

---

## **12. Emergency Response Plan (ERP)**

### **12.1 Introduction**

An Emergency Response Plan (ERP) is a comprehensive action plans to response all emergency. This Chapter provides a framework of ERP for the Project, which serves as a guide for providing a response system to major emergencies that may occur during the construction and operation of the Project.

A detail ERP should be prepared prior operation of the Project to provide a guided response to the emergency situations during the Project implementation.

### **12.2 Aim and Scope of ERP**

The aim of the ERP is to provide procedures and action plans to promote an effective response when faced with an emergency situation. The major objectives of this ERP include:

- Identifying potential emergency situations, incidents that can cause illness or injury to human including the environment
- Provide a guide for the preparedness and response to handle emergency situations
- Propose mitigation for associated adverse environmental impacts or impact to human and prevention of accident
- Highlight the requirements for system review, revise and test emergency preparedness and response procedures where applicable

### **12.3 Emergency Concept**

Emergency situation do occur. It is every employee's responsibility to be prepared for these events. Being prepared includes all of those activities that are done on a regular basis to ensure that:

- All emergency equipment are in place and is working;
- There is an effective Emergency Plan in place ; and
- All employees are aware of their role during an emergency.

### **12.4 Scope of ERP for the Proposed Project**

The emergency procedures to be developed for the proposed Phase 3 development should cover emergency in relation to all kind of EHS (Environment, Health and Safety) related emergency preparedness and response plan. The ERP should be developed based on the requirements or general intent of all relevant legal requirements which amongst others include:

- Occupational Safety and Health Act 1994 (Act 514) (OSHA)
- Factories and Machinery Act 1967 (Revised 1974) (FMA)
- Fire Service Act 1988 (Act 341)
- Road Transport Act 1987
- MS 761: 1982, Code of Practice for Storage and Handling of Flammable; Combustible Liquids (UDA 620.263 – SIRIM 402/2/8)
- ISO 14004: 1996 Clauses 4.3.3.4 – Emergency Preparedness and Response Plan

---

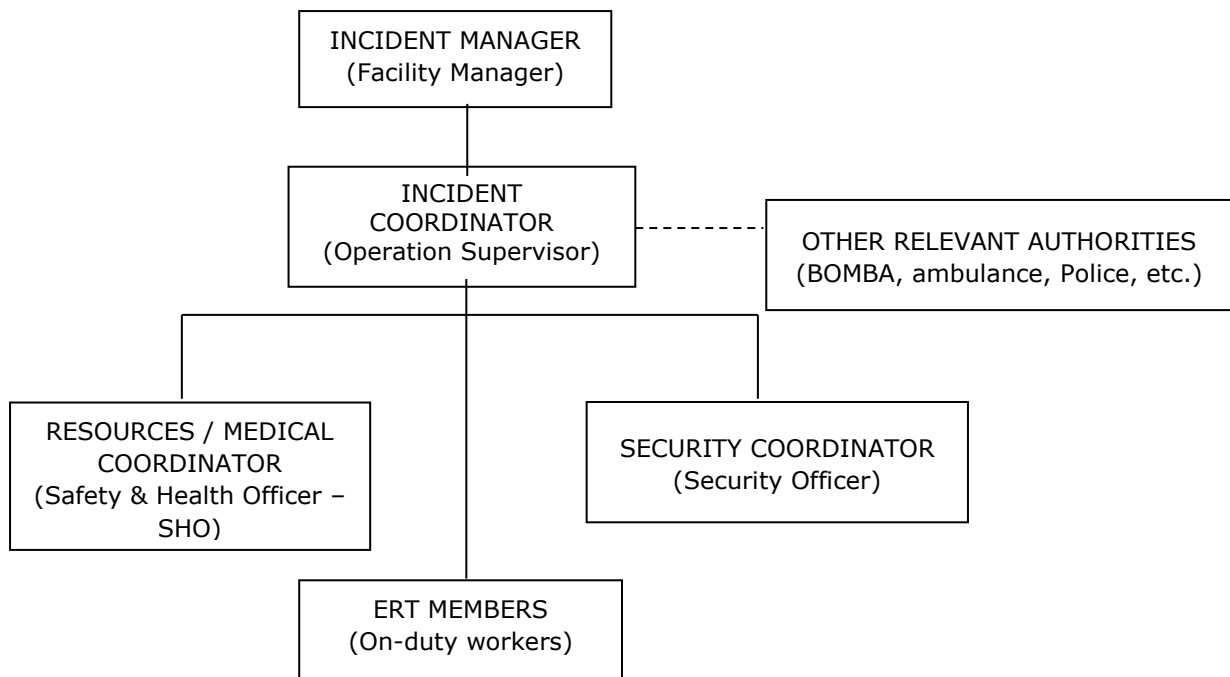
## 12.5 Emergency Response Team

An Emergency Response Team (ERT) should be established. ERT is the internal team to be at fore front handling the emergency situation and they should be trained in fire-fighting, first aid and other related aspects to make sure they are well equipped to execute the ERP procedures in the event of emergencies.

The proposed ERT for the Project is conceptually presented in **Figure 12-1**. The roles of the ERT include:

- To control or limit any effect that an emergency or potential emergency may have onsite or on neighboring areas;
- To facilitate emergency response and to provide such assistance on the site as is appropriate to the occasion;
- To provide a communication channel with local, regional and federal emergency response networks;
- To ensure timely communication of all vital information;
- To facilitate the reorganization and reconstruction activities so that normal operations can be resumed;
- To provide training so that a high level of emergency preparedness can be continuously maintained; and
- To provide a basis for updating and reviewing emergency procedures.

**Figure 12-1 Emergency Response Team (ERT) Organization Chart**



---

## **12.5.1 Roles & Responsibilities of ERT Members**

### Incident Manager (Facility Manager)

- Assumes overall control of emergency;
- Ensures safety of personnel and sets plan for damage control;
- Ensures that the appropriate personnel are notified of emergency;
- Ensures adequate resources are available to control emergency;
- Communicates with Incident Coordinator to control emergency;
- Seeks emergency funds and call-out for mutual aid and other outside help; and
- Directs evacuation/stop site activities if required.

### Incident Coordinator (Operation Supervisor)

- Confirms Emergency Control Implementation Plan with Incident Manager;
- Coordinates emergency situation, evacuation/stop site activities if required;
- Assembles ERT Members;
- Stops activities relating to emergency situation;
- Advises on emergency control techniques;
- Liaises with Resources Coordinator on resource requirement;
- Coordinates mutual aid program, assistance from BOMBA, Police, doctors and other authorities;
- Advises Incident Manager on regulatory requirements;
- Channels queries by the Authorities to the right personnel; and
- Ensure that incident press releases, if any are made only upon approval by the Incident Manager.

