

## Table of Contents

1 Basic Project Information.....	2
1.1 Project Information.....	2
1.2 Proponent Profile.....	2
2 Project Description.....	2
2.1 Project Rationale.....	2
2.2 Project Location and Area.....	4
Geographic Coordinates of the Project Area:.....	6
2.3 Project Components.....	6
2.4 Resource Requirement.....	7
3 Project Methodology.....	7
3.1 Pre-quarry Phase.....	8
3.2 Quarry Phase.....	8
3.3 Decommissioning/ Rehabilitation Phase.....	9
4 Project Duration: 77 years.....	11
4.1 Timeframe of Project Phases.....	11
5 Project Cost: (Php) Approx. PhP 200,000,000.00.....	12
6 Site Development Plan.....	12
7 Actual Site Photos (Aerial Photos).....	13
8 Baseline Characterization.....	19
9 Summary of Impact Assessment and Environmental Management Plan.....	20

## PROJECT DESCRIPTION FOR SCOPING (PDS)

### 1 Basic Project Information

#### 1.1 Project Information

<b>Project Name</b>	Mabuhay Quarry Project
<b>Project Location</b>	Brgy. Lantawan and Brgy. Basak, Municipality of San Fernando, Cebu
<b>Nature of the Project</b>	Quarry Project
<b>Total Project Land Area</b>	168.34 hectares

#### 1.2 Proponent Profile

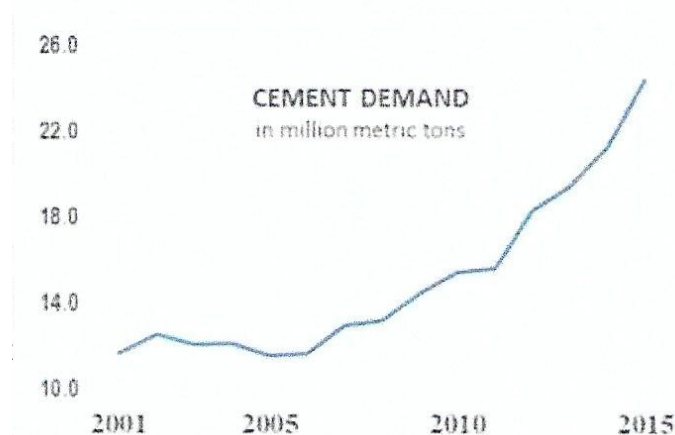
<b>Proponent Name</b>	Mabuhay FilCement Incorporated
<b>Office Address</b>	Dona Emilia Benedicto Building, No. 7 E. Benedicto St., Cebu City
<b>Authorized Signatory and Representative</b>	Enrison Benedicto Chief Executive Officer
<b>Landline</b>	032 255 3201, 032 255 3200
<b>email address</b>	enrison@mfcement.com, frenzyalfeche@gmail.com, lito.palacio1@gmail.com
<b>TIN</b>	118-886-322

### 2 Project Description

#### 2.1 Project Rationale

The infrastructure development in the Philippines is on the rise and is expected to continue rising in the coming years. This is in adherence to President Duterte's pronouncement and said "Build, Build, Build." As both the government and the private sector are expected to embark on several infrastructure projects, the demand for cement will increase. In 2015, the demand for cement reached to 24.0 million metric tons and this will continue to rise as projected by the Cement Manufacturers Association.





*Cement Demand (in million metric tons) According to 2015 Annual Cement Industry Report of Cement Manufacturers' Association of the Philippines, Inc. (CeMAP)*

With the ongoing and on-the-pipeline infrastructure projects in Cebu, the local demand for cement will likewise continue to increase in the coming decade. In response to this, Mabuhay Filcement Inc. (MFI), a Filipino corporation which manufactures cement products, would take part to this nation building undertaking by providing affordable and good quality cement. Hence, MFI need to increase its production capacity to help sustain the increasing demand from cement. MFI also aims to promote countryside development by establishing the plant at San Fernando Cebu, which is one of the growing municipality in Cebu. The plant operation will also provide employment and livelihood to the locals and at same time generate income to both local and national government. Such development will also address the industrial needs of the growing countryside.

The cement plant has already been operating for almost 5 years and is continually developing and improving its processes, capacity and structures. As a parallel activity, MFI aims at developing its own quarry site primarily because the raw materials (e.g. limestone) are being currently sourced from small scale quarries in the surrounding barangays which they have no control. The opening of the proposed quarry project will be able to amply supply the need of the cement plant for limestone. This will likewise enable MFI to control the operation of the mining operation to ensure sustainable quarrying practice.

The proposed quarry area is rich with limestone deposits and generally idle to this date. The site has an elevation of 600 meters above sea level and has a natural drainage. It is also classified as part of the mineral reserve area as per the Comprehensive Land Use Plan (CLUP) of the Municipality of San Fernando, Cebu. The Project site is located favorably far from the residential areas of the host barangays. Thus, environmental impacts i.e. noise, dust, etc. that would be brought out during operations can be contained only in the area and would not aggravate the adverse impacts on the residential community. In addition, the quarry site is about 5 km distance from the cement plant. Thus, this proposal for such development came out feasible.

