Department of Environment and Natural Resources
Mines and Geosciences Bureau

SAFETY AND HEALTH, ENVIRONMENT, AND SOCIAL DEVELOPMENT AND MANAGEMENT MANUAL

Mine Safety, Environment and Social Development Division
April 2021

ACKNOWLEDGEMENT

Some of the greatest scientists and artists that lived produced remarkable works in times of isolation. It was said that Isaac Newton came up with the Theory of Gravity and William Shakespeare wrote King Lear during the bubonic plague in the 1600s. As for the Mine Safety, Environment and Social Development Division (MSESDD), the Safety and Health, Environment, and Social Development and Management (SHES) Manual is the brainchild of the Division in the time of another pandemic, the COVID-19 in 2020.

The conceptualization and preparation of this SHES Manual evolved from a series of virtual meetings of the personnel of MSESDD of the Mines and Geosciences Bureau (MGB) led by the Division Chief, Engr. Rodolfo L. Velasco, Jr., who provided knowledge, unwavering support and inspiration to the Division.

The MSESDD acknowledges the earlier initiatives and contributions of previous Mining Environment and Safety Division management and personnel. The guidelines and outlines crafted during their time were of great help in developing and completing this manual.

Insights provided by the MGB Management, experts in the field of mine safety and health, environmental protection and social development, and other stakeholders were greatly appreciated and considered in the preparation of the guidelines and outlines in the manual.

The MSESDD would also like to acknowledge the members of the Contingent Liability and Rehabilitation Fund Steering Committee for providing their expertise in the evaluation of the environmental programs that helped in improving the Environmental Protection and Enhancement Program and Final Mine Rehabilitation and/or Decommissioning Plan outlines.

The MSESDD would like to express its gratitude to their families, friends, and colleagues for supporting them, in any way possible, especially during the crafting of this manual in the time of pandemic.

Finally, all praises and glory to God, the author of knowledge and wisdom, for His guidance and protection, and for making all things possible.

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ACRONYMS

ADSDPP	Ancestral Domain Sustainable Development and Protection Plan
AEPEP	Annual Environmental Protection and Enhancement Program
AMD	Acid mine drainage
ASDMP	Annual Social Development and Management Program
BAT	Best Available Technology
BSEA	Baseline Study and Environmental Assessment
CDP	Community Development Program
CENRO	Community Environment and Natural Resources Office
CLRFSC	Contingent Liability and Rehabilitation Fund Steering Committee
CLUP	Comprehensive Land Use Plan
CMP	Care and Maintenance Program
CMT	Closure Management Team
CO	Central Office
COVID-19	Coronavirus Disease of 2019
CRO	Community Relations Officer
CSHC	Central Safety and Health Committee
DAO	Department Administrative Order
DENR	Department of Environment and Natural Resources
DHNC	Development of the Host and Neighboring Communities
DIA	Direct Impact Area
DMTG	Development of Mining Technology and Geosciences
EA	Environmental Audit
ECC	Environmental Compliance Certificate
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMB	Environmental Management Bureau
EO	Executive Order
EP	Exploration Permit
EPEP	Environmental Protection and Enhancement Program
ERPP	Emergency Response and Preparedness Program
ERT	Emergency Response Team
EWP	Environmental Work Program
ExWP	Exploration Work Program
FMRDF	Final Mine Rehabilitation and Decommissioning Fund
FMR/DP	Final Mine Rehabilitation and/or Decommissioning Plan

FRR	Final Rehabilitation Report
FTAA	Financial or Technical Assistance Agreement
HIRAC	Hazard Identification, Risk Assessment, and Risk Control
HIV	Human Immunodeficiency Syndrome
ICC	Indigenous Cultural Community
IEC	Information, Education and Communication
IIA	Indirect Impact Area
ILO	International Labour Organization
IP	Indigenous People
IRR	Implementing Rules and Regulations
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
LGU	Local Government Unit
MC	Memorandum Circular
MEPEO	Mine Environmental Protection and Enhancement Office
MGB	Mines and Geosciences Bureau
MMT	Multipartite Monitoring Team
MOA	Memorandum of Agreement
MPP	Mineral Processing Permit
MPSA	Mineral Production Sharing Agreement
MRF	Mine Rehabilitation Fund
MRFC	Mine Rehabilitation Fund Committee
MSESDD	Mine Safety, Environment and Social Development Division
MTF	Monitoring Trust Fund
MTMD	Mining Tenements Management Division
NCIP	National Commission on Indigenous Peoples
NGO	Non-government organization
NAMRIA	National Mapping and Resource Information Authority
OA	Operating Agreement
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PD	Presidential Decree
PEISS	Philippine Environmental Impact Statement System
P/P/A	Program/Project/Activity
PPE	Personal Protective Equipment
PRA	Participatory Rapid Appraisal
PRC	Professional Regulatory Commission

PTR	Professional Tax Receipt
RA	Republic Act
RCF	Rehabilitation Cash Fund
RO	Regional Office
SDGs	Sustainable Development Goals
SDMP	Social Development and Management Program
SHP	Safety and Health Program
SIA	Social Impact Assessment
SMR	Self-Monitoring Reports
TSF	Tailings Storage Facility
TWG	Technical Working Group
WFP	Work and Financial Plan

INTRODUCTION

Republic Act (RA) No. 7942, otherwise known as the Philippine Mining Act of 1995 and Department of Environment and Natural Resources (DENR) Administrative Order (DAO) No. 2010-21, its Revised Implementing Rules and Regulations (IRR), are considered as the primary investment vehicle in the country's effort to revitalize the mining industry. More importantly, the Mining Act of 1995 is regarded as a tool to address the safety and health, environment and social (SHES) attributes inherent to mining operations.

To assist the mining industry in preparing the SHES plan and programs pursuant to the provisions of the Mining Act of 1995 and its IRR, the Mine Safety, Environment and Social Development Division of the Mines and Geosciences Bureau prepared the SHES Manual for the management of the exploration, the mining and mineral processing operations and the rehabilitation of mine affected areas in the country.

This manual is composed of the guidelines for the implementation of and annotated outlines for the preparation of the SHES plan and programs. The guidelines and outlines will serve as references on practices for sound SHES management during all phases of a mining project and are intended to apply to all existing and proposed exploration, mining and mineral processing projects that are covered by RA No. 7942.The information presented in this manual are based on the requirements stipulated in relevant mining laws, rules and regulations, and the experiences and suggestions/inputs gained through the exchange of knowledge and expertise with the members of the mining industry. Moreover, the guidelines and annotated outlines are in harmony with the principle of sustainable development that is both pro-people and pro-environment.

It should be recognized that each mine is different and has site-specific features and project-specific considerations. There may be different or better approaches than those set out in the manual and may apply to certain mine sites depending on the conditions on the ground. It should also be recognized that advanced technologies and new or amended legislations may have significant impacts on mining activities over time. This manual is an evolving document that shall be subject to periodic updating and revisions to accommodate changes in technology and/or legislations, or any other changes affecting the mining industry.

The SHES Manual is intended to be used by all Contractors/Permit Holders/Permittees, the MGB Central Office and its Regional Offices, including other interagency committees (e.g. Contingent Liability and Rehabilitation Fund Steering Committee, Mine Rehabilitation Fund Committee, etc.) for the preparation, review, evaluation, and approval of SHES plan and programs.

The plan and programs included in this SHES Manual are as follows:

1. Safety and Health Program

   The Safety and Health Program is a holistic approach to ensure that mine workers are provided with a just, safe and humane working environment through the following: promotion of safety and health culture, strict enforcement of safety and health regulations, establishment of effective systems of monitoring, inspection and investigations to improve safety and health, and promotion of trainings and human resources development.

2. Environmental Work Program

   The Environmental Work Program (EWP) refers to the comprehensive and strategic environmental management plan to achieve the environmental management objectives, criteria and commitments including protection and rehabilitation of the disturbed environment during the exploration period.

   It provides a description of the expected and considered acceptable impacts and the environmental protection and enhancement strategies; which are based on the best practices in environmental management in mineral exploration. It includes a statement on post-exploration land use potential for various types of disturbed land and on the completion of the commitments in the rehabilitation of the disturbed land in a technically, socially, and environmentally competent manner. It also includes implementation schedules, system of environmental compliance guarantees, monitoring, and reporting.

3. Environmental Protection and Enhancement Program

   The Environmental Protection and Enhancement Program (EPEP) refers to the comprehensive and strategic environmental management plan for the life of the mining project on which Annual EPEPs are based and implemented to achieve the environmental management objectives, criteria and commitments including protection and rehabilitation of the disturbed environment.

   It is the operational link between the environmental management provisions of DAO No. 2010-21 and the conditions stated in the Environmental Compliance Certificate issued to a mining/mineral processing project. It provides the description of the expected impacts of the mine and sets out the life-of-mine environmental protection and enhancement strategies based on best practice in environmental management in mining operation.

4. Final Mine Rehabilitation and/or Decommissioning Plan

   The Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP) refers to the plan for returning the mine sites and affected areas to viable and, whenever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities. It details the proposed final land use of the area after the end of life of the mine and is integrated with the submitted EPEP of the Contractor/Permit Holder.

5. Social Development and Management Program

   The SDMP refers to the comprehensive five-year plan of the Contractor/Permit Holder authorized to conduct actual mining and milling operations towards the sustained improvement in the living standards of the host and neighboring communities by creating responsible, self-reliant and resource-based communities capable of developing, implementing and managing community development programs, projects, and activities in a manner consistent with the principle of people empowerment. The SDMP is a tool for the development and implementation of community programs and projects in consultation and in partnership with the host and neighboring communities.

FORMAT OF SHES PLAN AND PROGRAMS

I. General Format

The Environmental Work Program (EWP), Environmental Protection and Enhancement Program (EPEP), Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP), Social Development and Management Program (SDMP), and Safety and Health Program (SHP) shall be prepared following the format/specifications presented in Table No. 1.

Table No. 1. General Formatting for SHES Plan and Programs

Item	Format/Specifications
Paper Size	A4 (8.2” x 11.69”) for main documents A3 (11.69” x 16.54”) for maps/technical appendices
Paper Quality	Substance 24 / 80 gsm
Binding Type	Spring/Ring/Wire-binded
Font Style	Arial
Font Size	12
Line Spacing	Single
Margin (all sides)	1 inch
Pagination	Lower Right
Header	Name of Plan/Program Name of the Contractor/Permit Holder – Project Name (Aligned left; font size: 8; font style: Arial) Example: Environmental Protection and Enhancement Program Maharlika Mining Corp. – Limestone Project

II. Cover Page

The cover page of the SHES plan and programs shall include a site photo, name of the Contractor/Permittee/Permit Holder and its Operator, Project Name and Contract/Permit Number and Project Location.

Environmental Protection and Enhancement Program
Maharlika Mining Corporation - Limestone Project
Operator: JV Company
MPSA No. 123-2014-III
Lemery, Batangas

2020

III. General Content

The SHES plan and programs shall follow the Annotated Outline for the preparation of EWP, EPEP, FMR/DP, SDMP and SHP.

SAFETY AND HEALTH PROGRAM

Table of Contents

GUIDELINES FOR THE IMPLEMENTATION OF THE SAFETY AND HEALTH PROGRAM

I. Rationale

The minerals industry recognizes the impact of mining and mineral processing operations on the safety and health of workers, affected communities and other stakeholders. Mining Contractors, Permittees, and Permit Holders are primarily responsible for the identification of hazards and the establishment of adequate control measures to address safety and health issues and concerns through the implementation of a Safety and Health Program (SHP).

These guidelines aim to standardize and streamline the manner by which the SHP should be prepared, submitted, reviewed, approved, implemented and monitored. It also defines key elements of the SHP and provides best practices for addressing safety and health issues in the workplace.