### Resources / Medical Coordinator (Safety & Health Officer – SHO)

- Calls out first-aider, clinics, hospitals or ambulance services as needed;
- Ensures any injured person is attended to immediately;
- Ensures first aid equipment (e.g.: first aid kit, stretcher, blanket, etc.) are available and can be brought to site immediately;
- Liaises with Incident Coordinator on resources requirement;
- Secures equipment and materials required for damage control;
- Keeps Incident Coordinator informed of deliveries/arrival of resources;
- Ensures that resources required are sent/transported to site immediately;
- Updates ERP documentation records; and
- Conducts regular checks on emergency response equipment and facilities and keeping record of each check.

---

### Security Coordinator (Security Officer)

- Reports to Guard House;
- Consolidates Head Count to confirm all personnel are accounted for;
- Maintains total site security and stop non-essential person from entering site;
- Coordinates search and rescue for missing personnel;
- Ensures safety of personnel within the facility;
- Ensures main access is clear for emergency use only;
- Inform and directs BOMBA to site; and
- Directs any arriving support group or authorities to the Incident Coordinator.

### ERT Members

- Perform front-line Damage Control actions as directed by the Incident Coordinator;
- Work as a team to ensure safety of colleagues. Administer first aid when required; and
- Maintain communications with Incident Coordinator.

## **12.6 Emergency Response Equipment**

In line with the ERP, an emergency response set-up should be established. The emergency response set-up includes emergency reporting system, emergency response equipment and facilities.

Various emergency equipment should be made ready on-site and regular inspection on these equipment are necessary. These include:

- *Fire Fighting System*: portable fire extinguisher; portable foam gun, etc.
- *First aid*: first aid kit, stretcher, blankets
- *Spill kit*: absorbent, disposal bottles/bags, vacuum cleaner, broom, dust pan
- *Personal Protection Equipment (PPE)*: face masks/face shields, self-contained breathing apparatus (SCBA), goggles, safety helmet, safety boots, dust mask, earplugs and others as appropriate to the facility requirements
- *Emergency Communications*: telephone system, walkie talkie and intercom system
- *Material Safety Data Sheet (MSDS)*: MSDS of chemical usage onsite to be strategically displayed at the appropriate location to provide information for emergency response

The storage location of the emergency equipment should be well aware by all employees. Resources/ Medical Coordinator of ERT is responsible in conducting regular inspection on these equipment.

## **12.7 Types of Emergency**

This ERP frame has been prepared in considering the nature of the construction and operational activities of the proposed Phase 3 development. The possible emergency incidents that could occur include:

**Discover of unacceptable materials**: Unacceptable materials such as hazardous substances, scheduled waste, etc. maybe potential in the incoming waste

---

**Human Injuries and Fatal Accidents:** Injuries are potential from the event of fall, mechanical and vehicle accidental event.

**Spill:** Spill can occur from waste materials trucks during delivery as well as the transportation activities within the Project site.

**Risk of Fire/ Explosion:** Fires could be ignited from the incoming waste, at the transfer floor, compaction equipment, temporary storage area, tipping vehicles, landfill site, etc.

**Windstorm/ Flood:** Site activities will be greatly affected in the event of windstorm/flood. However, these events are unlikely based on the historical record.

**Power & Mechanical Failure:** In the event of power and mechanical failure, the normal operations of MRF will be affected.

**Gas Leak:** the possibility of leaking on the gas collection system.

## **12.8 Emergency Classification**

Emergency conditions which develop are categorized into three tier levels. The Classification of an emergency will be determined by the Incident Manager.

### Tier I Emergency

Tier I emergency is emergency that can be dealt with by the on-site personnel and no imminent danger. ERP may not be activated however ERT should be notified for documentation and investigation purposes.

### Tier II Emergency

Tier II is an emergency that can be immediately brought under control with the personnel and equipment located on site, **without external assistance**. ERP is activated and ERT should be notified of the emergency.

- Fire (Immediately Extinguished);
- Spillage/ leak (Immediately contained);
- Small flood (evacuation); and
- Injury (Minor).

Any two of the above occurring simultaneously may be considered as Tier III emergency.

### Tier III Emergency

Tier III emergency is an emergency that can only be brought under control **with external assistance**. Tier III requires immediate notification to the management, "External" assistance refers to outside of the site.

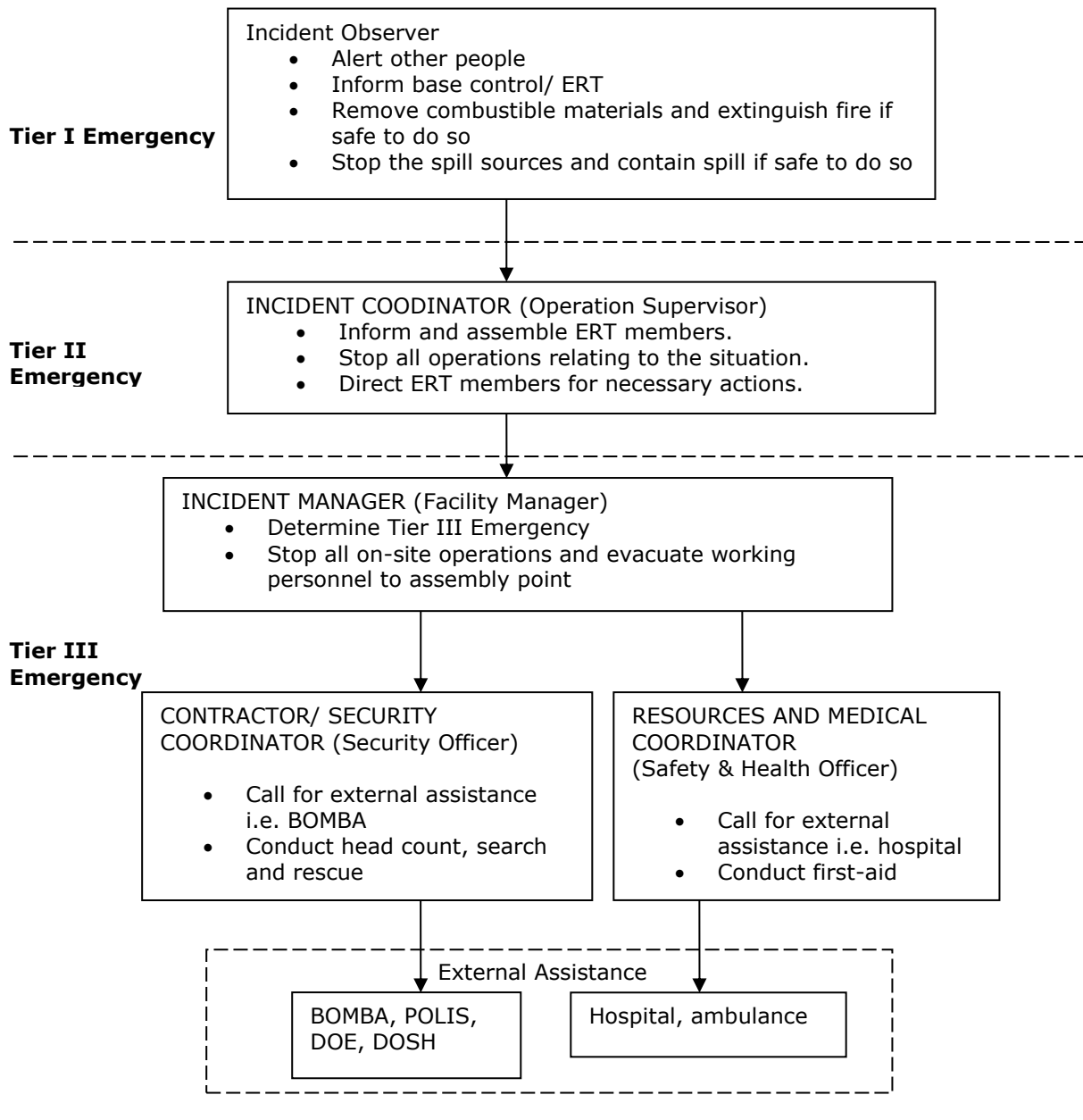
If an incident cannot be brought under control by the site management, it will be a Tier III emergency.