The management of the plant/quarry operation will use methods that are environmentally and socially sensitive using innovative measures coupled with advanced technology. The aim is to bring about sustainable development bearing in mind the future generation of the host

communities. The conduct of the quarry site selection process, the following criteria were considered: 1: Elevation; 2. Classification/Area zoning; 3. Proximity/Distance from the cement processing plant; 4. Distance from the residential area; and 5. Rich reserve limestone volume deposit.

Given that the area is classified as a mineral reserve area, according to the HLURB CLUP Vol. 3 Model Zoning Ordinance, allowable uses and/or activities are limited to the Mining operations and small scale mining. Also stated, “except for duly-approved mining-related structures, no other permanent buildings or structures are allowed.” “When allowed, buildings and structures shall be designed and constructed in accordance with the requirements of the DENR, NBC and with the provisions of this ordinance.”

Establishing commercial or residential development in the area as an alternative use will be difficult. This is due to the land’s accessibility and topography where the proposed quarry sites are basically located on ridges and are steep in slopes. In addition, agricultural products are hardly grown in the area. Once the limestone deposits are consumed, the stabilized and rehabilitated quarry sites can be used for other purpose.

## 2.2 Project Location and Area

The proposed 2 blocks quarry project site will be located in Barangays Basak and Lantawan in the Municipality of San Fernando, Province of Cebu, with EP NO. 00015-VII and an area of 168.34 hectares. The area has been classified as Mining Zone in the Comprehensive Land Use Plan (CLUP) of the municipality of San Fernando, Cebu. The site location map is shown in Figure below.

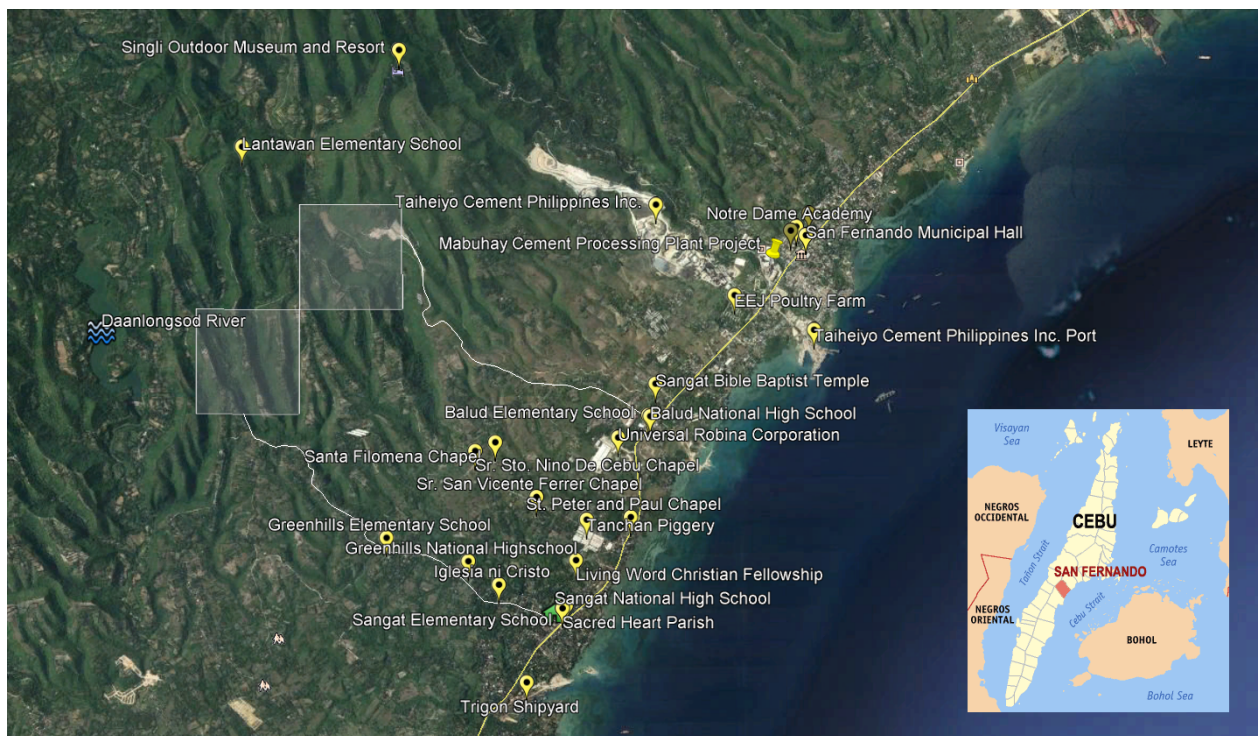


Illustration 1: Vicinity Map

Lot Description	
Gross Area (Blocks)	168.34 hectares
Excluded Area	1,329,200 sq.m. (78.96%)
Net Area (Quarry area and support facilities)	354,200 sq.m. (21.04%)
Area Distribution	
Quarry Area 1	140,000 sq.m.
Quarry Area 2	70,000 sq.m.
Quarry Area 3	45,000 sq.m.
Quarry Area 4	67,000 sq.m.
Total Buffer Area (within Quarry Area)	32,200 sq.m.
Total Temporary Support Facilities	52,185 sq.m.
Temporary Toilet	5 sq.m.
Temporary Site Office	30 sq.m.
Wash/Silt Ponds	33,000 sq.m.
Water Storage and Pump Station	20 sq.m.
Materials Recovery Facility	50 sq.m.
Waste Stockpile	12,000 sq.m.
Parking / Waiting Area	7,000 sq.m.
Road Network	Temporary; part of quarry area Barangay Road Traversing Property
Total Lot/Block Area	168.34 hectares

