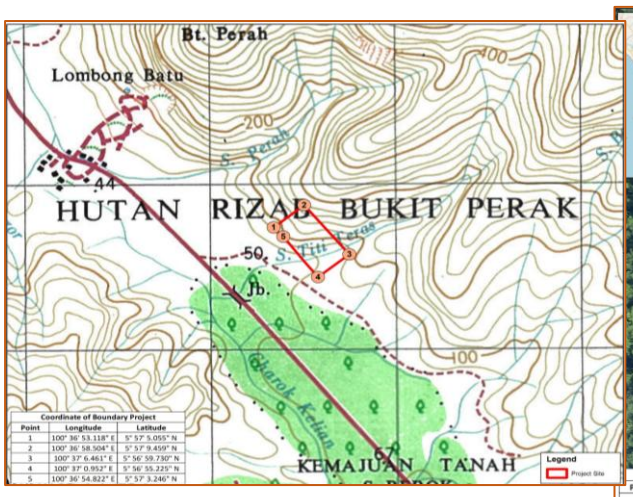
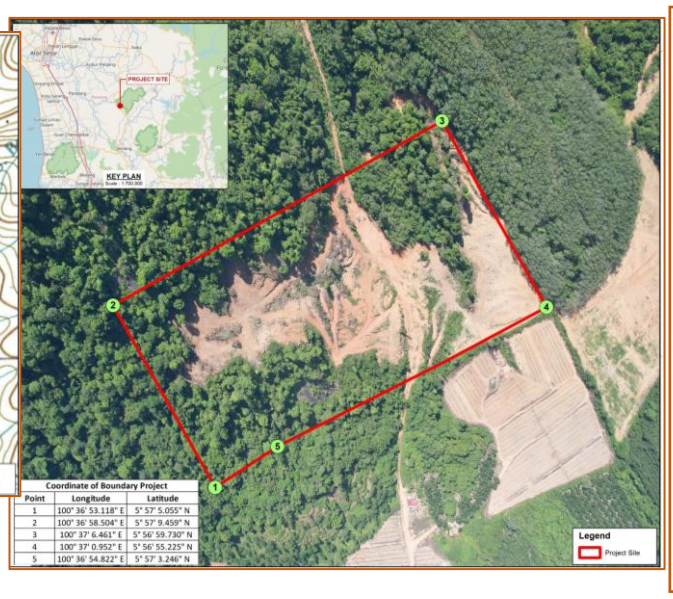
EXECUTIVE SUMMARY

1.0 INTRODUCTION





- Cemara Bina Sdn Bhd (CBSB) is the landowner of the property located at PT 2547, Mukim of Padang Peliang, Pendang, Kedah.
- CBSB hold a 30-year usage permit, issued by the Kedah State Land and Mines Office (PTG) under Qualified Title H.S.(D) 508, dated October 1, 2009.
- CBSB has granted Ecofarm Smart Sdn Bhd (ESSB) the authority to manage the granite quarry operations through a power of attorney agreement.

2.0 PROJECT PROPONENT & QUALIFIED PERSON

PROJECT PROPONENT
ECOFARM SMART SDN. BHD

ENVIRONMENTAL CONSULTANT
ES ECO SMART SDN. BHD.

3.0 LEGISLATIVE REQUIREMENTS

Schedule	Prescribed Activity	Project Component
First Schedule	Activity 19: Quarry Quarrying of rock material	The proposed project involves a granite quarry operation covering an area of 8.0937 hectares.

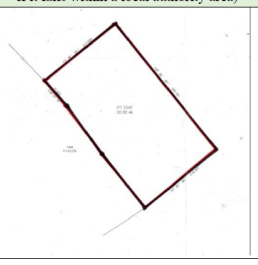
4.0 STATEMENT OF NEED

The need to develop the project is predicated on several strategic factors as follows:

