EXECUTIVE SUMMARY

A PROPOSED OF REFORESTATION WITH MULTI SPECIES FOREST PLANTATION (183.0 HA) AT HSK LEBIR, COMPARMENT PART OF 150 AND PART 151, MUKIM RELAI, DAERAH CHIKU, JAJAHAN GUA MUSANG, KELANTAN DARUL NAIM.

PROJECT PROPONENT
Bayu Gemilang Timber Sdn. Bhd.

ENVIRONMENTAL CONSULTANT
Green Hope Consultancy Sdn. Bhd.

INTRODUCTION

The project title is proposed of reforestation with multi species forest plantation (183.0 Ha @ 452.19 acres) at HSK Lebir, Compartment Part of 150 and Part of 151, Mukim Relai, Daerah Chiku, Jajahan Gua Musang, Kelantan Darul Naim. **Bayu Gemilang Timber Sdn. Bhd. (BGTSB)** as project proponent has getting approval by **Kelantan State Government** through **Department of Forestry (DOF) Negeri Kelantan** with leasing period of fifty (50) years as reference number: PHN.KN.200/1/2676(21) dated on 13th June 2023.

LEGISLATIVE REQUIREMENTS

According to subsection 34A(1) of the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015

The project is subject to under First Schedule,

"**Activity 5(e) : development of planted forest covering an area of 100 hectares or more but less than 500 hectares**"

PROJECT DESCRIPTION

The concept project is to enrich back the proposed area by planting high-value commercial timber trees. The implementation of proposed project site will be executed in nine (9) blocks which divided into three (3) development phase. There are two (2) methods of planting may be performed which are terracing and platform method. In controlling erosion and sedimentation problem, the planting of valuable trees especially is suggested to apply platform (spot planting) method. It is one technique that avoid utilizing heavy machineries.

STATEMENT OF NEED

Due to many circumstances that can be adapted to the environment in Malaysia, the choice of species has also become a priority among the project's proponents. One of the government's endeavours to preserve the idea of the forest's existing green space and the natural structure of the land is the concept of plantation development forests.

EXISTING ENVIRONMENT

Zone of Study (3-5 km Radius)

- Surrounded - HSK Lebir, HSK Relai and ten (10) neighbouring plantation

Socio-economic

- Population = Daerah Chiku 32,025 individuals with 16,681 male and 13,344 female
- Health and Disease Gua Musang = Malaria-114 case, Dengue-76 case & Leptospirosis-9 case
- Orang Asli Settlement = Orang Asli Kg. Kuala Koh = 15.47 km southwest of project site

Biological

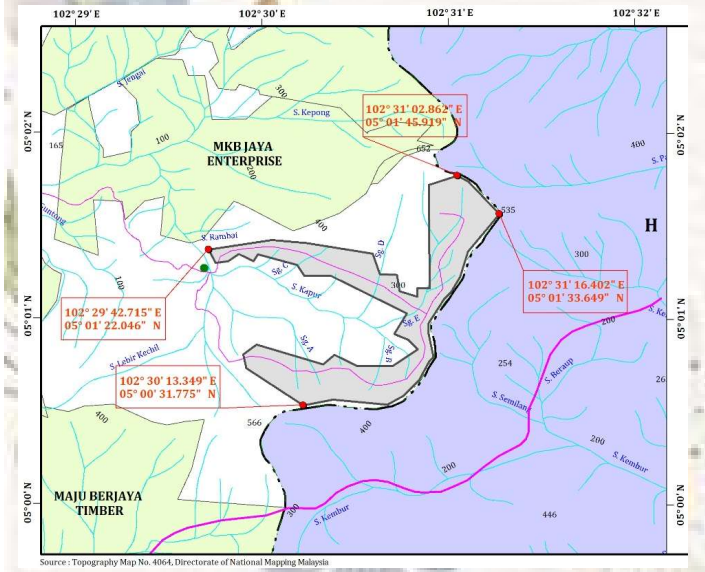
- Flora = 221 species
- Fauna = Bird-91 species, Mammal-27 species, Reptiles and amphibians-13 species
- CFS = CFS 1 Primary Linkages 2
- ESA = Level 1

Physico-chemical

- Topography = Elevation 120 m-560 m
- Slope = <25° = 62.58% (114.52 Ha), > 25 ° = 37.42% (68.48 Ha)
- Geology = Silurian period
- Soil Series = Steepland
- Drainage System = Sg. Kapur → Sg. Lebir Kechil → Sg. Lebir → Sg. Kelantan
- Water Treatment Plant = LRA Aring - 13.71 km west of project site
- Meteorology = Kuala Krai Meteorology Station
- Baseline Environmental Quality
  Water (8 station) = WQI Class I & II
  Air Quality =
  A1-28 μg/m^3, A2-14 μg/m^3
  Ambient Noise Level =
  Day-time =
  N1-70.6 dB(A), N2-64.3 dB(A),
  Night-time =
  N1-49.8 dB(A), N2-48.6 dB(A)