- Major fire;
- Uncontrolled spill / gas leak;
- Natural disaster; and
- Death or serious injury.

## 12.9 Emergency Response Procedures

The procedures for emergency response for the identified incidents are presented as clear written steps to be followed and practiced by emergency response personnel in the pursuant text. Personnel Emergency Instructions for each level of organization, ranging from the Incident Manager (Facility Manager) to the incident observer will be described. A typical emergency flowchart is given in **Figure 12-2**.

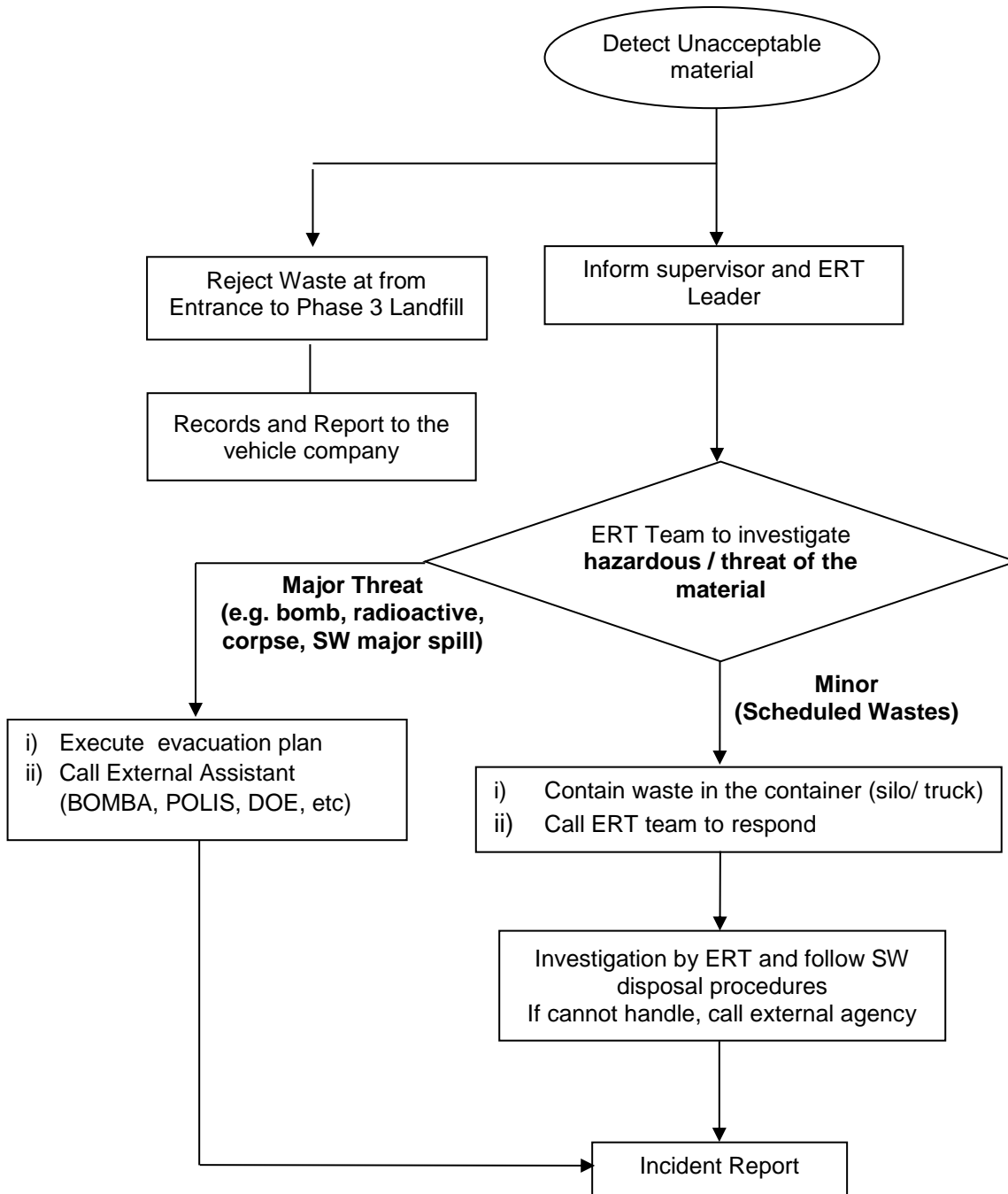
**Figure 12-2 Emergency Flowchart**



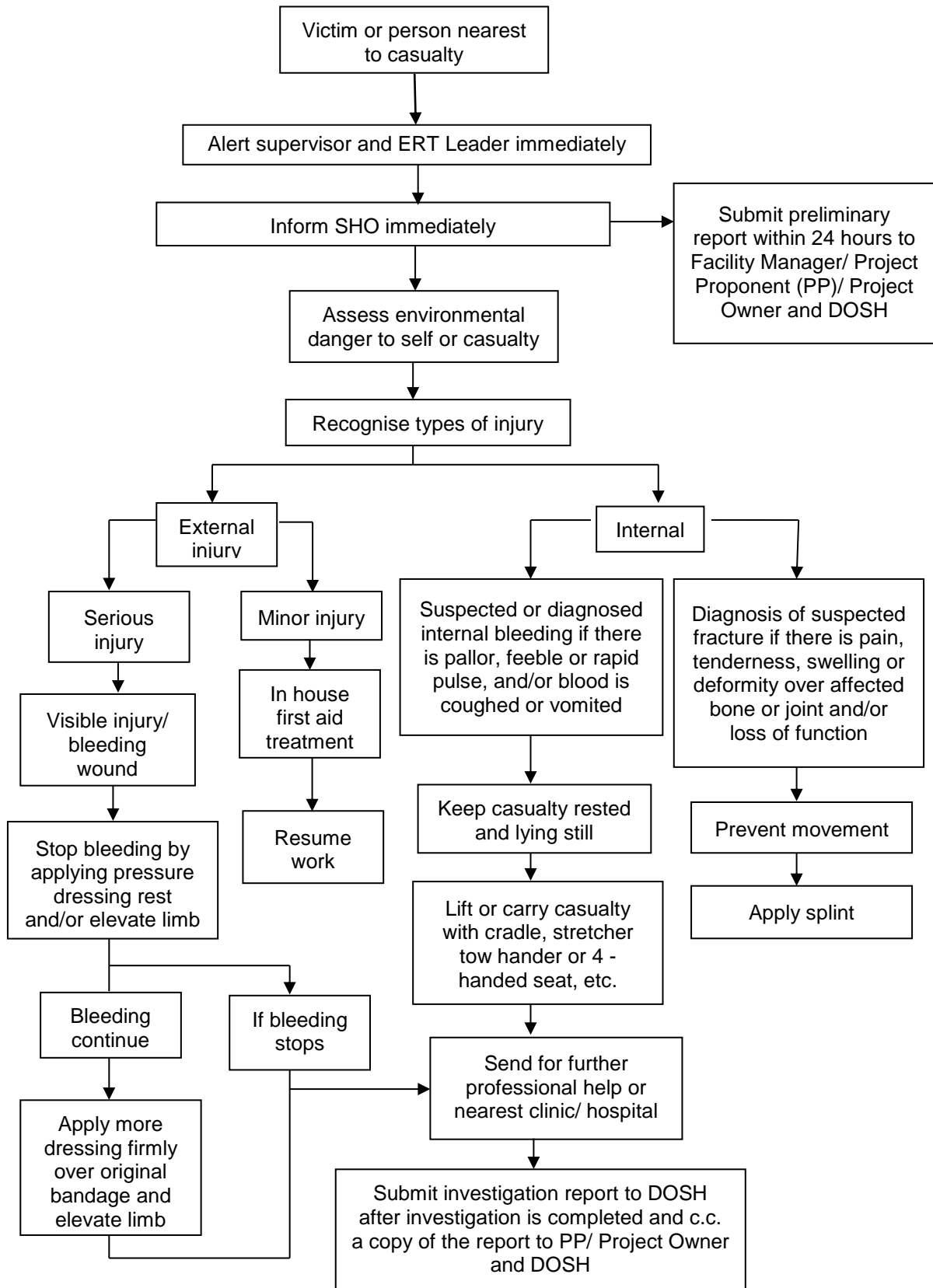
## 12.10 Emergency Response Guidelines

Dedicated emergency response procedures for the difference type of potential emergency that could take place within the facility should be developed and communicated to the staff. In the event of emergency, the Incident Manager and ERT should respond according to the specific procedures established. The typical emergency response chart for the identified emergencies is presented in **Figure 12-3** to **Figure 12-9** respectively. The response procedures should be detailed in the detail ERP to be developed for the construction and operational phases of the Project.

