



CHAPTER 9
ENVIRONMENTAL
MANAGEMENT PLAN

— KenEp Consultancy & Services —

CHAPTER 9

9.1 ENVIRONMENTAL MANAGEMENT PLAN AND ENVIRONMENTAL MONITORING

9.1.1 Environmental Management Plan

One of the primary objectives of the EIA is to develop an action (Environmental Management Plan) to ensure that the proper development activities are undertaken with the consideration of the need for conservation and protection of the existing ecosystems and for sustainable development of quarrying industry.

An EMP is a document containing the organisational structure, responsibilities, procedures, and resources to deal with all relevant environmental issues and to achieve effective and long-term compliance in environmental protection. Emphasis is placed on the prevention of adverse environmental impacts, rather than resolving problems after they occur.

The following elements are typical components of an environmental management system:

- Formal, written corporate environmental policies and objectives. Integration of environmental standards, objectives, and meaningful performance measurements into business planning, budgeting, design, construction and operation.
- Review of permit / regulatory requirements.
- Clearly define responsibility chart - roles and responsibilities for all personnel and timeliness for the resolution issues.
- Current and anticipated environmental regulations and impacts.
- Pollution prevention programme.
- A system that hold both managers and employees accountable for their compliance duties and promotes environmental excellence.

- Performance Review - compliance audit and self-assessment. Communication, both inside and outside the company, of compliance information and environmental policy, goals and objectives.

The EMP may be a permanent feature, or its terms of reference may be required only for a period. One of its basic requirements is the Environmental Monitoring System (EMS) outlined below.

9.1.2 Environmental Monitoring System

There is a basic need, in the formulation of the Environmental Management Plan (EMP), to establish a suitable Environmental Monitoring System (EMS) which could monitor at regular intervals all relevant parameters required to be considered by the EIA. The EMS shall require significant samplings and personnel competent in interpretation of the parameters.

Monitoring programme is necessary to follow-up the effectiveness of such environmental mitigation measures that have been implemented. It is also recommended to conduct monitoring programme when there are check items being identified to pose minor impacts in any projects which is not appropriate to justify modification of the project.

This section suggests the monitoring programme, which include: the parameters, locations and frequencies of monitoring. Monitoring programme involves measuring and recording of physical social variables associated with development of impacts. These impacts include noise, accidents and public safety. The monitoring programme is necessary as it identifies existing problems, evaluates the effectiveness of the mitigating programme and other regulatory management activities, assess compliance with regulation and criteria. Monitoring therefore improve project management. Monitoring is also useful for successful auditing and provides effective commitment for appropriate mitigating measure.

Impacts to be Monitored

Dust

Ambient dust monitoring must be carried at all nearby residential areas once every three months to determine the level of dust pollution and effectiveness of the mitigating measured carried out.

As the proposed quarry operation involve mineral processing, compliance with the Factories and Machinery (Mineral Dust) Regulations, 1989 is also required. Under this regulation, every employee has to be provided with proper protective clothing and respiratory protective equipment, and undergo periodical medical examination or test arranged by the employer.

Employee exposure monitoring has to be conducted to determine if any employee is exposed in mineral dust at or above the action level. An initial employee exposure monitoring has to be undertaken within three months from the day the employee commences work to determine the percentage of free silica dust (by weight) in the mineral dust that the employee is exposed to.

No employee shall be exposed to mineral dust, containing free silica than 1% in weight, at a concentration greater than 5 milligram per cubic meter of respirable dust or 10 milligram per cubic meter of total dust averaged over an eight-hour period.

Noise

Intensity of noise is related to the control and condition of the equipment used in the quarrying operation. As the increase in noise level surrounding the quarry site will be one of the main residual impacts during the operation, monitoring will have to be carried out to ascertain the adequacy of the mitigating measures that are carried out. Suitably spaced monitoring stations should be 'established' around the plant and the working areas. Every monitoring exercise should be undertaken at similar locations so that valid comparison between readings could be made. Monitoring should also be done at nearest residential areas and the monitoring frequency shall be once every three months.

Periodic noise measurement at half-yearly interval should be undertaken to check the level of noise that the workers are exposed to. The management is required to establish and maintain a free Audiometric Testing Programme for employees exposed to excessive noise. The management should also establish baseline and Medical and Occupational Records for every employee within six (6) months from the day the employee commences work. Audiometric testing should be repeated every year for employee commences work. Audiometric testing should be repeated every year for employees exposed to noise levels at or above the action level of 85 dB(A).

Blast Vibration and Airblast Monitoring

Besides conserving the resources, effective blast design is dedicated to promote a safe and environmental friendly quarrying operation where safety and environmental considerations are maximised. Efficient blasting will have a direct influence on the economics of blasting, the rate of productivity through better fragmentation, and the reduction of vibration, air blast, fly-rock, and over-break.

Intensity of vibration is related to the control on the amount of explosive used during the blasting operation. Periodic vibration and air-blast measurement should be undertaken to check the blasting impacts on the surrounding. Fly-rock and vibration hazards could endanger the safety of the workers or community nearby if such proper procedures are not being observed closely during each blasting operation.

Environmental Monitoring for the rock blasting is to monitor the level of vibration and air-blast (noise) generated from the operation. From this monitoring, it will give a good indication and baseline data to what extents the vibration and air-blast are affecting the surrounding area.

Besides ensuring compliance with the safety limits, such monitoring will help in determining the liability, if any, of the Proponent. It will also help to ensure that only qualified personnel plan and carry out the blasting operation.

Water Quality

Ideally, the water quality monitoring programme should be conducted at sampling point such as listed below:

- Outlets from sediment basins

The proposed frequency of such monitoring programme is at least once every three months and the parameters monitored are pH, BOD, COD, TSS, Ammoniacal Nitrogen, Oil and Grease. The final monitoring program to be adopted is finalised with the DOE.

Safety

Is the safety procedures in handling explosive and blasting operation been adequately followed.

Others

Any other complaints from the public must be investigated, which may include monitoring to ascertain the nature and magnitude of the annoyance.

Monitoring Site

The locations of the monitoring site shall be decided after consultation with the Department of Environment. However, as a guide, the monitoring stations which have been used in monitoring the ambient environment shall be the reference stations for future monitoring exercise.

9.1.3 Reporting Procedure

Each time when the analyses are completed, any significant changes in the parameters studied should be reported immediately to the DOE. Other than that, the frequency of report preparation may be flexible but at least a quarterly report should be prepared and submitted to the DOE.

9.2 ENVIRONMENTAL COMPLIANCE AUDIT PROGRAMME

Auditing is a very important component of Environmental Management Plan. There are various types of auditing but compliance audit is most relevant to the EIA. This type of audit requires reviewing the projects as well as judging the prediction and recommendation made compared to actual experiences. The environmental compliance audit need to be carried out is as followed:

Monitoring programme is necessary to follow-up the effectiveness of such environmental mitigation measures that have been implemented. It is also recommended to conduct monitoring programme when there are check items being identified to pose minor impacts in any projects which is not appropriate to justify modification of the project. Site Inspection by Certified Erosion, Sediment and Storm water Inspector (CESSWI) quarterly and within 24 hours after the end of a storm event of 12.5 mm or greater. The proposed Performance Program (PM) is shown in **Table 9-1**. The performance monitoring checklist is elaborate further in **Chapter 9**.

Table 9-1 Proposed Monitoring Program

Inspection Frequency	Areas shall be inspected	Inspected by
Quarterly Inspection Inspection at least every seven (7) days and within 24 hours after end of a storm event of 12.5mm or greater	All areas that have been cleared, graded, or excavated and that not yet complete stabilization	Certified Erosion and Sediment and Storm Water Inspector
	Entrance/ Exist	
	Roadways	
	All P2M2 installed or applied onsite	
	Material Storage areas, spoil areas, borrow area, or equipment storage, and maintenance area	
	All area where runoff water typically flow within the site, including drainage ways designed to divert, convey and/or treat runoff water	
All discharge from the site		

Environmental Audit

The purpose of the audits is to determine whether impacts were accurately predicted and to identify additional significant effects that are not anticipated and thus warrant corrective measures. This type of audit should check compliance with relevant government agencies and internal requirements.