PROJECT LOCATION

- The proposed project site is located approximately 60.48 km northeast of Gua Musang town area, 9.42 km east of Kg. Juhai community area and 15.47 km northeast of Orang Asli Kg. Kuala Koh community area.
- To reach the boundary of proposed project site, one should take Aring 8 intersection to the project boundary through Teroka Tuah Sdn. Bhd.. From this point, it will take about 17.752 km of actual distance to reach the boundary of **BGTSB**'s proposed project site.
- Based on "Rancangan Tempatan Jajahan Gua Musang (RTJGM) 2020", the proposed project site is located in permanent forest reserve area known as HSK Lebir, *"Blok Perancangan (BP 2) : Chiku"* and *"Blok Perancangan Kecil (BPK 2.4) : Hutan Simpan Ulu Lebir"*.



IMPACT MONITORING

Impacts	Regulated Parameter	Monitoring Locations	Frequencies
Water Quality Level	pH, Temperature, Turbidity, Dissolved Oxygen, Biochemical Oxygen Demand, Chemical Oxygen Demand, Total Suspended Solid, Oil & Grease, Ammoniacal Nitrogen, Iron, Manganese, E.Coli	Eight (8) water sampling location has been selected for this proposed project site.	Quarterly
Noise Quality Level	Leq Lmax Lmin	Two (2) noise sampling location has been selected for this proposed project site.	Quarterly
Air Quality Level	Particulate Matter with the size of less than 10 micron(PM_{10})	Two (2) air sampling location has been selected for this proposed project site.	Quarterly

PERFORMANCE MONITORING

Monitoring Aspect	Monitoring Parameter	Compliance Limits	Monitoring Locations	Frequencies
- Sediment Trap **- Sediment Basin**	TSS, Turbidity	As per COA	At proposed sediment trap and sediment basin location as per shown in LD-P2M2 plan	Every two (2) weeks or when rainfall more 12.5 mm
- Silt Fence **- Road Side Drain**	NA	NA	At location of silt fence, road side drain within project site and sump	Every week or per rainfall event

SIGNIFICANT POTENTIAL IMPACT & POLLUTION PREVENTION AND MITIGATION MEASURES (P2M2)

SIGNIFICANT POTENTIAL IMPACTS	POLLUTION PREVENTION & MITIGATION MEASURES (P2M2)
Surface Runoff Soil Erosion Sedimentation	➢ Regular inspection and maintenance of the structures to ensure their performance efficiency, especially after heavy storm events. ➢ Ensuring that all drainage, soil erosion and sediment control measures are properly designed, constructed and maintained to provide water quality protection and to prevent the transportation of sediment. ➢ Implementation of activity by block basis and development phase. ➢ Scheduling is to minimize the extent and duration of soil exposure. ➢ Maintained an area slope more than 35° and maintain existing natural vegetation and preserved buffer zone as guidelines by DID Negeri Kelantan. ➢ Prepare sediment fence, sandbag barrier, sediment basin, check dam and sediment trap at appropriate location.
Water Pollution	➢ Workers must use fertilizers and agrochemical following the prescribed dosage and should be split to minimize losses e.g. split the annual dosage into 3-4 applications. ➢ Fertilizers and agrochemical such as pesticides and weedicides must not be applied during the rainy days and monsoon season. ➢ The entire storage area should be surrounded by a concrete dike or other equivalent structure designed to contain any spillage of the waste. ➢ Any surface water run-off should be channeled to a proper drainage system to avoid the water from entering the storage area. ➢ Use environment-friendly insecticides or pesticides. ➢ The septic tank facility provided shall comply with all regulations stipulated in the Environmental Quality (Sewage) Regulations 2009. ➢ Used oil and grease and lubricant from machineries or other equipment should NOT be disposed into the river, water channel nearby or ground. ➢ Drainage system around the workshop area must be equipped with oil and grease trap. ➢ Skid tanks must be located on stable ground which not prone to flood phenomenon with bunding and sited at least 50m away from the waterways.
WASTE PRODUCTION Biomass Wastes Solid Wastes Scheduled Wastes	➢ Zero burning technique enhances the soil organic matter status, thus help to restore and improve the fertility and physical status of soils. ➢ Provide storage system for keeping materials after they have been discarded and prior to collection and final disposal including garbage bin, oil drums or communal bins. ➢ Solid waste segregated by the waste type. ➢ Wastes are prohibited from being discharged into river systems. ➢ Project proponent should notify workers not to burn the solid waste. ➢ Proper storage area must be built to store empty agrochemical and fertilizer container and must be kept away from heat to prevent explosion. ➢ Clear signage must be placed at appropriate area to reduce risks of explosions. ➢ The entire storage area must be fenced-in and regarded as restricted area. ➢ Empty container is prohibited from being disposed into river system and onto ground. ➢ Label all containers as scheduled waste with clear label according to the type of waste. ➢ All scheduled waste must be disposed off at a licensed premise.

