Maynilad

SAFETY CODE

www.mayniladwater.com.ph

CORPORATE QUALITY, ENVIRONMENT, SAFETY & HEALTH

MEMORANDUM

FOR : VICTORICO P. VARGAS

SUBJECT : MAYNILAD SAFETY CODE Series of 2015

DATE : March 30, 2015

Submitted herewith is the revised MAYNILAD SAFETY CODE. This is in compliance with the requirements of the Occupational Safety and Health Standard (OSHS) Bureau of Working Conditions (BWC), Department of Labor and Employment (DOLE). This Safety Code will serve as general guidelines of our employees, contractors and suppliers in promoting a safe and conducive working environment within Maynilad territories.

This document is a compendium of materials from the water industry and related utility sector. Members of Maynilad Central Safety and Health Committee (CSHC) have reviewed the contents of this Safety Code in a series of meetings and have recommended for your consideration and approval.

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FOREWORD

Maynilad is committed to the promotion of safety and health in the workplace and to the protection of the environment. Consistent with its environment, safety and health policy, Maynilad has formulated the Safety Code 2015.

The old Safety Code was revised through the efforts of the Central Safety and Health Committee, in the bid to make it more responsive to workers' needs. This revised version likewise takes into account the continuing introduction of technological innovations in our operations.

The safety code is anchored on the following:

- Recognition of safety as one of the highest corporate priorities
- Adoption of safety performance as an integral part of business management
- Incorporation of all safety considerations at the earliest stage of any project development
- Demonstration of responsible corporate citizenship through adherence to all safety regulations and laws, and anticipation of charges thereof;
- Assurance that its operations comply with established international guidelines and requirements on safety

This code will also be strictly applied to all accredited contractors/ service providers and their workers, who perform their activities within all Maynilad premises and designated work areas.

I encourage everyone to extend their full support and participate in all programs that will be adopted in pursuit of this code. We will religiously monitor our safety performance and continuously review this code, instituting changes in response to emerging concerns and other requirements of the company.

I enjoin all officers and employees of Maynilad to adhere to the provisions of this code.

Let us strive to make Maynilad the leading water solutions company in the Philippines.

VICTORICO P. VARGAS
President & CEO

ACKNOWLEDGEMENT

Special thanks to the Members of the Central Safety and Health Committee who have painstakingly worked together to review and make this Safety Code relevant to the emerging needs of Maynilad Water Services, Inc. Also special thanks to Francisco A. Arellano, Head of Corporate Quality Environment Safety and Health Division for his valuable comments and inputs.

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GENERAL RULES

SECTION 1
STATEMENT OF POLICY

1.01 MAYNILAD VISION STATEMENT

We are the leading water solutions company in the Philippines with a strong presence across Asia.

1.02 MAYNILAD MISSION STATEMENT

We provide safe, affordable, and sustainable water solutions that enable those we serve to lead healthier, more comfortable lives

1.03 QUALITY, ENVIRONMENT, SAFETY AND HEALTH POLICY

Maynilad Water Services, Inc. (Maynilad), the country's top water utility firm, is committed to service excellence, environmental protection and to personnel safety and health in the workplace.

We shall continually improve the quality, reliability, cost-effectiveness and environmental sustainability of our operations and services by implementing an integrated quality, environment, safety and health management system compliant with international standards. In pursuing our business objectives, we shall:

Comply with laws, regulations and standards applicable to our operations and services and other requirements that we subscribe to and the needs of our management systems;

Provide reliable and high quality water treatment and distribution, sewerage and sanitation services at a fair price to meet the needs and expectations of our customers;

Minimize and manage the adverse impacts of our operations on the environment by optimizing the use of our resources, reducing the generation of waste, and controlling the emission of pollutants to air, water and land;

Enhance the personal and professional well being of our employees by providing appropriate training and support thereby maintaining a competent workforce that is quality, environmental, health and safety conscious;

Protect the health and safety of our employees, contractors, visitors and neighboring communities by designing and executing systematic programs that will prevent work related injuries, illnesses and emergencies;

Create a culture that will encourage all our employees, contractors, suppliers and stakeholders to conduct their activities in a responsible manner; and

Review regularly our integrated management system to ensure its continuing suitability.

1.04 POLICY ON THE CREATION OF CENTRAL SAFETY AND HEALTH COMMITTEE

1.04.01 Policy

Maynilad will ensure the health, safety and welfare of its employees at work and the communities it serves. In discharge of this responsibility, it shall accord its commercial objectives with all statutory requirements.

1.04.02 Objectives

To establish a Central Safety and Health Committee (CSHC) to ensure the implementation of Maynilad Safety Code. This Safety Code will cover not only employees but all service providers in all Maynilad workplaces, and will undergo continual improvement to include emerging administrative policies of the government.

1.04.03 Membership

An appointed representative by the Division or Department Head from the following operating units shall serve as a member of the Committee:

Commercial and Marketing Division
Program Management Division
Wastewater Management Division
Water Production
Central Non-Revenue Water
North Business District (North Caloocan BA, Fairview-Commonwealth BA, Novaliches-Valenzuela BA)
Central A Business District (Quirino-Roosevelt BA, South Caloocan BA, Malabon-Navotas BA)
Central B Business District (Tondo BA, Sampaloc BA, Pasay-Makati BA)
South Business District (Cavite BA, Muntinlupa-Las Piñas BA, Parañaque BA)
Human Resources Division
Corporate Logistics Division (Warehouse, Procurement, Fleet-Admin)
Finance Division

CQESH Division (Internal and Quality Assurance Department,
Environment Department, Safety Department, Central Laboratory)
MWSA
MWSU - PTGWO
Legal and Regulatory
Information Technology

1.04.04 Central Safety and Health Committee Organizational Chart

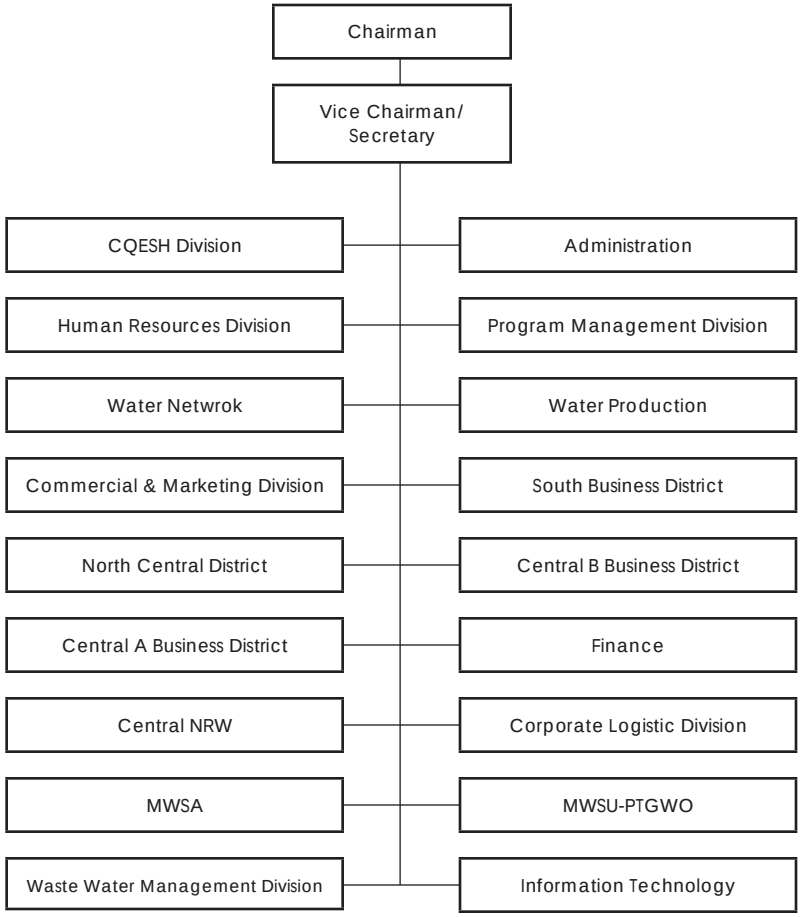

Figure 1. CSHC Organizational Chart

1.04.05 Designation

Division or Department Head shall be responsible in designating members in accordance with the Rule 1040 of Occupational Safety and Health Standards.

1.04.06 Duties and Responsibilities of the Committee

1. Assists in developing effective organization that is responsible for the employees' safety and health, and the protection of the Company's assets and real estates.

2. Attends monthly scheduled meetings to review the Company's Safety Programs and monitor its implementations.

3. Notifies the Safety Department of any accident and/ or incident in the area of concern. Coordinates with the concerned supervisor and gathers all vehicular, personal accident reports and other data for submission to the Safety Department.

4. Assists in investigating major accidents and its causes, and recommends measures to prevent their recurrence.

5. Assists in establishing Safety standards and operating procedures for the Company.

6. Assists in instituting internal programs to disseminate safety policies and regulations across the Company's workplaces.

7. Assists in mobilization in case of emergency and coordinates necessary works with Safety Department.

8. Assists in supervising Safety awards and contest.

9. Performs other functions that may be assigned in accordance with the safety policy.

1.04.07 Groupings of Central Safety and Health Committee

1.04.07.01 Management Group

To assist and serve as advisor to the Maynilad Management in the implementation of the Safety Programs of the Company, and to recommend as necessary the needs to improve the effectiveness of these Programs and to increase awareness on safety among employees.

Members shall compose of appointed representatives from CQESH, Human Resources, Finance, Logistics, Commercial and Marketing, Legal and Regulatory, MWSA/ MWSU.

Functions:

1. Conducts regular meetings to pass on information to other employees.

2. Acts as a clearinghouse for ideas, activities, and follow-ups.

3. Investigates causes of major accidents and recommends corrective actions to prevent recurrence.

4. Assists in establishing Safety standards and operating procedures for the Company.

5. Recommends a Safety Education Program.

7. Reviews specific job practices and recommends improvements.

6. Supervises Safety awards and contests.

1.04.07.02 Technical Working Group

To promote safety among the Company's workforce and to emphasize employee's responsibility in the prevention of accidents within the Company's workplaces.

Members shall compose of appointed representatives from SO/CSHC of Business Area, HRD-Health Management, PMD, WSO and Corporate Logistics.

Functions:

1. Reports to the Central Safety and Health Committee on unsafe conditions and practices within the Company's workplaces.

2. Assists in the investigation of accidents and recommends necessary corrective actions to prevent recurrence.

3. Warns fellow workers of unsafe and dangerous practices.

4. Develops support programs on safety, which will encourage and promote camaraderie among the Company's top management and regular employees.

5. Conducts safety related activities which employees can participate in to create a culture of accident-free workplace.

1.04.08 Resignation and Replacement

Any voluntary resignation in writing by a committee member shall be resolved immediately. Replacement shall be in accordance with Rule 1.05.06

1.05 POLICY ON THE CREATION OF SAFETY SUB-COMMITTEE

1.05.01 Objectives

It is the objective of this policy to create a Safety and Health Sub-Committees in Business Areas and other operating units to support the functions of the Central Safety and Health Committee and to strengthen the implementation of all Safety Programs.

1.05.02 Safety and Health Sub-Committee Members

Members of Safety and Health Sub-Committee will be appointed by the CSHC Members. Respective members of business units or operating units will create the Safety and Health Sub-Committee and will recommend members for approval of the CSHC.

1.05.03 Definition of Terms

Safety Sub-Committee Member – refers to a Maynilad employee who is duly selected or appointed by the CSHC as Sub-Committee Member, representing his or her Business Area, Division or Department where he or she is currently assigned.

1.05.04 Functions

1. Coordinates with the concerned supervisor in gathering all vehicular and personal accidents reports, and other needed data to be submitted to CSHC member/s within the area.

2. Ensures that the following objectives of CSHC are carried out:

    a) Plan what has to be done
    b) Organize resources
    c) Lead employees towards the set goals
    d) Control process efficiency

3. Advocates directives by the CSHC and enforces the Safety policies of the Company within their workplaces.

4. Makes mobilization readily available in cases of emergency.

5. Performs other functions that may be assigned in accordance with the safety policy.

1.05.05 Representation

All Divisions or Departments shall be represented by a minimum of three (3) Sub-Committee Members. However, this can be increased in areas or departments prone to accidents due to nature and or magnitude of activities and with numerous personnel. The member of CSHC in their respective operating unit shall automatically be the chairman of the Sub-committee.

Medical personnel shall automatically be either CSHC members or Sub-Committee members.

1.05.06 Designation

Division or Department Head shall be responsible in designating members in accordance with Rule 1040 of Occupational Safety and Health Standards.

1.05.07 Oath-taking and Effectivity of Membership as a Sub-Committee Member

1. The selected Sub-Committee Member shall be inducted by the Chairman of CSHC, preferably on the occasion of its regular monthly meeting.

2. Membership shall be effective upon receipt of notice duly signed by the CSHC Chairman, even without oath-taking yet conducted.

1.05.08 Disqualification and Expulsion

1. Disqualification or expulsion of any Sub-Committee Member shall be based on legal grounds and shall undergo due process. Any Sub-Committee Member subject for disqualification or expulsion shall be coordinated to his or her immediate CSHC member with the latter providing verbal or written recommendation. Disqualification or expulsion of any Sub-Committee Member shall take effect only through a majority of votes with a quorum of at minimum fifty (50) percent of the total CSHC Members. In cases of tie, the CSHC Chairman shall render a vote in order to break the deadlock. In case the latter is absent or unavailable, the Vice-Chairman shall take his post.

2. Any written recommendation by CSHC Member or Head for disqualification or replacement of any Sub-Committee Member shall be resolved by CSHC in a meeting called for its purpose.

1.05.09 Resignation and Replacement

Any voluntary resignation by a Sub-Committee Member shall be in writing and shall be resolved immediately by the CSHC. Replacement shall be in accordance with Rule 1.05.06.

1.05.10 Violations of Safety Policy and Performance Inefficiency

1. Violation of Safety Policy:
   Safety violations committed by a Sub-Committee Member shall be discussed and resolved during the meeting. If found guilty, a disqualification letter shall be issued immediately.

2. Negligence or Non-performance
   Negligence of duty or non-performance by a Sub-Committee Member is a ground for disqualification.

SECTION 2
APPLICATION AND RESPONSIBILITY

2.01 These rules and regulations shall be known as the Maynilad Safety Code.

2.02 Every Division or Department shall be provided a copy of this Code by the Safety Department.

2.03 Each employee shall carefully study and observe the rules embodied in this Code, more particularly those performing safety duties.

2.04 All employees are encouraged to make suggestions for changes in the rules or working conditions to promote safety in the company. Suggestions should be submitted to the Safety Department or through the Central Safety and Health Committee and or Sub-Committee Members in their respective area or division.

SECTION 3
HEAD OR SUPERVISOR'S RESPONSIBILITY

3.01 Heads or supervisors are responsible in enforcing and implementing this Code. Each head or supervisor shall ensure that employees under his or her direct supervision are properly observing and are aware of the safety rules. The penalty of heads or supervisors is equivalent to the penalty of the rule violated by their subordinate/s.

3.02 The supervisor or the employee acting as such shall undertake other safety precautions as necessary in the performance of a job. He shall ensure safe work operations. Qualifications and competence shall always be considered in assigning workers to a delicate work operation.

3.03 The head or supervisor, in case of doubt in the interpretation of the meaning and intent of any part of this Code, may refer to their group head or area head whom the latter may resolve the question or refer same concerns to the Safety Department.

SECTION 4
SAFETY ORGANIZATION

4.01 The Safety Department shall oversee the dissemination of this Code. This department will be composed of the following;

4.01.01 Head Safety

Functions:

1. Determines the safety requirements of the Company.
2. Drafts and recommends safety policies, and reviews safety code for amendments.
3. Plans, develops and recommends safety programs.
4. Oversees the implementations of all safety programs.
5. Monitors compliance of all operating units to the Safety Code through regular inspections of their activities; investigates and submits recommendations and sanctions on any violation.
6. Conducts safety meetings of the Company.
7. Develops and maintains disaster contingency plan.
8. Plans and develops accident prevention programs.
9. Implements and oversees the activities of the CSHC.
10. Attends to all safety requirements by the Bureau of Working Conditions - Department of Labor and Employment (BWC-DOLE) and other government agencies.

11. Conducts safety contests and recognizes outstanding accomplishments.

4.01.02 Three (3) Units of Safety Department

4.01.02.01 Programs Review Research and Compliance

Functions:

1. Plans, develops and implement accident prevention programs.
2. Formulates safety and other administrative policies in coordination with CSHC and other safety units.
3. Serves as the Secretariat of the Central Safety and Health Committee.
4. Initiates and supervises safety and health trainings for employees.
5. Maintains records and reports covering all aspects of the Safety programs.
6. Represents the Company in safety seminars, trainings and meetings as required by the BWC-DOLE and the Government Safety Regulations.
7. Evaluates safety gadgets and or equipment of every area or division.
8. Convenes the review committee to discuss, review and resolve any accidents and or incident.
9. Oversees the conducts of Safety awards and contests.

4.01.02.02 Emergency Planning and Preparedness Response Unit

Functions:

1. Plans, develops and implement disaster contingency plan.
2. Drafts Safety programs for implementation during Confined Space Works, Water Services Interruptions, Energization and the like.
3. Conducts safety training on emergency and or rescue to employees and contractors as needed.
4. Conducts Annual Emergency Preparedness program and other risks management activities.
5. Supervises the implementation of BCP and mobilizes needed resources for disaster relief, evacuation activities, and acts as the lead unit in these undertakings.

6. Monitors availability and maintains all fighting and emergency equipment of the Company and recommends preventive maintenance and procurement of necessary equipment.

7. Collaborates with government and other agencies regarding the Company emergency preparedness programs.

8. Responsible in recognizing and awarding employees and other personnel who helped in the emergency activities.

4.01.02.03 Audit, Inspection and Investigation Unit

Functions:

1. Plans, develops and implement safety programs on workplaces.

2. Conducts regular safety inspection in all areas including in constructions activities.
3. Reports violations on safety policies and recommends sanctions.

4. Issue non-compliance order and recommends works stoppage.

5. Checks safety and health programs of contractors.

6. Assists in the developing and planning of safety programs.

7. Prepares monitoring compliance reports and recommends action programs to enhance performance of respective units.

8. Identifies training gaps and recommends needed trainings.

9. Attends safety seminars and or training as required by BWC-DOLE and by other government and foreign regulatory bodies.

10. Assists in the conduct of awards and contests on safety.

CHAPTER II

BASIC SAFETY RULES

SECTION 5
VEHICULAR AND TRAFFIC SAFETY GUIDE

5.01 National and local traffic laws and regulations shall be observed at all times. (B)

5.02 When driving along public or private roads, prescribed speed limits and regulations shall be observed. (B)

5.03 No employee shall operate any Company vehicle unless he or she is duly licensed, and has been examined and authorized by proper authorities. (B)

5.04 No driver shall allow another person to drive the vehicle assigned to him or her, unless the latter is duly authorized by the Administration-Fleet. (B)

5.05 Authority to drive is not transferable. (D)

5.06 No passenger shall be allowed to ride on the running board, fender, tailboard and or any other part of the Company vehicle, except on seats provided or inside the body of walls. (B)

5.07 No part of the human body shall extend outside the vehicle. (A)

5.08 No passenger shall be allowed to board or alight from a moving vehicle or from a stopped vehicle at the middle of traffic. (A)

5.09 No driver shall drive a vehicle while under the influence of liquor, narcotics, or sleep-inducing drugs, or the like. (D)

5.10 No employee shall drive any private vehicle inside the Company premises while under the influence of liquor, narcotics or sleep-inducing drugs, or the like. (C)

5.11 The driver shall conduct daily checks on the following: (A)

B	-	Brake
L	-	Light
O	-	Oil
W	-	Water
B	-	Battery
A	-	Air
A	-	Accessories
G	-	Gas

E	-	Engine
T	-	Tire
S	-	Self

5.12 Regular, contractual and casual Company drivers, for the purposes of monitoring driving competence and psychophysical fitness, shall undergo the Psycho Physical Test once a year. (B)

5.13 Drivers with test results below the set standards for the Psycho Physical Test shall be reassigned to non-driving assignments to be identified by the Administration-Fleet. (B)

SECTION 6
LOADING AND UNLOADING

6.01 Overloading the vehicle shall not be allowed. The load shall be properly distributed, secured in place and shall not piled too high in order to maintain stability, and to satisfy required overhead clearances. (A)

6.02 Tailgates and all detachable equipment in the vehicle shall be properly secured before traveling. (A)

6.03 Loads shall be handled at the curbside of the vehicle. Where this cannot be avoided, flagmen should be stationed and or appropriate warning signs shall be placed at all traffic approaches. (A)

6.04 Trailers shall be provided with proper stop and taillights. (A)

6.05 Vehicles and trailers with loads projecting beyond body lines shall have the extreme projections provided with fully secured red flags and stop lights in the daytime and with red lights and stop lights at night time. When practicable, a marker shall be attached halfway between the truck and end of load projection, such as when poles are being handled. (A)

SECTION 7
PARKING AREA AND GARAGE

7.01 Before moving a vehicle from a parked position, the driver shall check around and under the vehicle for possible hazards. (B)

7.02 The driver shall conduct a brake test before operating a vehicle from the Company parking area and garage. In case of any indication of a faulty brake, he shall stop the vehicle and report the condition immediately to the Administration-Fleet.

SECTION 8
PARKING IN PUBLIC PLACES

8.01 Whenever a driver has to leave his vehicle unattended along a highway, he shall move his vehicle entirely off the traveled portion of the road, turn off the ignition switch, notch effectively the hand brake and keep the ignition key with him. He shall place the early warning device (EWD) at the required distance in front of and behind the vehicle, check traffic before opening the door to get in and out of the vehicle and keep doors securely closed. (B)

8.02 When parking downhill, he shall slightly turn the front wheels to the right towards the curb or side of the road, leave the vehicle in reverse gear and hand brake notched effectively. When parking uphill, he shall turn front wheels towards the curb or side of road and leave the vehicle in low gear and hand brake notched effectively. Wheel chucks shall be used to lock the wheels when parking downhill or uphill and most especially when it is necessary to keep the motor running. (B)

SECTION 9
SAFE DRIVING

9.01 In addition to the provisions of the Land Transportation and Traffic Code, every employee who is authorized to drive the Company vehicles shall observe and practice the following defensive and safe driving habits:

9.01.01 Signal intentions well in advance at all times regardless of the traffic conditions. (A)

9.01.02 To avoid hitting a vehicle being followed, maintain a safe distance of at least one vehicle length for every ten (10) KPH of speed. This required distance should be doubled at night or when road is slippery. (A)

9.01.03 To avoid being hit by a vehicle from behind, the driver shall:

1. Make every stop or reduced speed in a smooth and gradual manner. (A)

2. Signal intentions well in advance. (B)

3. Try to keep the vehicle behind from riding your tail, e.g., find means of preventing the vehicle behind from staying too close to your bumper. (A)

9.01.04 To avoid head-on or sideswipe collisions, the driver shall:

1. Always drive as far to the right of the center of the centerline of a highway as much as possible. (A)

2. Reduce speed and slow down before entering a curve. (B)

9.01.05 To avoid angle collisions, the driver shall:

1. Approach all intersections with the right foot off the accelerator and step on the brake pedal, ready for any eventuality such as pedestrians and other drivers who do not obey the traffic rules. (A)

2. Bring the vehicle to full stop before entering any through street, highway or railroad crossing. (A)

3. Check traffic to the left, then to the right, to see if there are vehicles crossing the street. Proceed only when traffic is clear. Do not rely on your having the right-of-way. (A)

4. Signal well in advance and proceed to the correct turning lane from a reasonable distance. Let approaching traffic clear first before making a left turn. (A)

9.01.06 To avoid a sideswipe collision, the driver shall:

1. Slow down when being overtaken on left or right to make it easy for the other vehicle to pass. Do not race the other vehicle. (A)

2. Check your rear side mirror; make a signal and change lane only when it is safe to do so without disrupting the flow of traffic. (A)

3. Signal well in advance, slow down gradually and keep as close to the right or curb when making a right turn. (A)

4. Check the rear, signal intentions and wait for a break in traffic before pulling out of a curb or parking space. (A)

9.01.07 To avoid head-on-sideswipe and angle collisions, the driver:

1. Shall not drive to the left side of the centerline of the highway in overtaking or passing another vehicle preceding in the same direction unless the left side is clearly visible and is free of incoming traffic. This is to allow for a sufficient distance ahead to permit such overtaking or passing to be made safely. (A)

2. Shall not overtake when he himself is being overtaken or when another vehicle tries to tail him in his attempt to overtake another vehicle. (A)

3. Shall not overtake or pass another vehicle proceeding in the same direction when approaching a crest of a grade, upon a curve in the highway, at any railway grade crossing, at any intersection of highways and at all "no passing or overtaking zones." (A)

4. Shall not pass a car that has stopped to permit pedestrians or other vehicles to cross. (A)

9.02 He shall always slow down and be ready to step on the brakes when passing through any busy streets where long lines of cars are parked and where pedestrians may dart across at any moment. (B)

9.03 Vehicles shall always descend steep grades at low gear. (B)

9.04 The driver shall always devote his full attention to driving, anticipating danger in time to avoid it. (A)

9.05 The driver shall be alert for signals from traffic police officers and other drivers, traffic signals signs, etc. (A)

9.06 The driver shall avoid beating traffic stop signals. (A)

9.07 The sounding of horns does not give anyone of the right-of-way. The driver shall use it only as a warning and shall proceed cautiously.

9.08 He shall slow down upon approaching school zones, parks, playgrounds, crowded streets and thickly populated areas and be always on alert for children. The law gives the right-of-way to pedestrians. (B)

9.09 Headlights shall be put on not later than one half-hour after sunset and until at least one half hour before sunrise and whenever weather conditions so require. Parking lights shall not be used in lieu of headlights. (A)

9.10 At night, the driver shall always dim his light when within 150 meters of oncoming vehicles and when following another vehicle within 60 meters. Glare may cause the other vehicle to swerve his oncoming vehicle toward the other lane. The same rule shall be observed when driving along well-lighted and thickly populated areas. (A)

9.11 After passing through flooded streets, the driver shall check his brakes to make sure that they are working properly before proceeding to normal speed. To dry the brake linings, he shall press his foot brakes slightly several times while his vehicle is in low motion until assured that the brakes are functioning normally before proceeding the normal speed. (B)

9.12 In case of sudden tire blowout, the driver shall not step hard and abruptly on his brakes. This will cause his vehicle to turn turtle or swerve suddenly when driving at high speed. Instead, steer straight and gradually bring the vehicle to a stop by applying slight on and off pressure (fanning) on the foot brakes. (A)

9.13 For trucks with or without trailers, enclosed vans and similar vehicles where the rear view of the driver is limited, a signalman shall be assigned. The foreman, leadman, supervisor, as the case may be, shall designate a signalman for the day. (A)

Any backing motion of the vehicle shall be done slowly with extra care and under the direction of the signalman on the ground that has an unobstructed view of the intended path of the vehicle. The same shall be observed when there is difficulty in maneuvering the vehicle by reason of its position or location. (A)

If backing is to be done, he shall personally make sure that all is clear behind at the time. He shall never assume that the other vehicle has not driven up behind or that pedestrians have cleared off the back area since he last looked. (A)

9.14 The driver shall stay on his own lane of the road at intersections, railroad crossings, no passing zones, hills and curves where his view is obstructed. Right-of-way is better than sight-of-way. (B)

9.15 The driver shall not straddle lane lines. This is inconsiderate and constitutes "hugging." (A)

9.16 The driver shall not drive a vehicle with his hands and soles of shoes wet and or greasy. (A)

9.17 The driver shall not be allowed to smoke when looking into the fuel tanks, the cooling water of radiator or the battery. (B)

9.18 The driver shall not keep oil, rags, waste or other flammable objects under the hood or elsewhere inside the vehicle where combustion might occur. (B)

9.19 Safety containers used for fuel handling shall be checked for leaks, excessive rusting and weak spots. (B)

SECTION 10
MOTOR WORKS

10.01 Vehicles jacked-up or hung-on chain hoists shall always be blocked under with stanchions, pyramid, jacks or wood blocks (which have first been carefully inspected). (B)

10.02 When a man is working under a vehicle that is blocked up, other workers shall not work on the car in such a manner that the car will be knocked off from its support blocks. (B)

10.03 Use electric lamps with extension cords, portable electric tools with cords and fittings and safety guards that are all in good condition. (B)

10.04 Always wear goggles or face shields when operating sandblast spark plug cleaners. (A)

10.05 Concrete or clay hollow blocks and other brittle or weak materials shall not be used to support jacked-up vehicles. (B)

10.06 Vehicles with more than three (3) wheels that are jacked-up on two wheels shall be provided with wheel stops on both ends of the other wheels. No chassis repair shall be allowed unless effective wheel stops are provided on these wheels. (B)

10.07 Vehicles under chassis repair shall be provided on all sides with adequate barricades and warning signs to protect protruding legs of workers. (B)

10.08 Never operate an engine in an enclosed room without adequate ventilation. Carbon monoxide is poisonous and may cause death.

10.09 Do not leave gasoline standing around in open containers. Use kerosene or other suitable safe preparations to clean parts whenever possible. (B)

10.10 Keep a pair of safety goggles handy and wear them when performing work in which eye protection is needed. (A)

10.11 Be on guard against flashes or explosion of gasoline vapors and hydrogen from storage batteries. Keep flames and sparks away. (B)

10.12 If your clothes soaked with oil or gasoline, better changed them. Do not take the risk to be caught by fire. (B)

10.13 Make sure all the lock washers and cotter pins are properly in-place. (C)

10.14 Grease and oil spilled on the floor shall immediately remove in order to prevent accidents. (B)

SECTION 11
TIRE OPERATIONS

11.01 Only workmen thoroughly familiar with the hazards and safe methods involved in handling tire equipment shall inspect, install, repair and replace tires and rims. (B)

11.02 Keep in safety cans rubber cement and flammable solvents used for patching inner tubes and casing compounds used for filling tire cuts. (B)

11.03 Tiremen shall inflate tires in steel "cages" or similar devices that shall restrain flying objects during the inflation process. A locking ring shall be seated properly and shall not be yanked free by being twisted. Defective locking rings shall be replaced. (B)

11.04 Electric heating elements used for vulcanizing or branding tires shall be inspected regularly, and defective rings shall be replaced. (B)

SECTION 12
WASHRACKS OPERATION

12.01 The concrete floor of wash racks shall have a rough trawled finish to produce a non-slip surface. (A)

12.02 While washing vehicles, workers shall wear rubber boots with non-slip soles and heels, gloves and eye goggles. (A)

12.03 Keep working area clean and free from stray tools and parts. Place tools in their tool box when not in use. (B)

12.04 Washrack water hoses are high-pressured and shall not be directed at persons while in use. (B)

12.05 Workmen shall use the hose carefully in such a way as to avoid being struck by a back lashing stream of water and dirt. (A)

SECTION 13
TOWING

13.01 No person shall be allowed to stay between the towing truck and the towed vehicle whether at stop or in motion. When at stop and work is to be done the towing truck driver shall be warned not to move the vehicle until such work is completed, after-which he shall be given the go signal to move the vehicle.

13.02 The towing vehicle and the vehicles being towed shall be properly fixed before moving them.

SECTION 14
HEAVY EQUIPMENT AND TOOLS

HEAVY EQUIPMENT

14.01 Only duly authorized personnel shall operate heavy equipment. (B)

14.02 Drivers of mobile heavy equipment and trailer shall be duly licensed and also authorized by the Company. (B)

14.03 Operators shall be responsible for the proper condition and cleanliness of the heavy equipment assigned to them, and for making reports of any defect or unusual condition found therein. (A)

14.04 At no time shall the operator allow anybody under a boom except the rigger doing rigging work. (B)

14.05 Booms, forkholders, payloaders and the like shall be kept at a safe distance from overhead-energized lines. If it should be absolutely necessary to cross or work in close proximity with energized lines, the electric company shall be requested for appropriate assistance in the provision of safety measures. (C)

14.06 The operator shall not allow unauthorized persons to operate the equipment assigned to him nor allow such persons to ride on the equipment while same is in motion. (B)

14.07 No operator shall operate any equipment unless he is physically able and mentally sound. He shall not operate a vehicle if he is under the influence of liquor and or prohibited drugs or any drug that causes drowsiness. (C)

14.08 Operators shall receive directional signs only from duly authorized persons designated for the purpose. (B)

14.09 No operator shall move his equipment with his suspended load except when authorized by the superior. (B)

14.10 All booms shall be lowered after each work shift, except when otherwise authorized by the superior. (B)

14.11 The operator shall determine the safe clearance of overhead obstructions and building openings, and shall proceed only when such clearances meet the requirement. (B)

14.12 Detailed regular inspection of all hoists with special attention to load hooks, ropes, brakes and limit switches shall be scheduled. (A)

14.13 The safe load capacity of each hoist shall be shown in conspicuous figures on the hoist body of the machine. (B)

14.14 Flanges and hoist drums with single-layer grooves shall be free of projections that will damage the cable. (B)

14.15 All hoists shall be attached to their support (fixed member of trolley) with shacklers, or support hooks shall be placed properly or have safety latches. Latches are recommended also for load hooks. Hoist supports shall also have an adequate safety factor for the maximum loads to be imposed. (B)

14.16 Traveling hoists operating on rails, tracks or trolleys shall have positive stops or limiting devices either on the equipment, rails, tracks or trolleys to prevent over running safe limits, and shall be equipped with over-speed control devices. (B)

14.17 A load shall be picked up only when it is directly under the hoist; otherwise, stresses for which the hoist was not designed shall be imposed upon it. If the load is not properly centered, it will swing (upon being hoisted), and injury could result. Everyone shall stay away from under raised loads. (C)

14.18 AIR HOISTS

14.18.01 After a piston-type air hoist has been in operation for a time, the locknut that holds the piston on its rod may become loose so that the rod will pull out of the piston, thus letting the load drop. It is recommended that the locknut be secured to the piston rod by a castellated nut and cotter pin. Whenever an air hoist is overhauled, a check shall be made to see that the piston is well secured to the rod. (B)

14.18.02 If an ordinary hook is used to hold the hoist from its support, the cylinder may come unhooked if the piston rod comes in contact with an obstruction when lowering. A clevis or other device should be used to prevent the hook from being detached from the hoist support. (B)

14.18.03 To prevent the hoist from rising or lowering too rapidly, a choke such as a washer with the correct opening shall be placed in the airline coupling. (B)

14.18.04 It is recommended that a rotary air hoist be provided with a closed loadline guide. (B)

14.19 ELECTRIC HOISTS

14.19.01 An electric hoist shall have a non-conducting control cord unless a grounding device is provided. Control cords shall have handles of distinctly different contours so that even without looking, the operator shall know which is the hoisting and which the lowering handle is. (A)

14.19.02 Each control cord shall be clearly marked “hoist” or “lower.” (A)

14.19.03 Control cords, usually made of fiber or light wire ropes, shall be inspected periodically for wear and other defects. (A)

14.19.04 On pendant-controlled electric hoists, means for effecting automatic return to the “off” position shall be provided on the control so that a constant pull on the control rope or push on the control button shall be maintained to raise or lower the load. (B)

14.19.05 A limit stop should be installed on the hoist motion, and at least two turns of rope shall remain on the drum when the load block is on the floor. (B)

14.20 HAND-OPERATED CHAIN HOISTS

14.20.01 Chain hoists shall be of larger capacity than the regular work requires. (B)

14.20.02 Supports for the hoists shall be strong enough to carry the load imposed on them. (B)

14.21 CRANES (MOBILE)

14.21.01 Open hooks shall not be used to support human loads, loads that pass over workmen or loads where there is danger of relieving the tension on the hook, due to the load or hook catching or fouling. (B)

14.21.02 Outside cranes shall be provided with secure fastenings adequate enough to hold the crane against strong winds. When necessary, provide special anchorage. (B)

14.21.03 Structural members of the crane shall never be made of cast iron or other brittle material. In the fabrication and assembly of structural work such as girders and frames, operator’s cages, booms and bracket, hot driven rivets or welding shall be used instead of bolts. Where bolts shall be used, they shall be of the “through” type with locknuts or conventional nuts and lock washers.

14.21.04 Each controller and operating lever shall be marked with the motion it controls and its direction. These levers shall have spring returns so that they will move automatically into the “off” position and latch themselves there as the operator releases the handle.

14.21.05 Operating a crane on soft or sloping ground or close to the sides of trenches or excavation is dangerous. The crane shall always be level

before it is put into operation. Outriggers can be relied upon to provide stability on the soil upon which the crane is operated.

14.21.06 The use of any makeshift methods to increase the capacity of a crane, such as timbers with blocking or adding counter-weight, is not permitted.

