Generally, pre-operational activities are expected to be completed also the by October 2024 when installation of all equipment is also completed. Furthermore, these activities must be accompanied by completion of other related activities, such as proponent's operating staff on site for training.

### **Construction Schedule**

The Gantt Chart for the entire construction phase is depicted as **Figure 20**.



### 7.3 Operation Phase

It will take about three (3) months for PSC to perform the commissioning phase once all the components are in place. The testing of the entire expansion project will be done within x months. The proposed project is expected to commence its commercial operation after 33 months construction and commissioning period.

Iron ore will be unloaded from ore vessels in the Either Old and New Berth and will be conveyed in yards five ~ eight. From these four raw material yard , we will reclaim the ores using Stacker Reclaimers for feeding to surge hopper . By feeding the material to the hoppers, fixed amount of each material will be discharged constantly.

In the blending yard, raw material on will be stacked in multiple layer. There will be two piles: One is the Blending Pile while the other one is the Reclaiming Pile where blended ore is reclaimed for shipment. As soon as all the materials in the Reclaiming Pile is reclaimed, it now converts into a Blending Pile. A 200kt-capacity vessel will be used for loading & unloading.

Moreover, the proposed project will have shutdown period of about 50 days (at 0.95 utilization ratio) annually including 45-day preventive maintenance servicing (PMS) to ensure efficient and reliable operation of the equipment. In order to uphold a dependable and efficient operation, the equipment will have a customary preventive safeguarding program based on the running hours to prevent any catastrophic damages.

Environmental safety mechanisms will be installed in strategic areas within the project site. To prevent fugitive dust emissions, the following will be implemented:

- Water spray system will be installed in unloading lines to spray water directly to material in case the unloaded material is very dry;
- Conveying lines will be covered with arc roofing with a total length of 4.136 km;
- Green belt zone planted with fast growing native species and bamboo will be maintained along the PSC perimeter;
- Regular water spraying by water truck will be conducted especially during dry season; and
- Drain water during heavy rain will be catered by the existing settling pond to reduce suspended solids in the water and should be within the acceptable standard prior to discharging to the effluent channel.

**Figure 21** is the process flow diagram of the ore blend project.

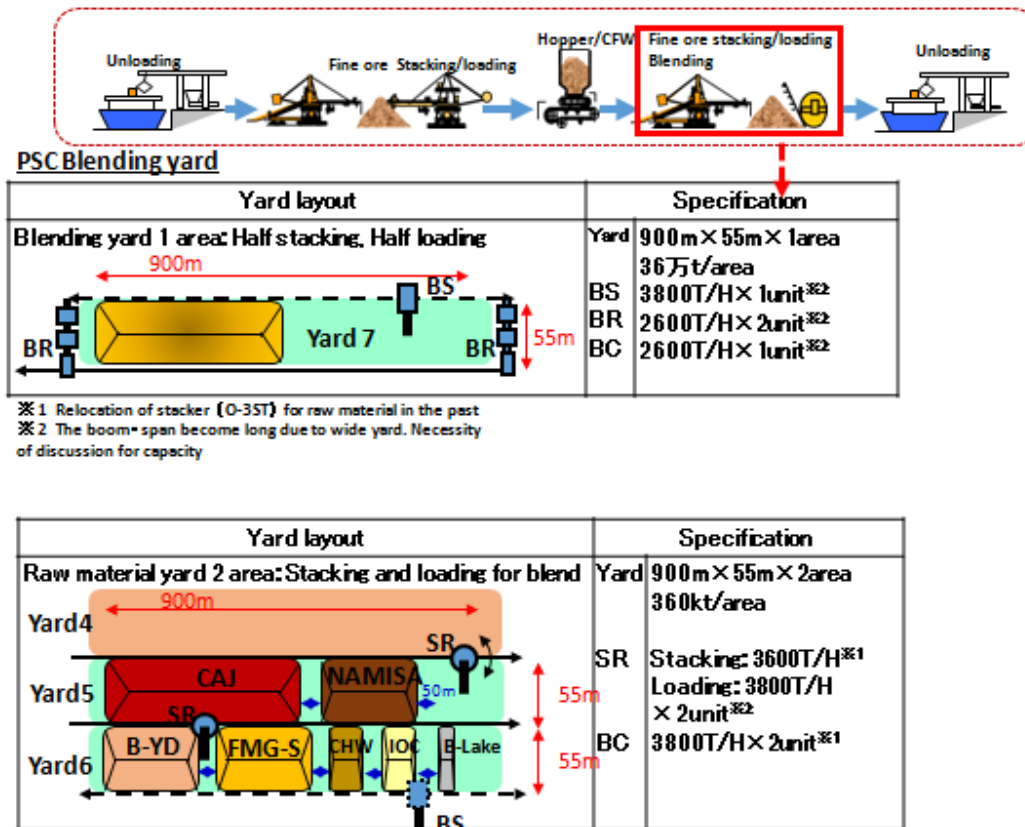
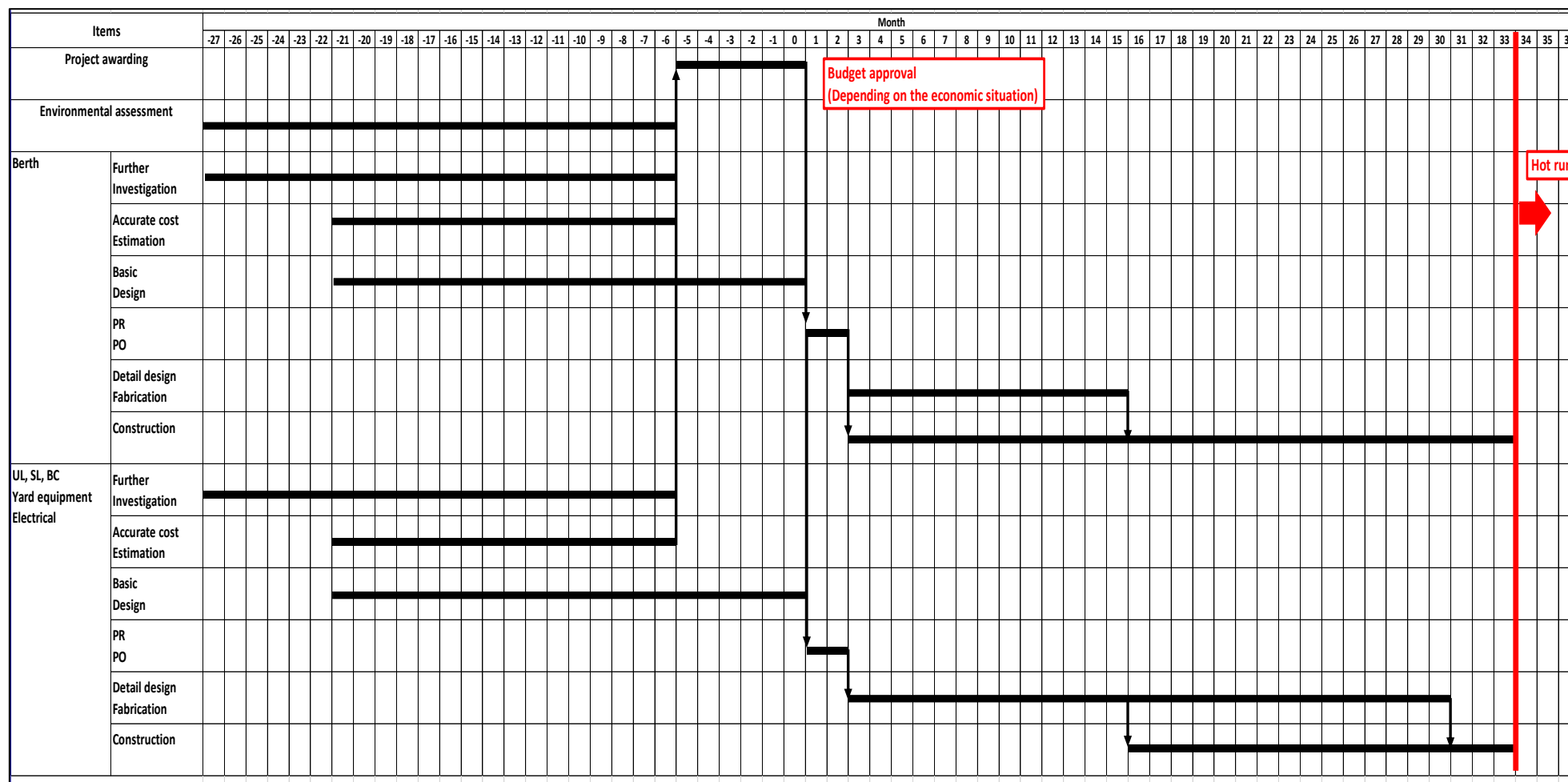


Figure 21. Process flow diagram of the proposed Ore Blending Operation



## 7.1 Abandonment Phase

The existing operation of PSC has an estimated commercial life of 50 years. Before the projected end of commercial period, the performance of PSC will be re-evaluated in consideration with the economic status. All business aspects including market aspects and business settings will be assessed accordingly. In case of a need for decommissioning, PSC will prepare an abandonment plan in accordance with applicable statutory and regulatory requirements.

## 8.0 MANPOWER REQUIREMENT

Majority of the workers will be unskilled workers during the initial phase of construction involving site preparation, earth works, and civil construction. The estimated manpower requirement during the development of the PSC Expansion Project will have a total estimated man-months of 22,476. Please refer to **Table 7**.