**Landmarks Near the Project Area:**

LANDMARK	DISTANCE
Lantawan Elementary School	1.2 km (road access)
Greenhills Elementary School	2 km (road access)
Greenhills National Highschool	2.8 km (road access)
Iglesia ni Cristo	3.15 km (road access)
Sangat National Highschool Sangat Elementary School Sacred Heart Parish	3.7 km (road access)
Balud Elementary School Balud National Highschool	3.3 km (road access)
Sangat Bible Baptist Temple	3.55 km (road access)
Taiheiyo Cement Philippines Inc. Plant	4.75 km (road access)
Mabuhay Cement Processing Plant	5 km (road access)

### Geographic Coordinates of the Project Area:

Corner	Latitude	Longitude
1	10° 09' 00.00"	123° 39' 30.00"
2	10° 09' 30.00"	123° 39' 30.00"
3	10° 09' 30.00"	123° 40' 00.00"
4	10° 10' 00.00"	123° 40' 00.00"
5	10° 10' 00.00"	123° 40' 30.00"
6	10° 09' 30.00"	123° 40' 30.00"
7	10° 09' 30.00"	123° 40' 00.00"
8	10° 09' 00.00"	123° 40' 00.00"

### 2.3 Project Components

A geologic reserve was estimated of the limestone deposits in the study area. To compute for volume, the area (in square meters) of each proposed quarry area within the mining claim block was multiplied by the average thickness. The thickness was estimated based on actual ocular inspection of the area and also from the contour lines in the topographic map where the specific claim blocks are located. Computations are as follows:

	Area (hA)	Quarry Area	Area (sq.m.)	Ave. Thickness (meters)	Volume (cu.m.)	Specific Gravity	Tonnage (MT)
NE	81	1	140,000	40	5,600,000.00	2.00	11,200,000.00
		2	70,000		2,800,000.00		5,600,000.00
SW	81	3	45,000	30	1,350,000.00		2,700,000.00
		4	67,000		2,010,000.00		4,020,000.00
	<b>162</b>	<b>Total</b>	<b>322000</b>		<b>11,760,000.00</b>		<b>23,520,000.00</b>

Thickness of the limestone deposits in the study area ranges from 30 to 40 meters. The total volume of the deposits in the proposed quarry areas was estimated at **11,760,000** cubic meters.

For tonnage computation, the volume (in cubic meters) was multiplied by the average specific gravity of the limestone samples. Specific Gravity of the limestone deposits in the study area is estimated at 2.0. The total tonnage of the limestone deposits in the area was estimated at **23,520,000** metric tons.

Considering 30% as allowable for soil overburden, cavities in limestone and also for mining and quarrying losses, we have:

$$\begin{aligned} \text{Quarriable Reserve of limestone} &= 23,520,000 \times 0.70 \\ &= \mathbf{16,464,000} \text{ metric tons,} \end{aligned}$$

The total limestone requirement of the Mabuhay Cement Processing Plant is about 2000 MT/day.

The quarry operations component is contained in the proposed quarry site. Processing is done at Mabuhay Cement Processing Plant which will now incorporate the cement plant component.

The existing cement processing plant has already been issued an ECC No. 0809-026-2620 dated February 19, 2009 and as a parallel application, is being applied for an expansion.



Facilities	Area (sq.m.)	Unit	Remarks
<b>A. Quarry Facilities (Main Component)</b>			
1. Quarry Area/Site	322,000		305,000 MTPY
2. Heavy Equipment a) Backhoe		3	
3. Hauling Trucks a) Haulers		16	
<b>B. Support Facilities</b>			
1. Drainage System with silt pond	1100	30 ponds	Indefinite
2. Field Office	35	1	Movable
3. Waiting/Parking Area	1000	7	
4. MRF	25	2	
5. Waste Stockpile	50		Indefinite
6. Satellite Nursery	20	4	

## 2.4 Resource Requirement

- **Water.** Quarry operations generally does not require water in its activities, however, sprinkling of road works require water. About **ten (10) cu.m of water per day** will be sprinkled around the vicinity to include, road network and built-up area. The water source for the road sprinkling is from the **barangay water supply system** about 300 meters from the quarry site.



*Illustration 2: Water Consumption (Road and Plant Watering)*

- **Electricity.** To operate the quarry component, quarry activities will only be employed during daytime. A field office will be set up with 4-5 staff to check and monitor quarry operations. Thus, power requirement / usage is very minimal which is estimated to about **10 KW per month**. The distribution wheeling services are provided by **Visayan Electric Company (VECO)**.