II. Legal Basis

The following are the legal bases for the preparation, submission, and implementation of SHP:

1. Section 144, Chapter XV of the Consolidated Department of Environment and Natural Resources Administrative Order (DAO) No. 2010-21, the Revised Implementing Rules and Regulations of Republic Act (RA) No. 7942, the Philippine Mining Act of 1995;
2. DAO No. 2000-98, the Mine Safety and Health Standards;
3. Section 12, RA No. 11058, the Occupational Safety and Health Law, and its Implementing Rules and Regulations; and
4. International Labour Organization (ILO) Convention No. 176, the Safety and Health in Mines Convention of 1995.

III. Scope

The SHP shall cover all safety and health activities in the conduct of mining operation (exploration, development, utilization and final mine rehabilitation and/or decommissioning stages) and/or mineral processing operations (development, plant operation, and decommissioning stages).

IV. Guiding Principle

The SHP is designed as a holistic approach to ensure that workers are provided with a just, safe, and humane working environment through the following guiding principles:

1. Promotion of safety and health culture;
2. Strict enforcement of safety and health laws, rules and regulations;
3. Establishment of effective systems of monitoring, inspection and investigations to improve safety and health management; and
4. Provision of trainings and human resources development.

V. Goal and Objectives

The goal of the SHP is to prevent workplace injuries, illnesses, and deaths thereby assuring the conservation of valuable manpower resources and the prevention of loss or damage to lives and properties.

To achieve this goal, the following are the objectives:

1. Promote a culture of safety and health through strict but dynamic, inclusive and gender-sensitive measures in the formulation and enforcement/ implementation of policies and programs related to occupational safety and health;
2. Protect every worker against injury, sickness, or death through safe and healthful working conditions;
3. Provide for the effective systems of monitoring, inspections, and investigations to improve safety and health management;
4. Establish linkages (e.g. government, community, academe, non-profit and non-governmental organizations) in promoting safety and health matters;
5. Provide training and human resources development consistent with national development goals, and with the State's commitment to the total development of every worker as a complete human being; and
6. Comply with national and international law obligations relating to mine safety and health.

VI. Framework on the Formulation of the SHP

A. Safety and Health Program Conceptual Framework

To achieve the goal and objectives of the SHP, these guidelines provide a conceptual framework for the planning, development, and implementation of the SHP. The conceptual framework highlights key elements, core components, and cycle of operation of the SHP that shall guide all Contractors, Permit Holders, and/or Permittees by addressing the necessary measures and actions to be taken to ensure the safety and health of all workers.

The conceptual framework of the SHP is presented in Figure 1.

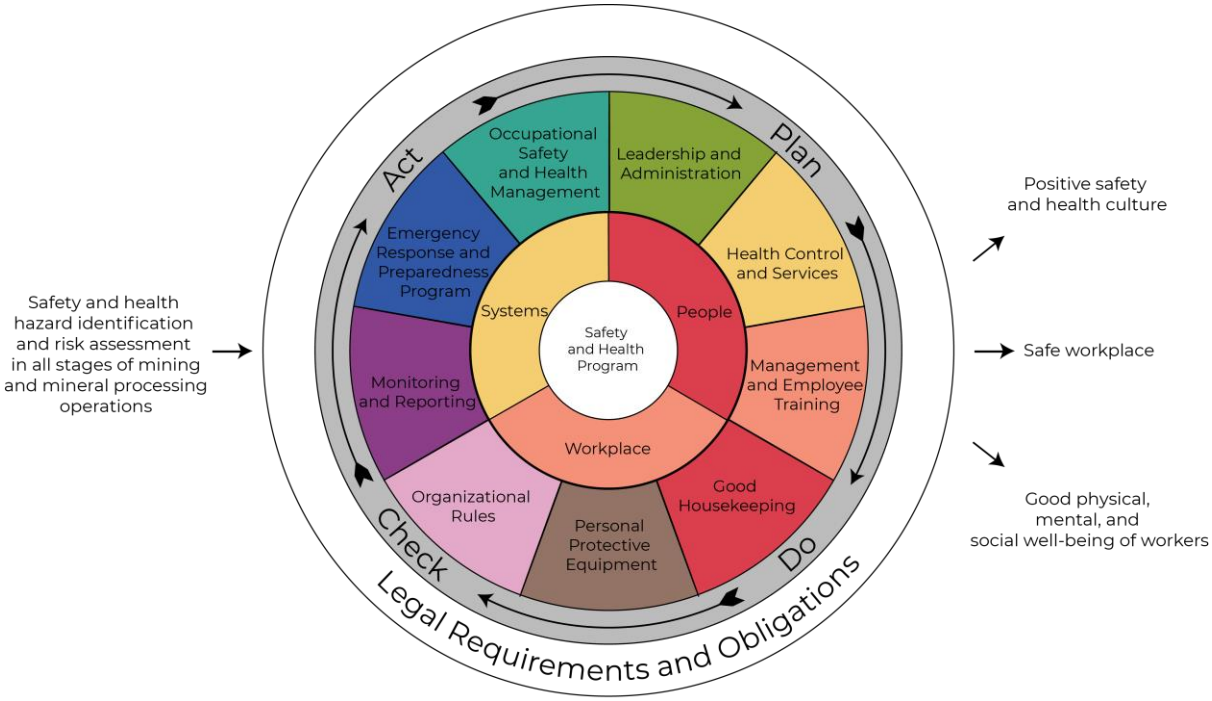


Figure 1. Safety and Health Conceptual Framework.

The SHP conceptual framework is primarily composed of nine (9) key elements, which are grouped into three (3) core components: people, workplace, and systems. The Contractor, Permit Holder and/or Permittee shall focus on these core components:

1. People – the safety and health of workers and visitors shall be the priority of the mining company. Workers and visitors shall be oriented and trained on the standard operating procedures and safety and health rules and

regulations. Health surveillance shall be conducted to ensure that no worker shall suffer from work-related illness and/or diseases.

2. Workplace – to ensure the safety of workers, good housekeeping shall be maintained within the workplace. Appropriate administrative and engineering controls shall be installed to eliminate or reduce risks and hazards. Personal Protective Equipment (PPE) shall be provided to all employees as the last barrier against identified hazards within the operation.

3. Systems – to properly manage the safety and health within the mine and/or plant site, safety and health systems shall be established. Monitoring and inspection shall be a vital part of the safety and health management system which will help check the effectiveness of the installed control measures and identify residual risks and hazards. Emergency response and preparedness is another crucial system to be established within the mine and/or plant site to prepare the workers and the workplace in case of emergencies and disasters.

The SHP conceptual framework is effective when the company performs the "Plan, Do, Check and Act" cycle. This four-step management method helps in the control and continuous improvement of the safety and health processes and activities within the SHP. To provide guidance and support, the SHP is covered by pertinent mine safety and health laws, rules, and regulations developed and enforced by the government through the Mines and Geosciences Bureau (MGB) and other authorized agencies concerned with occupational safety and health.

Mine safety and health management is a shared responsibility of the Contractor, Permittee and/or Permit Holder; workers and service contractors; and the government. The Contractor, Permit Holder and Permittee must provide ways and means for a safe workplace; the workers should learn how to perform their work safely; and the government should be responsible for the development of laws, rules and regulations on safe working conditions

Thus, as the company moves forward and continuously enhances its SHP, the government oversees and guides them to achieve a positive safety and health culture, a safe workplace, and good overall well-being of employees.

To support the SHP conceptual framework, a procedure of hazard identification, risk assessment, and risk control and its relationship in the planning, development, and implementation of the SHP are shown in Figure 2.

In order to effectively plan for the activities and mitigating measures to be implemented in the SHP; it is essential to conduct Hazard Identification, Risk Assessment and Control (HIRAC) with the following procedures:

1. The procedure starts with hazard identification or detecting sources of potential damage, harm, or adverse effects on something or someone. These various forms of hazards can be classified as follows:

    1.1. physical hazards

    1.2. chemical hazards

    1.3. biological hazards

    1.4. radiation hazards

    1.5. psychological hazards

2. Once the hazards are appropriately identified, the next step in the procedure is the conduct of risk assessment, or the careful examination of what causes harm to people or damages to properties. This is to weigh whether enough precautionary measures are undertaken or more should be done to prevent the hazards.

    Risk assessments could be in the form of:

    2.1. Qualitative risk assessment – the conduct of risk assessment that relies mostly on sound engineering judgement, technical knowledge, and generalized data of the hazards identified.

    2.2. Quantitative risk assessment – the conduct of risk assessment with the use of historical data, scientific studies, probabilities of occurrence, costs, etc.

3. After identifying the hazards and assessing its corresponding risk, the next step is to plan for the appropriate risk control measures to lower the risk of the identified hazards into a manageable level that is acceptable to all relevant stakeholders. These could be in the form of:

    3.1 Elimination – Eliminating the source of the risk completely.

    3.2 Substitution – Substituting the risk with a lesser risk.

    3.3 Engineering Controls – Application of the appropriate engineering controls to manage the risk. These do not eliminate the risk but rather isolate people and property from risks.

3.4 Administrative Controls – Application of the necessary administrative controls to manage the risk. These are control measures that change the way people work to manage the risk.

3.5 Personal Protective Equipment – Provision of the appropriate PPEs to protect the workers from the risk.

4. The conduct of HIRAC shall be an essential requisite in the planning and development of the SHP. It shall be participatory in nature and shall involve all relevant stakeholders (e.g. safety and health officers, management, and employees) in all stages of mining and mineral processing.

5. Regular internal and external inspections, investigations, monitoring, and audits shall also be necessary in ensuring the efficacy and efficiency of the SHP.

6. To help all relevant stakeholders monitor the performance of the Contractor, Permit Holder, and/or Permittee in its implementation of its SHP, quarterly accomplishment reports shall be submitted to MGB RO within fifteen (15) working days after the end of each quarter. Also, an annual accomplishment report shall be submitted to the MGB RO within thirty (30) working days after the end of each calendar year.

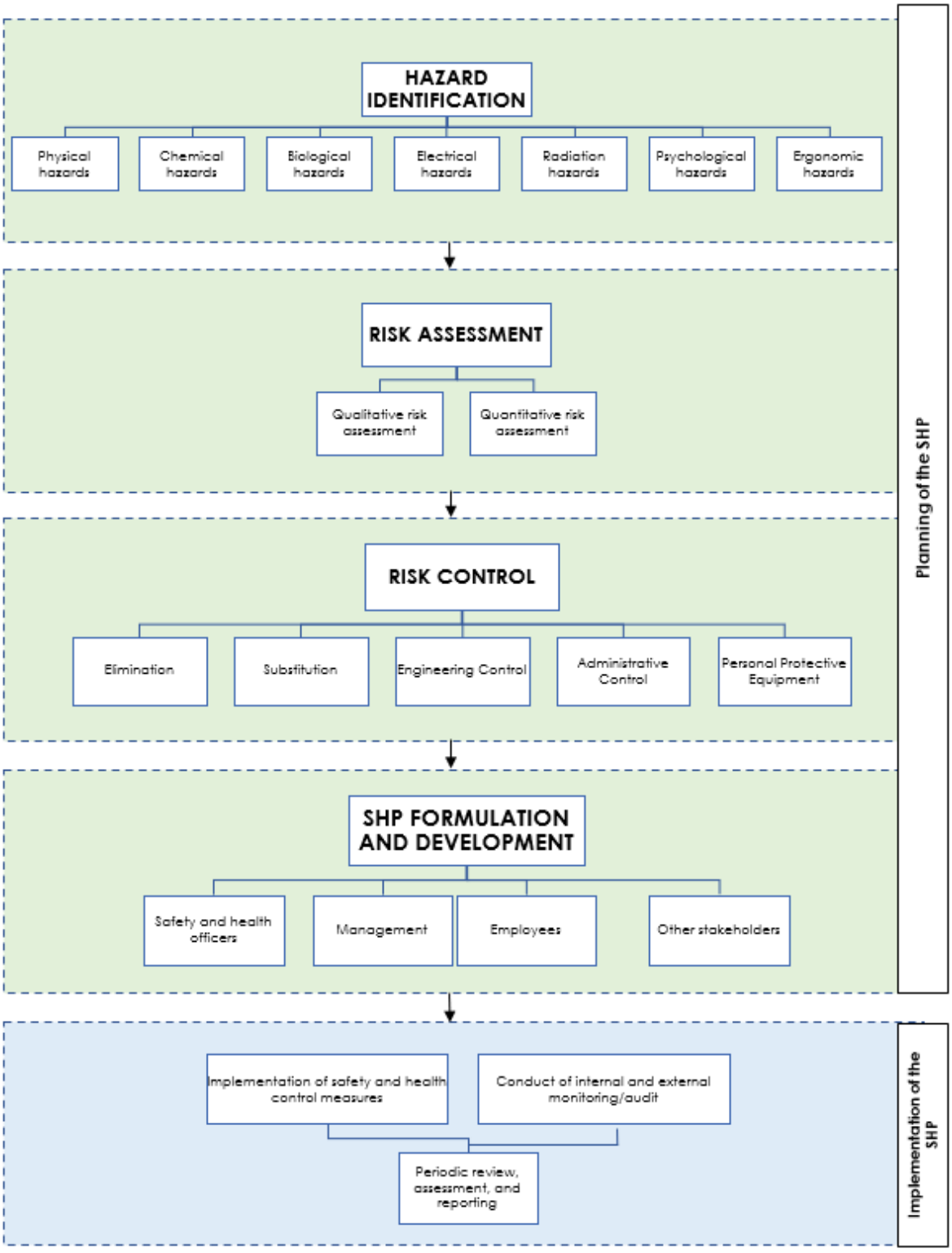


Figure 2. HIRAC and its relationship in the planning, development, and implementation of the SHP.

