

EXECUTIVE SUMMARY

A PROPOSED OF REFORESTATION WITH MULTI SPECIES FOREST PLANTATION (404.0 HA) AT HSK JENTIANG, COMPARTMENT PART OF 41, PART OF 42 & PART OF 47, MUKIM KUALA GRIS, DAERAH DABONG, JAJAHAN KUALA KRAI, KELANTAN DARUL NAIM.

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STATEMENT OF NEED

The greatest way to balance the supply of natural wood products from natural forests at the moment is to develop large-scale forest plantations and engage in replanting or reforestation. The species selection (*Albizia* and durian) has also become a priority among the project proponents of the plantation project due to several conditions that are adaptable to the Malaysian environment.

PROJECT LOCATION

- ❖ The proposed project site is located approximately 17.93 km southwest of Kuala Krai town area and 1.56 km northwest of Kg. Bunga Raya community area.
- ❖ The proposed project site can be accessed by using route Kg. Kandek (Dabong) about 19.16 km and Kg. Peralla (Tanah Merah) about 38.70 km to reach the boundary of SHESB.
- ❖ Based on the "Rancangan Tempatan Jajahan Kuala Krai (RT)JKK 2035" the proposed project site is located in permanent forest reserve area known as HSK Jentiang, "Blok Perancangan (BP3) : Dabong" and "Blok Perancangan Kecil (BPK) 3.10 : Kuala Gris/Kg. Kuala Gris and 3.11 : Kuala Gris/HSK Jentiang".
- ❖ Information review by **Pejabat Pengarah Tanah Dan Galian Negeri Kelantan** as attached in **Appendix A** the proposed project was not overlapped with any application or approval of mineral tenement.

INTRODUCTION

The project title is proposed of reforestation with multi species forest plantation. The development of proposed project area will be undertaken by **SPA Hidayah Enterprise Sdn. Bhd. (SHESB)** after obtaining the approval from **State Government of Kelantan** through **DOF Negeri Kelantan**. SHESB shall develop the proposed project with leasing period of 50 years lease period as stipulated in the agreement attached in **Appendix A**.

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

Project proponent intends to develop the proposed project site with *Albizia* species tree and durian plantation. It will consist of three (3) primary development stages which are pre-development, development, and post-development. For planting activity, project proponent choses terracing and platform method for planting of *Albizia* and durian plantation. The selected *Albizia* species for the plantation is chosen based on its adaptability to local conditions, rapid growth, and suitability for timber production. Meanwhile, the durian proposed particularly "durian kunyit" species commands a premium price in the market due to its unique taste and strong demand from consumers, both domestically and internationally. The implementation of proposed project site will be executed in twenty (20) blocks which are divided into four (4) development phase.

Zone of Study (3-5 km Radius)

- ❖ Surrounded - HSK Jentiang, HSK Serasa, HSK Ulu Temiang, eight (8) neighbouring plantation and one (1) neighbouring mining.

Socio-economic

- ❖ Population = Daerah Dabong 17,411 individuals with 8,864 male and 8,547 female
- ❖ Health and Disease Kuala Krai:
 - Malaria - 28 cases
 - Dengue - 95 cases
 - Typhoid - 1 case
 - Leptospirosis - 24 cases
- ❖ Orang Asli Settlement = Orang Asli Sungai Tako (13.85 km northeast of proposed project site)

EXISTING ENVIRONMENT

Biological

- ❖ Flora = 242 species
- ❖ Fauna = Bird - 72 species, Mammal - 21 species, Herpetofauna - 19 species
- ❖ CFS = CFS = D-Secondary Linkages 1 = 1.00 km west
- ❖ ESA = Level 2