## 3 Project Methodology

The cement manufacturing process begins in the quarry. Mining is done using ripping and earth moving equipment. Materials that are ripped and dozed will be stockpiled at the quarry floor and reclaimed using front-end loaders into tonner haul trucks for transport to the crusher. Extraction rate is estimated to be at 305,0000 metric tons per year (MTPY).

Project cycle for quarry activities involves the pre-quarry, quarry and decommissioning rehabilitation phases;

### 3.1 Pre-quarry Phase

This phase will start with preparation and approval of the mining plan which includes the development and construction of access road, lay-out of the quarry boundaries, buffer zones, reforestation site, stock pile area, pit lay-out, loading points and drainage system lay-out

- **Access Road Construction.** Prior to any quarrying activities, a road will be constructed from the existing barangay road traversing to the project site. The mining road shall connect with the roads within the plant site particularly those going to the crusher.
- **Site Clearing.** This activity involves the removal of the vegetation and waste topsoil inside the quarry boundary. A buffer zone of at least five (5) meters wide will be maintained along the boundary with other lot property owners. After the removal of the vegetation, the waste overburden will be removed using bulldozer or front-end loader and dump trucks. The better topsoil will be stockpiled for use in the construction of silt traps, road maintenance, and other rehabilitation works in the future.

### 3.2 Quarry Phase

In the operation phase, the following activities are done. The quarrying operation/extraction of limestone essentially involves the following sub-activities:

- **Overburden Stripping.** Thin vegetation and shallow surface capping of topsoil overburden are scraped, pushed and stockpiled with the use of a bulldozer to initially expose the limestone deposits. Generally, the overburden is very thin and negligible.
- **Benching.** Open-cut surface quarrying, through benching, is cost-effective, safe and the acceptable method to be employed for limestone extraction. A series of multi-level terrace-like extraction faces (known as benches) are constructed and maintained to serve as convenient and effective working levels from which quarrying and hauling equipment could safely position and maneuver while conducting sequential/systematic excavation, loading and hauling activities. Movement of heavy equipment from one bench level to another is facilitated by access ramps constructed for the purpose.



*Illustration 3: Heavy Equipment during Quarry Phase*

- **Loading and Hauling Operations.** Loading of extracted and/or stockpiled limestone materials unto a waiting haul truck is being accomplished through the use of a payloader. When the haul truck is already filled up, it will transport the loaded limestone materials to the plant site/end-users.

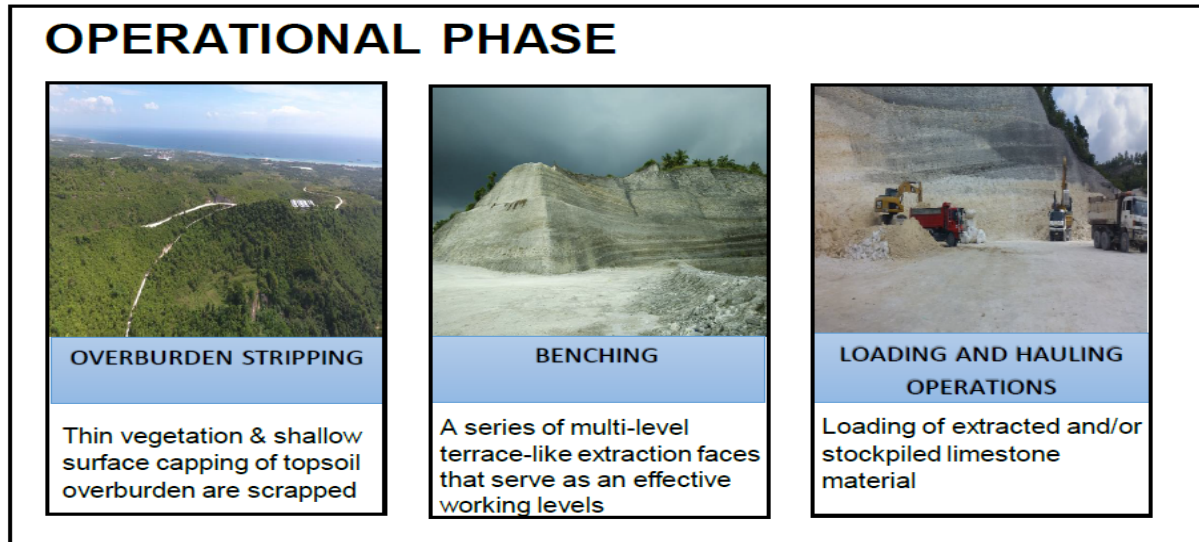


Illustration 4: Operational Phase Activities

### 3.3 Decommissioning/ Rehabilitation Phase

Whenever applicable or subsequently required, the proponent will prepare and submit to the Provincial Governor or the MGB-7 Regional Director, for evaluation and approval, a Final Quarry Rehabilitation and Decommissioning Plan for implementation prior to abandonment of the area. Same plan will also be submitted as a requirement of the Environmental Compliance Certificate which may be issued, hereinafter. The abandonment strategies will essentially involve the following activities:

- **Landform Restoration.** Land disturbed by quarrying will be reshaped to approximate, as closely as possible, to its original form and contour or in accordance with the final land use plan before abandonment. Stripped topsoil and overburden spoils previously set aside and properly stockpiled at designated areas will be reintroduced over the mined-out surface as replacement substrate to support subsequent re-vegetation activities. Earth depressions, excavations, pits and mounds created by quarrying shall be leveled off and/or backfilled, as the case may be. Final landform shall be made visual-friendly and compatible with the surrounding landscape.
- **Erosion Control.** During landform restoration, the natural drainage patterns that were disrupted by quarrying will be reinstated to control possible water-caused erosion of land surfaces and slopes after quarrying. If necessary, a catch basin at the downslope catchment in combination with diversion channels shall be provided to slow down water flow and enhance subsurface infiltration. The basin will also trap fugitive silts and quarry spoils that may cascade downhill.
- **Re-vegetation.** The area cleared for or disturbed by quarrying will be re-vegetated



with endemic plant species with the reforestation or tree-planting plan to be devised by the proponent. Close coordination with the DENR local reforestation station will be established in this regard for technical guidance and for availing of services of its plant nursery.

- **Asset Disposal.** All structures, facilities and equipment constructed/introduced in the project site which are utilized for quarrying operation shall be dismantled, removed or disposed of by sale or recycling before final abandonment. Non-metallic scraps, derelicts and other solid wastes will be collected and either sold or buried in compost pits.



Illustration 5: Environmental Protection Practices

The important factor in the cement manufacturing process will be the immediate availability and transport of limestone from a capable quarry site going to the cement plant. For now, the plant sourced its limestone from the Small-Scale Quarry of Benedict Benedicto and Mabuhay FilCement Inc. both located in Brgy. Basak, San Fernando, Cebu. This is approximately 5.01 Km south of San Fernando to Mabuhay FilCement Inc. (MFI). The limestone is stored in the limestone stacker inside the plant area. While the other raw materials such as Silica, Clay, Gypsum, Pyrite and Pozzolan will be from other external sources.

When the required, Environmental Compliance Certificate (ECC), and the Mineral Processing Sharing Agreement (MPSA), and other necessary permits for the quarry component of this project will already be secured, then the distance to secure the limestone requirement will be shorter at around 5 kilometers and the availability of the limestone material to the plant will be sufficient for its manufacturing processes.



#### 4 Project Duration: 77 years

##### 4.1 Timeframe of Project Phases

Schedule	Duration
<b>PROJECT PREPARATION STAGE</b>	<b>7 years 5 months</b>
Exploration Survey	2 years
Carrying out feasibility studies	2 months
Social Preparation Works	4 weeks
Acquisition of consent or ownership of surface land area	4 years
Undertaking project risk assessment, including; planning risks, programs and procurement strategy	2 months
Application for other necessary national and local government permits	1 year
<b>PROJECT DEVELOPMENT STAGE</b>	<b>10 months</b>
Access road construction and haul roads improvements	6 months
Construction of quarry administrative facilities	2 months
Construction of pollution control systems (Settling ponds)	2 months
<b>QUARRY OPERATIONAL STAGE</b>	<b>65 years 6 months</b>
Clearing of vegetated topsoil	2 months
Overburden removal	3 months
Quarry / material extraction	25 years
Drainage/ contour canal	1 month
Loading to haul trucks and ore transport	25 years
Tree planting	15 years
<b>ABANDONMENT STAGE</b>	<b>3 years 3 months</b>
Benching and contouring of quarried-out slopes	2 months
Restoring and spreading enriched top soil on bench panels	1 year
Assessment of bench and slope condition	1 year
Tree planting / re-vegetation	1 year
Proper dismantling of all structures and facilities	1 month

