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**ENVIRONMENTAL IMPACT STATEMENT of the  
PROPOSED MABUHAY FILCEMENT GRINDING AND  
PACKING FACILITY**

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**EXECUTIVE SUMMARY FOR PUBLIC**



*Submitted To:*



**Department of Environment and Natural Resources  
Environmental Management Bureau**

*Prepared By:*



**Philippine Center for Environmental Awareness and  
Sustainability, Inc.  
*Be Aware. Act. Sustain.***

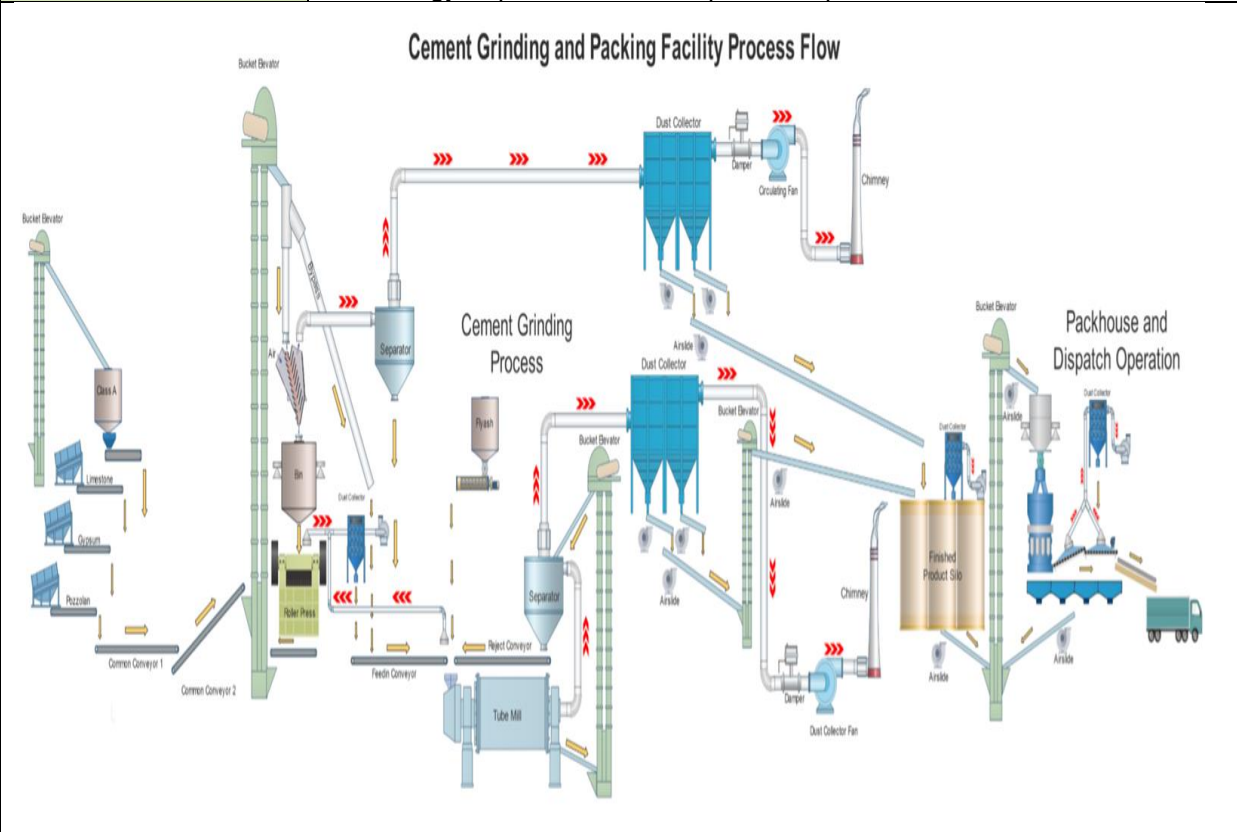
**FEBRUARY 1, 2019**

Mabuhay FilCement Grinding and Packing Facility  
Calaca Seaport Industrial Zone, Brgy. Lumbang Calzada, Calaca