**Table 7. Manpower requirements for the development of the proposed Ore Blend and New Berth Facility**

Manpower Requirement	Total man-months	Scope of Work
Mechanical	10,056	Crane Operation (200t, 120t, 60t), Welders, Power Tool Operators, Site Light operators, Office staff & Support and general maintenance & fabrication workers)
Electrical	3,220	General Electricians, Aircon-Technicians, assistants in installation of programmable logic/automation controls, Cable Lay-outing, etc
Civil Works	9,200	(Dredging Work, Pile Driving Work, Pile Fabrication Work, Earth Works, Concrete Work,
<b>Total</b>	<b>22,476</b>	

During the operation phase, it is projected that the manpower requirement of the proposed project is 24 staff and laborers. **Table 8** shows the tabulated manpower requirement of the project.

**Table 8. Manpower requirements for the operation of the proposed Ore Blend and New Berth Facility**

Manpower Requirement	Total
Berth operations (engineering, maintenance)	6
Ore blend facility (engineering, maintenance)	16
Administration	2
<b>Total</b>	<b>24</b>

## 9.0 PROJECT INVESTMENT COST

The projected capital expenses needed for the development of the proposed Ore Blend and New Berth Facility of PSC including mechanical, electrical, and civil works is approximately Twenty-Three Billion Pesos (PhP 23 Billion).



**ATTACHMENT 2**

Proof of Conduct of IEC including the presentation materials



**PHILIPPINE SINTER CORPORATION**  
Phividerc Industrial Estate  
Villanueva, Misamis Oriental  
Tel (08822) 740-182, 740-156, 890-1111-14 Fax 740-255



January 28, 2021

HON. JENNIE ROSALIE T. UY - MENDEZ  
**Municipal Mayor, Villanueva,  
Province of Misamis Oriental**

**Subject: Formal information for PSC's ORE BLENDING Feasibility Study & ECC Application**

Honorable Mayor Uy-Mendez:

Greetings.

Philippine Sinter Corporation is currently conducting a Feasibility Study of establishing an Ore Blending Facility inside its plant. Ore Blending process is but mixing of imported iron ores inside PSC and importing the mixed ores to its parent company, JFE Steel, in Japan. The project would involve the construction of additional yards and a 324-m berth to accommodate the additional shipments of ores and blended ore.


While the Feasibility Study is on-going, JFE has decided to simultaneously apply for an **Environmental Compliance Certificate (ECC)**. In relation to this, an Environmental Impact Assessment (EIA) is required by the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR). The EIA includes the conduct of an Information, Education, and Communication program (IEC) as a requirement for a Public Scoping Meeting later.

Because of the pandemic however, the DENR and our preparer, Gaia South Inc., have recommended the distribution of leaflets outlining the basic details of the project as the best option for an IEC. As such, we are providing you thirty (30) copies of such leaflets for distribution while the impact barangays Brgy Katipunan, San Martin and Poblacion 1, as well as the Sangguniang Bayan Office, RHU/Heath Center and the Municipal Planning & Health Office will be given copies for distribution as well.

We will highly appreciate your support to this endeavor. We will communicate you again as soon as DENR will give us the go signal for the Public Scoping.

Respectfully yours,



  
**NILO E. SAGRADO**

VP & Resident Mgr. – Sinter Plant

A series of IEC activities was conducted by Philippine Sinter Corporation (PSC) on the following dates:

- 8 January 2021, during the President New Year's Message at the PSC Auditorium participated by the 30 site employees and 10 Makati office employees
- 28 January 2021, participated by the PSC Management and Multi-Partite Monitoring Team (MMT) Members
- 29 January 2021, official visit and discussion with the Barangay Captains of the impact barangays and brochure distribution

A courtesy visit to all direct-affected barangays with informal discussion with Barangay Captains on topics related to the project was also conducted. PSC also distributed brochures about the proposed Ore Blend Project to the Barangay offices and the LGU of Villanueva.







Office of the Municipal Mayor of Villanueva



Office of the Municipal Planning and Development of Villanueva



Office of the Sangguniang Bayan



Office of the Rural Health Unit



### Summary of Issues and Concern during the IEC

Designation	Concern Area	Specific Concern	PSC Response
Punong Barangay - Katipunan	Employment	<p>We have no objection to this project. This will help in the employment in Villanueva. However, many of our constituents ask the question why PSC no longer hire many from the locality. Unlike before, even coconut farmers and elementary-level applicants were hired by PSC. In fact before, I was invited to apply but I was already employed by Del Monte that time and it was safer not to give up my regular status employment. Before, PSC prioritized hiring of those people who were relocated because of the project. That is no longer the case now. Also, there are already many skilled manpower whom PSC can hire. I can understand that. There are many graduates of technical and engineering courses in Villanueva who took the PSC employment exams. However, many were not called for an interview. PSC should not only base hiring on scores because they will be trained once hired by the company. PSC should give priority to Villanueva residents even if they are not topnochers in the employment exam. The fact that these residents have finished college means they have the required minimum competency.</p> <p>We understand the need of the industries that is why we are happy that the University of Science and Technology in the Southern Philippines has set-up a campus in Villanueva. So please prioritize our young applicants.</p>	<p>We will take note of this concern and raise them to the top management.</p> <p>Rest assured that for many years we have hired many Villanueva residents already. About 20% of PSC workforce are Villanueva residents not to mention the contractors.</p> <p>We can assure you that as long as Villanueva applicants pass our minimum qualification, we will prioritize hiring them.</p>
PHIVIDECC	Water Source	Where do you source your water? Just please clarify your water source.	We showed the water balance and explain that the existing deepwell can supply the needed volume for the additional yard and berth.
MENRO	Main Berth Construction	<p>Basically your project is not critical except for the berth. A word of warning considering our experience with FDC. We have fined them for their violation to the provisions of the ECC.</p> <p>This is the background: There are two (2) options in the construction of berth at FDC: the first one is more expensive but will not affect the corals. The second one is less expensive and easier to construct but will directly affect the corals. Choosing the second option will violate the agreed plan in the issued ECC. Maybe they think that the fine they will pay will be as compared to choosing option 1. It is an issue we raise against FDC.</p>	<p>Maybe the case for PSC will be different from FDC because PSC has an existing berth that was constantly utilized before. The project proposes the construction of a new berth but within the same site/area.</p> <p>However, we will gather data during the Resource Base Inventory as well data from our previous studies and we will comply with the recommendations of the DENR later.</p>



**PHILIPPINE SINTER CORPORATION**  
Phividerc Industrial Estate  
Villanueva, Misamis Oriental  
Tel (08822) 740-187, 740-156, 890-1111-14 Fax 740-255



**ACKNOWLEDGEMENT RECEIPT of the Leaflets as INFORMATION,  
EDUCATION & COMMUNICATION (IEC) Materials for the  
PROPOSED ORE BLENDING FACILITY in Philippine Sinter  
Corporation, VILLANUEVA, MISAMIS ORIENTAL**

	Copies Received	Date and Time Received	Received by (NAME)	Designation	Signature
Villanueva Municipal Mayor	30	1/29/21 10:10 a.m.	Jennifer Lagunang	Private Secretary	Jenny
Barangay Captain- Brgy Katipunan	30	1/29/21	Julio F. Cabata, Jr.	P.B	[Signature]
Barangay Captain- Brgy San Martin	30	1/28/2021 10:00 AM	Gianna Louise Bunipit	BRK	[Signature]
Barangay Captain- Brgy Poblacion 1	30	1/29/21	Jose J. Abejo	Punong Barangay	[Signature]
Sangguniang Bayan Office,	20	1/29/21 10:25 am	JERIZA UNABH	SA Secretary	[Signature]
RHU/Heath Center	20	1/29/21 10:30 am	Regina D. Jamesclanin, RN PRC Lic. No. 0510044	Nurse RD	[Signature]
Municipal Planning & Health Office	20	1/29/21	ARNOLD FULERA JR.	PRO-1	[Signature]

**PSC** **PHILIPPINE SINTER CORPORATION**  
Villanueva, Misamis Oriental

FM-HRM-013\_R0

### ATTENDANCE RECORD

<b>DATE</b>	28-Jan-21	<b>ACTIVITY</b>	<input type="checkbox"/> Meeting <input type="checkbox"/> Training <input checked="" type="checkbox"/> Others
<b>TIME</b>	0900H~1000H	<b>SUBJECT :</b>	
<b>VENUE</b>	PSC Auditorium	IEC TO MMT MEMBERS - ORE BLENDING PROJECT	

NAME	DEPARTMENT	DESIGNATION	SIGNATURE
1. Balanay, Mark Valentine P.	PSC	HEAD - ORE BLENDING FS TEAM	
2. JARA, DAX P.	PIA	SS	
3. NENIK P. OKSINTO	EMP-B-W	SEMS	
4. DANO, BRYAN	PSC	STAFF	
5. MORTOLA, GAB ASHLEY	PSC	Lab Analyst (MMT Staff)	
6. Julio F. Cabato, Jr.	P.B. Bryer	MMT - MEMBER	
7. Jeany La Z. Gual	Lab Villanueva	MMT Secretariat	
8. Edili Joy Camaganacan	PSC	PCO	
9. Ello, Joco Oliver	NGU	MEMRO	
10. SABIO, AGUSTIN D.	P.B.	MMT MEM	
11. AMEJO JOSE J.	P.B.	mmt member	
12. BERNARD C. PADRAC	PSC	DIV. MGR - Internal Audit	