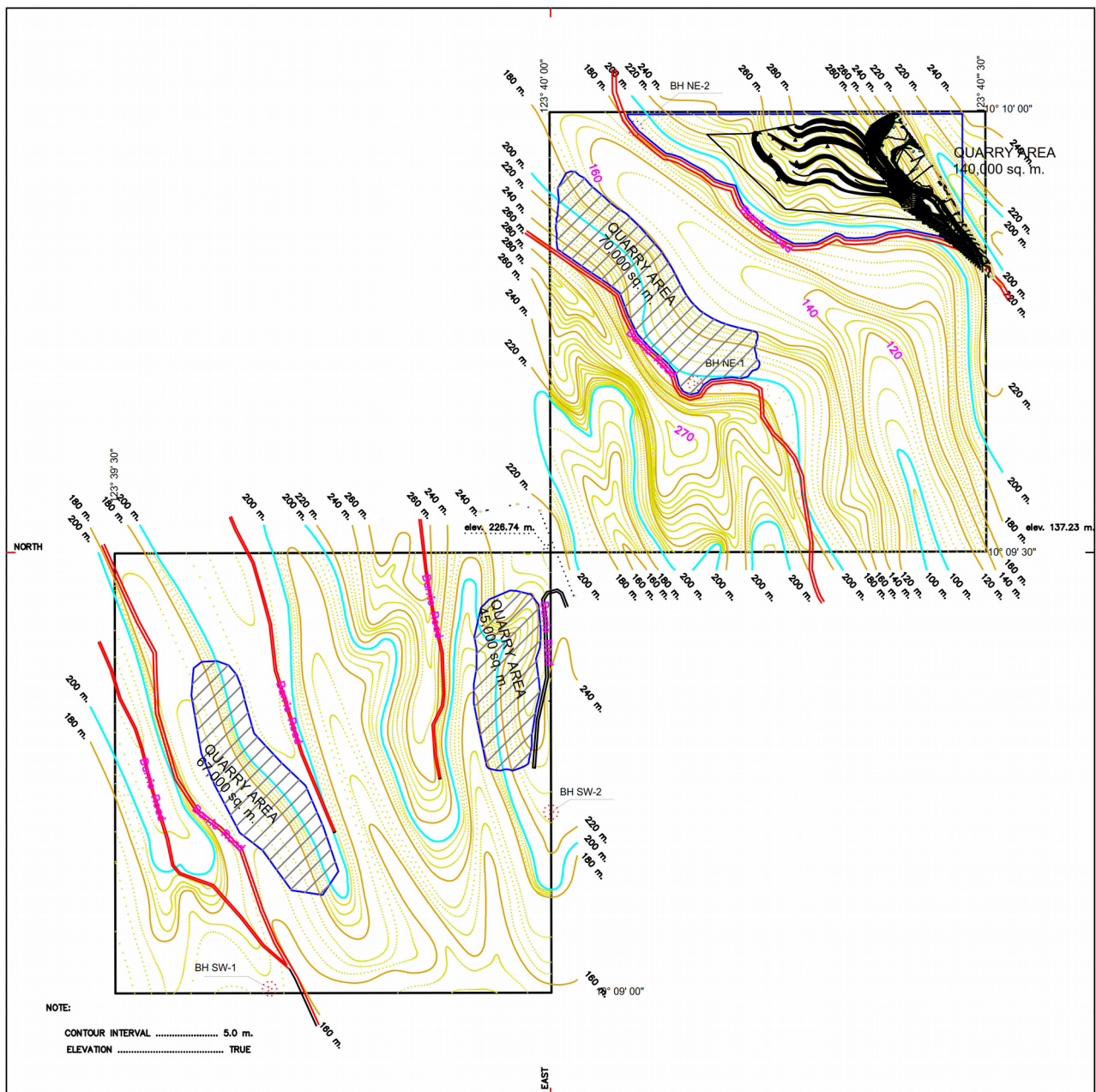
**Note:** the overall duration of the quarry project is equivalent to the duration of the Mineral Production Sharing Agreement with the Mines and Geosciences Bureau (MGB) which is 25 years and can be renewable for more years depending of the availability of the mineral reserve.

Project Phase	2012	2022	2032	2042	2052	2062	2072	2082	2092
Quarry 1									
Quarry 2									
Quarry 3									
Quarry 4									

