EXECUTIVE SUMMARY

CADANGAN PEMBANGUNAN ESTET PERINDUSTRIAN DI ATAS LOT 210, LOT 574, LOT 575, LOT 578, LOT 579, LOT 581, LOT 582, LOT 584, LOT 585, LOT 587, LOT 588, LOT 590, LOT 591, SEBAHAGIAN LOT 1800, SEBAHAGIAN LOT 5824, LOT 5825 DAN SEBAHAGIAN LOT 5826, MUKIM 13, SEBERANG PERAI UTARA, PULAU PINANG.

PROJECT PROPONENT

HIKMAT SERATA SDN. BHD. (1369809T/202001013489)

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10350 Georgetown, Pulau Pinang.
Tel : 604-293 2222
Fax : 604-228 9333
Email : hikmatserata @gmail.com
Contact person : Mr. Mohammad Zubni Bin Ismail (Company Director)

EIA CONSULTANT

GREEN ACRES ENVIRONMENT PLT

(Co. No: 202104001059 [LLP0027687-LGN])

Address : Bay Avenue K-9-3,
Lorong Bayan Indah 2,
11900 Bayan Lepas, Penang.
Tel : 604-630 9968
Fax : 604-630 9969
Email : ng@greenacres.my
Contact person : Ms. Ng Ling Pheng (Lead EIA Consultant)

LEGAL REQUIREMENT

The project site with project area of about **96.79 hectares** (**239.17 acres** or **967, 886.65 m^2**) which falls under the First Schedule, according to the subsection 34A (1) of the Environmental Quality Act (EQA), 1974, Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, 2015.

"Activity 17 Industrial Estate Development: Development of industrial estate covering an area of 20 hectares or more."

STATEMENT OF NEEDS

- With the state government to realize the implementation of RSNPP 2030 to highlight the existing assets, diversifying and improving various sectors in the Pulau Pinang.
- This development will provide employment opportunities to the people of the Seberang Perai in the field of business.
- Approvals for Planning Permission to industrial areas in Seberang Perai from Majlis Bandaraya Seberang Perai (MBSP).

PROJECT DESCRIPTION

The proposed industrial park development consists:

Fasa 1:

i) 11 plot industri sesebuah 1 tingkat
ii) 1 unit pencawang masuk utama (PMU)
iii) 1 unit pencawang pengagihan utama (PPU)
iv) 1 unit reservoir (Tangki Air)
v) 1 unit rumah pam
vi) 4 unit pencawang elektrik (sub-station)
vii) Sesebuah kolam tadahan air
viii) Sesebuah loji rawatan kumbahan

Fasa 2:

i) 32 plot industri sesebuah 1 tingkat
ii) 2 unit pencawang pengagihan utama (PPU)
iii) 3 unit pencawang elektrik (sub-station)
iv) 1 unit reservoir (Tangki Air)
v) 1 unit rumah pam
vi) Sesebuah kolam tadahan air
vii) Sesebuah loji rawatan kumbahan

Leveraging the strengths of this collaboration, the proposal has been refocused from agricultural development to a managed industrial park. The reasons behind this decisive shift are briefly outlined below:-

i. Economic Benefits of Industrial Park
ii. Catalyst for Regional Development and enhancing the Local Brand
iii. Adherence to Northern Corridor Economic Region (NCER)
iv. Adherence to future land use as per Draft Rancangan Tempatan Seberang Perai 2030.
v. Adherence to Rancangan Malaysia ke-12
vi. Strategic location with easy access from Jalan Jarak (P116)

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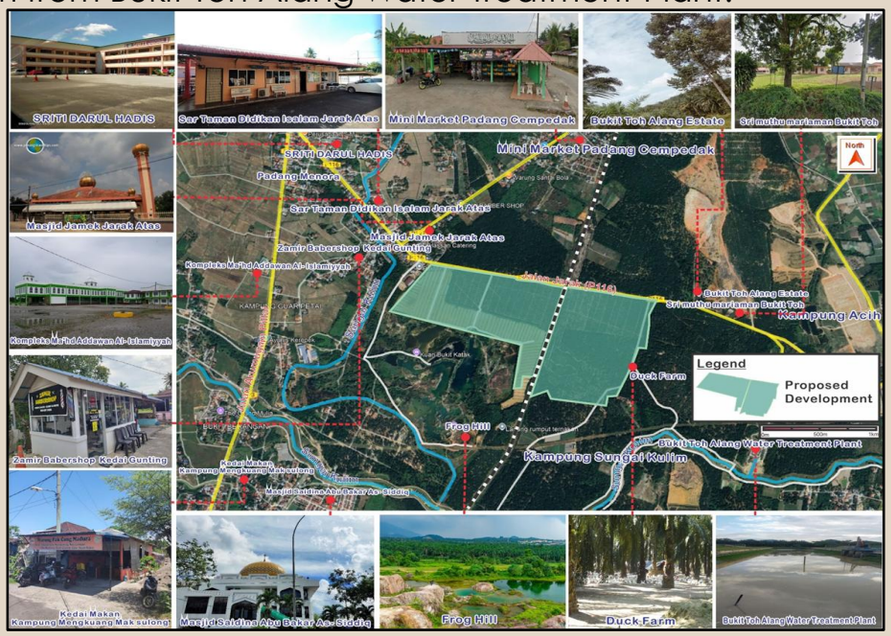
PROJECT LOCATION AND SENSITIVE RECEPTOR