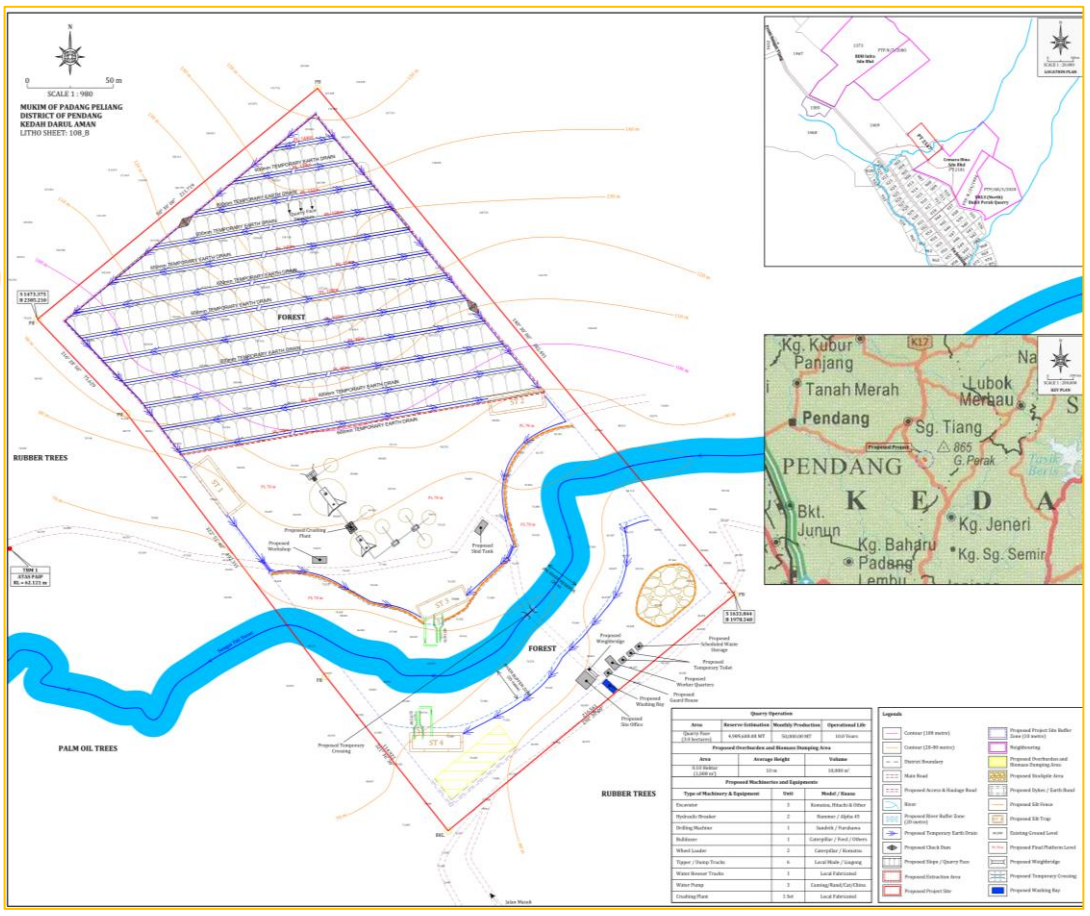
- Generating a highly productive industrial sector
- Spur economic growth
- Complementing the surrounding development

5.0 PROJECT DESCRIPTION

Land Details

Lot No.	PT 2547
H.S. (D) No.	508
Land Owner	Cemara Bina Sdn. Bhd.
City/Town/Region	Mukim Padang Peliang
District	Pendang
Area	8.0937 hectare
Landuse Category	Industry
File No.	PTG (KED)B/94/2009
Lease Period	30 years (until 30 September 2039)
Explicit Condition	This land is to be used solely for the extraction of stones and no buildings other than those essential for this purpose may be constructed (in accordance with the map approved by the Council, if it falls within a local authority area)
Plan	

Quarry Scheme Plan



Estimation of Rock Reserve

Subjects	Particulars
Rock Type	Granite
Specific Gravity	2.7
Area For Extraction 3.0 hectare	3.0 hectare = 30,000 m^2
Contour Different	72 m (150 m – 78 m)
Overburden Thickness	5.0 m
Topographical factor	0.5
Volume of Overburden	150,000 m^3
Volume of Rock	2,160,000 m^3
Volume of Rock + Overburden	2,310,000 m^3
Stripping Ratio	1:14.4 (Overburden : Rock)
Less slopping	Say 20%
Quarry Reserve	
Volume	= 80% x 2,310,000 m^3
	= 1,848,000 m^3
Tonnage	= 1,848,000 m^3 x 2.7 tonne/m^3
	= 4,989,600 tonnes

6.0 PROJECT ACTIVITIES

Pre-Construction	Development	Operation	Rehabilitation
▪ Project planning ▪ Preliminary surveys ▪ Conceptual and details design ▪ Data gathering and EIA	▪ Site preparation & workforce deployment ▪ Land clearing ▪ Installation of equipment and facilities ▪ Construction of crushing plant facility	▪ Rock extraction activities ▪ Maintenance of BMPs	▪ Removal and disposal of structures and facilities. ▪ Reclamation of land by back-filling on certain area with overburden materials.