Gantt Chart

5 Project Cost: (Php) Approx. PhP 200,000,000.00

## 6 Site Development Plan



## 7 Actual Site Photos (Aerial Photos)

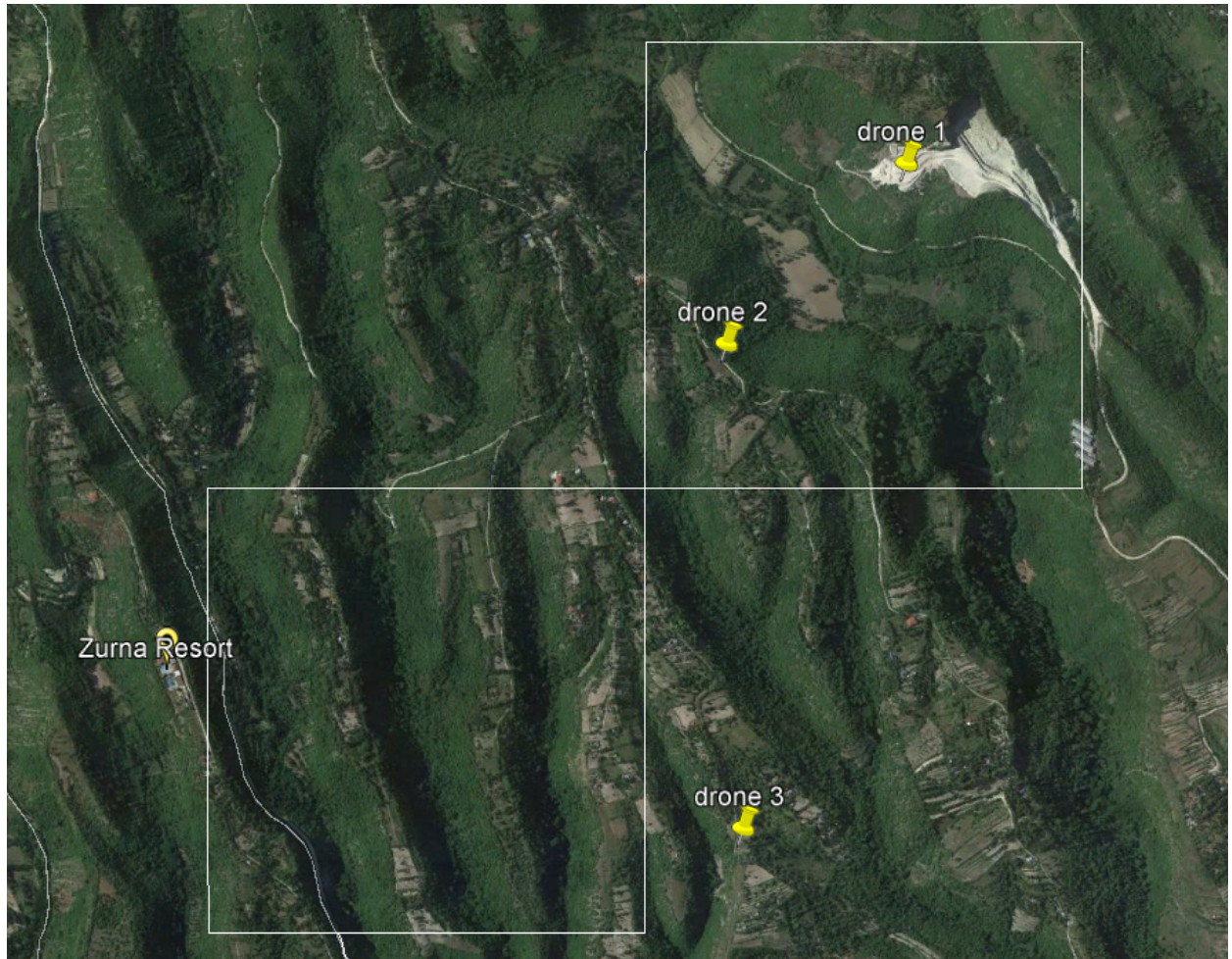


Illustration 6: Drone Home Base Locations





*Illustration 7: Drone 1 (Facing South)*



*Illustration 8: Drone 2 (Facing East)*





*Illustration 9: Drone 2 (Facing West)*



*Illustration 10: Drone 2 (Facing North)*





*Illustration 11: Drone 2 (Facing South West)*



*Illustration 12: Drone 3 (Facing North)*





*Illustration 13: Drone 3 (Facing West)*



*Illustration 14: Drone 3 (Facing North West)*





*Illustration 15: Drone 3 (Facing North East)*



## 8 Baseline Characterization

FINDINGS/ OBSERVATION PER ECOSYSTEM	
<b>Land</b>	Project area is delineated to be Mineable Area as per Comprehensive Land Use Plan 2007-2016 (CLUP) of the Municipality of San Fernando. Mine site is located at higher elevation. Vegetation is dominated by grasses, bushes and marshes.
<b>Water</b>	Water Resources of the locality is quite abundant but at present the water supply is inadequate because of a very poor water system. Water quality were taken and analyzed. For its bacteriological; 1) surface water, underground water bodies were noted to have some coliform colonies present in the water. (Barangay Tonggo, Tabionan, Basak and Lantawan) Its physico-chemical parameters: 1) surface water- around Barangays Basak, Tonggo, and Tabionan water quality are within the DAO 2016-08 standards for Class B water body. The presence of Heavy Metals (Arsenic, Cadmium, Lead and Mercury) were detected in the area. (tested by University of San Carlos Water Lab and Fast Laboratories)
<b>Air and Noise</b>	TSP concentrations in the area are below the NAAQS standard of $300 \mu\text{g}/\text{m}^3$ . For $\text{NO}_2$ and $\text{SO}_2$ , it is observed that the concentration levels are negligible, hence below the NAAQS standard. Ambient Noise Quality in the area passed the NPCC Standard for Class C Area.
<b>People</b>	The Economic trend of the municipality is shifting from agriculture to industrial. Before most people sourced their income from farming and fishing. Currently they are engaged with the industrial operations in the municipality. The youth is prepared and readied to join or to be part of the industrial activities in the locality.

## 9 Summary of Impact Assessment and Environmental Management Plan

Project Phase / Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement
<b>A. PRE-QUARRY PHASE</b>			
Environmental Aspect # 1	A. The Land	<ul style="list-style-type: none"> <li>- Disturbance of land and vegetation; Land clearing/Loss of vegetation</li> <li>- Change in aesthetics / Landform</li> <li>- Domestic and Solid waste production</li> <li>- Destruction on the ecosystem within the project site; food chain disruption</li> <li>- Added Traffic; Hauling trucks for excavation</li> </ul>	<ul style="list-style-type: none"> <li>- Provision of adequate storm drainage system (silt ponds)</li> <li>- Limit land clearing to project site</li> <li>- Establish a nursery and/or satellite nursery</li> <li>- Dispose the excavated materials (top soil and shrubs, etc.)</li> <li>- Proper disposal and reduction of solid wastes</li> <li>- Proper displacement of wildlife</li> <li>- Replace all affected vegetation with diverse vegetative species to contribute a stable and compatible ecosystem in the progressive rehabilitation program</li> <li>- Establish a nursery and/or satellite nursery</li> <li>- Develop / Enhance a forest land in adjacent buffer zone to recreate an ecological balance</li> </ul>
Environmental Aspect # 4	D. The People	<ul style="list-style-type: none"> <li>- Health Issues</li> <li>- Displacement of settlers, if any</li> <li>- Frequent local disturbance</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinate with Health Center in order to provide programs that can address health issues in the community</li> <li>- Proper coordination and compliance with requirements</li> <li>- Proper Information Dissemination with Barangays; continuous IEC</li> </ul>