B. Key Elements of the SHP

1. Leadership and Administration

1.1. A Safety and Health Policy statement reflecting management's positive attitude and commitment to safety and health shall be established by the Contractor, Permit Holder, and/or Permittee. This shall be signed by at least the highest company onsite official (*Sample Safety and Health Policy is provided in the SHP Outline as Annex No. 1*).

1.2. The safety and health policy shall be posted in strategic locations in the mine/plant sites.

1.3. A permanent safety engineer and safety inspector as required shall be designated as the SHP coordinator and implementor and shall report directly to the highest official onsite.

1.4. All Contractors, Permit Holders, and/or Permittees shall provide the appropriate number of safety engineers and safety inspectors as provided in Section 2 of DAO No. 2000-98.

1.5. No person under eighteen (18) years of age shall be employed in any phase of mining and mineral processing operations.

1.6. The compulsory retirement age for any worker under the employ of a Contractor, Permit Holder, Permittee and/or Service Contractor shall be sixty (60) years of age.

1.7. The safety engineer and/or safety inspector shall assist the government inspectors in the conduct of safety and health inspections, monitoring and audits, at any time whenever work is being performed or during the conduct of an accident investigation.

1.8. In the case of a service contractor, a safety officer must be deployed at each specific area of operations to oversee the management of the safety and health program of its own workforce.

1.9. There shall be a safety engineer and/or safety inspector assigned in every shift.

1.10. Safety and health facilities such as safety and health office, clinic, first aid treatment room, and infectious disease isolation area shall be established.

1.11. A Central Safety and Health Committee (CSHC) shall be established. The CSHC shall be headed by the highest official onsite, with members composed of department heads, service contractor representatives and labor union or employees' representative/s. The safety engineer and/or inspector shall act as the Secretary.

1.12. Safety and health responsibilities shall be included in all employees' job description.

1.13. Safety and Health Hazard Identification, Risk Assessment and Control (HIRAC) and Job Safety Analysis shall be conducted.

2. Organizational Rules

2.1. The company shall formulate and prepare a Safety and Health Manual containing the general safety and health rules and regulations, including the standard operating procedures in all aspects of the mining and/or mineral processing operations.

2.2. The general safety and health rules and regulations shall be written in languages and possibly with translation in the dialects understandable to the employees of the mines and/or mineral processing plant, distributed to all employees, and posted in strategic places.

2.3. Guidelines for the code of conduct and actions of employees shall also be included in the Safety and Health Manual.

2.4. The Safety and Health Manual shall be reviewed and revised when new technologies or new equipment and/or facilities are introduced into the operation.

2.5. The mining company shall have in its possession a copy of DAO No. 2000-98, the Mine Safety and Health Standards and other relevant safety and health rules and regulations, and standards.

3. Management and Employee's Training

3.1. Safety and health orientation shall be administered to all new employees and visitors.

3.2. Emergency response and preparedness training such as first-aid, mine rescue and firefighting shall be planned and administered.

3.3. Safety engineers and/or inspectors shall be given formal training on safety, health and loss control management from

3.4. Trainings on work permit system, risk assessment, evaluation and control shall be provided to safety engineers and/or inspectors, department heads and employees.

3.5. Continuous safety and health trainings for all workers shall be conducted.

4. Good Housekeeping

4.1. Good housekeeping shall be maintained in all workplaces through proper housekeeping procedures and activities/practices.

4.2. A Good Housekeeping Plan shall be established to include the following:

4.2.1. Worker's Training – orient and train employees on good housekeeping practices;

4.2.2. Routine Maintenance and/or Housekeeping Schedule – regular maintenance and housekeeping shall be planned;

4.2.3. Assignment of Work Responsibilities – duties and responsibilities shall be established in the implementation of the said plan; and

4.2.4. Areas of concern – identify priority areas for housekeeping, monitoring and maintenance.

4.3. Dust control, solid waste and hazard control management shall be considered in maintaining good housekeeping.

4.4. A checklist for housekeeping of all workplaces shall be used.

4.5. Hazardous materials should be labeled properly with the following information:

4.5.1. Nature of the hazard – health risks, fire risk, etc.;

4.5.2. Precaution in handling; and

4.5.3. Emergency treatment.

5. Health Control and Services

5.1. Risks and health hazards in the workplace shall be identified and assessed.

5.2. All Contractors, Permit Holders, and/or Permittees shall provide the appropriate number of doctor, nurses, dentist, first aiders, and occupational health practitioners as provided in Rule 864 of DAO No. 2000-98.

5.3. Monitoring of work environment and practices, which may affect the health of workers, shall be planned and conducted.

5.4. Medical surveillance for early detection and management of occupational and work-related diseases shall be planned and conducted.

5.5. The company shall provide emergency and occupational health services and facilities.

5.6. The following medical examinations shall be administered to all employees:

5.6.1. Pre-placement;

5.6.2. Periodic or annual;

5.6.3. Relation to work;

5.6.4. Transfer of work assign;

5.6.5. Return to work;

5.6.6. Separation from employment; and

5.6.7. Special medical examination.

5.7. First aid facilities and equipment shall be maintained at central and/or strategic points in the mine and/or mineral processing plant. Adequate number of trained first aiders shall be available every shift.

5.8. Prevention and control of the following health domains shall be established:

5.8.1. Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome;

5.8.2. Tuberculosis;

5.8.3. Hepatitis B;

5.8.4. Coronavirus Disease of 2019 (COVID-19); and

5.8.5. Other infectious diseases.

5.9. Promotion of the following health domains shall be established:

5.9.1. Drug-free workplace;

5.9.2. Mental Health Services in workplace;

5.9.3. Healthy Lifestyle; and

5.9.4. Other relevant health issues.

5.10. Workplace Health Policy

This refers to the commitment to the following laws and policies on health domains:

5.10.1. Drug-free Workplace in compliance with RA No. 9165, the Comprehensive Dangerous Drugs Act of 2002;

5.10.2. Human Immunodeficiency Syndrome (HIV/AIDS) in compliance with RA No. 11166, the Philippine HIV and AIDS Policy Act;

5.10.3. Tuberculosis in compliance with Executive Order (EO) No. 187-03, the Comprehensive and Unified Policy for the Tuberculosis Control in the Philippines;

5.10.4. Hepatitis B in compliance with Department of Labor and Employment Advisory No. 05 Series of 2010; an

5.10.5. Mental Health in compliance with RA No.11036, the Mental Health Act.

6. Personal Protective Equipment (PPE)

6.1. The Contractor, Permit Holder, and Permittee shall provide its workers with personal protective equipment for identified hazards within the mining/mineral processing operation

6.2. All PPE shall be of the appropriate type as tested and approved by the DOLE based on its standards.

6.3. The usage of PPE in all workplace shall be based on the evaluation and recommendation of the safety officer.

6.4. PPE shall be provided to employees free of charge.

6.5. The prescribed PPE identified as necessary per work activity and workplace shall be discussed and a PPE zone map shall be attached.

6.6. A template for the PPE issuance shall be provided.

6.7. Training of employees on the importance of the use, fitting and maintenance of PPE shall be administered.

6.8. Wearing of PPE shall be strictly enforced in all identified PPE zones.

6.9. A system for PPE inventory, replacement and feedback mechanism shall be established.

7. Monitoring and Reporting

7.1. Planned Inspections

7.1.1. Planned general inspections with established frequency shall be conducted in all workplaces using a pre-determined inspection list. An inspection checklist shall be established and shall be updated regularly.

7.1.2. All substandard conditions, practices, and/or potential hazards observed during the inspections shall be reported in writing.

7.1.3. Inspection report shall be furnished to all department/s concerned for remedial actions and follow-ups.

7.1.4. Labor Union and/or Employees' representatives shall be included in general inspections.

7.2. Accident/Incident Investigation

7.2.1. A written standard procedure for accident and/or incident investigation shall be formulated. Remedial actions and follow-up shall also be part of the procedure.

7.2.2. Concerned supervisor shall be involved in the investigation and preparation of report.

7.2.3. All injuries, occupational illnesses and property damages caused by accidents and incidents, including the accident costs shall be reported using MGB Form 15-4.

7.2.4. In case of a fatal and/or serious accident, the company shall inform the MGB Regional Director concerned, copy furnished the MGB Director, within twenty-four (24) hours and shall submit an investigation report within fifteen calendar (15) days after the date of the accident.

7.3. Accident/Incident Analysis

7.3.1. Rates of disabling, non-disabling injuries and occupational illnesses shall be computed and communicated to department managers and presented to the CSHC.

7.3.2. Injuries and illnesses shall be analyzed by department and by the organization.

7.3.3. Near-miss incidents shall also be recorded to help identify the top causes of accidents within the operation.

7.3.4. Based on these analyses, appropriate policies shall be formulated and implemented.

7.4. Safety and Health Reporting Requirements

Reporting Requirements	Date Of Submission
1. Quarterly Safety and Health Program Accomplishment Report	Within fifteen (15) working days after the end of each quarter.
2. Annual Safety and Health Accomplishment Report	Within thirty (30) working days after the end of each calendar year.
3. Monthly General Accident Report	Within fifteen (15) calendar days from the end of the month
4. Monthly Employer's Report of Accident/Sickness	Within fifteen (15) calendar days from the end of the month

5. Investigation Report, in case of a fatal and/or serious accident	Within fifteen (15) calendar days from the date of accident
6. Annual Medical Report	Within fifteen (15) calendar days after the end of the year
7. Explosives Transaction Report	Within fifteen (15) calendar days from the end of the month
8. Explosives Accessories Consumption Report	Within fifteen (15) calendar days from the end of the month
9. Minutes of Central Safety and Health Committee Meetings	Within fifteen (15) calendar days from the end of the month
10. Quarterly Drill Reports	Within fifteen (15) calendar days from the end of each quarter

8. Emergency Response and Preparedness

8.1. A coordinator shall be appointed to administer the Emergency Response and Preparedness Program of the Contractor, Permit Holder, and/or Permittee. Such emergency program shall be documented and shall include, but not limited to:

8.1.1. Evacuation of people;

8.1.2. Systematic shutdown of operation;

8.1.3. Control of hazardous materials;

8.1.4. Removal or protection of vital equipment and supplies;

8.1.5. Designation of command control area;

8.1.6. Search and rescue plan; and

8.1.7. All clear and re-entry procedure.

8.2. Emergency teams shall be formed to deal with emergencies and shall be equipped with all appropriate devices and facilities including emergency power supply and communication.

8.3. The host communities and Local Government Units concerned shall have participation in the emergency program. Regular coordination with the Local Disaster Risk Reduction Management Office shall be conducted.