PHILIPPINE SINTER CORPORATION  
Villanueva, Misamis Oriental

FM-HRM-013\_R0

## ATTENDANCE RECORD

DATE	2 PM	ACTIVITY	<input type="checkbox"/> Meeting <input type="checkbox"/> Training <input type="checkbox"/> Others	
TIME	1-8-2021	SUBJECT: Pres. New Years Message		
VENUE	Auditorium			

	NAME	DEPT.	DESIGNATION	SIGNATURE
1	DUMAGUING, EMELIE S	ELE	FOREMAN	
2	ESQUIENDO, MARZEL B	ST	SSN	
3	KIRIK R. GORDO	STAFF	STAFF OFFICER	
4	RAMIR LABADAN	ELE	GF	
5	Fronda, Jodel J	Lab	SV	
6	Gavila, LMS	SURVA	Staff	
7	MVP BALANAN	MAN	HR	
8	Villafra	PLW	Staff	
9	LI Dola Cruz			
10	REGULAR, FE	MEC	SV	
11	JMD Bagatig	MEC	SV	
12	Pango +, Harriet	HR		
13	Fuentes, Emmanuel	HR		
14	Dagos, Karel	IT		
15	Santos, Reynar	EXEC		
16	Sagrado, Nito	EXEC		
17				
18				
19				
20				
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23				
24				
25				





PHILIPPINE SINTER CORPORATION  
Villanueva, Misamis Oriental

FM-HRM-013\_R0

## ATTENDANCE RECORD

DATE	2 PM	ACTIVITY	<input type="checkbox"/> Meeting <input type="checkbox"/> Training <input type="checkbox"/> Others		
TIME	1. 8. 2021	SUBJECT: Pres. New Years message			
VENUE	Auditorium				
	NAME	DEPT.	DESIGNATION	SIGNATURE	
1	JEFF A. MORANO	Ele	SSU		
2	GALANPA, A	Maint	Dio.		
3	DEL BANDO, INDAH SONIA	PWP	SSU		
4	RICACHO, FERDINAND	PWP	SSU		
5	LAPROS, LUIS II	IT	SSU		
6	CAMAGANACAN, EJO	LAB	SSU		
7	LOGRONIO, RT	MEE	MGR		
8	NARADA, AC	PW	STAFF		
9	CABELIDA, LN	MTH	STAFF		
10	OPADA, LL				
11	ANAGAN, BC	MTH	JV		
12	BRUOS, PK				
13	Archedo, Jovaniel				
14	MACOROG, FRANCIS ELLIP	ECE			
15					
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**ATTACHMENT 3**  
**List of Invitees and Proposed Schedule of the**  
**Public Scoping Meeting**

## Proposed Schedule of Public Scoping Meeting

Date : April 8, 2021

Time : 9:00 am

Videoconference link: Via Zoom

<https://zoom.us/j/92516270684?pwd=bmNZSFc0a2JwM1dqRnhPRm9DbkxWQT09>

Meeting ID: 925 1627 0684

Passcode: 823083

## List of invitees for the proposed Ore Blend and New Berth Facility Project of PSC

Office/Organization	Names	Contact Number	Address
Governor	Hon. Yevgeny Vicente Emano	(0882) 274-5138 / 0917-794-0623 Fax: (0882) 272-5824	Province of Misamis Oriental Provincial Capitol, Don Apolinar Velez Street, Cagayan de Oro City
DENR-PENRO/ MMT Member	Ferdinand E. Dagulo	0977-855-1599	PENRO Misamis Oriental, Malasag Heights, Cugman, Cagayan de Oro City   <

6	Rey Jue T. Abrea	0926-599-4643	
<b>San Martin</b>			Brgy. San Martin, Municipality of Villanueva, Misamis Oriental
Punong Barangay/ MMT Member	Agustin D. Sabio	0917-708-6843	
1	Carmelita G. Cerilla	0906-914-9358	
2	Alejandro N. Daya	0905-889-4736	
3	Glenna O. Amparo	0926-480-7359	
4	Serapia C. Gayloa	0936-840-3169	
5	Andio James V. Sanchez	0975-495-1785	
6	Jocelyn C. Lood	0905-827-1398	
7	Carmelita F. Valcurza	0965-401-8084	
<b>Katipunan</b>			Brgy. Katipunan, Municipality of Villanueva, Misamis Oriental
Punong Barangay/MMT Member	Julio F. Cabato Jr.	0926-664-7271	
1	Aida J. Cuenca	0926-023-4149	
2	Edmund M. Peñalosa	0997-306-3910	
3	Edgar D. Naelga	0997-358-7683	
4	Carmelo J. Floresca	0977-053-3505	
5	Carmelita O. Fabela	0975-724-0572	
6	Rona Mia G. Hallazgo	0997-963-1052	
7	Dan Pete C. Bironde	0967-388-6370	
<b>MMT Members</b>			
DENR CENRO	Conrado M. Mahinay Sr.	0917-700-1759	CENRO Initao, Jampason, Initao, Misamis Oriental
EMB-10	Nenia P. Casiño	0917-792-0256	Julio Pacana Street, Cagayan de Oro, Misamis Oriental
PHIVIDEK	Dax P. Jara	0916-676-2428	Phividek Industrial Authority, Tagoloan, Misamis Oriental
DOH-10	Eliezer A. Mallorca	0905-406-5477	J. Serifa Street, Cagayan de Oro
GUARDIANS OF THE EARTH	Jocel B. Dimacutac	0917-322-5360	Guardians of the Earth Association Inc., 226 Julio Pacana St., Cabaraban Subd., Puntod Cagayan de Oro St.
LGU- VILLANUEVA	Jeamy Lou Sacol	0997-207-7595	New Municipal Hall Complex, Looc, Municipality of Villanueva, Misamis Oriental
LGU- VILLANUEVA MENRO	Jose Oliver C. Ello	0935-156-1925	New Municipal Hall Complex, Looc, Municipality of Villanueva, Misamis Oriental
Local Organizations:			
Municipal Agriculture & Fisher Council	Mr. Michael Factura	0917-993-2788	New Municipal Hall Complex, Looc, Municipality of Villanueva, Misamis Oriental
Academe:			
Univ. of Science & Tech - VILLANUEVA	Mr. Colbert Rabaya	0956-711-7005	Villanueva Campus, Municipality of Villanueva, Misamis Oriental
Villanueva National Highschool	Ms. Marife Balaba	0917-724-0087	Looc National Highschool, Municipality of Villanueva, Misamis Oriental
Business Sector:	Marlyn Achas	0917-772-3239	New Municipal Hall Complex, Looc, Municipality of Villanueva, Misamis



			Oriental
Senior Citizen: (Office of the Senior Citizens Affairs)	Kag. Edith Mariviv P. Paurom	0975-940-9648	New Municipal Hall Complex, Looc, Municipality of Villanueva, Misamis Oriental
Student Leader:	(none - USTP has yet to form their Student Body)		
Religious Representatives: Catholic:	Mr. Jun Fabela	0917-308-9933	Parish Affairs Office, Immaculate Conception Catholic Church, Villanueva, Misamis Oriental
Government Fisheries Office/ Fisherfolks:			
Poblacion 1 Fisherfolks Association	Mr. Ruel Abello Dagasuhan	0936-168-8966	Brgy. Poblacion 1, Municipality of Villanueva, Misamis Oriental
Poblacion 3 Fisherfolks Association	Mr. Robinsons Sinarlo Miñoza	0975-393-5027	Brgy. Poblacion 3, Municipality of Villanueva, Misamis Oriental
Looc Fisherfolks Association	Mr. Antonio Ugnit Baylosis Jr.	0935-826-9834	c/o Municipal Agriculture & Fisher Council, New Municipal Hall Complex, Villanueva, Misamis Oriental
Balacanas Municipal Fisherfolks Association	Mr. Roque Velarde Flores	0977-656-5106	c/o Municipal Agriculture & Fisher Council, New Municipal Hall Complex, Villanueva, Misamis Oriental
Agriculture :			
Villanueva Corn - Cassava Farmers Association	Mr. Christopher Gonzaga	0951-202-1209	c/o Barangay Imelda, Villanueva, Misamis Oriental
Kimaya Agrarian Reform Beneficiaries & Farmers	Ms. Mary-Ann G. Janoyog	0935-149-0376	c/o Barangay Kimaya, Villanueva, Misamis Oriental
Cooperative			
Transport:			
CAVITRANSO (CAG-Villa-Tagoloan Transpor Coop)	Ms. Dally Silaga	0945-073-2666	National Highway, Barangay Looc, Villanueva, Misamis Oriental
Youth Organization: Sanguniang Kabataan	Hon Clanelmie V. Bahade	0997-306-8076	New Municipal Hall Complex, Looc, Municipality of Villanueva, Misamis Oriental