An effective auditing programme, based on the standard for internal auditing published by Institute of Internal Auditors, have the following elements:

- Independence
- Top management support
- Adequate resources and staffing
- Explicit audit program objectives, scope, resources and frequency.
- A process which collects, analyses, interprets, and documents information sufficient to achieve audit objectives
- Procedures
- Quality assurance

The objectives of the audit programme include:

- Providing independent verification that the activities carried out are in compliance with applicable internal and government requirements.
- Ensuring that the management plans are in place for continued compliance.
- Improving overall environmental performance at the work sites.
- Increasing environmental awareness.
- Protection from potential liabilities.

Compliance audits are usually carried out to identify specific non-compliance with regulations and company procedures. As such they tend to focus on identifying symptoms rather than probable cause of problems or evaluate effectiveness of management controls. The Environmental Protection Agency (EPA) of the USA also encouraged going beyond typical compliance audits to include:

- Development of organisational environmental policies.
- Incorporation of environmental protection into design and operating procedures.
- Applying best management practices and good housekeeping.
- Apart from identifying specific non-conformance, also examine probable causes, and provides recommendation including management controls needed to prevent recurrence of the non-conformance.
- Initiating preventive and corrective maintenance system.
- Exploiting source reduction, reuses, and recycle potential.

The Audit Process

Audit should be conducted in accordance with accepted internal audit standard such as based on EPA policy. These audit processes usually include the following phases:

- Site/facility walk-through.
- Paper audit - Reviews of pertinent documents and construction and operating procedures to verify that all systems/procedures are in place functioning as intended.
- Environmental Management System Review - Key personnel are questioned to determine the effectiveness of the environmental management system.
- Inspection Checklists - Checklists are used as a guide to help the auditors identify areas of concern. Areas covered by checklists include noise, dust erosion, siltation, slope stability, flash floods, vegetation and socio-economy.

The Auditors

To ensure independence, the Project Proponent should engage qualified external auditor to carry out the auditing, which shall depend on the requirement by the authorities and company management. The company shall also developed in-house auditing expertise to carry out voluntary and continuous auditing. The auditing regulations should comply with the new Environmental Quality (Amendment) Act 1996.

Environmental Audit Checklists

This chapter provides checklists of the mitigating measures that must be taken to ensure that the development of the proposed quarry operation will not adversely affect the environment. Monitoring programme and compliance audit are also given to ensure that the mitigating measures are adequately carried out to meet various conditions stipulated by the authorities.

Planning and Design Stage

- Has the location for siting the access road and fixed plant being determined taking into consideration of potential impacts to nearby residential areas?
- Has the machinery installed has the required dust and noise control equipment?

Construction Stage

Base / Site Camp

- Has the local authority approved the location and its design?
- Are the workers quarters and site office being kept clean and tidy for aesthetic and hygienic purpose?
- Have the basic utilities and amenities being provided?

Damage and Interference (on Structure, Roads and Other Property)

- Has all precautions been taken to avoid damages and interference (other than to the extent that is necessary for them to be removed or diverted to permit the execution of the works) to:
 - Watercourses or drainage systems?
 - Utilities?
 - Structures, roads, including street furniture, or other property?
 - Public or private vehicular or pedestrian accesses?
- Has written permission been obtained prior to any excavation or performance of any other work directly or indirectly affecting any utility (underground, overhead or on the surface)?

- Has appropriate remedial action been taken for may damage to structures, roads or other property?

Access

- Has alternative access been provided if interference with existing public or private vehicular or pedestrian access is necessary to enable the works to be carried out?
- Has the arrangements for the alternative access been agreed by the relevant authorities?
- Are the permanent access reinstated as soon as practicable after work is completed and the alternative access removed immediately if it is no longer required, and the ground surface properly reinstated?

Protection of Adjacent Structures and Works

- Are all necessary precautions been taken to protect structures or working being carried out by others adjacent to and, for the time being, within the site from the effects of vibrations, undermining and any other earth movements, or the diversion of water flow arising from the work?

Slope Stability

- Are the cut slopes less than acceptable heights between benches?
- Are the benches in acceptable width?
- Are the slopes adequate?

Noise Control

- Does the DOE determine noise monitoring carried out at locations and frequency?
- Is the noise level complying with all requirements of the authorities?
- Of any noise level gives rise to public complaints, has the contractor taken immediate steps to mitigate the problem such as limiting noise intense works to 0700 to 2200 hour?
- If it is necessary to work beyond 2200 hour, has the approval from relevant authorities been obtained?

Mud and Dust

- Has the construction site and access road been maintained in such a way as to minimise fugitive dust emissions?

- Has water troughs been provided to clean tyres before vehicles the construction site?

Water Quality

- Is water containing soil particles or muddy water flowing as surface runoff or from other areas of the worksite being drained into a suitably designed sediment basin before it is discharged into an outlet drain, ditch, stream or river?
- Is sediment basin size designed to conform to the total catchment area?
- Is the sediment basin regularly de-silted?
- Have site sites for deposition of de-silting material been determined and approved by the authorities?
- Is the water drained from the sediment basin being frequently monitored for TST and other relevant parameters?
- If the de-silting materials have to be disposed outside the construction area, is strict procedure taken to avoid leakage of material along the transportation route?
- Are the sampling locations and frequency complying with the DOE requirement?

Site Cleaning and Disposal of Water Material

- Has all debris, spoil material, rubbish and other waste being cleared regularly from the site?
- Is the disposal site for dumping of the waste material approved by the local authorities?
- Is the access to the work sites free of all debris, waste and excavated material and other obstructions?
- Are the waste oil and other scheduled wastes being handled and disposed according to procedures for scheduled wastes?

Transportation of Construction Materials and Construction Wastes

- Has the transportation routes been determined and approved by the authorities?
- Are the lorries road properly covered to avoid spillage?
- Are mud and debris deposited on the roads cleaned?
- Is facility provided to clean the wheels before leaving the construction site?

- If there is any damage to the roads, public and private properties, has action been taken to repair the damage?
- Is the speed limit observed, especially near residential areas?

Erosion Control

- Is provision being made for the control of surface water runoff in order to prevent erosion?
- Are exposed surface soils for areas that have already been quarried being replanted as soon as practicable with vegetation cover?
- Is the vegetation clearing limited to areas required for construction works in the current construction phase?

Socio-economy

- Has the public been adequately informed of construction work schedule and other issues pertaining to traffic flow disturbance/closure?
- Has the contractor given employment and sub-contracting jobs priority to the local people?

Safety

- Has the contractors ensured that all workers understand and comply with the standard safety procedures for handling heavy machinery, vehicles and equipment?
- Is there a safety officer to oversee that the overall compliance has been adhered to?
- Are first facilities available at all time at the construction site?
- Is there available immediate transportation to hospital for medical treatment, if required?

Public Information

- Has the public been adequately inform about the project, especially those that have impacts on them?
- Has notice been placed to inform the public whom to contact should they require information about the project or forward their complaints?

Operations and Maintenance**Drainage**

- Are all the drainage system regularly cleared to prevent any flash flood, stagnation of pool of water or other situation that may endanger the public?

Waste Disposal

- Is the waste generated during maintenance works being properly collected and disposed at approved sites?

9.3 SUMMARY OF THE PROPOSED MONITORING PROGRAM

Environmental monitoring comprises three types of monitoring, namely: Performance monitoring (PM), Compliance monitoring (CM), and Impact monitoring (IM). It is suggested to the project proponent to carry out monitoring program as summarised in **Table 9-2**. **Figure 9-1** shows the location of the proposed environmental monitoring.

9.4 SAFETY AND EMERGENCY RESPONSE PROCEDURES

Safety and emergency response procedures form an essential operational task for the Project operation that involves variable risks at different level of safety according the type of activities plan on site.

High risk operation potentially contribute to some measure of inculcating damage to the surrounding, and more importantly in endangering the health, welfare and safety of workers and nearby residents located outside of the development site. For example, the high "dustiness" potential, and noise emission characteristics can cause some impediments to workers. The Project Proponents shall also be aware of the significant loss of property and life which can materialize if adequate measures are not taken to forewarn of impending activities abnormalities, and/or to quell abnormal incidents in an expeditious manner.