8.4. Quarterly emergency drill shall be conducted.

8.5. The Emergency Drill Plan shall be formulated and implemented.

8.6. Emergency drills shall be evaluated and assessed.

8.7. Emergency drill reports shall be submitted to the MGB, copy furnished the MGB RO.

9. Occupational Safety and Health Management

9.1. Meetings

9.1.1. CSHC shall meet once a month. Special meetings may be requested by any member of the Committee, as deemed necessary.

9.1.2. Pep talks or toolbox meetings shall be held before employees are deployed to their respective workplaces.

9.2. Safety and Health Incentives

9.2.1. To strengthen the promotion of safety and health consciousness to all employees, corresponding incentives shall be given/awarded.

9.2.2. Incentives shall be in the forms of cash awards, certificates, plaques, tokens, etc.

9.3. Provision for Worker's Welfare Facilities

9.3.1. To ensures humane working conditions, worker's welfare facilities such as separate toilet and/or comfort room and dressing room for men and women, lactation station, mess halls and drinking stations shall be installed.

9.4. Provision of Signages, and Safety and Health Information

9.4.1. Safety signages shall be installed to remind the workers and visitors of the safety and health rules and regulations, safety and health information, and identified hazards within the mining and/or mineral processing areas.

9.4.2. All establishments, projects, sites and other places where work is being undertaken shall have safety signage and devices to warn the workers and the public of the hazards in the workplace. Safety signage and devices shall be posted in prominent positions at strategic locations in a language understandable to all.

9.4.3. Safety and health information bulletin boards shall be established in strategic locations of the mine and/or mineral processing plants containing relevant news, information, and policies about safety and health.

9.4.4. Workers in all establishments, projects, sites and all other places where work is being undertaken shall be provided with adequate and suitable information by the contractor, permit holder, and permittee, if any, of safety and health hazards, and the appropriate measures, including the probable location of workers, for the prevention, control and protection against those hazards.

9.5. Prohibited Acts and Penalties for Violations

9.5.1. Prohibited acts and penalties for violations shall be explicitly written in the Safety and Health Manual and should be communicated to all employees.

9.5.2. Procedures on the imposition of penalties shall be established.

10. Cost of Implementing the SHP

10.1. Summary of safety and health activities and its cost shall be presented.

10.2. Targets with corresponding budget shall be doable and realistic.

10.3. The Contractor, Permit Holder and/or Permittee shall set the SHP fund as per the total cost of the implementation of the duly approved SHP and shall be an integral part of the operating cost.

10.4. Utilization of funds shall be reported in the SHP accomplishment report. In case of unutilized funds, the company shall allocate it for the next SHP.

10.5. The matrix of the targeted activities, schedule and budget shall be attached in the SHP.

C. SHP Management

1. Planning

1.1. The preparation of the SHP shall be participatory in nature where the management, employees, and service contractors shall have a constructive engagement in formulating the SHP to address the needs of the target stakeholders.

Constructive engagement in the preparatory stage shall include the consolidation of inputs from every department on the safety and health risks that the workers are continuously exposed to.

Mitigating measures shall also be planned to eliminate or reduce the risks to manageable and safe levels.

1.2. Department managers shall conduct continuous consultation with their subordinates to discuss the safety and health concerns affecting their workplace.

2. Evaluation and Review of SHP

2.1. Safety and health issues and concerns within the operations shall be evaluated by the Safety and Health Office and shall be considered in the preparation and review of the SHP during the CSHC meeting.

2.2. The CSHC shall be the proper body that will deliberate and prioritize the activities in the SHP to be forwarded to its top management for budget clearance and allocation.

2.3. The highest official onsite shall endorse the SHP to the MGB RO concerned for approval.

3. Implementation of SHP

3.1. The Safety Engineer and/or Inspector of the mining and mineral processing company shall head the implementation of the SHP.

3.2. The Safety and Health Office shall conduct workplace inspections and accident and/or incident investigations to identify existing

hazards and analyze the root cause of accidents and/or incidents within the operations.

3.3. Safety and Health Reports shall be prepared by the Safety and Health Office.

3.4. Review of the safety and health issues, performance and SHP accomplishment shall be discussed in the CSHC meetings. Corrective measures shall be implemented to address the safety and health issues and concerns.

3.5. The Safety and Health Office shall assess whether the installed corrective measures are effective and appropriate.

VII. Submission, Processing and Approval of the SHP

1. The Contractor, Permittee and/or Permit Holder shall submit to the MGB RO concerned, two (2) hard copies and two (2) electronic copies of the SHP with an endorsement letter from the highest official onsite, not later than fifteen (15) working days before the start of the succeeding calendar year.

2. The SHP shall include the SHP matrices of service contractors directly involved in mining, mineral processing operations, exploration activities and mine rehabilitation and/or decommissioning. The SHP matrices of service contractors shall be aligned with the SHP of the principal Contractor, Permittee and/or Permit Holder.

3. The MGB RO concerned, shall evaluate the SHP in its form and substance before approval. It shall officially inform the company of the results of the evaluation and the commitment expected from the company to ensure the proper implementation of the SHP. A Certificate of Approval shall be issued by the MGB RO concerned (*refer to Annex No. 2*). The SHP shall be approved by the MGB RO within 20 working days upon receipt of the Program.

4. A hard copy and an electronic copy of the approved SHP shall be retained by the MGB RO concerned, while the other hard and electronic copies shall be forwarded to the MGB CO by the MGB RO concerned.

5. The approved SHPs to be forwarded to the MGB CO shall include the evaluation report of the SHP by the MGB RO concerned, and the Certificate of Approval.

VIII. Safety Inspection, Monitoring and Audit

1. The MGB RO concerned, shall conduct safety inspection of all surface and underground mining operations and installations, and monitoring of the implementation of the approved SHP using MGB Memorandum Circular No. 2018-02, the Standardized Monitoring Checklist and Compliance Scorecard, as amended.

2. The MGB CO shall have an oversight function in the assessment of the effectiveness of the approved SHP and shall conduct audit of the implementation of the SHP.

3. The MGB Regional Director or its authorized representatives shall have authority to enforce the mandatory safety and health standards in all establishments.

4. The MGB Regional Director or its duly authorized representatives can enter all workplaces at any time of the day or night where work is being performed to examine the records and investigate facts, conditions or matters necessary to determine compliance with the provisions of all pertinent laws, rules, and regulations.

5. No person or entity shall obstruct, impede, delay or otherwise render ineffective the orders of the MGB Director and Regional Directors, or their duly authorized representatives issued.

6. The Director or Regional Director may likewise order stoppage of work or suspension of operations of any unit or department of a Contractor, Permit Holder, and/or Permittee when non-compliance with law or implementing rules and regulations poses grave and imminent danger to the health and safety of workers in the workplace.

7. If stoppage of work due to imminent danger occurs as a result of violation or fault, the Contractor, Permit Holder and/or Permittee shall pay the workers concerned their wages during the period of such stoppage of work or suspension of operations.

IX. Penalties

Non-submission, late submission or non-implementation of the approved SHP is a violation of the terms and conditions of the Permit or Agreement and shall be sufficient ground for the cancellation, revocation and termination of the Permit or

Agreement pursuant to Section 96 of RA No. 7942 and Section 230 of DAO No. 2010-21.

Furthermore, violation of existing laws, policies, and rules and regulations shall be imposed with appropriate penalties as provided for under the penal provisions of RA No. 7942, DAO No. 2010-21 and DAO No. 2000-98.

X. References

1. Department of Environment and Natural Resources (2000). Department Administrative Order No. 2000-98. Mine Safety and Health Standard.

2. Department of Environment and Natural Resources (2010). Department Administrative Order No. 2010-21. Revised Implementing Rules and Regulations of R.A. No. 7942, otherwise known as the Philippine Mining Act of 1995.

3. Department of Labor and Employment (2016). Department Order No. 149. Guidelines in Assessing and Determining Hazardous Work in the Employment of Persons Below 18 Years of Age.

4. Department of Labor and Employment (2018). Department Order No. 198. Implementing Rules and Regulations of Republic Act No. 11058 Entitled "An Act Strengthening Compliance with Occupational Safety and Health Standards and Providing Penalties for Violations Thereof.

5. International Labour Organization. Convention No. 176. Safety and health in Mines Convetion of 1995.

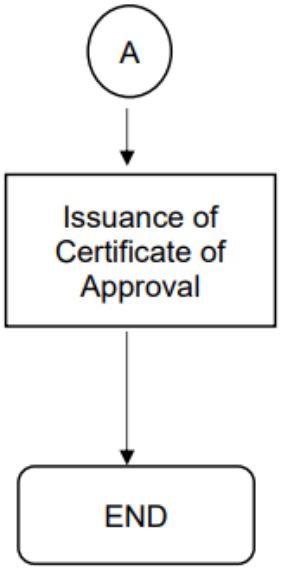
6. Mines and Geosciences Bureau (2018). Memorandum Circular No. 2018-02: Guidelines for Compliance Monitoring and Rating/Scorecard of Mining Permits/Contracts.

7. Republic of the Philippines (1995). Republic Act No. 7942. Philippine Mining Act of 1995.

8. Republic of the Philippines (2018). Republic Act No. 11058. An Act Strengthening Compliance with Occupational Safety and Health Standards and Providing Penalties for Violations thereof.

Annex No. 1: Process Flow for the Approval of the SHP

Activities	Focal Person/Group	Remarks
START		
Submission of SHP with endorsement letter from the highest official on site	Mining Contractor/ Permittee/ Permit Holder	The SHP shall be submitted 15 calendar days before the start of the calendar year.
Receipt of SHP	Records Section of MGB RO concerned	Received copy of SHP with the attached endorsement letter shall be forwarded to the Regional Director's Office.
Evaluation of SHP	MSESDD [Mine Safety and Health Section (MSHS)] of MGB RO concerned	The assigned technical personnel shall evaluate the SHP for completeness and substance as per guidelines and evaluation checklist.
Preparation of Evaluation Report		Evaluation report shall be prepared and submitted to the MSESDD Division Chief for comments/endorsement to the Regional Director (RD).
SHP complied with all requirements	MSHS of MGB RO concerned	
No		If the SHP has deficiencies the evaluation report shall recommend for the revision of the SHP with an attached letter to the Mining Contractor/ Permittee/Permit Holder indicating the said deficiencies for correction and revision. The revised SHP
Yes		
A		

	MGB RO concerned and Mining Contractor/ Permittee/ Permit Holder	shall be subject to re-submission and re-evaluation. If the SHP complied with all the requirements, the evaluation report shall include the recommendation for the approval of the SHP with an attached Certificate of Approval (CoA) for review and signature of the RD. Signed CoA shall be issued to the company. A copy of the approved SHP shall be maintained in the MGB RO concerned while another hard copy and electronic copy of the SHP shall be forwarded to the MGB Central Office. Note: The expected turn-around-time for the approval of the SHP shall be seven (7) days per SHP assuming that the submitted SHP complied with all the requirements. Provided further that the signatories of the CoA and endorsement letter are present in the MGB RO concerned.

Annex No. 2: Standard Format of the Certificate of Approval

Note: All text in red font color are for reference only.

Certificate of Approval

Safety and Health Program
SHP – year – region - index

The Mines and Geosciences Bureau (MGB), Regional Office (RO) No. region no., having evaluated the calendar year Safety and Health Program (SHP) in accordance with the provisions of Department of Environment and Natural Resources Administrative Order (DAO) No. 2010-21, the Revised Implementing Rules and Regulations of Republic Act (RA) No. 7942, otherwise known as the "Philippine Mining Act of 1995", hereby grants this Certificate of Approval to **name of contractor, permit holder, or permittee** under **tenement control no.** located in location of tenement.

