EXECUTIVE SUMMARY

CADANGAN MENDIRIKAN 1 BLOK KOMPLEKS KOMERSIL 20 TINGKAT DAN 2 TINGKAT BASEMEN DI ATAS PLOT A SPDN 365, MUKIM 12, LEBUHRAYA TUN DR LIM CHONG EU, DAERAH BARAT DAYA, BAYAN LEPAS, PULAU PINANG.

PROJECT PROPONENT

PERBADANAN PEMBANGUNAN PULAU PINANG

Address : No. 1, Level 1, Bangunan Tun Dr. Lim Chong Eu,
Persiaran Mahsuri, Bandar Bayan Baru,
11909 Bayan Lepas, Pulau Pinang.
Tel : 604-510 6115
Fax : 604-634 0193
Email : farizah@pdc.gov.my
Contact person : Farizah Hanum Binti Aimul Khan (Senior Assistant Manager)

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 (Director)

LEGAL REQUIREMENT

The Project site with project area of about **2.087 hectares** (**5.156 acres** or **20,897 m²**) which falls under the First Schedule,

"Activity 12 (a) Development In Coastal And Hill Area: Construction of building or facilities with 80 rooms or more in coastal area."

STATEMENT OF NEEDS

- With the state government to realize the implementation of RMK12 to highlight the existing assets, diversifying and improving various sectors in the Pulau Pinang.
- This development will provide various employment opportunities for the local workforce and reduce the unemployment rate.
- To optimize the use of available land in terms of land value and to realize the full potential of the site in accordance with the type of use permitted.

PROJECT DESCRIPTION

The proposed Commercial development consists of **1 Blok Kompleks Komersil 20 Tingkat dan 2 Tingkat Basemen** which includes:

i. 4 Tingkat Podium Komersil Dengan Tempat Letak Kereta (Paras 1-4)
ii. 16 Tingkat Pangsapuri Perkhidmatan (288 units) (Paras 5-20)
iii. 10 Tingkat Pejabat (Paras 5-14)
iv. 1 Tingkat Kemudahan (Paras 15)

As part of the project proponent, the project proponent is committed to incorporate the following conditions stipulated in the EIA approval for the Batu Maung Solid Waste Transfer Station is the requirement for a **150-meter buffer zone** between the solid waste transfer station and the proposed serviced apartment.

This is due to the proposed site is located near the Batu Maung Solid Waste Transfer Station which is still actively operational with an approved EIA report. The guidelines outlined in the ***Guidelines for Siting and Zoning of Industry and Residential Areas, 2012***, which specify a buffer distance of 50 to 149 meters for light industrial areas have been complied by project proponent

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PROJECT LOCATION AND SENSITIVE RECEPTOR

The project site is an open space covered in natural growth vegetation, which includes shrubs and bushes and certain areas being utilized for small-scale commercial activities with several temporary structures such as food stalls, tents and kiosks operating on-site during the evening.

MAIN ROAD – Tun Dr. Lim Chong Eu Highway

NEAREST INFRASTRUCTURE AREA
PMU 275 KV BAYAN LEPAS

NEAREST INDUSTRIAL AREA
UST Global Sdn. Bhd.

WATER QUALITY

The water quality at Station W1 to W5 were within the **Class IIB** limits of the **National Water Quality Standards for Malaysia (NWQS)**, except for COD exceeded the limits at Stations W1 to W5, BOD at Stations W2 to W5 while TSS, Ammoniacal Nitrogen and Turbidity at Stations W3 to W5 while the marine water quality at Station M1, M2 and M3 was within the **Class 2 limits of the Malaysia Marine Water Quality Criteria and Standards (MMWQCS)**, except for Ammonia (Unionized), Nitrite (NO_2) and Nitrate (NO_3) in marine water (Stations M1 – M3) and *Faecal Coliform* at Station M1.

