

EXECUTIVE SUMMARY

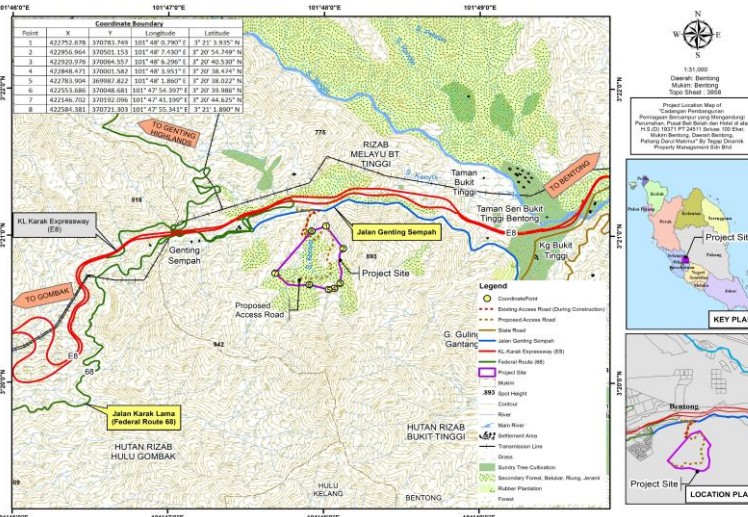
PROJECT TITLE: CADANGAN PEMBANGUNAN PERNIAGAAN BERCAMPUR YANG MENGANDUNGI PERUMAHAN, PUSAT BELI-BELAH DAN HOTEL DI ATAS H.S.(D) 19371 LOT PT 24511 SELUAS 100 EKAR, MUKIM BENTONG, DAERAH BENTONG, PAHANG DARUL MAKMUR BY TEGAP DINAMIK PROPERTY MANAGEMENT SDN BHD

PROJECT PROPONENT
TEGAP DINAMIK PROPERTY MANAGEMENT SDN BHD
 6-2 Level 6, East Wing, Menara Goldstone (Holiday Inn Express)
 No. 84, Jalan Raja Chulan, 50200 Kuala Lumpur

ENVIRONMENTAL CONSULTANT
ECO SYNERGY SOLUTIONS SDN BHD
 No. 2-22, Komplek Sentral Point, Jalan TKS1,
 Taman Kajang Sentral,
 43000 KAJANG, Selangor Darul Ehsan



PROJECT LOCATION



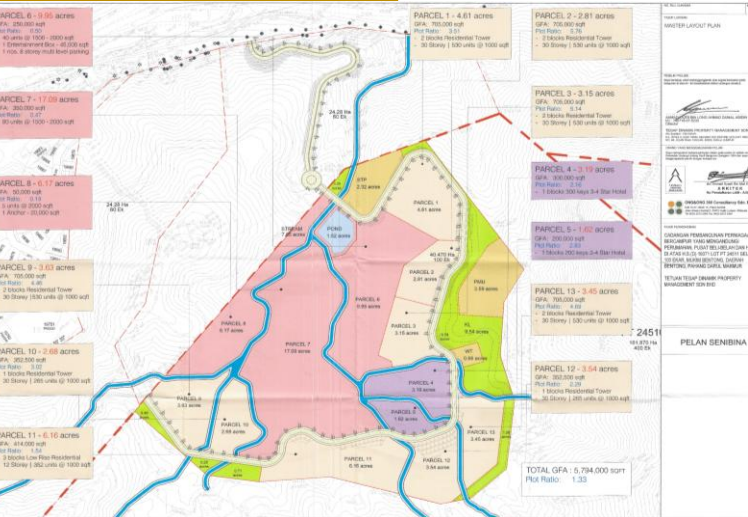
The project site is on Lot PT 24511 with an area of 100 acres in Mukim Bentong, District of Bentong, Pahang Darul Makmur

PRESCRIBED ACTIVITY

Activity 12: DEVELOPMENT IN COASTAL AND HILL AREA
 "Construction of hill-station resort or hotel at 300 meters or more above mean sea level covering an area of 20 hectares or more"

Activity 13: DEVELOPMENT IN SLOPE AREA
 "Development or land clearing less than 50 percent of an area with slope greater than or equal to 25° but less than 35°"