This Certificate is issued subject to the pertinent provisions of the abovementioned laws, rules and regulations, and to the following conditions:

1. This Certificate is valid only for programs, projects, and activities stipulated in the calendar year SHP;
2. The committed budget for the calendar year SHP is **budget in words (budget in numbers)**;
3. The implementation of identified programs, projects and activities shall be subject to validation by the MGB RO No. region no. and auditing of the MGB Central Office;
4. Name of contractor, permit holder, or permittee shall submit to MGB RO No. region no. quarterly accomplishment reports within 15 working days at the end of each quarter and an annual accomplishment report 30 days after the end of the calendar year.
5. The company shall notify the MGB RO No. region no. of any amendment in the approved SHP. Provided that the amendments do not compromise the overall safety and health programs and conditions of the project; and
6. Additional conditions may be imposed to effectively implement the approved SHP should the results of the monitoring by the MGB RO No. region no. or audit by the MGB CO warrants them.

Non-compliance with the above conditions shall be sufficient ground for the penalties indicated in the Philippine Mining Act of 1995 and its implementing rules and regulations.

Given this date at address.

Name of Regional Director
Regional Director

Dry Seal

Annex No. 4. SHP Matrix

COMPANY NAME

SAFETY AND HEALTH PROGRAM (SHP)

Activity	Sub-Activity/ies	Unit of Work Measurement	Target												Budget
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
a. Leadership and Administration																
Safety and Health Policy	Review of SH Policy	SH Policy	1													xxxx
Safety and Health Office (Safety and Health Personnel, Emergency Occupational Health Personnel and Facilities)																
Creation of Central Safety and Health Committee	Designation of members	Memo re: CHSC members														
Hazard Identification and Risk Assessment and Control	Conduct of HIRAC	HIRAC Matrix			1											xxxx
Others																
b. Organizational Rules																
Formulation/Review of Safety and Health Rules and Regulations	Formulation and Review of Organizational Rules	Written Organizational Rules		1												xxxx
Others																
c. Management and Employee Training																
Eight (8) Hours Mandatory Safety and Health Training for Workers																
Standard Basic Life Support Training																
First Aid Training																
Fire Fighting Training																
Mine Rescue Training																
Proper Housekeeping Training																
Other Safety and Health Training Plan (Safety and Health Orientation, Use and Maintenance of PPE, Emergency Response Trainings, Risk Assessment and Evaluation Training, Work Permit System Training, Good Housekeeping Training)																
Others																
d. Good Housekeeping																
Good Housekeeping Plan (Worker Training, Routine Maintenance/Housekeeping Schedule, Assignment of Work Responsibilties, Area of Concern)																

Annex No. 4. SHP Matrix

COMPANY NAME

SAFETY AND HEALTH PROGRAM (SHP)

Dust Control Management																
Solid Waste Management																
Hazard Control and Management																
e. Health Control and Services																
Conduct of Health Surveillance including medical examinations and regular health monitoring																
First aid and health care facilities																
Prevention and Control of Health Domesn (HIV, TB and Hepatitis B)																
Promotion of Health Domains (Drug-free workplace, mental health services in workplace, healthy lifestyle)																
Workplace Health Policy																
f. Personal Protective Equipment (PPE)																
Prescribed PPE per workplace																
Provision of PPE																
Inventory and replacement of PPE																
Feedback mechanism on PPE and issues and concerns																
Others																
g. Monitoring and Reporting																
Planned inspection (Inspection schedule, checklist, and reporting)																
Accident/Incident Investigation (Procedure and reporting)																
Accident/Incident Analysis																
Safety and health reportorial requirements																
Others																
h. Emergency Response and Preparedness Program																
Emergency Response and Preparedness (Evacuation of people, systematic shutdown of operation, control of hazardous materials, removal or protection of vital equipment and supplies, designation of command control area, search and rescue plan, re-entry procedure)																
Creation of Emergency Response Team																
Conduct of Quarterly Emergency Drills																
Procurement/Maintenance of Emergency Response Equipment																
Others																

Annex No. 4. SHP Matrix

COMPANY NAME

SAFETY AND HEALTH PROGRAM (SHP)

i. Occupational Safety and Health Management																
i.1 Safety and Health Meetings (CSHC and toolbox meetings)																
i.2 Safety and Health Promotions and Incentives																
Safety and Health Slogan and Poster																
Safest Miner Award																
Healthy Lifestyle																
Others																
i.3 Provision for worker's welfare facilities																
Installation of drinking station																
Installation of breasfeeding station																
Sanitary washing facilities																
Suitable living conditions																
Others																
i.4 Provision for siganages																
Installation of safety and health siganages																
Maintenance of signages																
Others																
k. Others																

Table of Contents

SAFETY AND HEALTH PROGRAM

1.0. Executive Summary

The Executive Summary shall briefly discuss the details of the project, the background of the Contractor/Permit Holder/Permittee, contract/s and/or permit/s granted, safety and health hazards and risks identified, mitigating measures to be implemented, monitoring activities that will be conducted, and the projected Safety and Health Program (SHP) cost.

The company's SHP Objectives and Initiatives may be included.)

2.0. Company Background

Briefly discuss the following:

1. Company profile which includes, but not limited to history, ownership, business, etc.
2. Official name of the proponent/company including the address of the main and field offices.
3. Name and designation of the personnel that DENR-MGB has to contact regarding the program such as the President, Resident Mine Manager and Safety Officer, whichever is applicable.
4. If the proponent/company has an authorized operator and/or the SHP was prepared by third-party consultant/s, their respective contact details should also be provided.

Below is the sample entry in presenting the Company Information:

Name(s) and Contact Details of the Contractor/Permit Holder/Permittee

Name:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Project Site Office:	Barangay Rizal, Lemery, Batangas
Telephone:	(+63) 02-8667-6700
Email Address:	info@maharlika.ph

Name(s) and Contact Details of person/s authorized to act/represent the company/operator and consultant (if applicable)

Contact Person	
Name:	Engr. Juan Dela Cruz
Designation	President

Company	Maharlika Mining Corporation
Main Office	Minas Building North Avenue, Diliman Quezon City, Philippines
Telephone	(+63) 02-8667-6700
Email Address	juandelacruz@maharlika.ph

Operator

Name	Engr. Juana A. Perez
Designation	CEO
Company	JV Company
Main Office	CSA Towers Alabang, Muntinlupa City
Telephone	(+63) 02-8667-6700
Email-Address	juanavelasco@jvc.com

Consultant

Name	Engr. Maria Reyes
Designation	Project Manager
Company	Safest Consulting, Inc.
Main Office	ABC Building Paseo de Roxas, Makati City
Telephone	(+63) 02-8667-6700
Email-Address	maria.reyes@proenvi.com

Note: All information highlighted in red are for illustration purposes only

3.0. Introduction

3.1. Legal Description of the Project

Discuss all the agreements/permits covered by the project including the date of issuance, areas covered, grantee, and the issuing office. Discuss also the history and status of the agreements/permits. Tabulate if necessary.

Provide discussion on the Operating Agreement (OA), Deed of Transfer (Deed), etc. that were executed by the company. Copy of the approved pertinent documents should be attached in the Annex such as MPSA, OA, Deed, etc.

Provide the name of the project as stated in the approved Environmental Compliance Certificate (ECC).

3.2. Type and Description of the Project

Discuss all applicable aspects and information about the mining/mineral processing project to include, but not limited to, project location, mining method and milling process, mineral/s to be extracted/processed, estimated extraction/ production rate, life of the mine, etc.

3.3. Organization Structure

Present the applicable organizational set-up of the company including the safety and health department and emergency response team/s.

3.4. Workforce

Indicate the number of personnel needed in the mining/mineral processing operations.

4.0. Key Elements of the SHP

4.1. Leadership and Administration

Discuss the management's commitment to safety and health through the company's Safety and Health Policy, the establishment of the Safety and Health Office, the creation of the Central Safety and Health Committee (CSHC), and the conduct of Hazard Identification, Risk Assessment and Control.

4.1.1. Safety and Health Policy

(Refer to Annex No. 1 for the example of Safety and Health Policy)

4.1.2. Safety and Health Office

4.1.2.1 Safety and Health Personnel

Table No. 1. List of Safety and Health Personnel

Name	Position	Safety and Health Trainings (include number of hours)

(Attach Safety Engineer/Inspector Permits and Certificates of Training on Safety and Health)

4.1.2.2 Emergency Occupational Health Personnel and Facilities

List of competent emergency health personnel within the mine/plant site duly complemented by adequate medical

supplies, equipment and facilities based on the total number of workers. (Use additional sheet if necessary and attach all required training certificates in this section.)

Table No. 2. Emergency Health Personnel and Facilities

Shift/Area/Unit/ Department	Total number of workers/ area	Health Personnel & Facilities	
		Health Personnel (First-aider, Nurse, Physician, Dentist)	Facilities (Treatment Room/ Clinic/ Hospital)

4.1.3. Central Safety and Health Committee (CSHC)

4.1.3.1 Composition and Functions of the CSHC

Discuss the functions of the CSHC that includes planning, developing and implementing safety and health policies and programs, monitoring and evaluating the SHP, and inspecting/investigating all aspect of the work pertaining to the safety and health of all the workers. Also, discuss the frequency of meetings of the CSHC.

Present the composition of the CSHC as follows: (Company may include additional members as necessary):

Chairperson : Name of Highest Official Onsite
Secretary : Name of Safety Engineer
Ex-officio members : Name of Occupational Health Physician and
Name of Occupational Health Dentist, as applicable

Members : Names of Department Heads
Names of Service Contractor Representatives
Name of workers' representatives coming from the union, if the workers are organized, or elected workers through a simple vote of majority, if unorganized.

4.1.4 Hazard Identification, Risk Assessment and Control

(Company may attach its own Risk Assessment Matrix)

Table 3. Sample Risk Assessment Matrix

Task	Hazard	Risk	Priority	Control
Hauling of Ore	Drivers have to occasionally work long hours	Fatigue, short rest time between shifts	medium	Policy on work break
	Noise generated from movement of haul trucks	Auditory processing disorder	low	Noise Control
	Unmaintained haul trucks	Sudden breakdown of truck during hauling	high	Conduct of regular preventive maintenance of haul trucks

Note: All information in the table highlighted in red are for illustration purposes only

4.2. Organizational Rules

Discuss the safety and health organizational rules based on legal requirements and provisions to address safety and health issues/concerns specific to the mine/milling operations. Include the guidelines for the conduct and actions of the company's employees.

(Attach the Safety and Health Organizational Rules and Regulations or the Safety and Health Manual as Annex No. 2)

4.3. Management and Employee Training

Table No. 4. Safety and Health Training Plan

Name of Safety and Health Training/Orientation	Target Number of Participants	Date
Safety and Health Orientation for Employees		
Safety and Health Orientation for Visitors		
Use and Maintenance of PPE		
Emergency Response Trainings: -Standard First Aid and Basic Life Support Training -Fire Fighting		

-Mine Rescue		
Risk Assessment and Evaluation Training		
Work Permit System Training		
Good Housekeeping Training		
Other relevant SH Trainings		

Note: All information in the table, highlighted in red are for illustration purposes only.

In Table No. 4, enumerate the safety and health trainings to be conducted, its target participants and the training schedule.

4.4. Good Housekeeping

4.4.1. Good Housekeeping Plan

Discuss the following aspects of the Plan:

4.4.1.1. Worker's Training
4.4.1.2. Routine Maintenance/Housekeeping Schedule
4.4.1.2. Assignment of Work Responsibilities
4.4.1.3. Areas of Concern

4.4.2. Dust Control and Management

Discuss strategies to control and manage dust in the workplace.

4.4.3. Solid Waste Management

Discuss strategies to reduce and manage solid wastes in the workplace.

4.4.4. Hazard Control and Management

Discuss strategies to control and manage hazardous materials, substances and wastes in the workplace.

4.5. Health Control and Services

4.5.1. Medical Surveillance

Discuss the types of medical examinations to be conducted to monitor the health of employees and identify the parameters to be tested:

4.5.1.1. Pre-placement Medical Examination

4.5.1.2. Annual Medical Examination during the ____ Quarter (Indicate what quarter will the examination be conducted)
4.5.1.3. Return-to-Work Medical Examination
4.5.1.4. Separation from Employment Medical Examination
4.5.1.5. Special Medical Examination

4.5.2. First Aid and Health Care Facilities

Identify the first aid and health care facilities to be provided.