The site is currently planted with palm oil and surrounded by agricultural and mixed development areas. The proposed development is located around 2 km from Bukit Toh Alang Water Treatment Plant.



MAIN ROAD – JALAN JARAK (P116)

NEAREST RESIDENTIAL AREA
Kampung Sungai Kulim

NEAREST EDUCATIONAL AREA
Sriti Darul Haldis

AIR QUALITY

The baseline ambient air quality around the project area was good and the Particulate Matter 10 µm (PM_{10}) and Particulate Matter 2.5 µm ($PM_{2.5}$) results show the monitoring stations **complied** with the Malaysian Ambient Air Quality Standard (2020) of 100 µg/m3 and 35 µg/m3 respectively.

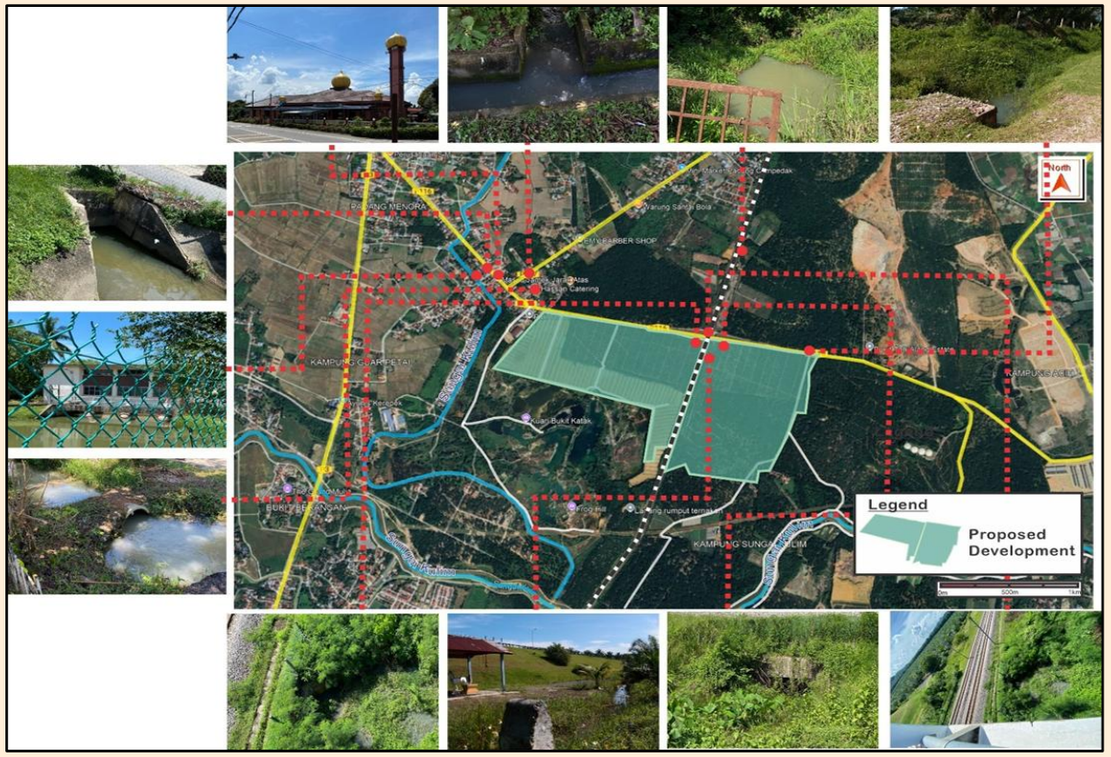
WATER QUALITY

The water quality at Stations W1, W2, W3, W4, W5, W6, W7, W8, W9 & W10 showed that the water quality was in Class III of the National Water Quality Standards for Malaysia except at Stations W6 and W9 where higher Dissolved Oxygen (DO) levels were recorded. The higher DO levels at these stations could be attributed to factors such as increased photosynthetic activity from aquatic plants or algae, and cooler water temperatures.

NOISE AND VIBRATION

The baseline noise levels and vibration recorded at Station N1, N2, N3, N4 and V1, V2, V3, V4 were **within** the recommended guideline limits.