Physico - Chemical

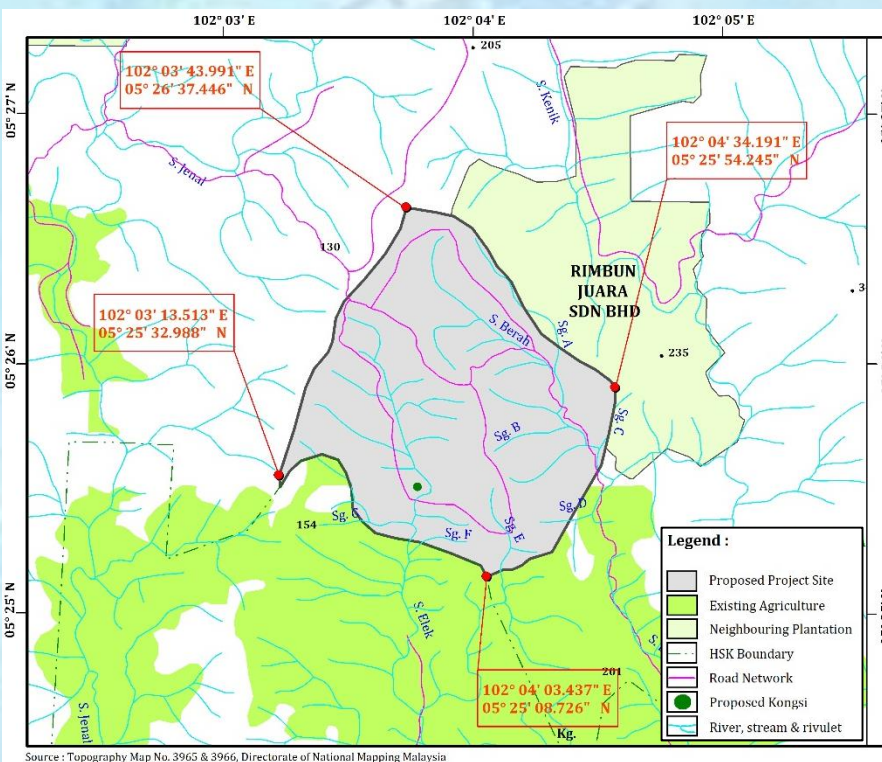
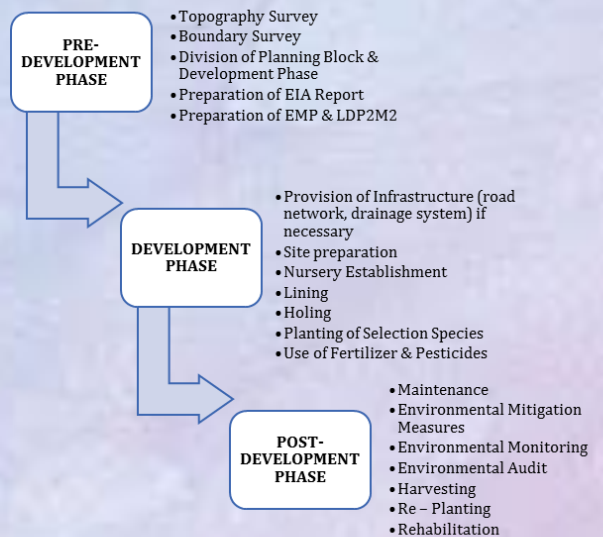
- ❖ Topography = Elevation 40 m-160 m
- ❖ Slope = <25° = 95.38% (385.33 Ha), > 25° = 4.62% (18.67 Ha)
- ❖ Geology = Triassic and Permian period
- ❖ Soil Series = Steepland
- ❖ Drainage System = Sg. Berah → Sg. Kenik, Sg. Elek → Sg. Galas → Sg. Kelantan
- ❖ Water Treatment Plant = LRA Dabong/Stong = 14.17 km southwest
- ❖ Meteorology = Kuala Krai Meteorology Station
- ❖ Baseline Environmental Quality Water (11 stations) = WQI Class I & II
 - Air Quality (A1 & A2) = 14 µg/m³ & 28 µg/m³
 - Ambient Noise Level = Day-time = N1-61.1 dB(A), N2-59.4 dB(A), Night-time = N1-6.11 dB(A), N2-66.3 dB(A)

COMPLIANCE MONITORING

Environmental Components	Regulated Parameter	Applicable Standards	Monitoring Locations	Frequencies
River Water Quality	pH, Temperature, Turbidity, Dissolved Oxygen, Biochemical Oxygen Demand, Chemical Oxygen Demand, Total Suspended Solid, Oil & Grease, Ammoniacal Nitrogen, Iron, Manganese, E. Coli	Refer to Condition of Approval	Eleven (11) water sampling location has been selected for this proposed project site.	Quarterly
	Leq, Lmax, Lmin	Refer to Condition of Approval	Two (2) noise sampling location has been selected for this proposed project site.	Quarterly
Air Quality	Particulate Matter PM ₁₀	Refer to Condition of Approval	Two (2) air sampling location has been selected for this proposed project site.	Quarterly

PERFORMANCE MONITORING

P2M2 Tools	Performance Monitoring (PM) Parameter	Recommended Limits (Based on NWQSM)	Monitoring Locations	Frequencies
Silt Trap	TSS	50 mg/L	Refer LD-P2M2 plan	Quarterly
	Turbidity	250 mg/L		