SIGNIFICANT POTENTIAL IMPACTS	POLLUTION PREVENTION & MITIGATION MEASURES (P2M2)
Air Pollution	➢ Vehicles should be regularly service and maintained to reduce undesirable emissions. ➢ Reducing the dispersion of dust from unsealed road by limiting the vehicles speed. ➢ Temporary road humps/speed bumps should be installed at the road system in the project site. ➢ Maintain the sealed road with crusher run or gravel to protect the earth surface from precipitation and dry weather. ➢ Workers are strictly prohibited to carry out open burning at project site. ➢ The usage of generator set in the site has to comply with the Environmental Quality (Clean Air) Regulation 2014. ➢ Clean up dusty spills immediately. ➢ Pave haul roads and storage areas. ➢ Reduce the speed limits on unpaved surfaces . ➢ Rinsing vehicles before they leave the project site and tightly cover loaded trucks.
Noise Pollution	➢ Installing silencers or using quieter machinery. ➢ Modifying existing old equipment with damping materials and mufflers. ➢ Work should be limited to daytime hours only. ➢ Noise barriers shall be maintained to minimize noise diffusion. ➢ Vehicles and machineries shall be regularly serviced and maintained. ➢ The supervisor must keep a logbook to compile all complaints and address the issues immediately.

SIGNIFICANT POTENTIAL IMPACTS	POLLUTION PREVENTION & MITIGATION MEASURES (P2M2)
Ecology (Flora & Fauna)	➢ Preservation of riparian zones with existing natural vegetation along stream. ➢ Site preparation should be heading towards to the existing remaining forest and habitats and must not be fragmented. ➢ Proper waste management strategy should be employed on-site to prevent probability of human wildlife conflict (HWC). ➢ Workers are prohibited from hunting and poaching. ➢ Any illegal hunting or poaching activities should be informed to the project management immediately and must be reported to DWNP. ➢ Installing unharmful deterrent such as ditch or electric fence.
Socio-economy	➢ Project proponent should advertise the employment opportunities. ➢ Have demarcated boundary markers to avoid unnecessary trespassing from local people and wildlife. ➢ Construct a new access route or expand the existing road for the workers. ➢ Existing road condition needs to be upgraded by having proper signage and traffic guides. ➢ Supply enough utilities and amenities to the base camps. ➢ Foreign workers must undergo a Fomema checkup before entering site to prevent the spread of vector disease.
Health & Disease	➢ Providing basic facilities and incentives such as worker quarters for temporary living equipped with suitable toilet. ➢ Hygiene factor should be a good practice to avoid any disease in workplace and maintain a good environment. ➢ Regularly evaluate the legal requirements in order to guarantee the health and well-being of employees. ➢ Conduct routine workplace inspections to find hazards. ➢ Avoid contact with people who are sick with an infectious disease or sharing personal items with them. ➢ Do not drink from or swim in water that could be contaminated.
Traffic	➢ Road entrance must properly maintain and must follow Department of Forestry (DOF) guidelines. ➢ The traffic movement of vehicles should be done during working hours only. ➢ A proper safety road signage system shall also provide. ➢ Undertake regular maintenance of road network to minimize and control road damage. ➢ A traffic management plan is necessary to accommodate heavy vehicular traffic to and from the project site. ➢ Improvements in road infrastructure necessary to ensure traffic to and from the project site is smooth with low congestion. ➢ Materials should be moved in and out of the project site without impeding the road traffic.

CONCLUSION

✓The implementation of proposed project is significant in expanding and upgrading the economic development for country revenue.

✓The significant impacts that predicted for the project can be mitigated, managed and minimized.

✓The success of the development in integrating with the surrounding areas will contribute to the social acceptability.

✓It is anticipated that the development can be conducted with the context of a sustainable development through strict commitment and supervision on-site.