4.5.3. Prevention and Control of Health Domains

Discuss the strategies to prevent and control the following health domains:

4.5.3.1. Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome;
4.5.3.2. Tuberculosis;
4.5.3.3. Hepatitis B;
4.5.3.4. Coronavirus Disease of 2019 (COVID-19); and
4.5.3.5. Other infectious diseases

4.5.4. Promotion of Health Domains

Discuss the activities and programs of the company in the promotion of the following health domains:

4.5.4.1. Drug-free workplace;
4.5.4.2. Mental Health Services in workplace;
4.5.4.3. Healthy Lifestyle; and
4.5.4.4. Other relevant health issues.

4.5.5. Workplace Health Policy

Attach the Workplace Health Policy of the company as a commitment to the promotion of health and prevention of work-related illnesses. *(Refer to Annex No. 3)*

4.6. Personal Protective Equipment

4.6.1. Prescribed Personal Protective Equipment (PPE) per Workplace

Identify the necessary PPE for work activities as per Job Hazard Analysis.

4.6.2. Provision of PPE

Discuss the system and procedures for issuing PPE to the workers.

Table 5. Sample PPE Issuance Monitoring Sheet

PPE provided	Number of Workers provided with PPE

4.6.3. Inventory and Replacement of PPE

Discuss the procedures in managing the inventory and replacing worn-out PPE.

4.6.4. Feedback Mechanism on PPE Issues and Concerns

Discuss the company's feedback mechanism on PPE issues and concerns from the workers.

4.7. Monitoring and Reporting

4.7.1. Planned Inspection

Discuss the inspection schedule, inspection checklists to be used and the procedure in reporting of findings and recommendations based on the inspection conducted.

4.7.1.1. Accident/Incident Investigation

Discuss the investigation procedure including the investigation report format.

4.7.1.2. Accident/Incident Analysis

Discuss the accident/incident reporting, data recording and how will the company analyze the data to help monitor and improve its safety performance.

4.7.2. Safety and Health Reporting Requirements

Discuss the following reporting requirements and the target dates of submission:

4.7.2.1. Monthly General Accident Report;
4.7.2.2. Monthly Employer's Report on Accident and Illness;
4.7.2.3. Minutes of Meeting of the CSHC;
4.7.2.4. Quarterly Emergency Drill Report;
4.7.2.5. Annual Medical Report;

4.7.2.6. Explosives Transaction and Blasting Reports, if applicable; and
4.7.2.7. Explosives Accessories Consumption Report, if applicable.

4.8. Emergency Response and Preparedness

4.8.1. Emergency Response and Preparedness Program (ERPP)

Discuss the following elements of the ERPP during different scenarios (e.g. earthquake, fire, landslide, bomb threat, pandemic):

4.8.1.1. Evacuation of people;
4.8.1.2. Systematic shutdown of operation;
4.8.1.3. Control of hazardous materials;
4.8.1.4. Removal or protection of vital equipment and supplies;
4.8.1.5. Designation of command control area;
4.8.1.6. Search and rescue plan; and
4.8.1.7. All clear and re-entry procedure.

4.8.2. Emergency Response Team (ERT)

Discuss composition as to the roles, duties and responsibilities of the ERT Members. Include the Organizational Chart.

4.8.3. Emergency Drill

Discuss the conduct of emergency drills. Present the Emergency Drill Plan, Emergency Drill Evaluation, Assessment and Reporting Procedures.

4.8.3.1. Emergency Drill Plan

Table 6 Emergency Drill Plan Template.

Type of Drills (fire, earthquake, chemical spill)	Date	Responsible person/position

4.8.3.2. Emergency Drill Evaluation and Assessment

Discuss the evaluation and assessment procedure for the conduct of emergency drills. Formulate and attach the company's emergency drill evaluation and assessment checklist.

4.8.3.3. Emergency Drill Reporting

Discuss the procedure in the preparation and submission of the emergency drill report. Formulate and attach the company's emergency drill report template.

4.9. Occupational Safety and Health Management

4.9.1. Safety and Health Meetings

Discuss the safety and health meetings to be conducted such as CSHC, Departmental and Toolbox meetings.

4.9.2. Safety and Health Incentives

Discuss the company's safety and health incentive schemes and its guidelines on determining the worker/group to be given a safety and health award/recognition.

4.9.3. Provision for Worker's Welfare Facilities

Table No. 7 provides a sample checklist of facilities to be provided for the welfare of workers.

Table 7. Worker's Welfare Facilities

FACILITIES	PROVIDED?		REMARKS
	YES	NO	
Mess Hall			
Adequate supply of drinking water			
Adequate sanitary and washing facilities			
Suitable living accommodation (if applicable)			
Separate sanitary, washing and sleeping facilities (if applicable)			
Lactation station (in consonance with DOLE Department Order. 143-15, the Guidelines Governing Exemption of Establishments from Setting Up Workplace Lactation Station)			
Ramps, railings, and the like			
Other workers' welfare facilities as prescribed by DAO No. 2000-98 and other related issuances			

Note: All information in the table, highlighted in red, is for illustration purposes only

4.9.4. Provision for Safety and Health Signages and Information

Discuss the company's safety and health promotions and information dissemination, including the installation of signages.

4.9.5. Prohibited Acts and Penalties for Violations

Present the company's penalties for violations of the Organizational Rules and Regulations.

Table 8. Sample of Company Violations and Corresponding Penalties

Safety Violation	1st offense	2nd offense	3rd offense
1. Not using issued PPE	warning	3 day suspension	5 day suspension
2. Littering and loitering	warning	3 day suspension	5 day suspension
3. Smoking at prohibited area	warning	3 day suspension	5 day suspension
4. Illegal dismantling of safety signages and paraphernalia	warning	3 day suspension	5 day suspension
5. Not following safety rules	3 day suspension	5 day suspension	Dismissal

Note: All information in the table, highlighted in red, is for illustration purposes only

4.10. Cost of Implementing the SHP

Discuss the SHP cost as follows:

PhP _____ ; Annual estimated amount for SHP implementation to include, but not limited to the following: orientation/training of workers, safety and health personnel, purchase and maintenance of PPE, first aid medicine and other medical supplies, safety signages and devices, fire safety equipment/tools, safety of equipment (i.e. machine guards, canopy) etc.

Table 9. SHP Cost

Safety and Health Items	Estimated Cost
PPEs	
OSH trainings	
Safety Signages	
Medical examinations	
Medical supplies/medicines	
Others: Specify	
TOTAL	

Note: All information in the table, highlighted in red, is for illustration purposes only

5.0. Matrix of SHP Activities, Schedule and Costing

(Refer to Annex No. 4: SHP Matrix Sample)

6.0. Matrices of Service Contractor's SHP

Attach the SHP matrices of Service Contractors directly involved in the mining/mineral processing operations. *(Refer to Annex No. 4)*

7.0. References

List of references used in the preparation of SHP

8.0. Annexes

Annex No. 1: Company Safety and Health Policy

Annex No. 2: Safety and Health Manual/Organizational Rules and Regulations

Annex No. 3: Workplace Policy and Program on Promoting Workers Health and Ensuring Prevention and Control of Health-related Issues and Illness

Annex No. 4: SHP Matrix of the Contractor/Permittee/Permit Holder

Annex No. 5. SHP Matrices of Service Contractor/s

Additional annexes: List of figures, maps, diagrams and other programs/documents related to the implementation of the SHP

Annex No. 1: Company Safety and Health Policy

Sample Company Safety and Health Policy

COMPANY SAFETY AND HEALTH POLICY

_____*(Name of the Company)*_____ do hereby commit to comply with the requirements of the Consolidated Department of Environment and Natural Resources Administrative Order (DAO) No. 2010-21, the Revised Implementing Rules and Regulations of Republic Act (RA) No. 7942, the Philippine Mining Act of 1995, DAO No. 2000-98, the Mine Safety and Health Standards, and the applicable provisions of RA No. 11058, Occupational Safety and Health Law.

We acknowledge the company's obligation and responsibilities to provide appropriate funds for implementing the SHP including the orientation and training of its employees on safety and health, dissemination of IEC materials on safety and health, provision of Personal Protective Equipment (PPE), and other safety and health activities that will ensure the protection of the workers and employees against injuries, illnesses and death through a safe and healthy working environment.

We commit to conduct risk assessment as required to prevent workplace accidents as well as comply with other provisions of the SHP. That we are also fully aware of the penalties and sanctions for safety and health violations as provided for in RA No. 7942, RA No.11058 and its Implementing Rules and Regulations.

[Signature] _____

[Name] ___*[President] / [Chief Executive Officer] / [Owner]*__

[Date] _____

Annex No. 3: Workplace Policy and Program on Promoting Workers Health and Ensuring Prevention and Control of Health-related Issues and Illness

WORKPLACE POLICY AND PROGRAM ON PROMOTING WORKERS HEALTH AND ENSURING PREVENTION AND CONTROL OF HEALTH-RELATED ISSUES AND ILLNESS

(Name of Company) is committed to promote and ensure a healthy and safe working environment through its various health programs for its employees in conformity to all laws, rules and regulations that guarantee workers' health and safety at all times.

The company shall ensure that workers' health is maintained through the following company programs and activities:

a. Orientation and education of employees
b. Access to reliable information on illness and hazards at work
c. Referral to medical experts for diagnosis and management of illness or health-related concerns
d. Provision of health-related programs such that proper nutrition and exercise/ activities are made available to the workers

The above-mentioned programs and activities shall comply with the Government's issuances on promoting healthy lifestyle, addressing mental health in the workplace and preventing and controlling substance abuse.

In addition, company policies to protect workers' rights arising from illness shall be guaranteed. The company shall promote the following workers' rights:

a. Confidentiality of information
b. Non-discrimination including non-termination
c. Work accommodation following a course of illness
d. Assistance to compensation

This policy is formulated for everybody's information. The company is committed to ensuring workers' health and providing a healthy and safe workplace.

_____	_____
Owner / Manager	**Employees' Representative**

DATE: _____

ENVIRONMENTAL WORK PROGRAM

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GUIDELINES FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL WORK PROGRAM

I. Rationale

The Environmental Work Program (EWP) is a comprehensive and strategic environmental management plan prepared by the Contractor/Permittee during exploration period/stage. The said program shall be implemented for the term of the Exploration Permit (EP) or Exploration Period of the Mineral Agreement/Financial or Technical Assistance Agreement (FTAA) to be granted. It provides description of the expected and considered acceptable impacts of mineral exploration and shall set out the environmental protection and enhancement strategies based on best practice in environmental management during exploration period/stage. It shall address the rehabilitation of the disturbed area in a technically, socially and environmentally competent manner.

II. Legal Basis

The following are the legal bases for the preparation, submission, and implementation of the EWP:

1. Sections 167 and 168 of Department of Environment and Natural Resources Administrative Order (DAO) No. 2010-21, as amended, *"Providing for a Consolidated Department of Environment and Natural Resources Administrative Order for the Implementing Rules and Regulations of Republic Act No. 7942, Otherwise Known as the Philippine Mining Act of 1995"* for the preparation and implementation of EWP;

2. Sections 19 and 39 of DAO No. 2010-21 for the submission and implementation of Exploration Work Program (ExWP);

3. Mines and Geosciences Bureau (MGB) Memorandum Circular No. 2018-02, "*Guidelines for Compliance Monitoring and Rating/Scorecard of Mining Permits/Contracts,"* for the standard monitoring system of the environmental management measures indicated in the EWP; and

4. DAO No. 2015-16, "*Providing for the Revised Organization Structure and Functions of the Mines and Geosciences Bureau Pursuant to its Approved Rationalization Plan,"* for the monitoring and audit of the implementation of EWP by MGB Regional Office (RO) and Central Office (CO), respectively.

III. Scope

All Contractors/Permittees that shall undertake exploration activities are required to implement an EWP during the term of the EP or Exploration Period of Mineral Agreement/FTAA.