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

SIGNIFICANT POTENTIAL IMPACTS	POLLUTION PREVENTION & MITIGATION MEASURES (P2M2)
Surface runoff Soil Erosion Sedimentation	<ul style="list-style-type: none"> ➤ Keeping slope length short and gradient low and also preserving the natural vegetation cover can help to reduce velocity of storm water and can limit erosion hazard. ➤ Installing proper provision for drainage and the protection of soil surfaces during and after land disturbance activities ➤ 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. ➤ Do a scheduling to reduce the amount and duration of soil exposed. ➤ Preserved of existing vegetation or also known as sensitive areas within the proposed project area namely buffer zone, riparian zone and slope areas of more than 35°.
Water Pollution	<ul style="list-style-type: none"> ➤ Fertilizers and agrochemical such as pesticides and weedicides must not be applied during the rainy days and monsoon season. ➤ 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. ➤ 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 runoff should be directed to an appropriate drainage system in order to keep water out of the storage area. ➤ The septic tank facility provided shall comply with all regulations stipulated in the Suruhanjaya Perkhidmatan Air Negara (SPAN). ➤ Recycled oil, grease, and lubricant from machinery or other equipment may not be dumped into the river, adjacent waterway, or surrounding ground. Used oil needs to be disposed of only at authorized disposal sites, stored in containers, and managed as scheduled waste. ➤ Skid tanks have to be placed at least 50 meters away from a river on stable ground that is not prone to flooding. ➤ Environmental monitoring for river water shall be carried out every three (3) months.
WASTE PRODUCTION Biomass Wastes Solid Wastes Scheduled Wastes	<ul style="list-style-type: none"> ➤ Zero burning technique enhances the soil organic matter status, thus help to restore and improve the fertility and physical status of soils. ➤ Project proponent shall provide garbage bin to collect the various solid wastes separated into classes. ➤ Solid wastes are banned being discharged into river systems. ➤ Project proponent should notify workers not to burn the solid waste. ➤ All scheduled wastes handling procedures must parallel with the Environmental Quality (Scheduled Waste) Regulations 2005. ➤ All empty containers must be labeled as scheduled wastes. ➤ The storage area should be equipped with fire fighting and other emergency response equipment as well as spill kit and comply fully with the requirements of the Fire and Rescue Department of Malaysia. ➤ Empty container is prohibited from being disposed into river system and onto ground. ➤ Use only eco-friendly and/or organic fertilizer and biological control for pest management.

SIGNIFICANT POTENTIAL IMPACTS	POLLUTION PREVENTION & MITIGATION MEASURES (P2M2)
Air Pollution	<ul style="list-style-type: none"> ➤ 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. ➤ Vehicles should be regularly serviced and maintained to reduce undesirable emissions. ➤ Open burning is strictly prohibited under the Environmental Quality Act, 1974. ➤ 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 transport roads and storage areas. ➤ Rinsing vehicles before they leave the project site and tightly cover loaded trucks.
Noise Pollution	<ul style="list-style-type: none"> ➤ 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 such as existing vegetation at the boundary of the project site shall be maintained. ➤ Vehicles and machineries shall be regularly serviced and maintained. ➤ The supervisor must keep a log book to compile all complaints and address the issues immediately.

SIGNIFICANT POTENTIAL IMPACTS	POLLUTION PREVENTION & MITIGATION MEASURES (P2M2)
Ecology (Flora & fauna)	<ul style="list-style-type: none"> ➤ Strictly no burning of biomass which may not only jeopardize the flora within the site but also the nearby forest reserves especially during dry season. ➤ Not to introduce any flora that could escape into the natural ecosystems in the surrounding areas that may become weeds and outgrow native species. ➤ Supporting conservation works. ➤ Some original forest and habitat especially along rivers are preserved to serve as refuge/habitat for some medium and small sized wildlife and fauna. ➤ Any non-adherence by workers and outsiders must be notified to the Department of Wildlife and National Parks. ➤ Strictly no burning and any source that could cause spark and fire such as machines must be monitored.
Socio-Economy	<ul style="list-style-type: none"> ➤ Project proponent should advertise the job offer to the community. ➤ The project site requires clearly defined boundaries in addition to making it simpler for people to enter the work area and avoiding trespassing by people or animals, which might lead to accidents. ➤ The route's present condition might be improved with the addition of suitable signage and traffic signals, and the project's proponent is also accountable for helping to maintain the existing road. ➤ Workers must receive adequate instructions, training, advice, and understanding about appropriate work practices, work ethics, and codes of conduct, as well as safety requirements, both during and after working hours. The work/base camp must be sited away nearby local settlement area. ➤ Foreign workers must undergo a Fomema checkup before entering site to prevent the spread of vector disease.
Health and Disease	<ul style="list-style-type: none"> ➤ The project proponent is also obligated to provide them with the essential amenities and benefits on the proposed project site, such as worker housing for short-term stays with a proper bathroom, as guidelines by National Water Service Commission (SPAN). ➤ Workers must receive comprehensive training on how to operate equipment and follow safe operating procedures. ➤ Carry out scheduled inspections on the workplaces, to identify dangers, including unsafe actions by the employees at the workplace, and subsequently discuss the result of the inspection with the employer and suggest necessary improvement measures. ➤ Immunization of workers at significant risk of infection. (For example, vaccinations are available for a number of infectious diseases such as Hepatitis A and B, Q fever, etc). ➤ Good housekeeping to establish and maintain hygienic environments.
Traffic	<ul style="list-style-type: none"> ➤ The road entrance must properly maintain and have to follow Department of Forestry (DOF) Negeri Kelantan guidelines. ➤ The traffic movement of vehicles should be done during working hours only. ➤ Provide a proper safety road signage system. ➤ Undertake regular maintenance of road network to minimize and control road damage. ➤ Materials should be moved in and out of the project site without impeding the road traffic.

CONCLUSION

- The idea of this proposed project site is to encourage and invite an involvement of private sector to joining develop the proposed project area
- 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.