### A. PROJECT DESCRIPTION

Name of the Project	Mabuhay Filcement Grinding and Packing Facility		
Project Description & Location	MFI will grind clinker and other Non-metallic material (e.g. Limestone, gypsum, and pozzolanic material) to final product cement, and will be packed into 40 kg bags, one (1) Ton Cement Bags, or directly to Bulk Trucks; Located within a 3.9 hectares land which is identified as Lot 12 of Phase III-B of Calaca Industrial Seaport Zone, Calaca, Batangas.		
Size & Scale of Project	The estimated maximum production capacity of the grinding and packing plant is 8,800 MT per day, about 220,000 bags cement per day (or 3.2 million metric tons per year)		
<b>Project Components</b>			
		<b>Number</b>	<b>Total Area</b>
<b>Main Project Facilities</b>	Truck-scale rooms/ 3Truck-scales	3	240
	Clinker Storage	3	3900
	Clinker Bin Silo/ Fly Ash Silo	1/1	295
	Cement Mill Workshop with 3 grinding mills & roller press	3	2,400
	Material Storage, Mixing Shed & Feeding System	1	4500
	Cement silo	3	1500
	Packing House & Loading Area		5210
	Water Pump Room		50
	Air Compressor Room		50
	Cement Mill Power Room		450
	Packing House Power Room		160
	Finished Cement Warehouse		765
	Machine Shop		600
	Sub-Station / Switch Yard		610
Pay-loader Parking / Motor-pool		225	
		<b>Number</b>	<b>Total Area</b>
<b>Support Facilities</b>	Admin. Building: Office & QA Laboratory	1	810
	Water Closet/CR	3	150
	Service Vehicles /Motorcycles Parking		1125
	Guard House	2	20
	Cistern Tank	4	32
<b>Pollution Control Facilities</b>		<b>Number</b>	<b>Total Area</b>
	Water Treatment Facility	1	75
	Material Recovery Facility	1	
<b>Total Area of All Facilities</b>			<b>23,167</b>
<b>Open Spaces</b>			<b>16,473</b>
<b>TOTAL AREA OF PROJECT SITE</b>			<b>39,640</b>

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<p><b>Process/ Technology</b></p>	<p>Mabuhay Filcement Grinding and Packing Facility will employ the combined/hybrid grinding system –which is a new grinding process using roller press as a pre-grinding operation prior to ball mill. This technology offers less energy requirements and improved capacities</p>
<p style="text-align: center;"><b>Cement Grinding and Packing Facility Process Flow</b></p> 	
<p><b>Resource Utilization:</b></p>	
<p><u>Raw materials</u></p>	<p>Project will source raw materials (clinkers, limestones, gypsum, pozzolan and fly-ash) from either local or foreign supplier which will be transported to the facility through the port of Calaca Industrial Zone and will be temporarily stored within the Project site through silos, steel bins and covered storages. The cement production process will only involve clinker and additives grinding.</p>
<p><u>Energy</u></p>	<p>2 MW per month during construction and 10MW per month during operation. This will be supplied by the Calaca Coal Fired-Power Plant</p>
<p><u>Water</u></p>	<p>Water will be supplied by the CISZ. There will be no groundwater extraction. Recycled water from production processes and rain water will be used as an alternative source of water supply for the cement facility operation and management. MFI will use 330 cu/m /day but 88% to be recycled; 12%loss</p>

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### B. PROPOSED LOCATION

The project will be located inside the Calaca Industrial Seaport Zone (CISZ) in Barangay, Lumbang Calsada, Municipality of Calaca, Batangas Province.