The EWP shall cover all activities related to environmental protection and enhancement during the exploration period/stage. It shall be based on acceptable, practical and achievable options and demonstrated practice in mineral exploration and shall include implementation schedules, system of environmental compliance guarantees, monitoring, reporting and cost provisions. The implementation of the said program shall be in conjunction with the ExWP.

The guidelines provide a blueprint for the Contractors/Permittees in the implementation of the EWP; and for the MGB CO and RO in the review, evaluation, monitoring and audit of the implementation of EWP.

IV. Guiding Principles

The implementation of the EWP shall adhere to the principles of sustainable development in environmental management for the protection of the environment and other natural resources. Even if mineral exploration has minimal impact to the environment, the formulation and implementation of the EWP shall still be in accordance with the governing principles stated in DAO No. 2010-21, to ensure the elimination, reduction and mitigation of its effects to the environment.

Consequently, mineral exploration activities shall be guided by the following principles:

1. Principles of Sustainable Development and Sustainability

Sustainable development is defined as the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (*Brundtland, 1987*). Sustainability, on the other hand, entails a systems-based approach of understanding the interactions among environmental, social and economic pillars (Figure No. 1).

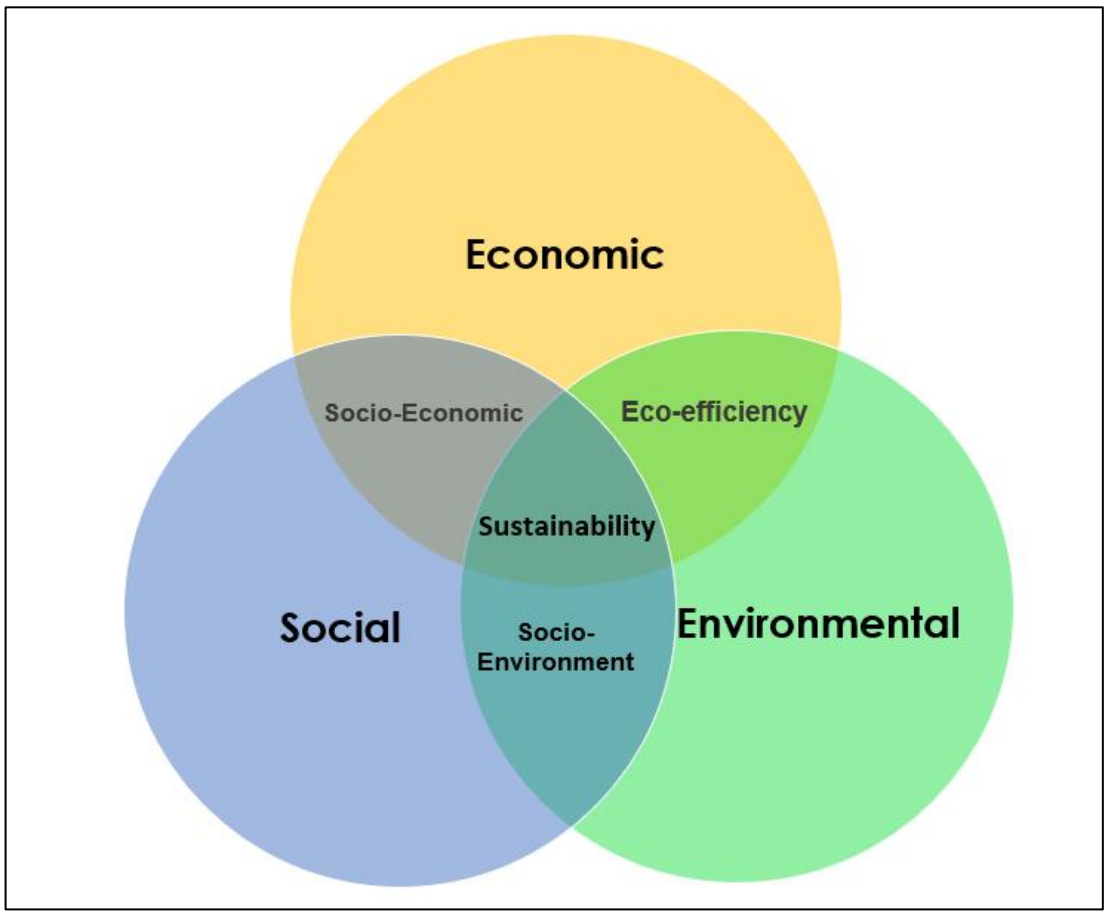


Figure No. 1. Three Pillars of Sustainability (*United Nations World Summit on Sustainable Development, 2002*)

Mineral exploration activities shall be conducted in a manner that contributes to the *Sustainable Development Goals* (SDGs) - the universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone. In general, the following aspects in relation to SDGs shall be highlighted in the conduct of mineral exploration and in the implementation of the EWP: protection and conservation of life on land, provision of clean water and sanitation, use of energy efficient activities/processes, implementation of measures that will address climate-related environmental impacts, and creation of jobs and economic growth.

2. Mitigation Hierarchy and Precautionary Principle

The mitigation hierarchy (Figure No. 2) is a tool for managing risks and potential impacts mainly to biodiversity and ecosystem services which involves three key actions – avoid, minimize and restore (*The Biodiversity Consultancy, 2015*). In relation to the concept of mitigation, the Precautionary Principle implies that in case of threats of serious or irreversible damage to the environment, absence of scientific certainty shall not result in lenient implementation of cost-effective measures (*United Nations Rio Declaration, 1992*).

Figure No. 2. Mitigation Hierarchy (The Biodiversity Consultancy, 2015)

Contractors/Permittees shall consider the three key actions during planning and implementation of activities that will address proven and hypothetical/possible effects of mineral exploration to the biodiversity and ecosystem services. Areas to be affected by mineral exploration activities shall be subjected to immediate rehabilitation.

3. Principle of Effectiveness and Efficiency

The Principle of Effectiveness and Efficiency implies that the use of natural resources and the processes involved should be effective and efficient to minimize environmental costs (*United Nations Rio Declaration, 1992*).

Mineral exploration activities shall be based on best available technology (BAT) to prevent and control pollution. BATs are developed to ensure that activities implemented are cost-effective, i.e. exploration costs are optimized while environmental costs are reduced. In mineral exploration, BATs include conservation of water used in drilling, use of organic drilling additives, etc.

4. Polluter Pays Principle

The Polluter Pays Principle states that the polluter shall bear the corresponding fines/penalties for the pollution generated as well as the cost of the measures to be adopted to address environmental degradation (*Council of the Organization for Economic Cooperation and Development, 1972*).

Environmental measures to be implemented shall conform with the existing environmental laws, rules and regulations, particularly on the provisions regarding allowable emissions/discharges. Funds for the implementation of the environmental measures to be implemented should be sufficiently allocated.

5. Principle of Connectivity

The Principle of Connectivity for biodiversity explains that all ecosystems, living organisms, including humans, are dependent on each other. This concept states that the degree of connectivity or fragmentation between ecosystems is essential to support the movement and adaptation of species. Human-induced activities can impact connectivity and may result to fragmentation that can adversely affect biodiversity (*Vold and Buffett, 2008*).

To address the effects of developmental activities, such as mineral exploration, environmental measures related to conservation of remnant biodiversity, ecosystem restoration, and building of connectivity shall be applied.

V. Goal and Objectives

The goal of the implementation of EWP is to effectively safeguard the environment during the exploration of mineral resources.

To achieve this goal, the following are the objectives:

1. Prevent pollution and reduce, if not eliminate, negative impacts caused by mineral exploration to the environment through the implementation of mitigating measures;
2. Conserve the biodiversity, including natural habitats and ecosystems, through practicing environmental protection and sustainable use of natural resources;
3. Protect the communities and Indigenous Cultural Communities/Indigenous Peoples, if any, including their ancestral lands from environmental degradation and respect their traditional and/or sustainable management strategies concerning natural resources;
4. Comply with the existing environmental laws, rules and regulations; and
5. Adopt BAT and promote best practices in protecting the environment.

VI. Framework for the Formulation of the Environmental Work Program

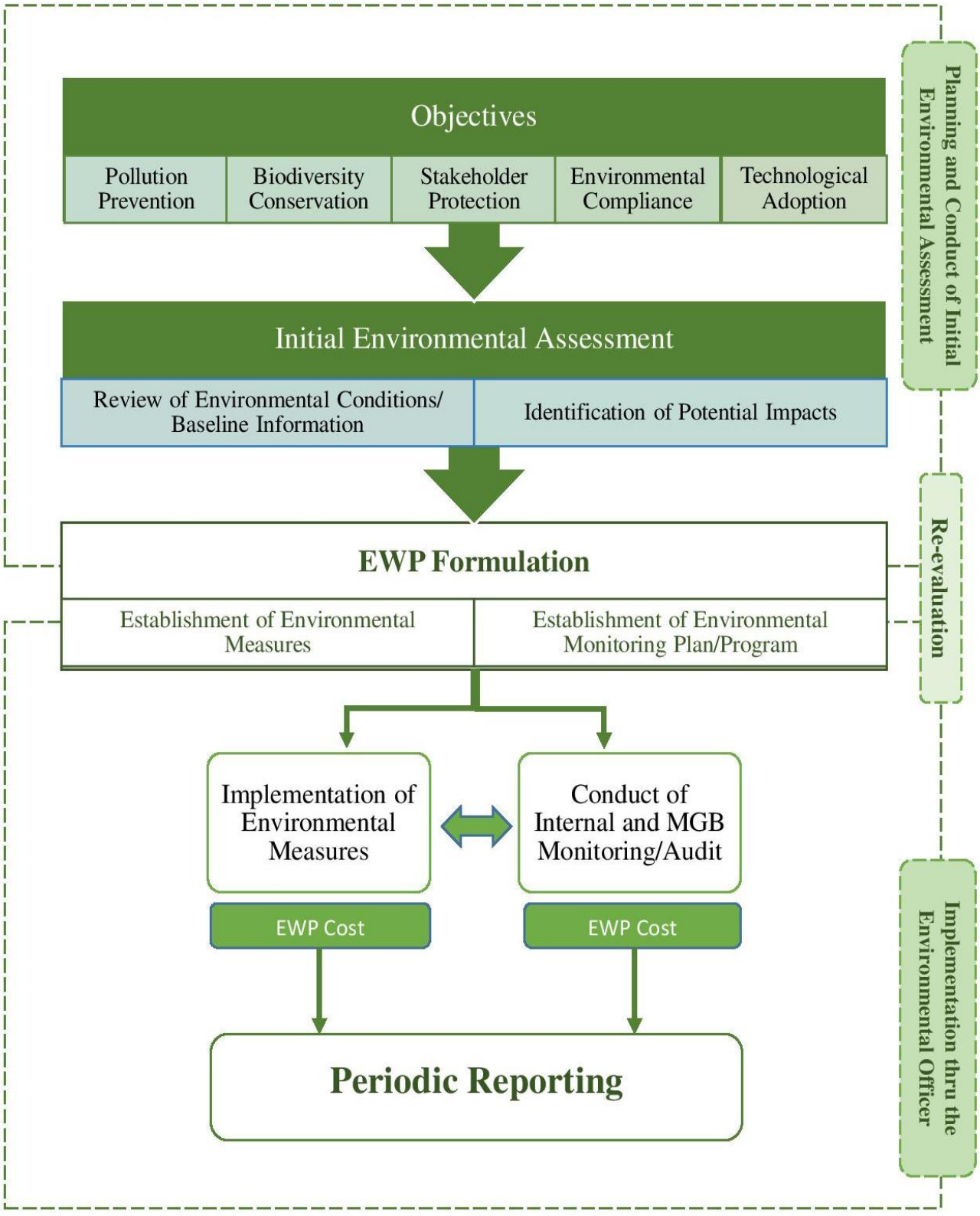


Figure No. 3. Conceptual Framework of EWP Implementation

A. Identification of Potential Environmental Impacts and Mitigating Measures

An initial environmental assessment shall be done to review the environmental conditions of a site prior to the commencement of the exploration project. It shall provide an overview of the environment in the exploration area as well as in adjacent areas which can be affected by the exploration activities.