14.21.07 If the crane tends to tip when hoisting or lowering a load, the operator shall lower the load as quickly as possible by snubbing it lightly with the brakes. Workers, therefore, are not allowed to ride a load that is being hoisted, swung or transported. (B)

14.21.08 Never move the load or the crane unless you are sure you understand the floor signal. (B)

14.21.09 When there are several riggers, obey the signal given by the head rigger only. (Obey an emergency stop signal given by anyone.) (A)

14.21.10 When filling the fuel tank of a crane, always provide a metallic contact between the fuel container and the tank. (B)

14.21.11 Before starting the crane engine, the engine clutch shall be disengaged. Also, before engaging the clutch, all operating levers shall be placed in neutral position. The clutch shall be engaged slowly with the engine idling. (B)

14.21.12 The swing brake shall be properly set when traveling the crane. (B)

14.21.13 Before the operator leaves the crane, the engine clutch shall be disengaged and the boom hoist pawl engaged. (B)

14.21.14 Warm up engine before attempting to operate the crane under load. (A)

14.21.15 Brake and clutch linings shall be kept free of oil, grease or water. The operator shall not operate the crane in case of any indication that these linings have been contaminated with such foreign matters. (B)

14.21.16 The load shall be lowered to the ground before leaving the crane. (B)

14.21.17 Never lift a load with a weight greater than the operating capacity for a given boom angle and radius. Keep lift heights to a minimum when handling close to a maximum load. (B)

14.21.18 Start and stop the swinging of the boom smoothly when the load is near or at operating capacity. Fast swinging causes load to extend beyond the boom point, increasing the radius beyond the crane's capacity that might eventually tip the crane over. (C)

14.21.19 The crane shall be kept stationary when lifting loads close to maximum, operating capacity. (C)

14.21.20 Be sure there is adequate overhead clearance before attempting to move machine under overpass bridges, power lines, or other low overhead objects. When traveling the mobile crane along highways or streets, the boom shall rest on its rack. (C)

14.21.21 The crane shall never be positioned nor left unattended near embankments, deep excavations, banks, bridges, etc. or any place where there exists danger of materials falling on it or earth slides. (C)

14.21.22 Be sure that the carrier service brakes and outriggers are properly set. (C)

14.21.23 Crane boom in operation shall have the minimum clearance of 3.5 meters from high-tension wires. (C)

14.22 CRANES (OVERHEAD)

14.22.01 Each crane shall have its safe load capacity indicated on both sides in conspicuous figures readable from the floor or ground. If a crane has hoist blocks, each block shall have its safe load capacity indicated on both sides. The crane shall not be loaded beyond its rated capacity, except, for testing. (B)

14.22.02 Workmen near cranes or those who assist in hooking on or arranging loads shall be instructed to keep out from under loads. (B)

14.22.03 All crane machinery, apparatus, and appliances including ropes, chains and slings shall be inspected regularly by a qualified person assigned to this task and the date, findings and action taken must be recorded on a special report form. (A)

14.22.03 A crane operator shall never attempt to make repairs by himself but shall report to his foreman any condition that will make the crane unsafe to operate. (A)

14.22.04 When not in use, the crane shall be parked with the load hook (and the slings if they remain on the hook) raised high enough to clear the heads of the men at work on the floor below, and the operator shall throw all controls into “off” positions and open the main switch. (B)

14.22.05 A light or a pilot lamp must be visible from the floor to indicate that the main switch is on. The controller shall be of the spring-return type or momentary contact push button. (A)

14.22.05 Precautions shall be taken to prevent other overhead cranes from colliding with a crane under repair. Safety ropes shall be installed. (A)

14.22.06 Loads being hoisted shall not be allowed to swing against the rigger or other floor men. (C)

14.22.07 When raising or lowering the load, ensure that it safely clears adjacent stockpiles or machinery. (B)

14.23 MOTOR GRADES

14.23.01 Only the operator is allowed to ride a motorized grader. (B)

14.23.02 Graders shall be operated at a safe speed under all road and traffic conditions. When obstructions such as roots, large rocks or structures are encountered, speed must be reduced to prevent the grader from being thrown out of control or damaged. (B)

14.23.03 When blading a road, the grader shall be operated on the right-hand side in the same direction as traffic. The end of the blade toward the opposite traffic must be marked by a red flag visible to motorists. (B)

14.23.04 Blading gravel roads shall be so planned that the blading on a particular section will be completed at the end of the day. Where a stockpile shall be left overnight on the traveled way, appropriate warning signs far ahead, barricades and lights shall be placed to warn motorists. (B)

14.23.05 When a motor grader is traveling, the operator shall pull in the blade and locked in place. (B)

14.23.06 No one shall get on or off a motor grader unless it is stopped. (C)

14.24 TRACTORS

14.24.01 Because of the power, the noise, the necessity of frequent backing and turning movements and the speed of operation, the operator of this type of equipment shall be constantly alert to see that his path is clear of workmen, obstructions and other vehicles. (A)

14.24.02 When the machine is left unattended during break time, or overnight, it shall be parked on level ground with the blade landed, ignition locked and brakes set. (B)

14.24.03 Bulldozer blades shall be kept close to the ground in going up steep slopes. It shall not be used to brake the tractor by digging into the ground when the tractor is going down steep grades. (B)

14.24.04 When attachments are hooked to the dozer, a bar shall be used to steer the eye over the hook to avoid pinching the hands. Safety chains shall be attached in addition to the drawbar. (A)

14.24.05 When tractors are used in clearing operations, a canopy shall be installed to protect the operator if there is a hazard from falling tree limbs or branches. (C)

14.24.06 Operators shall not wear loose or flowing clothing that might get entangled with machine moving parts. Shoes with hobnails or spike shall not be worn as they enhance the danger of slips and falls. (B)

14.24.07 When the tractor is stopped with the engine idling, the transmission shall be in neutral with the clutch disc engaged so the tractor cannot be jarred into motion. Before the engine is started, the tractor shall be out of gear, the master clutch disengaged and the blade down. (A)

14.25 CONCRETE MIXERS, PUMPS AND PAVERS

14.25.01 Operators and other men working around mixers and pavers shall wear dust respirators. Goggles shall be worn when chipping hardened concrete from the machine. (A)

14.25.02 Only men in good physical condition shall be employed to operate mechanical concrete vibrators. Lowering of vibrators from one level to another by use of air hose or electric cable is not allowed. (A)

14.25.03 Skips on large mixers and pavers shall be protected by guardrails on both sides to prevent men from walking into or under the skip. (B)

14.25.04 When a truck is backing in to charge a skip, a signalman shall be posted to direct the driver to see that the way is clear and to signal the operator when to raise the skip. (B)

14.25.05 Shell-mounted mixers shall be blocked especially when being operated on a grade. (B)

14.25.06 Operators shall always be at the control when the skip is being raised or lowered. No one shall ride the skip. (B)

14.25.07 When the operator leaves the machine, either temporarily or overnight, brakes shall be set and the skip shall be on the ground. (C)

14.25.07 The clutch shall be disengaged before the engine is started. The engine shall be fully warmed up before the clutch is engaged. The mixers shall be checked to see that they are stable and on the level footing. (A)

14.25.08 If the pump-concrete method of placing concrete is used, careful consideration shall be given to the design of the scaffold supporting the pipelines. A safety factor of four (4) shall be used in the scaffold design. (A)

14.25.09 If and when it is necessary to open a pipe under pressure to clear an obstruction, the work shall be carefully done with precaution so those workmen shall not be injured by concrete when the pipe become clogged. The towers and chutes shall be substantially constructed on sound foundations. (B)

14.25.10 Concrete buckets used with cableways or cranes shall be constructed without frames or other projections that may collect concrete which might be dislodged and fall on workmen. (A)

14.25.11 No person shall ride a bucket for any reason. When it is necessary to drift a bucket to a place not accessible by the cableway or crane, the drifting shall be done by some mechanical means and not by men pushing or pulling the bucket. (B)

14.26 CONVEYORS

14.26.01 Only authorized persons shall operate material conveyors. No person shall be allowed to ride on the conveyor. (B)

14.26.02 Material conveyor operators shall wear working gloves to protect their hands. (B)

14.26.03 Material elevators shall be provided with cages and properly guarded, and shall not be operated without a signalman. (B)

14.26.04 The material elevator shall be regularly inspected and properly maintained. (A)

14.26.05 The material elevator shall not be loaded beyond its rated capacity and no part of the load carried therein allowed extending its cage. (B)

14.27 FORKLIFT

14.27.01 The operator shall exercise extreme caution when approaching areas where his view is obstructed or where pedestrians or other vehicles may have difficulty in noticing the approaching forklift. (A)

14.27.02 Inspect all loads to be moved to determine proper load position, to maintain stability and to avoid overloading. When moving loads, keep fork or load as close as possible to the ground floor. (B)

14.27.03 The load shall be kept below eye level. Where this is impracticable, drive the forklift backward so that the operator can see any obstructions along its way. (B)

14.27.04 Do not drive with wet or greasy hands. (A)

14.27.05 Slow down on wet and slippery riding surfaces. (B)

14.27.06 Never drive high-lift trucks with an elevated platform. (B)

14.27.07 Workmen shall not be permitted to ride or work on the platform of high-lift trucks. Where possible, materials shall be unloaded mechanically from a raised platform. (B)

14.28 LIFTING WITH JACKS

Good judgment is required both in selecting and using jacks on any given job.

14.28.01 Make sure that the base of the jack is on stable footing. Use boards or blocks placed at right angle to the lift. (A)

14.28.02 Center the jack properly for the lift; if there is danger of the head slipping, use board or the wedge on top of the jack to keep it in position. (A)

14.28.03 Place the jack so there will be an unobstructed swing of the handle, thus protecting your knuckles. (A)

14.28.04 Do not lean over a jack handle or handle socket under the load; the handle might fly up and strike you. (B)

14.28.05 Never rely on jacks alone to support any load you have to work under. Use sufficient blocks as an additional support of the load at two or more points. (B)

14.28.06 Never leave a jack standing under the load with the handle in the socket; something might strike the handle and knock the jack out of position. (B)

14.29 POWER MOWER EQUIPMENT

14.29.01 When operating power mower equipment, the operator shall use extra caution to prevent flying objects from striking himself and other persons in

the vicinity. Pick up loose objects when this is practical and clear the area of other people when possible. (A)

14.29.02 Keep handle and feet from under the machine and away of discharge chute while engine is running. (A)

14.29.03 When mowing a terrace, slope or incline, mow lengthwise (across the face of the slope) instead of up and down. (A)

14.29.04 Stop engine (or motor) and disconnect spark plug wire(s) on power mowers before adjusting, repairing, or replacing cutting blade(s). If the equipment being used is of the rotary type, the blade mounting bolt or nut shall be always inspected to prevent its loosening and removal of the blade. (A)

14.29.05 Mower engines shall be allowed to cool off before the unit is refueled. (A)

14.30 MACHINE GUARDING

Guarding is necessary to prevent injuries on or around machines. Specifically, machine guarding prevents injury from the following sources:

14.30.01 Direct contact with the moving parts of the machine.

14.30.02 Work in process (kickbacks on a circular ripsaw, metal chips from a machine tool, splashing of not metal or chemicals, etc.).

14.30.03 Mechanical failure.

14.30.04 Electrical failure.

14.30.05 Human failure resulting from such things as curiosity, zeal, distraction, fatigue, worry, anger, illness and deliberate chance-taking.

14.31 Mechanical guards, which must be made use of by the workmen at all times, shall be provided for the following:

14.30.01 Rotating mechanism.

14.30.02 Cutting or shearing mechanism.

14.30.03 Screw or worm mechanism.

14.30.04 Compressing and tensioning mechanism.

14.32 Interlocking devices may be mechanical, electrical pneumatic or a combination of these types. The operator of the machine shall ensure that the interlocking device:

14.32.01 Acts to guard the dangerous part before the machine is operated. (B)

14.32.02 Keeps the guard closed until the dangerous part is at rest, or stops the machine when the guard is opened. (B)

14.32.03 Prevents the operation of the machine if the interlocking mechanism is not in place. (B)

14.32.03 The machine shall never be operated when the interlocking device is not working. (B)

14.33 Machine guards shall not be adjusted or removed for any reason by anyone unless. (B)

14.33.01 The supervisor gives specific permission.

14.33.02 The person concerned is specifically trained.

14.33.03 Machine adjustment is considered a normal part of his job. (B)

14.34 Machines shall not be started unless the guards are in place and in good condition. Defective or missing guards shall be reported to the foreman immediately. (B)

14.35 Where oiling shall be done while a machine is in operation, extension fittings shall be used to place the operator out of danger. (B)

14.36 Whenever safeguards or devices are removed for repair, adjustment, or servicing of equipment (lubrication and maintenance), the power for the equipment shall be turned off and the main switch locked and tagged. (B)

14.37 SCAFFOLDS AND LADDERS

Scaffolds and ladders shall be inspected as required. Loose or missing parts, cracks, splinters, or knots in uprights, braces, steps or rungs shall be noted and repaired. (A)

14.38 Scaffolding shall be constructed of sound materials, securely fastened and supported. Wooden materials called for in the plans for scaffolds shall be free of knots and other imperfections of not less than five (5) centimeters in thickness, painted red on both ends for identification and shall not be used for any other purpose. (B)

14.39 Never use a substandard scaffold. (B)

14.40 Only experienced employees shall erect or construct and dismantle scaffolds. Scaffolds shall be dismantled and returned to stock when not in use. Nails shall not be left in dismantled scaffolds. (B)

14.41 Scaffolds and ladders built by others shall be carefully inspected before use. (B)

14.42 Scaffolds shall not be overloaded beyond their working capacity. (B)

14.43 Timber supports or braces of scaffolds erected and in use shall not be removed unless permitted by the supervisor. (B)

14.44 Scaffolds shall be provided with protective roofing made of light lumber, heavy canvass or heavy wire screen, when other men are working overhead. (B)

14.45 Do not allow men to jump on or to, or hang tools on any part of, nor heavy materials to be dropped on, or anything to be thrown from, the scaffold. (B)

14.46 Workmen shall not work on a scaffold installed outdoors during a storm or high wind. (A)

14.47 A safe means of access to the scaffold, either by stairs or permanent ladder, shall be provided. If a ladder is used, it shall be in good condition and its upper end securely fastened to prevent tipping or slipping. (A)

14.48 Scaffold shall be protected from being struck by trucks or wagons or from materials being dumped. (B)

14.49 When hoisting a load, do not let it swing against or catch on scaffolds. (B)

14.50 Good housekeeping shall be observed on scaffolds at all times. (A)

14.51 BUILT-IN SCAFFOLDS

14.51.01 Uprights of built-in scaffolds shall rest on a solid foundation to prevent settling and shall be plumbed and securely fixed at the bottom to prevent shifting. (A)

14.51.02 Toe boards of a least 50 mm in height shall be installed at the outer edges of the platform to prevent tools and other materials from falling off. In spite of this protection, however, precautions shall be taken especially during the process of raising the platform to a new elevation, to prevent objects from falling on the men below. (B)

14.52 OUTRIGGERS SCAFFOLDS

14.52.01 Outrigger scaffolds shall not be used if another type of scaffolds can be utilized. When used, they shall be limited only to cornices and light work and shall be carefully inspected before such use by the superintendent or his duly authorized representative. (B)

14.52.02 When used at heights of over three stories, outrigger scaffolds shall be at least one meter wide. (C)

14.53 PIPE SCAFFOLD

14.53.01 Pipe members shall be of GI pipe, painted and kept free of scales. Use only appropriate joints such as bolts, clamps, welded joints and quick openings. (B)

14.53.02 Pipes of not less than 80 mm. diameters shall be used where the scaffold has a span of not more than 3.6 meters and with a width not exceeding 1.8 meter. For a longer span, the size of the pipe shall be determined by design. Hangers shall be provided for the pipe beam at least every 2.5 meters interval.

14.53.03 Supporting ropes shall be securely fastened to prevent slip-off in the ends of the pipes. (B)

14.54 STRUCTURAL STEEL SCAFFOLDS

14.54.01 Flooring, made of solid 75 mm. thick planks, shall cover the entire floor area of the building under construction at most within two stories below the riveter and four stories below the erectors. (B)

14.54.02 Permanent gratings, where required, and forms for concrete flooring, shall be installed without delay. (C)

14.55 SUSPENDED SCAFFOLDS

14.55.01 Outriggers of suspended scaffolds shall be well secured to the frame or structure with clamps or “U” bolts of good condition. (B)

14.55.02 Shackles or beam clamps holding the cable shall be well fastened to the outrigger and a stop shall be placed on the outside end of the outrigger. (B)

14.55.03 Only experienced men shall be assigned to operate the winches controlling the scaffold; they shall also see to it that the scaffold platform is kept well. (C)

14.55.04 Guardrails, toe boards, overhead roofs and other protections shall be inspected daily to ensure good condition before use. (A)

14.56 SWINGING SCAFFOLDS

19.56.01 Blocks, anchors and outriggers of swinging scaffolds shall be securely fastened. (B)

19.56.02 Before going on or off a swinging scaffold, the workmen shall lower it to the ground or securely leashed to the building or structure. (B)

19.56.03 A platform used on swinging scaffolds shall be provided with ample guards and where necessary, with safety lines. (B)

19.56.03 Ropes used for swinging scaffolds shall be protected from acid and other substances, which might affect their strength and usability. When scaffolds are taken down, the ropes shall be properly rolled and tagged to indicate that they are for swinging scaffold use only. (B)

14.57 LADDERS

14.57.01 Ladders shall be built of strong materials and fillers shall be nailed between rungs. (A)

14.57.02 If ladders are used for two-way traffic, provide one for ascending and another one for descending. (A)

14.57.03 The upper ends of the side rails of ladders shall project no more than 1.2 meter above the point where it is resting and with lower ends set on stable footing. (B)

14.57.04 When using a ladder mounted or placed on a vehicle, the brake of the vehicle should be engaged and the vehicle properly chucked. (B)

14.57.05 In placing a ladder, the distance from the foot of the ladder to the building against which it is leaning, shall be approximately one-fourth the length of the ladder eg. the foot of a 12-foot ladder shall be placed about three feet away from the building. (B)

14.57.06 Wooden ladders with across-grained members or weak rungs shall not be used. (A)

14.57.07 Whenever possible, grip side rails while using ladder. If it is not practical to grip side rails, then grip rungs securely with both hands while descending or ascending. (B)

14.57.08 Do not work on a high ladder during a strong wind. (B)

14.57.09 When using a folding ladder, make sure it is fully spread before climbing. (B)

14.57.10 Always carry a ladder with the anti-slip device (rubber) towards the rear and the front, with the ladder position pointing upward. Be extra careful when approaching doorways and corners. When two men are carrying a long ladder, each man shall be close to his end of the ladder. (A)

14.57.11 Never place a ladder in front of a door without first locking the door or placing a man on guard. (A)

14.57.12 Keep both hands free when climbing or descending. (B)

14.57.13 Do not carry tools in your hands when climbing or descending. (B)

14.57.14 Always face a ladder when climbing or descending. (B)

14.57.15 Keep eyes on rungs while climbing. Be mindful of broken rungs. (B)

14.57.16 If shoes are slippery, clean them before climbing. (A)

14.57.17 Use ladders with an anti-slip device to prevent slipping. On extra slippery surfaces, or insecure contact at top or bottom of the ladder, tie the ladder at the base or have a man hold it. (A)

14.57.18 Do not permit more than one person on a ladder at one time. (B)

14.57.19 Never lean too far to one side of the ladder. (B)

14.57.20 Do not paint ladders as paint may conceal defects. Use linseed oil, clear varnish or white shellac instead. (A)

14.57.21 Defective ladders shall be repaired or otherwise destroyed. (A)

14.57.22 Untreated portable ladders shall not be left exposed to elements when in use, but shall be kept in a sheltered place to avoid warps and cracks. (A)

14.57.23 Ladders stored horizontally shall be supported at both ends and in between to prevent sagging in the middle section, which tends to loosen rungs or cleats and warp the rails. (A)

CHAPTER III

SAFETY IN THE OFFICE

SECTION 15
OFFICE BEHAVIOUR

15.01 Running and horseplaying in work area are prohibited. (A)

15.02 Doors should not be pushed abruptly when opening or slammed when closing. Do not stay within the path of the door swing. (A)

15.03 When carrying a stack of materials, make sure you can see over and around when walking. Employees should not carry stacks of materials on stairs; they should use the elevator. When the elevator is not available, employees carrying such materials shall not have both arms loaded when using the stairs; one hand should be free to hold the handrails. (A)

15.04 Employees shall not crowd or indulge in horseplay on stairs. Falls on stairs commonly occur when the person is talking, laughing, turning to friends or not watchful while going upstairs or downstairs. (B)

15.05 Do not congregate on stairs or landings and do not stand outside doors at the head or foot of stairs. (A)

15.06 Scooting across the floor while sitting on a chair is prohibited. Avoid leaning out from the chair to pick up objects on the floors. (A)

15.07 When a floor-mounted telephone or electrical outlet box is exposed after moving furniture, mark the box with tripping hazard sign until it is removed. The outlet shall be removed and if needed relocated. An authorized person such as one from Administration-Premises should be called to fix such thing. It is far cheaper to do this than to pay for a fall. (A)

15.08 Do not read while walking. (A)

15.09 Do not place pencils in any container with point's outward. (A)

15.10 Keep in safe place any pointed or bladed instrument immediately after use. Do not hand any such instruments to someone with the sharp edge pointing towards the person. (A)

15.11 Do not leave the knife blade of the paper cutter in the upward position. Do not leave breakable objects on the edge of desks or tables where they can easily be pushed off. (A)

15.12 Office machines and equipment must be operated only by authorized persons. Nobody shall be allowed to tinker when defects occurred. Machines or equipment shall not be cleaned or serviced while they are in operation. (B)

15.13 Dart playing in all offices and work areas is prohibited at all times. Dart playing shall be allowed only in places specifically designated at the Company's recreational facilities. (B)

15.14 Employees must wear goggles or Personal Protective Equipment issued by the Company, if there is any, suited for the job to be performed to protect their eyes from the following hazards:

a. Flying objects and hot metals.

b. Injurious light and heat rays.

c. Gases, fumes or chemicals.

d. Dust and wind, as when boring a hole on a piece of brick. (B)

15.15 Corrective spectacles or eyeglasses may never be used as a substitute for safety goggles. (B)

15.16 A prescribed face shield shall be worn by the workers as required. (B)

CHAPTER IV

GENERAL CONSTRUCTION AND SAFETY GUIDELINES

SECTION 16
SAFETY GUIDES ON EXCAVATION ALONG HIGHWAYS

GENERAL CONSTRUCTION SAFETY SIGNAGES, BARRICADES AND LIGHTINGS

16.01 WARNING SIGNS

16.01.01 Maynilad standard warning signs, including danger signs, shall be installed at strategic locations before and during construction. Warning signs shall be in accordance with the Latest Approved Maynilad Standard Drawings. In cases when Maynilad Standard Drawings are not applicable to actual field conditions, the project engineer (on-site) can order specific strategic installation of warning signages. (A)

16.01.02 Failure to install any single barricade or EWD within the construction areas is a major violation. (A)

16.02 INFORMATIVE SIGNS

This shall be installed at the construction site in accordance with the Latest Approved Maynilad Standard Drawings. (A)

16.03 BOLLARDS AND BARRICADES

This shall be installed at the construction site in accordance with the Latest Approved Maynilad Standard Drawings.

16.03.01 Maynilad standard bollards shall be placed at strategic locations visible within the construction site to separate the construction area from the passable areas of the right-of-way with a maximum distance of 1 meter between each other. (A)

16.03.02 Maynilad standard bollards and board-ups shall be placed to enclose the stretch of work area. (A)

16.04 TRAFFIC CONES

This shall be installed at the construction site in accordance with the Latest Approved Maynilad Standard Drawings.

16.04.01 Maynilad standard rubber cones shall be used along major thoroughfares and national roads to properly guide motorists of lane changes and of the work being undertaken. Traffic cones shall not be used to replace bollards and board-ups. (A)

16.05 LIGHTINGS

This shall provide necessary lightings to complete the project and to comply with the safety requirements at the construction site in accordance with the Latest Approved Maynilad Standard Drawings.

16.05.01 Material storage areas and equipment parking sites shall be placed at the designated buffer area within the motorists' passable way after the arrow light. (A)

16.05.02 Early warning devices with reflectorized surfaces may also be used in replacement to the arrow light in case of electrical breakdown on site and in construction areas where arrow lights are not required. (A)

16.06 TRANSITION AND BUFFER AREA

This shall identify transitions and buffer area in accordance with the Latest Approved Maynilad Standard Drawings when it is applicable to site condition. In cases construction space is restricted; the project engineer (on-site) should identify strategic location for material storage areas, equipment parking sites and arrow lights.

Flagman/trafficman equipped with reflective vest and other appropriate safety gadgets must be provided along major thoroughfares and national roads or busy streets, so as to guide motorists of lane changes and of the construction work being undertaken. (A)

16.07 FABRICATION OF SAFETY SIGNAGES AND BARRICADES

All Maynilad contractors are obliged to secure their safety signages and barricades from Maynilad designated official fabricator.

16.08 EXCAVATION

16.08.01 Excavations shall be done in sections of not more than one hundred fifty (150) meters at a time measured longitudinally. The remaining sections shall at all times be made passable to vehicles and pedestrians. (A)

16.08.02 No excavations shall be allowed if it will completely close the right-of-way to vehicle use. Excavations shall be done portion by portion of not more than 50 percent of the road width at a time, leaving the remaining portion satisfactorily passable. Complete closure to vehicular passage may only be resorted to if there is a compelling reason. (A)

16.08.03 Before new section is excavated, the excavated portion (with completed utility installation) shall have been properly backfilled with appropriate filling materials; the sub-base leveled and graded, the surfaced covered with steel plates, the work area cleaned of loose soil or dirty stones and passable to vehicles and pedestrians prior to surface restoration. (A)

16.09 EXCAVATION CROSSINGS

16.09.01 Excavation in alleys, narrow streets, roads and passageways shall be done only in half-sections; on major thoroughfares, highways and national roads, work shall be done only during nighttime. (A)

16.09.02 Unfinished excavation crossings shall be provided with temporary steel plates with minimum thickness of ¾" or sufficient thickness depending on the expected traffic loads to allow safe passage of vehicles and pedestrians. (B)

16.10 CONSTRUCTION EQUIPMENT AND VEHICLES

16.10.01 There shall be designated central storage site for all construction equipments and vehicles. (A)

16.10.02 Temporary storage and parking sites shall be located at the most appropriate areas in such a way that they do not affect excavation work and traffic flows. (A)

16.10.03 Work requiring the use of large equipment which may obstruct or interfere with the safe and normal flow of traffic, like concrete pouring by transit mixers and transport delivery of materials, shall be done preferably during nighttime from 9:00 PM to 4:00 AM, or when traffic volume is expected to be light. (A)

16.10.04 Survey construction areas for existing overhead electric wires. Report of survey must be submitted. (B)

16.10.05 Keep booms and cables of crane from power lines by at least 3.5 meters. (B)

16.10.06 Any crane or truck using a boom or derrick near electric wire shall have its chassis grounded before the boom or derrick is raised.

16.11 ON-SITE MATERIAL STORAGE AND HANDLING

16.11.01 Construction materials shall be piled, stored or parked in strategic places designated on the worksite in such a way that passage of vehicles along the road and pedestrians on the sidewalks are not constricted or closed. (A)

16.11.02 Excess materials excavated or otherwise, shall be transported immediately by the excavators to a specified or designated dumping site. No excess materials are to be dumped into adjacent areas without the approval of authorities concerned. (B)

16.12 MAINTENANCE AND CLEANLINESS INWORK AREAS

16.12.01 The roadway or passageway shall always be maintained clean and clear of loose stones and earth materials from the excavation work which may pose hazards to the riding public and pedestrians. (A)

16.12.02 Storage location of construction materials, equipment, parking and depot shall not obstruct or block passageways unless otherwise permitted. (A)

16.12.03 No materials shall be stored that may block free passage of surface water to the storm drainage. (A)

16.12.04 Water from excavations shall be discharged to the nearest gutters and canals. Drainage pipes and canals shall be properly maintained and unclogged during construction period.

16.12.05 Construction materials, whether excavated or otherwise, shall be stored on minimal amount and shall be prevented from causing to roll, flow or wash upon the passable road pavements during on-going excavation. Upon leaving the site, the contractor shall haul all excavated materials. (A)

16.13 GOOD HOUSEKEEPING

16.13.01 Materials shall be piled and stored in an orderly manner and properly secured from falling over. Employees and or contractors shall observe the standard operating procedures on materials handling and good housekeeping applicable to the job or type of work in the construction site, since these procedures affect the image of the Company. (B)

16.13.02 Materials shall be stored in such a way as not to obstruct fire exits, fire protection systems, vehicular traffic, electrical boxes and stairways. (B)

16.13.03 All protruding nails must be removed. Cracks, splinters, ruts and breaks in the floor shall be reported and or repaired as soon as they are discovered. (A)

16.13.04 It shall be the responsibility of the Safety Specialist, Officer or any Authorized representative to ensure that the working site is kept clean and orderly. (A)

16.13.05 Oil, grease or other slippery substances on floors, rumps, pathways, shower rooms, etc., shall be wiped off or removed. (B)

16.13.06 Leftovers or cuttings on the job, such as lumber, rebar, steel, welding butts, etc., shall not be left around where they will pose as tripping and falling hazards. These shall properly dispose of or stored if still usable. (A)

16.13.07 Waste or trash drums or cans shall be placed in strategic places in the work areas. (B)

16.13.08 Aisles and passageways shall be properly lighted and kept clean and free of obstructions. (A)

16.13.09 Lockers shall be cleaned out and inspected periodically to prevent unhealthful or unsanitary accumulation. (A)

16.14 DAMAGE TO ADJOINING UTILITY LINES

Accidental damage to adjoining utility lines shall be reported immediately to the agency concerned for prompt repairs to minimize service interruption and to avoid construction time delays. Damage to utilities shall be reported immediately to the respective company while measures are being undertaken by the excavator to prevent further damage.

16.15 GAS LEAKAGE

21.15.01 Gas leakage shall be reported immediately to the gas company while measures are being undertaken by the excavator to prevent ignition.

16.15.02 Upon confirmation of any gas leakage, construction work shall be stopped until such time that the leakage has been properly repaired, sealed and tested free from harm. Construction work shall be resumed only after official notification or clearance from the concerned gas company has been received.

16.16 DAYTIME WORK STOPPAGE

16.16.01 When traffic conditions call for a night schedule only, flat steel plates with minimum thickness of 3/4 inch or sufficient thickness depending on expected traffic load shall be placed to cover the trenches or the excavated portions of the right-of-way during non-working time in order to make the areas passable to pedestrian and vehicular traffic. Steel ribs shall be welded on under the steel plates if necessary. Temporary backfill must be provided in support of the steel pipes.

16.16.02 Roadways and sideways shall be cleared of any debris and or earth materials so as to ensure safe vehicular and pedestrian use. (B)

16.16.03 Before the resumption of the excavation work, necessary signs, barricades, electric flashing lights, etc. shall be installed at strategic locations.

16.16.04 No materials, equipment and tools shall be stored, parked, or piled along the roadway during non-working time, which may pose problems or danger to the public.

16.17 EXCAVATION AND SHORING

16.17.01 All excavations 1.20 meter or more in depth, unless it is in a stable soil, rock, shale or cemented sand and gravel, shall either be sloped to the angle of repose and be supported by sheeting, sheet piling, cribbing, shoring or other support systems built in accordance with engineering standards to prevent the possibility of a cave-in. (A)

16.17.02 There is a need to conduct study on pre-excavation conditions in order to evaluate changes that might occur, or situations that might develop, and in order to plan the job ahead based on the findings. (A)

16.17.03 The contractor determine the location of underground water pipes using existing plans. When the excavation approaches the estimated level of such installation, careful probing and digging shall be observed. (A)

16.17.04 Bracing or shoring shall be inspected frequently particularly after heavy rain or typhoon and any necessary adjustments shall be made immediately. (A)

16.17.05 Men who work in ditches are in danger of being hit by objects thrown into the ditch. Tools and materials lying near it shall be moved back several feet away. (B)

16.17.06 Use closely placed plank shoring to guard against a cave-in by soil that is saturated with water, subject to vibration, in a refilled area or excavated to a depth of over 1.8 meters. (A)

16.17.07 In hard clay, rock or stable soil, use vertical planking brace at intervals against the walls to shore the trenches. (B)

16.17.08 Shoring built in accordance with standard engineering practice or procedure shall be provided on an excavation where the possibility of a cave-in exists. (B)

16.17.09 All open excavations shall be barricaded to warn the public and to prevent anyone from falling into them. When an excavation shall remain open for the duration of the construction work, barricades, fences and warning signs are necessary. If it will be opened for 24 hours, a steel plate must be placed. In cases where watchmen and flagmen are needed, flares, lanterns or flashing lights at night, shall always guard the construction or working areas. (A)

16.17.10 Unless the men working underground are protected by roof, materials or tools shall not be passed over their heads.(B)

16.18 MACHINE EXCAVATION

16.18.01 No digging machines shall be allowed to excavate close to underground water facilities. There shall be established proximity limits for machine operation and such excavation can only be done by hand digging. (A)

16.18.02 When excavation is being done, workmen shall be warned of underground waterline facilities, for a careful use of driving picks, pavement breakers or other powered tools. (A)

16.18.03 Materials excavated by machine shall be thrown at least 60 cms. from the edge of the excavation. (A)

16.18.04 Men working using pick and shovel in excavation shall work 3 meters apart enough to prevent injury to one another. (A)

16.18.05 Excavated materials shall be placed at least 35 cms. from the wall of the excavation unless boards are installed to prevent fallback. (A)

16.19 TRENCH EXCAVATION

16.19.01 A trench of 1.2 meters deep or more shall be provided with portable ladders to facilitate safe entrance and exit. Ladders shall be non-conductive and sturdy. The ladders extend from the bottom of the trench

to at least 0.90 meter above the surface of the ground. The horizontal distance in between ladders shall be eight (8) meters. (A)

16.19.02 In hand-excavated trenches, the end of braces to stringers shall be secured to prevent the braces from being knocked out of place. (A)

16.19.03 Workers shall wear hard hats and safety boots when they are inside a trench. (A)

16.19.04 Workers shall wear eye and foot protection when they are using a jackhammer or when they are exposed to flying particles or falling debris. (A)

16.19.05 Employees shall not go under an overhanging bank when working near one. (A)

16.20 TEMPORARY WALKWAYS

16.20.01 Temporary walkways at least two planks wide, shall be created to construction areas, if necessary, to prevent any hazard or accident to passing public. (A)

16.20.02 The span between bearing points of two (2) planks, 5 cms. thick and 20 cms. wide, shall be over 2.5 meters and the planks shall be tested before being placed in use. (A)

16.20.03 Aisles and walkways shall be kept clear of obstructions. (A)

16.21 MATERIALS HANDLING AND STORING

16.21.01 Gas cylinders shall be transported in a special handcart. A cylinder cage shall be used when hoisting or lowering oxy-acetylene or any other compressed gas cylinders. (A)

16.21.02 When using compressed gas, see to it that the cylinder tank is in upright position, properly secured and well protected from any falling objects and slag. (A)

16.21.03 Cylinders shall not be allowed to come in contact with energized conductors or ground wires of electrical equipment. (A)

16.21.04 Special wrenches of non-sparkling materials shall be used to remove cylinder bungs. Steel chisels and hammers shall never be used to remove bungs. (A)

16.21.05 Employees shall never tamper the safety relief devices of cylinders nor shall they force connections that do not fit. (A)

16.21.06 Oil or grease shall not be used for lubricating valve gauge connections or other parts of the oxygen system. (A)

16.21.07 All oxygen and acetylene cylinder shall be properly and tightly capped when the cylinders are empty. (A)

16.21.08 Workmen with greasy hands shall never change the pressure regulators. (A)

16.21.09 A leaking cylinder shall never be used. (A)

16.21.10 A flame shall not be used to detect flammable gas leaks. Use soapsuds. (A)

16.21.11 The recessed top of cylinder shall not be used to place any tools. (A)

16.21 MANUAL HANDLING

16.22.01 The safe limits for frequent lifting is fifty (50) pounds for the average male worker and twenty-five (25) pounds for the average female worker with the object in compact form. If the worker is in doubt as to the weight of an object, test lift will indicate whether or not it is within the workman's lifting power. (A)

16.22.02 When lifting heavy objects, make sure that your footing is secure. Assume a squatting position with your back erect and raise the object by straightening the legs. This method brings leg muscles into use and lessens back strain. (A)

16.22.03 Grip the object to be lifted firmly. It is important before lifting to have the hands as well as the object free of oil, grease or other slippery substances. (A)

16.22.04 When a worker has to handle or carry long materials, such as pipes, lumber or ladders, he or she shall keep the prong end high and the rear end low especially at corners or other places where vision is obstructed. (A)

16.22.05 When a worker is to lift a heavy or bulky object and carry it to another point, he shall first inspect the route to be taken, making sure that there is no obstruction or spilled substance on the floor that might cause him or her to trip or slip. Make sure clearance is sufficient. If there are obstructions, look for a safe route. (A)

16.22.06 When moving heavy objects, including tanks, pipes or steel drums in an inclined direction, ropes or other tackles shall be used to control their motion. In no case shall anyone be permitted to stay on the downhill side.