Figure 1- Location of the Project in the Maps of Calaca and the Philippines

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**Criteria and Process in Choosing from the Alternatives:**

Project Site	<p>MFI considered the following criteria in its site selection: climatic conditions- not flood prone, labor can be procured easily and economically; area should be accessible to its market to minimize cost of transport and the chances of spoiling the cement during transport; there is available and reliable power supply; raw materials are available near and can be transported to site easily; transport facilities are available for raw materials and finished product.</p> <p>In view thereof, it considered various areas in Luzon, such as Laguna, Batangas and Pampanga. It found the area within the Calaca Industrial Seaport Zone as the best choice.</p> <p>Proponent found the following advantage in selecting CISZ: site is within an established industrial area bordering coastal zone with operating “port”; the site is an idle land area not use for agricultural production and free of settlements/residence. Also, the site is near the port and national highway which is very accessible through the well establish road network of CISZ.</p>
Technology Selection	<p>New grinding system will be adopted as an alternative to the existing technology to ensure production processes will be cost-effective and environment-friendly. Hybrid grinding system –combination of roller press and ball mill, will be used to pulverize the raw materials cement components. Hence, the efficient energy usage of roller press for pre-grinding operation and the grinding ability of ball mill are combined for better pulverization with higher capacities.</p>
Operation Processes & Design	<p>Finish grinding is one of highest energy consuming operation in cement manufacturing plant. Nowadays there are different grinding systems have been designed and operated to improve the process in addition to the closed-circuit, two compartment ball mills known for decades. With this interest, Mabuhay Filcement Inc. opted to employ the combined or hybrid grinding system.</p>

**C. PROJECT PROPONENT**

Project Proponent	Mabuhay FilCement Inc., (MFI)
Address	<p>Doña Emilia Benedicto Bldg. No. 7 E. Benedicto St. Zapatera, Cebu City, 6000, Cebu, Philippines Tel. No.: (6332) 255-3200 /255-3207 /488-9788 Email : &lt;mfcement@gmail.com&gt;</p>
Contact Person & Proponent authorized Representatives	<p>Enrison T. Benedicto Rose D. Encallado Joselito M. Palacio Tel.No.: (6332) 488-9788 / Mobile No.: (63-917) 417-8403 Email: &lt;jmpalacio@mfcement.com</p>

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#### D. PROJECTED TIME FRAME OF THE PROJECT IMPLEMENTATION

The following is the proposed schedule of activities of this Project from pre-construction to operation:

Project Phase	Proposed Schedule	Duration
Pre-construction	April 2018 - June 2019	15 months
Construction	July 2019 - December 2021	2 years and 6 months
Commissioning	January 2022 - April 2022	4 months
Commercial Operation	May 2021	

#### E. CONCISE INTEGRATED SUMMARY OF THE MAIN IMPACTS AND RESIDUAL EFFECTS AFTER APPLYING MITIGATION:

Project Phase / Environmental Aspect	Potential Impact	Options for Prevention or Mitigation or Enhancement	Residual Impacts
<b>CONSTRUCTION PHASE</b>			
<b>Land</b>			
Generation of debris, solid wastes and scraps due to various construction works	Land pollution	<ul style="list-style-type: none"> <li>• Good housekeeping;</li> <li>• Reduce, re-use, recycle of wastes</li> </ul> Reuse and sell of scraps	<ul style="list-style-type: none"> <li>• Minimal solid waste</li> </ul>
Soil erosion due to cut and fill	<ul style="list-style-type: none"> <li>• Land degradation at site and nearby areas</li> <li>• Increased sediment and deposition in adjacent areas</li> </ul>	<ul style="list-style-type: none"> <li>• Further minimize cut and fill because land is already developed</li> </ul> Protect loose soil from rain	
Generation of hazardous wastes	Land contamination	<ul style="list-style-type: none"> <li>• Good housekeeping</li> <li>• Proper Containment of oil and used oil</li> <li>• Collection and treatment by a DENR accredited TSD</li> </ul>	<ul style="list-style-type: none"> <li>• minimal</li> </ul>
<b>Water</b>			
Release/ discharges of waste water due to construction activities	Pollution of ground water	<ul style="list-style-type: none"> <li>• Use of Portable toilets</li> <li>• Good housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal discharge compliant to DENR standards</li> </ul>
Use of limited water resource	Water depletion due to groundwater extraction	<ul style="list-style-type: none"> <li>• Provision of water conservation measures</li> <li>• Source water from CISC</li> </ul>	<ul style="list-style-type: none"> <li>• No impact</li> </ul>
<b>Air</b>			

