

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

EXECUTIVE SUMMARY

THE PROPOSED 302.77 HECTARES (748.16 ACRES) OF FOREST PLANTATION DEVELOPMENT ON PART OF COMPARTMENT 31 & 33 (BLOCK A) AND PART OF COMPARTMENT 30 & 33 (BLOCK B) IN BERKELAH FOREST RESERVE, MUKIM CHENOR, DISTRICT OF MARAN, PAHANG DARUL MAKMUR.

PROJECT TITLE

PROJECT DESCRIPTIONS

The Project site is in part of compartment 31 & 33 Berkelah Forest Reserve, Mukim Chenor, District Of Maran, and Mukim Pulau Tawar, District of Jerantut, Pahang Darul Makmur.

The nearest small town is Maran Town which is approximately ± 18.43 km from the project site boundary.

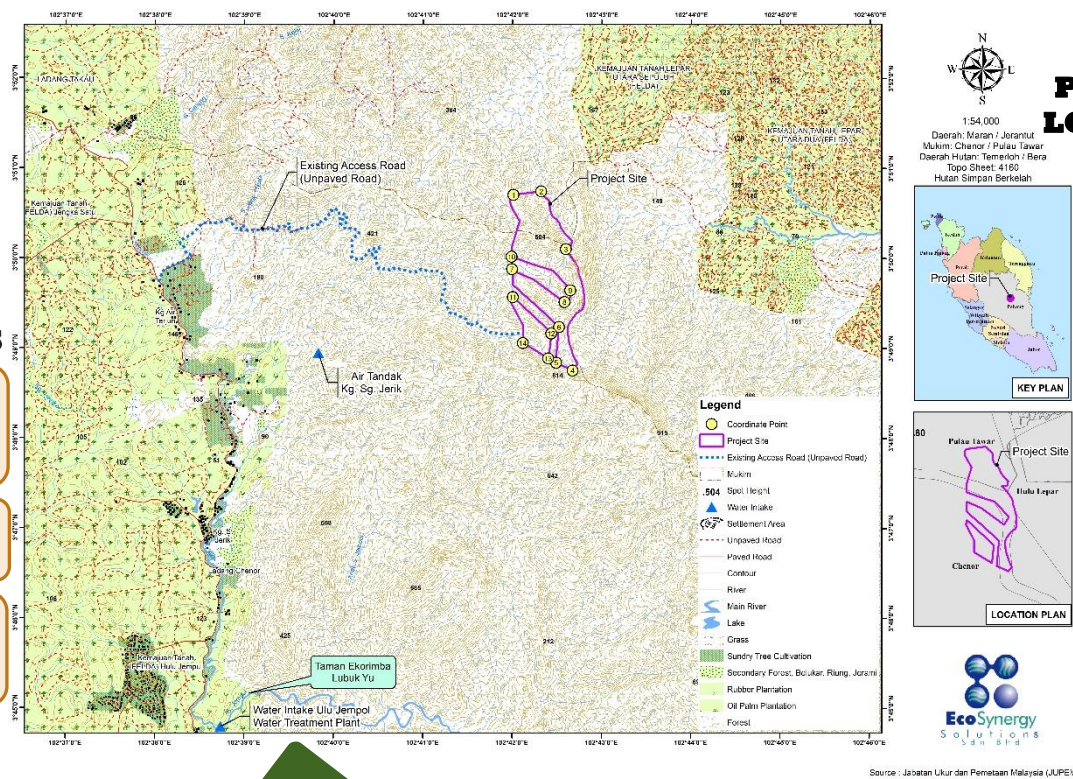
There are 3 nearest settlement areas around the project site which are Felda Lepar Utara 3, (within ± 7.51 km radius, north from the project site), Kampung Sungai Jerik and Kampung Air Terjun (within ± 8.01 km and ± 7.23 km radius, west of the project site).

ACCESS ROAD

The Project site can be accessed by using southwest (route 2) from Maran Town for about 1.6 km and turn right onto Jerantut-Marang (route 64).