16.22.07 Before an object is taken from a pile of stock, see to it that the object is not supporting another object that might fall when the support is removed.

16.22.08 Wear prescribed leather working gloves when lifting or handling materials with rough surfaces, sharp edges and those with sliver.

16.22.09 Wear chemical gloves or their equivalent when handling corrosive chemicals such as acids, alkaline, etc. Have plenty of clean water close at hand.

16.22.10 Wear prescribed asbestos hand gloves when handling hot objects or materials.

16.22.11 When storing and handling pressurized gases such as oxygen acetylene, hydrogen, etc., the cylinder tank shall be properly and tightly capped, placed in an upright position and stored away from heat and firmly fastened to prevent it from falling or tripping over. (B)

16.22.12 When handling pipes with the use of winch or cable, be sure that the pipes are securely tied and balanced to avoid slippage. Taglines shall be used when maneuvering or positioning the pipes. When it becomes necessary to use the hands directly to maneuver the pipes, extra care shall be taken to prevent them from being pinched. Also, when setting materials down, keep fingers away from points. (B)

16.23 MECHANICAL HANDLING

16.23.01 For lifting heavy loads, wire rope slings are preferable than chains. Either chain or wire rope, its tensile capacity shall not be exceeded by the weights of the loads to be lifted. At points where rope slings passes around sharp corners of steel, padding shall be provided. (A)

16.23.02 A steel member shall not be hoisted to its structural position until it is ready to be fasten in place. (B)

16.23.03 Suspended loads shall be controlled by a tagline. (B)

16.23.04 Each piece of steel shall be securely bolted before the hoist line is removed. (C)

16.24 CABLE

16.24.01 Inspect all cables regularly and replace those that are worn out, frayed or with broken strands. Kinking and twisting of the cable shall be carefully avoided. (B)

16.24.02 A separate wire rope shall be used to secure coiled cables. (A)

16.24.03 Cables shall be lubricated only with the prescribed lubricants. (A)

16.24.04 All cables strung less than 3 meters from the floor shall be properly guarded. (A)

16.24.05 In attaching cable clamps, it is important to have the "U" bolt over the short end of the cable. (B)

16.24.06 In determining the number and sizes of "U" bolts to be used, refer to standard instructions. (A)

16.24.07 Cables and slings shall not be stored in an open area. (A)

16.24.08 Wire rope removed from service due to defects shall be cut up or plainly marked as being unfit for use. (A)

16.25 CHAINS

16.25.01 Chains shall be carefully and regularly inspected for cracks or flaws. Chains break is without warning. Only competent shop shall do heat-treatment and repair of chain link. (B)

16.25.02 Check for elongation and shearing out of chain links. If a chain has been stretched three percent or more or found with defects, it shall never be used. (B)

16.25.03 Engine drive chains shall have a steel guard extending from headboard following contour of line-shaft sprocket to derrick floor behind drum. The guard shall be fitted to allow not more than 10 centimeters. Clearance between sprocket and guard. (B)

16.25.04 Chains shall not be subject to sudden shock while in use. Loads shall not be lifted with a kinked or knotted chain. (C)

16.26 HOOKS

16.26.01 Hooks shall be inspected regularly. Those found straightened or deformed shall never be used. (B)

16.26.02 The hook's working capacity shall not be exceeded. (B)

16.26.03 In the absence of the spring action claw lock, hook opening shall be properly tied to prevent cable slings from slipping or jumping out of the hook. (B)

16.27 PULLEYS

16.27.01 Sheaves of the largest practical diameter shall be used for all cable installations, regularly inspected, particularly its pins and kept well maintained. Worn-out sheaves shall not be used. (A)

16.27.02 Maintain proper alignment of sheaves and drums to avoid wear and tear of its sides as well as of the cable. (A)

16.27.03 Blocks or pulleys intended for hemp ropes shall not be used for cables. (B)

16.27.04 Blocks or pulleys shall be well anchored. When located near the floor or in other exposed places, they shall be properly guarded. (A)

16.28 ROPES

16.28.01 Rope shall not be used beyond their working capacity. (B)

16.28.02 Wet ropes shall be properly dried before use. (A)

16.28.03 Ropes shall not be dragged over sharp-edged objects, rough surfaces, or over other ropes lying on the ground. (A)

16.28.04 Ropes shall be regularly inspected for kinks, and weak portions, such as worn-out fibers, cuts, burns, etc. Defective ropes shall be turned over for replacement. (A)

16.28.05 When load does not ride "ride" properly when being raised with a rope, lower the load and readjust the sling. (A)

16.28.06 No person shall ride on the load or hook while it is being moved. (C)

16.28.07 Loads being raised using ropes shall never be swung over the heads of people. (C)

16.29 TEAM LIFTING AND CARRYING

16.29.01 When two (2) or more men shall carry a single object, they shall adjust the load in such a way that each person has an equal share of the weight. Test lifts shall be made before proceeding. (A)

16.29.02 When two men carry long sections of pipes or lumber, they shall carry this on the same shoulder and walk in step. Shoulder pads will prevent cutting of the shoulders and help reduce fatigue. (A)

16.29.03 When a group of men carries a heavy object like a beam or pipe, the foreman shall direct the work and special tools such as tongs shall be used. (B)

16.30 STORAGE

16.30.01 Both temporary and permanent storage areas shall be clean and orderly. (A)

16.30.02 When planning materials storage, make sure that materials do not obstruct fire alarm boxes, fire extinguishers, first aid equipment, light and electric switches and fuse boxes. All exit and aisles shall be kept clear at all times. (B)

16.30.03 There shall be at least a half-meter clearance below sprinkler heads to reduce interference with water distribution. This clearance shall be increased if the material being stored is highly flammable. (A)

16.30.04 Highly toxic substances, such as cyanides and soluble exalates, shall be kept in containers of distinctive shapes if they shall be handled manually. (A)

16.30.05 Storage of flammable liquids in containers shall not be permitted. Approved containers for flammable liquids shall be properly and tightly closed after each use and when empty. Warning levels shall be removed from flammable liquid containers when empty. (B)

16.30.06 Stocks of gaseous materials shall always be stored in bottle racks. (B)

16.30.07 Smoking is strictly prohibited inside or within the vicinity of the storeroom containing flammable liquids or gases. (C)

16.30.08 Barrels and kegs shall be piled one atop the other. A plank shall be laid on top of each row of kegs or barrels before others are placed above them. (A)

16.30.09 Safe floor load capacity and maximum heights to which specific materials may be piled shall be posted conspicuously. (A)

16.30.10 Aisles and unloading areas shall be clearly marked in accordance with the National Standard Safety Color Code. (A)

16.30.11 Aisles leading to fire-extinguishing equipment and electrical panel boards shall be kept clear. (B)

16.31 CLEANING STORAGE TANKS

16.31.01 A tank shall be gas-free before any work can be performed inside it. (B)

16.31.02 A worker shall not be allowed to enter a gas or oxygen deficient tank unless absolutely necessary with the appropriate respiratory protective attire. Another worker shall be assigned outside the tank for possible assistance to the worker inside the tank. B)

16.31.03 To have an accurate estimate of the amount of flammable or toxic vapor present in the tank, a gas detector shall always be used. (B)

16.31.04 Workers shall always have a clear path of escape from a tank. A ladder shall always be used when a tank shall be entered from above and it shall be left secured in place until the last worker is out of the tank. Under severe conditions, a lifeline is recommended to assist in rescue work. (B)

16.31.05 Burning, welding, cutting and spark-producing operations shall not be permitted in a tank until the area has been thoroughly cleaned and its atmosphere has been determined free from flammable or toxic vapors. Where any vapor is still present, further ventilation will be required to remove the vapor from the tank. (C)

16.31.06 Gas tests shall be made frequently if the presence of gas is suspected. (C)

16.32 STORAGE OF CYLINDERS

16.32.01 Cylinders shall not be placed or stored in a place where sparks from welding or cutting operations could reach them. (B)

16.32.02 Cylinders containing acetylene or oxygen shall not be stored in a common storeroom. They shall be stored separately in a well-ventilated fireproof area. (B)

16.32.03 Compressed gas cylinders shall be stored vertically with the shipping or protection caps on. All cylinders shall be chained or otherwise fastened firmly against a wall, post or other solid objects. (B)

16.32.04 Extremely corrosive gases like chlorine shall be stored in small quantities only, unless it is used or consumed in a relatively short time. (B)

16.32.05 Empty cylinders shall be stored apart from full or loaded cylinders. (B)

16.33 PIPE WORK

16.33.01 When opening a pipe joint, either to disconnect a section or to insert a "blind," loosen the bolt and crack joint slightly first to make sure there is no pressure on the line. Be careful to keep yourself clear on escaping gas or liquid. (B)

16.33.02 If there is a possibility that liquid or acid might escape due to pressure when the flange is opened, a chisel (or an appropriate tool to open) shall be used first. Drive the chisel in small sheet of lead or rubber to avoid any emission. (B)

16.33.03 Consult the supervisor on the right material to be used for gaskets or packing for various temperatures, chemicals and pressures. (A)

16.33.04 Do not stand on pipelines. If there is a need for a worker to work overhead where the footing is insecure, a scaffold or ladder shall be provided. Use safety belts and lifelines if necessary. (B)

16.33.05 To avoid getting your fingers mashed or your hand cut by frayed thread projections, avoid handling pipes or other materials inside it. (B)

16.33.06 When several workers to carry pipes or other materials, lifting and lowering shall be done at a given signal; feet shall be away from dop points to avoid injuries. (B)

16.33.07 When unloading pipes from trucks, lower individual pipes by snubs all the way down the skids. Do not stand between the skids while the pipes are being lowered. (B)

16.33.08 Tanks, towers or vessels shall not be entered unless there is an instruction from the supervisor. (B)

16.33.09 Push pipe tools away from your face or head. If it is necessary to pull on the tools, pull it gradually so that your face will not be struck if the wrench slips. (A)

16.33.10 Use a wire brush or rage to remove cut off pipes. Do not wipe them with your bare hands or jar loose with a hammer. (A)

16.33.11 Pipelines shall not be left suspended in the air as there is danger of dropping to someone that might pass below them. All unfinished installations of lines shall be properly braced and capped. (C)

16.33.12 If lines are laid down close to the ground, ramp shall be built over the pipes to serve as a makeshift runway. (B)

16.33.13 When aligning a pipe in the trench with either manual or mechanical power, keep hands and fingers away from the ends of the pipe and other substructures that may cause injury by crushing. (B)

16.33.14 Rubber gloves, goggles and suitable clothing shall be worn while working near toxic chemicals. Have plenty of clean water nearby. (B)

16.33.15 If tongs are temporarily left on a pipe, one worker shall hold them so they will not fall. Falling tongs have caused many foot injuries. (A)

16.33.16 Place pipe supports firmly under the line so a heavy weight cannot be easily thrown to one of several workmen as this may cause sprained backs or mashed feet if the pipe falls. (B)

16.33.16 Bolt holes in flanges shall be lined up with a drift pin. Keep fingers off flange holes as they might be cut off. When connected line pipe is being lined with a drift pin with the use of pry holes, the pipe shall be pushed and not lifted to avoid sprained back.

16.33.17 If tongs are used as back-ups while fittings are being set or while coupling is being pulled, operators and other workers shall stay away from the area. (A)

16.33.18 Be alert to unsafe conditions of trench sides when measuring, testing or inspecting pipes in place on a trench bottom. (B)

16.33.18 When cutting sections of a pipe, keep your feet off the danger zone, and use adequate blockings, chocks or pipe vises to prevent pipe movement during the process. (B)

16.33.18 Do not weld on a line with oil by the use of the oxyacetylene method. (D)

16.33.18 Never make electric welds on gravity lines. The lines might contain air and gas with explosive properties. (D)

16.33.19 Air should never be used in clearing or testing pipelines that contain oil or gas, unless the contents have been completely displaced with water. Before water is introduced, nevertheless, a swapper or rubber plug shall

be placed between the water and the gas or oil which is being displaced. (D)

16.33.20 When a line is being constructed, reconditioned or repaired and is left open to the atmosphere, one end shall remain open when oil or gas is injected into the line so that the air inside the pipe may be blown out to prevent excessive pressure of the combustible mixture. (B)

16.33.21 Keep tools and appliances in good condition for the handling, cutting, threading or treatment of pipes. Always use appropriate tool for the right job. (B)

16.34 PIPE STORING

16.34.01 Small pipes shall be stored in racks according to lengths and sizes. (A)

16.34.02 Pipes shall always be blocked to prevent it from rolling or falling. (B)

16.34.03 Threaded pipes shall be handled with care for threads are sharp and can cause injury.

16.34.04 Pipes larger than 5 cm. in diameter, shall be stocked in storage with spacing strips placed between each row. (B)

16.34.05 Each row of stock pipes shall be arranged by block to prevent rolling from the pile. (A)

16.34.06 Pipes shall never be withdrawn from a lower row. (B)

16.34.07 Pipe yards and walkways shall be maintained in a clean and orderly manner at all times. (A)

16.34.08 In pipe storage areas or where a crane handles allied pipe materials, worker shall be conversant with the signals used by the operator and shall stay clear of the loads path. Standard signals shall be used only. (A)

16.35 PAINTING

16.35.01 No smoking shall be permitted in the immediate area where painting is being done. (B)

16.35.02 When painting indoors or in closed areas, proper and sufficient ventilation shall be taken. (A)

16.35.03 Paint-soaked rags shall not be left in lockers. They shall be spread out in proper place to dry or be placed in a metal container. (A)

16.35.04 Workers shall wash paint off their hands before handling food to avoid poisoning. They shall never eat in workrooms or other places where food may be exposed to lead dust fumes or toxic chemicals. (A)

16.35.05 Paint in which turpentine has been used as thinner shall not be applied on hot surfaces as this might cause vapor to ignite or worker might be suffocated by the fumes emitted. (B)

16.35.06 Provide grounding devices for paint guns when painting an area where flammable gas is present. (B)

16.35.07 Spray hoses shall be securely fastened to a scaffold so it cannot come loose and drag the worker off. (B)

16.35.08 Never used suds or caustic solutions in spray-painting equipment. (A)

16.35.09 Reenergize switchboards, transformers and electric equipment before painting them. (C)

16.35.10 Spray painting shall not be done around lights that are not vapor-proof unless current is turn off. (B)

16.35.11 Never exceeds the pressure on spray-painting equipment as prescribed by its manufacturer. (A)

16.35.12 When using pressurized containers, ensure that release valves are functioning and equipped with pressure gauges. (B)

16.35.13 Workers shall wear the prescribed air respirators or gas masks, as their work requires. (A)

16.35.14 Workers shall cleanse their skin thoroughly of any coating materials. Do not use thinner to remove paint from hands or skin. Use only the recommended creams and cleansers. (A)

16.36 WOOD AND GLASS WORK

16.36.01 Only experienced and authorized workmen shall operate woodworking machines and who shall have the responsibility for proper maintenance and of reporting any defect or damage.

16.36.02 The supervisor or foreman in charge of the unit shall conduct periodic inspection of woodworking machines, tools and other equipment and to ensure that such tools, machines and equipment are in good working condition. (A)

16.36.03 Good housekeeping shall be practiced in and around the working area. (A)

16.36.04 Smoking is strictly prohibited inside the woodworking shop. (B)

16.36.05 Under no circumstances shall machine guards, gauges or guides be adjusted while the machine is running. (B)

16.36.06 Never leave a woodworking machine with its power on. (B)

16.36.07 All portable electrically driven tools shall be provided with grounding devices before use. (B)

16.36.08 Workmen shall wear prescribed and issued (if there is any) personal protective equipment while at work. (B)

16.36.09 Never reach anything over an operating power saw. (B)

16.36.10 When operating a power saw, do not stand in line with it. Stand on one side to avoid being hit by a possible kickback. (A)

16.36.11 When sawing board with a handsaw, hold board with your hand on the long end. Your body shall be perpendicular to the motion of the saw. Do not crowd or twist saw. (A)

16.36.12 Discontinue using a warped or dented saw. Do not use a saw having its teeth filed to a backward pitch. (A)

16.36.13 Do not allow sawdust to accumulate on the floor. (A)

16.36.14 Shut off power saw when not in use. (B)

16.36.15 Avoid using saw facing the direction of the wind or with head below the level of the board. Sawdust will get into your eyes. (A)

16.36.16 Drill a hole with an awl, auger, drill, boring bit or drive a nail when starting a screw. On rough work, it is advisable to drive a screw halfway with a hammer. (A)

16.36.17 When carrying a window glass, it shall be outside of your arm with palm of one hand facing outwards and the other reaching across the body grasping the glass top. Keep sleeves rolled down and cuffs buttoned around wrists. (A)

16.36.18 When a large amount of glasswork is being done, protect fingers and wrists by wearing leather gloves and cuffs. (B)

16.36.19 When one blade is removed from planner spindle for sharpening or for some purpose, all other blades shall also be removed at the same time. This is to prevent blades from being hurled from the spindle when the machine is started accidentally. (B)

16.36.20 Woodworking machines shall have a master switch that can be locked. (A)

16.36.21 Every machine shall have a "stop" switch conveniently located within easy reach so the operator can shut off the power immediately in case of emergency. (A)

16.36.22 Conversation shall be avoided while an operator is running the woodworking machine. Employees shall not interfere with or distract the operator's attention. (A)

16.36.23 Saw shall not be stopped too quickly, so that not a piece of wood shall be thrust against the cutting edges when power is shut off. (B)

16.36.24 When fabricating pieces where several kinds of wood are to make up the same piece, that is both soft and hard wood tendon together, care shall be taken when forming a circle or making a deep cut. Stock is likely to jerk away from the operator. Unless held firmly, this might cause serious injury. (B)

16.37 MASONRY

16.37.01 If concrete is being chipped in an area where combustible gas is present, that part of the slab being chipped shall be under constant stream of water or the slab itself shall be flooded underwater. (B)

16.37.02 Do not backfill against newly constructed walls. (A)

16.37.03 Never put guys or stays through brickwork until they have set firmly. (B)

16.38 DEMOLITION OF STRUCTURES

16.38.01 Keep the public and unauthorized personnel at a safe distance away from the structure by using barricades and signs, or protective temporary walls as the case may be. A watchman may be assigned when necessary. (D)

16.38.02 Disconnect utility services (gas, steam, electricity) outside the building. Maintain water lines as possible, or install a temporary water source for fire protection and for wetting down the site to reduce dust. (C)

16.38.03 Before start of demolition, all stored materials and all glass doors and windows throughout the structure should first be removed. (B)

16.38.04 Structure being supported by part of the building to be demolished should first be temporarily supported before demolition work commences. (D)

16.38.05 When demolishing walls, workmen shall use scaffolds supported independently of the walls. (C)

16.38.06 Debris should be removed promptly. (A)

16.38.07 Barricade any area where material is being dumped, and place screens where necessary to protect workmen from flying debris. (B)

16.38.08 Employees shall not work below each other. (C)

16.39 SUBMISSION OF CONTRACTOR'S SAFETY PROGRAM

The Construction Safety and Health Program to be submitted by the Contractor before the start of the project must be approved by DOLE Regional Office and a copy be furnished to the Safety Department, shall state the following:

1. Composition of the Construction Safety and Health Committee, if one has been formed, otherwise, an understanding to organize such committee and appoint its members before the start of construction work at the project site;

2. Specific safety policies which the General Constructor undertakes to observe and maintain in its construction site, including the frequency of and persons responsible for conducting toolbox and gang meetings;

3. Penalties and sanctions for violations of the Construction Safety and Health Program;

4. Frequency, content and persons responsible for orienting, instructing, training and supervising all workers at the site with regard to the Construction Safety and Health Program under which they operate;

5. The manner of disposing waste arising from the construction; and

6. Validity of Construction Safety and Health Program will depend on the duration of every contracted project.

16.40 SAFETY SEMINAR

All Maynilad Accredited Contractors are required to have at least two (2) personnel that are trained in forty hours (40) Basic Occupational Safety and Health Seminar (BOSH).

16.41 SAFETY CHECKLIST

All Maynilad Contractors must submit the Safety Checklist on a daily basis fully accomplished by the contractor's Safety Officer or authorized Representative and conformed by PMD Project Engineer of Maynilad.

16.42 SEPARABILITY PROVISIONS

16.42.01 All applicable provisions of this Code shall apply to all Maynilad Accredited Contractors and form part of their Project Contract with Maynilad.

16.42.02 In cases where the Safety Violations committed by any Contractor is not defined and penalized under this Code, the Safety provisions appearing in the executed Project Contract with Maynilad shall prevail. If a Safety violation is both penalized by this Code and by the executed Project Contract, the violation with graver penalty shall be imposed.

16.42.03 It is incumbent upon every Maynilad Accredited Contractor to comply with the requirements being imposed by DOLE Department Order No. 13, Series 1998: Re Guidelines Governing Occupational Safety and Health in the Construction Industry.

CHAPTER V

GUIDELINES ON HANDLING OF VEHICULAR, PERSONNEL ACCIDENTS AND DAMAGES

SECTION 17
GUIDELINES ON ACCIDENT INVESTIGATION
(See Section 25)

17.01 These guidelines shall cover the following:

17.01.01 Identification of responsibilities and functions of all concerned in the timely and thorough on-site investigation of any accident or incident.

17.01.02 The review of the accident or incident and the rendition of decision and recommendation by the Central Safety and Health Committee and its Sub-Committees.

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17.01.03 The preparation of various reports pertinent to any accident or incident eg. Accident Report, Decision and Memorandum, etc.

17.01.04 The imposition of corresponding penalties shall be in accordance with the provisions of the Safety Code, and Human Resources Division on Standards of Discipline, whichever is applicable, including Labor Code of the Philippines and Civil and Criminal Law if necessary.

SECTION 18
DEFINITION OF TERMS

18.01 Vehicular Accident – an accident in which a company vehicle and or mobile equipment is involved.

18.02 On-duty Personnel Accident – an accident in which an employee sustains injury while in the performance of his or her duty.

18.03 Off-duty Personnel Accident – an accident in which an employee sustains injury while off-duty.

18.04 Major Personnel Accident – an accident which is fatal or which results to severe injury as determined by the attending physician. Or the patient is advised to rest or recuperate for more than seventy two (72) hours.

18.05 Minor Personnel Accident – an accident which results to superficial injury as determined by the attending physician. Or the patient is advised to rest or recuperate for not more than seventy two (72) hours.

18.06 Public Accident – an accident involving Company personnel and or facilities and the public, and wherein injury is sustained or property is damaged.

18.07 Fire Incident – an incident in which Company property is endangered or damaged due to fire.

18.08 Vehicle Damage – any harm or injury to Company's vehicle or equipment that lessens its value or usefulness either intentionally or unintentionally and by accident or negligence.

18.09 Incident – an undesired event involving employees, contractor's personnel, visitors or Company's property that could result in loss. This includes close calls, a near-miss, a near hit. All accidents are incidents, but not all incidents are accidents.

18.10 Accident – an undesired event that results in harm to employee, damage to property or loss to process. This results from contact to source of energy above the threshold limit of the body or structure. This includes injury, illness, fatality, damage to property, or production down-time.

18.11 Investigator – authorized person with necessary skills to conduct investigation aspect, ascertaining the facts and collecting or preserving evidence of the accident or incident, such as immediate superior from the Safety Department, the Fleet Management, the Corporate Asset Management and the Security Management.

18.12 Minor Incident or Accident – an undesired event involving employees, contractor's personnel, visitors or Company property that results in:

18.12.01 Injury which does not result in a disabling injury but which requires first-aid and medical treatment of any kind (per OSH definition) and is not otherwise a recordable injury or illness; and

18.12.02 Property damage of less than Php 10, 000.

18.13 Incident with potential (near calls, near-hit, near-miss) – an unplanned and undesirable event involving employees, contractor's personnel, visitors or Company's property, that could have resulted in loss, harm, injury, illness, or property damage, but did not.

18.14 All Maynilad employees whether regular, probationary or contractual directly supervised by Maynilad.

18.15 Recordable Accident Illness – Accidents that result on work-related injuries or occupational illness involving any disabling condition or dangerous occurrence

which may or may not cause serious bodily harm to employee or seriously damage the Company's property (as defined by OSH Standard). These incidents must be investigated and recorded. This includes:

18.15.01 Medical Treatment beyond first-aid

18.15.02 Loss of consciousness

18.15.03 Days away from work

18.15.04 Restricted work activity

18.15.05 Job transfer

18.15.06 Fractured or cracked bones or teeth

18.15.07 Punctured eardrum

18.15.08 Needle stick and sharp injuries

18.15.09 Hearing loss

18.15.10 Tuberculosis

18.15.11 Animal Bites (Work-related)

18.16 Significant Property Damage or Operating Loss Incident – Incidents that result in property damage or operating loss amounting to Php 10, 000 or more but less than Php 50, 000

18.17 Major Accident – An accident involving employees or persons in the community affected by one of the Company's facilities that results in:

18.17.01 One or more work-related disabling conditions, fatalities, imminently fatal injuries or dangerous occurrences.

18.17.02 Hospitalization of three or more employees from a single occurrence.

18.17.03 Property damage and or operating loss of Php 50,000 or more.

SECTION 19
GENERAL RESPONSIBILITIES

19.01 The Safety personnel shall conduct a thorough safety investigation of an accident or incident that involves a Company's vehicle or personnel. He shall ensure that the required Vehicular Accident or Personnel Accident Report and Investigation Report are prepared and submitted within the prescribed period. For expediency, concerned Department Head or supervisor shall also conduct initial investigation of vehicular accidents within his or her jurisdiction.

19.02 Security Technical Operation Center shall serve as communication link during the incident and during immediate aftermath.

19.03 Legal Department shall attend to all legal aspects of the incident.

19.04 Maynilad medical clinics shall attend to the medical or first aid needs of the employee involved in the accident, as appropriate. They shall also supply the necessary medical information on the accident reports.

19.05 The Central Safety and Health Committee shall review the cause of the accident or incident, render a decision and recommend appropriate action to the Company's Management.

19.06 Employee involved in the incident or accident shall be responsible in informing the concerned offices, preparing the necessary reports and cooperating with the personnel handling the investigation.

19.07 The Department Head or Division Head of the employee involved in the accident or incident shall ensure that the accident or incident is reported and investigated as prescribed in these guidelines. The enforcement of corresponding penalty must be imposed in accordance with the provisions of the Safety Code or of the Standards of Discipline of the Human Resources Division, whichever is applicable.

19.08 The Safety Department and or Central Safety and Health Committee and its Sub-Committees shall follow up all decisions on accidents or incidents to ensure its implementation. They shall keep a file of the accident reports and analyze the possible causes of the accident and make recommendations when advisable.

19.09 The immediate superior and or team leader shall prepare the Accident Report, if the employee concerned is incapacitated, or an investigation report on the accident is not done by the Safety personnel.

19.10 Division Head or Line Head and Supervisor shall ensure compliance and implementation of this policy.

19.11 Central Safety and Health Committee, under concurrent authority, shall oversee implementation of the penalties and the corresponding compensation and or

assistance in rehabilitation to be accorded to the employees who suffered injuries in accordance with existing policy or law.

19.12 Human Resources Division shall update the Employee's 201 file to reflect the penalty or the commendation due to him or to her.

19.13 Fleet Management shall ensure that all Maynilad vehicles have at all times their photocopied current Car Registration (CR), Official Receipts (OR), and copy of certificate of insurance.

19.14 All types of report of Company's vehicle damaged by any kind shall be documented by Fleet Management, copy furnished to the Safety Department, Corporate Asset Management and Legal Department.

SECTION 20
GUIDELINES AND PROCEDURES IN HANDLING ACCIDENTS

The following are the guidelines and procedures in handling Vehicular, Personnel Accidents and damages to Company's vehicle.

20.01 VEHICULAR ACCIDENT (see Section 25.01)

20.01.01 Vehicular Accident Reporting

1. In cases of accident involving Company's vehicles, the employee-driver shall report the accident to his supervisor. And in turn, the supervisor shall give details of the accident to the Safety Department and the Security Management for immediate assistance. The Administration-Fleet must inform the the Corporate Asset Management immediately with regard to the Company's vehicles involving accidents for insurance coverage. The Administration-Fleet shall document, after inquiry or investigation, any damages to the Company's vehicles, copy furnished the Safety Department or Central Safety and Health Committee for the latter to determine violations of the Company's policy of erring employee.

2. The employee-driver should ensure that the Company's vehicle is equipped with updated Car Registration (CR) and Official Receipt (OR) at all times, including copy of Certificate of Insurance.

20.01.02 Vehicular Accident Investigation

1. As a general rule, the concerned Safety Personnel or Legal Investigator shall investigate any vehicular accident. In the absence of the Safety Personnel or Legal Investigator, the immediate superior of the involved

employee in the accident shall conduct the investigation copy furnished the Division or Area Head, the Safety Department, and the Central Safety and Health Committee. However, after the initial investigation conducted, he or she shall then coordinate with and turn over the responsibility to the concerned Safety Personnel or Legal Investigator for final disposition and render or submit investigation report, copy furnished Division or Area Head, the Safety Department and the Central Safety and Health Committee.

When proceeding to the scene of accident, the Safety Personnel or Legal Investigator shall always make available the necessary forms; such as Undertaking, Waiver, and other pertinent documents for the said purpose.

2. In case the Legal Investigator is not available at the scene of the accident and the third party admits fault for the accident or waives claim for damage, the Safety Personnel and or supervisor, after proper clearance from Legal Department, may have accomplished the Undertaking or Waiver (as the case maybe) and signed by the third party. In case the Legal Investigator cannot respond within reasonable time, and neither the employee nor the third party admit fault, then the Safety Personnel and or supervisor shall, upon clearance from Legal Department, bring the matter to the nearest police headquarters or precinct to file a police report.

3. In case the accident caused no damage to Company's property but a third party suffered minor injuries or damage and the third party agrees not to claim for damage, the employee-driver, in the absence of both the Safety Personnel and Legal Investigator and upon proper clearance from Legal Department, may have a Waiver accomplished and signed by the third party.

4. Any report (documented or undocumented) of any source of damages to Company's vehicle, the Human Resources Division, the Safety Department or the Central Safety and Health Committee shall have be furnished a copy for further conduct of thorough inquiry, if necessary, to determine the following:

1. Cause of accident.

2. Determination of culpability and appropriate penalty.

3. Remedial step to avoid future occurrences.

4. As an aid of policy making.

20.01.03 Preparation of Vehicular Accident Report

1. The employee concerned shall accomplish the Vehicular Accident Report Forms (VARF) accurately and completely within 48 hours from the time the accident occurs. The VARF shall be signed by the employee and noted by his immediate superior and Department Head.

2. The available Safety Personnel or Legal Investigator, after conducting investigation of the accident, shall accomplish the Vehicular Accident Investigation Report. This report shall be routed to the concerned Department and Division Heads within 24 hours (or the next working day) from the time the accident was reported to him.

3. In the absence of the Safety Specialist or Officer or Legal Investigator, the employee's supervisor who conducted the investigation shall prepare the investigation report.

20.01.04 Review of Major Accident and Rendering of Decision

1. The Central Safety and Health Committee Chairman shall create the Accident Review Committee and schedule their reviews for decision or action. This committee shall consist of the Chairman, personnel from Safety Department, Administration-Security, Administration-Fleet, Corporate Asset Management, MWSU-PTGWO and or MWSA. The Department Head shall remain with the Committee only during the review of the accident involving employee under him or her.

2. The presence of at least three members, namely, the Chairman, the Safety Personnel and the Department Head of the employee involved shall constitute a quorum and may proceed with the deliberation of the case.

3. The Safety Personnel shall furnish each member of the Accident Review Committee a copy of the Vehicular Accident Report and his or her Investigation Report before the scheduled date of deliberation.

4. The Accident Review Committee shall complete the review of the accident and render decision within 15 calendar days from the date of its occurrence. The committee members shall indicate their remarks and individual decision on the Vehicular Accident Decision Form. The decision of the Accident Review Committee shall be final and executory.

5. The available or assigned Safety Personnel shall then prepare a Decision Memorandum containing pertinent information regarding the accident addressed to the concerned Department Head. A copy of each of the Vehicular Accident Report, Vehicular Accident Decision Form and Decision memorandum shall be furnished to Safety Department.

6. The Department Head concerned shall impose, if applicable, the corresponding penalty in accordance with the provision of the Safety Code, within three (3) working days from the receipt of the Decision Memorandum. The Department head shall furnish Safety Department, Administration-Fleet, Human Resources Division and Legal Department with copies of the memo imposing penalty.

SECTION 21
PERSONNEL ACCIDENTS

21.01 MAJOR PERSONNEL ACCIDENTS

21.01.01 Accident Reporting
Any major injury sustained by an employee must be reported to the employee's immediate superior who shall promptly report it to the following: Division or Business Area Head, Safety Department, Legal Department, Human Resources Division, Health Management and Security Management.

21.02 ACCIDENT INVESTIGATION

21.02.01 The supervisor may conduct an initial investigation of the accident and prepare a preliminary report citing the employee involved and circumstances surrounding the accident. He shall submit the report to the Division or Business Area Head within 24 hours from the time of accident.

21.02.02 The available or assigned Safety Specialist or Officer shall further conduct a detailed investigation and prepare a final report indicating his findings and conclusion. The report shall be routed to the Division or Business Area Head and Department Head within 15 calendar days, copy furnished the Chairman of Accident Review Committee.

21.02.03 The Legal Investigator shall proceed to the scene if a third party is involved or if the accident caused serious physical injury to the employee.

21.02.04 In the absence of the Safety Specialist or Officer, the immediate superior of the employee involved shall conduct the investigation and prepare the report.

21.03 PREPARATION OF PERSONNEL ACCIDENT REPORT

21.03.01 The employee concerned, or if incapacity, his immediate superior, shall accomplish the personnel Accident Report Form (ARF) citing the details of the accident. The employee concerned shall sign the report and noted by his immediate superior. If the personnel accident is the result of a vehicular accident, a Vehicular Accident Report shall also be prepared as prescribed in these guidelines.

21.04 REVIEW OF MAJOR ACCIDENT AND RENDERING OF DECISION

21.04.01 The Accident Review Committee shall review the circumstances surrounding the accident and render a decision within 24 hours from the time the accident occurred.

21.04.02 The Accident Review Committee may also recommend a penalty for other company employees or contractor's employees who may be involved in the accident based on its findings.

21.04.03 The available or assigned Safety Specialist or Officer shall route a copy of the decision to the Division or Business Area and Department Heads. A copy of the decision report shall be furnished to the Safety Department, the Legal Department and the Human Resources Division.

21.04.04 The Department Head shall impose the penalty or give commendation whichever is applicable, to employee involved in the accident within three (3) working days from the receipt of the decision by preparing a memo which shall be signed by the employee involved. A copy of the memo shall be furnished to the Safety Department, the Human Resources Division and the Legal Department.

21.05 MINOR ACCIDENT

21.05.01 Accident Reporting

The employee shall report minor accidents to his supervisor and the concerned Safety Specialist or Officer, particularly if the cause of the accident represents a potential safety hazard for prompt action.

21.05.02 Accident Investigation

Investigations on minor accidents shall be undertaken by the concerned Safety Specialist or Officer.

21.05.03 Preparation of Personal Accident Report

1. The employee concerned after seeking medication from Health Management or nearest hospital, shall accomplish the Incident Investigation Analysis and Reporting (IIAR)and shall submit it to on site Safety Officer or the Safety Department as necessary.

2. The attending doctor or nurse shall fill-up the medical report portion indicated in Personnel Accident Report and shall submit it to the Safety Department.

3. The Safety Specialist or Officer shall indicate the pertinent information in the report, including his or her recommendation. A copy of the report shall be routed to the Division or Business Area and Department Heads, copy furnished to the Human Resources Division.

SECTION 22
REPORTING PERSONAL ACCIDENTS AND INJURIES

22.01 ON-DUTY ACCIDENTS (See Section 25.02)

22.01.01 Any injury sustained by an employee, regardless of gravity, must be reported to the employee's immediate superior. In case of major or serious injuries, the head or supervisor shall promptly report the same to Administration-Security, the Human Resources Division, which in turn shall notify the following:

1. During Regular Office Hours: Safety Department, Health Management.

2. During Off Office Hour, Saturdays, Sundays and Holidays: Safety personnel on call, Legal Department personnel on call.