**ATTACHMENT 4**


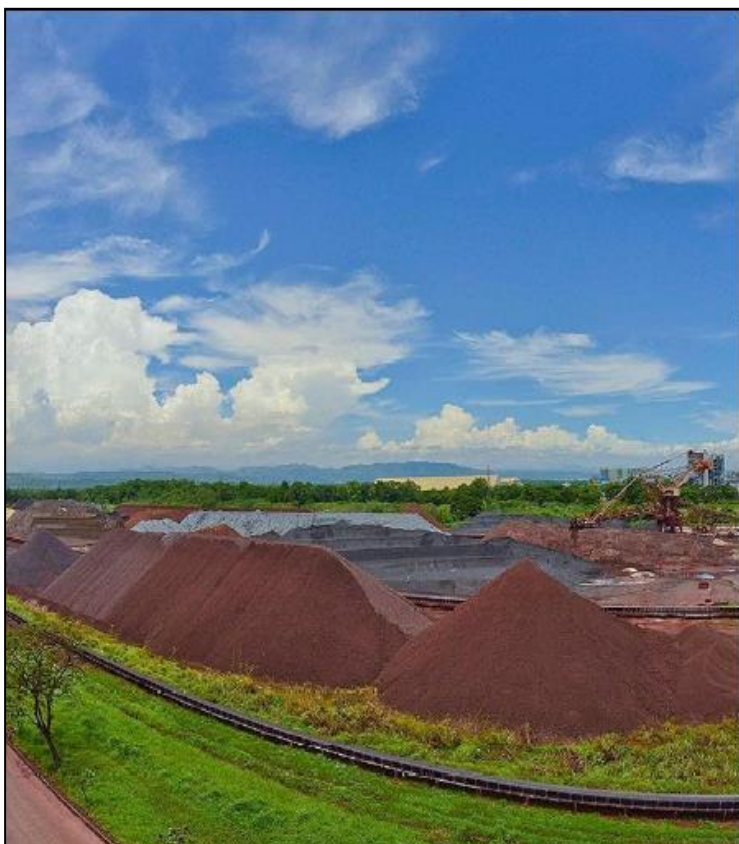
Draft Presentation during the Public Scoping Meeting/ IEC Material



## PSC EXPANSION PROJECT (ORE BLEND FACILITY)

**I** information  
**E** education  
**C** communication

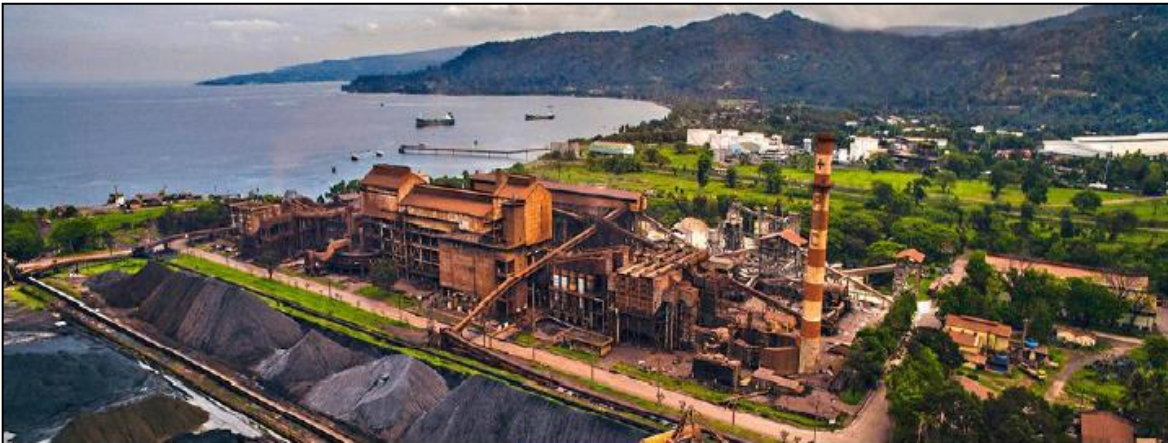
JANUARY 28, 2021  
PSC AUDITORIUM



## OUTLINE

- Company Background
- Project Background
  - Project Information
  - Rationale
  - Project Location
  - Project Components
  - Manpower
  - Project Size
- Project Mitigating Measures
- Benefits from the project

## COMPANY BACKGROUND



## PHILIPPINE SINTER CORPORATION

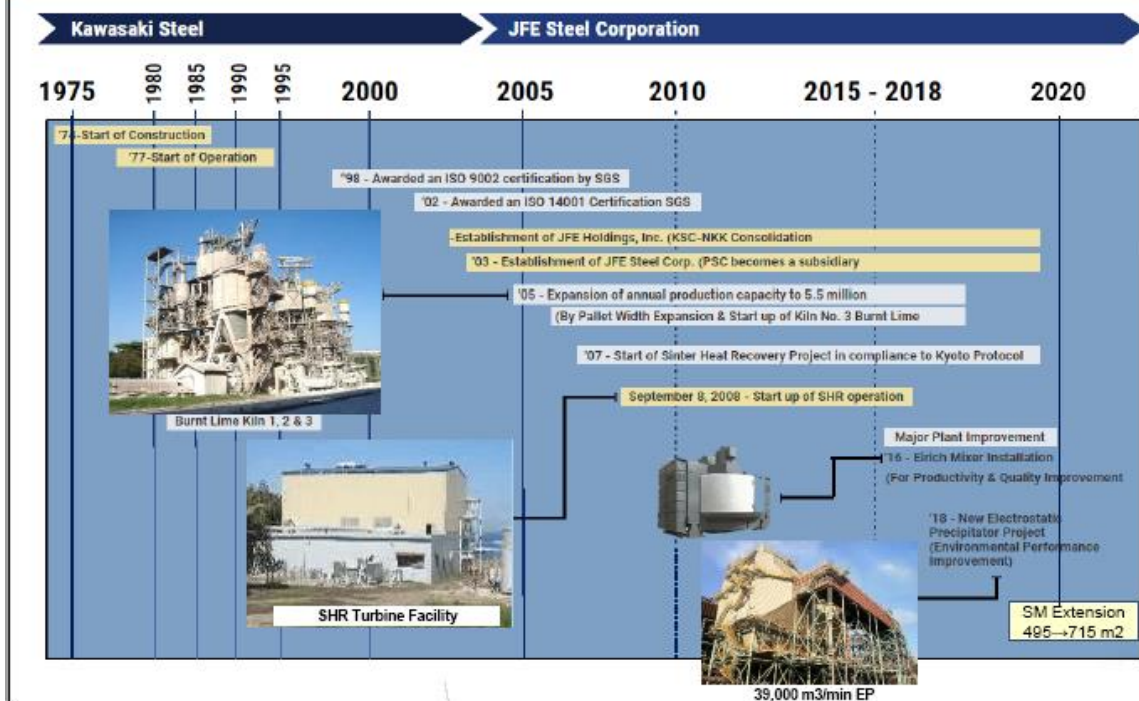


Philippine Sinter Corporation (PSC), a wholly owned subsidiary of JFE Steel Corporation (formerly Kawasaki Steel Corporation) of Japan, started operation on April 18, 1977. Much earlier however, JFE Steel had been a player in the Philippine mineral industry through the iron ore export and pellet production projects in the 1950's.

4



# PSC MILESTONE



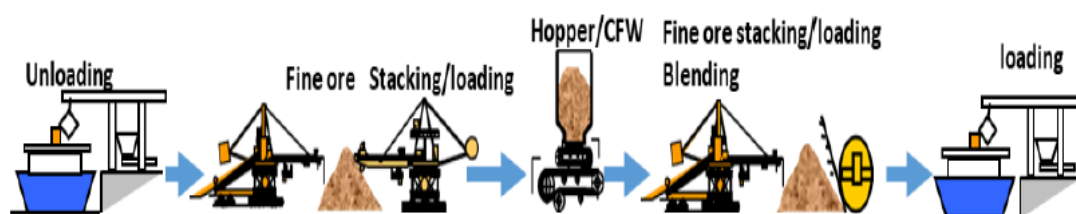
## PROJECT BACKGROUND



## PROJECT INFORMATION

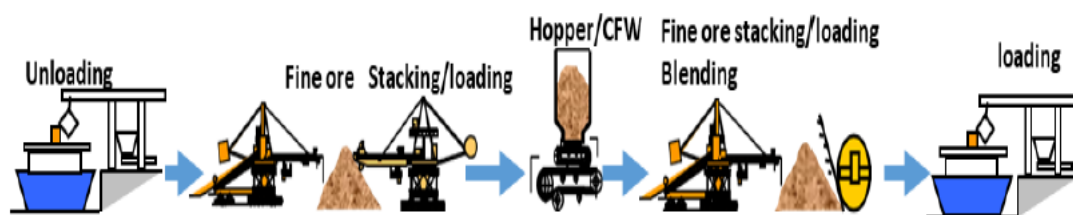
Project Name:	PSC Expansion Project (Ore Blend Facility)
Nature of Project:	Manufacturing
Total Area:	133 hectares m <sup>2</sup>
Production Capacity:	<b>9 MMTPY (Blend ore)</b> 5 MMTPY (Sintered Ore) 7 MMTPY (Iron Pellet)
Site Location:	Phividec Industrial Authority, Municipality of Villanueva, Province of Misamis Oriental

## PROJECT INFORMATION : WHAT IS ORE BLENDING?



Process Flow ng Ore Blending:

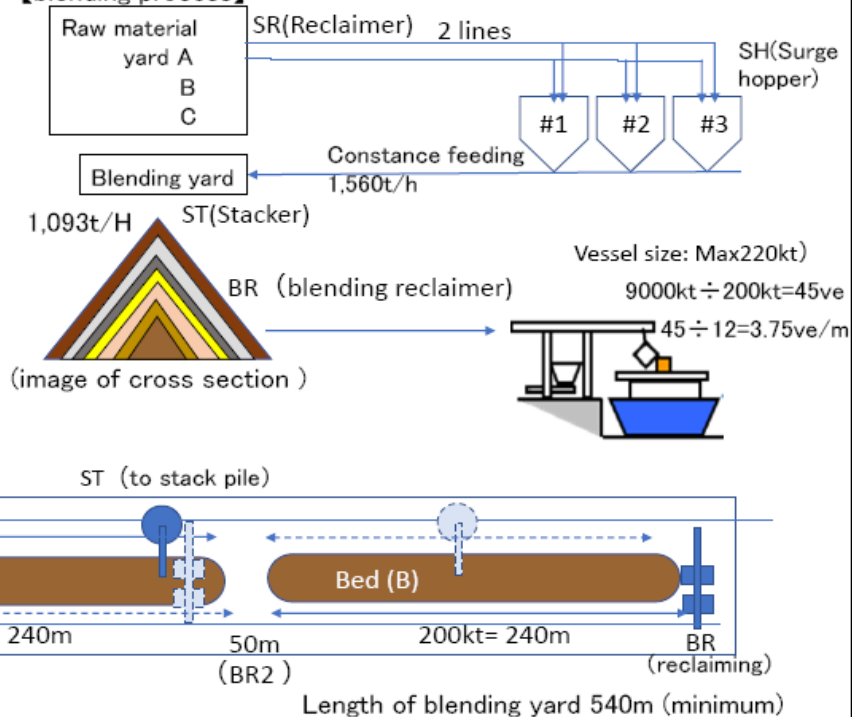
## PROJECT INFORMATION : WHAT IS ORE BLENDING?