Table 9-2: Proposed Monitoring Programme

Type of Monitoring	Location	Control measures	Provision		Status (Installation)	Response from contractor dated (day/month/year) (Maintenance: Reply to date/month/year)	Observations/ Findings/ Suggestions (Last inspection – date/month/year)	Observations/ Findings/ Suggestions (Recent inspection – date/month/year)	Observations/ Findings/ Suggestions (Latest inspection – date/month/year)	Accepted (✓/x)
			ESCP	Actual						
Performance Monitoring (PM)										
Sediment basins and vicinity area	Sediment Basin No.1	Silt control								
	Sediment Basin No.2a									
	Sediment Basin No.2b									
	Spillway No. 1									
	Spillway No. 2									
	Spillway No. 3									
Sediment basins and vicinity area	Crusher plant	Oil & Grease Scheduled Waste (SW)								
	Access Road	Dust control								

Table 9-2: Proposed Monitoring Programme (Cont')

Type of Monitoring	Location	Control measures	Provision		Status (Installation)	Response from contractor dated (day/month/year) (Maintenance: Reply to date/month/year)	Observations/ Findings/ Suggestions (Last inspection – date/month/ year)	Observations/ Findings/ Suggestions (Recent inspection – date/month/ year)	Observations/ Findings/ Suggestions (Latest inspection – date/month/year)	Accepted (✓/x)
			ESCP	Actual						
Performance Monitoring (PM)										
Gabion Walls/ Silt fences and other control facilities	Weighbridge	Silt Control								
	Rock	Exposed slope								
	Stockpile	Drainage system								
	Site Office	Oil & Grease Scheduled Waste (SW)								
	GuardHouse	Silt control								
	Overburden Dumping Area	Silt control								

Table 9-2: Proposed Monitoring Programme (Cont')

Type of Monitoring	Monitoring Parameter	Monitoring Station	Location	Coordinate	Monitoring Frequency	Applicable Standard
Compliance Monitoring (CM)						
Sediment Basins Discharge -Discharge from silt trap	TSS	SB 1	Presenting the silt trap at north eastern of Project area	-	Monthly	TSS ≤50 mg/l
		SB 2a	Presenting the silt trap at north western of Project area			
		SB 2b	Presenting the silt trap at south western of Project area			
Site Inspection by CESSWI	-	-	Project Site	-	Quarterly, and within 24 hours after storm event of ≥12.5mm	EIA approval condition, LD P2M2, EMP and ESCP
Environmental Audit	-	-	Project Site	-	Quarterly during earthwork stage, Yearly during operation stage	DOE's conditions of EIA approval, related legislation & regulations
Impact Monitoring (CIM)						
Vibration Level Monitoring	Production Blast (Nonel), dB(L)	V1	Presenting the vibration level quality at Project Boundary	4°39'37.01"N 103°26'43.07"E	Every blast	Airblast: ≤125 dBL
		V2	Presenting the vibration level quality at Kg. Tebing Tembah	4°39'47.12"N 103°25'49.93"E		
		V3	Presenting the vibration level quality at Kg. Baharu	4°39'1.72"N 103°25'39.71"E		
		V4	Presenting the vibration level quality at Kg. Kongsil	4°38'40.58"N 103°26'3.49"E		
Vibration: ≤ 5 mm/s						

Table 9-2: Proposed Monitoring Programme (Cont')

Type of Monitoring	Monitoring Parameter	Monitoring Station	Location	Coordinate	Monitoring Frequency	Applicable Standard
Surface Water Quality Monitoring	pH, COD, BOD, DO, TSS, Oil and Grease, Temperature, Ammoniacal Nitrogen, Salinity	W1	Representing water quality level at upstream tributary of Sungai Dol	4°39'59.07"N 103°26'9.81"E	Once every three months	Complied to NWQS Class II
		W2	Representing water quality level at upstream tributary of Sungai Dol	4°39'58.32"N 103°26'23.9"E		
		W3	Representing water quality level at midstream tributary of Sungai Dol (discharge from proposed Project site)	4°39'48.95"N 103°26'24.7"E		
		W4	Representing water quality level at downstream of Sungai Dol	4°39'33.23"N 103°26'21.0"E		
		W5	Representing water quality level at downstream of Sungai Paka	4°39'28.22"N 103°26'35.8"E		
		W6	Representing water quality level at downstream of Sungai Paka	4°38'48.51"N 103°26'6.07"E		
Marine Water Quality Monitoring	Temperature, Total Suspended Solids, Mercury (Hg), Cadmium (Cd), Chromium (VI), Arsenic (III), Cyanide, Lead (Pb), Copper (Cu), Zinc, Phenol, Dissolved Oxygen, Faecal Coliform, Oil and Grease, Ammonia (unionized), Nitrite (NO ₂), Nitrate (NO ₃), Phosphate, Salinity	M1	Representing water quality level at coastal area of South China Sea	4°39'30.54"N 103°26'56.39"E	Once every three months	Complied to MWQS Class II
		M2	Representing water quality level at coastal area of South China Sea	4°39'35.21"N 103°26'56.21"E		
		M3	Representing water quality level at coastal area of South China Sea	4°39'45.23"N 103°26'53.21"E		

Table 9-2: Proposed Monitoring Programme (Cont')

Type of Monitoring	Monitoring Parameter	Monitoring Station	Location	Coordinate	Monitoring Frequency	Applicable Standard
Impact Monitoring (IM)						
Ambient Air Quality Monitoring	Total Suspended Particles, PM ₁₀ , PM _{2.5} , NO ₂ , SO ₂ , CO, O ₃	A1	Presenting the ambient air quality at Project Boundary	4°39'37.01"N 103°26'43.07"E	Once every three months	PM ₁₀ ≤100µg/m ³ PM _{2.5} ≤35 µg/m ³ NO ₂ ≤280 µg/m ³ SO ₂ ≤250 µg/m ³ CO ≤30 µg/m ³ O ₃ ≤180 µg/m ³
		A2	Presenting the ambient air quality at Kg. Tebing Tembah	4°39'47.12"N 103°25'49.93"E		
		A3	Presenting the ambient air quality at Kg. Baharu	4°39'1.72"N 103°25'39.71"E		
		A4	Presenting the ambient air quality at Kg. Kongsi	4°38'40.58"N 103°26'3.49"E		
Boundary Noise Monitoring	L ₁₀ , L ₅₀ , L ₉₀ , Total Leq dB(A)	N1	Presenting the ambient noise monitoring at Project Boundary	4°39'37.01"N 103°26'43.07"E	Once every three months	Total Leq (Daytime) ≤65 Total Leq (Nighttime) ≤60 Total Leq (Daytime) ≤60 Total Leq (Nighttime) ≤55
		N2	Presenting the ambient noise monitoring at Kg. Tebing Tembah	4°39'47.12"N 103°25'49.93"E		
		N3	Presenting the ambient noise monitoring at Kg. Baharu	4°39'1.72"N 103°25'39.71"E		
		N4	Presenting the ambient noise monitoring at Kg. Kongsi	4°38'40.58"N 103°26'3.49"E		



MUKIM KUALA PAKA
DISTRICT OF DUNGUN
TERENGGANU DARUL IMAN
TOPO SHEET NO.: 4363 & 4463
SCALE 1: 25,000



LEGEND

- PROPOSED PROJECT AREA
- RIVER
- WATER FLOW DIRECTION
- CONTOUR
- COCONUT
- BELUKAR, RIUNG AND HILL PADI
- RUBBER
- BUILDING IN RURAL AREAS
- ELECTRICITY TRANSMISSION LINE
- UNSEALED SURFACE ROAD
- AMBIENT AIR, NOISE AND VIBRATION MONITORING POINT
- RIVER WATER MONITORING POINT
- MARINE WATER MONITORING POINT
- SEDIMENT BASIN MONITORING POINT

PROJECT PROPONENT
HEXATREND QUARRY SDN. BHD.