22.01.02 The employee, or his immediate superior, in case of the former incapacity, should then formally report the accident or injury by accomplishing and submitting to Section Head the Personnel Accident Report Form within twenty four (24) hours from the time the accident occurred. However when the event occurs on a weekend or holiday, such report should be submitted on the next working day. (A)

22.02 OFF-DUTY ACCIDENTS

22.02.01 In case of major or serious injury, the employee shall promptly advice or cause to be advised his immediate superior or the Human Resources Division.

22.02.02 For both serious and minor injuries, the employee or his immediate superior or head, should then formally report the accident or injury by accomplishing and submitting to the Section Head the Personnel Accident Report Form within twenty four (24) hours from the time of the accident. However, if in the event occurred on weekend or holidays, such report may be submitted on the next working day. (A)

22. 03 PUBLIC ACCIDENTS

22.03.01 In case of injuries sustained by the public occasioned by the employee's performance of his assigned work, the latter or his immediate superior shall immediately notify about the accident to the Administration-Security which shall in turn, informed the following: (A)

1. During Regular Office Hours: Safety Department, Health Management.

2. During Off Office Hour, Saturdays, Sundays and Holidays: Safety personnel on call, Legal Department personnel on call.

22.03.02 The employee and his immediate superior shall jointly prepare a report of the accident through Personnel Accident Report Form within twenty four (24) hours from the time of the incident. (A)

SECTION 23

23.01 OFF-DUTY PERSONNEL ACCIDENT

Follow the same procedures applied to Minor Accident.

23.02 ACCIDENTS TO PUBLIC

23.02.01 Accident Investigation

1. The Legal Department representative shall immediately proceed to the scene, conduct an investigation and submit the report to management (Human Resources Division).

2. The Safety Specialist or Officer may also conduct his own investigation, as required, to check compliance with existing safety rules and regulations.

23.03 PREPARATION OF ACCIDENT REPORT

23.03.01 The employee concerned shall prepare a report citing the circumstances of the accident. The report shall be submitted to the Department Head through his immediate superior.

23.03.02 The Safety Specialist or Officer shall prepare an investigation report.

23.04 Review of Public Accident or Rendering of Decisions, Guidelines, and Procedures No. 20.01.04 (1-4) shall be followed, except for decision that needs to be rendered within 24 working days.

SECTION 24

CRITERIA FOR COMMITTEE INVESTIGATION (ACCIDENT REVIEW GROUP)

24.01 Representation at the Committee hearings should include the CSHC member in the area and his or her superior representing the employee involved in the accident. Generally, the Committee convenes and acts on the accidents in the following categories (Review existing policies based on accident investigation):

1. Where the employee has had two or more occupational accidents in any twelve months period recon from the first accident. Succeeding accidents shall be investigated as necessary.

2. Where the employee has been involved in an occupational injury requiring hospitalization.

3. Where the employee has been charged by the Police Department.

4. When the employee has been involved in a vehicular accident in the damage exceeded Php 50,000. The Committee uses information from Police reports, employee statements, witnesses and supervisors and prepares its findings and recommendations.

SECTION 25

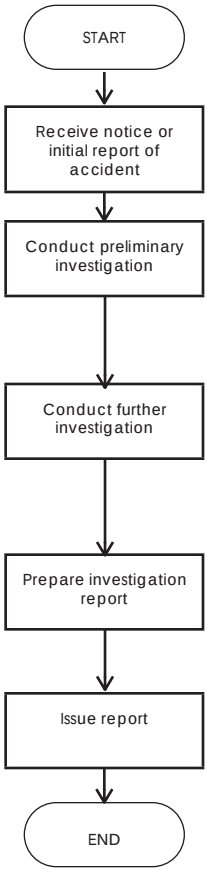
ACCIDENT OR INCIDENT REPORTING AND INVESTIGATION FLOWCHART

GUIDELINES IN HANDLING VEHICULAR, WORKPLACE ACCIDENTS/INCIDENTS

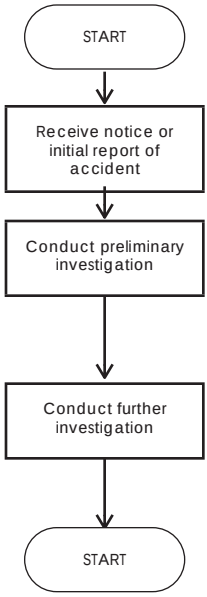
25.01 VEHICULAR ACCIDENT INVESTIGATION PROCEDURAL FLOW

ACTIVITY	RESPONSIBILITY	NOTES/ REFERENCES
START		
Receive notice or initial report of accident	CQESH Specialist (Safety)	1. Records received notice of accident at the log book (Accident Investigation Log Book).
Conduct preliminary investigation	Safety Personnel	2. Conducts documents review and evaluates the degree of accident. Accomplishes Vehicular Accident Report Form (QESH-OP-SD-03F1). Note: In cases that the employee sustained injury or injuries related to vehicular accident refer to 5.2 of this section.
Conduct further investigation	Safety Personnel concern	3. Interviews personnel involved within three (3) working days upon receipt of report. Accomplishes Memorandum of Interview Form (QESH-OP-SD-03F2). Includes verification on the extent of vehicle damage. Accomplishes Vehicular Accident Investigation Report Form (QESH-OP-SHD-03F3).
Prepare investigation report	Safety Personnel	4. Accomplishes Vehicular Accident Decision Form (QESH-OP-SHD-03F4) within three (3) working days after completion of further investigation.
Issue report	Head, Safety	Issue investigation report to office concern, copy furnished Asset Management and Fleet.
END		

25.2 WORKPLACE ACCIDENT INVESTIGATION PROCEDURAL FLOW

ACTIVITY	RESPONSIBILITY	NOTES/ REFERENCES
	CQESH Specialist (Safety) Safety Personnel Safety Personnel concern Safety Personnel Head, Safety	1. Records received notice of accident at the log book (Accident Investigation Log Book). 2. Conducts documents review and evaluates the degree of injury sustained. Accomplishes Work Accident Form (QESH-OP-SD-03F5). 3. Interviews injured personnel immediately upon receipt of report. Accomplishes Memorandum of Interview Form (QESH-OP-SHD-03F2). 4. Accomplishes investigation report within two (2) working days after completion of further investigation. 5. Issue investigation report to office concerned, copy furnished Health Management. Note: For critical injuries, DOLE must be notified

25.3 NEAR-MISS ACCIDENT PROCEDURAL FLOW

ACTIVITY	RESPONSIBILITY	NOTES/ REFERENCES
	CQESH Specialist (Safety) Safety Personnel Head, Safety	1. Records received notice of near miss accident at the log book (Accident Investigation Log Book). 2. Investigates cause of near miss Accomplishes Near Miss Accident Form (QESH-OP-SHD-03F6). 3. Issue investigation report to office concern.

CHAPTER VI

SAFETY MEASURES IN WORKPLACE

SECTION 26
METAL WORKS

26.01 MACHINE SHOPS

26.01.01 Follow accordingly the operational specifications of the machine to avoid both accidents and improper machine wears or trouble. (B)

26.01.02 All necessary precautions shall be undertaken before the machine will be placed in operation. (B)

26.01.03 Machines shall never be left running unattended. (B)

26.01.04 No repair shall be done while the machine is running. (B)

26.01.05 Observe the regular inspection for lubrication and maintenance of machine.

26.01.06 Before a repair starts on machine, make sure that the power is off and the main switch is properly blocked and tagged. (B)

26.01.07 Machine operators shall wear the prescribed personal protective equipment and shall not wear jewelry or loose clothing, especially loose sleeves, cuff of shirts or jackets and neckties as required in the work area to avoid any accidents or physical injuries. (A)

26.01.08 Stop the machine, if necessary, before doing any gauging work, use the prescribed tools not your hand. (A)

26.02 WELDING

26.02.01 Welders-cutters and welders-helpers shall wear the prescribed personal protective equipment on the job. (B)

26.02.02 Hot Work Permit must be issued and a Fire Watcher must be available on site. (B) (See Exhibit # VII)

26.02.03 Flammable and matches or combustible materials shall be removed from the welding areas. (C)

26.02.04 Be sure that the place of work is adequately ventilated. Tin, Brass and Lead fumes are particularly dangerous and shall be ventilated. (B)

26.02.05 Welders and cutters shall not weld or cut any container, tank, plate or pipe before its status or content is ascertained. (A)

26.02.06 When doing electric and arc welding works, stand on a dry floor ground, platform or rubber mat. Wet gloves shall not be used in any case. (A)

26.02.07 Electric welding machines shall be placed in a safe area. Commutator sparks are dangerous. Welding cables shall be regularly inspected for defects or insulation damage, and those found defective or damaged should be turned over for repair or replacement. (A)

26.02.08 For gas welding and cutting, extreme care shall be taken to protect oxygen and acetylene from mixing in the hose, as it will explode. Always purge both hoses before lighting. Never attempt to transfer oxygen or acetylene from one cylinder to another or mix different gases in a cylinder. (B)

SECTION 27
LABORATORY WORKS ON CHEMICALS AND GASES

27.01 HOUSEKEEPING. The chemical laboratory shall be kept clear, orderly and well maintained. (A)

27.02 Know the materials or chemicals you are handling. Anticipate results; do not proceed without caution and fore thought. (B)

27.03 Always read labels and directions on bottles or containers of chemicals before handling. (A)

27.04 Never open bottles or containers of highly volatile flammable chemicals, liquids or gases in a room where there are open flames. (B)

27.05 Never tastes any chemical. Smell a chemical only when necessary and then only by wafting a small amount of vapor with the hand toward the nose. (B)

27.06 Learn the location of fire hoses, fire extinguishers, fire blankets and stretchers. (A)

27.07 STORAGE. Laboratory heavy items shall be stored on or as near the floor as possible. Apparatus and glass tubing shall not project beyond front shelf limits. (A)

27.08 Chemicals which might react together to produce dangerous fumes, fire and explosion demand storage space remote from each other. Volatile liquids shall be kept away from heat sources, sunlight and electrical switches. (C)

27.09 Flammable liquids not mixable with water, corrosive chemicals or compounds which are likely to give off toxic vapors (such as hydrochloric acid) shall never be poured into the sink. (B)

27.10 Always wash your hands and face before drinking after you have handled any industrial chemical. Containers and bottles containing hazardous chemicals shall be properly labeled. Highly poisonous ones shall carry the standard poison label. (A)

27.11 BULK CHEMICALS. Bulk chemicals such as those in the category of liquid chlorine, sodium carbonate, aluminum sulfate, sodium hydroxide and sodium sulfate primarily shall be stored in a clean, dry and well-ventilated section of the store room or preferably in a chemical storage room if available. (B)

27.12 CHLORINE. Keep chlorine cylinders away from heat or open flames. Store in a safe, dry and well-ventilated place. (A)

27.13 Store chlorine containers and cylinder in a cool place and protect them from exposure to external heat sources. Never permit the temperature of the contents to approach 140 °F. (B)

SECTION 28
HANDLING OF CHEMICALS

28.01 In jobs where industrial and laboratory chemicals are used, the following safety and health measures shall be observed:

28.01.01 Workers shall be fully instructed on the hazards of chemicals and the necessary precautionary measures required in handling them. (A)

28.01.02 Work forms, floors and machinery's shall be properly cleaned daily. (A)

28.01.02 Obtain prompt first aid medical treatment in case of any kind of body contact with acids. (A)

28.01.03 Always wash your hands and face before drinking after you have handled any industrial chemical. (A)

28.01.04 Containers and bottles containing hazardous chemicals shall be properly labeled. Highly poisonous ones shall carry the standard poison label. (B)

28.02 BULK CHEMICALS

28.02.01 Bulk chemicals such as those in the category of liquid chlorine, sodium carbonate, aluminum sulfate, sodium hydroxide and sodium phosphate primarily shall be stored in a clean, dry and well-ventilated section of the storeroom or preferably in a chemical storage room if available. All containers shall be kept closed and any containers such as bags that have been broken shall be discarded. (B)

28.02.02 Breakage or spillage shall be avoided and any chemical deposited on the floor shall be removed. (B)

28.02.03 When handling sodium carbonate and aluminum sulfate during the process of charging chemical feeders, wear goggles, proper filters, respirators and prescribed gloves. (B)

28.02.04 Alkali burns can be of a serious nature; hence, when handling large quantities of caustic soda or slightly milder alkalies, rubber gloves shall supplement the use of goggles. (B)

28.03 CHLORINE

28.03.01 Keep chlorine cylinders away from heat or open flames. Store in a safe, dry and well-ventilated place. (A)

28.03.02 Only experienced and properly trained persons shall handle chlorine. (B)

28.03.03 Chlorine and small tanks shall be transported on special handcarts. If possible, hoisting shall be avoided. If necessary, clamps or girdles are more preferable than slings. Magnetic lifting devices shall never be used. Chlorine containers shall never be dragged or handled roughly. (A)

28.03.03 Store cylinders weighing up to 70 kg. (150 lbs.) in an upright position where heavy materials cannot fall on or against them. See that the cylinders are supported so that they cannot fall over. Select storage places where containers shall be shielded from mechanical disturbances especially by moving objects. Do not store containers below ground level or in the chlorine feeding room. Store 1-ton cylinders on their sides on a level rack or platform with adequate safety blocks to prevent rolling. (B)

28.03.04 Always keep protective caps in place when the cylinders or containers are not in use and are being handled, because the discharged valves and fusible plugs are not designed to take shocks. As soon as a cylinder or container is empty and disconnected, replace the protective caps. Always tag or mark empty cylinders or containers at once. It is advisable to store full and empty containers or cylinders in different sections of the storage area to avoid confusion in handling. (B)

28.03.05 Store chlorine containers and cylinders in a cool place and protect them from exposure to external heat sources. Never permit the temperature of the contents to approach 140 °F. Keep containers and cylinders that are stored outdoors away from direct exposure to the sun and the weather. Maintain them in a clean condition and inspect them regularly for leakage. (B)

28.03.06 Do not store containers or cylinders near flammable materials or where continuous exposure to dampness will result. (C)

28.03.06 Make certain that the storage area is well ventilated and that containers or cylinders are so arranged that a leaking unit could be removed with the least possible handling of other containers. Arrange to use a fireproof or storage room equipped with an exhaust ventilating system. (B)

28.03.07 Place containers and cylinders in the order, which they are received so that the oldest can be used first. (A)

28.04 CHLORINE LEAKS AND CONTROL

28.04.01 The slightest odor of chlorine may indicate a leak and shall receive immediate attention because small leaks can grow rapidly. (A)

28.04.02 Two men shall be assigned to the repair of a chlorine leak, one acting as a safety observer. (A)

28.04.03 Connections to the cylinder valve shall be made carefully. When threaded connections are used, it shall be ascertained that the threads on appliances and unions are the same as those on the container valve outlets. (B)

28.04.03 Containers or valves shall never be altered or repaired by the consumer, except for stopping gas leaks around valve stems by tightening the packing nut. The safety devices on containers shall never be tampered with. The valve cannot control the fusible plug on cylinders below the valve seat. (A)

28.04.04 Container valves shall be opened slowly. No wrench longer than 6 inches shall be used as the employment of large wrenches or pipe wrenches will damage the valves. One complete turn of the valve sufficiently to permit maximum discharge. (A)

28.04.05 To test for chlorine leaks, a small cloth or swab shall be attached to one end of a stick and the material must be soaked with ammonia water (10 percent NH3) and applied to the suspected area. A white cloud of ammonium chloride will result if there is any leakage. (A)

28.04.06 When a leak develops on chlorine lines and containers, the area subject to contamination shall be first cleared of personnel until the danger is removed. Only highly trained and equipped men shall be permitted in the area. All personnel shall keep upwind of and on higher elevation than the chlorine leak. (B)

28.04.07 If the container has a chlorine leak, turn it, if possible, so that gas instead of liquid can escape. Water shall not be sprayed on a chlorine leak to reduce the amount of chlorine gas. (A)

28.04.08 Emergency leak kits shall be on hand at all times and kept in good condition. (B)

28.04.09 The chlorine supplier shall be contacted immediately if the leak cannot be controlled. (A)

28.04.10 Employees who handle chlorine shall be provided with gas masks especially designed for chlorine-contaminated atmosphere and shall use them. (B)

28.04.11 Workers who find themselves in a contaminated area without masks shall try not to breathe until they reach safety. If this is impossible, they should be taught to breathe only with the top of the lungs (short, shallow breaths). This will lessen any lung damage.

28.04.12 When chlorine leaks occurs the chlorine room ventilating system shall be turned on immediately. (B)

28.04.13 When a leak occurs in equipment in which chlorine is being used, the chlorine container valves shall be closed first. Then the cylinder is taken outdoors and the gas released slowly until the tank is empty. (A)

28.04.14 Water shall never be applied to a chlorine leak because this creates a hazardous condition with the leak being made worse by the corrosive action of chlorine and water. (B)

28.04.15 Grease or oil shall never be used on fittings that will be in contact with chlorine. Certain types of silicone greases may be used sparingly on valve stems and hard-rubber fittings. (B)

28.04.16 Before disconnecting the flexible leads from container to gas headers, the cylinder valve shall be closed first and then the gas under pressure shall be drawn from the header and flexible leads before the header valve is closed. The exhaust system shall be turned on and operated while the cylinders are being disconnected and repairs are being made on the chlorine lines and equipment. (A)

28.04.17 If fire breaks out, every effort shall be made to protect the chlorine cylinders or containers or to remove them from the danger area. Firemen shall be informed of their location and poisonous nature. (A)

28.04.18 An adequate supply of ammonia solution (10 percent) shall be kept on hand at all times to test for chlorine leaks. (A)

28.04.19 The chlorinating plant or room shall be provided with an adequate ventilating system that is designed for the removal of chlorine gas resulting from leakage. (A)

28.04.20 If the chlorine scale room is separate from the chlorine feeder room, the air temperature in the latter shall be about 5 °F higher than that in the former. (A)

28.04.21 Temperatures in the chlorine equipment rooms or buildings shall be maintained between 70 °F and 80 °F. (B)

28.05 FIELD CHLORINATION

28.05.01 Know the rules and regulations for the safe handling of chlorine and first aid treatment for chlorine gassing. (B)

28.05.02 Check and make sure that the gas masks and all other safety equipment are present. (B)

28.05.03 If possible, set-up equipment for water main disinfections at a safe distance at least 100 meters from the nearest occupied building. (A)

28.05.04 Observe all safety precautions in connecting apparatus and equipment and use approved fittings. (B)

28.05.05 Make certain that hoses are in good condition before connecting them to the cylinder and the main. (B)

28.05.06 Be sure that the water in the main is flushing before the chlorine is added. (B)

28.05.07 After the equipment is connected, open the chlorine valve of the cylinder and test for leaks. (B)

28.05.08 Open the rotameter or gas header valves and again tests for leaks. (A)

28.05.09 To avoid water backup into the chlorine apparatus and the cylinder when a vacuum chlorinator is not being used, make sure that the chlorine tank pressure is approximately 25 psi more than the operating pressured

desired. Be certain that the operating pressure is approximately 5 psi more than the backpressure from the water main. (B)

28.05.10 After all equipment has been tested for pressure and leaks, proceed to open the discharge valve and adjust the feed for proper operation. Continue testing for leaks while disinfecting. (B)

28.05.11 Never attempt to repair a chlorine hose with tapes or clamps. Always use a new replacement. The hose shall be pressure-tested with CO2 and kept dry. Obstructions or kinks in a hose line may cause it to burst. (B)

28.05.12 Make sure that field-chlorinating equipment have the proper pressure gauges so that hose lines and lightweight connections are not subjected to excessive pressures. The procedure of connecting a chlorine cylinder directly to a chlorinating cock is very unsafe. (B)

28.05.13 During chlorinating, check a hydrant or a suitable sampling place ahead of the point of chlorinating for possible backup of chlorinated water in the main. (A)

28.05.14 When using high-test hypochlorites for solution feeding, wear rubber gloves and aprons, a dust mask and goggles or a face shield. If a considerable amount of dust arises, wear a chlorine gas mask. (A)

28.05.15 Use caution in handling high-test hypochlorites, both dry and liquid. Protect the eyes and do not breathe in hypochlorite dust. Remove clothing immediately if it becomes contaminated with these materials. (B)

28.05.16 Use proper warning devices to keep unauthorized persons away from the area. (A)

28.06 ALUM AND FERROUS SULFATE

31.06.01 Workmen shall wear dust masks and chemical-resistant goggles when they are handling or are exposed to aluminum sulfate or ferrous sulfate dust. (B)

28.06.02 The material shall be stored in a clean, dry place because moisture has a tendency to cause caking. (A)

28.06.03 Electric equipment subject to exposure to ferrous sulfate dust shall of dust proof construction. (B)

28.06.04 Compressed air shall not be used to clean dry-feed machines and appurtenances. An industrial water chamber vacuum is much safer. (A)

28.06.05 A mechanical dust-collecting apparatus shall be used at handling points to minimize dust. Covers on equipment and connection shall be as tight as possible. (A)

28.06.06 Solutions (chemicals) shall be equipped with anti-splatter shields around the stuffing box for protecting personnel against splashes. (B)

28.07 ANHYDROUS AMMONIA

28.07.01 Handle cylinders and containers carefully. Never drop cylinders or permit them to collide with each other. Move cylinders on light handcarts equipped with safety chains. (A)

28.07.02 Avoid hoisting containers. If lifting is necessary, do so with safety-tested clamps or cradles. Do not use rope, cables and chain slings. (B)

28.07.03 Store cylinders where heavy articles cannot fall on them and cause damage. Shield the containers from mechanical disturbance or contact with moving objects. (B)

28.07.04 Do not store ammonia near chlorine or in the same room with chlorine cylinders. (B)

28.07.05 Place cylinders in an upright position with the valve end up and support them by clamps on guard chains to prevent falling. (A)

28.07.06 Store cylinders and containers in a cool dry place away from heat and protect them from continued dampness. Do not keep them outdoors in the direct sunlight where they may become overheated. (B)

28.07.07 Always keep the cylinders and container caps in place until they are ready to be connected because the unloading valves are not designed to withstand accidental shocks. (B)

28.07.08 Ventilate the storage room and arrange the cylinders so that a leaking container can be removed with a minimum of handling. Use fireproof storage and equipment rooms that are equipped with an exhaust ventilating system. (B)

28.07.09 The exact location of a leak may be detected by the application of soapsuds on the suspected area. (B)

28.07.10 Only authorized persons equipped with ammonia gas masks shall investigate leaks and make repairs. All others shall be kept away from the affected area. Such work shall be done by at least two employees, with one acting as a safetyman in case of an accident. (B)

28.07.11 Self-contained oxygen respirators shall be used in instances of serious leaks where oxygen may be deficient. (B)

28.07.12 Use extra heavy steel piping and ammonia valves for service lines. Copper and copper alloys shall never be used. (A)

28.08 AMMONIUM SULFATE

28.08.01 Ammonium sulfate shall not be stored in damp or humid places because ammonia fumes will evolve and the material will cake. (A)

28.08.02 Ammonium sulfate shall not be stored near stream pipes, hot walls and other sources of heat. The chemical shall not be placed where it can come in contact with chlorine. (B)

28.08.03 Ammonium sulfate shall never be allowed to mix with quicklime or lime dust because such combinations can produce sufficient heat to explode. Ammonium sulfate by itself is not explosive. (B)

28.08.04 Persons allergic to ammonia compounds shall wear sufficient protective clothing to avoid bodily contact and shall apply an ointment or petroleum jelly to exposed skin surfaces. (B)

28.08.05 Eyes shall be protected against splashes of ammonium sulfate solutions. If the dust or liquid gets into the eyes they shall be washed immediately with a large amount of water. Ammonium sulfate is mildly acidic and a strong solution can cause skin irritation. (B)

28.09 MATERIALS TESTING LABORATORY

28.09.01 Only trained laboratory technicians who have learned the applications and limitations as well as the specific potential hazards peculiar to the laboratory apparatus, specimens and test procedures, shall be assigned to perform the laboratory tests. (B)

28.09.02 Technicians selected to operate or use laboratory equipment shall be free from physical defects that might interfere with their duties. They shall be mentally alert, not easily excited and capable of carrying out instructions in compliance with standard test procedures and safety measures. (B)

28.09.03 All electrical equipment and appliances shall have proper grounding and shall be verified that they are in place before starting. (B)

28.09.04 Provide suitable enclosures for moving parts of machines. Like gears, belts and vibrating screens. (B)

28.09.05 Keep wearing apparels, gloves, rags or hands out of moving machine parts like gears, belts or shafts, etc. (B)

28.09.06 A protective screen or curved shield of perforated metal shall be used to surround concrete test specimens that are expected to shatter under increasing heavy loads. (B)

28.09.07 Use safety goggles when chipping caps used at the ends of concrete cylinder specimens to recover the capping compound. (B)

28.09.08 Use respirators to avoid inhaling toxic vapors produced during melting coal tars and sulfur capping compounds. (C)

28.09.09 Follow proper hand lifting procedures in moving cylindrical concrete specimens, aggregate in boxes, bags of cement and other heavy loads encountered during testing. (B)

28.09.10 Proper ventilation shall be provided to remove dust, toxic vapors from sulfur compounds or bituminous heating humidity, etc. (C)

28.09.11 First aid kits shall be made available. Also, there shall be a trained person to apply first aid in case of emergency. (C)

28.09.12 A telephone shall always be available and in working order, particularly when any operator is working alone in the laboratory. The phone numbers of the fire department, medical office and police shall be posted conspicuously. (B)

28.09.13 Practice good housekeeping, tool and equipment maintenance and calibration and safety-device maintenance. (B)

28.09.14 An occasional inspection of the laboratory by an appropriate member of the staff shall learn whether additional hazards exist that need to be remedied. (B)

28.10 COMBUSTIBLE GASES

28.10.01 Keep sparks and flames away from cylinders. (B)

28.10.02 Connections to piping, regulators and other appliances shall always be kept tight to prevent leakage. Where a hose is used, it shall be kept in good condition. (A)

28.10.03 When cylinders are not in use, keep valves tightly closed and valve caps installed. (B)

28.10.04 Do not use a cylinder of compressed gas without the pressure-reducing regulator attached to the cylinder valve except when cylinders are attached to manifold, in which case, the regulator will be attached to the manifold header. (A)

28.10.05 After removing the valve cap, slightly open the valve an instant to clear its opening of particles of dust or dirt, except in the case of a cylinder of hydrogen. (A)

28.10.06 If the valve is difficult to open, point the valve opening away from you and use greater force. (Do not, however, use a wrench on valves equipped with hand wheels nor hammer the valve wheels in attempting to open or close the valve). If it still cannot be opened, return the cylinder to the suppliers for replacement. (B)

28.10.07 After attaching the regulator and before opening the cylinder valve, see to it that the adjusting screw of the regulator is released. (A)

28.10.08 Never permit the gas to enter the regulator suddenly. Open the cylinder valve slowly. (A)

28.10.09 Before a regulator is removed from the cylinder, close the cylinder valve and release all gas from the regulator. (A)

28.10.10 Never interchange combustible gas regulators, hose or other appliances with similar equipment intended for use with other gases. (B)

28.10.11 Store all cylinders containing combustible gases in a well-ventilated place. (B)

28.10.12 Do not store reserve stock of cylinders containing combustible gases with cylinders containing oxygen. They shall be grouped separately. (B)

28.11 FLAMMABLE AND COMBUSTIBLE LIQUIDS

28.11.01 Accidental mixture of flammable liquids shall be prevented. Warning devices shall be installed or posted in areas where potentially explosive or flammable liquids are kept. (B)

28.11.02 Smoking and carrying of "strike anywhere" matches, lighters and other spark-producing devices shall be prohibited in a building or area where flammable liquids are stored, handled or used or where loading and unloading operations are performed. (B)

28.11.03 Appropriate prohibition signs to this effect shall be posted conspicuously in such a building or area. (A)

28.11.04 Above ground tank installation used for storage of flammable liquids shall be properly grounded. Ground wire shall be bare so it can be easily inspected for mechanical damage. (B)

28.11.05 Only an experienced person shall use a combustible gas indicator and the operator shall follow the manufacturer's instructions on balancing the unit. (B)

28.11.06 Storage of gasoline or other flammable liquids in glass or open containers is prohibited except for laboratory use or in obtaining samples for laboratory use or in testing at operating units. Gasoline shall be stored in closed metal containers painted red. If gasoline is used, it shall be in approved cans. (B)

CHAPTER VII

PERSONAL PROTECTIVE EQUIPMENT

SECTION 29
HEAD PROTECTION

29.01 Prescribed safety helmets shall be worn while on duty as required. In trench operations with more than 1.80 meter depth and in vertical constructions where workers assigned to work under the crane boom, such protective aids are required. (B)

29.02 Before each use, helmets should be inspected for cracks, signs of impact or rough treatment and wear that might reduce the degree of safety originally provided. Those found damaged should be replaced. (B)

29.02 All employees and contractors are required to wear proper Personal Protective Equipment (PPE) complying with the Maynilad Standards and Specifications at construction site and other work areas where proper PPE is required.

SECTION 30
FACE AND EYES PROTECTION

30.01 Employees shall wear goggles suited for the job to be performed to protect their eyes from the following hazards:

30.01.01 Flying objects and hot metals.

30.01.02 Injurious light and heat rays.

30.01.03 Gases, fumes or chemicals.

30.01.04 Dust and wind, as when boring a hole on a piece of brick or concrete. (B)

30.01.05 Dirty OR infectious water from septic tanks sewerage facilities, manholes, particularly during illegal connections excavations. (B)

30.02 Corrective spectacles or eyeglasses shall never be used as a substitute for safety goggles. (B)

30.03 A prescribed face shield shall be worn by the workers as required. (B)

SECTION 31
RESPIRATORS

31.01 Respirators of the prescribed type should always be worn when handling or coming near toxic materials like gases, dusts, paints, etc. (B)

31.02 Anyone who is physically weak should be prevented from entering areas with respiratory hazards unless he wears the approved emergency Breathing Apparatus for protection. (B)

31.03 Knitted facelets and dirty or oily elastic bands should be washed in warm soapy water, rinsed and dried before reuse. The water should be warm to remove perspiration and hair oil from the elastic fabric. (A)

31.04 If a canister is used, it should not be left attached to the mask. It should be removed every after use. When the respirator is worn in a toxic atmosphere containing gas or vapor that has little or no warning properties, like carbon monoxide, it is recommended that a fresh canister be used. (A)

31.05 Canisters should be replaced not more than one year after the date when the seal is removed. Canisters stored with seals intact should be replaced on or before "use before date" stamped on each canister. (A)

31.06 Gas masks shall be kept easily available for emergencies. (B)

31.07 Gas masks shall be stored away from moisture, heat and direct sunlight and shall be regularly inspected. (A)

31.08 A card shall be set up for each mask to indicate the date of the latest inspection and replacement of the canister. (A)

31.09 Supervisors shall be responsible for making daily inspections, particularly of functional parts such as exhalation valves and filter elements. They shall see to it that the edges of the valves are smooth and clean. Inhalation and exhalation valves shall be replaced periodically. (A)

31.10 Respirators shall be marked to indicate whom they are assigned. The method of identification shall be permanent so that the marking cannot be changed inadvertently nor without effort. (B)

31.11 Before being stored, a respirator shall be carefully wiped with a damp cloth and dried. It shall be stored without sharp folds or creases. It shall never be hung by the elastic headband or put down in a position that will stretch the face piece. (A)

31.12 Since heat, air, light and oil cause rubber to deteriorate; respirators shall be stored in cool, dry place and protected from light and air as much as possible. (A)

SECTION 32
SAFETY SHOES

32.01 Safety shoes shall be worn while on duty as required. When doing concrete pouring work, however, safety rubber boots may be used. (A)

32.02 If shoes are greasy or muddy do not attempt to climb a ladder. Clean them first. (A)

SECTION 33
SAFETY BELTS, HARNESS, LIFELINES AND SAFETY NETS

33.01 All persons working on elevated structures without permanent scaffolding (steel erectors, painters, masons etc.) shall always wear safety harness and lifelines required. (C)

33.02 Harness and lifelines shall be securely fastened on rigid and firm braces, framing and the like. (C)

33.03 Carefully inspects safety harness and lifelines before using. Those that are defective must not be used. (A)

33.04 Foremen shall schedule the regular inspection of safety harness and lifelines.

33.05 Lifelines shall not be less than 9 cm. (3/4 inch) diameter made of good quality Manila rope or its equivalent material and shall be of sufficient strength to support a weight of 1140 kgs. and shall be free from cuts and fiber defects. (B)

33.06 Steel cable shall not be used as lifelines where a free fall is possible, unless some shock absorbing devices are also used because the rigidity (of steel cables) greatly magnifies the impact loading. Cables are dangerous when used around electrical wirings. (C)

33.07 Lifelines shall be tied so as to permit little slackening as possible, thus allowing a minimum free fall. (B)

33.08 Leather belts shall be cleaned and oiled with neatsfoot, castor, soybean or an oil compound. Never use mineral oil. (A)

33.09 Leather belts shall not be exposed to excessive heat, such as from radiator. Any heat harmful to man can damage leather. (A)

33.10 Body belt is use only as positioning device. (B)

33.11 Steel cable lines shall be kept clean and dry. They shall be lubricated frequently. Before using in acidic atmosphere, steel cables shall be washed thoroughly and recoated with oil. (A)

33.12 Rope lifelines shall not be used for any other purpose. These ropes shall be properly marked or labeled as such. Store them properly. (B)

33.13 Safety nets shall not be less than 0.94 cm. (3/8 inch) diameter mesh ropes and not less than 1.90 cm. (3/4 inch) diameter border ropes (perimeter) made of Manila rope or other materials that can absorb the impact of falling body. The mesh shall be arranged not to exceed 15.25 cm. (6 inch) on centers positively and securely attached to avoid wear at each crossing point and at points of contact with the border. (B)

33.14 Safety nets must be installed as close as practicable under the walking or working surface in which employees are working and never more than 30 feet (9.1 meters) below.

SECTION 34
WELDING ATTIRE

34.01 In addition to the abovementioned safety equipment or clothing, for employees performing welding jobs shall wear:

1. Flameproof gauntlet, aprons and leggings. (A)

2. Welder's mask. (B)

SECTION 35
WORKING ATTIRE

35.01 Wear the proper protective shields for a particular job. Neckties, scarves bracelets and the like shall not be worn when working on or near moving machines or energized lines of equipment. On duty Fieldsman shall always wear duly prescribed or issued Maynilad Fieldsmen's attire. This is not only for safety reasons but also to generate general public's positive impression and respect for every fieldsman. (A)

35.02 Clothing saturated with oil shall be removed and affected parts of the body should be washed with soap and water. Oil irritates the skin and is dangerous in case of fire. (B)

35.03 Sewer divers shall be equipped with the appropriate diving gear, which consists of a diving suit and a diving headgear to which a waterproof radio is attached for a direct communication with the other person on ground level. (B)

SECTION 36
HAND AND ARM PROTECTION

36.01 Working gloves shall be worn as required. (A)

36.02 Wear prescribed leather gloves when lifting or handling materials with rough surfaces, sharp edges and those with slivers. (A)

36.03 Wear chemical gloves or their equivalent when handling corrosive chemicals such as acids, alkaline, etc. Have plenty of clean water close at hand. (B)

36.04 Wear protective asbestos gloves when handling hot objects or materials. (B)

36.05 Gloves torn during use shall be replaced immediately. (A)

SECTION 37
EVALUATION AND INSPECTION OF REQUESTED SAFETY GADGETS

37.01 All Purchase Request (PR) of safety gadgets coming from various Maynilad offices or department must be evaluated by Safety Department to verify if it is based on the Maynilad Standard Specification of Safety Gadgets before its procurement.

37.02 Upon delivery of purchased safety gadgets at the Maynilad Main Warehouse, Safety personnel should conduct random inspection of delivered items coming from accredited supplier to verify if the said items were based on the specifications indicated in the Purchase Order.