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Emissions to air due to land clearing and construction activities	Air pollution	<ul style="list-style-type: none"> <li>Regular spraying of water where earthwork activities are concentrated</li> <li>Compacting of exposed soil and immediate hauling of spoils</li> <li>Cover on trucks loaded with construction materials</li> <li>Impose speed restrictions for trucks</li> <li>Road water sprinkling</li> <li>Tree nursery and tree planting</li> </ul>	<ul style="list-style-type: none"> <li>Ambient air quality sompliant to DENR standards</li> </ul>
<b>People</b>			
Increase of noise level	Nuisance to nearby communities	Limit activities during day time	<ul style="list-style-type: none"> <li>Noise level compliant to OSH standards</li> </ul>
Physical Attributes and Nuisance	Increase in traffic congestion	Implement Traffic management plan	
Employment and livelihood generation	Increase in livelihood opportunities and community income	<ul style="list-style-type: none"> <li>To enhance, give priority to qualified locals</li> </ul> Implement Social Development Program (SDP) and information and Education Campaign (IEC)	
<b>Operation Phase</b>			
<b>Land</b>			
Solid waste accumulation	Generation of sludge from septage	<ul style="list-style-type: none"> <li>Septic tank management by desludging</li> </ul>	
Solid waste accumulation	Land pollution	<ul style="list-style-type: none"> <li>Good housekeeping</li> <li>Implement Proper Waste Management Plan</li> <li>Implement reduce, re-use and recycle program.</li> <li>Provision of compost pit for biodegradable waste</li> <li>Set-up a Material Recovery Facility</li> </ul>	<ul style="list-style-type: none"> <li>Minimal non-hazardous waste</li> </ul>
Hazardous wastes discharge to land	Contamination and improper management of hazardous waste materials	<ul style="list-style-type: none"> <li>Proper labeling, segregation and storage</li> <li>Transport, treatment and disposal of DENR accredited third party contractors</li> <li>Provision of hazardous waste storage area with secondary containment</li> </ul> Separate area for the plant personnel working station to	<ul style="list-style-type: none"> <li>minimal</li> </ul>

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		prohibit hazardous waste exposure and health hazard as well.	
<b>Water</b>			
Release/Discharge to Water	Water pollution domestic wastes	<ul style="list-style-type: none"> <li>• Use of multi-chamber septic tanks</li> <li>• Desludging by accredited service provider</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal/ zero discharge</li> </ul>
Use of limited water resource	Water depletion due to groundwater extraction	<ul style="list-style-type: none"> <li>• Water conservation measures</li> <li>• Source water from CISC</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Emissions to Air	Air pollution from fugitive dusts, equipment and vehicles	<ul style="list-style-type: none"> <li>• Use/installation of dust collector system</li> <li>• Closed system for transfer and storage</li> <li>• Manual sweeping</li> <li>• Proper maintenance of dust collector including replacement of filter bags</li> <li>• Road water sprinkling</li> <li>• Tree nursery &amp; tree growing</li> </ul>	<ul style="list-style-type: none"> <li>• Air quality within DENR standards</li> </ul>
	Greenhouse gas emission	Implementation of a greenhouse gas emission reduction and management program	
<b>People</b>			
Noise from equipment and vehicles	Increase of ambient noise levels	<ul style="list-style-type: none"> <li>• Establish and maintain Buffer zone and tree growing</li> <li>• Ensure proper maintenance of equipment and vehicles</li> <li>• Provision of earplugs to workers</li> <li>• Maintain OSH prescribed noise criteria</li> <li>• Impose and implement strict policies on hired vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Noise level within OSH standards</li> </ul>
Health aspects	Increase in health incidence attributable to operation of plant	Ensure all mitigating measures to control air pollution are in place and operational at all times	Zero incident
Employment and income generation for the people	Increase in livelihood opportunities and community income	<ul style="list-style-type: none"> <li>• To enhance, give priority to qualified locals</li> <li>• Implement Social Development Program (SDP) and information and Education Campaign (IEC)</li> </ul>	