DRAWING TITLE
Figure 9-1
LOCATION OF PROPOSED ENVIRONMENTAL MONITORING

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To this end, fairly comprehensive safety and emergency response procedures need to be adopted by the Project Proponent. The Project Proponent shall aware of the importance of meeting its social responsibilities and obligations. In this respect, the Project Proponent shall establish a dedicated policy to progressively introduce better and safer working conditions.

This is strictly adhere in their safety policies to update and improve upon their emergency response procedures, activity monitoring, training of staff to handle abnormal and emergency situations, and management of safety and environmental aspects of the operations.

The safety measures and emergency detection and reporting procedures to be adopted as part of the operation are described and discussed in the ensuing sections of this report.

9.4.1 Application of Safety and Emergency Response Procedures

The application of safety and emergency response plans or procedures (ERP) is basically to affect a prevention and cure programme aimed at controlling the advent of abnormal incidences, and to mitigate such incidences if they occur.

The probable abnormal incidences and the mitigating measures that will be adopted in the designs and operations to quell such incidences shall be listed to identify the logistic of the situation.

The successful administration and implementation of safety measures and ERP is not an easy task. It requires a systematic approach including the organization, management and training of a special task force to carry out specific duties and responsibilities. The approach to be taken by the Project Proponent is briefly discussed in the ensuing sections. The conceptual of the Chain Actions and Procedures of Emergency within project site and Accident Notification and Reporting Flowchart is shown in **Figure 9-2** and **Figure 9-3**.

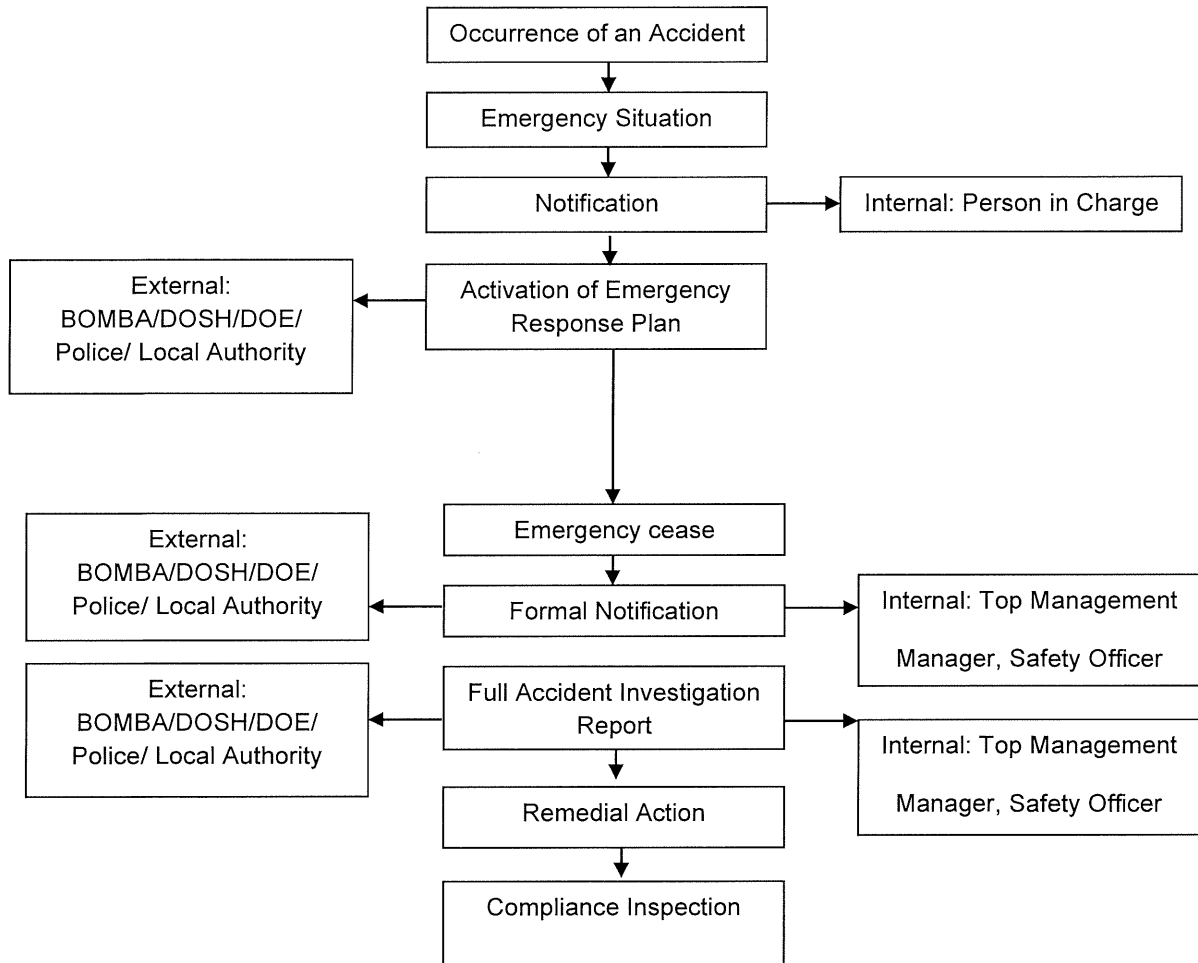


Figure 9-2: Conceptual of the Chain Actions and Procedures of Emergency within Project site

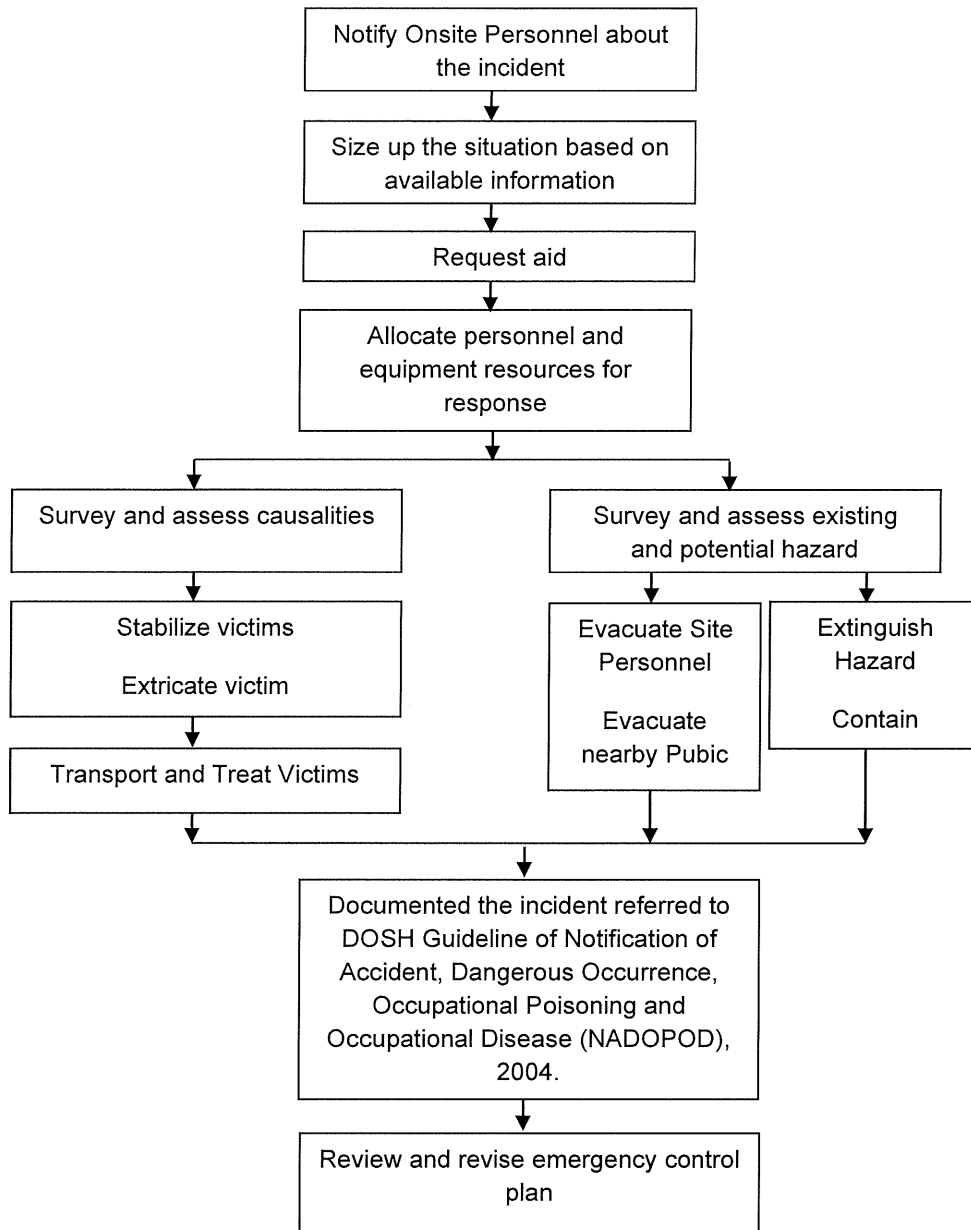


Figure 9-3: Accident Notification and Reporting

9.4.2 Organization and Management

An enhanced organizational framework will be established to administrate operation safety measures and to implement, monitor and up-date on emergency procedures. A Safety, Health and Environmental Impact committee shall carry out the overall management of this aspect of operations. Generally, the top position of the company, together with the Security Personnel, shall assume duties pertaining to this matter. Personnel in charge of all designated sections shall be representing in the committee.