CHAPTER VIII

TOOLS AND EQUIPMENT

SECTION 38

38.01 HAND TOOLS

38.01.01 Select the right tool required for the job and used it properly. (A)

38.01.02 Regularly inspect tools, and use only those are in good condition. (A)

38.01.03 Keep keen-edged tools and use only those are in good condition. (A)

38.01.04 Use wrenches of the right size for the job. Face the jaws on an adjustable wrench in the direction of the pull. (A)

38.01.05 Never use a hand tool on or very close to any moving part of a machine. Stop the machine first and remove all the tools before re-starting. (B)

38.01.06 Never place or leave tools where they might fall on persons or properties, trip or otherwise cause injuries to someone. Tools shall be stored properly. (B)

38.01.07 Exercise care when handling or transporting tools, particularly pointed or sharp-edged ones, to prevent damage to them or other properties, as well as injuries to persons. (B)

38.01.08 Carry sharp or pointed tools in covers, or be sure they are pointed away from the body in case of a fall. (B)

38.02 PNEUMATIC TOOLS

38.02.01 Only the right pneumatic tool, which is in good condition, shall be used for the job. (A)

38.02.02 Use protective equipment as required. (A)

38.02.03 Make sure that the air hose is properly connected to the tool before opening the pressure valve. Connectors shall be properly secured when air hoses of more than one length are used. (A)

38.02.04 Grip the handle firmly with both hands when operating the tool. Never lean your body against it. When using a heavy pneumatic tool (such as

jackhammer, clay digger, etc.) in a horizontal position, vertically suspended ropes shall support the tool. (B)

38.02.05 If the tool bit sticks, do not try to forcibly pull it out. Loosen it out by a steady rocking movement of the tool. (A)

38.02.06 When laying the pneumatic tool down, it shall always be placed in a position such that it can do no harm in case the tool is accidentally started. Do not leave the pneumatic tool standing when not in use. (B)

38.02.07 If the tool is detached from the air hose under pressure, turn off the air by closing the base control valve, never by kinking the hose. (A)

38.02.08 After using the pneumatic tool, turn off the air valve. (A)

38.02.09 Compressed air when misused can be extremely dangerous. Under no circumstances shall a worker aim an air hose at anyone. (C)

38.03 TOOL KEEPERS

38.03.01 Permit no tool with a mushroomed head to leave the tool room. Have all cold chisels, chisel bars, cutters or shock tools with bad heads dressed before they are issued. (B)

38.03.02 Keep the jaws of wrenches in good condition. Warn workers against misusing them. (A)

38.03.03 Keep all sharp-edged tools sharp. Keep the edges protected while in storage. (A)

38.03.04 If any tools show signs of being improperly tampered with, withdraw it from service. Try to find the trouble and have it corrected. (A)

38.03.05 Portable electric and pneumatic tools shall be kept in the best possible condition. Check frequently the condition of switches and control valves, electric cords and hose connections. (A)

38.04 REPAIRS

38.04.01 All “out of order” equipment shall be shut down for repairs. Suitable signs shall be posted and not removed until repairs have been completed. Mobile equipment shall, if possible, be move to a safe location where operations will not interfere with the repair work. Equipment suspended in slings or supported by hoists or jacks for repairs shall be blocked or cribbed before men are permitted to work underneath. (B)

38.04.02 When repairs on equipment such as conveyors and cableways are made remote from the sources of power, use chains, blocking or similar devices to prevent injury in case of accidental starting. (B)

38.04.03 Before repairing electrically powered equipment, lock the main switch in the open position. The repairman shall retain the key to the switch lock. If there is more than one repairman on a circuit, each shall lock the main switch, the key of which shall be retained by only one repairman. Switch boxes shall have this provision. (C)

CHAPTER IX

ELECTRICAL AND UNDERGROUND WORKS

SECTION 39

39.01 ELECTRICAL SAFETY

39.01.01 Safety inspection of all electrical installations shall be done regularly. (C)

39.01.02 Warning signs shall be displayed near exposed current carrying parts, especially high-voltage transformer installations. (C)

39.01.03 Barriers, like metal covers, guard rails, etc. shall be maintained to prevent accidental contact with electrical equipment like booster or well pump motors, high voltage equipment, and installations. (C)

39.01.04 Explosion-proof motors shall be used in hazardous locations where possible fires due to flammable gas or liquids are handled or stored. Switches shall also be of the enclosed type design. (B)

39.01.05 Metal frames of electrical equipment operating at more than 150 volts shall be properly grounded. (B)

39.01.06 Ground for personnel protection shall be installed in the receptacles supplying current to cord connected appliances or equipment specially ungrounded equipment use out of doors and wet places, etc. (B)

39.01.07 Worn-out electrical insulation become porous, brittle and absorbs moisture. They shall be replaced immediately when discovered. (C)

39.02 BATTERY SHOP

39.02.01 Battery charging installations shall be done in a well-ventilated area and shall be performed by trained and authorized personnel. (B)

39.02.02 When it is necessary to do work in battery rooms, which require an open flame, the battery shall not be on charge and the room shall have adequate ventilation. (C)

39.02.03 Smoking is strictly prohibited inside battery-charging rooms. (C)

39.02.04 When making up an electrolyte for storage batteries, employees shall always pour the acid into the water. Reverse method of pouring may cause spattering. (C)

39.02.05 Provisions shall be made for flushing and neutralizing spilled electrolytes. (A)

39.02.06 Acid-proof gloves, sleeves, aprons, face shields and or goggles shall be used when working on batteries. (B)

39.02.07 Battery terminals shall be clean and connections shall be tight. (A)

39.02.08 Tools or metal parts shall never be laid on a battery.

39.02.09 Wood slate floorboards shall be used and kept in good condition to prevent slips and falls and to protect against electric shocks from charging equipment. (A)

39.02.10 Battery charging rooms shall be isolated preferably with fire doors from other areas, particularly where flammable liquids are handled or stored. (A)

39.02.11 Workers shall always lift and carry batteries vertically to prevent spillage. Proper lifting procedures should be followed to prevent back injury and hernia. (B)

39.03 GROUNDING LINES

39.03.01 After an electrical line or equipment has been de-energized for the purpose of working thereon, it shall be checked as being "dead" by testing it with the use of an approved potential indicator. (D)

39.03.02 Before any work is done on a line, which is to be worked "dead", it shall be grounded and short-circuited on at least each side of the location where the work is to be done. (D)

39.03.03 The grounding conductor shall first be attached to the ground connection and then securely attached to the line or equipment to be worked on. (C)

39.03.04 The use of chains for grounding lines on equipment shall not be permitted. Standard grounding conductors shall be used. (C)

39.03.05 The removal of grounding devices shall be handled in the reverse order of Item 42.03.03. (C)

39.03.05 The combined resistance of the grounding wire and the connection with the ground should not exceed 3 ohms for water pipe connections or 25 ohms for artificial ground. (C)

39.03.06 Sizes of grounding wires shall comply with the National Electrical Code. (B)

39.04 WORKING IN MANHOLES OR VAULTS

Manholes, chambers or vaults refer to water or drainage septic tank chambers and other vaults where the only access through it is a manhole.

39.05 SAFEGUARDING MANHOLES/VAULTS

39.05.01 Before the manhole covers or gratings are removed or before work or operation begins, warning devices, barricades or guardrails shall be installed to protect the work area from traffic hazards. (C)

39.05.02 Defective manholes or service box covers or frames should be replaced with that of Maynilad Approved Design and Specifications. (A)

39.05.03 Trucks and other equipment shall be placed before the work area along the traffic line to prevent the least impediment or hazard to the work. (B)

39.05.04 Proper shoring and bracing shall be used to prevent cave-in while vaults or similar excavations are under construction. (B)

39.06 ENTERING MANHOLES OR VAULTS/CONFINED SPACES

39.06.01 Manhole and service box covers should always be removed and replaced by means of approved hooks or hoists to prevent foot and back injuries. (C)

39.06.02 Mechanical lifting aids should be raised, lowered or suspended heavy or bulky materials to men working in manholes or vaults. (A)

39.06.03 A ladder should always be used for entering or leaving a manhole, vault or pit. (A)

39.06.04 Smoking shall not be allowed inside the manhole unless it is definitely known to be free from flammable gases. (B)

39.06.05 A helper should be stationed at the manhole entrance at all times. (B)

39.06.06 The helper should know how to apply artificial respiration. He must have an immediate access to such reserve apparatus as respiratory equipment

and a lifeline of three meters longer than twice the depth of the manhole and strong enough to support the weight of two (2) men. (B)

39.06.07 Suitable measures shall be taken to prevent surface water or debris from accidentally entering the vaults or subsurface area while work is in progress. Subsurface workers shall always wear hard hats. (B)

39.06.07 Do not enter any confined space unless it is tested for oxygen deficiency or gas content. The following shall be observed:

1. In compliance with the Occupational Safety and Health Administration guidelines for oxygen deficiencies, at 19.5% oxygen level, no person is allowed to enter any manhole unless he is provided or wearing a SCBA or the manhole is ventilated thoroughly to bring the oxygen levels within the acceptable range of 21%. To determine the acceptable range, testing is again required. (B)

2. When concentration of flammable or poisonous gas exceeds 15% in air, the mixture is over the upper explosive limit (UEL) and too rich to support combustion. At this point, no person shall be allowed to enter the manhole unless ventilation is applied to displace the gases. When using a blower, circulate the flammable or poisonous gas back into the manhole or vault. A blower driven by gasoline or diesel engine shall be placed at distance of three (3) meters away from the manhole and the discharge end shall be placed near the bottom of the manhole to force the air up and out. (B)

3. In extreme emergency cases when it is necessary for a person to enter a manhole or vault where poisonous vapors and gases are present, he shall wear an approved gas mask or SCBA and safety harness to which a lifeline is attached, attended by another person wearing a gas mask or SCBA stationed at the manhole or vault opening. (B)

4. Gases in very low concentration, such as Sulfur Dioxide (SO_2) or Hydrogen Sulfide (H_2S), are mildly irritating to the respiratory and nervous systems. In high concentration, it causes inflammation of the mucous membranes. It causes death in a very short time. (B)

5. Do not enter until a proper entry permit is completed.

39.07 DISPOSAL OF SLUDGE AND MAINTENANCE OF WETPITS

39.07.01 DISPOSAL OF SLUDGE

1. Sludge removed from sewer manhole, septic tank or Imhoff tank or any digesting changer tank shall be disposed in any of the following areas after stabilization: (A)

1. Sanitary land fill site

2. Isolated lagoons

3. Spread on cultivated field

4. Drying beds

2. Tank trucks equipped with a vacuum pump and sludge tank trucks shall be used for transporting wet sludge. For dried sludge, dump trucks shall be used to the point of disposal. (A)

3. Chlorination facilities used in treating sewage shall be operated on a continuous basis with sufficient chlorine dosages to maintain residual chlorine content of 0.5 mg/1 in the plant effluent. Application of chlorine may be suspended only during periods of high stream flow. (A)

4. Composite samples from influent and effluent shall be taken monthly and laboratory analysis for BOD, Suspended Solids, PH, DO and other parameters shall be performed. Chlorine residual tests shall be performed daily by the operator. Record of flow, reversal of flow, level of sludge blanket, chlorine residual and other data shall be properly logged. The physical plant and its surroundings shall be kept clean at all times. (B)

39.07.02 MAINTENANCE OF WET PITS, IMHOFF TANKS, SEDIMENTATION TANKS, COMPARTMENTS, ETC.

1. Bar screens shall be either cleaned by means of screening machines or by hard-raking method. (A)

2. When a wet pit is about to be dewatered, the exhaust blower shall be operated to disperse accumulated fumes and flammable gases. (B)

3. Plastic bags shall be used in storing scum and debris taken from the wet pit or Imhoff tank. (A)

4. Debris and scum shall be removed from scum chambers several times each day as accumulation arises. (B)

5. Debris and scum shall be treated with lime when needed.

39.07.03 SAFETY RULES FOR BOOSTER AND DEEPWELL PUMPING STATIONS

1. The fence around the substation shall always be kept in good condition to prevent access of unauthorized persons and stray animals from the high voltage equipment. (B)

2. Two or more warning signboards “Danger: High Voltage” shall be conspicuously displayed at the enclosure of the substation. (C)

3. Large plants and trees shall not be allowed to grow near the periphery of the substation. Grasses and weeds shall not be allowed to flourish inside the substation area. (C)

4. The substation shall not be used as storage for lubricating oil, diesel fuel and other flammable materials. (C)

5. Batteries of the rectifier kept in an enclosed area shall be properly ventilated to prevent accumulation of hydrogen gas. Smoking and use of open flame and electric tools producing sparks shall be avoided in such enclosed areas to prevent explosion of hydrogen gas. (B)

6. Capacitors shall be safely enclosed or protected so that persons cannot come into accidental contact or bring conducting materials into accidental contact with exposed energized parts. (C)

7. Motor control panel boards shall always be secured to prevent accidental contact with live electrical conductors and exposure to arcing contacts and circuit breakers. (B)

8. The panel board shall not be used as support for any heavy object and its interior shall not be utilized as storage. (B)

9. Only qualified persons are allowed to open the panel board for inspection and maintenance. (C)

10. Clothes and other flammable materials shall not be hanged or placed at the enclosure of the panel board. (B)

11. Guards of rotating parts of electrical and mechanical equipment shall not be removed except for repair or inspection. Guards shall be placed back after completion or repair work. (B)

12. Maintain working area, equipment floor space clean and clear from obstructions and free from grease and oil spills. (B)

13. All manholes within the pumping stations shall always be kept closed. (C)

14. Operators shall observe extreme caution and wear the recommended protective equipment in handling acid and chlorine used for treating water wells. (B)

15. Operators of the deep-well pumping stations shall always operate the chlorinators and apply the correct dosage of chlorine to ensure the portability of water sent to their respective areas of influence. (C)

16. Operational multipurpose fire extinguishers of appropriate capacity shall always be available. (C)

17. Rules for the Pumping Station Operators:

1. Operators shall be provided an enclosed noise-reducing room to minimize their exposure to noise. (B)

2. Operators shall wear all necessary personal protective equipment while on duty. (B)

3. Threshold Limit Values for noise are as follows:

PERMISSIBLE EXPOSURE

Duration Per Day (in Hour)	Sound Level (in decibels)
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4	115

Note: No exposure in excess of 115 dBA is allowed

CHAPTER X

FIRE LOSS PREVENTION AND CONTROL

SECTION 40

FIRE LOSS PREVENTION

40.01 The Safety Department or Administration shall check for fire hazards at regular intervals-electrical such as equipment, machinery and processing equipment, housekeeping conditions and other possible sources of fire. (A)

40.02 The Safety personnel shall regularly check firefighting equipment to be sure that they are ready for any emergency. Each designated employee must become proficient in handling firefighting equipment installed at his or her area or station of works. (A)

40.03 All concerned employees shall handle gasoline, gases and volatile (low flash point) oils with great care. Open flames, lighted cigars, cigarettes or pipes shall be kept away from them.

40.04 Employees shall eliminate or immediately put out small fires or report to their immediate superior any fire hazard, particularly in their work area, which may cause loss of life or destruction of the System's property. (A)

40.05 FIRE EXITS

40.05.01 All approaches to fire exits shall be cleared of any obstruction and properly marked to make the direction of egress clear. (B)

40.05.02 Doors leading into or out of any building or floor shall not be locked or fastened during working or office hours. (B)

40.05.03 All doors leading to exits shall be maintained open from the inside without the use of a key or any special knowledge or effort at all times when the building or area served thereby is occupied. (A)

40.05.04 Relevant rules and regulations on fire protection and control regarding exits, stairways and fire doors shall be obeyed as per provisions of Rule 1940, of OSHS of DOLE, and RA 9514 Philippine Fire Code 2008. (B)

40.05.05 Fire exit drills shall be conducted at least once every six (6) months to maintain an orderly evacuation of buildings for major installations. It shall only include evacuation of persons and shall not include salvage operations. (B)

40.06 HOUSEKEEPING

40.06.01 Oil-soaked and paint–saturated rags, papers, waste and other combustible refuse shall be deposited in non-combustible receptacles with self-closing covers, and thereafter be removed daily from the work areas for proper disposal. (B)

40.06.02 A procedure on safe collection and disposal of all combustible waste and rubbish shall be a part of the fire prevention-training program. (A)

40.06.03 Accumulation of all type of dust shall be cleaned at regular intervals from overhead pipes, beams and machines, particularly bearings and other heated surfaces. (A)

40.06.04 Roofs shall be kept free from sawdust, shavings, and other combustible refuse. No such materials shall be stored or allowed to accumulate inside air shafts, or elevator and stair shafts, tunnels, out-of-the-way corners, near electric motors or machinery, around steam pipes, or within 3 meters of any stove, furnace or boiler. (A)

40.07 RUBBISH DISPOSAL

40.07.01 Combustible rubbish, dried weeds and grass shall not be allowed to accumulate in plant yards, particularly near buildings, and other combustible materials, or storage tanks containing flammable liquid and gases. (B)

40.07.02 Rubbish shall be burned only in designated areas away from buildings, sheds, lumber piles, fences and dried grass or other combustible materials. (B)

40.07.03 Wind and weather conditions shall be considered before fires are started. Only controllable quantity of rubbish shall be burned at one time. No fire shall be started on a windy day where there is a possibility of igniting nearby combustible materials. It is required to have a fire hose or other suitable firefighting equipment near the fire site. (B)

40.08 ELECTRICAL

40.08.01 Only approved equipment shall be used where flammable gases or vapors are present. (B)

40.08.02 Temporary makeshift wiring shall not be used unless absolutely necessary, in which case, it shall be adequately protected and properly barricaded, and shall be removed as soon as possible. In no instance shall defective wires be used. (B)

40.08.03 Portable electrical tools and extension cords shall be inspected at frequent intervals and repaired or replaced promptly when found defective. (A)

40.08.04 Waterproof cords and sockets shall be used in damp places and explosion-proof fixtures and lamps shall be used in the presence of highly flammable gases and vapors. (B)

40.08.05 Portable lamp bulbs shall be protected by heavy lamp guards or by adequately sealed transparent enclosures, and kept away from sharp objects and from falling. Bare bulbs shall never be used when exposed to flammable dusts or vapors. Lamp bulbs shall be considered as potential hazards in areas where flammable dusts or vapors exist; they shall be safeguarded accordingly. (B)

40.08.06 All electrical machines or equipment shall be unplugged during lunch hours and at the end of the working day. (B)

40.08.07 The use of electrical octopus connections shall be avoided. (B)

40.08.08 Employees shall be instructed in the proper use of electrical equipment and shall be prohibited from tampering and blocking circuit breakers and from using improperly rated fuses or bypass wires. (B)

40.08.09 Personally owned electrical cooking appliances such as percolators, stoves and the like shall not be plugged into the System's building electric facilities. (B)

40.08.10 Electrical installations and all electrical equipment shall be periodically inspected and tested to ensure continued satisfactory performance and to detect deficiencies. (A)

40.09 SMOKING

40.09.01 All areas where smoking is prohibited shall be provided with "No Smoking" signs. (B)

40.09.02 Employees are prohibited from carrying matches, lighters and other spark-producing devices to areas where flammable and combustible liquids, chemicals, gases and the like are stored or handled. (B)

40.09.03 Wastebaskets shall never be used for cigarette disposal. (B)

40.09.04 Lighted cigarette butts shall always be totally put out and left in non-combustible ashtrays. (B)

40.09.05 Before leaving the office for coffee break, lunch or after office hours, floors, tables, chairs and top of cabinets shall be checked by a designated employee for lighted cigarette inadvertently left behind. (B)

40.10 OPEN FLAMES

40.10.01 Open flames using kerosene, liquefied petroleum gas, acetylene or alcohol and other torches shall be placed at least 0.50 meter from wood surfaces. These should not be used close to flammable liquids, papers, excelsior or similar materials. (B)

40.10.02 When portable furnaces, blowtorches and the like are used, there shall be an overhead clearance of at least 1.2 meter. Combustible materials shall be removed or protected by a non-combustible insulating board or sheet metal and preferably by a natural draft hood and flue of non-combustible material. (B)

SECTION 41
PORTABLE AND MANUAL FIRE CONTROL

41.01 SELECTION OF EXTINGUISHERS

41.01.01 Extinguishers shall be selected for the specific class or classes, or hazards to be protected against in accordance with the following:

1. Extinguishers for Class “A” hazards, such as wood, cloth, paper, rubber and other similar ordinary materials, shall be selected from foam, loaded stream, multi-purpose dry chemical and water types.

2. Extinguishers for Class “B” hazards, fires in flammable liquids, gases and greases, shall be selected from carbon dioxide, dry chemicals, foam loaded stream and multi-purpose dry chemicals.

3. Extinguishers for Class “C” hazards, fires which involve energized electrical equipment where the electrical non-conductivity of the extinguishing media if of importance, shall be selected from carbon dioxide, with non-metallic horn, dry chemicals and multi-purpose dry chemicals.

41.01.02 Before any dry chemical extinguishing equipment is considered for use to protect electronic equipment or delicate electrical relays, the effect of residual deposits of dry chemical on the performance of this equipment shall be evaluated.

41.02 INSPECTION AND MAINTENANCE

41.02.01 Fire extinguishers shall be maintained in a fully charged and operable condition, and kept in their designated places at all times except when being used, tested, repaired or replaced. (B)

41.02.02 Fire extinguishers removed from the premises where they are regularly installed for recharging or repair shall be replaced by spare extinguishers of the same type and capacity, during the period they are being serviced. (A)

41.02.03 Fire extinguishers shall be inspected monthly, or at more frequent intervals when circumstances require to ensure that they are in their designated places and are operable, that they have not been tampered with and are fully charged and pressurized, and to detect any physical damage, corrosions, or other impairments. Extinguishers or parts thereof, which are not in good operating condition, shall be immediately recharged, repaired or replaced by qualified suppliers. (A)

41.02.04 Each fire extinguisher shall have a durable identification tag securely attached to show the maintenance of recharge date and the initial or signature of the person who performed this service. (A)

41.02.05 Caps shall always be replaced on the same shell from which they were removed to prevent mismatching of threads. A small amount of Vaseline or any other acceptable substitute shall be applied to cap threads. Caps shall be screwed on tightly, making sure that the threads are properly engaged. (A)

41.03 INSTALLATION

41.03.01 Fire extinguishers shall not be obstructed or obscured from view. In large rooms and in certain locations where visual obstructions cannot be completely avoided, the location of extinguishers shall be indicated conspicuously with a red arrow. (A)

41.03.02 If fire extinguishers intended for different classes of fires are grouped, their intended use shall be marked conspicuously or color-coded to ensure use of the proper extinguisher for the class of fire that occurs. (A)

41.03.03 In situations where fire extinguishers shall be temporarily provided, they shall be installed on portable stands, consisting of a horizontal bar or uprights with feet, or set on shelves unless the extinguishers are of the wheeled type. (A)

41.03.04 Fire extinguishers mounted in cabinets or wall recesses, or set on shelves shall be placed in a position such that the extinguisher operating

instructions face outward. The location of such extinguishers shall be marked conspicuously. (A)

41.04 HYDROSTATIC TEST

Inspection, maintenance, hydrostatic test and recharging of portable fire extinguishers shall be in accordance with the provisions of NFPA No. 10. (B)

41.05 CARE OF FIRE HOSES AND ACCESSORIES

The care of fire hoses, nozzles, couplings and gaskets shall be in accordance with the provisions of NFPA No. 198. (B)

CHAPTER XI

FIRE AND OTHER NATURAL CALAMITIES

SECTION 42
OBJECTIVE AND PURPOSE

The objective of this policy is to ensure the Security and Safety of all Maynilad personnel and facilities in case of fire and other related calamity and accident, and to protect the Company's property and other assets against destruction and damages before, during and after fire, earthquake, floods and other natural calamities.

SECTION 43
DEFINITION OF TERMS

43.01 Emergency Preparedness Response Team (EPRT) – a team organized by Maynilad Management, with strong manpower from Safety Department, Central Safety and Health Committee, Health Management, and Admin-Security. This team is readily available at all times in cases of fire, earthquake and other severe convective storms.

43.02 Fire Drill – an execution exercise adopted by the EPRT aimed to instill and maintain fire awareness and preparedness in case of fire. Personnel are being taught of proper and safe manner in exit and evacuation procedures.

43.03 Fire Exit – portion of a confined structure, which can be utilized for a safe egress & ingress during fire. It is fire proof and is the safest way to exit in case of fire.

43.04 Evacuation Area – an area or compound away from the scene of fire; the place where employees are directed to stay during fire and wherein body counting is to be done by the Fire Brigade Team.

43.05 Fire Alarm – is a distress sound, which is heard throughout the building indicating that a smoke of fire was detected posing the building, properties and lives in danger of fire.

SECTION 44
SAFETY RULES AND GUIDELINES

44.01 FIRE

44.01.01 When Fire Alarm is ringing, it signals fire was detected. Under such situation, all employees and visitors, under "No Exemption Rule" are directed to immediately vacate the building and proceed immediately to the designated evacuation area (See attached sample Evacuation Map). Only the Fire Brigade Team, Security and Bureau of Fire Protection personnel, or employees authorized by the President, are allowed to stay in the building. (C)

44.01.02 Employees shall obey all the commands of the Fire Brigade Team and the deputies from the time of fire until fire out was declared by the Bureau of Fire Protection (A)

44.01.03 During evacuation, employees are required to pass through the designated exit lanes and exit door without panic.

44.01.04 While evacuating, employees are required to observe discipline and encourage to help or assist one another. (A)

44.01.05 All employees must exit within 5 minutes (per floor) from the time the Fire Alarm rang and proceed to the designated evacuation area. (A)

44.01.06 Members of the Maynilad Fire Brigade Team are obliged to perform all their defined functions in times of fire and other emergencies. (C)

44.01.07 The Fire Brigade Team, Safety and Security personnel shall be in active participation in the resolution of the aftermath of the fire and other calamities.

44.02 EARTHQUAKE

44.02.01 When mild tremor is felt (earthquake), every employee is required to do the "duck, cover and hold" when vacating the building without panic. With or without alarm everyone is required to leave the building. (A)

44.02.02 At the evacuation area, employees are enjoined to stay therein and wait for further instruction by Chairman of EPR Team, his Vice-Chairman or the Maynilad President. (A)

44.02.03 When necessity requires, every employee has the duty to make proper coordination with proper offices regarding the aftermath of the tremor. (A)

44.02.04 During disaster situation, Maynilad Division Heads, which have the capability to render assistance of any kind, shall render service and logistical support. (C)

44.02.05 The EPR Team members in their respective area shall be in active participation or cooperation in addressing the calamity. (B)

44.03 FLOOD

44.03.01 In times of floods which post danger or loss to Maynilad properties and employees, every Department or Division Heads is responsible to oversee the welfare of his or her subordinates and make coordination with proper Maynilad office or government agency for a centralized or Departmental management of such crisis. (C)

44.03.02 Every employee thru the leadership of their heads, is responsible to perform defined functions, which are related to and in connection with the effective solution of such crisis. (B)

44.03.03 The EPR Team members in their respective area shall be in active participation or cooperation in addressing the calamity. (A)

44.03.04 In times of fire, earthquake, flood and other calamities, all members of the EPR Team or CSHC shall be activate to perform all defined functions to respond to the crisis. (A) See Section 1.05.04, for CSHC composition and functions.

44.04 COMPOSITION OF EMERGENCY PREPAREDNESS RESPONSE TEAM

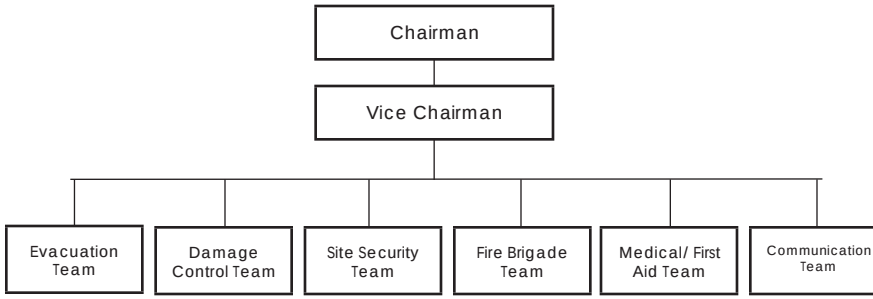


Figure 2. Composition of EPRT

44.05 DUTIES AND RESPONSIBILITIES OF EPRT MEMBERS

Chairman

Responsibilities:

1. Organizes Action Teams in their area and provides instructions to all teams during actual emergencies;

2. Insures that the basic provisions of the EPR Plans and Procedures are properly disseminated to all personnel in the workplace;

3. Makes necessary arrangements on ESH-related incidents and emergencies with proper authorities like Philippine National Red cross, National Disaster Coordinating Council and the Local Government Units;

4. Initiates the conduct of EPR drills and review of their conduct including the adequacy and workability of EPR procedures;

5. Ensures appropriate training among the EPR Team members are provided and drills of EPR plans and procedures are conducted where practicable;

6. Maintains correspondence with local authorities; and

7. Initiates incident investigation after actual emergencies.

Vice-Chairman

Responsibilities:

1. Acts as Chairman of the Team in the absence of theChairman; and

2. Assists the Chairman in all the above responsibilities and in the supervision and guidance of all parties in the execution of EPR drills.

Evacuation Team

Responsibilities:

1. Plans personnel movement routes;

2. Oversees and directs personnel movement during actual emergency; and

3. Facilitates smooth evacuation of employees and visitor.

Damage Control

Responsibilities:

1. Contains and or directs the emergency;

2. Controls or minimizes the adverse impacts of the emergency to the health and safety of personnel; and damage to the environment and the company's properties;

3. Provides assistance to the external authorities during emergencies;

4. Assesses the extent of damage (structural) of the emergency before resumption to normal operation; and

5. Makes recommendations to the Incident Commander regarding the extent of damage and whether it is safe to return to normal operation.

Site Security

Responsibilities:

1. Maintains discipline and order during emergency by posting themselves (upon hearing the emergency alarm) at all points of designated evacuation areas; and

2. Secures the site of emergency to prevent looters and bystanders.

Fire Brigade

Responsibilities:

1. Organizes training and provides instruction to fire fighters in their respective area of responsibilities;

2. Responds and contains actual fire emergencies; and

3. Periodically inspects and performs maintenances of fire protection or fighting system.

Medical or First Aid

Responsibilities:

1. Provides first aid treatment to injured personnel;

2. Arranges medical treatment and or hospitalization if necessary; and

3. Cooperates in the training of Rescue Team.

Communication

Responsibilities:

1. Maintains appropriate communication links with the different units and personnel, including emergency contact; and

2. Receives warnings and other information on the incidents and emergencies and communicates the same to other personnel including if necessary to the external parties.

SECTION 45
MAYNILAD EVACUATION AND FIRE BRIGADE

45.01 MAYNILAD FIRE BRIGADE & FIRE EXIT DRILL CHART

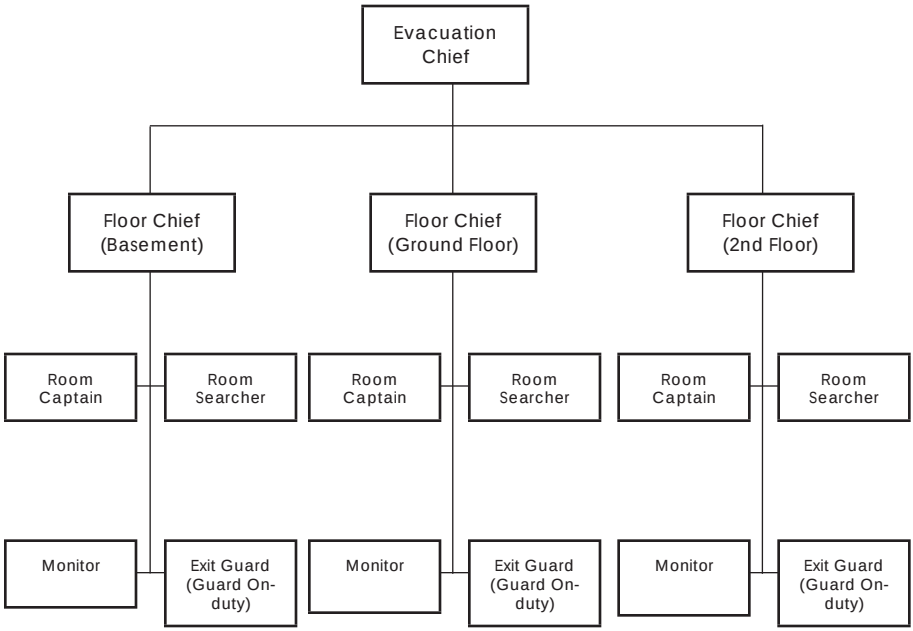


Figure 3. Composition of Evacuation Team

45.02 DUTIES AND RESPONSIBILITIES OF EVACUATION TEAM

Evacuation Chief

He or she must be competent, responsible and with leadership ability in order to ensure compliance with all orders and instructions during evacuation.

1. In-charge in all matters pertaining to exit drill formulation.

2. Schedule exit drills at least twice a year.

3. Supervises the building Fire Alarm and Fire Detectors and ensures workability.

4. Notifies members of his organization and employees of their assignments and duties.

5. Enforces disciplinary measures for uncooperative employees pursuant to Maynilad policies.

6. Determines the list of employees and average number of visitors in the building.

7. Assigns at least two-way exit use of employees in each room.

Floor Chief

He or she must be able to communicate to all occupants and employees in his or her assigned floor and perform the following:

1. Responsible for the enforcement of Fire Exit Drill and report infractions to the Evacuation Chief.

2. Personally supervises the sounding of alarm on his floor.

3. Supervises the movement on his floor for prompt and proper execution.

4. Designates the exits to be used by the occupants on his floor during exercise and or emergencies.

5. Responsible for the condition of aisles and passageways.

Room Captain

He or she must insure that the movement in his or her room is properly executed correspondingly with the signal. He or she shall report and coordinate with the Floor Chief.

Exit Guards

He or she shall oversee that the march from rooms to stairways, corridors, aisles, etc. is not overcrowding and at uniform speed. He or she shall be positioned:

1. At the side of exit doors until occupants has left the room.

2. At the horizontal exit doors, at corridors and at the stairway landing or turn.

3. To follow the rear of the exit column.

Searchers

Shall be a combination of man and woman searchers on each floor or room and shall be strong and cool-headed and shall perform the following:

1. Visit toilets of each gender where there may be occupants who cannot hear the alarm

2. Look for people who may have fainted or become hysterical.

3. Leave as soon as possible after the last squad leaves

Monitoring Personnel

In charge of the squad occupants and shall be leaders or disciplinarians. He or she shall oversee that the squad is quickly formed and maintained in line, to abreast and lead the march through corridors, stairways, etc., as directed by exit guards, to safe distance away from the building.

Inspectors

Shall be technical personnel knowledgeable about the buildings and locations of its Fire Fighting Equipment, and in ensuring the worthiness of the following:

1. Doors

2. Stairways

3. Fire Escape

4. Room Exits

5. Fire Alarm System

6. Fire Equipment

7. Floor Exit Layout, Exit Signs

Security Supervisor

Informs the different fire departments and leads the Fire Brigade to use the available Fire Fighting Equipment. Instructs the Detachment Commander to deploy guards around the perimeter.

Detachment Commander

Deploys guards around the perimeter of the building. Personally supervises that all guards are utilized during fire.

Company Doctor and Nurse

Renders medical attention to all victims of the disaster and assists in the transfer or evacuation of the same to the nearest hospital if necessary.

45.03 MAYNILAD FIRE BRIGADE TEAM CHART

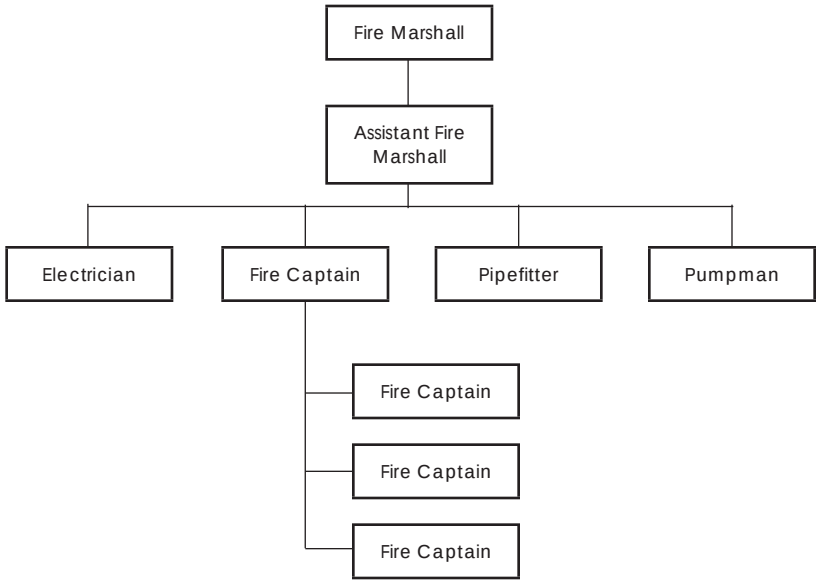


Figure 4. Composition of Fire Brigade Team

45.04 DUTIES AND RESPONSIBILITIES OF MAYNILAD FIRE BRIGADE TEAM

Fire Marshall

Responsibilities:

1. Responsible in maintaining the Brigade roster and the recruitment of new members whenever necessary.

2. Conducts Fire Drill Training.

3. Coordinates with the Fire Brigade Department as regards to related activities.

4. Personally directs fire-fighting forces until the arrival of the Fire Fighting Departments.

5. Directs Security and Safety Management.

6. Directs Salvage Operation on Company's assets after fire.

Assistant Fire Marshall

Responsibilities:

1. Assists the Fire Marshal (or shall act as Fire Marshal in case the latter is not around) in the conduct of training, recruitment, fire drill, etc.