**Figure 12-3 Typical Emergency Response Procedures – Unacceptable Material**

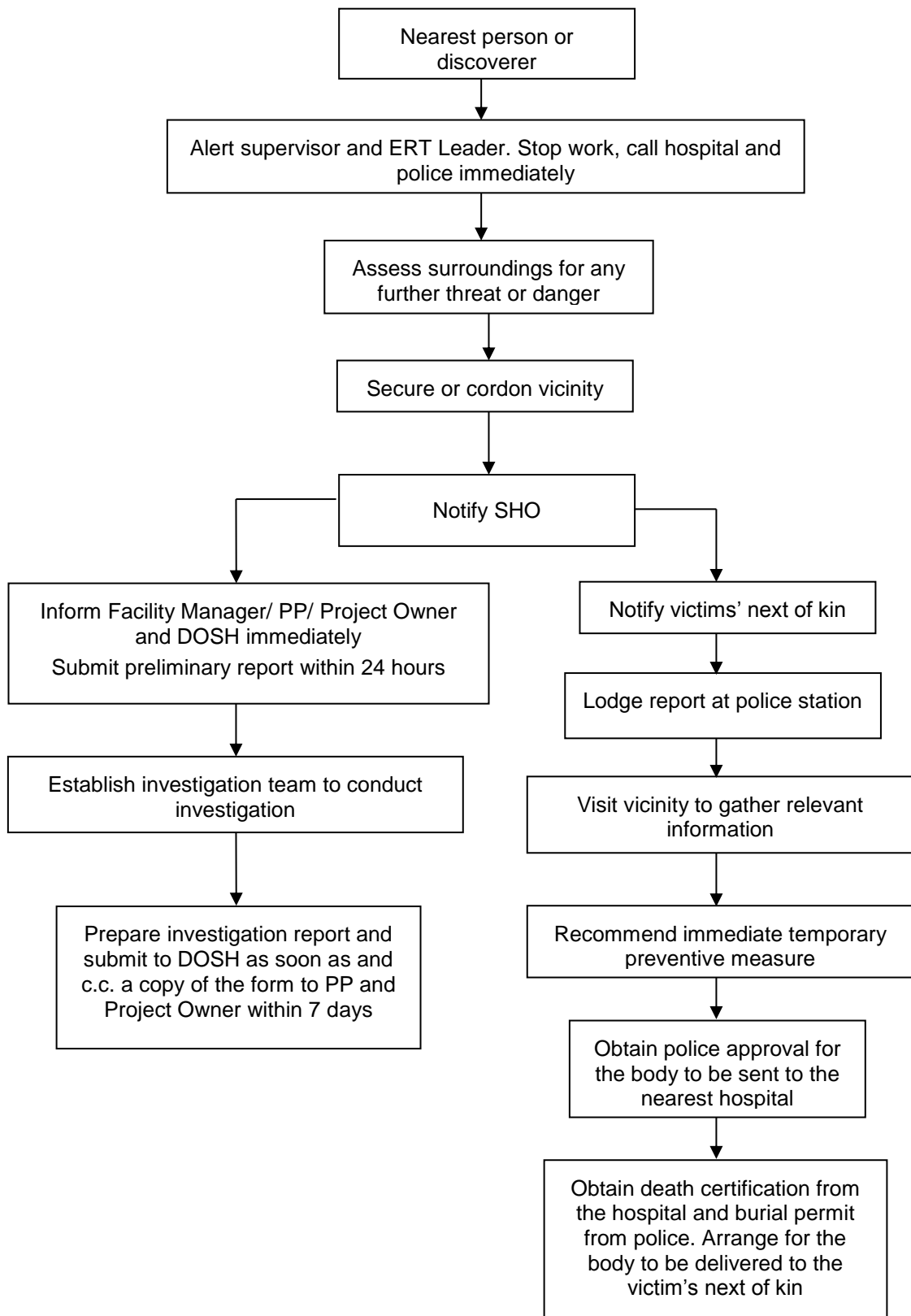


**Figure 12-4 Typical Emergency Response Procedures – Serious