7.0 EXISTING ENVIRONMENT

Landuse

- According to the *Rancangan Tempatan Daerah (RTD) Pendang 2035 [Penggantian]*, the project area is located within *Blok Perancangan Kecil*, BPK 4.3, which is designated as forest land.
- Referring to a copy of the *Warta Kerajaan*, and in the exercise of the powers conferred by paragraph 13(1)(b) of the National Forestry (Adoption) Enactment 1985, the Ruler in Council declares that, effective from March 2009, Lot PT2547, which formed part of the Bukit Perak Forest Reserve as declared under Kedah Government Gazette Notification No. 952 dated 7 January 1939, shall cease to be a forest reserve area.

Geology

- Based on the Geological Map of Peninsular Malaysia, 9th Edition (2014) published by Department of Mineral and Geoscience Malaysia, the site is portion of the Main Range mainly consists of Lower Palaezoic plutonic granitic rock (ilmenite-rich granite) formed by Bintang Batholith.
- Widespread superficial granitic residual soils verify the presence of this underlying granite. The massive nature of this granitic rock is likely to give economical rock reserve which can be processed as quarry products.

Hydrology

- The project site is located within the Sg Titi Teras catchment region.
- Sungai Titi Teras has been officially gazetted in the " Warta Kerajaan Negeri Kedah Darul Aman," Volume 56, No. 27, under the National Land Code (Act 56 of 1965), published on 31 December 2015.

Water Quality

- Eight (8) water samples were collected from selected rivers, streams and tributaries related to the proposed Project area.
- The river status was recorded as ‘Slightly Polluted’ for two sampling stations (W5 and W8), with the remaining stations classified as ‘Clean’

Air Quality

- Two (2) locations were selected for ambient air sampling. The baseline results for criteria air pollutants, including PM_{10}, $PM_{2.5}$, SO_2, NO_2, CO and O_3 were all well within the limits specified in the 2020 MAAQS (Malaysian Ambient Air Quality Standards).

Noise and Vibration

- Noise : Two (2) sampling locations, all results well within the receiving landuse category Suburban and Urban Residential, Mixed Development of the Second Schedule of Guidelines for Environmental Noise Limits and Control, Third Edition, 2019 (Reprint 2021)
- Vibration : One (1) sampling location, the result is well within the Third Schedule – Recommended Vibration Limits for Human Response and Annoyance from Intermittent Vibrations of Guidelines for Environmental Limits and Control, 3rd Edition (DOE, 2021).

Ecology

- Flora : From the flora survey conducted, a total of 83 species within 47 families of terrestrial vascular plants were recorded in total. Plot enumeration study managed to record 28 trees with a total 13 families of trees > 5cm DBH.
- Fauna : The results of the study showed that there were total of seven (7) species of mammals recorded. Under WCA 2022 [Act A1646], three (3) mammals namely Dusky Leaf Monkey, Long-Tailed Macaque and Wild Boar are categorized as Protected (P) species. Based on the IUCN Red List, the dusky leaf monkey and long-tailed macaque are categorized as Endangered (EN) species meanwhile the other classified as Least Concern (LC) species.

Socio-Economy

- A social survey involved 276 respondents within the 5-km ZOS and several interviews conducted with stakeholders.
- Out of the 276 respondents surveyed, 61% indicated their agreement with the proposed Project. Meanwhile, 7% expressed disagreement, 21% agreed with conditions, and 11% remained neutral in their opinion toward the Project.

Traffic

- The project site can be accessed via Jalan Pendang-Kuala Nerang.
- The access road traverses neighboring lots before reaching the designated project area, with a portion crossing land owned by Cemara Bina Sdn Bhd. Eco Farm Sdn Bhd has been granted permission by Cemara Bina Sdn Bhd to use this road.

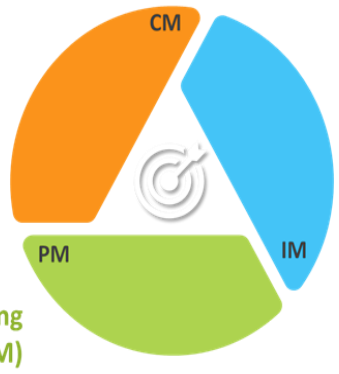
8.0 POTENTIAL IMPACT & MITIGATION MEASURES