EXISTING ENVIRONMENT



TRAFFIC CONDITION

All the road and junctions perform at acceptable levels of service which is at LOS A to LOS D for the without and with proposed development scenario.

TOPOGRAPHY

The existing topography of the project site is a flat and slightly hilly area. The elevation of the terrain ranges from +5.22m to +27.69m above sea level with a difference of 22.47m. The higher elevations are found in the west and south while the lower terrains are located in the east and north

PROJECT ACTIVITIES

PRE-CONSTRUCTION PHASE

Site Investigation

CONSTRUCTION PHASE

Site Preparation

Site Clearing
Earthworks
Drainage Work
Transportation

CONSTRUCTION PHASE

Construction

Pilling Works
Building Construction
Infrastructure construction
Utility development
Waste Disposal

POST CONSTRUCTION PHASE

Occupation, Service and Maintenance

Sewage collection and treatment
Solid waste collection
Drainage system
Maintenance Services
Road Traffic

IMPACT ASSESSMENT AND MITIGATION MEASURES

Impact	Mitigation Measures
Soil Erosion and Sedimentation	ESCP that designed in compliance to MSMA2 and shall be approved by DID
	Key BMPs: perimeter drain with check dams channeling surface runoff to the sedimentation ponds and on-detention ponds. The final discharge shall be released into existing earth drain, Sungai Jarak and eventually to Sungai Perai
	For **phase 1**, the estimated cut volume for platform is about 585,794.16 m^3 while the fill volume for platform is estimated at about 396,696.71 m^3. Therefore, there is 189,097.45 m^3 remaining surplus to be exported from site. For **phase 2**, the estimated cut volume for platform is about 178,363.09 m^3 while the fill volume for platform is estimated at about 427,320.82 m^3. Therefore, there is 248,957.73 m^3 of earth is required to be imported into the site. With the export from the Phase 1 and import in the Phase 2, the earth required to be imported into the site is about 59,859 m^3.
Water Pollution	Provide and maintain temporary toilets as per SPAN requirements
	Maintain oil and grease traps at kitchens in good working condition
	Manage scheduled waste in compliance to **Environmental Quality (Scheduled Waste) Regulations 2005**
	Follow SOPs for applying fertilizers and pesticides, prioritize organic manure, and adopt integrated pest management to reduce agrochemical use. Use only approved herbicides, avoiding applications during rain
Air Pollution	Regular maintenance of boilers (if installed) should be carried out to ensure its operating efficiency. A maintenance/inspection schedule should be established for this purpose.
	Implement the ESCP and maintain BMPs regularly
	Vehicles (e.g.: lorry) should be maintained frequently
	Transportation of raw materials and finished goods using large lorries, trucks and containers and prime movers should be encouraged to use low sulphur diesel as fuel
Traffic Impact	Plan haulage routes and working hours
	Set vehicle speed limit < 30km/h
	Provide flagman to control entry/ exit to public road
Noise & Dust Impact	Construct hoarding along site boundary
	Water road surfaces to reduce dust dispersion
	Service machinery
	Limit work hours to day time & week days
	Maintain vehicle exhaust silencers in good condition to reduce noise and comply with Environmental Quality (Motor Vehicle Noise) Regulations 1987.

PERFORMANCE MONITORING: CONSTRUCTION AND OPERATION PHASE

No	BMP/ Pollution Control System	Sampling Station/ Location	Item to be monitored	Frequency	Limits	Remarks
A	**Construction phase - ESCP**					
1	Sedimentation Ponds	Final discharge sedimentation ponds 1, 2 & 3	Turbidity TSS	Weekly & After rain ≥ 12.5 mm	Turbidity = 250 NTU TSS = 50 mg/l	In-situ by EO
			Depth of silt	Weekly	>50% full	EO
2	Silt Fence	Silt Fence	Condition	Weekly & After rain ≥ 12.5 mm	Nil breach/ bypass	EO, visual
3	Check dams	Check dams	Condition	Weekly & After rain ≥ 12.5 mm	Nil breach/ bypass	EO, visual
4	Perimeter drainage	Perimeter drainage	Condition	Weekly & After rain ≥ 12.5 mm	Nil breach/ bypass	EO; visual
5	Overall site/ other issues	Overall site/ other issues	All	Weekly, Monthly	BMP	EO to report to DOE online Site environmental meeting
B	**Operation Phase – STS**					
1	STS – Final discharge	STS – final discharge point 1 & 2	Temperature pH BOD_5 COD TSS O&G NH3-N NO3-N Phosphorus Fecal Coliform Total coliform Enterococci Escherichia coli (*E.coli*)	Monthly	-	APHA; Accredited laboratory
2	STS – Unit operations	STS Unit operations, TBD	Operational performance of unit operations, e.g., Equalization tank, aeration tank, clarifier	Daily, weekly, monthly as per procedures	TBD	CePSTSO; as per Operation and Maintenance Manual
3	STS – Sludge	STS sludge	Quantity deposed	As necessary	NA	CePSTSO; Contractor licensed by SPAN