Stay on Jerantut-Marang (Route 64) for about 49.8 km to reach existing unpaved road on the right side of the road

Stay on the unpaved road for about 11.45 km to reach the proposed project site



PROJECT LOCATION

PROJECT PROPONENT

WOODLAND SDN BHD

EIA CONSULTANT

ECO SYNERGY SOLUTIONS SDN BHD

LEGAL REQUIREMENT

Subject to Section 34A(1) of the Environmental Quality Act 1974 [127] and Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, the project site fall under First Schedule;

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

PROJECT ACTIVITIES

FOREST PLANTATION ACTIVITIES

Pre-Development Activities

1. Site Survey
2. Environmental Study
3. Project Planning/ Management

Development Activities

1. Land Preparation Activity
2. Maintenance of LD-P2M2
3. Field Establishment

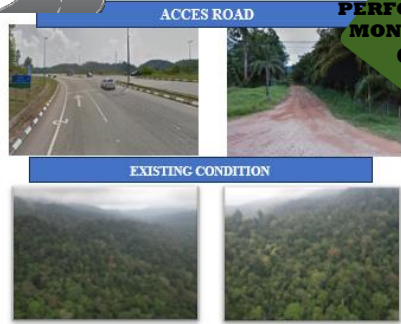
Post-Development Activities

1. Maintenance of LD-P2M2
2. Field Maintenance
3. Harvesting and Post-Harvest Field Maintenance
4. Abandonment and Replanting

POTENTIAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANT POTENTIAL IMPACTS	MITIGATION MEASURES
Soil erosion and sedimentation	<ul style="list-style-type: none"> Scheduling and staging of the development. Minimizing soil erosion Plant cover crop. Prepare sediment trap. Retain buffer zone
Waste Generation a) Biomass waste b) Solid waste c) Scheduled waste	<ul style="list-style-type: none"> No open burning Provide garbage bins. Composting waste approach Proper storage area
Water Pollution Management a) Fertilizers, Pesticides and Herbicide b) Sewage and sillage c) Accident Spillage from Skid Tanks, Oil & Grease	<ul style="list-style-type: none"> Store fertilizers properly to prevent spills. Provide sanitary toilets, bathing facilities, and a proper piping system. Stored used oil in containers.
Air Pollution Management	<ul style="list-style-type: none"> Maintain the paved road with crushers run/gravel. Regularly service & maintain the vehicles. Strictly prohibit open burning at project site. Use proper personal protection equipment (PPE) on site including mask, glove
Noise Pollution	<ul style="list-style-type: none"> Use proper personal protection equipment (PPE) on site with ear plug. Regularly service and maintain vehicles and machinery. Keep a logbook to compile all complaints to address the issues promptly.
Flora and Fauna	<p>Flora</p> <ul style="list-style-type: none"> Logging planting activities Regularly monitor vegetation (site clearing, earthwork) Manage cut vegetation properly to prevent fires. <p>Fauna</p> <ul style="list-style-type: none"> Wildlife-Human conflict management strategies. Report incident. Prohibition of wildlife poaching Signage on prohibition of wildlife hunting or trapping.
Socio-Economy	<ul style="list-style-type: none"> Provide job opportunities to the community. Update progress & address problems to avoid misunderstanding. Improve signage and traffic guides.

PERFORMANCE MONITORING (PM)



LD-P2M2 Tools	Performance Monitoring (PM) Parameters	Recommended Limits	Monitoring Locations	Frequencies
Sediment Basin/Trap	Silt Marker	2/3 depth from sediment trap	Refer LD-P2M2 Conceptual Plan (Attachment 1)	Weekly or after rain event (in-situ) or subjected to the Condition of Approval (COA)
Perimeter Drain	Performance			
Riparian Buffer				
Cover Crop				
Earth Drain with Check Dam	Sediment Level		Subjected to the Condition of Approval (COA)	
Temporary or permanent waterway crossing (culvert/bridge)	Structure and Performance			

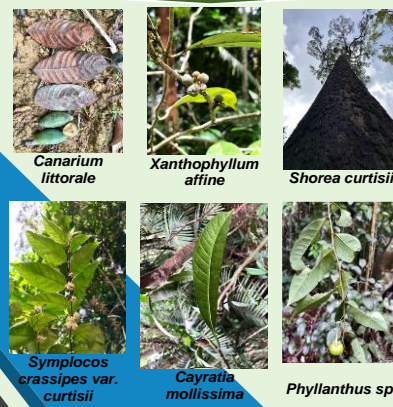
IMPACT MONITORING (IM)