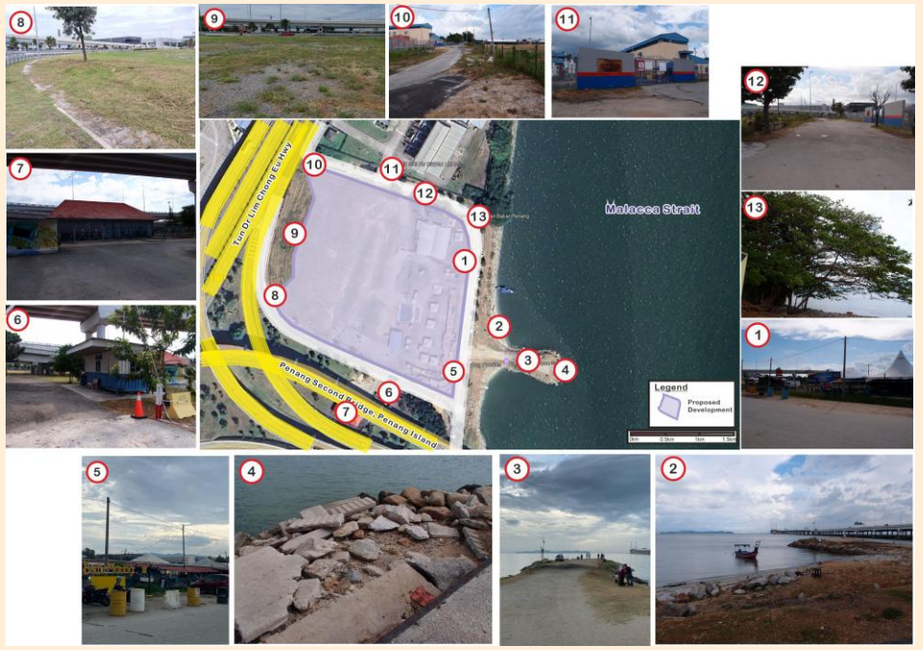
AIR QUALITY

The baseline ambient air quality around the project area was good and the results for all monitoring stations (A1, A2 and O1, O2) **complied** with the Malaysian Ambient Air Quality Guidelines, Ontario's Ambient Air Quality Criteria / Alberta Ambient Air Quality Objectives and Guidelines Summary, and Malaysia Environmental Quality (Clean Air) Regulations 2014 respectively.

NOISE AND VIBRATION

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

EXISTING ENVIRONMENT



TRAFFIC CONDITION

The junction performance analysis indicated that the existing junctions are currently operating at acceptable level of service ranging from LOS A to LOS B during morning and evening peak hour except for Tun Dr. Lim Chong Eu Highway/Hilir Sungai Kluang 1 Signalized Junction (J1) and Tun Dr. Lim Chong Eu Highway/Solok Bayan Lepas Left-in/left-out Junction (J6) which are currently operating at LOS F and LOS E during morning peak hour, respectively.

TOPOGRAPHY

The existing topography of the project site is generally on a flat terrain. The height of the terrain is ranging from +1.70m to +2.41m. The higher elevation is mainly found towards the southern side and the tower terrain lying towards the western side.

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

EXECUTIVE SUMMARY

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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: earth-drain with check dams channeling surface runoff to the sedimentation pond. The final discharge shall be released into existing perimeter drain which will then flow into the sea
	The cut earth volume is estimated at about 143,500 m3 while the fill volume for platform is estimated at about 800 m3. Therefore, the surplus excavated earth of about 142,700 m3 will be exported
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.

EXECUTIVE SUMMARY

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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 Basin	Final discharge sedimentation basin	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	Check dams	Check dams		Weekly & After rain ≥ 12.5 mm	Nil breach/ bypass	EO, visual
3	Perimeter drainage	Perimeter drainage		Weekly & After rain ≥ 12.5 mm	Nil breach/ bypass	EO; visual
4	Hoarding	Hoarding				
5	Stabilized Construction Access	Stabilized Construction Access				
6	Wash Trough	Wash Trough	Condition	Daily & After rain ≥ 12.5 mm	BMP	EO; visual. Remediation shall be carried out within 7 days of detection and reporting
7	Earth Bund	Earth Bund				
8	Stockpile	Stockpile				
9	Discharge Outlet	Discharge Outlet				
10	Crusher Run	Crusher Run				
11	Close Turf	Close Turf				EO; visual. Remediation shall be carried out within 7 days of detection and reporting and replant
12	Overall site/ other issues	Overall site/ other issues	All	Weekly, Monthly		EO to report to DOE online Site environmental meeting

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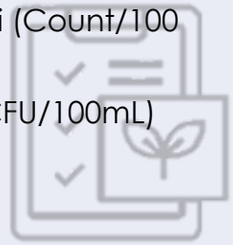
IMPACT MONITORING: CONSTRUCTION PHASE