Process Flow ng Ore Blending:

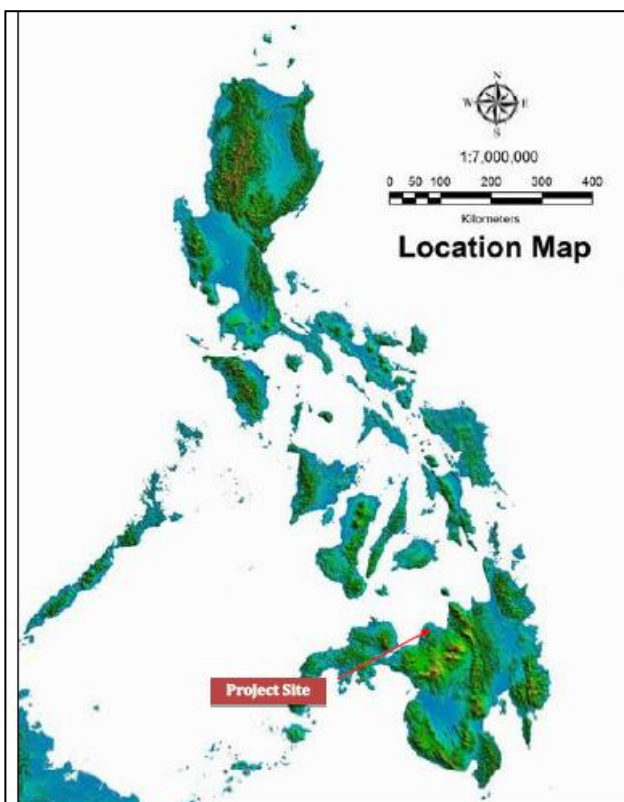


### 【blending process】



## PROJECT RATIONALE

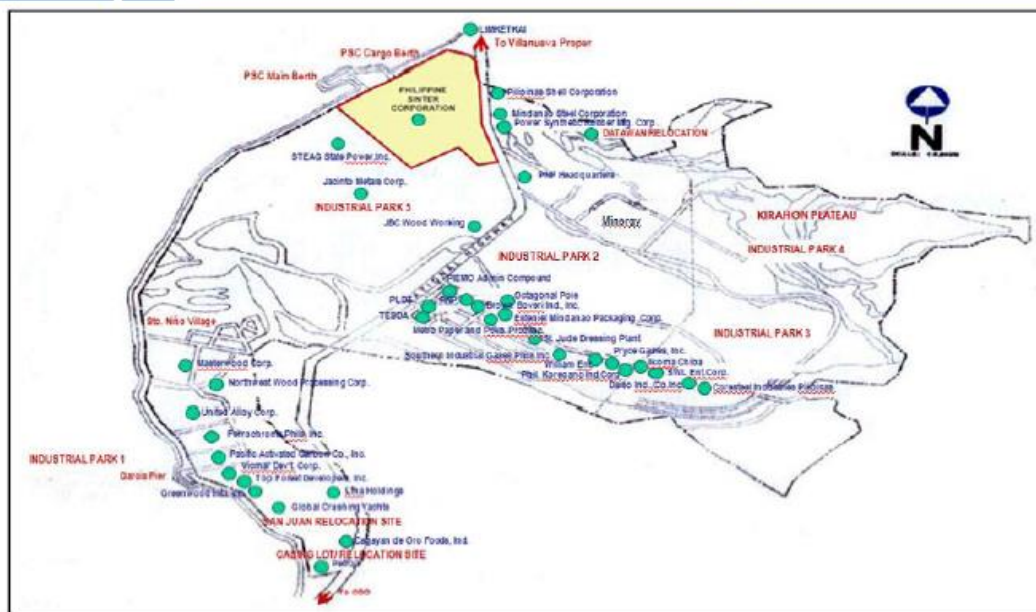
- Enhancement of the existing berth is necessary as it will be unable to continuously accommodate the docking of huge vessel carrying iron due to the shallow depth at the port facility
- PSC shall develop part of the existing port to maximize its efficiency and operation in accommodating the raw materials.
- Existing berth is no longer enough to handle the additional ore volume required (9kT Blended Ore annually).
- With the continuous increase in the demand for iron ore, PSC intends to develop its blend ore operation and supply the necessary needs of customer.



## PROJECT LOCATION

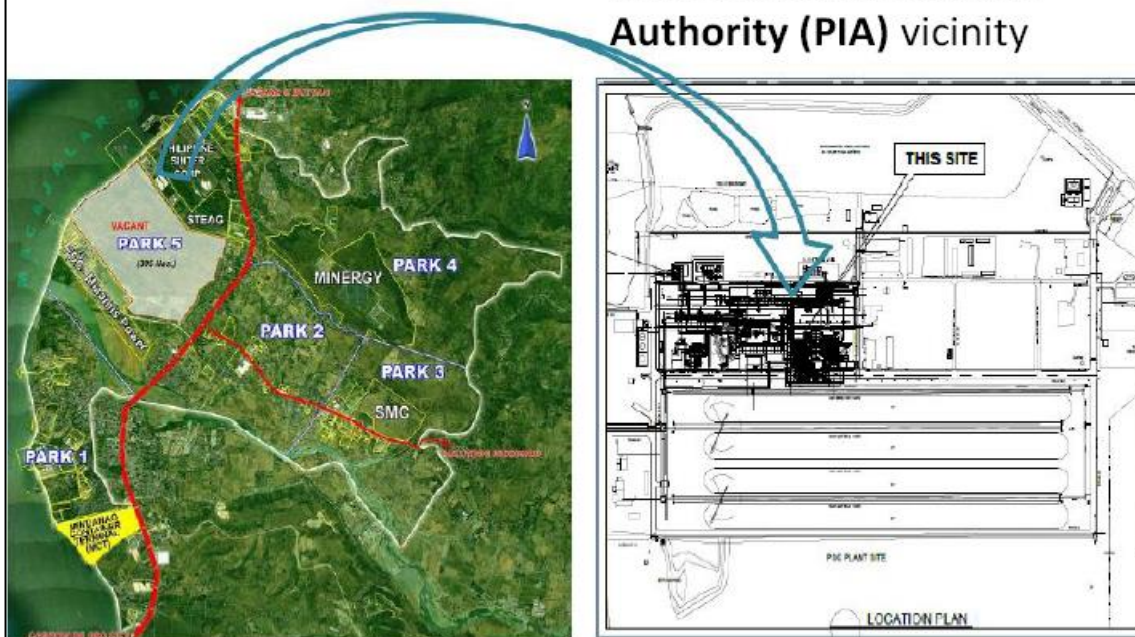
- PHIVIDEC Industrial Authority
- Municipality of Villanueva, Province of Misamis Oriental

## PROJECT LOCATION – VICINITY MAP



## PROJECT LOCATION

Location of the PSC Expansion Project relative to the **PHIVIDECA Industrial Authority (PIA)** vicinity