Component	Regulated Parameters	Monitoring Locations	Frequencies
*Air Quality	PM10 PM2.5	Refer Figure 9.5.2	Subjected to the COA
	L _{aeq}		
	L _{max} L _{min}		
**Noise	Total Suspended Solids (TSS) Biochemical Oxygen Demand (BOD) pH Turbidity	Refer Figure 9.5.2	Subjected to the COA
***Water Quality	Ammoniacal Nitrogen (NH3-N)		
	Dissolved Oxygen (DO)		
	Chemical Oxygen Demand (COD)		

Component	Regulated Parameters	Applicable Standards	Monitoring Locations	Frequencies
*Air Quality	PM10 PM2.5	100 µg/m3 35 µg/m3	Refer Figure 9.5.2	Subjected to the Condition of Approval (COA)
	L _{aeq}	Day: 55 dBA Night: 50 dBA		
***Water Quality (Discharged from Sediment Trap/Basin)	Total Suspended Solids (TSS)	50 mg/L	Refer Figure 9.5.2 and LD-P2M2 Conceptual Plan (Attachment 1)	After 12.5 mm rainfall (using rain gauge)
	Turbidity	250 NTU		

EXISTING ENVIRONMENT

FLORA SPECIES FOUND



FAUNA SPECIES RECORDED



Station	WQI	Class	Status
WQ1	89.05	II	Clean
WQ4	87.07	II	Clean
WQ8	93.36	I	Clean
WQ9	88.25	II	Clean
WQ10	91.60	II	Clean
WQ11	82.35	II	Clean
WQ12	79.64	II	Slightly Polluted
WQ13	79.30	II	Slightly Polluted
WQ14	93.24	I	Clean
WQ15	75.26	III	Slightly Polluted
WQ16	75.30	III	Slightly Polluted
WQ17	92.12	II	Clean
WQ18	83.88	II	Clean
WQ19	93.38	I	Clean

NOISE LEVEL RESULT			AIR QUALITY RESULT		
N1	Daytime	53.9	PM _{2.5}	PM ₁₀	
	Nighttime	44.7			
N2	Daytime	50.4	A1	16.0	
	Nighttime	40.1	A2	8.0	
N3	Daytime	53.9	A3	19.0	
	Nighttime	44.7	A4	13.0	
N4	Daytime	50.4		30.0	
	Nighttime	40.1			

LAPORAN PENILAIAN KESAN ALAM SEKELING



RINGKASAN EKSEKUTIF

CADANGAN PEMBANGUNAN LADANG HUTAN SELUAS 302.77 HEKTAR (748.16 EKAR) DI SEBAHAGIAN KOMPARTMEN 31 & 33 (BLOK A) DAN DI SEBAHAGIAN KOMPARTMEN 30 & 33 (BLOK B) DI HUTAN SIMPAN BERKELAH MUKIM CHENOR, DAERAH MARAN DAN MUKIM PULAU TAWAR, DAERAH JERANTUT, PAHANG DARUL MAKMUR

TAJUK PROJEK

PENERANGAN PROJEK

Tapak Projek adalah terletak di sebahagian daripada kompartmen 31 & 33 Hutan Simpan Berkelah, Mukim Chenor, Daerah Maran, dan Mukim Pulau Tawar, Daerah Jerantut, Pahang Darul Makmur.

Pekan kecil terdekat ialah Bandar Maran iaitu kira-kira ± 18.43 km dari sempadan tapak projek.