Accidents involving Injury**

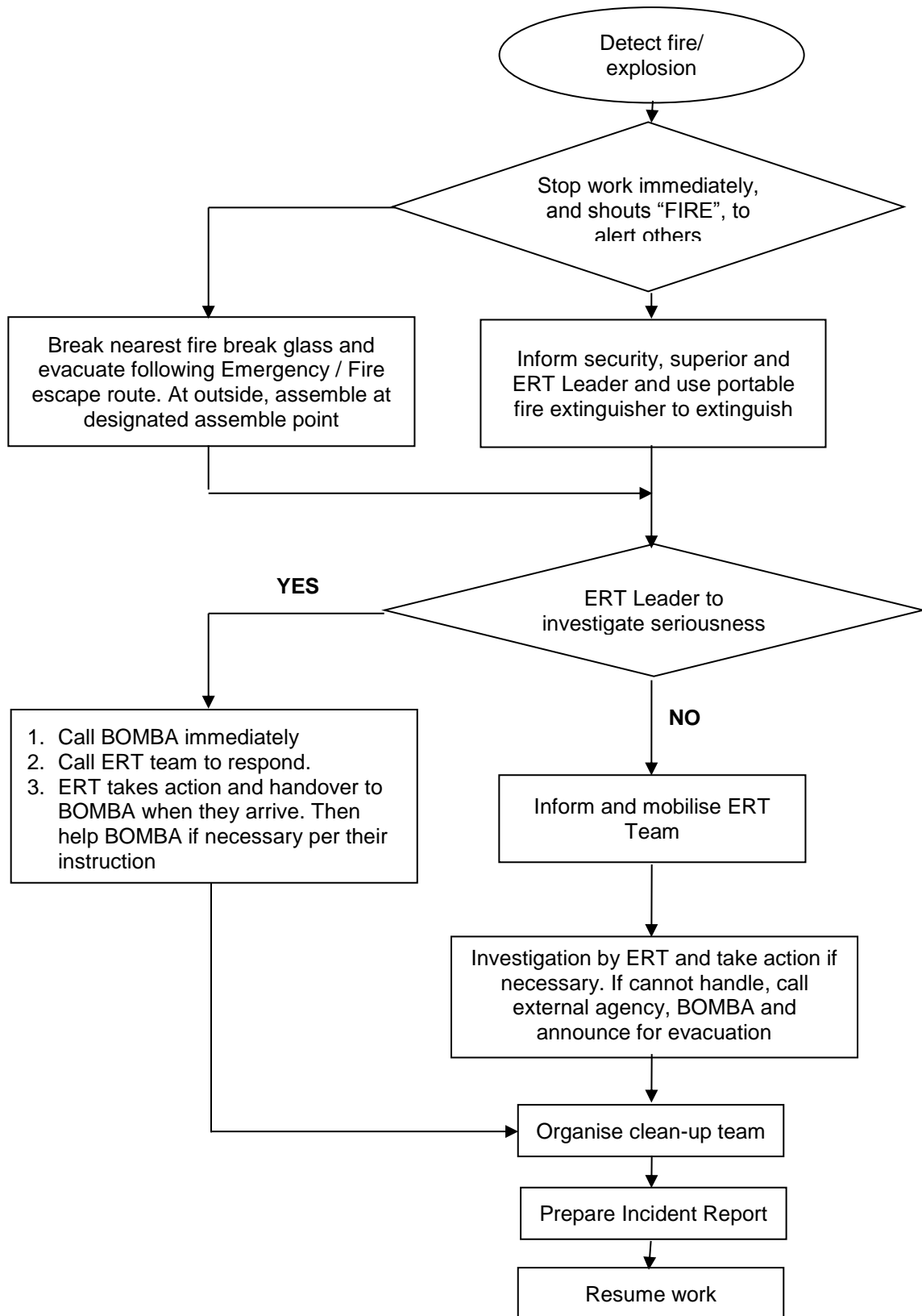




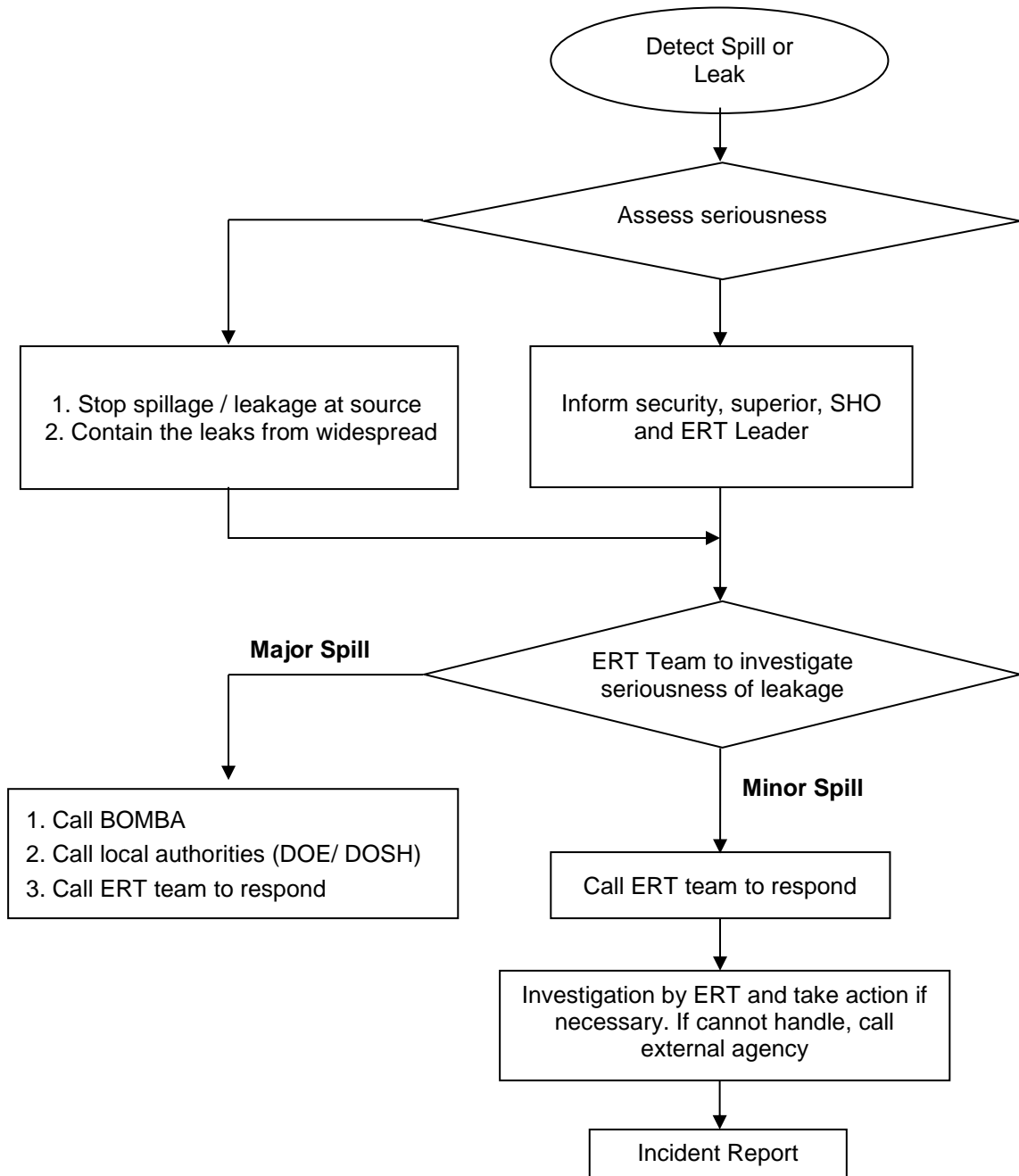
**Figure 12-5 Typical Emergency Response Procedures – Fatal Accidents**