PROJECT MASTER LAYOUT PLAN



NEAREST TOWN & ACCESS ROAD

The Project site is located near Genting Sempah R&R which is ±0.54km to the northwest and the nearest town are Bentong Town with ±2.21km to northeast

SITE ZONING

Rancangan Tempatan Daerah Bentong (Penggantian) 2035. *Blok Perancangan BP 1.0: Mukim Bentong, Blok Perancangan Kecil (BPK 1.8): Janda Baik – HSK Lentang - commercial zoning*

PROJECT DESCRIPTION

Based on the zoning, the land owner sees the potential to develop the area into a mixed development consist of residential, commercials and hotel. The development concept applies business activities as the main activity due to its location located close to the highland tourism areas of Genting Highlands, Bukit Tinggi and Janda Baik.

PROJECT ACTIVITIES

- Pre-Construction Stage**
- 1.Site survey
 - 2.Topographical survey
 - 3.Site investigation, including environmental studies
- Building Construction**
- 1.Piling Works
 - 2.Civil and Structural Building Works
 - 3.Retention Pond
 - 4.Landscaping and Revegetation Works
 - 5.Closure and Rehabilitation Works
 - 6.Demobilization
- Post-Construction Stage**
- 1.Solid waste management
 2. STP management
 3. Stormwater management
 - 4.General maintenance

EXISTING SITE CONDITION



SURROUNDING LAND USE



METEOROLOGY

Station: FELDA Lurah Bilut
 Annual Rainfall: 1553.7 mm
 Average Temperature: 28.2 °C
 Average Relative Humidity: 87.8%

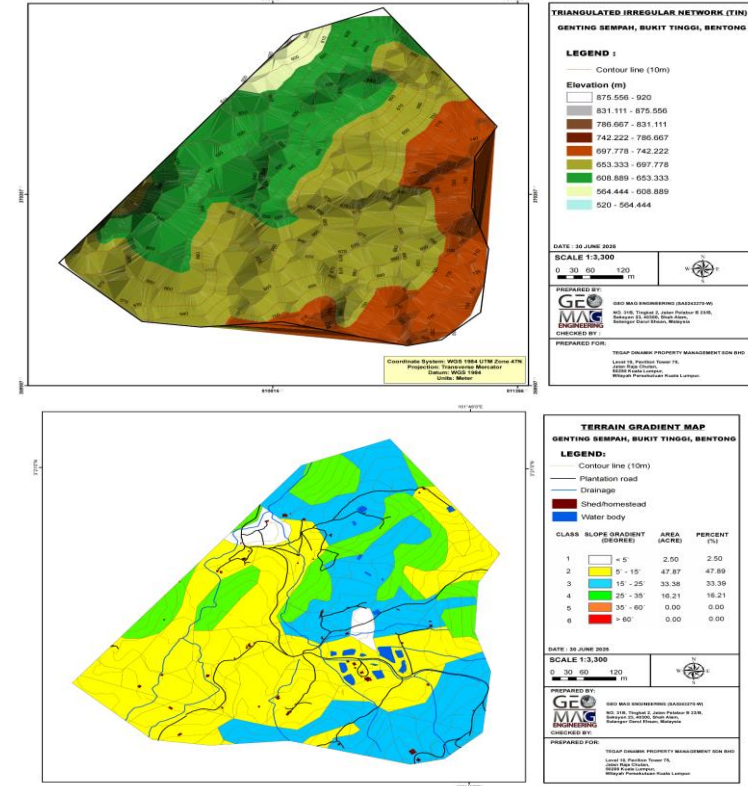
SOIL

Soil composition of top soil from twenty-five (25) boreholes. the major type of soil was Clayey SILT.

ODOUR

The odour concentration perceived throughout the sampling sessions was within range of 0 D/T [Neutral] to 7 D/T [Objectionable].