## PROJECT LOCATION - LOT AREA OF THE PSC



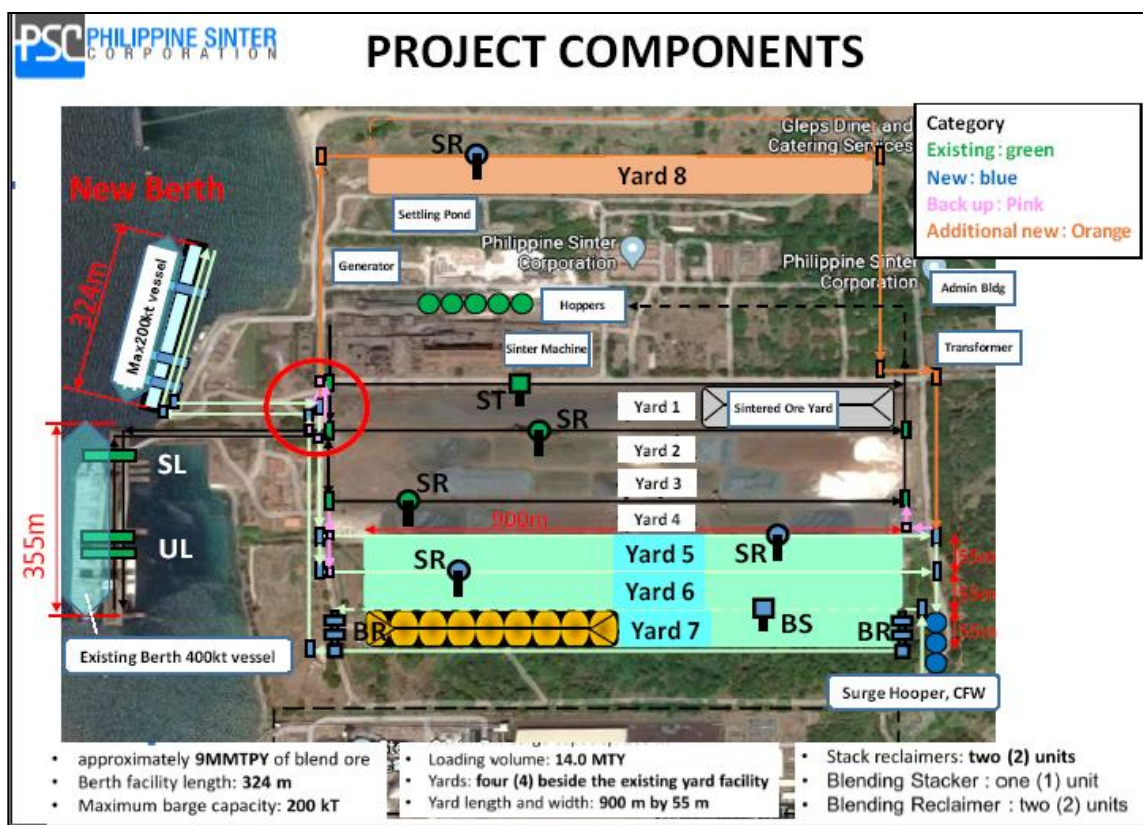
## PROJECT LOCATION – HOST COMMUNITY



Figure 6. Aerial of the host community of the proposed project area

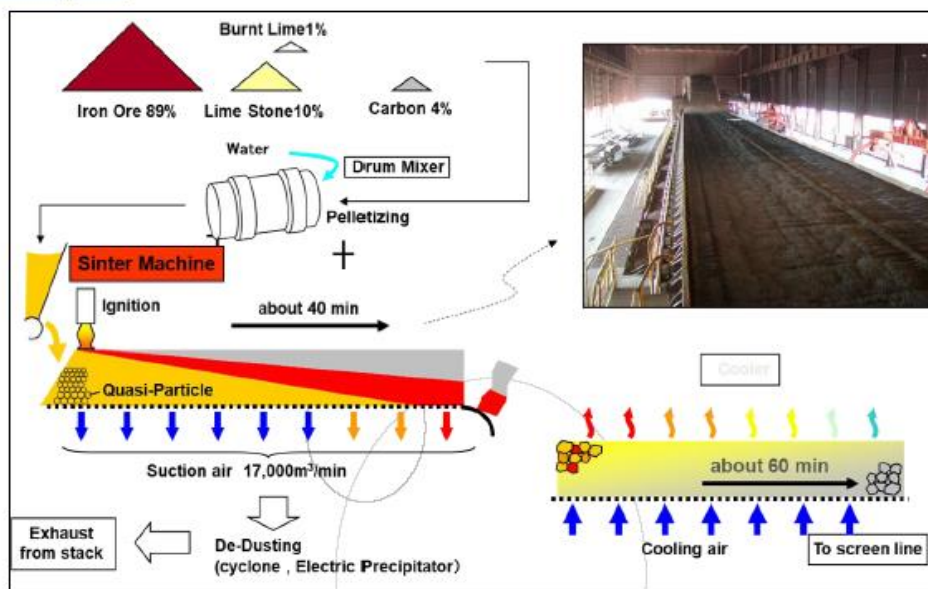
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## PROJECT COMPONENTS - EXISTING

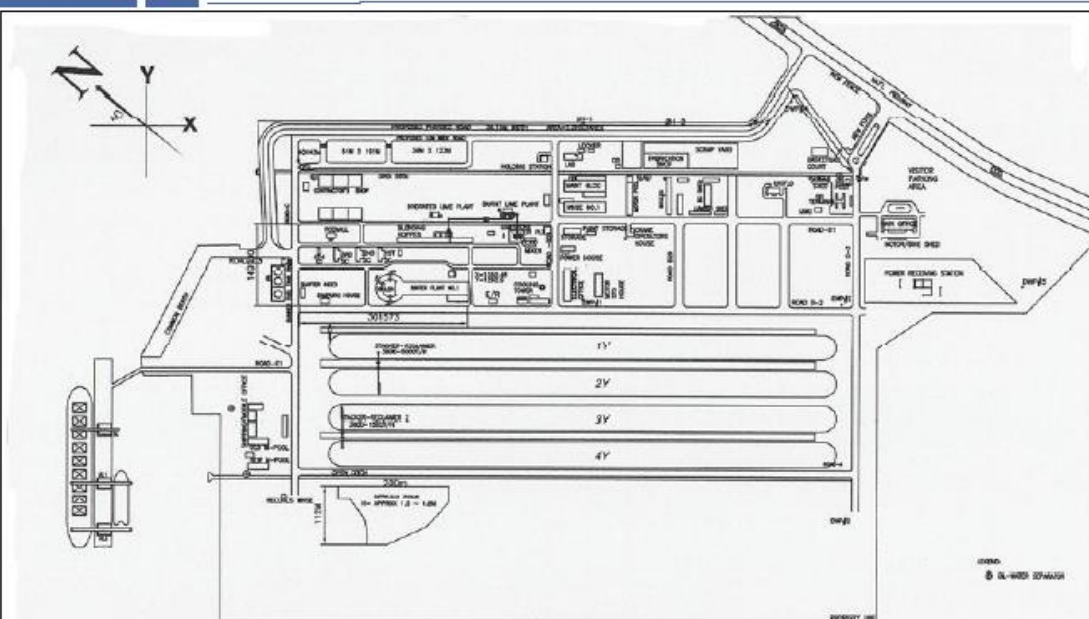
3. The Burnt Lime Facility  
4. The Sintering Facility



The PSC sintering process

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## PROJECT COMPONENTS – PLANT LAYOUT



## PROJECT COMPONENTS - EXISTING

- **Sinter Cooler Waste Heat Recovery Operations**
  - allows PSC and JFE to tap this resource for power generation
  - covered by ECC No. 10 (43)06-08 4262-41100
  - Components:
    - Heat Recovery Boiler (HRB)
    - Steam Turbine
    - Generator
    - Water Treatment Plant
    - Cooling Water System

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## PROJECT COMPONENTS - EXISTING

### Port/Berth

- Rail mounted bulk unloaders
- Pump and pipeline system
- Rail mounted shiploader
- Berth

### Sintering

- Blending hopper
- Sinter machine
- Sinter Cooler
- Main blower

### Ore Yard

- Stacker
- Stack reclaimer

### Burnt Lime

- Chisaki kiln
- Belt conveyor
- Burnt lime hopper
- Fine hopper
- Burnt lime crusher
- Bucket elevator
- Vibrating feeder
- Screw feeder

### Sinter Cooler Waste Heat Recovery

- Steam turbine
- Generator
- Water Treatment Plant

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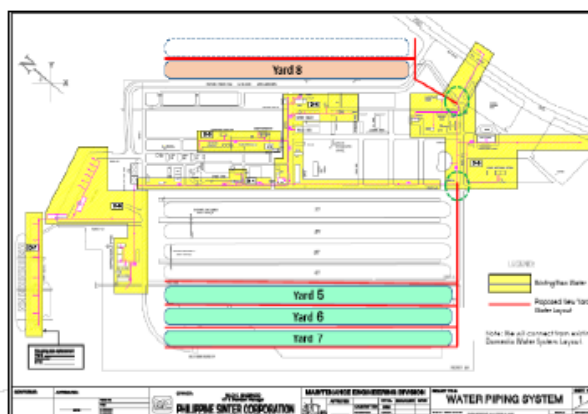
## PROJECT COMPONENTS - PROPOSED

- **Ore blending**
  - approximately **9MMTPY** of blend ore
  - Berth facility length: **324 m**
  - Maximum barge capacity: **200 kT**
  - Loading volume: **14.0 MTY**
  - Yards: **four (4) beside the existing yard facility**
  - Yard length and width: **900 m by 55 m**
  - Stack reclaimers: **two (2) units**
  - Blending Stacker : one (1) unit
  - Blending Reclaimer : two (2) units

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## PROJECT COMPONENTS - PROPOSED

- **Power requirements**
  - Construction: 1,594,000 kWh
- **Water requirements**
  - Operation: 574 m<sup>3</sup>/day
  - Domestic, mechanical, and maintenance works
- **Fuel requirements**
  - Construction: Cranes- 218.4 m<sup>3</sup> per month, Engine welder- 7.8 m<sup>3</sup> per month
  - Operation: 2.12 kliters of fuel per year



Waterline lay-out of domestic water during ore blending process

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## PROJECT COMPONENTS – COMPARISON

Descriptor	Current Operation	Proposed Expansion
<b>Capacity</b>	12 MTPY	9 MTPY
<b>Production Process</b>	Straight Grate Method for the Sintering Plant Grate Kiln Method	Use of ore blend reclaimers and stacker
<b>ECCs issued</b>	ECC Ref. Code 0807-021-2711 Expansion of the Iron Ore Sintering Facility and Consolidation of ECC of the Existing Operations of the Philippine Sinter Corporation Plant	
<b>Utilities Requirement</b>	Water – 3,962 m <sup>3</sup> /day  Electricity: For Sintering Cepalco – 11 MW Self generated – 13 MW (max)  Sintering – 21.3 MW Power plant – 1 MW  For Iron Ore Pellet 23.2 MWH (additional)	Water - 574 m <sup>3</sup> /day  Electricity:  New Berth – 270,000 kWh  New Common Berth – 160,000 kWh  New Yard – 220,000 kWh