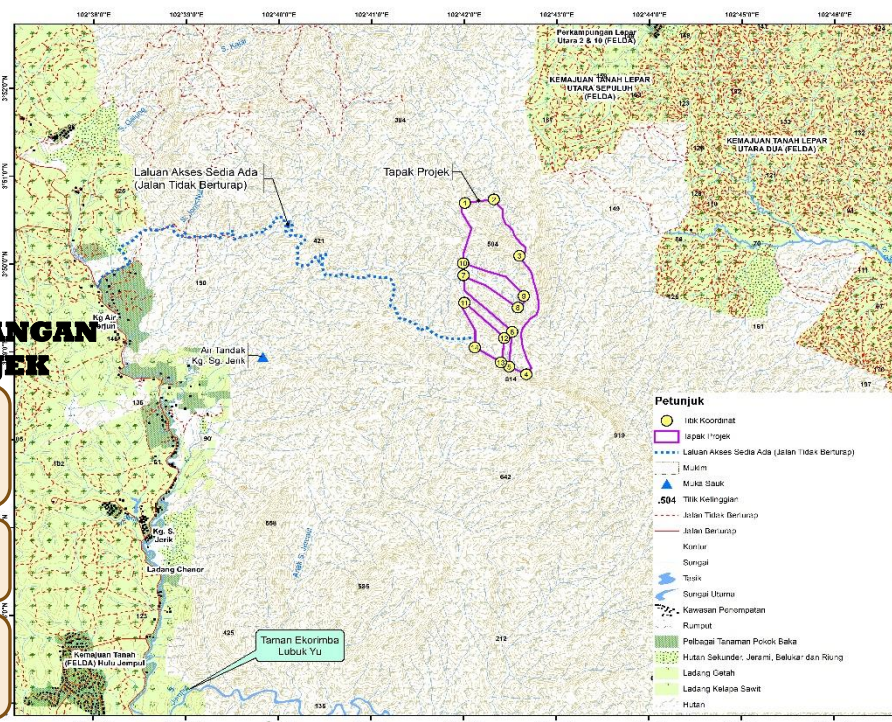
Terdapat 3 kawasan penempatan terdekat di sekitar tapak projek iaitu Felda Lepar Utara 3, (dalam lingkungan ± 7.51 km radius, utara dari tapak projek), Kampung Sungai Jerik dan Kampung Air Terjun (dalam lingkungan ± 8.01 km dan ± 7.23 km radius, barat tapak projek).

LALUAN AKSES

Tapak Projek boleh diakses dengan menggunakan barat daya (laluhan 2) dari Pekan Maran sejauh kira-kira 1.6 km dan belok kanan ke Jerantut-Marang (laluhan 64).

Kekal di Jerantut-Marang (Laluhan 64) kira-kira 49.8 km untuk sampai ke jalan tidak berturap sedia ada di sebelah kanan jalan

Kekal di jalan yang tidak berturap kira-kira 11.45 km untuk sampai ke tapak projek yang dicadangkan



LOKASI PROJEK

PENGERAK PROJEK
WOODLAND SDN BHD

PERUNDING EIA
ECO SYNERGY SOLUTIONS SDN BHD

KEPERLUAN UNDANG-UNDANG

Tertakluk kepada Akta Kualiti Alam Sekeliling 1974 (Akta 127) dan Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan Kepada Alam Sekeliling) 2015, kawasan kajian projek tertakluk pada Jadual Pertama:

"Aktiviti 5(e) Perhutanan: Pembangunan ladang hutan yang meliputi kawasan seluas 100 hektar atau lebih tetapi kurang daripada 500 hektar"

AKTIVITI PROJEK



IMPAK KETARA DAN LANGKAH KAWALAN

IMPAK KETARA	LANGKAH KAWALAN
Hakisan tanah dan pemendapan	<ul style="list-style-type: none"> Penjadualan dan pementasan pembangunan. Mengurangkan hakisan tanah. Tanaman penutup tumbuhan. Sediakan perangkap sedimen. Mengendalikan zon penampungan
Pengurusan Pencemaran Air	<ul style="list-style-type: none"> Simpan baja dengan betul untuk mengelakkan tumpahan. Menyediakan tandas, kemudahan mandi, dan sistem perpaipan yang betul. Menyimpan minyak di dalam bekas.
Pengurusan Pencemaran Udara	<ul style="list-style-type: none"> Kekalkan jalan berturap dengan "crushers run/gravel." Sentiasa menyelenggara kenderaan. Melarang keras pembakaran terbuka di tapak projek. Gunakan peralatan perlindungan diri (PPE) yang betul di lokasi termasuk topong, sarung tangan
Pencemaran Bunyi	<ul style="list-style-type: none"> Gunakan peralatan perlindungan diri (PPE) yang betul di tapak dengan "ear plug". Sentiasa menyelenggara kenderaan dan jentera. Simpan buku log untuk menyusun semua aduan untuk menangani isu dengan segera.
Flora dan fauna	<ul style="list-style-type: none"> Flora <ul style="list-style-type: none"> Aktiviti penanaman pembatalan Sentiasa memantau tumbuh-tumbuhan (pembersihan tapak, kerja tanah) Mengurangkan tumbuh-tumbuhan yang dipotong dengan betul untuk mengelakkan kebakaran. Fauna <ul style="list-style-type: none"> Strategi pengurusan konflik Hidupan Liar-Manusia. Larangan pemburuan haram hidupan liar Papan tanda larangan memburu atau perangkap hidupan liar.
Sosio-Ekonomi	<ul style="list-style-type: none"> Memberi peluang pekerjaan kepada masyarakat. Mengemaskini kemajuan & menangani masalah untuk mengelakkan salah faham. Meningkatkan papan tanda dan panduan lalu lintas.