Environmental Aspect	Sampling Station	Location (GPS Coordinates)	Parameters	Frequency	Limits	Rational
Water Quality (Drainage)	W1	05°17'37.07"N 100°17'34.30"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		<u>NWQS Class IIB</u> - pH = 6 – 9 - COD = 25 mg/l - BOD = 3 mg/l - DO = 5 – 7 mg/l - TSS = 50 mg/l - O&G = – - AN = 0.3 mg/l - *E.Coli* = Not exceeding 300 CFU/100mL - Turbidity = 50 NTU	At upstream of the existing drainage i.e., West of the site
	W2	05°17'34.77"N 100°17'34.30"E				At downstream of the existing drainage i.e., South of the site
	W3	05°17'33.10"N 100°17'38.34"E				At downstream of the existing drainage i.e., South-East of the site
	W4	05°17'34.60"N 100°17'37.68"E				Runoff from the site i.e., East of the site
	W5	05°17'34.41"N 100°17'38.48"E				At downstream of the existing drainage i.e., East of the site
Water Quality (Marine)	M1	05°17'39.79"N 100°17'45.29"E	- pH Value @ 25°C - Chemical Oxygen Demand (COD), mg/L - Biological Oxygen Demand (BOD), mg/L - Dissolved Oxygen (DO); mg/L - Total Suspended Solids (TSS); mg/L - Oil and Grease (O&G); mg/L - Turbidity; NTU - Salinity, ‰ - Temperature, °C - Ammonia (unionized), mg/L - Nitrite (NO2), µg/L - Nitrate (NO3), µg/L - Phosphate, µg/L - Faecal coliform (CFU/100mL) - Escherichia Coli (Count/100 mL) - Enterococci, (CFU/100mL)	Monthly	<u>MWQS Class 2</u> - Temperature = ≤2°C increase over maximum ambient - pH= 6.5 – 9.0 - COD: - - BOD: - - TSS: 50 mg/L or ≤10% increase in seasonal average, whichever is lower - O & G: 0.14 mg/L - DO: > 5.0 mg/L - Turbidity: - - Salinity: - - Ammonia (unionized): 0.07mg/L - Nitrite (NO2): 0.055 mg/L - Nitrate (NO3): 0.06 mg/L - Phosphate: 0.075 mg/L - Fecal Coliform: 70 CFU/100 mL - E. coli: Not exceeding 300 CFU/100 mL - Enterococci: Not exceeding 300 CFU/100 mL	Sea fronting Proposed Development i.e., East of the site
	M2	05°17'31.90"N 100°17'45.11"E				Sea fronting Proposed Development i.e., East of the site
	M3	05°27'23.79"N 100°17'41.10"E				Sea fronting Proposed Development i.e., East of the site



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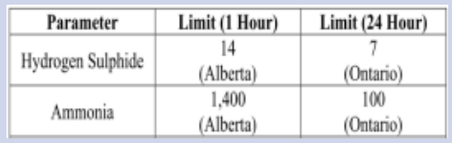
IMPACT MONITORING: CONSTRUCTION PHASE

Environmental Aspect	Sampling Station	Location (GPS Coordinates)	Parameters	Frequency	Limits	Rational
Air Quality	A1	05°17'39.32"N 100°17'34.64"E	- Particulate Matter ≤10µm (PM_{10}) - Particulate Matter ≤ 2.5µm ($PM_{2.5}$)	Monthly	<u>RMAQG</u> - PM10 = 100 µg/m^3 (24hrs) - PM2.5 = 35 µg/m^3 (24hrs)	North-west boundary of the site i.e., East of the Tun Dr Lim Chong Eu Hwy Highway
	A2	05°17'33.37"N 100°17'37.20"E				South-east boundary of the site i.e., Entrance/Exit of the site
Odour Quality	O1	05°17'39.32"N 100°17'34.64"E	- Hydrogen Sulfide (H_2S) - Ammonia (NH_3) in µg/m3 (For 1 Hour)	Monthly	OAAQC and AAAQOGS 	North-west boundary of the site i.e., East of the Tun Dr Lim Chong Eu Hwy Highway
	O2	05°17'32.31"N 100°17'30.75"E				South-west of the site i.e., North of the Pusat Pelupusan Sisa Pepejal, MBPP and Batu Maung Waste Transfer Station
Noise Quality	N1	05°17'39.32"N 100°17'34.64"E	L_{eq}, L_{max}, L_{min}, L_{10} & L_{90} in dB(A) (day time and night time for 24 hours)	Monthly	<u>Permissible Sound Level</u> - Day time = 75dB(A) - Night time = 75dB(A)	North-west boundary of the site i.e., East of the Tun Dr Lim Chong Eu Hwy Highway
	N2	05°17'33.37"N 100°17'37.20"E				South-east boundary of the site i.e., Entrance/Exit of the site
Vibration	V1	05°17'39.32"N 100°17'34.64"E	Peak Particle Velocity (PPV) (day time and night time for 24 hours)	Monthly	<u>Second Schedule</u> <u>Day Time</u> 0.2 mm/s to 0.4 mm/s (R=2 to R=4) <u>Night Time</u> 0.2 mm/s (R=2)	North-west boundary of the site i.e., East of the Tun Dr Lim Chong Eu Hwy Highway
	V2	05°17'33.37"N 100°17'37.20"E				South-east boundary of the site i.e., Entrance/Exit of the site

Parameter	Limit (1 Hour)	Limit (24 Hour)
Hydrogen Sulphide	14 (Alberta)	7 (Ontario)
Ammonia	1,400 (Alberta)	100 (Ontario)