## PROJECT COMPONENTS – COMPARISON

Descriptor	Current Operation	Proposed Expansion
<b>Project Components</b>	<ul style="list-style-type: none"> <li>• Port</li> <li>• Ore yard</li> <li>• Sintering facility</li> <li>• Burnt Lime Facility</li> <li>• Sinter Cooler Waste Heat Recovery (Heat recovery boiler, steam turbine, generator, water treatment plant, cooling waste system)</li> <li>• Iron Ore Pelletizing Plant (enhanced port, ore yard, sintering facility of 12 MTPY)</li> </ul>	Proposed addition/expansion: <ul style="list-style-type: none"> <li>• New berth facility (324m and max barge capacity of 200kT)</li> <li>• Ore blending facility (9 MTPY)</li> <li>• Four (4) new ore yards (each measures 900m x 55m)</li> </ul>



## PROJECT COMPONENTS – COMPARISON

Descriptor	Current Operation	Proposed Expansion
Raw Materials/Inputs	<b>Fuel (monthly) for Sintering</b> 806,245.22 liters Bunker C 147,964.58 liters Diesel 3,617.58 liters Gasoline	<b>Fuel (monthly) during construction:</b> New Berth – 520,000 L New Common Berth – 720,000 L New Yard – 880,000 L
	<b>Fuel (monthly) for Iron Ore Pellet</b> Soft (Bituminous) coal: 14.1 kg Heavy oil: 3.8 kg Diesel: 4.7 kg	
	<b>Raw Materials for Sintering (per ton sintered ore) :</b> 1,029 kg of main iron blend including dolomite 112 kg of limestone; 67.3 kg of carbon source; and 0.76 L of fuel oil/ton SO	

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## PROJECT COMPONENTS – COMPARISON

Descriptor	Current Operation	Proposed Expansion
Raw Materials/Inputs (cont')	Typical blend of iron ore: 65% Rio Doce 28% Carajas 7% Dolomite	
	Raw Materials for Iron Ore Pellet (per ton sintered ore): 957.5 kg of iron 7.5 kg of bentonite 45.8 kg of limestone; 12 kg of dolomite 16.5 kg of Anthracite Coal	
	[note: in addition to the fine ore that can be processed using the current facility/process, the proposed expansion will also be able to process super fine ores]	

## PROJECT COMPONENTS – COMPARISON

Descriptor	Current Operation	Proposed Expansion
Manpower Requirement	200 – permanent 640 – contractual	Permanent – 24 Contractual – 30
Discharges/Emissions	<p><b>Raw material handling</b> – Suspended particulates</p> <p><b>Windbox</b> – iron oxides, sulfur oxides, carbonaceous compounds, aliphatic hydrocarbons, and chlorides</p> <p><b>Sinter Plant</b> – Suspended particulates, CO, NO<sub>x</sub>, SO<sub>x</sub> and heat, Petroleum products container and contaminated materials</p> <p><b>Limekiln Operations</b> – Heat, suspended particulates and noise, Petroleum products container and contaminated materials</p> <p><b>Power generation</b> – Thermal water, sludge from demineralization, Petroleum products container and contaminated materials</p> <p><b>Administration office</b> – Papers, packaging, office wastes</p> <p><b>Laboratory</b> – Spent acids, organic and inorganic washings and spills</p> <p><b>Canteen</b> – Food wastes, packaging materials, contaminated water from oil and grease</p> <p><b>Motorpool</b> – Petroleum products container and contaminated materials, spent acids, battery</p>	<p><b>Raw material handling</b> – Suspended particulates</p>

## PROJECT MITIGATING MEASURES

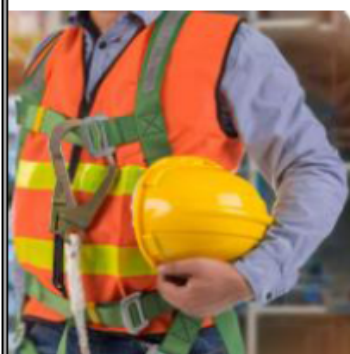
- Water spray system will be installed in unloading lines to spray water directly to material in case the unloaded material is very dry;
- **Conveying lines will be covered with arc roofing with a total length of 4.136 km;**
- Green belt zone planted with fast growing native species and bamboo will be maintained along the PSC perimeter;



## SOME CLARIFICATIONS

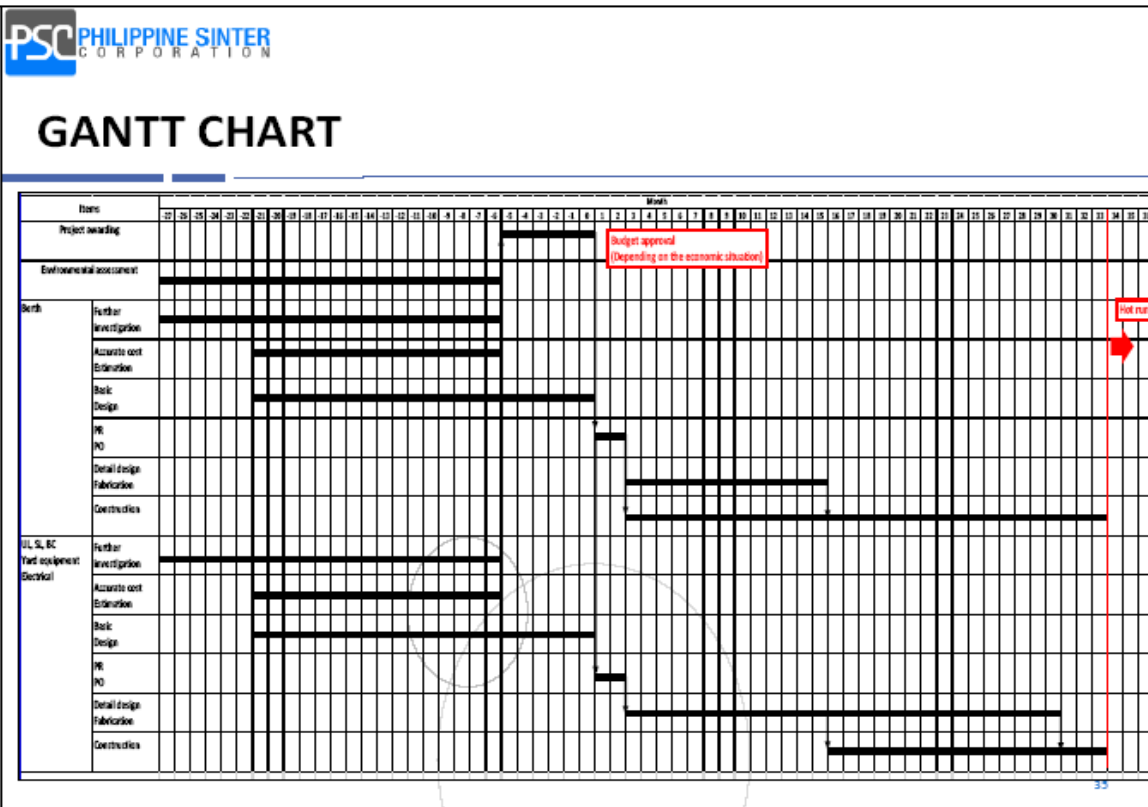
- ✓ 100% of raw materials will be imported mostly from Australia and Brazil
- ✓ Carbon will not be used, and there is no combustion process involved.  
It is simply blending of iron ores
- ✓ Just like in sintering, all raw materials will NOT be washed thereby no possibility of brown effluent that may discolor the sea