Development Phase	Operation Phase
Soil Erosion & Sedimentation	
▪ Soil erosion resulting from removal of vegetation cover ▪ Land clearing and earthwork ▪ Impacts associated with placement of fill ▪ Impacts associated with excavation of slope cut	▪ Surface erosion at embankments and cut slopes
✓ Sediment control measures to be constructed/installed on-site prior to the commencement of earthworks ✓ Runoff control and stormwater management – temporary earth crossing, temporary runoff diversion bund ✓ Erosion control – temporary slope protection, compaction ✓ Sediment control – sediment basin, silt fence, wash trough ✓ Inspection and maintenance of the BMP	✓ Regular maintenance of the drainage systems ✓ All cut slope area should be inspected closely ✓ Inspection and maintenance of the BMP
Blasting	
▪ Air quality and dust emissions during development blasting. ▪ Noise pollution can affect nearby wildlife or residential communities.	▪ Noise generated by blasting is related to air blast ▪ Flyrock
✓ Precision techniques such as only using horizontal blasting for development blasting. ✓ Water suppression systems to control dust emission. ✓ Using natural vegetation as a barrier to reduce the impact of noise.	✓ Properly design blasting system ✓ Rock face shall be shielded from the area of concerned ✓ Buffer zone shall be available to ensure that there is always sufficient distance between blasting activities with the settlement areas. ✓ Safety blasting practices
Explosive	
▪ Improper usage and handling of explosives	▪ Improper usage and handling of explosives
✓ Only persons with satisfactory knowledge and training shall be qualified to handle explosives and blasting accessories ✓ All explosives shall be guarded and recorded it usage on site. ✓ Any loss of explosives shall immediately report to police station.	✓ Only persons with satisfactory knowledge and training shall be qualified to handle explosives and blasting accessories ✓ All explosives shall be guarded and recorded it usage on site. ✓ Any loss of explosives shall immediately report to police station.
Hydrology & Water Quality	
▪ Increased suspended solids and level of turbidity ▪ Poor maintenance of sanitation facilities	▪ Leaked or failed of detention pond
✓ Before the commencement of earthworks, temporary perimeter earth drains, and sediment basin shall be constructed to channel surface runoff for control of sediment discharge ✓ Comply with the designated buffer zone	✓ Proper and regular maintenance of the proposed pond will ensure that the Project complies with the prescribed standards at all times. ✓ Regular water quality monitoring.
Air Quality	
▪ Dust generated during earthworks could pose a problem to the nearby residents.	▪ Dust generated during blasting and transportation could pose a problem to the nearby residents.
✓ Application of water bowsing especially during dry weather	✓ Maintain the buffer area ✓ Carry out periodic monitoring
Noise & Vibration	
▪ Heavy construction vehicle movement and the construction activities	▪ Noise and vibration due to blasting activities
✓ All the equipment and machineries shall be well-maintained to avoid emitting excessive noise and vibration.	✓ The public should also be made to be able to register complaints. ✓ The public should be well notified prior the blasting activities by using sirens
Ecology	
▪ The use of heavy machinery will cause noise pollution and scare native wildlife	▪ Human-wildlife conflict
✓ Regular monitoring on ecology-related issues ✓ No alien species shall be introduced within the project area	✓ Any sightings and potential human-wildlife conflict should be reported to PERHILITAN for further action.
Traffic	
▪ Increase in heavy vehicles	▪ Might elevate the likelihood of an accident.
✓ Warning signages and adequate lighting ✓ Traffic and logistics management plan	✓ Regular inspection and maintenance of connecting road should be carried out to ensure safety of the public road users. ✓ A speed limit should be enforced for transportation lorries during quarry operations while they are using public roads.

9.0 ENVIRONMENTAL MONITORING

Compliance Monitoring (CM)

Compliance monitoring relates to the monitoring of final discharge of pollution control is compiled to the EIA Approval Conditions and acceptable within limits as stipulated in Environmental Requirements. Measurements are usually taken for air, noise, water, or discharge (sewage, sediment basin).



Impact Monitoring (IM)

Impact monitoring may be required in cases where there is a possibility that the impacts affect receptors outside of the Project boundary despite the implementation of P2M2.