The committee will meet regularly to review security, safety effectiveness and accident records. In addition, the committee shall discuss on the relevance and efficiencies of current safety, environmental and security policies enforced. On the need to up-date, if necessary, on current policies to offset prevailing encumbrances and on introducing innovative measures and up-dated policies to keep abreast with changing trends in updating the safety aspects of the operation.

The committee shall establish a Safety and Emergency Response Team who shall undertake surveillance over the safety aspects of the operation. The team shall monitor the probable advent of abnormal operations, and shall take appropriate action to quell hazardous situations from materialising. The Team will also be responsible to manage and direct the safe evacuation of workers if an abnormal incident cannot be satisfactorily contained, and if it poses a safety hazard to workers. Other essential personnel who will be part and parcel of the Safety and Emergency Response team on a day-to-day basis will include the site manager, site engineer, site supervisor and administrative supervisor.

9.4.3 Training

The management will strictly pursue the training of personnel on safety and emergency response measures. Updated training schemes will form the basis in guiding staff to act instinctively to abnormal situations and to report such incidences in the proper manner so that mitigating and control measures can be implemented speedily to avoid catastrophic incidences. Appropriate training courses will impart the necessary knowledge to operating and maintenance staffs on how to, in the first place, avoid potential accidents.

The basic training to be provided to new staff recruited includes:

- On-the-job training on the types of safety equipment to be used when carrying out specific job functions; as well as on the safety procedures and approaches to be adopted in executing various job functions.
- The essential safety topic which shall include spill and emission controls, various aspects of safety management, safe operation of equipment and safe operation activities.
- Follow-up training shall be carried out by the supervisor in charge, so that staff are continuously reminded and updated on potential hazard situations, and on safety and energy response procedures that need to be followed and applied as and when necessary.

As a general rule, staff directly involved with the specific operations such as crane handling will on appointment receive formal training on the particular tasks that they have to perform. This includes imparting knowledge and skill relevant to the operation. In addition to this specific training programme, personnel of all categories will undergo a series of familiarisation lectures aimed at imparting the following essential knowledge and information, viz:

- Company's Environmental Policy

- Synopsis of the basic overall process concept of the operation and the particular function each staff member plays in ensuring optimum operations. The review will include familiarisation of the site layout arrangements, identification of restricted areas, knowledge of communication systems and organisational responsibilities.
- Complete knowledge and understanding of site operations.
- Established emergency alarms, and evacuation procedures (including reporting to specific emergency stations), and safety measures.
- Detention and reporting of abnormal situations having potential health and environmental repercussions. This would include complete familiarisation with spill protection and emission control and containment programmes.
- Good housekeeping practices and desired behaviourable attitudes of employed staff.
- Training will be performed within classrooms, as part of on-the-job routine tasks. Training shall not only be confined to the initial recruitment stage but will also be periodically effected to keep staff familiarised with up-to-date, state-of-the-art, concepts on maintenance, operations, and ability to respond expeditiously to emergency situations armed with the right range of logistics.

9.4.4 Reporting of Abnormal Incidence

Site personnel will be made aware of the need to report on abnormal incidents which can have measurable impacts on affecting the health status of workers, on imposing hazardous and nuisance impacts on communities in the local area, and in degrading environmental resources in the vicinity of site. Incidences which the personnel will have to report to the Project Manager, include:

- Events which may harm human health at on-site and off-site locations, or which are capable of impacting adversely on the environment as previously informed at training sessions.
- Events which result in non-compliance with local environmental laws, regulations, permits; or with the Company's environmental policies.
- Events which require or results in notification for intervention by environmental authorities; or which could result in penalties or fines.

- Events which are likely to be reported by local, media; or which are likely to become public relation issues.

9.4.5 Spill and Emission Control Plans

When spills and unintended waste discharges are encountered within the site, and if hazardous substances are released to the environment, the project management will report all matters immediately to the relevant authorities through the proper channels.

Major spill and/or emission protection efforts are directed towards areas containing diesel or petrol storage and handling. It is to be noted that spill and emission control and protection measures, to adequately handle the more probable minor emissions and spills, will be provided at all transfer and storage areas.

Any incidence of spillage if undetected at an early stage is capable of resulting in adverse health and environmental impact repercussions. As a consequence a Spill and Emission, Control and Contingency Plan will be formulated by the committee and implemented to mitigate against such abnormal incidences. In this contest the following shall be pursued:

- When a spill occurs, site personnel shall take immediate action to report to his supervisor to stop the abnormal event. The committee will be informed immediately. General spills will be contained buffer areas provided as well as within the site boundaries.
- The personnel shall assess the extent and nature of the spill incident and to record information on approximate quantity (e.g. rate of spillage), cause and location of the spill. In addition to action taken to mitigate the spill event, on a permanent or temporary basis, shall be prepared and submitted to the management. The designate Environmental Officer shall assist the Supervisor in compiling the Accident Report.

- If the spillage results in an overflow outside of the normal spill containment facilities, personnel shall dam up the material so as to prevent it from draining into the drainage system. Once the material is contained it should be recycled to the extent possible, with any remainder held temporarily for proper disposal. The Project Manager shall have whole jurisdiction over the disposal procedure to be followed and adopted.

Any specific spill event will be evaluated thoroughly by the Environmental Officer (EO) in respect of what caused it to happen and to highlight the required changes to be effected in order to prevent a repetition of the incident. In order to communicate all pertinent information, an Environmental Incident/Accident report will be prepared by the Safety Officer and distributed within the Company.

9.4.6 Contingency Plans and Emergency Response Plans (ERP)

Even though efforts shall be taken to minimize the possibility of uncontrolled emergency situations occurring, contingency plans to cater for emergency situations shall be inculcated in the overall management of the operation. The plans will provide clear, precise itemized procedures to be implemented in an emergency situation. These plans will be designed to protect personnel at all areas within the site, the public, and the surrounding environment. Specific instructions will be formulated as part of these plans to educate personnel on how to respond to incidents.

The Site Contingency Plan (SCP) shall address the following basic items, viz:

Types of Potential Emergencies

Implementation of Response Procedures

- Incident Assessment and Decision Process
- Implementation of Contingency Plan

Containment And Control Activities

- General Procedures

- Process-Specific Procedures

Available Emergency Equipment

- Alarm and Communication System
- On-site Equipment
- Off-site Resources

Casualty Control

- Medical Centre
- Ambulance Facility

Evacuation Plan

- Site Access and Egress
- Evacuation Procedures
- Community Impact Considerations
- Re-occupancy of Facility

Post-Emergency Procedures

- Prevention of Recurrence
- Treatment and Disposal of Released Material and Clean-up of Residues
- Equipment Decontamination and Maintenance
- Personnel Debriefing and Retraining

Arrangements with Local Authorities and Other Resources

- Emergency Response Agencies
- Casualty Control Agencies
- Media Communication

Incident Reporting

- Incident Mitigate On-Site
- Incident Contingency Plan

In all cases close liaison with the respective State and Federal Government Agencies should be continuously maintained.