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IMPACT MONITORING: CONSTRUCTION PHASE

Environmental Aspect	Sampling Station	Location (GPS Coordinates)	Parameters	Frequency	Limits	Rational
Water Quality (Existing Drain)	W1	05°26'44.70"N 100°29'48.88"E	-pH Value @ 25°C - Chemical Oxygen Demand; mg/l - BOD-5 days test @ 20°C; mg/l - Dissolved Oxygen; mg/l - Total Suspended Solids; mg/l - Oil and Grease; mg/l - Ammoniacal Nitrogen; mg/l - Escherichia Coli (Count/100 ml) - Turbidity; NTU	Monthly	<u>NWQS Class III</u> - pH = 5 – 9 - COD = 50 mg/l - BOD = 6 mg/l - DO = 3 – 5 mg/l - TSS = 150 mg/l - O&G = – - AN = 0.9 mg/l - *E.Coli* = Not exceeding 300 CFU/100mL - Turbidity = -	Jalan Jarak (P116) Earth drain
	W2	05°26'47.63"N 100°29'31.36"E				Jalan Jarak (P116) Earth drain
	W3	05°26'52.12"N 100°28'59.25"E				Jalan Jarak (P116) Earth drain
	W4	05°27'33.29"N 100°28'18.36"E				Jalan Jarak (P116) Earth drain downstream
	W5	05°27'37.88"N 100°28'26.02"E				Sg. Jarak
	W6	05°27'27.10"N 100°28'4.00"E				Sg. Jarak
	W7	05°27'15.39"N 100°27'21.53"E				Sg. Jarak downstream
	W8	05°27'17.51"N 100°28'15.19"E				Sg. Hitam
	W9	05°26'48.23"N 100°27'28.80"E				Sg. Dato
	W10	05°26'48.93"N 100°26'39.69"E				Sg. Perai

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IMPACT MONITORING: CONSTRUCTION PHASE

Environmental Aspect	Sampling Station	Location (GPS Coordinates)	Parameters	Frequency	Limits	Rational
Air Quality	A1	05°26'48.55"N 100°29'1.89"E	- Particulate Matter ≤10µm (PM_{10}) - Particulate Matter ≤ 2.5µm ($PM_{2.5}$)	Monthly	RMAQG - PM_{10} = 100 µg/m^3 (24hrs) - $PM_{2.5}$= 35 µg/m^3 (24hrs) - NO2 = 70 µg/m^3 (24hrs) - SO2 = 80 µg/m^3 (24hrs) - CO = 10 µg/m^3 (8hrs) - O3 = 100 µg/m^3 (8hrs) Malaysia Environmental Quality (Clean Air) Regulations 2014:- Second Schedule, Page 71, Table (II) (1a) & (1b) Halogenated hydrocarbon NMVOC: 20 mg/m^3 Non-halogenated hydrocarbon NMVOC: 150 mg/m^3	Within northwest boundary of the project site (Farm Area)
	A2	05°26'34.27"N 100°30'47.31"E				North east boundary of project site (Taman Desa Ara)
	A3	05°25'52.50"N 100°28'41.10"E				South west boundary of project site (Taman Guar Perahu)
	A4	05°26'49.70"N 100°28'45.20"E				West boundary of project site (Kg. Jarak Atas)
Noise Quality	N1	05°26'48.55"N 100°29'1.89"E	L_{eq}, L_{max}, L_{min}, L_{10} & L_{90} in dB(A) (day time and night time for 24 hours)	Monthly	Permissible Sound Level - Day time = 65dB(A) - Night time = 60dB(A)	Within northwest boundary of the project site (Farm Area)
	N2	05°26'34.27"N 100°30'47.31"E"				North east boundary of project site (Taman Desa Ara)
	N3	05°25'52.50"N 100°28'41.10"E				South west boundary of project site (Taman Guar Perahu)
	N4	05°26'49.70"N 100°28'45.20"E				West boundary of project site (Kg. Jarak Atas)
Vibration 	V1	"05°26'48.55"N 100°29'1.89"E	Peak Particle Velocity (PPV) (day time and night time for 24 hours)	Monthly	Second Schedule Day Time 0.2 mm/s to 0.4 mm/s (R=2 to R=4) Night Time 0.2 mm/s (R=2)	Within northwest boundary of the project site (Farm Area)
	V2	05°26'34.27"N 100°30'47.31"E				North east boundary of project site (Taman Desa Ara)
	V3	05°25'52.50"N 100°28'41.10"E				South west boundary of project site (Taman Guar Perahu)
	V4	05°26'49.70"N 100°28'45.20"E				West boundary of project site (Kg. Jarak Atas)