TOPOGRAPHY



WATER QUALITY

WQ STATION	WQI	CLASS	WQ STATION	WQI	CLASS
WQ 1	91.78	II (C)	WQ11	86.50	II (C)
WQ 2	91.82	II (C)	WQ12	89.06	II (C)
WQ 3	94.08	I (C)	WQ13	85.83	II (C)
WQ 4	94.52	I (C)	WQ14	83.07	II (C)
WQ 5	92.52	II (C)	WQ15	85.94	II (C)
WQ 6	92.34	II (C)	WQ16	82.83	II (C)
WQ7	91.30	II (C)	WQ17	85.66	II (C)
WQ8	90.58	II (C)	WQ18	86.44	II (C)
WQ9	90.12	II (C)	WQ19	85.38	II (C)
WQ10	87.49	II (C)			

AMBIENT AIR QUALITY

PARAMETER & DOE Limit	SAMPLING STATION			
	A1	A2	A3	A4
PM ₁₀ [100 µg/m³]	22.73	26.81	21.58	29.06
PM _{2.5} [35 µg/m³]	29.36	33.48	27.33	35.02
SO ₂ [80 µg/m³]	ND(<26)	ND(<26)	ND(<26)	ND(<26)
NO ₂ [70 µg/m³]	ND(<10)	ND(<10)	ND(<10)	ND(<10)
O ₃ [100 µg/m³]	ND(<0.1)	ND(<0.1)	ND(<0.1)	ND(<0.1)
CO [10 µg/m³]	ND(<0.115)	ND(<0.115)	ND(<0.115)	ND(<0.115)

NOISE LEVEL

PARAMETER	DOE Limit (Second Schedule)	SAMPLING STATION			
		N1	N2	N3	N4
LA _{eq}	Daytime: 60	53.8	60.7	61.0	65.4
	Nighttime: 55	52.0	57.9	59.0	59.0

VIBRATION

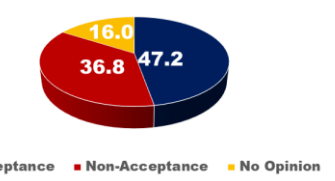
PARAMETER	Station	Long (x-axis)	Trans (y-axis)	Vert (z-axis)	DOE Limit
Peak Particle Velocities (PPV) (mm/s)	V1	0.006	0.006	0.008	0.8 – 1.6 mm/s
	V2	0.012	0.010	0.026	
	V3	0.004	0.004	0.005	

SOCIO ECONOMY STUDY

Total Respondent: 167

Project Acceptance: 47.2%
 Non-Acceptance: 36.8%
 No opinion: 16.0%

PROJECT ACCEPTANCE



HYDROLOGY

There is one (1) contributed river at the project site which is tributaries of Sungai Kenyoi. The contributed rivers will flow for about 3.03 km east to the main river of Sungai Tangli.

TRAFFIC STUDY

- A list of road improvements to cater to the additional trips that will be generated from the proposed development are summarized below.
- Widening of Jalan Genting Sempah from a 2-lane, single carriageway configuration into a 4-lane, dual-carriageway.
 - Upgrading of junction J1 by providing a new left-slip, free-flow lane and an additional lane from Jalan Genting Sempah heading westward into the roundabout.
 - Altering the lane marking of the roundabout at junction J1 to provide two, 5 metres lanes instead of the current 10 metres-wide, single lane.
 - A signal-controlled system is proposed to be imposed onto junction J2 to control the additional trips generated.
 - Proposed new grade-separated ramps along Jalan Genting Sempah to provide access to the new masterplan development.

POTENTIAL IMPACTS & MITIGATION MEASURES

Potential Impact	Mitigation Measures
Soil erosion and sedimentation	Install and conduct maintenance of all BMPs
Water Pollution	Portable septic tank. maintenance of BMPs
Geohazard - landslide	Regular slope routine maintenance
Dust dispersion from movement of heavy vehicles and machinery	All vehicles must be cleaned and sprinkle water on unpaved road
Noise level increase from construction activities	Work must be limited.
Traffic congestion and safety	Provide traffic control and traffic improvement
Public health due to contagious disease and construction activities	Foreign worker regular health screening, good housekeeping and safety devices
Economic growth for local community and tourism industry	Provide job opportunities
Improper waste management	Provide proper storage area and solid waste management

ENVIRONMENTAL MANAGEMENT PLAN (EMP) & LAND DISTURBING POLLUTION PREVENTION & MITIGATING MEASURES (LDP2M2) – Submission to DOE Negeri Pahang for endorsement