An Emergency Coordinator will be designated on a stand by basis at all operating shifts. After hours, or on weekends, the Emergency Co-ordinator is the highest rank supervisor or technician attached to each centre, whose immediately contacted in the event of an emergency. Should an incident occur, the Co-ordinator's role is to notify and direct the appropriate response needed, and to alert site personnel, responsible agencies, corporate offices, and first aid units. All emergencies shall be treated as the "whole possible case" until proven otherwise.

Site and Fire Protection Schemes

Important facilities of the site shall be fenced, locked and patrolled. Adequate perimeter and internal lighting facilities will be provided to ensure maximum security at all locations of the facility where necessary.

Only employees, registered guests, or authorized contractors are to be admitted through the gate. All other visitors are to be admitted only by receptionists or the guard manning the gate entrance.

Site personnel will be directed to report immediately to the duty guard any suspicious characters hanging around the site. All visitors, in addition to personnel, will be issued with separately designed identification cards in order to expedite verification if necessary.

A security guard force contingent will continue to be established to maintain security within the site at all times (24 hours). Security personnel will be aided in their duties by a system of alarms and audio equipment.

Fires and explosions are a distinct reality during normal operation, but occur at very low probabilities. Hence to safeguard against possible fire and explosion hazards contingency measures have been built into the overall site facilities. In addition procedures have been thorough formulated to enable each personnel to contain any fire event within the boundaries of the site. The Site Management will ensure that the Chief Security Officer trains all operating personnel in proper fire response activities. The prime purpose of the Fire Emergency Contingency Plan will be to respond to on-site fires. The Project Proponent will assist appropriate Government agencies on off-site fires where practical.

Some of the pertinent design features, facility provisions, and procedures that will form the basis for mitigating and containing fires and explosions within the site include:

- Separating specific high-risk areas by a suitable buffer zone to contain damages to personnel and equipment within isolated areas.
- A dedicated water reservoir for fighting fires will be built to enable eradication and control of fires that may inadvertently erupt. This will be linked to a pumping station equipped with back-up diesel pump as well as jockey pump for maintenance of water pressure.
- Suitable access will be provided to enable fire-fighting procedures to be conveniently executed. This would include perimeter service roads and interior pathways.
- A PA system will enable communications in the event an abnormal situation occurs.
- Heat sensors are provided at all sensitive fire prone areas.
- Regular courses on fire-fighting will be coordinated by the committee; involving training by personnel from the Fire Services Department.

Occupational Health and Safety

The Project Proponent will continue to incorporate special engineering features along with comprehensive employee training programme, periodic propaganda exercises (in which employee's awareness of safety considerations is enlightened by his participation in safety activities), operational protocols and emergency response programmes to establish, maintain and monitor a safe working environment.

In addition to pollution control equipment, the following measures are intended to minimise potential occupational exposure and/or control risks.

- Detailed protocols will be established to minimise worker exposure to hazardous situations at all levels of facility operation.
- A comprehensive occupational health and safety programme will be established. Industrial hygiene medical specialists familiar with site operations will conduct the examination. Employees suitability for physical labour, for use of respiratory equipment, for confined space worked where heat radiation of dust levels can be excessive, and for dust sensitivity will be considered. The test results will be discussed with employees involved in the monitoring. Medical records will be maintained on computer.
- Protective equipment and clothing (e.g. hard hat, safety shoes, ear plugs, goggles, respirators, etc.), first aid, work protocol and health surveillance programme will be in place; industrial hygiene or workplace monitoring will be developed as operating units are turned over.
- All personnel will undergo a formal introduction and safety training programme.
- The site emergency response plan will be in place to deal with all potential emergency situations and personnel will be trained in its implementation.
- Protective equipment shall be provided to personnel exposed to high sound intensities for a short or continuous duration. This is to offset the possibility of workers incurring hearing disabilities.

From a physical perspective, the site will be designed to facilitate access for maintenance and emergency vehicles to ensure prompt and orderly response to potential emergency situations. The Project Proponent will continue to place special emphasis on providing comprehensive medical care and treatment for their employees and shall adhere to all prevalent regulations in connection with health and safety.

For serious cases employees will be immediately sent to the nearest general or private hospital where pre-arrangements between the Project Proponent and hospital administration will make to cater for such services. Selected personnel will be trained in first aid to attend immediately to casualties at the accident site prior to transfer to be provided at designed areas.

All employees will be required to undergo physical examinations at periodic intervals. The frequency and scope of medical examinations will depend on age as well as the particular duties carried out by staff. Staff exposed to hazardous duties will be particularly monitored.

9.5 WASTE OIL MANAGEMENT

Special control will be affected over the inadvertent release of waste lubricating and cooling oil, as well as the containment and packaging of the waste oils for ultimate disposal.

9.6 GUIDED SELF- REGULATION (GSR)

Self-regulation has been adopted by the Department of Environment (DOE) as a long-term goal to be achieved and a culture to be inculcated within the regulated sectors through mainstreaming of environmental agenda. Environmental mainstreaming has been integrated into all the recent regulations of the DOE. The implementation of environmental mainstreaming to promote and instil self- regulation in industrial pollution control has been translated into regulatory requirements on performance monitoring of pollution control measures, scheduled reporting, record keeping, competent persons, and involvement of environmental professionals playing specific roles. This approach to pollution control is a win-win concept which has shown to accrue positive results in optimal operation of pollution control systems (PCSs), prevention of PCS failures, cost savings in PCS operation, systematic management of performance monitoring data and improved regulatory compliance on a sustained basis. On a wider perspective, self-regulation which complements the existing command and control approach of the DOE, would result in cultivating environmental ownership and excellence in environmental commitment from the regulated sectors.

The EIA procedure, a preventive strategy of the DOE also needs to embrace the environmental mainstreaming and self-regulation goal in order to enhance its effectiveness in mitigating the adverse impacts from development projects on the environment at every stage of the EIA procedure. Self-regulation culture in EIAs means that the Project Proponent will be charged with full responsibility and accountability for taking environmental friendly options and instituting effective pollution prevention and mitigation measures (P2M2) and self- demonstration of regulatory compliance of the EIA procedure at all stages of project implementation.

From business perspective, self-regulation is a potent business strategic tool where positive image of good governance and corporate social responsibility could be portrayed to the public, enhancing the public's acceptance of an EIA project. Additionally, self-regulation would also result in reducing snapshot enforcement inspections currently practiced by the Department of Environment, whose inspectors find it impossible to be constantly involved in inspecting the EIA projects in every phase of its implementation. Taking into consideration of the current scenario in Malaysia, Guided Self- Regulation (GSR) adopted by the DOE would require the project proponents to undertake several actions that are necessary to make way for the mainstreaming of environmental agenda in the EIA projects.

The implementation of the guidance provided would result in mainstreaming the environmental agenda into the EIA project management decision making process as well as into the day to day management of project implementation, paving the way for excellence in environmental regulatory compliance. The guidance is also intended to cultivate self-regulation by promoting the practice of quality control and performance monitoring of EIA projects as a routine activity at every stage of the EIA procedure including pre- submission, during submission and post submission of EIA Report.

ENVIRONMENTAL MAINSTREAMING

Environmental mainstreaming is a tool for accomplishing the goal of cultivating the self-regulation culture in the regulated sectors. Environmental mainstreaming refers to the integration of environmental concern, aspects, and considerations in all business processes, at all stages of decision making, at all levels of organizational hierarchy, and at all phases of the operation of a manufacturing company owner is shouldered with greater environmental responsibility and accountability for ensuring environmental friendly options are chosen in the course of operation of his manufacturing facility and in conducting his business.

MAINSTREAMING ELEMENT

Environmental mainstreaming is a tool for accomplishing the goal of cultivating the self-regulation culture in the regulated sectors. Environmental mainstreaming refers to the integration of environmental concern, aspects, and considerations in all business processes

1) Environment Policy (EP)

Hexatrend Quarry Sdn. Bhd. is committed to ensure its activities involved in the Project are conducted at minimal impacts and risks to the surrounding environment. Environmental protection is one of the important aspects being considered at all stages of the Project development and at all organizational levels. Hexatrend Quarry Sdn. Bhd. considers the environment at basic/ fundamental component of quality for its products and services, and is committed to the concept of sustainable development aimed at a balance between the need of protecting the environment and the need for economic development.