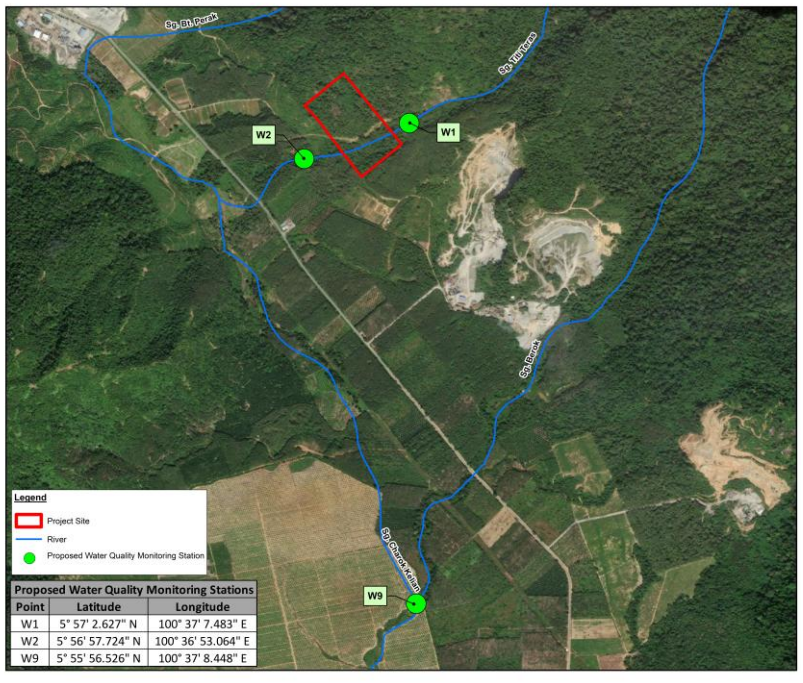
Performance Monitoring (PM)

Performance monitoring relates to the monitoring of the performance system to indicate the LD-P2M2, P2M2, BMP and pollution control or treatment system are functioning in optimal conditions and as per design specifications.

LD-P2M2 Monitoring

Performance Monitoring (PM)	Monitoring Locations	Frequencies
Silt Trap	The locations referred to the LD-P2M2 attachment	2/3 of the height of silt marker After 12.5mm of heavy rainfall
Check dam	The locations referred to the LD-P2M2 attachment	After 12.5mm of heavy rainfall
Silt Fence	The locations referred to the LD-P2M2 attachment	Twice per week and every after a major event (within 24 hours)
Sand Bag	The locations referred to the LD-P2M2 attachment	Twice per week and every after a major event (within 24 hours)
Temporary drain	The locations referred to the LD-P2M2 attachment	Twice per week and every after a major event (within 24 hours)

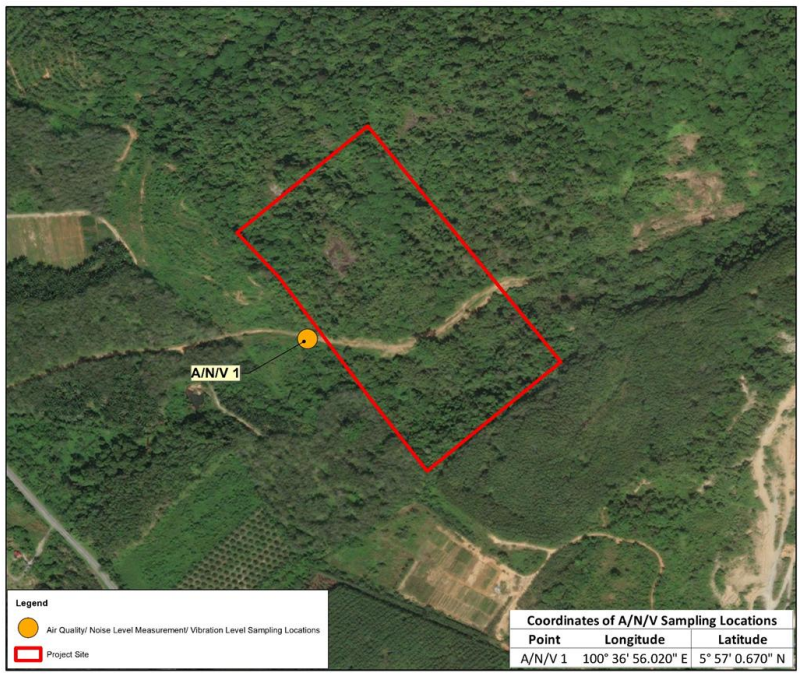
Environmental Monitoring Locations



Proposed Water Quality Monitoring Stations

Point	Latitude	Longitude
W1	5° 57' 2.627" N	100° 37' 7.483" E
W2	5° 56' 57.724" N	100° 36' 53.064" E
W9	5° 55' 56.526" N	100° 37' 8.448" E

WATER QUALITY



Coordinates of A/N/V Sampling Locations

Point	Longitude	Latitude
A/N/V 1	100° 36' 56.020" E	5° 57' 0.670" N

AIR, NOISE & VIBRATION