POST-EIA MONITORING

Monitoring	Parameter	Frequency
Impact Monitoring	1.Stations: WQ1, WQ2, WQ3, WQ4, WQ5, WQ6 & WQ8	Subject to COA
1.Water Quality	2.Stations: A1, A2 & A3	
2.Ambient air quality	3.Stations: N1, N2 & N3	
3.Noise Level	4.Station: V1, V2 & V3	
4.Vibration	1.TSS & Turbidity	Subject to COA
Compliance Monitoring	2.BOD, COD, pH, Turbidity, NH3-N, Fecal Coliform, O&G, Temperature, DO	
1.Water Quality (ST discharge)	3.PM ₁₀ , PM _{2.5} , NO ₂ , SO ₂ , CO, O ₃	Subject to COA
2.Water Quality (river)	4.LA _{eq} , L ₁₀ , L ₅₀ , L ₉₀ , L _{max} , L _{min}	
3.Ambient air quality	5.Peak particle velocity at X-axis, Y-axis, Z-axis, Peak Vector Sum, Vertical Vibration Peak Velocity, Frequency	Subject to COA
4.Noise Level	1.Sediment level, structure and performance of BMPs	
5.Vibration	2.All BMPs	
Performance Monitoring	-	Subject to COA
1.Sediment Trap	-	
Form EIA 1-18	-	Subject to COA
Form EIA 2-18	-	
Aerial View	-	Subject to COA
Environmental Audit	-	

RINGKASAN EKSEKUTIF

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PENGERAKA PROJEK

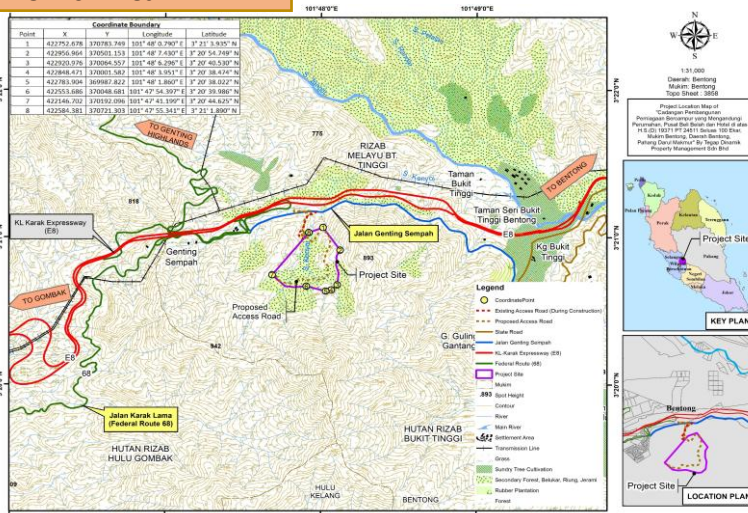
TEGAP DINAMIK PROPERTY MANAGEMENT SDN BHD
6-2 Level 6, East Wing, Menara Goldstone (Holiday Inn Express)
No. 84, Jalan Raja Chulan, 50200 Kuala Lumpur

PERUNDING ALAM SEKITAR

ECO SYNERGY SOLUTIONS SDN BHD
No. 2-22, Komplek Sentral Point, Jalan TKS1,
Taman Kajang Sentral,
43000 KAJANG, Selangor Darul Ehsan



LOKASI PROJEK



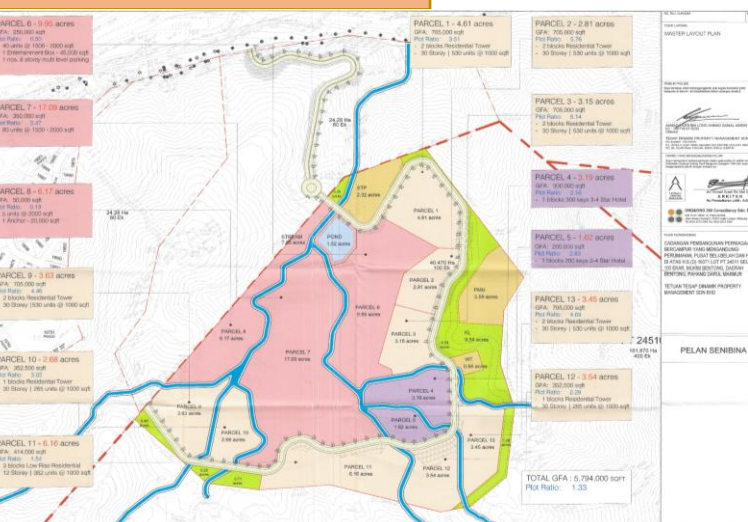
Tapak projek adalah di atas Lot PT 24511 dengan keluasan 100 ekar di Mukim Bentong, Daerah Bentong, Pahang Darul Makmur