2. Makes certain that gate guards are notified for them to direct fire trucks to the scene of fire.

Pipefitter

Responsibilities:

1. Must be familiar with the operation of Automatic Sprinkler, piping, flammable gas and liquid control valves system to fully open fire-fighting control valves and shut-off flammable gas and liquid control valves when fire occurs.

Electrician

Responsibilities:

1. Shuts off electrical power on areas affected by fire.

2. Provides emergency lightings and introduces repairs on faulty electrical wirings.

Fire Captain

Responsibilities:

1. Provides effective methods and techniques in the firefighting execution.

2. To lead the fire fighters in the proper and diligent firefighting techniques.

3. Makes assessment and evaluation on the progress of firefighting management.

Pumpman

Responsibilities:

1. Ensure that the Fire Pump is at condition at all times.

2. Starts the Fire Pump at the first blaze of fire.

SECTION 46
EVACUATION PROCEDURE

46.01 OBJECTIVES

To standardize the process of evacuating the building such that when need arises, this is executed orderly and swiftly, and all personnel on-site are appropriately oriented and accounted for.

46.02 SCOPE

This procedure applies to any evacuation that may be necessary to perform in all Maynilad buildings, Installations, offices and or areas affected.

46.03 EVACUATION GUIDELINES:

1. Whenever people are required to evacuate, it is important to make sure everyone is accounted for after vacating the building.

2. It is vital that someone (and an alternate) be designated to handle that responsibility and report to authorities if anyone who may be missing, and where that person may be located in the building.

3. It is vital that each business unit instructs its people, before an event occurs, where to gather at a definite location outside the building during an evacuation.

4. Individuals with mobility impairment and or other concerns that make independent evacuation difficult are encouraged to make plans or special arrangements in advance with the Emergency Preparedness Response Team to ensure likelihood that they will be able to exit a building safely in an event of emergency.

5. Every employee should be familiar with their work area, and should locate exits, stairways, fire-fighting equipment, fire alarms, and established areas for evacuation.

6. It is recommended that each unit establish a "buddy" system in which volunteers and alternates are recruited and paired with persons who have self-identified disabilities that would require special evacuation needs.

7. As much as possible, call the attention of nearest co-worker as well as those in areas where fire alarm may not be heard.

8. Proceed to the assembly area through the designated emergency exits. Do not panic to avoid stampede. Do not block the pathway of EPR Team or Maynilad Search and Rescue Team.

9. When going through closed doors, feel it first. If it is hot, fire may be behind it; proceed to next safe exit.

10. Priorities in Evacuation:

1st Priority – Those needing assistance during evacuation, e.g. Elderly, children, handicaps and very sick people.

2nd Priority – Female, pregnant women.

3rd Priority – Male.

46.04 PROPER HEADCOUNT GUIDELINES

1. All occupants must proceed to the designated assembly area. Please refer to the evacuation route map posted in the building.

2. A copy of the Attendance Log Sheet for the day of employees, customers, contractors and other visitors on site must be obtained from the guardhouse.

3. A tick mark (X) is written opposite the names of the person who are present. A zero mark (0) is written opposite the names of persons who did not report to work or are off site. The name of anyone who is not accounted for is encircled on the list.

4. Names of persons who are present in the headcount but are not included in the list are added in the List. Indicate whether employee, customer, contractor or visitor.

5. Those who have visitors should inspect and confirm if the visitor is safe or have already left the plant before the incident/ accident.

6. If anyone is missing, inform any member of the Search and Rescue Team to enable them to initiate search and rescue.

SECTION 47
GUIDELINES AND PROCEDURES DURING EMERGENCY

47.01 PROCEDURAL FLOW OF EVACUATION

ACTIVITY	RESPONSIBILITY	DETAILS
START		
Receive order to evacuate	Evacuation, Search & Rescue Team	1. The order shall be coming from the EPRT Incident Commander.
Secure headcount reference	Admin Supervisor	2. Shall immediately secure the Visitor's Logbook from the Security as reference for the headcount at the Assembly Area.
Execute evacuation	Evacuation, Search & Rescue Team	3. The evacuation shall be led by the Team Leader of the Evacuation, Search and Rescue Team. Instruct all employees/ customers / visitors to evacuate and proceed to the agreed Assembly Area. Assist pregnant, injured person, erderly (if any) to the agreed evacuation areas. Note: Preferably, the specific Assembly Area shall be decided upon by the Incident Commander, taking into consideration the location of the emergency.
Check left person in the are	Evacuation, Search & Rescue Team	4. Respective areas shall be checked of any remaining person and where necessary, evacuate accordingly. The Team Leader may be the last to evacuate their own area.
Secure affected area	Security	5. Where practicable, the crowd shall be controlled and properties and other assets of the Company shall be secured. Prevent employees/ customers/ visitors from coming back to the affected area.
Conduct Headcount	Admin Supervisor Employees, visitors and other personnel in the building	6. Refer to 5.2 of this procedure for guidance. 7. Follow the instruction by the Evacuation, Search & Rescue Team. Stay in the agreed Assembly Area until further notice. When there is a need to return to respective areas, follow instructions from the Evacuation Team accordingly. *Note: As part of EPR planning, each section should establish a "buddy system" that can be used in accounting colleagues during emergencies.*
START		

47.02 MAYNILAD RESCUE TEAM RESPONSE PROCEDURE

OBJECTIVES:

1. Provide first aid and medical assistance during major Maynilad activities such as MVP Olympics, Health run, etc., and other activities as per request of Health Management Department and other concerned offices.

2. Provide effective response during search and rescue operations in the event of man-made and natural calamities such as fire, earthquake, flood, typhoon and other emergencies based on the operational capabilities.

3. Provide assistance during relief operation to affected Maynilad areas.

4. To assist national and local government agencies such as LGU, BFP, PNRC, and NDRRMC as per instruction of Maynilad management for rescue and relief operation to affected areas and other purpose.

SCOPE:

1. This procedure covers effective and systematic response and action to any emergencies that affect Maynilad facilities, employees, etc.

2. This also includes the immediate response to other affected areas in nearby cities and provinces outside Metro Manila as per instruction of Maynilad management.

QUALIFICATIONS:

1. Must be a Maynilad regular employee.

2. Not more than 40 years old.

3. Must be mentally and physically fit for rescue operations.

4. Willing to be trained in rescue operations such as WASAR, ELSAROC, First Aid and Basic Life Support, Confined Space Rescue, and other appropriate trainings as needed.

REQUIREMENTS:

1. Submit Maynilad Rescue Team Data Sheet duly signed by the applicants and Department or Office Head.

2. Medical certificate from company doctor.

47.03 RESCUE TEAM COMPOSITION AND STRUCTURE

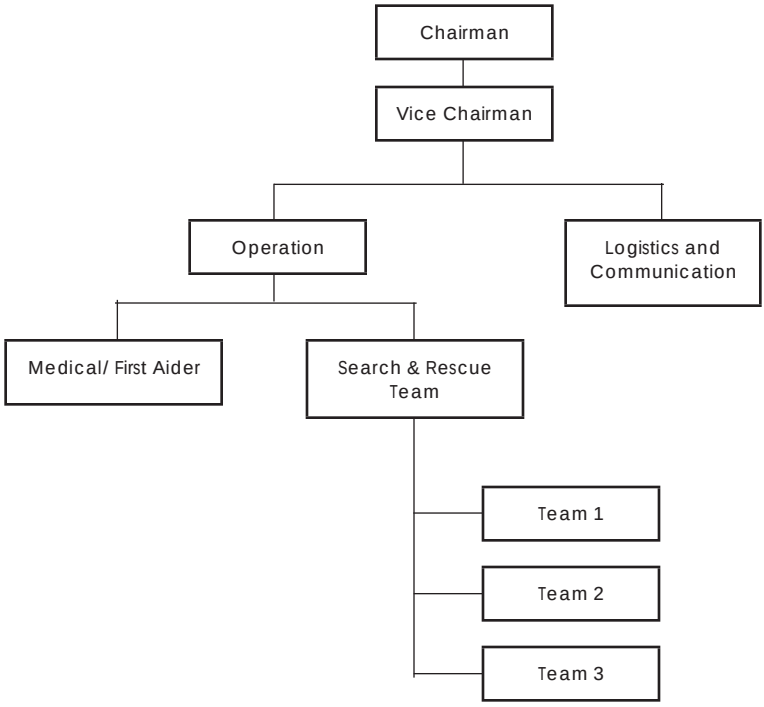


Figure 5. Composition of Rescue Team

47.04 REQUIRED PPE FOR RESCUER

Water Search and Rescue:

1. PFD or Personal Floatation Device
2. Head Protection
3. Gloves
4. Safety Shoes or Boots
5. Long Sleeves
6. Pants

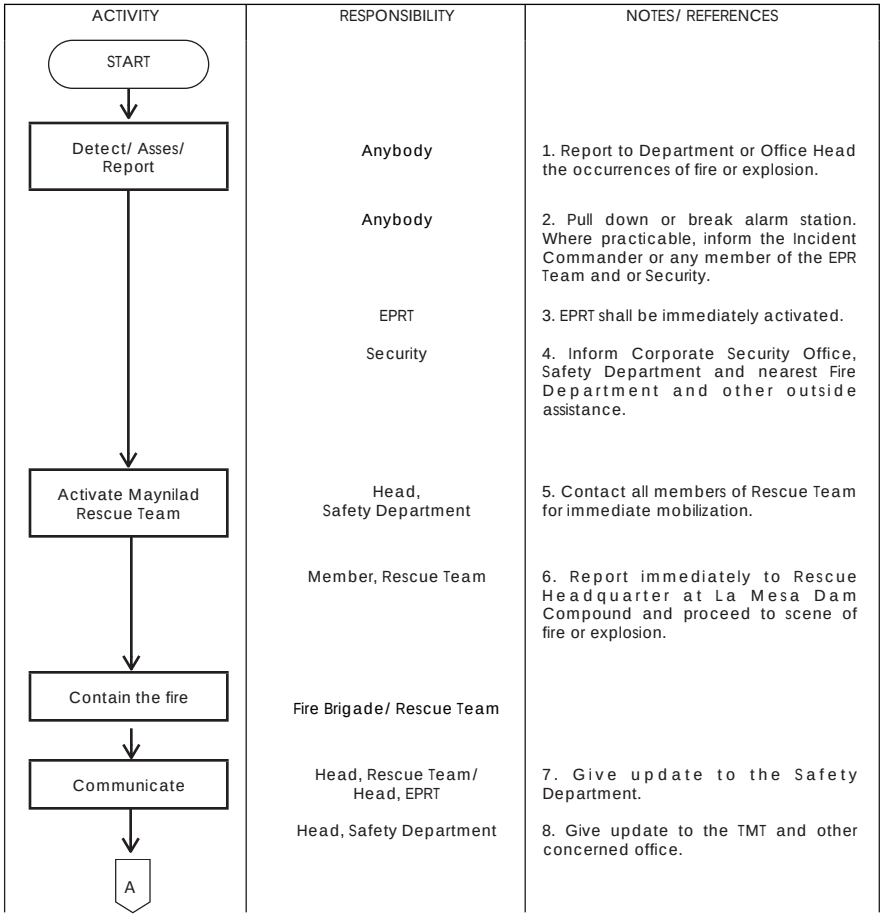
Fire:

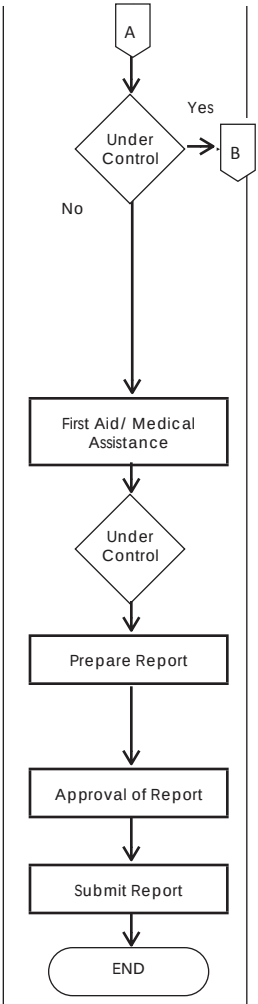
1. Fireman Suit
2. SCBA

Collapse Structure:

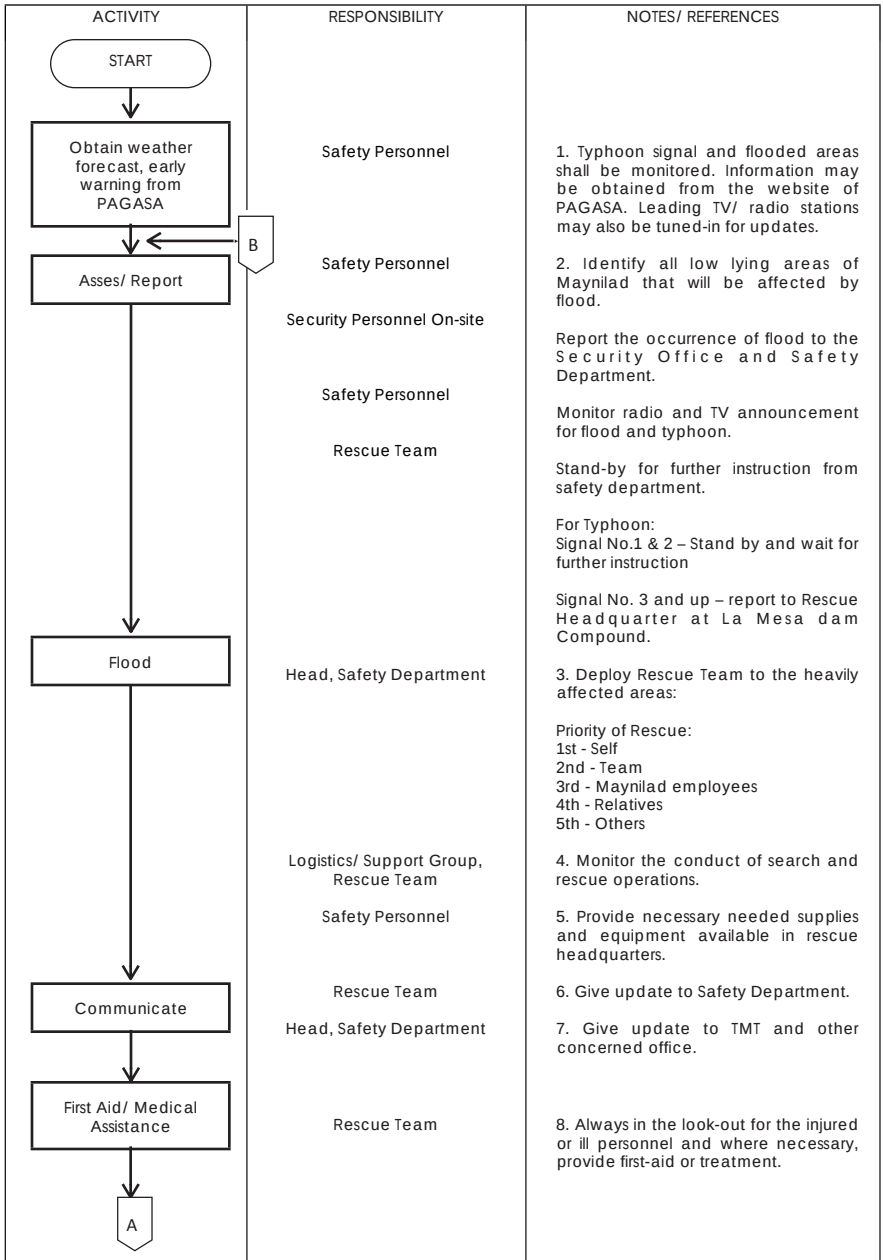
1. Head Protection
2. Safety Shoes/Boots
3. Gloves
4. Firemen Suit
5. SCBA

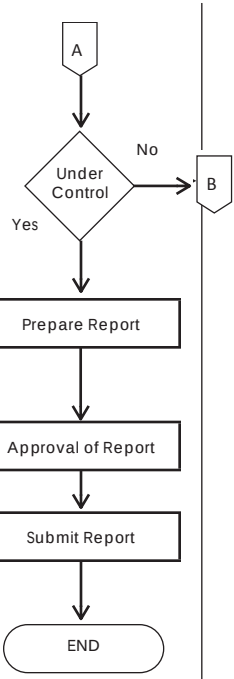
47.05 EARTHQUAKE, FIRE AND EXPLOSION RESPONSE PROCEDURE



	Incident Commander EPRT Rescue Team/ Medical Team Rescue Team Head, Rescue Team Safety Department Head, Safety Department Head, Safety Department	9. The Incident Commander shall be responsible in assessing whether or not the emergency situation is under control. Brief/ orient external parties of status and location of the fire. Where necessary, the affected area shall be cordoned and or barricaded to prevent other personnel from exposure from other hazards and or from thief or pilferage. 10. Always in the look-out for injured or ill personnel and where necessary, provide treatment. Assist the affected area for clearing operation Inform Safety Department. 11. Prepare arson investigation report base on the BFP-Arson Investigator Report within seven (3) working days upon receipt. Refer to Arson Investigation Form from BF 12. Review and approval of Arson investigation of report within one (10 working day upon receipt. 13. Submit report to the concerned offices.

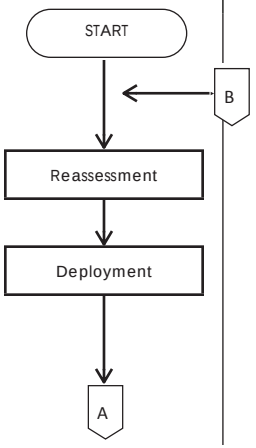
47.06 TYPHOON AND FLOOD RESPONSE PROCEDURE



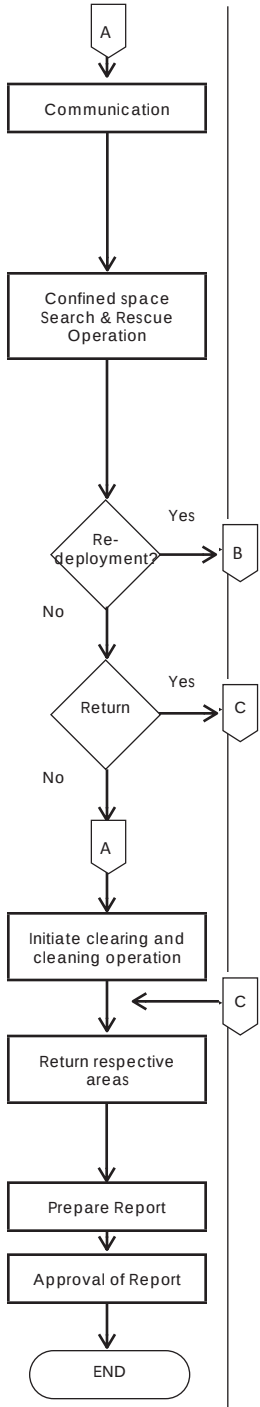


Rescue Team	9. Return to Rescue Headquarter and stand-by for further instruction
Safety Department	10. Prepare after operation report and submit to the Head of Safety Department within two (2) working days.
Head, Safety Department	11. Review and approval of report within one (1) working day upon receipt.
Head, Safety Department	12. Submit report to the concerned offices within one (1) working day upon receipt.

47.07 CONFINED SPACE RESPONSE PROCEDURE



ACTIVITY	RESPONSIBILITY	NOTES/ REFERENCES
	Head, Rescue Team	1. Size-up the problem and determine the strategy to perform a safe and efficient rescue.
	Head, Rescue Team	2. Deploy all available manpower and equipment in search and rescue operations to confined space area. Set-up for rescue (entrance, equipment) such as gas monitor, SCBA, ropes, tripod and other emergency equipment. If fire is present refer to Fire Response Procedure.



Head, EPRT Rescue Team	Shall verify and communicate to the area commander, supervisor and or external forces to where the affected areas are located.
Rescue Team	3. Provide evacuation and assistance to employees. Search and Rescue of all personnel based on Maynilad's operational Capability. Provide first aid to injured victims if necessary. Victims recovered immediately transport to medical facilities.
Head, Rescue Team	4. Continuous monitoring to the affected areas and or Maynilad facilities if re- deployment is needed to the affected areas.
Head, Rescue Team	5. Shall mainly responsible in assessing whether or not it is safe to for the employees, customers and other personnel to return to their respective areas.
Damage Control Team	6. Immediate cleaning and clearing operations shall be initiated in coordination with the Admin.
Employees, Customers, Utility Workers, and other Personnel	Follow instructions coming from, Damage Control Team, Rescue Team and EPRT.
Damage Control Team	7. Prepare Damaged Assessment Report based on the report by the Head or supervisor of the affected installation To assess the impact or effects to the company within seven (7) working days upon receipt
Head, Safety Department	8. Review and approval of report within one (1) working days upon receipt.
Safety Personnel	9. Submit report to concerned offices within one (1) working days upon receipt.

47.08 BOMB THREAT RESPONSE PROCEDURE

OBJECTIVES:

1. To ensure that all personnel of every operating units are aware and prepared for any bomb threat situation.

2. To provide effective and systematic procedure in responding to a bomb threat.

SCOPE:

This procedure covers immediate responses and planning to deal with bomb threat at vital facilities of the Company.

DEFINITION:

Bomb Threat – a terrorist act or threat may include bomb threats, suspicious packages, and threats to physical safety, telephone threats, civil disturbances or any other events that have an impact on the Company's business activities. A bomb threat may come to the attention of the receiver in various ways. It is important to compile as much information as possible.

GENERAL GUIDELINES FOR BOMB THREAT:

1. Do not attempt to notify or evacuate an entire building as this could interrupt the Company's operation; it would be better to verify first the authenticity of the information.

2. Please keep in mind that the vast majority of bomb threats are false and are primarily intended to elicit a response from the building occupants. In case of a written threat, it is vital that the document be handled by few people and should be turned over to local police authorities.

3. If the threat is received via electronic mail (e-mail), make sure to save the information on your computer.

4. Remain calm and immediately refer to the attached Telephone Bomb Threat Checklist. If applicable, pay attention to your telephone display and record the information shown in the display window.

5. The objective is to keep the caller on the line as long as possible to gather as much information as possible. Try not to anger the caller at any time.

6. While engaging the caller, pay attention to any background noise and distinctive sounds (machinery, traffic, other voices, music, television, etc.).

7. Take note of any characteristics of the caller's voice (gender, age, education, accent, etc.).

8. Attempt to obtain information on the location of a device (building, floor, room, etc.).

9. Attempt to obtain information on the time of detonation and type of detonator.

10. Immediately after the caller has ended the call, notify your immediate head within your work area and call the local police authorities.

11. If the threat was left on your voice mail, do not erase.

12. The decision to evacuate shall be made after a thorough evaluation of the information available, including but not limited to:

1. The nature of the threat.

2. The specificity of location and time of detonation.

3. Circumstances related to the threat (i.e. political climate, series of events leading to the threat, etc.)

4. Discovery of a device or unusual package, luggage, etc.

13. Other emergency units will be alerted to the threat and asked to stand by for further instructions. Persons leaving the building should report to a specified location for further instructions.

14. The decision to resume normal activities in the building will be made by local police authorities.

47.09 MAYNILAD CONTINGENCY PLAN IN CASES OF TYPHOON, FLOOD AND OTHER SEVERE CONVECTIVE STORM

47.09.01 Maynilad Concept

Statistics shows that the strong tropical cyclones (typhoon), floods and other severe convective storms like thunderstorms and tornadoes usually pose to human casualties and property damages. The destructive effects can at least be minimized, if not prevented, depending on the degree of preparedness and awareness. It is therefore the concept of Maynilad to be always prepared by formulating Contingency Plans to be able to minimize its effect to its employees and vital facilities.

47.09.02 Objectives of Contingency Plan

This Plan is envisioned to provide more detailed and effective guidance and procedures on what to do before, during and after the occurrence of tropical

cyclone and severe convective storms like tornadoes and thunderstorms associated with lightning and floods.

47.09.03 Classification of Cyclones and Severe Convective Storms

I. Tropical Cyclones (Typhoon)

Description of the modified public storm signals thru PAGASA forecast and warnings.

Public Storm Signal No. 1

Meteorological Conditions:

1. A tropical cyclone will affect the locality.

2. Winds of 30 – 60 kph may be expected within 36 hours.

Impacts of the Winds:

1. Twigs and branches of small trees may be broken.

2. Some banana plants may tilt or land flat on the ground.

3. Some house of very light materials (nipa & cogon) maybe partially unroofed.

4. Rice in the flowering stage may suffer significant damage.

Public Storm Signal No. 2

Meteorological Conditions:

1. A moderate tropical cyclone will affect the locality.

2. Winds of greater than 60 kph and up to 100 kph may be expected within 24 hours.

Impacts of the Winds:

1. Some coconut trees may be tilted with few others broken.

2. Few big trees may be uprooted.

3. Many banana plants may be destroyed.

Public Storm Signal No. 3

Meteorological Conditions:

1. A strong tropical cyclone will affect the locality

2. Winds greater than 100 kph up to 185 kph may be expected within 18 hours.

Impacts of the Winds:

1. Almost all banana plants may be destroyed and a large number of the trees may be uprooted.

2. There may be wide spread disruption of electrical power and common communication services.

3. There may be considerable damage to structures of light and medium construction.

4. In general, moderate to heavy damage may be expected in both in the agricultural and industrial sectors.

5. Travel by sea and by air is very risky.

6. Sea and coastal waters will be dangerous to all sea crafts.

Public Storm Signal No. 4

Meteorological Conditions:

1. A very intense typhoon will affect the locality.

2. Many large trees may be uprooted.

3. Most residential and industrial buildings of mixed structure will severely damaged.

4. Electric power distribution and communication services may be disrupted.

5. Damage to affected communities can be very heavy.

II. Thunderstorms

It is a local storm generated by thermal instability in the atmosphere and represents violent atmospheric convections. The associated hazard of thunderstorm is lightnings, which represent a flow of current and may proceed from cloud to cloud, cloud to ground, or where high structures are involved.

III. Flash Floods

Rainfall, which results in flashfloods, is normally produced of intense convective storms. Before the occurrence or when warned of flood by Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA) forecast or warnings, to mitigate flood effects to Maynilad employees (especially those on field works), properties, and ongoing projects, the following are Flood Safety Rules which need to observe:

Before the Flood

1. All open excavations must be covered with steel sheets.

2. Listen to your radio for emergency instructions.

3. If you find it necessary to evacuate, move to a safe area before access is cut-off by floodwaters.

4. Move household or office belongings to upper levels.

5. Store valuables and documents in waterproof containers.

6. Turn off electricity at the main switch of the building and lock it before evacuating.

7. Store drinking water in containers; water service may be interrupted.

8. Check your disaster supply kit. Do not forget non-perishable food, medications and can opener.

During the Flood

1. In flooded areas, no excavations should be made.

2. Do not attempt to cross rivers or dams of flowing streams where water is above the knee.

3. Beware of water-covered loads and bridges.

4. Do not go swimming or boating in swollen rivers.

5. Drink clean or preferably boiled water only.

6. Avoid areas subject to sudden flooding.

After the Flood

1. Beware of any hazards like broken wires, fallen or uprooted trees or debris.

2. All Maynilad Safety Committee Members, in coordination with safety and security shall make situational report in their respective areas of responsibility on broken utility lines (electricity, water, gas and telephone) for appropriate assistance from concerned agencies or authorities.

3. Do not go "sight-seeing" in disaster areas.

Things to Do to Mitigate Effects of Floods

1. Regulate cutting of trees.

2. Report illegal construction of houses on waterways.

3. Do not throw garbage in *esteros* and rivers.

IV. Tornado

It is an intense rotating column of air with horizontal extent which appears as an extension of dark heavy thunderstorm (cumulonimbus) cloud system, in the familiar funnel shape of obscured rain or dust. Tornado usually moves on the ground at a speed 50kph to 65 kph. It is a product of the interaction of strong thunderstorm with winds in the troposphere. Some tornadoes occur even though no thunderstorm is reported. A tornado produces a roaring or buzzing sound that can be heard at about 40 km away. Rolls of thunder, which may overlap to make a nearby continuous background of rumble, augment such sounds. These storm although short-lived, it can cause severe losses or damages to property and human lives.

Maynilad Safety Rules in Case of Tornado

1. All field personnel on fieldwork, must seek inside shelter preferably in the basement, underground, or steel framed or reinforced concrete building of substantial construction.

2. Personnel inside the office are advised to be in the center part of the building. Keep some windows open, but stay away from them.

3. If driving a vehicle, abandon it and seek shelter outside the nearest depression, ditch or ravine.

47.10 MAYNILAD CONTINGENCY PLAN PRE-OCCURRENCE OF TROPICAL CYCLONE (TYPHOON), FLOODS, AND OTHER CONVECTIVE STORMS

47.10.01 Awareness and Safety Measures on PAGASA's Forecast & Warnings:

Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA) was legislatively created to administer weather forecasting, advising and warning systems. Maynilad employees rely on the PAGASA advisories, among others are weather advisory on storm signals as follows:

Tropical Cyclones (Typhoon)

1. Signal No. 1

Precautionary Measures:

1. People are advised to listen to the latest severe Weather Bulletin issued by the PAGASA every six hours.

General Advisory by Maynilad Management thru the Safety Department:

Business, like Maynilad, may be carried out as usual. When the tropical cyclone is intensifying and or is moving closer, the typhoon signal may be gradually increased. Maynilad Disaster Preparedness is activated to ALERT STATUS. (Code Blue Alert)

2. Signal No. 2

Precautionary Measures:

1. The sea and coastal waters are dangerous to smaller sea crafts. Fishermen are advised not to go to the sea or to Maynilad water impounding or sedimentation areas.

2. Avoid unnecessary and risky travelling by sea or by air.

3. Stay indoors and secure properties.

General Advisory by Maynilad Management thru the Safety Department:

Special attention should be given to the latest position, direction and speed of movement of the tropical cyclone as it may intensify and moves toward the locality. Maynilad Disaster Preparedness must be alerted. (Code Yellow Alert)

3. Signal No. 3

Precautionary Measures:

1. Stay in strong buildings.

2. Evacuate in low-lying areas.

3. Stay away from coasts and river banks.

4. Watch out for the passage of the “eye” of the typhoon.

5. During the passage of the “eye” of the typhoon, stay at safe shelter.

6. Maynilad management may or may not issue office and field work suspension order.

General Advisory by Maynilad Management thru the Safety Department:

The tropical cyclone threatens and affects communities, employees and the Company’s vital facilities. At this stage, the Maynilad Safety Department, Disaster and Rescue Team are reactivated to respond appropriately. (Code Orange Alert)

4. Signal No. 4

Precautionary Measures:

1. Cancel all travel and other outdoor activities. Stay in the safety of houses, buildings or evacuation centers.

General Advisory by Maynilad Management thru the Safety Department:

This situation is potentially very destructive to the community, employees of Maynilad and its vital facilities. At this stage, stay in safer shelter or in safer evacuation center. Maynilad Safety Department, Disaster and Rescue Team, based at Main Office and other disaster response organizations must be reactivated on Red Alert Status to respond to emergencies

SECTION 48
ERP FOR TYPHOON AND FLOOD

48.01 OBJECTIVES

1. To guide management on the course of action specifically on work arrangement for employees during incidence of severe flooding, typhoons and other extreme weather conditions.

2. To prepare and protect employees and property of the Company on the course of action during the above events.

3. To provide necessary signals and warnings to trigger the implementation of the response mechanisms for the incidence and institute business continuity plan.

4. To deploy necessary resources to facilities to be possibly affected of the events.

5. To ensure timely and effective actions during times of inclement weather such as typhoons.

48.02 SCOPE

This procedure covers guidelines during typhoons and other extreme weather conditions that may cause flooding and damages to the Company's facilities and operations.

48.03 DEFINITION OF TERMS

1. PAGASA – Philippine Atmospheric Geophysical and Astronomical Services Administration.

2. Typhoon – a tropical cyclone occurring in western Pacific or Indian ocean.

3. Accident – an undesired event or incident giving rise to death, ill health, injury, damage or other loss.

    a. Minor Accident – property damage is less than Php 50,000. Injury of a person can be treated without medical attention.

    b. Major Accident – property damage is greater than Php 50,000. Injury of a person needs medical attention.

4. Emergency – a serious event that requires immediate action from the fire brigade, medical, and electrical personnel to render emergency services.

5. EPR – Emergency Preparedness and Response.

6. EPRT – Emergency Preparedness and Response Team.

7. Incident – work-related event/s in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred; also include incidents that may adversely affect the environment.

48.04 REFERENCES

MWSI Safety Code 2005

48.05 DETAILS

48.05.01 Weather warnings are disseminated by using appropriate signals adopted by the government such as:

1. PAGASA Rainfall Warning System

   a. Yellow – indicates 7.5 to 15 mm (heavy) rain in the last hour and likely in the next two hours, and possible flooding. The public is asked to monitor weather conditions.

   b. Orange - indicates 15 to 30 mm (intense) rain in the last hour and likely in the next two hours, and that flooding is "threatening." The public is asked to be alert for possible evacuation.

   c. Red – indicates more than 30 mm of rain in the last hour and likely in the next two hours, and that serious flooding in low-lying areas may occur. The public is asked to evacuate.

2. Typhoon Signal

   a. Signal No.1 – Wind is not more than 60 KPH and is expected within 36 hours.

   b. Signal No. 2 – Wind is over 60 KPH but less than 100 KPH and is expected within 24 hours.

   c. Signal No. 3 – Wind is expected within 18-12 hours and packs over 100 KPH

48.05.02 General Guidelines During Typhoon

1. If and when Typhoon Signal No. 1 is raised in the area, the application of the general guidelines is to be observed.

2. If and when Typhoon Signal No. 2 is raised in the area, the following measures shall be undertaken to prevent damage:

    a. Organize a maintenance staff and EPRT on a standby basis.

    b. Close all windows, shutters, doors and other openings.

    c. Have crew remove all loose boards and other items, which might be blown and caused damage during the storm.

    d. If practical, move materials that might be damaged by water to a safer place. Stocks or equipment near windows on the windward side should be covered with tarpaulins, if there is a possibility that the windows might break. Provide temporary materials for quick temporary repairs.

3. If and when Typhoon Signal No. 3 is raised in the area, at the discretion of the Management, support group personnel and those not necessary in securing vital plant operation may be sent home or may be advised not to report to work. However, all key personnel in each business units shall be on alert and be readily available on a 24-hour call.

4. For updates and status of facilities and affected employees, Safety Department will issue advisory at the following shift: 6:00 AM, 12:00 NN and 6:00 PM.

5. But if the situation demands more frequent updates, it will be done on an hourly basis depending on the need and urgency.

6. The Finance Division through the Treasury Department will make available the needed cash advance for the rescue and relief operations.

7. The following concerned business units are required to report the following information/ data to Safety Department:

a. On-site Security will report flood situations and conditions of all facilities.

b. Wastewater Management will report status of their STPs and Lift Stations (damages, power interruptions, shut down operation, operational problems, etc.)

c. Water Network will report the status and conditions of pump stations and reservoirs (damages, power interruptions, shut down operation, operational problems, etc.)

d. Water Production will report the status of LP1, LP2 and Putatan Plants and level of water at Angat/ IPO dam, actual volume of water production, raw/ treated water quality, damages, power interruption and shut down operations.

e. Business Areas will report any customer complaints (regarding water service interruptions, leaks, etc.) within their facilities or any personnel needing rescue operation.

f. Commercial and Marketing will send information requests on relief and rescue operations.

g. Employees will send requests for evacuation or any emergency situation requiring office assistance.

h. Safety Department will consolidate the reports and send to Top Management Team (TMT) members. In cases where decisions have to be made by TMT, the Safety report will trigger the request.

i. Safety Department will issue the mobile numbers and email addresses where all the above information will be sent.

48.05.03 General Guidelines After the Typhoon

1. Check premises for structural damage or weakening and initiate necessary repairs.

2. Check protection and safety of equipment, alarms and electronic instruments.

3. Check stocks/ supplies, equipment and instruments for water damage and start salvage operations.

4. The Damage Control Team will make a report to the Head of business unit concerned about the extent of damages.

48.05.04 General Guidelines for Floods

1. If water is visible on the floor, walls or ceiling, Site Safety Officer should be contacted. Site Safety Officer may contact Facility Head and/ or Head Office as needed.

2. Safety Officer should assess the situation and where practicable, locate the source of the flood in order to mitigate further loss or damage.

3. Site Safety officer serves as the initial incident leader for this type of emergency and may ask the Head of affected unit/s to contact local authorities if the flood has potential life threatening concerns.

4. If local authorities are involved, they shall assume authority for the site with support from EPRT.

5. Admin personnel may conduct housekeeping internally or contract with external services depending on the situation to begin clean up and mitigation.