Hexatrend Quarry Sdn. Bhd. recognizes and respects the environmental sensitivity of the development to the surrounding environment. With full commitment from Hexatrend Quarry Sdn. Bhd. and with the advice of KenEp Consultancy & Services, it is anticipated that this Project will cause minimal environmental impacts to nearby interests and its natural surroundings.

For any other environmental matters with related to this Project, the physical environment of the proposed Project is one of the most important areas need to be looked into. These physical land characteristics are sourced from various published report and maps. Field operation works have also needed to undertaken for verification and confirmation purposes. Some additional improvement shall be carried out based on the present scenario to enhance better environmental quality at the Project site and also to the surrounding areas.

2) Environmental Budgeting (EB)

The Project management is committed to provide financial allocation for the purpose of implementing the Project. Budget for this year will be allocated for the purpose. Further incoming budget shall be based on the present potential impact of the operation and also will depend on the profitability of the operation. To secure the environmental factors is taken care of; the Project management has planned to allocate a budget on environmental control for the Project operation.

In order to ensure the planned environmental protection works are effectively implemented, the following budgets have been allocated as summarized in **Table 9-3** below.

Table 9-3: Environment Budgeting

No	Details	Budget (RM)
1	Environmental Quality Monitoring	20,000.00
2	Training	50,000.00
3	Environmental Protection Pertaining Air Quality Setting up and maintenance of automated water sprinkler system Setting up and maintenance of haulage road and access road Setting up repairs and maintenance of public road being used	50,000.00
4	Environmental Protection Pertaining Water Quality Setting up and maintenance of sewage holding tanks and toilets Setting up and maintenance of sediment basins, oil traps (if required) Setting up and maintenance of stormwater sideroad drain (if required)	20,000.00
5	Environmental Protection Pertaining Noise Level Setting up and maintenance of silencer/ mufflers and noise barriers	20,000.00
6	Waste Management Handling, transportation, storage area and disposal of schedule waste and non schedule waste	40,000.00
7	Erosion Sediment Control Plan Setting up and maintenance of BMP'S	80,000.00
8	Environmental Auditing	20,000.00

3) Environmental Monitoring Committee (EMC)

The Project shall be operated and managed by well-experienced Project's team with long standing experiences in the industry. In order to achieve the Company's policies, it is important to identify the role and responsibility of an individual within the organization. This would ensure that the responsible parties would be held accountable to the assigned tasks.

Establishing a project Environmental Performance Monitoring Committee (EPMC) to monitor the environmental performance, effectiveness of pollution prevention and mitigation measures (P2M2), and status of regulatory compliance of the project. The EPMC shall be represented by all relevant parties involved in project implementation and chaired by a senior member representing the Project Proponent.

The chairman who shall be formally appointed by the Hexatrend Quarry Sdn. Bhd. shall be responsible for ensuring the decisions of the meeting are responsibly executed. The General Organization Chart is shown in **Figure 9-4**. Meanwhile, the Environmental Monitoring committee (EMC) chart is shown in **Figure 9-5**.

4) Environmental Facility (EF)

The primary components of the environmental facilities (EFs) include best management practices, and associated support facilities such as laboratory, performance monitoring equipment and waste management infrastructure. The above from an integral part of the company's overall infrastructural planning, which cannot be compromised. The following Environmental Facilities (EFs) list have been allocated in **Table 9-4**.

Table 9-4: List of Environmental Facilities

No	Details
1	Rain Gauge
2	Automated water sprinkler system at Primary Crusher Plant
3	Automated water sprinkler system at Secondary Crusher Plant
4	Automated water sprinkler system at Tertiary Crusher Plant
5	Sediment Basin
6	Check Dam

5) Environmental Competency (EC)

Environmental Competence is the ability to undertake responsibilities and perform environmental activities to a recognised standard on a regular basis. It combines practical and thinking skills, knowledge and experience. The organizations must draw up a comprehensive training program to produce competent persons and trained support staffs to ensure fulfil compliance with the DOE requirements in the regulated activities.

It is of Hexatrend Quarry Sdn. Bhd. objective to ensure that necessary trainings are provided to its employees prior to work assignments and throughout their employment period. Environmental competency training are done based on their respective job requirement. Environmental Competency personnel are summarized in **Table 9-5**.

Table 9-5: List of Environmental Competency Person

No	List of Competency	Organization Personnel	Date of Attending Course
1	Certified Sediment & Erosion Control (CSEC)	To be confirmed	To be confirmed
2	Certified Erosion, Sediment & Stormwater Inspection (CESSWI)	To be confirmed	To be confirmed

Assessment of the competency by the management and adequacy of the number of personnel shall be reviewed every year.

Hexatrend Quarry Sdn. Bhd.

Executive Director

Account Manager

Quarry Manager

General Clerk

Account Clerk

Operator

Quarry Supervisor

Engineers

Technicians



KenEp Consultancy & Services

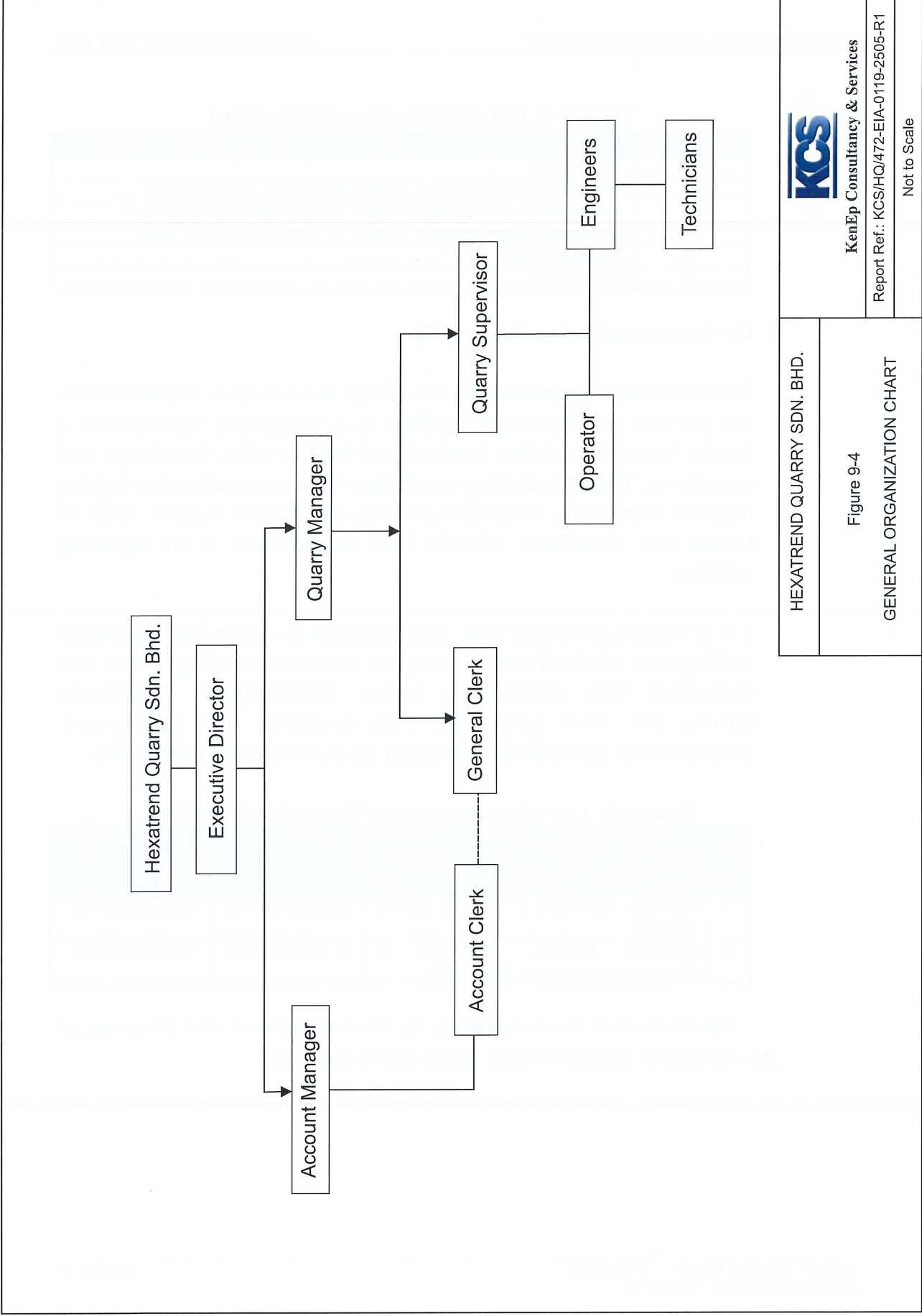
Report Ref.: KCS/HQ/472-EIA-0119-2505-R1

Not to Scale

HEXATREND QUARRY SDN. BHD.