AKTIVITI YANG DITETAPKAN

Aktiviti 12(b): PEMBANGUNAN DI KAWASAN PANTAI DAN BUKIT
"Pembinaan resort atau hotel peranginan bukit pada ketinggian 300-meter atau lebih di atas purata aras laut yang meliputi kawasan seluas 20 hektar atau lebih."

Aktiviti 13: PEMBANGUNAN DI KAWASAN CERUN
"Pembangunan atau pembersihan tanah yang meliputi kawasan yang kurang daripada 50 peritua kawasan cerun yang berkecerunan melebihi atau sama dengan 25° tetapi kurang daripada 35°"

PELAN SUSUN ATUR INDUK PROJEK



BANDAR TERHAMPIR & JALAN AKSES

Tapak projek terletak berdekatan R&R Genting Sempah iaitu ±0.54km ke arah barat laut dan Bandar Bentong iaitu ±22.31km ke arah timur laut

ZON TAPAK

Rancangan Tempatan Daerah Bentong (Penggantian) 2035. *Blok Perancangan BP 1.0: Mukim Bentong, Blok Perancangan Kecil (BPK 1.8): Janda Baik – HSK Lentang – zon komersil*

PENERANGAN PROJEK

Berdasarkan zon tapak, pemilik tanah melihat potensi untuk membangunkan kawasan ini sebagai pembangunan bercampur yang terdiri daripada perumahan, komersil dan hotel. Konsep pembangunan merangkumi aktiviti perniagaan sebagai aktiviti utama kerana berdekatan kawasan pelancongan tanah tinggi iaitu Genting Highlands, Bukit Tinggi dan Janda Baik.

AKTIVITI PROJEK

Peringkat Pra-Pembinaan

1. Tinjauan tapak
2. Tinjauan topografi
3. Penyiasatan tapak, termasuk kajian alam sekitar

Peringkat Pembinaan

1. Mobilisasi peralatan dan mesin
2. Pemasangan kawalan hakisan dan mendapan (ESCP/LDP2M2)
3. Pembersihan tapak
4. Kerja-kerja jalan dan saliran
5. Kerja tanah

Pembinaan Bangunan

1. Kerja-kerja cerucuk
2. Kerja-kerja sivil dan struktur bangunan
3. Kolam *Detention*
4. Kerja landskap dan penanaman
5. Penamatan kerja dan pemulihan
6. Demobilisasi

Peringkat Selepas Pembinaan

1. Pengurusan sisa pepejal
2. Pengurusan STP
3. Pengurusan air larian
4. Penyelenggaraan am

KEADAAN SEMASA TAPAK



GUNA TANAH SEKITAR



METEOROLOGI

Stesen: FELDA Lurah Bilut
Hujan Tahunan: 1553.7 mm
Purata Suhu: 28.2 °C
Purata Kelembapan relatif: 87.8%