6. Damage Control Team is notified to assess the damage and conduct investigation.

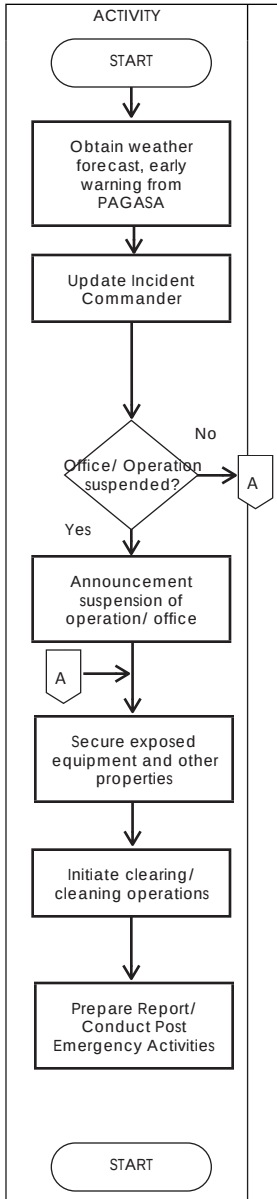
7. Review escalation levels to determine the severity of incident and the possibility of outages as a secondary loss following the flooding.

8. BCM Core group in the business units affected will proceed through resumption/ recovery and restoration phases.

9. If any properties or personal belongings are damaged, these items should be noted by Risk Management and investigation and potential recovery should be conducted.

10. HRD Safety and Security personnel will review the cause of incident and identify areas for further prevention.

48.05.05 Procedure Flow



ACTIVITY	RESPONSIBILITY	NOTES/ REFERENCES
START		
Obtain weather forecast, early warning from PAGASA	Safety Officer	1. Rainfall warning, typhoon signal and flood conditions shall be monitored. Information may be obtained from the PAGASA website. Leading TV/ radio stations may also be tuned-in for updates.
Update Incident Commander	Safety Officer	2. The following Management shall be regularly updated through phone, emails or text: - Leader, First Aid Team - Incident Commander - Leader, Damage Control Team *Note: On-field Teams may also update Incident Commander of site situation.*
Office/ Operation suspended? No → A	Incident Commander	3. Incident Commander may confer with the Corporate Office and/ or on-field Service Teams for the need to suspend operation.
Yes Announcement suspension of operation/ office	Incident Commander/ Admin Supervisor	4. Where practicable, communicate with on-field personnel of any relevant announcement in Maynilad.
A		
Secure exposed equipment and other properties	Damage Control Team/ Security Team	5. Where appropriate, relocate equipment and materials that may be exposed to floods or strong winds. Where practicable, transfer vehicles to higher grounds. Otherwise, chain (for restraint) vehicles.
Initiate clearing/ cleaning operations	Damage Control Team	6. Cleaning/ clearing/ mopping operations shall be initiated after the floods/ typhoon in coordination with Admin, and where possible, operation to normal condition shall be restored.
Prepare Report/ Conduct Post Emergency Activities	Leader, Damage Control Team	7. A report of the incident/ emergency in accordance with Incident Notification, Investigation and Reporting Procedure, shall be prepared.
	Damage Control Team	8. Structural integrity of buildings and other facilities shall be initiated after the typhoon/ floods.
START		

SECTION 49
ATTACHMENTS

Maynilad Head Office Evacuation Plan - 2nd Level, Basement
(See Exhibit Form)

SECTION 50
ADMINISTRATIVE CONTROLS

50.01 The Evacuation Chief shall document what transpired during the drill, and submit it to the Fire Marshal.

50.02 Concerned employee/s will be issued corresponding memorandum regarding lapses or errors committed by them during drills. Constructive advises will be contained in these letters. Succeeding drills will indicate application of corrections on previous errors.

50.03 In case of employee's failure to attend the drill or training despite confirmation of attendance, he or she shall be required to submit a written valid explanation duly signed by the immediate superior stating the reason/s for such failure and the following penalties shall be accorded to him or her:

First Offense:	Written Reprimand
Second Offense:	Five (5) Days Suspension

The Internal Audit, the Human Resources Division, the Safety Department and the Central Safety and Health Committee in general shall from time to time review and update the applicability of this policy.

CHAPTER XII

SECTION 51
FIRST AID TREATMENT

51.01 Training and re-training of an eight (8) hour course conducted at least once a year on first aid is highly recommended for updates on new methods with focus on frequently encountered cases.

51.02 First aider should be properly identified and employees in general should be aware of their work shift schedule and site assignment.

51.03 Emergency services by at least one (1) well trained first aider for every work shift is a must.

51.04 A complete First Aid Kit should be strategically distributed in all Maynilad satellite offices.

51.05 A regularly replenished Kit should contain a properly labeled and segregated medicines and medical paraphernalia.

51.06 First Aid Pocket Manual should:

1. Be understandable to the users.

2. Include first aid procedures of frequently encountered illnesses or accidents.

3. Be accessible to everyone.

51.07 First aider should keep records of all the incidents encountered for monitoring and documentation purposes.

51.08 Ideally the First Aid Kit should contain the following:

FOR HAZARDOUS WORKPLACES

MEDICINES	NUMBER OF WORKERS					
	1-50	51-99	100-199	200-600	601-2000	2001 above
Topical antiseptic, cc.	60	60	120	120	240	240
Antiseptic eyewash, cc.	120	120	120	240	240	240
Isopropyl alcohol, cc.	240	240	240	500	500	500
Aromatic spirit of Ammonia, cc.	30	30	30	30	60	60
Toothache drops, cc.	15	15	15	30	30	30
Hydrogen peroxide solution, cc.	120	120	240	240	360	480

MEDICINES	NUMBER OF WORKERS					
	1-50	51-99	100-199	200-600	601-2000	2001 above
Burn ointment tube	1	1	1	1	1	1
Analgetic/Antipyretic tablets	20	30	40	40	50	50
Anti-histaminic tablets	_	_	20	30	40	50
Antacid tablets	10	10	20	30	40	50
Anti-diarrhea tablets	10	10	20	30	40	50
Anti-spasmodic tablets	_	10	20	30	40	50
Anti-hypertensive tablet	_	10	20	30	40	50
Coronary vasodilator tablets	_	10	20	30	40	50
Anti-asthma tablets	_	10	10	10	20	20
Anti-hemorhagic tablets	_	10	20	20	30	30
Glucose solution 5%, 500cc, bottle	_	1	2	2	3	4
Anesthetic preparation	_	_	50	50	50	50

MEDICAL SUPPLIES AND EQUIPMENT	NUMBER OF WORKERS					
	1-50	51-99	100-199	200-600	601-2000	2001 above
First aid pamphlet	1	1	1	1	1	1
First aid box	1	1	1	1	1	1
Thermometer	1	1	1	2	2	2
Stethoscope	_	1	1	1	1	1
Spygmomanometer	_	1	1	1	1	1
Sterile gauze pads	5	5	10	10	20	20
Gauze bandage, roll	1	1	1	2/*	2/*	2/*
Adhesive tape, roll	1	1	1	1	1	1
Absorbent cotton	*	*	*	*	*	*
Bandage scissors	1	1	1	1	1	1
Triangular bandage	1	1	1	2	2	2
Safety pins	*	*	*	*	*	*
Tongue depressors, wooden	100	100	100	100	100	100
Hot water bag	1	1	1	1	1	1
Ice bag	1	1	1	1	1	1
Disposable hypodermic syringes with needles 2.5 cc	_	_	10	10	10	20
Rubber tourniquet	1	1	1	1	1	1
Venoclysis set (IV tubing butterfly)	_	_	1	1	1	1
Forceps	*	*	*	*	/*	*
Waste pail	1	1	1	1	1	1
Soap cake	*	*	*	*	*	*
Examining table	_	_	_	_	1	1
Linens	_	_	_	_	*	*
Bed	_	_	_	_	1	1
Stretcher	_	_	_	_	1	1
Cabinet for medicines and supplies	_	_	_	1	1	1

* Adequate quantity depending upon needs of the workers as determined by the health personnel of the establishment

FOR NONB-HAZARDOUS WORKPLACES

MEDICINES	NUMBER OF WORKERS					
	1-50	51-99	100-199	200-600	601-2000	2001
Topical antiseptic, cc.	60	60	120	120	240	240
Antiseptic eyewash, cc.	_	_	_	_	_	_
70% Isopropyl alcohol, cc.	240	240	240	240	500	500
Aromatic spirit of Ammonia, cc.	30	30	30	30	30	30
Toothache drops, cc.	15	15	30	30	30	30
Hydrogen peroxide solution, cc.	120	120	120	240	360	480
Burn ointment tube	_	_	1	1	1	1
Analgetic/Antipyretic tablets	10	10	10	20	30	40
Anti-histaminic tablets	_	_	10	20	30	40
Antacid tablets	10	10	10	20	30	40
Anti-diarrhea tablets	10	10	10	20	30	40
Anti-spasmodic tablets	_	_	10	20	30	40
Anti-hypertensive tablet	_	_	10	20	30	40
Coronary vasodilator tablets	_	_	10	20	30	40
Anti-asthma tablets	_	_	10	10	20	20
Anti-hemorhagic tablets	_	_	10	10	20	20
Glucose solution 5%, 500cc, bottle	_	_	_	_	_	_
Anesthetic preparation	_	_	_	_	_	_

MEDICAL SUPPLIES AND EQUIPMENT	NUMBER OF WORKERS					
	1-50	51-99	100-199	200-600	601-2000	2001 above
First aid pamphlet	1	1	1	1	1	1
First aid box	1	1	1	1	1	1
Thermometer	1	1	1	1	2	2
Stethoscope	_	_	1	1	1	1
Spygmomanometer	_	_	1	1	1	1
Sterile gauze pads	5	5	5	10	20	20
Gauze bandage, roll	1	1	1	1	2	2
Adhesive tape, roll	1	1	1	1	1	1
Absorbent cotton	*	*	*	*	*	*
Bandage scissors	1	1	1	1	1	1
Triangular bandage	1	1	1	1	2	2
Safety pins	*	*	*	*	*	*
Tongue depressors, wooden	_	_	100	100	100	100
Hot water bag	1	1	1	1	1	1
Ice bag	1	1	1	1	1	1
Disposable hypodermic syringes with needles 2.5 cc	_	_	10	10	10	20
Rubber tourniquet	1	1	1	1	1	1
Venoclysis set (IV tubing butterfly)	_	1	1	2	2	2
Minor surgical instruments	_	_	*	*	*	*
Forceps	_	*	*	*	*	*
Waste pail	1	1	1	1	1	1

MEDICAL SUPPLIES AND EQUIPMENT	NUMBER OF WORKERS					
	1-50	51-99	100-199	200-600	601-2000	2001 above
Soap cake	*	*	*	*	*	*
Examining table	_	_	_	1	1	1
Linens	_	_	_	*	*	*
Bed	_	_	_	1	1	1
Stretcher	_	_	_	1	1	1
Cabinet for medicines and supplies	_	_	1	1	1	1

SECTION 52
FIRST AID

52.01 First aid is the immediate temporary treatment given in case of accident or sudden illness before services of a physician can be secured. After first aid is given, the injured or sick employee should be brought to the medical unit.

General Instructions:

1. A first aid kit should be readily available at all times. First aid kit must be properly maintained and inspected at frequent intervals by the foremen or other in charge.

2. Keep calm in all emergency situation. If you are familiar with first aid methods, do not hesitate to take charge of the situation. Direct the action of others and do everything in your power to comfort and or save the life of the injured or victims. If you are not familiar with first aid methods, do not attempt to do so and ask for someone familiar.

3. In any case, lay the patient down in a comfortable position, called a physician immediately and try to examine all injuries and see if you know any first aid method to temporarily aid the injuries and pain of the patient. Do not excite or frighten the patient. A word of encouragement is always helpful.

4. Basic procedure in examining patient is first check for stoppage of breathing; second, for severe bleeding; third, for internal poisoning; fourth, for open wounds; fifth, for burns; sixth, for fractures and dislocation. Other less serious injuries can be taken care of.

5. If patient is unconscious and is not breathing or if you are uncertain of his action, start artificial resuscitation at once.

6. Handle patient gently but firmly.

7. Loosen tight clothing at neck and waist.

8. Do not slip clothing over injured part. Rip it at the seams with knife or scissors.

9. If the patient is vomiting, turn his head to one side so he or she will no choke.

10. Patient should always be kept warm.
11. Never give unconscious person water or any liquids to drink.

12. Do not move an injured person unless absolutely necessary. Do not be in a hurry to transport the patient. Much harm may be done when jarring and shaking the patient.

52.02 SHOCK OR FAINTING

This condition is present in many cases of minor or major injury. Fainting is a mild form of shock.

1. Lay the patient flat on his back with his head low.

2. Keep the patient comfortably warm with blankets, robes, coats, etc. External heat, such as hot water bottles, hot pads, etc., should not be applied unless the covering appears to be inadequate or the patient complains of being cold. In applying heat to the body, great care must be exercised to prevent burning the patient.

3. Provide plenty of fresh air.

4. Have the patient inhale aromatic fumes from ammonia ampule. If patient is conscious, give him a glass of water or a hot drink (tea, coffee or water) as a stimulant. Administer frequently in small doses. (Inhalants must be carefully used. Do not hold too close to nose. Try them on yourself first.)

52.03 WOUNDS

Any break in the skin is a wound and is likely to become infected. All wounds, no matter how small, must receive first aid attention.

52.03.01 Wounds Without Severe Bleeding:

1. Wash the wound with soap or water.

2. Dry it with cotton balls or let it dry.

3. Apply antiseptic solution, e.g. alcohol, etc.

4. Cover it with sterile gauze compress and bandage.

5. Puncture wounds from nails, long sprinters, etc. should receive the immediate attention of a physician.

6. Do not squeeze, press or crush blood clots or scabs.

7. Do not remove foreign bodies, except small splinters from wounds. These maybe carefully remove from tweezers, the points of which have been scorched in a flame sterilized with antiseptic.

52.03.02 Wounds With Severe Bleeding:

1. Secure medical aid at once. Apply direct pressure by using compress or bare hand.

2. Place patient in a lying position and elevate the injured part if possible, above the heart.

3. Apply pressure with fingers on arterial pressure points, if known. Apply digital pressure by pressuring the artery that supplies blood to the wounds.

4. Place large scales gauze compress over wound and bandage tightly in place.

5. As a last resort to check bleeding from an injured limb, a tourniquet may be applied close to the wound. There should be unbroken skin between the tourniquet and the wound. If the wound is near a joint, make the wrap at the nearest point above the joint. Attached a note on the victim's body indicating the hour of tourniquet application. The tourniquet should not be released except by a physician who is prepared to control the hemorrhage and replace blood volume adequately. Improvised tourniquets should be made of flat material about two inches wide (eg. cravat bandage, stocking or a belt). Do not use ropes, wire, or sash cord: they may cause injuries to the underlying tissues and blood vessels.

6. Do not give stimulants in case of severe bleeding. Cold water may be given in small doses.

52.04 INFECTED WOUNDS

There is no first aid treatment for infection. A physician must always be consulted promptly.

52.05 BURNS

Burns are injuries to tissues caused by heat, friction, electricity, radiation, or chemicals.

1. Do not break blisters.

2. Carefully cut away clothing from the burned area and apply sterile burnt solution or ointment. Never use iodine.

3. Cover lightly with several thickness of sterile gauze and bandage. Never use cotton for burns.

4. In all cases of chemical burns on the skin, thoroughly flush the burned area with plenty of clean water. Then treat as directed above.

5. For chemical burns on eye, see section on Eye Injuries.

6. Creosote burns when skin surfaces contact with creosoted poles, wash parts thoroughly with soap and hot water. Apply Isopropyl Alcohol or Creosote burn solution. Never use this solution to or near the eyes.

52.06 INJURIES TO BONES

Injuries to bones are sometimes difficult to detect. If a fracture or dislocation is suspected, treat as such.

1. Falls or other accidents involving injury to the neck or back may result in very serious after-effects if the spinal cord is injured.

2. Unless there is an imperative need to move an individual suspected of having a spinal cord injury to a safety zone, the injured is best not to move or lifted, until medical aid is obtained.

52.07 FRACTURES

The breaking of a part, especially a bone; break or rupture in a bone.

1. Avoid unnecessary handling of patient and injured part. (Great damage may be done by sharp edges of bone puncturing blood vessels and tissues).

2. Place the patient at rest in a comfortable position. Call a doctor immediately. It is not necessary to splint broken bones unless the patient will be moved.

3. When splint is needed, cover the joints above and below the fractured member. Splints must be thoroughly padded and carefully applied.

4. In compound fractures where bone protrudes through skin, treat the wound first as directed under the section on wounds.

52.08 DISLOCATION

A bone out of position at a joint is called a dislocation.

1. Treat dislocation by the application of cold or hot compresses.

2. Secure medical aid promptly. It is always advisable to have a doctor to put the dislocated joint back in place.

52.09 SPINAL CORD INJURIES

Spinal cord injury is damage to the spinal cord that causes loss of sensation and motor control.

Never lift an injured person or his head until he or she is sure he or she can move his legs or fingers. If the victim cannot move his legs, his back may be broken. In both cases, the spinal cord is injured.

If the patient must be moved, proceed as follows:

52.09.01 BROKEN BACK

1. In case of a broken back, fold a blanket lengthwise and place it beside the patient.

2. Hold him at the shoulders and hips and gently roll the patient over into the blanket with the head turned to one side.

3. One arm may be folded so as to lie beneath the patient's head. By pulling at the shoulders and hips, the trunk is moved as a unit.

4. The blankets should be lifted by grasping it at the level of the patient's shoulders and knees. This permits the patient's back to sag slightly downward on a stretcher or a similar support and must be transported in this position.

5. Do not permit the patient to sit up.

52.09.02 BROKEN NECK

1. If a person with a broken neck must be moved, a board or shutter should be placed lengthwise beside the patient so that it is at least 4 inches beyond the patient's head. The board should be 5 feet or more in length and at least 15 inches wide.

2. The neck is steadied by holding the head between the two hands. One or more persons shall slide the patient onto the board so that he rests with

his face upward, arms at side, head, trunk and extremities on the board. The body, head and neck are moved as one.

3. Fold and secure the arms over the chest. Strap the patient to the board to prevent him from falling off during transportation. No pillow shall be placed under the head or neck.

4. Under no circumstances shall the head be tilted forward or sideways.

5. If the injured person is found lying face downward, the board shall be placed beside the patient in the same manner as described above. The head and neck are then steadied between the two hands while another person gently rolls the patient onto the board, holding the patient at the shoulders and hips so that he lies face up. The head and trunk must be turned at the same time.

6. Although there may be no symptoms, if a broken back or neck is suspected, transport as if the back or neck were broken. When the victim is unconscious, handle him as though his neck is broken.

52.10 POISONING

Poisoning occurs when any substance interferes with normal body functions after it is swallowed, inhaled, injected, or absorbed.

52.10.01 For Non-Corrosive Poisoning (Without Acid Content)

1. Dilute the poison with water. Let the victim drink as much water as he or she can.

2. Induce vomiting.

3. Administer antidote (anti-poison) or milk to neutralize the poison inside.

4. If breathing stops, give artificial respiration.

52.10.02 For Corrosive Poisoning (With Acid Content)

1. Dilute with water.

2. Don't let the victim vomit. It can enhance further tissue damage.

3. Administer antidote:

1 part strong tea
1 part milk
2 parts charcoal

52.10.03 Poison Vines-Ivy, Sumac, Oak, Etc.

1. Learn to identify these plants and avoid contact with them.

2. If portions of the skin are exposed, wash thoroughly several times with hot water and soap and then apply rubbing alcohol liberally.

3. If rash develops, wash again, apply rubbing alcohol and saturate with 5% solution of ferric chloride, calamine or other approved poison ivy lotion. Cover lightly with sterile gauze.

4. Always consult a doctor if the wound is severe.

52.11 BRUISES, SPRAINS AND STRAINS

1. Bruises are not usually serious. However, other internal injuries should be suspected. Apply cold or hot applications which will reduce swelling and pain.

2. Sprains are injuries to joints. Place the patient at rest and elevate the injured limb. Cold applications will reduce pain and swelling.

3. Strains are injuries to muscles. Rest injured muscles. Cold application and gentle massage of the injured part will help ease the pain. If strain is in the abdominal region, rupture should be suspected and a doctor be consulted.

52.12 EYE INJURIES

All cases except the most trivial ones must be attended by a doctor.

52.12.11 Foreign Body in the Area

1. Never probe or dig the eye for removal of embedded particles. If an object is floating on the surface, it may be brushed off with a clean cotton application or the corner of a sterile gauze compress.

2. Do not allow the patient to rub his eye. This will cause great irritation and do little good.

3. If the particle cannot be readily removed or if irritation continues, the eye should be flooded with a 10% solution of boric acid ointment. A couple of drops of clean olive oil or castor oil should then be applied.

4. Do not remove splinters from the eye.

52.12.02 Burns to Eye

In all cases of burns to the eye, the patient must be brought to a doctor.

1. Never neutralizes chemical burns of the eye. It is too risky for a novice to attempt this. Thoroughly flush the eye with clean water, then drop olive oil, castor or boric acid ointment into the eye.

2. Electric flush burns or fire burns of the eye should be treated with clean olive oil, castor or boric acid ointment. Do not use water.

3. Cover eye with a soft gauze compress. Iodine must never be used in or near the eye.

52.13 BITES

52.13.01 Dog or Cat Bites

1. Wash the wound thoroughly with soap and water. This is the only exception where the use of soap and water on a wound is permissible. This is done to eliminate the animal's saliva.

2. Treat as any open wound.

3. Always consult a doctor. If possible, identify the owner of the animal.

52.130.2 Insect Bites

1. Treat as an open wound.

2. Watch closely for the development of infection.

52.13.03 Snake Bites

If you work in a snake-infested area, insist on a special snake first aid packet for your use and familiarize yourself with the special instructions on the treatment of snakebites found in the packet.

52.13.03.01 First Aid for Non-Venomous Snake Bites

1. Treat as an ordinary wound.

52.13.03.02 First Aid For Venomous Snake Bites

1. Immobilize the injured patient.

2. Apply a constricting band.

3. Make an incision on the bitten part. Incision should be along the vein, not across the vein.

4. Suck the incised area to remove the venom.

5. Transport the victim to the hospital.

52.13.03.03 General Instructions for Snake Bites

1. Don't get excited. Keep quiet or don't move to avoid increase in the circulation of the venom.

2. Don't take a slug of whisky.

3. If bitten on a limb, let it hang down. Don't do more harm to yourself than the bite would have done if you hadn't treated it, particularly if you are not sure you have been bitten by a poisonous snake. Some have been so slash-happy with the knife, tied the lymph constrictor so tight, or left it on so long that infections, ulcers, gangrene and other complication result.

4. Sit where you are and carry out the first part of this treatment.

5. If you think you are bitten by a rattlesnake but can find no fang marks and have no pain or swelling within fifteen (15) minutes of the bite, you are probably mistaken in the identity of the snake or the snake injected very little venom.

6. Make no incisions but get to a doctor promptly.

7. Kill the snake, if possible, without undue excitement or exercise, to know whether it is really a poisonous snake. If practical, take the dead snake to your doctor so that he may know its size and identity.

8. Paint knife blade and fang marks with antiseptic. Make cross (x) incisions at the fang marks 1/4 inch long and 1/8 inch to 1/4 inch deep. (Do not make incisions if the bite is on fingers, toes or over large visible veins). Squeeze air out of the cup and place over incisions. Steady gentle suction is better than strong suction. The cups hold on best if the skin is moistened with antiseptic (alcoholic beverages may be used but antiseptics from first aid bites are much preferred.) If the patient can be taken to a hospital within fifteen (15) minutes, don't do anything. Just get to the hospital and have

someone call ahead so that they can be prepared and have anti venom ready.

52.14 CONVULSIONS OR FITS

1. Place the patient flat on his back and insert a padded stick between teeth to prevent the patient from biting tongue.

2. Do not restrict convulsion action but try to prevent the patient from inflicting self-injury, especially to the head.

3. After a convulsion, the patient must be kept warm and quiet. A doctor must be called.

52.15 SUNSTROKE

Sunstroke is caused by prolonged exposure to the direct rays of the sun. Condition comes on rapidly. Face is flushed, skin is dry and hot and breathing is heavy. A high fever is present. Treat this condition by reducing fever as quickly as possible by sponging head and the entire body with cold water. Never give patient stimulants (cool water may be given). Keep patient lying down with head and shoulders slightly elevated. Get medical help immediately. Quick action is important. Do not use ordinary treatment for shock.

52.16 HEAT EXHAUSTION

Heat exhaustion usually occurs in hot places where the circulation of air is not good. It is entirely different from sunstroke. It causes collapse from the effect of heat. The patient is very pale, skin is covered with clammy perspiration, pulse is weak and breathing is shallow. Treat by moving the patient to a cool place with good air circulation. Place the patient on his back with head low and then cover him with blankets or coats. If the patient is unconscious, give him aromatic spirit of ammonia dipped in a cotton ball as stimulant. Get medical aid immediately and keep the patient quiet. Treat for shock.

52.17 HEAD INJURIES

Every head injury should have the attention of a doctor. Fractured skull or concussion should be suspected and treated for.

1. Lay the patient down.

2. Give no stimulants.

3. Keep the head slightly raised and apply cold compresses to forehead and back of neck and heat to the rest of the body.

4. Treat any wound if present.

5. Transport these cases very carefully.

52.18 ARTIFICIAL RESUSCITATION

In case of accident involving electric shock, the following action shall be taken immediately:

1. Breaking the contact - the victim must be freed from contact with the live conductors as promptly as possible. Use a long dry stick or pole or another non-conductor. Interrupt the current supply if this can be done safely and quickly.

2. Begin rescue breathing (mouth to mouth to nose method) at the earliest possible second after the action under "Item 1" has been taken. Remember: the brain has only 4 minutes to live without oxygen.

3. While rescue breathing is in progress, have someone examine the heartbeat of the injured by feeling the pulse on his wrist or on his neck, just at the side of the Adam's apple.

4. If the heart of the injured is still beating, rescue breathing should be continued uninterrupted until normal breathing of the injured is restored or rigor mortis has begun. This may be 4 to 6 hours longer or place for care and treatment until after normal breathing has been restored. He may be lowered from the pole, but must not be otherwise moved.

5. If the heartbeat of the injured has stopped, the injured should be lowered as soon as possible and both the rescue breathing and the closed chest heart massage performed simultaneously.

6. As soon as possible, an ambulance should be called. Continue an uninterrupted artificial respiration and closed chest heart massage until normal breathing and normal heartbeats are restored.

7. If a second person is not available, the rescuer may interrupt massage every 30 seconds to fill the chest 2 or 3 times (rescue breathing). Mouth to mouth ventilation and chest massage do not have to follow the same rhythm.

8. As soon as the ambulance arrives, the injured shall be taken to the nearest hospital that has facilities for cardiac treatment.

9. During the trip to the hospital, artificial respiration and heart massage shall be continued in the ambulance. At the hospital, the injured shall be turned over to the attendants of the medical Staff who must be immediately informed that the injured was a victim of electric shock and that his heartbeat has stopped.

10. Keep the injured warm at all times during treatment and during the trip to the hospital.

11. These rules should be called to the attention of a doctor in attendance whose order is not in agreement, the doctor should be requested to assume full responsibility.

12. A doctor in attendance may give the injured an injection of adrenalin, render first aid treatment for surface wounds and burns and take such action as may be deemed necessary. All the while, artificial respiration must never be used in cases of electric shock.

13. The Maynilad employee present who is senior in position shall be held responsible for complying with these instructions. In case of an accident involving a non-employee, he or she should not insist that these instructions are followed, but it shall be his or her duty to recommend and urge that the instructions be followed.

52.19 CLOSED CHEST HEART MASSAGE

In an accident such as drowning, suffocation, gas poisoning, heart attack, overdose of drugs or electric shocks, one or two things can happen. Breathing may stop while the heart still beats or both breathing and heartbeat may stop. In either case, death is just a matter of minutes if no decisive and immediate action is taken. Rescue breathing and closed chest heart massage should be given immediately as the case may be.

The following actions should be taken immediately when the heartbeat of the victim has stopped:

1. Lay the victim on his back (supine position) on a firm or rigid surface.

2. Locate the breastbone by feeling the notch where the collarbones meet at the top end and the cartilage located in the middle of the breast below the ribs at the bottom.

3. Place the heel of the palm of one hand on the lower third of the breastbone and the other hand on top of the first. Palms should be parallel to and not touching the ribs.

4. Pressure is applied vertically downward and forcefully at least once per second. Pressure must be strong enough to move the breastbone 1 1/2 ☒ - 2 ☒ toward the spinal column.

5. At the end of each stroke, the hands are completely relaxed to permit full expansion of the chest.

6. Repeat operation continuously at 1 second intervals until normal beating is restored.

7. If beating has been restored, the patient must be watched, and if natural beating stops, closed chest heart massage should be resumed at once.

8. While the closed chest massage is in progress, send for an ambulance.

9. The injured shall be taken to the nearest hospital. During the trip to the hospital, artificial respiration and closed chest heart massage shall be continued in the ambulance.

52.20 MOUTH TO NOSE METHOD OF ARTIFICIAL RESPIRATION

1. The victim should be laid on his back with his head tilted as far as possible so that his neck is extended. If there is a slope, placing the victim's body with the head slightly downhill is advisable.

2. The operator closes the victim's mouth by placing the palm of one hand on the victim's jaw with continued pressure applied.

3. After taking a deep breath, the operator places his mouth completely over the victim's nose with airtight contact.

4. The operator then breathes or blows into the victim's nose forcefully for adults and gently for children. The victim's chest should be watched and as soon as it rises, the blowing should be stopped and the operator's mouth quickly removed from the nose of the victim, allowing him to inhale passively.

5. If the chest does not rise, the position of the head should be improved and the blowing done more forcefully. If the victim's lungs are still not ventilated, his airways may be obstructed. He should be placed in a face down, head down position, his tongue pulled forward and patted firmly on the back to dislodge any foreign object.

6. The cycle of inflation and exhalation should be repeated approximately 12 times per minute for infants and small children.

7. The mouth to nose method is recommended for use on pole top resuscitation.

52.21 MOUTH-TO-MOUTH ARTIFICIAL RESPIRATION (RESCUE BREATHING)

Basic steps:

1. Opening the airways
2. Restoring breath

52.21.01 Causes of Stoppage of Breathing:

1. Anatomical Obstruction eg. the tongue falls backward due to unconsciousness; tonsillitis.

2. Mechanical Obstruction - presence of foreign materials in the airway passage eg. choking, cave-in, electrocution.

52.21.o2 Proper Steps in Giving Artificial Respiration:

1. Check for unconsciousness (5 seconds).

2. If unconscious, tilt the head (5 seconds). While tilting, check the mouth for the presence of any obstruction like un-chewed food or any prosthesis.

3. Look, listen and feel for breathing in order to recognize respiratory arrest (5 seconds).

4. Look at the rise and fall of the chest.

5. Listen for air escape during exhalation by placing your cheek near the victim's nose.

6. Feel for the carotid pulse at the side of the Adam's apple.

7. If the victim is not breathing, give full, slow breaths.

8. Check again for pulse and breathing.

9. If still not breathing, give 1 per 5 seconds until the victim has revived.

Ratio: I blow per five seconds
Normal respiration: 16-20 respiration per minute

52.22 POLE TOP RESUSCITATION

1. After a person has received an electric shock, it is very important that he receives the application of resuscitation immediately.

2. The time elapsed between the electric shock and the application of resuscitation may make the difference between life and death.

3. The pole top method of resuscitation was developed with the sole purpose to cut down this elapsed time to give the victim a greater chance for survival.

52.23 POLE TOP RESUSCITATION RESCUE BREATHING (MOUTH TO NOSE METHOD)

52.23.01 Calling Alarm:

1. Anybody who sees the victim first should call the alarm.

2. He or she should call out the location of the victim and his or her name.

3. He or she should give out noticeable details as to the victim's position.

52.23.02 Going to the Rescue:

1. The man nearest the victim should immediately start to go to the rescue of the victim.
2. The rescuer should take all necessary precautions to prevent injury to him or her self.

3. He or she should have his or her rubber gloves on and must not rush to the scene of the accident without quickly planning a safe means of rescuing the victim as quickly as possible.

52.22.03 Releasing the Victim from Contact:

The rescuer, after reaching the victim, should immediately release the victim from all contact with live parts, taking caution not to make any body contact with the victim or the live parts except with rubber gloved hands.

52.22.04 Administering Resuscitation:

1. The person who will administer artificial respiration takes a position on the pole a little higher than the victim.

2. The head of the victim is tilted backward, as far back as possible, in a face-up position. The rescuer's rubber gloves should not be removed.

3. The operator closes the victim's mouth by placing the palm of one hand on the victim's jaw with continued pressure applied.

4. After taking deep breath, the operator places his mouth completely over the victim's nose and blows forcefully. The victim's chest should be watched and as soon as it rises, the blowing should be stopped and the operator's mouth quickly removed from the nose of the victim, allowing him to exhale passively.

5. If the chest does not rise, the position of the head should be improved and the blowing done more forcefully. If the victim's lungs are still not ventilated, his airway may be obstructed. He should be placed in a face

down position, his tongue pulled forward and patted firmly on the back to dislodge any foreign object.

6. The cycle of inhalation and exhalation should be replaced 12 times per minute.

52.22.05 Rescuer's Assistant:

1. Another man should go up to the pole to aid the rescuer. He or she should bring with him or her a hand line with a diameter of not less than 1/2 inch.

2. After reaching the victim, the second man shall immediately determine whether the heartbeat of the victim has stopped. He or she can do this by feeling the pulse at the victim's wrist or at the neck alongside the Adam's apple. Another check would be to open the victim'' eyes. If the pupils of the eyes are dilated (wide open), it indicates that no blood is reaching the victim's brain.

The following actions should be taken after the examination of the heartbeat of the victim:

52.23.06 Heart Still Beating:

1. The rescue breathing shall be continued uninterruptedly until normal breathing is restored.

2. The second man shall look carefully for hazards and use additional protective rubber equipment as necessary to make certain that the lives of both rescuer and the victim are not endangered by live conductors.

3. He or she should remove the victim's climbers to prevent possible injury to him or her and his or her rescuers.

4. The second man then places his or her safety straps between the legs of the victim and moves up the pole. He or she then lets the victim's back rest on his breast to relieve the victim's waist from strain caused by his or her body belt.

5. Rescue breathing shall be continued as long as necessary on the pole or structure.

6. The second man shall assist in lowering the victim to the ground when the need arises to wit:

a. Where artificial respiration is impossible to perform on the pole.

b. When the victim has been revived or rigor mortis has set in.

Note: the second man should be very careful in doing his or her job so that it will not interrupt the artificial respiration being performed by the rescuer.

52.23.07 Heartbeat Stopped:

1. The rescuer shall announce to the men below that the heartbeat of the victim has stopped. The foremen shall then assign one of his men to call an ambulance.

2. The second man shall then prepare, as quickly as possible, the hand line for lowering victim and shall stand by to assist in the lowering operation.

3. The victim shall be lowered as soon as possible.

4. As soon as the victim reaches the ground, he or she shall be held on his back on a firm and rigid surface.

5. Mouth to nose or mouth-to-mouth resuscitation and closed chest heart massage shall be administered immediately and simultaneously.

6. As soon as the ambulance arrives, the injured shall be taken to a hospital with cardiac defibrillators. During the trip to the hospital, artificial respiration and heart massage shall be continued in the ambulance. At the hospital, the injured shall be turned over to the attention of the medical staff who must be immediately informed that the injured was a victim of electric shock and that his heartbeat has stopped.

7. Should there be any difficulty in administering the mouth to nose method, then the mouth-to-mouth method shall be administered.

SECTION 53
LIST OF CHEMICALS INCLUDED IN MATERIAL SAFETY DATA SHEET

53.01 ACETIC ACID GLACIAL

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

3. Inhalation: Expose to fresh air, give oxygen or artificial respiration, preferably mouth to mouth.

4. Ingestion: (Antidote) Do not give emetics, give tap water, milk or milk of magnesia, give whites of egg beaten with water.

53.02 ACETONE

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

3. Inhalation: Expose to fresh air, give oxygen or artificial respiration.

4. Ingestion: (Antidote) Induce vomiting immediately by giving 2 glasses of water and sticking finger down throat.

53.03 AMMONIUM CHLORIDE

First Aid Measures:

1. Eyes: Flush eyes with plenty of water.

2. Skin: Wash thoroughly with plenty of water for at least 15 minutes.

3. Inhalation: Get plenty of fresh air.

4. Ingestion: (Antidote) Give large amount of water.

53.04 AMMONIUM HYDROXIDE

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing.