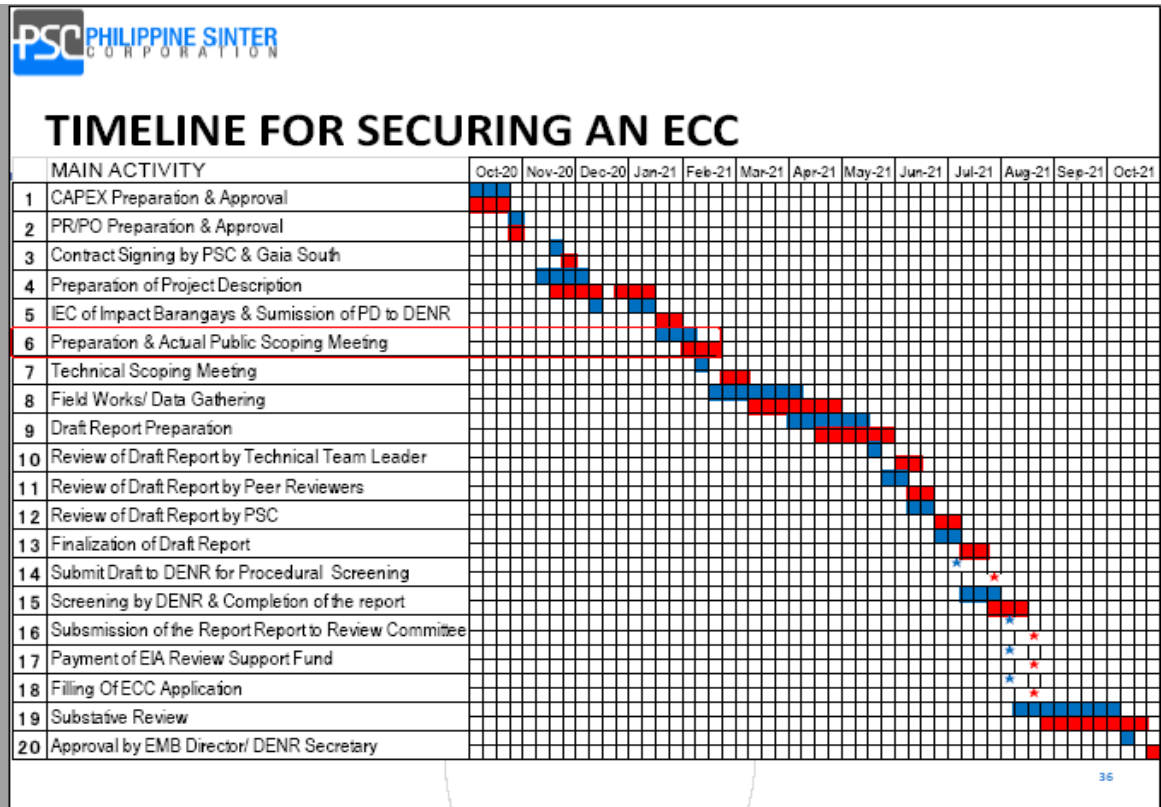
32



## MANPOWER

Manpower Requirement	Total
<b>Construction Phase</b>	
Manpower (maintenance, engineering, labor)	555
200t Crane Operator	3
120t Crane Operator	3
60t Crane Operator	10
Welder	10
Power tool	50
Site light operators	55
Support	16
<b>Total</b>	<b>702</b>
<b>Operation Phase</b>	
Berth operations (engineering, maintenance)	6
Ore blend facility (engineering, maintenance)	16
Administration	2
<b>Total</b>	<b>24</b>







**ATTACHMENT 5**  
Project Brochure

## Corporate Social Responsibility (CSR) and Social Programs

### EDUCATION



- Scholarship Programs
- On-the-job Trainings & immersion
- Educational Tours
- Educational Supplies Donation

### ENVIRONMENT



- Tree Planting & Growing Programs
- Creek & Coastal Clean-ups
- Environmental Youth Camps
- Environmental IEC Programs

### SAFETY & DISASTER PREPAREDNESS



- Training & Capacity Building of Local Government Leaders
- Drills a& Disaster Response Simulations

### COMMUNITY HEALTH



- Free Clinic & Medical Missions
- Reading Eye-Glasses Distribution

### GENERAL COMMUNITY ASSISTANCE



- Equipment dispatch during disaster
- Fire incidence response



- Support during calamities



Contact Details:  
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## PSC Expansion Project Ore Blend Facility

Phivedec Industrial Estate, Municipality of Villanueva,  
Province of Misamis Oriental



Philippine Sinter Corporation  
23F Oledan Square  
6788 Ayala Avenue, Makati City, Philippines

## Ano ang Information, Education, and Communication (IEC) Campaign?



Ito ay isang hakbang ng Philippine Sinter Corporation (PSC) upang maipabatid sa mga residente, opisyal ng bayan at barangay ang mga tamang kaalaman tungkol sa plano nitong proyekto na

### PSC Expansion Project (Ore Blend Facility)



## Mga maaring benepisyo sa pamayanan:

- Pagkakaroon ng oportunidad na makapagtrabaho. Sa konstruksyon ng proyekto ay mangangailangan ng mahigit-kumulang na 700 empleyado samantalang mahigit-kumulang 30 empleyado naman ang kakailanganin sa operasyon nito.
- Mapaghusay ang kalidad ng kaalaman ng mga manggagawa.
- Karagdagang kita para sa mga lokal na negosyo dahil sa karagdagang kita ng mga bagong empleyado.
- Pag-angat ng negosyo sa lugar dahil sa kakailanganing lokal na suplay ng materyales para sa konstruksyon at karagdagang kapasidad sa pagbili ng mga manggagawa.
- Karagdagang pondo para sa lokal na buwis na maaaring magamit para sa mga pampamayanang proyekto.
- Pagpapatuloy ng community social projects.



## Proposed Project Information

Project Name:  
**PSC Expansion Project (Ore Blend Facility)**  
Nature of Project: **Manufacturing**  
Total Area: **133 hectares m<sup>2</sup>**  
Production Capacity:  
**9 MMTPY (Blend ore) (additional)**  
**5 MMTPY (Sintered Ore)**  
**7 MMTPY (Iron Pellet)**  
Site Location:  
**PHIVIDEA Industrial Estate,  
Municipality of Villanueva,  
Province of Misamis Oriental**

## New Project Components & Requirements

### ① New Berth Facility Port

Upang matugunan ang karagdagang kapasidad para sa sintered ore, kinakailangan din ng dagdag na kapasidad ng pantalan para sa mga barko ng iron ore.

### ② Ore Yard

Ito ay magsisilbing imbakan ng dagdag na iron ore na katulad din ng kasalukuyang yard para sa sintering.

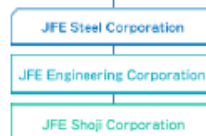
### ③ Existing berth enhancement

Ang kasalukuyang berth ay ayusin upang mapanalitang angkop para sa operasyon ng mga barko ng PSC.

## Impormasyon tungkol sa PSC



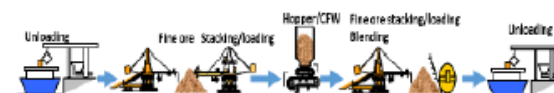
JFE Holdings, Inc.



Nagsimula ang operasyon noong 1977, ang Philippine Sinter Corporation (PSC) ay subsidiaryong pag-aari ng JFE Steel Corporation. Ang JFE Steel ay matagal nang mayroong ugnayan sa Pilipinas sa pamamagatan ng pag-aangkat ng *sintered iron ore* na ginagawa sa PSC.

Sa kasalukuyan, ang planta ng PSC ay may iba't ibang pasilidad tulad ng *Burnt Lime*, *Sintering*, at *Sinter Cooler Waste Heat Recovery*.

Sa kasalukuyan ay pinaplano ng PSC ang Ore Blend Project para sa pagpapaunlad ng operasyon nito kasama na ang pagtatayo ng bagong berth facility, ore blend yard and pagsasaayos ng kasalukuyang *Main Berth*.



Ore blending process flow diagram

## Karagdagang impormasyon sa bagong proyekto

- Ore blending: **9MMTPY**
- Berth facility length: **324 m**
- Maximum barge capacity: **200 kT**
- Loading volume: **>14.0 MTY**
- Yards: **four (4)** beside the existing yard facility
- Yard length and width: **900m x 55 m**
- Stack reclaimers: **two (2) units**
- Blending Stacker : **one (1) unit**
- Blending Reclaimer : **two (2) units**



Lahat ng raw materials na iron ores ay manggagaling sa ibang bansa



Walang karbon na gagamitin at pag-susunog (*combustion process*) sa prosesong Ore Blending. Ito ay simpleng paghahalo lamang ng iba't-ibang uri ng *iron ores*



Ang matatangap na *iron ores* ay hindi na kailangang hugasan. Ibig sabihin, hindi na mangangailangan ng maraming tubig o makakalikha ng maraming katas o *effluent* na makakaapekto sa kulay ng tubig.



Sinisuguro ng PSC na hindi magdudulot ng masamang epekto ang proyekto sa kapaligiran at sa tao. Ang PSC ay sumusunod sa patakaran ng DENR, DOH, DTI at ilan pang mga ahensya ng gobyerno.



**ATTACHMENT 6**  
Draft Letter of Invitation



(Date)

Name  
Position  
Office  
Address

**Subject: Public Scoping for the proposed Ore Blending and New Berth Facility of Philippine Sinter Corporation**

Dear \_\_\_\_\_:

We are pleased to invite you and your constituents to the Public Scoping for the proposed Ore Blending and New Berth Facility of Philippine Sinter Corporation to be located with Phividec Industrial Estate, Municipality of Villanueva, Province of Misamis Oriental. The said scoping is scheduled on:

Date/Time	Venue/Link (via Zoom)
April 8, 2021	<p><i>Venue:</i> <b>Barangay hall of Barangay Katipunan</b> <b>Barangay Hall of Barangay San Martin</b> <b>Barangay Hall of Barangay Poblacion</b></p> <p><i>Via zoom meeting:</i> <a href="https://zoom.us/j/92516270684?pwd=bmNZSFc0a2JwM1dqRnhPRm9DbkxWQT09">https://zoom.us/j/92516270684?pwd=bmNZSFc0a2JwM1dqRnhPRm9DbkxWQT09</a> <i>Meeting ID:</i> 925 1627 0684 <i>Passcode:</i> 823083</p>

The public scoping is an early stage in the Environmental Impact Assessment Process where the proponent aims to provide an overview of the proposed project, proposed action, gather issues and concerns, and other relevant information to provide the scope of work and terms of reference for the preparation of Environmental Performance Report and Management Plan.

A copy of the Project Description Report for Scoping is downloadable at our website: [www.eia.emb.gov.ph](http://www.eia.emb.gov.ph) (kindly access the Notice of Public Scoping link found at the lower right portion of our website) while hard copies are available in Barangay -----, Municipality of Viillanueva, Misamis Oriental.

For more details. Please contact EMB Central Office at (02) 8920-2240 to 41.

We look forward to your participation.

Very truly yours,

**ENGR. WILLIAM P. CUÑADO**  
OIC Director