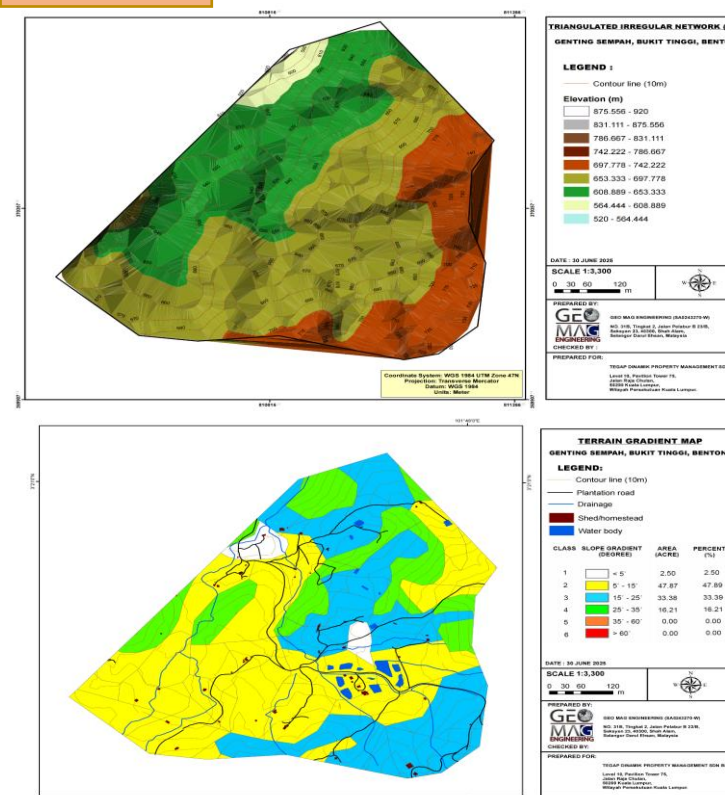
TANIH

Komposisi tanah daripada dua puluh lima (25) *borehole*. Jenis tanah utama adalah KELODAK dan TANAH LIAT.

BAU

Kepekatan bau yang dikenalpasti semasa persampelan berada di julat 0 D/T [Natural] to 7 D/T [Tidak Menyenangkan].

TOPOGRAFI



KUALITI AIR

WQ STESEN	WQI	KELAS	WQ STESEN	WQI	KELAS
WQ 1	91.78	II (B)	WQ11	86.50	II (B)
WQ 2	91.82	II (B)	WQ12	89.06	II (B)
WQ 3	94.08	I (B)	WQ13	85.83	II (B)
WQ 4	94.52	I (B)	WQ14	83.07	II (B)
WQ 5	92.52	II (B)	WQ15	85.94	II (B)
WQ 6	92.34	II (B)	WQ16	82.83	II (B)
WQ7	91.30	II (B)	WQ17	85.66	II (B)
WQ8	90.58	II (B)	WQ18	86.44	II (B)
WQ9	90.12	II (B)	WQ19	85.38	II (B)
WQ10	87.49	II (B)			

KUALITI UDARA AMBIEN

PARAMETER & Had JAS	STESEN PERSAMPELAN			
	A1	A2	A3	A4
PM ₁₀ [100 µg/m ³]	22.73	26.81	21.58	29.06
PM _{2.5} [35 µg/m ³]	29.36	33.48	27.33	35.02
SO ₂ [80 µg/m ³]	ND(<26)	ND(<26)	ND(<26)	ND(<26)
NO ₂ [70 µg/m ³]	ND(<10)	ND(<10)	ND(<10)	ND(<10)
O ₃ [100 µg/m ³]	ND(<0.1)	ND(<0.1)	ND(<0.1)	ND(<0.1)
CO [10 µg/m ³]	ND(<0.115)	ND(<0.115)	ND(<0.115)	ND(<0.115)

HAD BUNYI

PARAMETER	Had JAS (Jadual Kedua)	STESEN PERSAMPELAN			
		N1	N2	N3	N4
LA _{eq}	Waktu Siang: 60	53.8	60.7	61.0	65.4
	Waktu Malam: 55	52.0	57.9	59.0	59.0

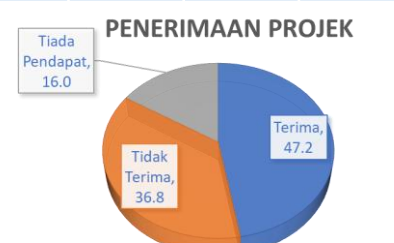
GETARAN

PARAMETER	Stesen	Long (x-axis)	Trans (y-axis)	Vert (z-axis)	Had JAS
Peak Particle Velocities (PPV) (mm/s)	V1	0.006	0.006	0.008	0.8 – 1.6 mm/s
	V2	0.012	0.010	0.026	
	V3	0.004	0.004	0.005	

KAJIAN SOSIO EKONOMI

Jumlah Responden: **167**

Penerimaan projek:
Terima: 47.2%
Tidak Terima: 36.8%
Tiada Pendapat: 16.0%



HIDROLOGI

Terdapat satu anak sungai yang melalui kawasan projek iaitu Sungai Kenyoi. Anak sungai ini mengalir sejauh 3.03 km ke arah timur ke Sungai utama iaitu Sungai Tangli.