3. Inhalation: Expose to fresh air, give oxygen or artificial respiration

4. Ingestion: (Antidote) Do not give emetics, give tap water, milk or milk of magnesia, give whites of egg beaten with water.

53.05 AMMONIUM IRON (II) SULFATE

First Aid Measures:

1. Eyes: Not classified as hazardous.

2. Skin: Not classified as hazardous.

3. Inhalation: Not classified as hazardous.

4. Ingestion: Not classified as hazardous.

53.06 BARIUM CHLORIDE DEHYDRATE

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes.

3. Inhalation: Expose to fresh air. If not breathing, give artificial respiration.

4. Ingestion: Call Physician, if swallowed, induce vomiting.

53.07 CALCIUM CHLORIDE DEHYDRATE

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes.

3. Inhalation:

4. Ingestion:

53.08 DPD FREA CHLORINE REAGENT

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Call physician. Remove contaminated clothing.

Skin: Immediately flush skin with plenty of water for at least 15 minutes. Call physician. Remove contaminated clothing. Wash skin with soap and plenty of water.

3. Inhalation: Remove to fresh air.

4. Ingestion: Give large quantities of water. Call physician immediately.

53.09 ETHANOL, ABSOLUTE

First Aid Measures:

1. Eyes: Data not available.

2. Skin: Data not available.

3. Inhalation: Data not available.

4. Ingestion: Data not available.

53.10 FERROVER IRON RE-AGENT

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Call physician.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes. Call physician. Remove contaminated clothing. Wash skin with soap and plenty of water.

3. Inhalation: Remove to fresh air. Give artificial respiration. If necessary, call physician.

4. Ingestion: Do not induce vomiting. Give large quantities of water and at least 1 ounce of milk of magnesia in 1 ounce of water. Call physician immediately.

53.11 HYDROCHLORIC ACID

First Aid Measures:

1. Eyes: Rinse immediately with plenty of water and contact doctor.

2. Skin: Rinse immediately with plenty of water and contact doctor.

3. Inhalation: Get plenty of fresh air, give oxygen if there is difficulty in breathing.

4. Ingestion: (Antidote)

53.12 HYDROZINE SULATE

First Aid Measures:

1. Eyes: Flush eyes including under eyelids with large amount of water

2. Skin: Flush skin with plenty of water while removing contaminated clothing

3. Inhalation: Move to fresh air, if not breathing give artificial respiration.

4. Ingestion: (Antidote) Induce vomiting, give large amount of water, call physician.

53.13 ISOPROPYL ALCOHOL

First Aid Measures:

1. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes.

2. Skin: Immediately flush skin with plenty of water for at least 15 minutes.

3. Inhalation: Remove to fresh air. Give artificial respiration or oxygen.

4. Ingestion: Give water to drink, induce vomiting, seek medical help.

53.14 LAURYL TRYPTOSE BROTH

First Aid Measures:

1. Eyes: Rinse immediately with plenty of water and seek medical help.

2. Skin: Rinse immediately with plenty of water and seek medical help.

3. Inhalation: Victim must be exposed to fresh air or given CPR if breathing stops.

4. Ingestion: (Antidote) No data.

53.15 METHANOL (METHYL ALCOHOL)

First Aid Measures:

1. Eyes: Immediately flush with plenty of water for at least 15 minutes.

2. Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing or shoes.

3. Inhalation: Expose victim to fresh air or oxygen or artificial respiration

4. Ingestion: (Antidote) In conscious, give large amount of water, induce vomiting

53.16 NITRIC ACID

First Aid Measures:

1. Eyes: Holds eyes open, flood with water for at least 15 minutes and see a doctor.

2. Skin: Remove contaminated clothing or shoes and wash thoroughly.

3. Inhalation: Get plenty of fresh air.

4. Ingestion: (Antidote) Do not induce vomiting, give a glass of water, contact a doctor.

53.17 PHOSPHORIC ACID

First Aid Measures:

1. Eyes: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing or shoes.

2. Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing or shoes.

3. Inhalation: Expose victim to fresh air, give oxygen or artificial respiration if there is difficulty in breathing.

4. Ingestion: (Antidote) Do not induce vomiting, give a glass of water, call a physician.

53.18 SULFAVER

First Aid Measures:

1. Eyes: Immediately flush with plenty of water for at least 15 minutes. Call physician. Flush skin with plenty of water.

2. Skin: Immediately flush with plenty of water for at least 15 minutes. Call physician. Flush skin with plenty of water.

3. Inhalation: Remove to fresh air. Give artificial respiration if necessary.

4. Ingestion: (Antidote) Induce vomiting by sticking finger down throat, then give 1 tablespoon of Epsom salt in a glass of water. Call physician immediately. Never give anything by mouth to an unconscious person.

53.19 SULFURIC ACID

First Aid Measures:

1. Eyes: Immediately flush with plenty of water for at least 15 minutes.

2. Skin: Immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing.

3. Inhalation: Remove to fresh air. Give artificial respiration if necessary.

4. Ingestion: (Antidote) Do not induce vomiting, give large amount of water.

53.20 TRIETHANOLAMINE

First Aid Measures:

1. Eyes: Wash with plenty of water.

2. Skin: Wash with plenty of water.

3. Inhalation: Remove to fresh air. Give artificial respiration if necessary.

4. Ingestion: (Antidote).

SECTION 54
MAYNILAD SAFETY GUIDELINES ON SCUBA DIVING OPERATIONS

54.01 OBJECTIVES

1. To provide guidelines in the conduct of Scuba Diving operations or works within Maynilad facilities.

2. To reduce or eliminate workplace accident related to diving activity.

3. To provide guidelines in the conduct of rescue mission and other diving activities.

54.02 SCOPE

This procedure applies to all contracted and in-house diving activity within Maynilad premises such as Water Treatment Plant, Wastewater Treatment Plant, Pumping Station and Reservoir, Pipelines and Aqueduct.

54.03 DEFINITION OF TERMS

1. Divers – duly certified by recognized diving agency to conduct underwater works.

2. Dive Supervisor or Dive Master - in-charge and responsible for all aspects of the diving operation, supervising all diving personnel or crew.

3. First Aider – a person trained to administer first aid treatment to a person with injury or illness.
4. Safety Officer – a trained person responsible in implementing safety in all diving activity

5. Stand-by Diver – a person, stationed at the dive location, immediately available to assist a Diver in the water for safety purposes.

6. Tender – is a person who, from above the surface of the water or liquid medium, aids and assists the diver by coordinating topside activity; aids in dressing and undressing the diver; maintains communications with the diver; and generally maintains the diving equipment on the job-site.

54.04 PRE-MOBILIZATION AND DIVING GUIDELINES

1. All divers involved in diving works must be trained and duly certified by recognized diving agency.

2. Diving activity must be coordinated and permitted by the Safety Department.

3. Safety Department will issue Scuba Diving Permit to contractors upon completion of all requirements such as (Diver's ID, Training Certificate, Proper Equipment, etc.) and assessment on the safety of worksite.

4. Appropriate safety measure must be in place before the start of diving operations, such as:

a. Availability of First Aid Kit
b. Emergency vehicle
c. Lifelines and other safety devices
d. First aiders
e. Safety Officer
f. Others

5. Stand-by divers must be available during diving works to immediately assist divers when needed.

6.Contractors are required to submit Diving Work Procedures as part in their Safety and Health Program.

7. Diving team members shall be briefed on the tasks to be undertaken, safety procedures for the diving mode, any unusual hazards or environmental conditions likely to be encountered, and any modifications to standard operating procedures. Before each dive the dive supervisor will brief each diver and ensure the diver has an understanding of the tasks to be completed underwater. During the pre-dive briefing, the dive supervisor will inquire as to each diver's current state of physical fitness and will indicate the procedure for reporting physical problems resulting from the dive.

8. The divers, safety officers and dive supervisor or dive master must ensure that all breathing air supply systems and diver support systems are inspected prior to each dive. They must ensure that all normal and reserve breathing air supplies are adequate. Furthermore, both the diver and the dive supervisor must ensure that the diver is wearing the minimum equipment required and that pre-dive inspections have been made on all diver-worn life support equipment, especially the following:

a. SCUBA cylinders, including valves or manifolds.
b. Buoyancy compensators (BCs), including secondary inflation.
c. Regulators, submersible pressure gauges and depth gauges.
d. Face masks.
e. SCUBA tending lines (when applicable).
f. Wet Suit.
g. Weight Belt.
h. Any auxiliary equipment required (eg. fins, boots, knife, watches, etc.)

9. Tenders must install lifelines, ring buoy and other safety device at the worksite. He or she must also prepare all the tool and equipment needed in the diving works.

54.05 GENERAL DIVING REQUIREMENTS AND GUIDELINES

54.05.01 Water Entry and Exit

Diver shall be able to safely enter and exit the water. The dive supervisor or dive master must evaluate the situation and ensure an adequate means is available for egress and ingress. When required for safe entry and exit, ladders capable of supporting the diver shall be provided. The ladder shall extend below the water surface at least 3 feet. A descent line should be used in situations where divers need a guideline from the surface to an underwater work site.

54.05.02 Confined Space or Ladder Entry

Divers entering a confined space, such as a pump chamber, gate chamber, or basin that requires ingress and egress via a ladder (over 3 feet vertical distance) or man-skip shall wear a fall restraint or retrieval harness. A retrieval tripod or winch or other mechanical means of hoisting an incapacitated diver to ground surface shall be on site.

54.05.03 Communications

An effective communication system should be used on scuba dives. This can include two-way voice communication devices, thru-water communication devices, hand signals, or slates for writing. Line pull signals will be used for communications with surface tended scuba divers. See attachment A & B for a list of approved hand and line-pull signals. An effective scuba diver recall signaling device, such as banging on a scuba tank or underwater air horn must be used.

54.06 POST-DIVE REQUIREMENTS AND GUIDELINES

54.06.01 Physical Condition Check

At the end of each dive, the dive supervisor or dive master will assess the physical condition of each diver. Diver “ok” means the diver has no symptoms of any Decompression Sickness (DCS) or Arterial Gas Embolism (AGE) and is feeling well after the dive. Divers will not respond “ok” if they are not feeling well. Dive supervisor or dive master will not only get an “ok “from the diver but shall observe each diver for any signs of DCS, AGE, trauma, or environmental exposure.

After diving operation, scuba diving equipment must be proper cleaned with fresh water.

54.06.02 Standby (Safety) Diver Requirements

A standby diver is a fully qualified diver, trained and certified as a rescue diver, ready to enter the water and render assistance anytime during a dive. Standby divers must be briefed along with the primary divers on the job and tasks, so they are fully aware

of the dive situation and conditions. It is a good idea, if possible, to position the standby diver near the communications box so the standby is fully aware of the dive progress. Standby divers shall not be assigned as the tender for the primary diver. His or her sole responsibility is as emergency standby diver. A standby (safety) diver is required at all times.

54.07 TERMINATION OF A DIVE

Working dives shall be terminated under the following conditions:

1. Diver requests termination.

2. Diver fails to respond correctly to communications or signals from another diver or tender.

3. Communications are lost between the dive station and diver.

4. Communications are lost between the dive supervisor or dive master.

5. Air supply system failure or interruption. Diver goes on bailout supply or topside shifts to reserve or emergency supply, etc.

6. Diver looses his buddy in scuba operations. After one minute both divers should immediately surface. Unless the diver has through-water communications, he or she should inform the dive supervisor or dive master, and then follow the lost diver emergency procedure.

7. Failure of a dive computer or submersible depth gauge in the water.

8. Scuba tank cylinder pressure below 500 psi.

54.08 SAFETY PRECAUTIONS APPLICABLE TO ALL DIVING

1. Care must be taken to secure or neutralize any equipment or system at the work site that present a potential hazard to the diver.

2. The depth of water, condition of the diver, water temperature, and type of work shall determine the length of the dive. The amount of work shall not be a factor.

3. Boats or craft of any kind shall not come alongside a vessel from which diving operations are being conducted while a diver is in the water without receiving permission from the dive supervisor or dive master.

4. Hazardous energy clearances, lockout, warning tags, and equipment position or status shall not be modified while divers are under water.

5. Whenever diving operations are conducted from a ship, precautions shall be taken to ensure that the diver's umbilical does not become fouled in the propellers.

6. Before lifting heavy objects or weights from the bottom, the diver should leave the water or ensure he or she and his or her umbilical is clear of the load.

7. Appropriate signals and flags shall be displayed in a prominently visible location during daylight diving operations. Night operations should ensure that proper lighting are installed.

8. Mode for signaling diver recall, such as diver-to-surface communications, line pull, or underwater air horn shall be in place.

9. Every precaution must be taken to prevent the diver from becoming fouled on the bottom.

10. Divers must not cut any lines until their purpose is known or until directed by the dive supervisor or dive master.

11. No diver, tender, or dive support personnel who show signs of intoxication, its after-effects, or appear to be under the influence of drugs or medications will be allowed on the station during diving operations.

12. All work activities in close proximity to the dive site shall be informed before diving operations begin and after diving operations are completed.

13. Whenever a diving operation requires a diver to make a penetration into a pipe, structure or other restricted underwater area, a standby diver shall be available at the point of entry to tend the diver who has entered the confined area.

14. Divers must be properly trained on the safe operation of tools and equipment to be used in the water

15. All tools passed to the diver or recovered from the diver shall be turned off.

16. Any diver who has a cold, sinus infection, inability to clear ears, or any other physical or mental problem that may interfere with his ability to perform the assigned task in the water in a safe and healthful manner will inform the dive supervisor or dive master and will not be allowed to dive until the diver's condition is such that the diver can dive in a safe and healthful manner.

CHAPTER XIII

SECTION 55
PENALTIES

55.01 For purposes of this Code, any Maynilad employee found to have violated any of the provisions of this Code shall be administratively dealt with and shall be punished in accordance with the schedule of penalties.

The code letter "A", "B", "C", and "D" is affixed to each rule to indicate the category of the offense for purposes of applying the appropriate penalty.

The penalty or penalties for safety rule violations are as follows:

55.02. SCHEDULE OF PENALTIES FOR MAYNILAD EMPLOYEES
(Table 1)

Gravity of Offense	First Offense	Second Offense	Third Offense	Fourth Offense
Offense "A"	Written Reprimand	1 Working Day Suspension	2 Working Days Suspension	3 Working Days Suspension
Offense "B"	1 Working Day Suspension	2 Working Days Suspension	4 Working Days Suspension	8 Working Days Suspension
Offense "C'	10 Working Days Suspension	15 Working Days Suspension	30 Working Days Suspension	Dismissal
Offense "D"	30 Working Days Suspension	Dismissal		

55.02.01 IMPOSITION OF PENALTIES TO MAYNILAD EMPLOYEES

1. The penalties for succeeding violations are progressively more severe than the penalty for a first violation. However, this "cumulative" rule applies only when the violations occur within a single 12-month period counted from date of first offense. Any other or further violation occurring after this period shall be considered as first offense.

2. If at the time of the commission of the last offense, the employee shall also have previously committed at least two other violations of the Safety rules other than the

rule involved in this last offense, all committed within a 12-month period, such last offense shall be punishable by the next higher step of the penalty prescribed thereof.

3. Where the fourth violation of the same rule is punishable by a penalty less than dismissal the fifth and subsequent violations, if committed within a 12-month period, shall be meted out the same penalty as that provided for the fourth violation.

4. When a single act constitutes two or more offenses under this policy, or when an offense is a necessary means for committing the other, the penalty for the most serious offense shall be imposed.

5. All penalties to be imposed, including reprimand, shall be in writing, and shall include a warning (except in case of dismissal) that subsequent violations will be dealt with more severely. Copies thereof shall be furnished to:

a. Safety Department
b. Human Resources Division
c. Respective Head
d. Legal Department

6. Department Heads shall impose the penalties provided for in this policy after conducting the required investigation. However, where the offense is punishable by dismissal, the Department Head in coordination with Human Resources Division shall elevate the case to the Legal Department for proper disposition.

7. Management may impose a penalty graver in degree than what is provided in this code, particularly when the violation resulted to injury upon persons or damage to property, or both, and when the violator is habitually delinquent, in which case, it shall be adjudged in accordance with applicable provisions of Maynilad Safety Code and Human Resources Division Policies on Disciplinary Action, and Criminal and Civil Law, if necessary.

8. This Code supersedes the Table of Penalties for Safety Violation stated under the Maynilad Code of Conduct.

55.03 IMPOSITION OF PENALTIES MAYNILAD CONTRACTORS

DEFINITION OF TERMS:

Notice of Non-Compliance – a notice of non-compliance issued to contractor for violation of Maynilad Safety Code, stating therein all the circumstances or jurisdictional facts of every violations. Contractor, upon receipt, must immediately rectify the deficiencies. This is a strong categorical reprimand that confirmed the violation of the Safety requirements with corresponding monetary penalty.

Monetary Penalty – a penalty applied to a safety violations cited during inspection. Reported violation will be penalized amounting from Php 6,000 to Php 20,000 per location depending on reported violation. These penalties shall be deducted from their project billings.

Termination of Contract – this is a hostile act by Maynilad against violating contractor that the latter's ties being a contractor of the former is terminated by reason of complete disregard or non-compliance to Maynilad Safety provisions and directives. (Three consecutive days of class "A" violations per project).

Miscellaneous Charges – Maynilad has the option to provide necessary safety equipment and devices on areas with noted safety violations. Twice the value of cost incurred will be charged to the contractor collectibles.

55.03.01 CLASSIFICATION OF PENALTIES

Type "A" – a safety violation amounting to Php 20,000

Type "B" – a safety violation amounting to Php 6,000

55.03.02 SCHEDULE OF PENALTIES (MAYNILAD CONTRACTORS)
(Table 2)

Item	Description of Violations	References	Classification of Violations
1.0	WARNING SIGNS a. Failure to install at strategic locations the Maynilad standard warning signs, including danger signs before and on the construction site. Warning signs shall be accordance with the Latest Approved Maynilad Standard Drawings.	Section 16.01.01	A
	b. Failure to install any single barricade or E.W.D. (completely zero) within the construction area.	Section 16.01.02	A

Item	Description of Violations	References	Classification of Violations
2.0	BOLLARDS AND BARRICADES a. Failure to install Maynilad standard bollards at strategic locations visible at around the construction site to separate the construction area from the passable areas of the right-of-way with a maximum distance of 1 meter between each other.	Section 16.03.01	A
	b. Failure to install Maynilad standard board-ups to enclose the stretch of work area.	Section 16.03.02	A
3.0	TRAFFIC CONES a. Failure to install Maynilad standard rubber cones to be used along major thoroughfares and national roads to properly guide motorists of lane changes and the work being undertaken.	Section 16.04.01	A
4.0	TRAFFICMAN/ FLAGMAN, BUFFER AREA AND LIGHTINGS a. Trafficman/ flagman equipped with reflective vest and other appropriate safety gadgets must be provided along major thoroughfares and national roads or busy streets, so as to guide motorists of lane changes and the excavation work being undertaken.	Section 16.06	B
	b. Failure to provide material storage areas and equipment parking sites at the designated buffer area enclosed with traffic cones within the motorists' passable way after the arrow light and must be in accordance with the Latest Approved Maynilad Standard Drawings.	Section 16.05.01	A
	c. Failure to provide and install all necessary lighting at all time to complete the project and to comply with the safety requirements at the construction site in accordance with the Latest Approved Maynilad Standard Drawings.	Section 16.05	B
	d. Failure to install early warning devices with reflectorized surfaces in replacement to the arrow light in case of breakdown on site and in construction areas where arrow lights are not required.	Section 16.05.02	A

Item	Description of Violations	References	Classification of Violations
5.0	FABRICATION OF SAFETY SIGNAGES AND BARRICADES a. Failure of the contractor to secure their safety signages and barricades from Maynilad designated official fabricator.	Section 16.07	A
6.0	EXCAVATION a. Failure to excavate a portion of not more than 50% of the road width leaving the remaining 50% satisfactorily passable, which completely closed the right-of-way to vehicle use.	Section 16.08.02	A
	b. Non- observance to excavation by sections of not more than 150 meters at a time measured longitudinally, which completely closed the right-of-way to vehicle and pedestrian use.	Section 16.08.01	A
	c. Failure to provide temporary steel plates with sufficient thickness on unfinished excavations crossing alleys, streets, roads, passageways, major thoroughfares, highways or national roads to allow safe passage of vehicles and pedestrians.	Section 16.09.02	A
7.0	CONSTRUCTION EQUIPMENT AND VEHICLES a. Failure to provide central storage site for all construction equipment and vehicles; contractors shall ensure that temporary storage and parking sites, if there were any, would not affect traffic flow.	Section 16.10.01 16.10.02	B
	b. Vehicles or large equipment obstructing or interfering with the safe and normal flow of traffic while concrete pouring, transporting materials; or failure to have the above work done during nighttime from 9:00 PM to 4:00 AM or when traffic is at light.	Section 16.03	B
8.0	MAINTENANCE AND CLEANLINESS IN WORK AREAS a. Failure to maintain the cleanliness of roadways and passageways from loose earth materials and stones in the excavation area, which may pose hazards to the riding public and pedestrians	Section 16.12.01	A

Item	Description of Violations	References	Classification of Violations
	b. Failure of contractors to properly manage water discharges from excavations as cited in Maynilad Safety Code.	Section 16.12.04	B
	c. Failure of contractors to haul all excavated materials. "No Activity, No Excavated Materials on site" principle must be applied.	Section 16.12.05	A
9.0	GOOD HOUSEKEEPING a. Non-observance by contractors of the operating standard procedures as cited in Maynilad Safety Code in Good Housekeeping at construction sites, which greatly affects the image of the Company resulting from poor housekeeping.	Section 16.13	A
10.0	DAMAGE TO ADJOINING UTILITY LINES a. Failure of contractor to make written report to the Company concerning accidental damages to water main lines. (Section 21.07.a)	Section 16.14	A
11.0	UTILITY LINE DAMAGE AND GAS LEAK a. Failure of contractor to detect utility lines causing damage or gas leakages thereto and/ or report the same immediately to the Utility Company before undertaking any measures to minimize service interruption and avoid construction delay or prevent ignition of any kind, on occasion or by reason of the construction or excavation.	Section 16.15	A
12.0	DAYTIME WORK STOPPAGE a. Failure of contractors to place sufficient steel plates of sufficient thickness to cover open trenches or excavated portions of the right-of-way for pedestrians and vehicles. Temporary backfill must be provided in support of the steel pipes.	Section 16.16.01	A

Item	Description of Violations	References	Classification of Violations
	b. Failure to ensure that no materials, equipment or tools placed and/ or parked along the roadway does that pose problems or dangers to the public during non-working time.	Section 16.16.04	B
13.0	EXCAVATION & SHORING a. Failure to build sheet piling, cribbing, shoring and other support systems, in accordance with Engineering Standards, to prevent the possibility of excavation cave-ins.	Section 16.17	A
	b. Failure of contractor to frequently inspect installed bracing or shoring and/ or made any necessary repairs or adjustments immediately after such excavation was flooded with water or after heavy rains or typhoons.	Section 16.17.04	A
14.0	MACHINE EXCAVATION a. Failure to establish the proximity of limits close to underground water facilities while digging using heavy equipment machines, and/ or failure then to complete the excavation by labour digging.	Section 16.18.01	A
	b. Failure of contractors to warn workmen about the existence of underground water line facilities such that during excavation using driving picks or any other powered tools.	Section 16.18.12	A
15.0	TEMPORARY WALKWAYS a. Failure of contractors to provide temporary walkways at least two (2) planks wide at the construction areas to prevent any hazard or accident to passing public.	Section 16.20.01	A
	b. Aisles and walkways shall be kept clear of obstruction.	Section 16.20.03	A

Item	Description of Violations	References	Classification of Violations
16.0	PERSONAL PROTECTIVE EQUIPMENT AND DEVICES a. Non-wearing of personal protective equipment (PPE) appropriate for the exposure and the work to be performed.	Chapter VII	B
	b. Failure to wear required personal protective equipment (PPE) complying with the Maynilad Standards and Specifications.	Section 32.03	B
	c. Failure of the workers to wear hardhats and safety shoes or boots when they are inside the trench.	Section 16.19.03	A
	d. Failure to wear eye and foot protection when they are using a jackhammer or when they are exposed to flying particles or falling objects.	Section 16.19.04	A
17.0	WELDING AND CUTTING OPERATIONS a. Failure to observe the proper welding or cutting operations in areas containing combustible materials or in proximity to explosives or flammable liquids, dusts, gases or vapours, until all fire and explosion hazards are eliminated.	Section 29.02.27 29.02.28	A
	b. Failure to provide a portable fire extinguisher at the place where welding and cutting operations are being undertaken.	Rule 1100.01 (4) OSHS	A
	c. Failure to provide with the appropriate personal protective equipment to all workers or persons directly engaged in welding or cutting operations.	Rule 1100.02 (1), (2) OSHS	A
	d. Failure to provide provision of local exhaust and general ventilation system, when welding or cutting in confined spaces, to keep fumes, gases or dusts within allowable concentrations or threshold limit values. (Sections 28.12, 34.01, Rule 110.03(1) OSHS)	Rule 110.03 (1) OSHS	A

Item	Description of Violations	References	Classification of Violations
18.0	[SAFETY PERSONNEL] a. Failure to ensure that a Construction Safety and Health Program is duly followed and enforced at the construction project site, or b. Failure to provide the minimum required Safety Personnel for each construction project site to oversee full time the overall management of the Construction Safety and Health Program as described in Section 7 of Department Order # 13 (Guidelines Governing Occupational Safety and Health in the Construction Industry) of Department of Labor and Employment (DOLE).	DOLE Department Order # 13 Section 5	A
19.0	[MEANS OF ACCESS AND ESCAPE] a. Failure to provide with ladder as an access and egress for every excavation over 1 meter (3 ft.) deep.	Rule 1413.05 (1) OSHC	A
	b. Failure to provide at least one (1) ladder in every 16.6 meters (50 ft.) of length or fraction thereof in an excavation over 1 meter (3 ft.) deep, which shall extend at least 0.83 meter (2'6") above the top of the excavation to provide a firm handhold when stepping on or off the ladder.	Rule 1413.05 (2)	A
	c. Failure of the contractors to provide portable ladders to facilitate safe entrance and exit. The ladders extend from the bottom of the trench in accordance with Engineering Standards	Section 16.19	A
20.0	SAFETY CHECKLIST a. Failure to submit the Safety Checklist on a daily basis fully accomplished by the contractor's safety officer or Representative and conformed by PMD Project Engineer of Maynilad.	Section 16.41	B

Item	Description of Violations	References	Classification of Violations
21.0	UNSAFE ACT a. Reporting for and/ or rendering work in a state of intoxication of liquor and/ or under the influence of prohibited drugs or narcotics.	Chapter IV Section 21.37	A
22.0	a. Failure to submit copy of its Construction Safety and Health Program duly approved by BWC, DOLE, or list of personnel trained or with seminar in Occupational Health and Safety, Emergency First Aid prior to the commencement of the project. b. Failure to abide by or comply with the requirements imposed by DOLE DO# 13, OSHS or other related government rules and regulations on environment, safety and health.	Section 16.39 & 16.40 DOLE Department Order #13 Rule 1966	A A
23.0	a. Failure to abide by or comply with the other provisions on General Construction and Safety Guidelines under Chapter IV, or on Safety Measures in the Workplace under Chapter VI, or on Tools and Equipment under Chapter VIII, or on First Aid Treatment under Chapter XI of this Safety Code. b. Failure to provide Hot Work Permit or Work Permit when the nature of the work requires it.	Chapter V, VI, VIII & XI	B

SECTION 56
EFFECTIVITY CLAUSE

This Code shall take effect immediately from date of approval.

CHAPTER XIV

EVACUATION ROUTE PLAN

SECTION 57
EVACUATION ROUTE PLAN

LEGEND:

- ROUTE 1
- ROUTE 2
- EMERGENCY EXIT
- FIRE EXTINGUISHER
- FIRE FIGHTING EQUIPMENT

NOTES:

1. ALL BUILDING OCCUPANTS SHALL ASSEMBLE AT THE NEAREST HALLWAY VACATING THEIR PLACES OF ASSIGNMENTS AT THE SOUND OF THE ALARM.
2. THEN FOLLOW ROUTES 1 OR 2 GOING TO THE FIRE FIRE EXITS AND PROCEED TO THE PARKING LOT. OUTSIDE THE MWSS PREMISES NEAR KATIPUNAN. ROAD (MWSI ASSEMBLY POINT).

EVACUATION ROUTE PLAN (BASEMENT)

Maynilad

LEGEND:

- ROUTE 1
- ROUTE 2
- EMERGENCY EXIT
- FIRE EXTINGUISHER
- FIRE FIGHTING EQUIPMENT

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EVACUATION ROUTE PLAN (BASEMENT)

Maynilad

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EVACUATION ROUTE PLAN (BASEMENT)

Maynilad

LEGEND:

- ROUTE 1
- ROUTE 2
- EMERGENCY EXIT
- FIRE ALARM
- FIRE HOSE
- FIRE EXTINGUISHER
- FIRE FIGHTING EQUIPMENT

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EVACUATION ROUTE PLAN (GROUND FLOOR)

Maynilad

LEGEND:

- ROUTE 1
- ROUTE 2
- EMERGENCY EXIT
- FIRE ALARM
- FIRE HOSE
- FIRE EXTINGUISHER
- FIRE FIGHTING EQUIPMENT

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EVACUATION ROUTE PLAN (GROUND FLOOR)

Maynilad

LEGEND:

- ROUTE 1
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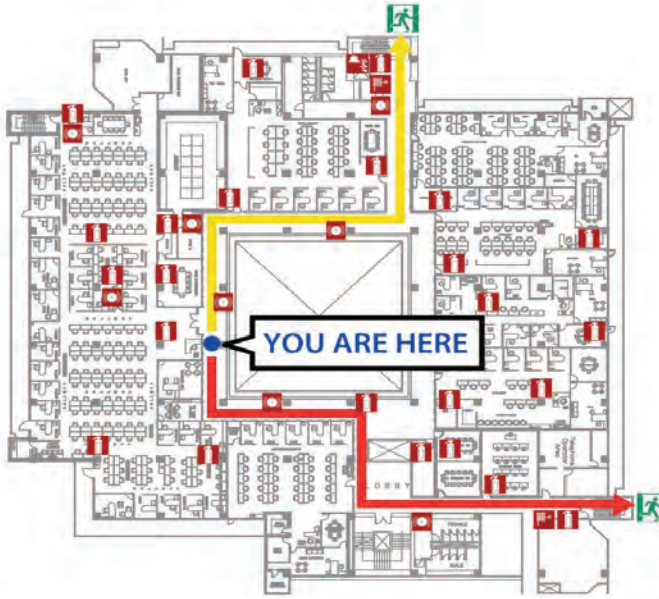
EVACUATION ROUTE PLAN (GROUND FLOOR)

Maynilad



LEGEND:

- ROUTE 1
- ROUTE 2
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- FIRE ALARM
- FIRE HOSE
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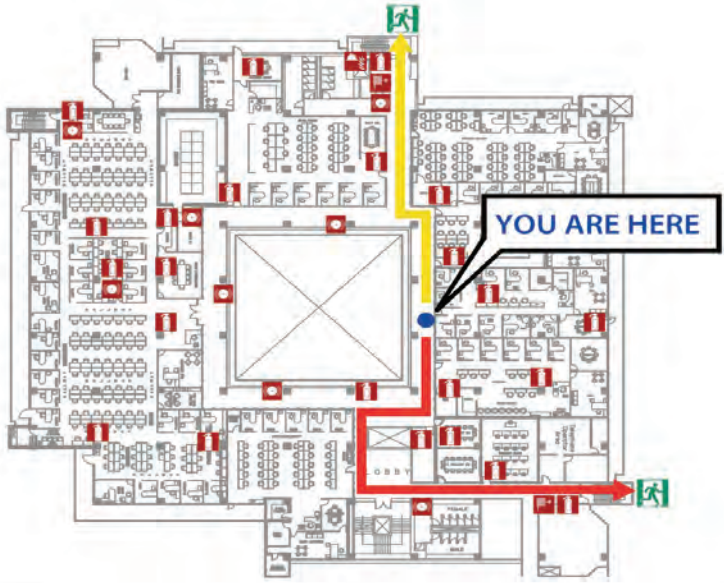
EVACUATION ROUTE PLAN (SECOND FLOOR)

Maynilad



LEGEND:

- ROUTE 1
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EVACUATION ROUTE PLAN (SECOND FLOOR)

Maynilad

LEGEND:

- ROUTE 1
- ROUTE 2
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EVACUATION ROUTE PLAN (SECOND FLOOR)

Maynilad

LEGEND:

- ROUTE 1
- ROUTE 2
- EMERGENCY EXIT
- FIRE ALARM
- FIRE HOSE
- FIRE EXTINGUISHER
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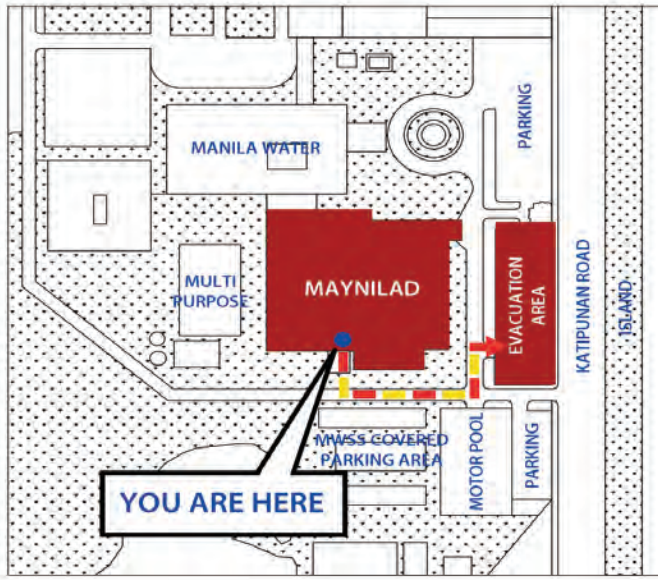
EVACUATION ROUTE PLAN (SECOND FLOOR)

Maynilad



LEGEND:

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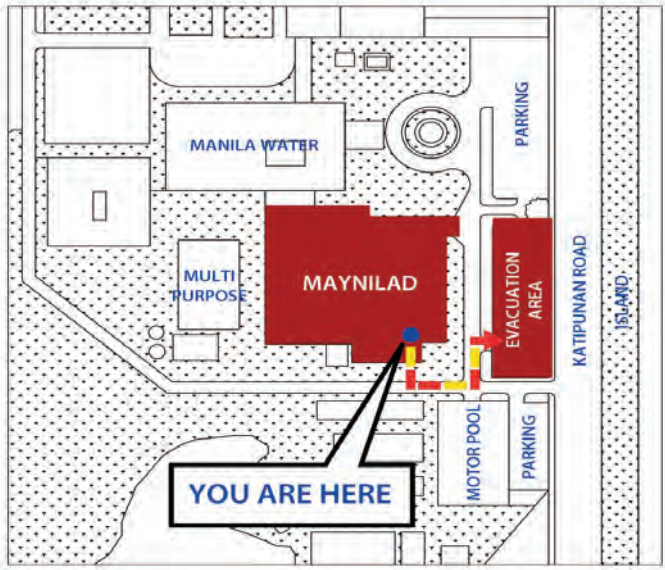
EVACUATION ROUTE PLAN (PARKING)

Maynilad



LEGEND:

- ROUTE 1
- ROUTE 2

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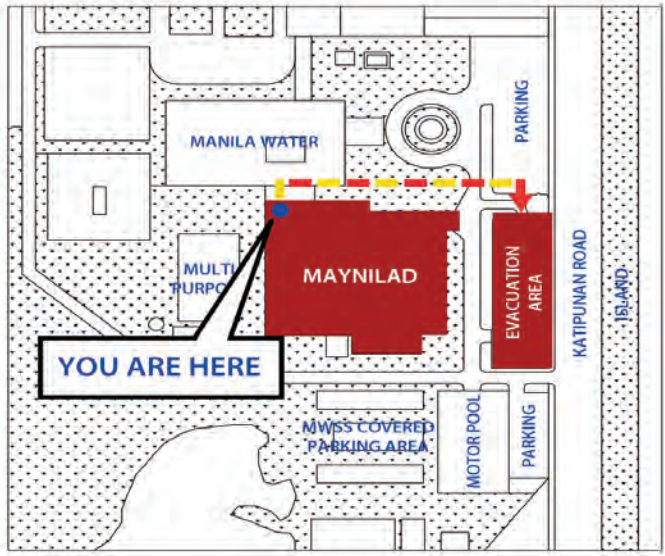
EVACUATION ROUTE PLAN (PARKING)

Maynilad



LEGEND:

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- ROUTE 2

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EVACUATION ROUTE PLAN (PARKING)

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REFERENCES

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