**Figure 12-6 Typical Emergency Response Procedures – Risk of Fire/ Explosion**



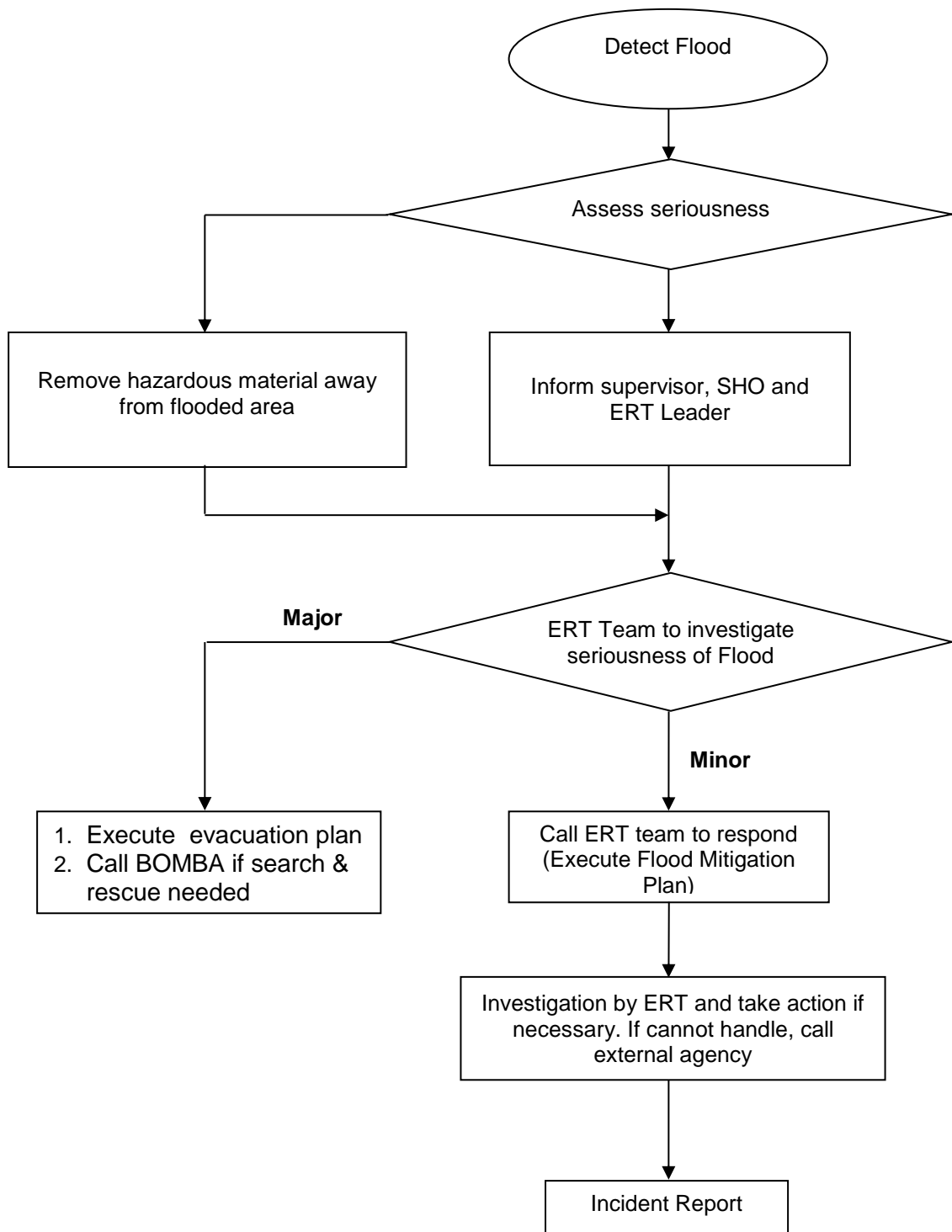
**Figure 12-7 Typical Emergency Response Procedures – Spillage/ Leakage**



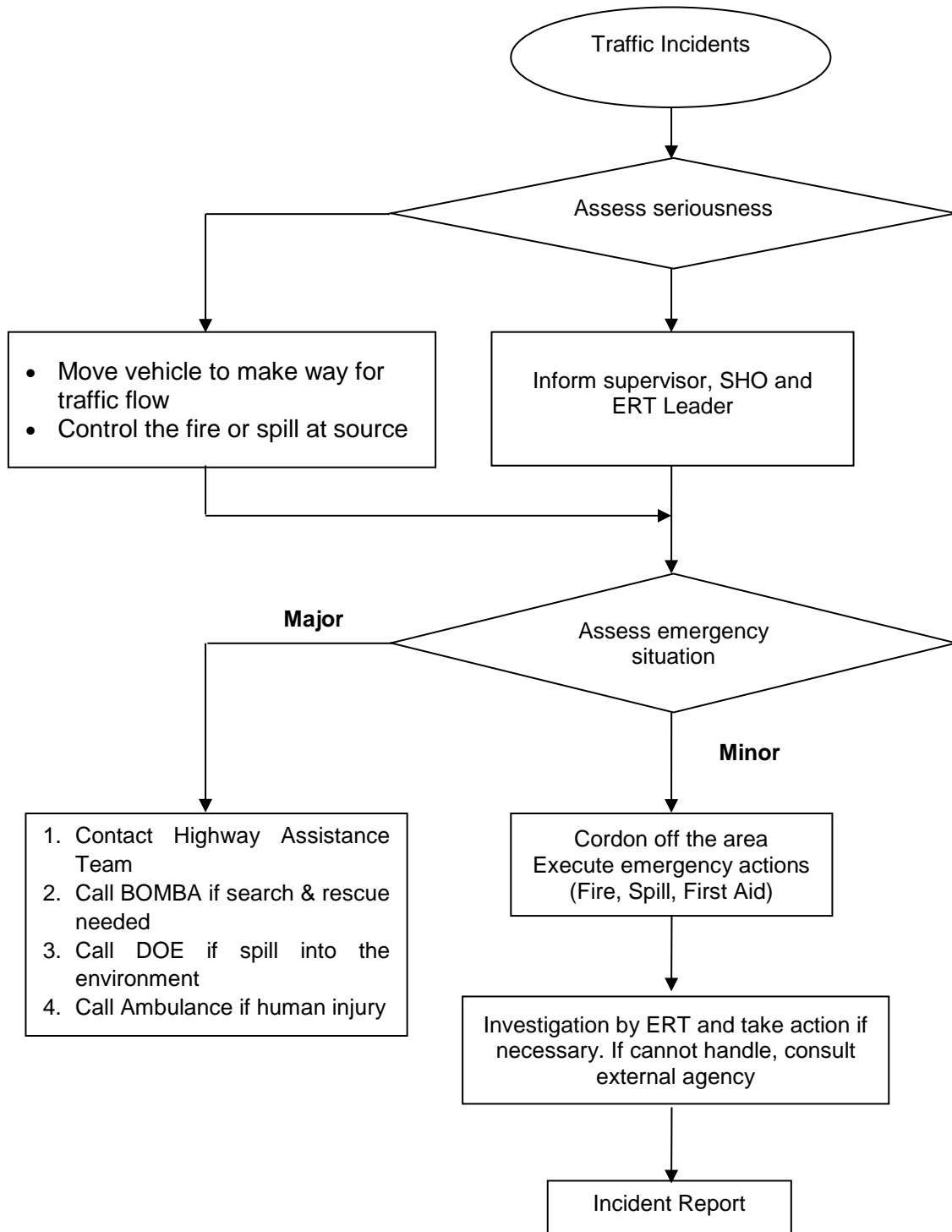
Note:

- If garbage is spilled on the road within accident, clean up immediately so that traffic is not blocked.
- If leachate is spilled, a special clean-up truck should be dispatched to suck up as much as possible, then water it down to dilute its potential noxious effects and clean the road. The recovered leachate is to be sent to the leachate treatment system.
- If leak is detected, inform to SHO or Facility Manager. The blower should be immediately stopped to prevent gas being pumped out through the leak. All personnel should stay away from the vicinity of leak. Sufficient time is given for the accumulated gas to disperse before repair work is allowed. If any casualty from gas related fire or explosion or asphyxiation from inhalation of gas, called the ambulance and BOMBA.

**Figure 12-8 Typical Emergency Response Procedure – Flood**



**Figure 12-9 Typical Emergency Response Procedures – Road Traffic Incident**



---

### **12.11 Evacuation and Assembly Location**

Evacuation of personnel from a specific area of the facility maybe needed during emergency. Therefore, it is important to acquaint all personnel with the basic procedures to follow. This will ensure a safe, efficient and orderly withdrawal. The Incident Manager will decide when to evacuate the site.

In the case of an evacuation, all personnel should switch off their equipment or make "safe" and assemble at the designated Assembly Point. Emergency assembly point for orderly evacuation should be located at strategic open area.

The Security Coordinator should advise the Incident Coordinator of their head counts as soon as possible. The Incident Coordinator should report to the Incident Manager on the results of the head count. In the event the designated assembly point is not safe, all personnel should leave the facility.

Names of personnel unaccounted for and their last assigned work location will be reported to the Incident Manager who may decide to organize a search if necessary. No one is to leave their assembly area or re-enter the work area without the Incident Manager's knowledge and approval. Based on the proposed Project layout, the parking area in front of the administration office serves the strategic location for assembly point.

### **12.12 Emergency Contact Details**

A list of internal and external emergency contacts should be maintained and should be displayed at the prominent area including at guard house. All employees should be informed of the internal and external emergency contact particular contact for the ERT team. The associate emergency procedures and contact should also be made available to the transportation team.

Besides, it is also highly recommended that the contact number for the immediate neighbouring facilities to be maintained and close communication with the ERP committee to the neighbouring facility to be established. In case of major fire breaking out, the immediate neighbours to the Project site should be informed for preparation to avoid spread of emergency to their facility.

Contact for some of the relevant agencies and authorities associated to the Project listed in **Table 12.1** for reference. An update and complete list should be maintained from time to time.

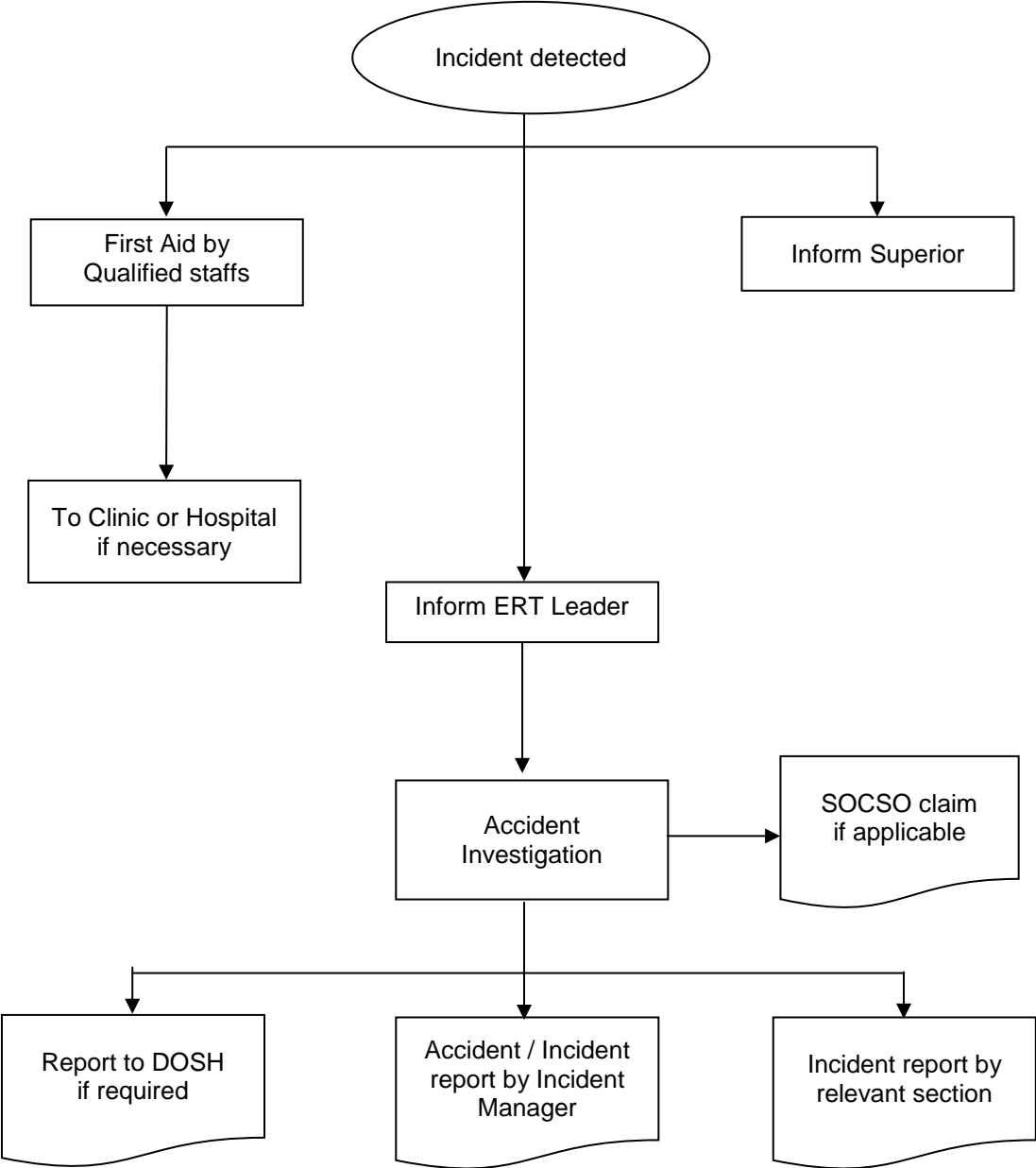
**Table 12.1 External Emergency Contact Number**