PERSEKITARAN SEDIA ADA

SPESIS TUMBUHAN YANG ADA



SPESIS HAIWAN YANG DIJUMPAI



Alatan LD-P2M2	Parameter Pemantauan Prestasi (PM)	Had yang Disyorkan	Lokasi Pemantauan	Frekuensi
Lembangan Sedimen/Perangkap	Penanda kelodak	Kedalaman 2/3 dari perangkap sedimen	Rujuk Pelan Konsep LD-P2M2 (Lampiran 1)	Acara mingguan atau selepas hujan (in-situ) atau tertakluk kepada syarat kelulusan (COA)
Parit Perimeter	Prestasi	-	-	Tertakluk kepada syarat kelulusan (COA)
Penampungan Riparian				
Tanaman Penutup	Tahap Sedimen	-	-	-
Parit tanah berserta Check Dam				
Laluan lintasan air sementara atau kekal (cover/jambatan)	Struktur dan Prestasi	-	-	-

Component	Parameter yang dikawal	Lokasi Pemantauan	Frekuensi
*Kualiti Udara	PM10	Rujuk Rajah 9.5.2	Tertakluk kepada COA
	PM2.5		
**Kualiti Bunyi	L _{aeq}	Rujuk Rajah 9.5.2	Tertakluk kepada COA
	L _{max}		
	L _{min}		
***Kualiti Air	T (TSS)	Rujuk Rajah 9.5.2	Tertakluk kepada COA
	(BOD)		
	pH		
	Turbidity		
	(NH ₃ -N)		
	(DO)		
(COD)			

Komponen	Parameter yang dikawal selia	Piawai yang Berkenaan	Lokasi Pemantauan	Frekuensi
*Kualiti Air	PM10	100 µg/m ³	Rujuk Rajah 9.5.2	Tertakluk kepada syarat kelulusan (COA)
	PM2.5	35 µg/m ³		
**Kualiti Bunyi	L _{aeq}	Day: 55 dBA	Rujuk Rajah 9.5.2	Tertakluk kepada syarat kelulusan (COA)
		Night: 50 dBA		
***Kualiti Air (Dilepaskan dari Perangkap Sedimen/ Lembangan)	(TSS)	50 mg/L	Rujuk Rajah 9.5.2 dan Pelan Konsep LD-P2M2 (Lampiran 1)	Selepas Hujan 12.5 mm (Menggunakan tolok hujan)
	Turbidity	250 NTU		

Stesen	WQI	Kelas	Status
WQ1	89.05	II	Bersih
WQ4	87.07	II	Bersih
WQ8	93.36	I	Bersih
WQ9	88.25	II	Bersih
WQ10	91.60	II	Bersih
WQ11	82.35	II	Bersih
WQ12	79.64	II	Sedikit Tercemar
WQ13	79.30	II	Sedikit Tercemar
WQ14	93.24	I	Bersih
WQ15	75.26	III	Sedikit Tercemar
WQ16	75.30	III	Sedikit Tercemar
WQ17	92.12	II	Bersih
WQ18	83.88	II	Bersih
WQ19	93.38	I	Bersih

BUNYI BISING			KUALITI AIR	
N1	Waktu Siang	53.9	PM _{2.5}	PM ₁₀
	Waktu Malam	44.7		
N2	Waktu Siang	50.4	A1	16.0
	Waktu Malam	40.1	A2	8.0
N3	Waktu Siang	53.9	A3	19.0
	Waktu Malam	44.7	A4	13.0
N4	Waktu Siang	50.4		
	Waktu Malam	40.1		