Figure 9-4

GENERAL ORGANIZATION CHART



6) Environmental reporting and communication (ERC)

Communication channels are the means through which people in an organization communicate. Effective communication is essential during meetings, since meetings offer the opportunity for employees from various aspects of the company to gather together to reinforce strategies, brainstorm ideas, celebrate successes and dissect missteps.

It is of Hexatrend Quarry Sdn. Bhd. objective to ensure a formal communication through meetings should be conducted at least every three month. Environmental Officer (EO) must be established for reporting environmental concerns and system upsets which warrant prompt actions to be instituted. Internal reporting need regulatory for compliance status of the organization shall submit to the Managing Director (MD) and various heads of the department within the organization based on quarterly basis. EO need to provide systematic analysis and summarized in easy-to-understand for management review proposed.

Managing Director

It is the responsibilities of the Managing Director to ensure that all procedural measures are being taken to ensure legal compliance. The Managing Director shall provide the financial means and sufficient competent personnel to ensure that management tools, procedures and works instructions are accessible and maintained to ensure legal compliance with respective of local legislation. The Managing Director also has the following responsibility as follow:-

- Set company safety and environmental objectives. Ensure all personnel are aware of their duties and responsibilities in regard to safety and the environment.
- Ensure the Safety and Environmental Representative is given the resources and support necessary to undertake their required duties.

- Provide adequate training, resources, services, facilities and initiatives to ensure all personnel are able to undertake their roles.
- Ensure the completion and corrective action of all audit, inspection and hazard identification action items.
- Monitor performance against company objectives and the implementation of strategies following poor trends in performance.
- Demonstrate leadership commitment through personal participation.
- Investigate all identified hazards, incidents, accidents and near misses.
- Ensure all employees understand they have the right to cease work immediately if they feel the workplace is unsafe, or is putting the environment at significant risk.

Plant Manager

The Plant Manager is responsible to incorporate the legal requirements into their work instructions and procedures. The Legal Advisor shall provide the latest updates of laws and regulations, whilst the Plant Manager shall determine the effects of the new or amended legislation on their scope of work. The Plant Manager shall report to the Managing Director and shall not assign any task to his subordinates if the subordinate is neither trained nor physically fit to carry out the assignment duty or task. The Plant Manager also has the following responsibilities as follow:-

- Ensure company safety and environmental objectives are being met.
- Ensure site personnel are aware of their duties and responsibilities in regard to safety and the environmental aspects.
- Ensure training, resources, services, facilities and initiatives provided by the company are being utilised as intended.
- Ensure hazards identified in the work area are immediately rectified and/or reported immediately to the Managing Director.

- Demonstrate leadership commitment through personal participation.
- Investigate all identified hazards, incidents, accidents and near misses, with guidance from the Managing Director.

Plant Supervisor

The Plant Supervisor is responsible to supervise employee and contractors involved in development works, coordinating of field physical measurements, to assist the Manager in managing the quality assurance in implementation, to support for fulfillment of Safety, Health and Environment plans and general coordination of quality assurance internal audits. The Plant Supervisor also has to report to the Manager and also has the following responsibilities as follow:

- Ensure company safety and environmental objectives are being met.
- Ensure completion of daily inspections.
- Ensure a high standard of housekeeping is maintained at all times.
- Ensure safety equipment is available and maintained.
- Ensure the Safety and Environmental Representative is informed of all relevant matters regarding safety and environmental issues.
- Understand they have the right to cease work immediately if they feel the workplace is unsafe, or is putting the environment at significant risk.

All Employees

It is the responsibility of all staff members for Hexatrend Quarry Sdn. Bhd. Employees and Contractors personnel are performing any duties within plant operations as follow the work instructions and procedures issued by Hexatrend Quarry Sdn. Bhd. and to document the necessary data as per their roles and responsibilities to ensure full implementation of the procedures. All employees have to report to the Supervisor and all employees have the following responsibilities as follow:-

- Follow direction of the Supervisor, and carry out tasks in accordance with Safe Work Procedures.

- Complete daily inspections as directed, by the all employees.
- Ensure a high standard of housekeeping is maintained at all times.
- Use as directed, and maintain, the company supplied Personal Protective Equipment.
- Inform the Safety and Environmental Representative all relevant matter regarding safety and environmental issues.
- Understand they have the right to cease work immediately if they feel the workplace is unsafe, or is putting the environment at significant risk.
- Inform to superior immediately of any uncontrolled hazard at work area
- Inform to superior of declining a task assigned where the employee does not feel comfortable in executing due to lack of training, supervision or lack of fitness to work.

Contractors

All contractors shall follow the procedures of Hexatrend Quarry Sdn. Bhd. and all their personnel shall be trained and provided the necessary documentation to ensure compliance with all the procedures whilst working under the supervision. The necessary training for constructor's personnel shall be provided at their own expense. Contractors who do not follow this procedure will not be allowed on site. All contractors' personnel working for Hexatrend Quarry Sdn. Bhd. shall provide proof of legality to work as well as qualification and required skills when requested. Prior to engaging a sub-contractor the following criteria must be satisfied:-

- The Plant Manager must approve the sub-contractors access to the workplace. The Plant Manager will ensure the sub-contractor is reputable, licensed or qualified (if required) and competent to complete the required tasks.
- If the sub-contracting company has a management plan, it must be submitted to the Plant Manager. The Managing Director will ensure the plan is of an acceptable standard.

Environmental Consultant

A DOE-registered environmental consultant shall be appointed at the Environmental Consultant for the Project. The appointed consultant for this project is KenEp Consultancy and Services Sdn. Bhd. The Environmental Consultant is responsible for the following:

- Assist the Plant Manager with ensuring compliance to the regulation.
- Advise the Project Proponent on matter regarding environmental requirement and management
- Provide a channel of information of safety and environmental related issues for employees.
- Carry out necessary inspections and monitoring and established procedures and any other requirement from the authorities.
- Ensure that the field testing, sampling, laboratory analyses and test reporting are carried out in accordance to established standard methods and by accredited laboratories.
- Assist in the investigation of all identified hazards, incidents, accidents and near misses.

7) Environmental Transparency (ET)

Environmental Transparency (ET) Is intended for foster rapport with the immediate neighbours, promote green image, and improve public confidence, companies are encouraged to be more transparent in their environmental compliance and achievement.

In order to ensure the Environmental Transparency (ET) successfully implemented by Hexatrend Quarry Sdn. Bhd., monitoring result will be displayed on signboard and located any boundary or entrance to the company's premise. The signboard shall be update quarterly basis

9.7 CONCLUSIONS

Potential environmental impacts may remain even after all necessary mitigation measures have been adopted and implemented. The monitoring, auditing, EMP and the proposed ERP shall be able to guide the Project Proponent to implement suitable mitigation measures to address the possible impact of the project to the environment. All matters discussed are applicable to be immediately initiated at any time. The proposed procedures should also be able to be amended for any changes under any circumstances. As a whole, the proposal shall facilitate the Project Proponent to implement and fulfill its obligation in safeguarding the good state of environment in the vicinity of the Project area. The Environmental Mainstreaming Tools Compliance Report must be submitted to the DOE at least thirty days before the company/organization commences operation. The format of EMT compliance report is shown in **Appendix 9-1**. It will be review based quarterly basis.