Project Phase / Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement
<b>B. QUARRY PHASE</b>			
Environmental Aspect # 1	A. The Land	<ul style="list-style-type: none"> <li>- Land Excavation</li> <li>- Increased silt and dust generation and</li> <li>- Change in land use and landform</li> <li>- Modify substratum and increase the likelihood of slope failure; Land will be prone to erosion and landslides</li> <li>- Vibration</li> <li>- Road degregation</li> <li>- Domestic and Solid waste production</li> <li>- Increased Rainwater Runoff due to absence of plants and trees</li> <li>- Traffic; added trucks using access road</li> </ul>	<ul style="list-style-type: none"> <li>- watering of roads and truck wheels before leaving site</li> <li>- limit speed of trucks to lessen the disruption of cleared land or roads</li> <li>- Progressive rehabilitation thru tree planting and re-vegetation at mine-out areas to achieve the post mining land-use</li> <li>- Vegetative slope/benches to control soil erosion</li> <li>- Design slope with correct elevation and level of benches for land stability</li> <li>- Avoid long slope; if not avoided, consider the use of contour banks or reverse incline benches</li> <li>- Allocate proper storage areas for solid waste</li> <li>- Regularly collect solid wastes and store at Mabuhay Plant MRF for collection in coordination with LGU</li> <li>- Implement proper waste management system</li> <li>- Provision of silt ponds to retain silt within quarry site which would also serve as detention</li> <li>- Provision of traffic controller for ingress and egress of trucks from access road to main highway</li> <li>- Regular maintenance of access roads (in the presence of potholes/craters)</li> </ul>
Environmental Aspect # 2	B. The Water	<ul style="list-style-type: none"> <li>- Water usage and waste water generation</li> <li>- Water quality degradation and possible contamination of surface water due to particulate deposition</li> <li>- Disturbance of hydrogeological and hydrological regimes</li> </ul>	<ul style="list-style-type: none"> <li>- Observe/Practice water conservation</li> <li>- Provide adequate catchment basins, silt ponds and settling ponds per quarry site</li> <li>- Regular de-silting of catchment basins</li> <li>- water sprinkling at access roads</li> <li>- construction of benches with erosion control, catch basins and sediment settling ponds</li> </ul>

Project Phase / Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement
Environmental Aspect # 3	C. The Air	<ul style="list-style-type: none"> <li>- Degredation of air quality due to dust generation from extraction activities, loading and movement of hauling vehicles</li> <li>- Increase in noise generation caused by pile drivers, hammer, heavy equipment and other noise generating equipment used for earth moving activities</li> <li>- Increase of air emissions due to the combustion of carbon based fuel coming from hauling vehicles and heavy equipment</li> </ul>	<ul style="list-style-type: none"> <li>- Cover stockpiles to minimize dust blown by wind</li> <li>-Implement dust control through water spraying on unpaved/paved roads and benches used as access roads</li> <li>- Enforce appropriate speed limit to hauler trucks and heavy equipment</li> <li>-Schedule delivery during daytime</li> <li>- Cover the hauling trucks with materials during mobilization</li> <li>- Provide silencers and mufflers to minimize noise</li> <li>- Consider buffer zones at areas near communities; development of green belt/plantation in the safety zone</li> <li>- Progressive rehabilitation thru tree planting to sequester carbon emissions from quarry and transport operations</li> <li>- Proper and regular maintenance of vehicles and heavy equipment</li> </ul>
Environmental Aspect # 4	D. The People	<ul style="list-style-type: none"> <li>- Increase in local economy through employment opportunities and increase tax base for LGU</li> <li>- Health impacts / incidents associated with the project</li> </ul>	<ul style="list-style-type: none"> <li>- Prioritize hiring of qualified labor force within host and neighboring barangays</li> <li>- Promptly pay taxes and other financial mandatory obligations</li> <li>- Plant high-rise and thick trees around quarry areas that will serve as a buffer zone</li> <li>- Coordinate affected communities to its current needs and align company's resources</li> </ul>
<b>D. ABANDONMENT/REHABILITATION PHASE</b>			
Environmental Aspect # 1	A. The Land	<ul style="list-style-type: none"> <li>- Increase solid waste generation</li> <li>- Soil Erosion</li> </ul>	<ul style="list-style-type: none"> <li>- Dispose the excess materials collected from the construction debris (from temporary facilities) and dispose properly</li> <li>-Erosion control of critical areas by excavating excess loose limestone and do proper benching</li> <li>- land remediation by backfilling of top soil and replanting; implementation of local biodiversity action plan (specific tree saplings for replanting)</li> </ul>

Project Phase / Environmental Aspect	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement
Environmental Aspect # 4	D. The People	- Loss of jobs	<ul style="list-style-type: none"> <li>- Advice workers in advance of the status of the project</li> <li>- Provide separation pay and other benefits</li> <li>- Training for alternative livelihood</li> <li>- Coordinate with the community for the implementation of mined land rehabilitation and re-forestation activities</li> <li>- continued stakeholder engagement on rehabilitation projects</li> </ul>