<b>Agencies / Authorities</b>	<b>Contact Number</b>
Ibu Pejabat Polis Daerah Seberang Perai Selatan	604 – 582 4222
Balai Polis Nibong Tebal	604 – 593 1404
Ibu Pejabat Jabatan Bomba dan Penyelamat Pulau Pinang	604 – 504 7222
Balai Bomba dan Penyelamat Nibong Tebal	604-593 1444/ 593 9544/ 5933085
Balai Bomba dan Penyelamat Sungai Bakap	604-587 4797/ 4945
Hospital Sungai Bakap	604-582 4333
Pusat Kesihatan Daerah Seberang Perai Selatan	604-593 1679/ 5892
Klinik Kesihatan Nibong Tebal	604-593 1355
Klinik Kesihatan Sungai Acheh	604-598 1733
Department of Occupational, Safety and Health, Negeri Pulau Pinang	604-399 1144
Department of Environment Negeri Pulau Pinang	604-5751911
Penang International Airport (Sultan Azlan Shah Airport)	604 643 44 11
Jambatan Kedua Sdn Bhd (Sultan Abdul Halim Muadzam Shah Bridge)	1300-30-2828
PLUS Highway (PLUS Hotline)	1800 88 0000

### 12.13 Incident Investigation and Reporting

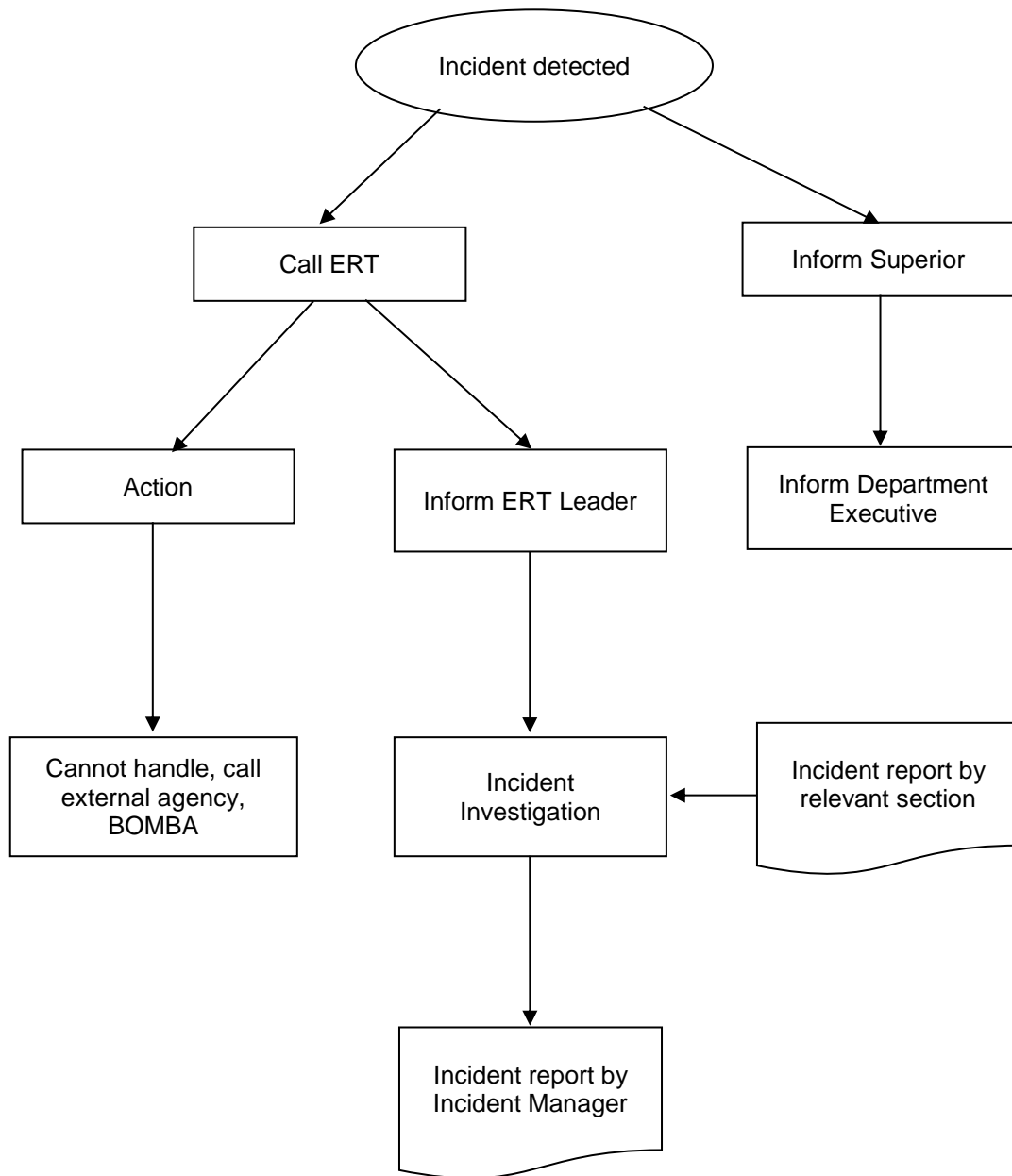
Emergency reporting should be established in a systematic manner inclusive of an investigation procedure so that appropriate response action can be provided and to avoid recurrence of similar accident. All incident reports and lesson learned are shared for continuously improvement. The typical procedure for the incident notification, investigation and reporting for general incident and environmental related incidents is presented in **Figure 12-10** and **Figure 12-11** below.

**Figure 12-10 General Incident Notification, Investigation and Reporting Procedures**





**Figure 12-11 Environmental Related Incident Notification, Investigation and Reporting Procedure**



---

## **12.14 Review and Update of ERP**

The ERP should be reviewed and revised from time to time. On-going amendment is to ensure the ERP is effective and up-to-date with changing community standards and regulations. The Incident Manager should ensure that ERP is up-to-date. The ERP procedures should be reviewed and revised specifically upon occurrence of an incident and change in facility activity or process where potential emergency situation may arise.

## **12.15 Emergency Preparedness Trainings and Drills**

Emergency training should be provided to all workers working within the Project site. For the ERT team, the training shall include fire control, the use of fire extinguisher, spill kit, first aid, etc. While for the general workers, awareness training should be provided on how to response to the emergency including general procedure when sighting of emergency, introduction of ERT team member, assembly area, awareness on alarm activation, etc. Training should be conducted periodically and refresher should be given to ERT member whenever necessary.

Periodical mock drill should be conducted to provide practical training to staff in dealing with emergency situation besides evaluating the effectiveness of emergency preparedness.

Apart from training and drills, all emergency response equipment including fire-fighting equipment, spill kit and first aids should be inspected periodically. First aid boxes will be located at strategic places and well stocked with items as prescribed in the FMA and shall be replenished when exhausted.