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Income generation for the Barangay and Calaca Local Government	Increase in local government's income	Pay appropriate fees and taxes on time and	
Physical Attributes and Nuisance	Increase in traffic congestion	Implement Traffic management plan	
<b>Decommissioning Phase</b>			
Discharge to land	Solid waste pollution /contamination brought about by scraps and debris from demolition; Change in land form and use	<ul style="list-style-type: none"> <li>• Good housekeeping</li> <li>• Conduct Environmental site assessment (ESA) prior to abandonment</li> </ul>	<ul style="list-style-type: none"> <li>• Possible contamination will be addressed</li> </ul>
Emissions to air	Air pollution due to dust from demolished structure Noise Pollution due to demolition	<ul style="list-style-type: none"> <li>• Sprinkling of water in affected areas</li> <li>• Limit activity during daytime</li> </ul>	<ul style="list-style-type: none"> <li>• Ambient air quality is within DENR standards</li> </ul>
Loss of livelihood	Loss of Jobs and community programs	<ul style="list-style-type: none"> <li>• Retrenchment package</li> <li>• Labor support programs</li> </ul>	

#### F. IDENTIFIED STAKEHOLDERS

Stakeholders	Name
Local Government Unit	Office of the Municipal Mayor
	Sangguniang Bayan of Calaca, esp councilor for the Committee on Environment
	Office of the Municipal Planning and Development Office
	Office of the Municipal Environment and Natural Resources Office
	Office of the Municipal Engineer
	Rural Health Unit of Calaca,
Calaca Industrial Seaport Zone	
Barangay Government Unit of Barangay Lumbang Calzada, Calaca	Barangay Chairperson
	Sangguniang Barangay
	Barangay Health Workers
NGO? People's Organization	Grupo ng mga Kababaihan/Women's Sector
	Samahan ng mga Kalalakihan (ERPATS), Lumbang Calzada, Calaca
	Bantay Dagat
Department of Education	Lumbang Calzada Elementary School
Calaca Industrial Seaport Zone locators	* KNAUF representative

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#### **G. STATEMENT OF COMMITMENT AND CAPABILITY TO IMPLEMENT NECESSARY MEASURES TO PREVENT NEGATIVE IMPACTS**

Mabuhay Filcement Inc. commits to:

- Comply with the conditions that will be stipulated in the ECC and other related environmental laws;
- Foster mutually beneficial partnership and cooperation with the host community;
- Promote sustainable use and responsible development of resources by adopting appropriate technologies;
- Develop livelihood programs and upgrade skills of host community to contribute and enhance the quality of life; and
- Develop training programs for its employees to ensure that they will be continually prepared for the tasks assigned to them.

#### **H. INFORMATION ON WHERE TO GET A COPY OF THE EIS FOR FURTHER INFORMATION**

The Project's EIS and Executive Summary for the Public can be downloaded from the website of EMB: [www.emb.eia.gov.ph](http://www.emb.eia.gov.ph). Copies will also be available from the following offices:

1. EMB Calabarzon  
Address: 6<sup>th</sup> Floor, DENR by the Bay, 1515 Roxas Boulevard, Ermita, Manila  
Telephone Number: (02) 536-9784
2. Municipal Office of the Environmenta and Natural Resources (MENRO)  
Municipality of Calaca, Batangas

For more details, please contact the EMB- EIAMD at telephone numbers: 9202240 to 41 and look for the project Case Handler: Carl Louie Santiago.