KAJIAN TRAFIK

Senarai penambahbaikan jalan untuk menampung penambahan trip yang akan dijana daripada pembangunan yang dicadangkan diringkaskan di bawah.

- a) Pelebaran Jalan Genting Sempah daripada konfigurasi 2 lorong, laluan tunggal kepada 4 lorong, dua laluan.
- b) Menaik taraf persimpangan J1 dengan menyediakan laluan kiri baharu, lorong aliran bebas dan lorong tambahan dari Jalan Genting Sempah menuju ke arah barat ke bulatan.
- c) Mengubah penanda lorong bulatan di persimpangan J1 untuk menyediakan dua lorong 5 meter dan bukannya lorong tunggal selebar 10 meter sedia ada.
- d) Sistem kawalan isyarat dicadangkan untuk dikenakan pada simpang J2 untuk mengawal perjalanan tambahan yang dihasilkan. Cadangan tanjakan baru dipisahkan gred di sepanjang Jalan Genting Sempah untuk menyediakan akses kepada pembangunan pelan induk baharu.

POTENSI IMPAK & LANGKAH-LANGKAH MITIGASI

Potensi Impak	Langkah-Langkah Mitigasi
Hakisan dan mendapan	Memasang dan melaksana penyelenggaraan semua BMPs.
Pencemaran air	Tangki septik mudah alih. Penyelenggaraan BMPs.
Geobencana – tanah runtuh	Penyelenggaraan rutin cerun berkala
Penyebaran debu dari pergerakan kenderaan berat dan mesin	Semua kenderaan perlu dibersihkan dan menyiram air di atas permukaan jalan yang tidak berturap
Tahap bunyi meningkat daripada aktiviti pembinaan	Kerja-kerja perlu dihadkan
Kesesakan lalulintas dan keselamatan	Menyediakan kawalan lalulintas dan penambahbaikan lalulintas
Kesihatan awam kerana penyakit berjangkit dan aktiviti pembinaan	Pekerja asing perlu pemeriksaan kesihatan berkala, pengemasan yang baik dan alat keselamatan
Perkembangan ekonomi komuniti setempat dan industry pelancongan	Menyediakan peluang pekerjaan
Pengurusan sisa yang tidak sempurna	Menyediakan kawasan stor dan mengurus sisa pepejal yang baik

PELAN PENGURUSAN ALAM SEKITAR (EMP) & LAND DISTURBING POLLUTION PREVENTION & MITIGATING MEASURES (LDP2M2) – Penghantaran ke JAS Negeri Pahang untuk disahkan

PEMANTAUAN PASCA EIA

Pemantauan	Parameter	Frekuensi
Pemantauan Kesan	1. Stesen: WQ1, WQ2, WQ3, WQ4, WQ5, WQ6 & WQ8	Tertakluk kepada COA
1. Kualiti air	2. Stesen: A1, A2 & A3	
3. Tahap bunyi	3. Stesen: N1, N2 & N3	
4. Gegaran	4. Stesen: V1, V2 & V3	
Pemantauan Pematuhan		
1. Kualiti Air (ST discaj)	1. TSS & Kekeruhan	Tertakluk kepada COA
2. Kualiti Air (sungai)	2. BOD, COD, pH, Kekeruhan, NH3-N, Fecal Coliform, O&G, Suhu, DO	
3. Kualiti Udara Ambien	3. PM ₁₀ , PM _{2.5} , NO ₂ , SO ₂ , CO, O ₃	
4. Tahap Bunyi	4. LA _{eq} , L ₁₀ , L ₅₀ , L ₉₀ , L _{max} , L _{min}	
5. Gegaran	5. Peak particle velocity at X-axis, Y-axis, Z-axis, Peak Vector Sum, Vertical Vibration Peak Velocity, Frequency	
Pemantauan Prestasi		
1. Perangkap kelodak	1. Tahap kelodak, struktur dan prestasi semua BMPs	Tertakluk kepada COA
2. Semua BMPs		
Borang EIA 1-18	-	Tertakluk kepada COA
Borang EIA 2-18 Aerial View	-	
Audit Alam Sekitar	-	Tertakluk kepada COA