The description of the existing environment or baseline data can be acquired from existing literature or secondary data. The Contractor/Permittee shall consult the following agencies/offices during baseline data gathering, among others: Local Government Unit (Zoning Ordinance, Municipal/Provincial Profiles); City/Municipal Environment and Natural Resources Officer (certification on legal land classification); Housing and Land Use Regulatory Board (Comprehensive Land Use Plan); Bureau of Soils and Water Management (Soil Map of the Philippines); Philippine Institute of Volcanology and Seismology, and MGB (geological hazards); Philippine Atmospheric, Geophysical and Astronomical Services Administration (climatology); Philippine Statistics Authority (demography); and National Mapping and Resource Information Authority (topographic maps).

Based on the gathered baseline data, a thorough evaluation of the exploration works will be undertaken to identify its potential impacts to the existing environment. Mitigating measures shall then be identified/formulated based on the identified potential impacts.

Subsequently, monitoring protocols shall be established to check the effectiveness of the mitigating measures that will be implemented.

Results of the assessment shall include brief descriptions on the following:

1. Existing environment where the exploration work is to be undertaken;
2. Exploration works;
3. Potential environmental effects of the exploration;
4. Environmental management measures;
5. Environmental monitoring plan;
6. Abandonment plan; and
7. Estimated cost needed to implement the proposed measures and monitoring activities.

The above-stated results shall embody the EWP.

It is important to note that the initial environmental assessment does not replace the baseline study and environmental assessment of the Environmental Impact Assessment. The former is being done to determine the impacts of the

exploration activities, while the latter is being done to identify the impacts of the mining project.

B. Designation of an Environmental Officer

Contractors/Permittees shall designate an Environmental Officer who shall ensure the proper implementation of the EWP. The Environmental Officer shall set the level of priorities and marshal the resources for the implementation of environmental management program.

C. Source of Fund for EWP

The fund to be allocated for the implementation of the EWP shall correspond to at least ten percent (10%) of the exploration cost indicated in the ExWP.

D. Self-Monitoring of Environmental Compliance

The Environmental Officer shall conduct regular monitoring of the implementation of the EWP based on the environmental monitoring plan. The monitoring plan, which is incorporated in the EWP, shall consider the mitigating measures to conform with the existing environmental standards.

The following environmental permits should also be considered in the regular monitoring: Wastewater Discharge Permit, Permit to Operate, and Hazardous Waste Generator Registration Certificate.

E. Periodic Reporting

The Environmental Officer shall submit to the MGB CO and MGB RO a semi-annual status report on the compliance with the EWP, including fund utilization, within thirty (30) days from the end of six (6) months after the approval of the EWP and every six (6) months thereafter.

Table No. 1. presents the summary of the environmental management reporting requirements during the implementation of the EWP pursuant to existing rules and regulation.

Table No. 1. Reporting Requirements

REPORTING REQUIREMENTS	DATE OF SUBMISSION
1. Semi-Annual Report on the compliance with EWP (submission to MGB CO/RO)	Within thirty (30) days from the end of six (6) months after the approval of the EWP and every six (6) months thereafter
2. Quarterly Report on National Greening Program Accomplishment	Within 15 days from the end of each quarter
3. Semi-Annual Report on Mining Forest Program Accomplishment	Within 15 days from the end of each semester

VII. Submission, Processing and Approval of EWP

As stated in Section 19 of DAO No. 2010-21, applicants for EP shall submit an EWP to MGB ROs concerned after the acceptance of the application but prior to the issuance of the pertinent Notice of Application.

As per Section 27 of DAO No. 2010-21, EWP shall be required for Permittees with application for renewal of EP after the acceptance of the application but prior to the issuance of the renewed EP. For Contractors with application for renewal of the Exploration Period of the Mineral Agreement/FTAA, the EWP shall be submitted to MGB CO along with the other mandatory requirements, copy furnished the MGB RO concerned.

Upon receipt of supporting documents of the application, the Mining Tenements Management Division (MTMD) shall endorse the EWP to the Mine Safety, Environment and Social Development Division (MSESDD) for review and evaluation. The result of review and evaluation shall be forwarded to MTMD, for consideration and approval (Refer to Annex No. 1 for the procedural flowchart).

VIII. Monitoring and Audit of the Approved EWP

As stipulated in Section 168 of DAO No. 2010-21, Contractors/Permittees shall submit to MGB CO and MGB RO a semi-annual status report as to the compliance with the approved EWP within 30 days from the end of six (6) months after the approval of the EWP and every six (6) months thereafter. The said status report shall be subjected to periodic monitoring/audit of MGB RO/CO.

MGB RO, as mandated by DAO No. 2015-06, shall monitor the implementation of environmental management programs of Contractors/Permittees as well as their compliance with other environmental laws, rules and regulations. In addition, the monitoring of the EWP implementation to be conducted shall be pursuant to MGB Memorandum Circular No. 2018-02.

MGB CO, through the MSESDD, shall conduct an audit of the implementation of environmental management programs as provided for under DAO No. 2015-06.

IX. Penalties

Non-implementation of the approved EWP is a violation of the terms and conditions of EP, Mineral Agreement or FTAA. Violation of the terms and conditions of the permits or agreements, including violation of existing laws, policies, and rules and regulations, shall be sufficient ground for the cancellation, revocation and termination of EP, Mineral Agreement or FTAA pursuant to Section 96 of RA No. 7942 and Section 230 of DAO No. 2010-21.

Penalties provided for by other laws, rules and regulations shall also apply.

X. References

1. Brundtland, G. H. (1987). Report of the World Commission on Environment and Development: Our Common Future.

2. Campbell-Mohn, C. I. and Cheever, F. (2016, September 19). Environmental law. Encyclopædia Britannica, Inc.

3. Department of Environment and Natural Resources. (2010, June 28). DENR Administrative Order No. 2010-21, the Revised Implementing Rules and Regulations of RA No. 7942, otherwise known as the Philippine Mining Act of 1995.

4. Organisation for Economic Cooperation and Development. (2017). Report on OECD Project on Best Available Techniques for Preventing and Controlling Industrial Chemical Pollution.

5. Republic of the Philippines. (1978, June 11). Presidential Decree No. 1586, Establishing an Environmental Impact Statement including Other Environmental Management Related Measures and for Other Purposes.

6. Republic of the Philippines. (1995, March 03). Republic Act No. 7942, Philippine Mining Act of 1995.

7. The Biodiversity Consultancy. (2015). A cross-sector guide for implementing the Mitigation Hierarchy. The Biodiversity Consultancy Ltd.

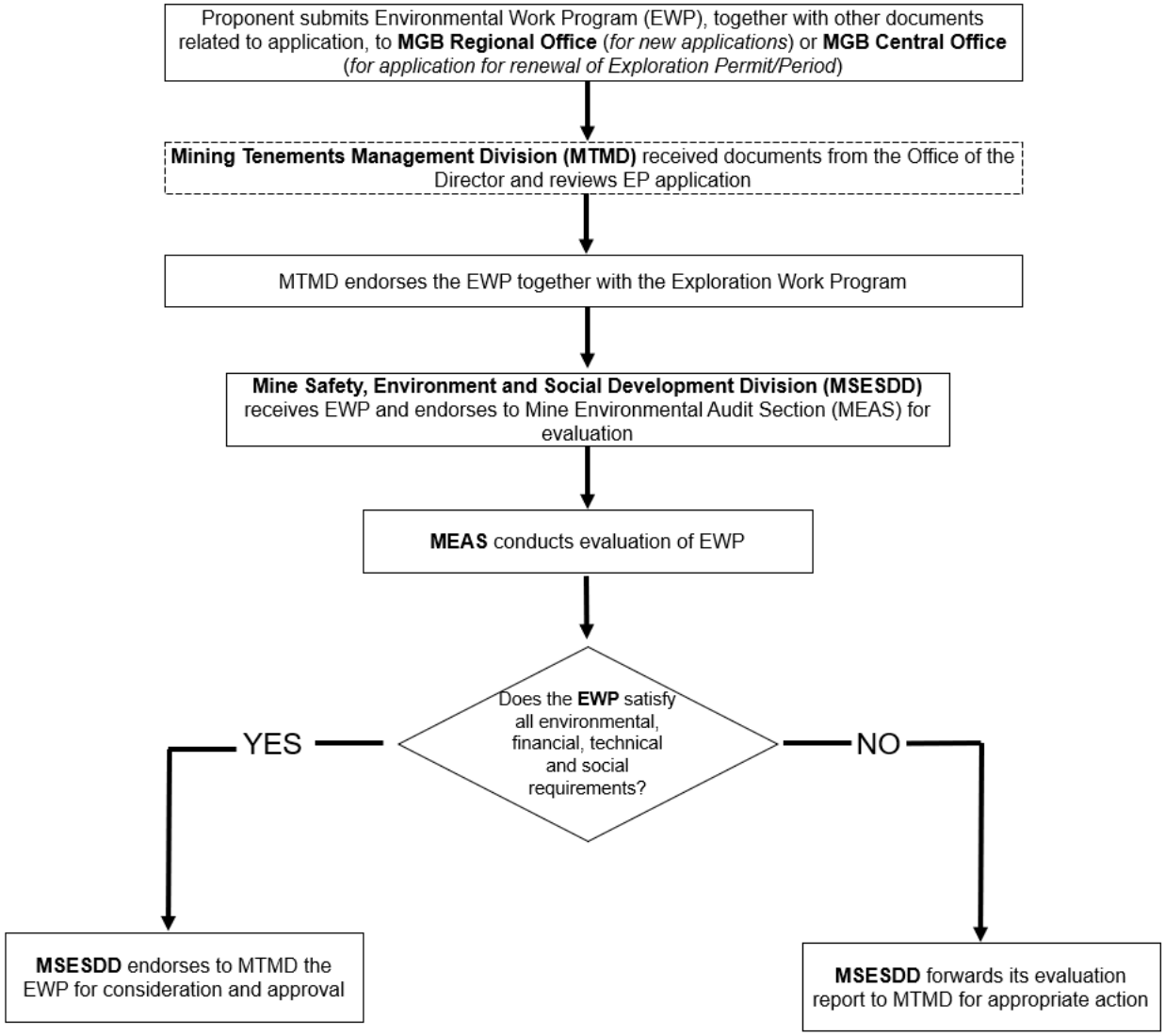
8. United Nations Development Programme and National Environmental Commission of the Royal Government of Bhutan. (2011). Environmental Management Tools and Techniques - A Learning Material.

9. United Nations, General Assembly (1992, August 12). Report of the United Nations Conference on Environment and Development.

10. Vold, T. and D.A. Buffett (2008, July). Ecological Concepts, Principles and Application to Conservation, BC.

XI. Annexes

Annex No. 1: EWP Procedural Flowchart



Note: The turnaround time for the conduct of evaluation of EWP is 4 days.

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ENVIRONMENTAL WORK PROGRAM

1.0. Executive Summary

The Executive Summary shall briefly discuss the details of the exploration project, the background of the Contractor/Permittee, contract/s and/or permit/s granted or permit being applied for, exploration activities to be conducted, environmental impacts identified, mitigating measures to be implemented and monitoring activities that will be conducted, and the projected Environmental Work Program (EWP) cost.

2.0. Company Background

This section provides the complete information of the mining company/ operator or even the consultants commissioned (if applicable) to prepare the EWP.

Briefly discuss the following:

1. Company profile which includes but not limited to history, ownership, business, etc.
2. Official name of the proponent/company including the address of the main and field offices.
3. Name and designation of the personnel who Department of Environment and Natural Resources (DENR) – Mines and Geosciences Bureau (MGB) must contact regarding the program/plan such as the President, Resident Mine Manager, MEPE Officer, Environmental Officer, Community Relations Officer, Safety Officer, whoever is applicable.
4. If the proponent/company has an authorized operator and/or the EWP, was prepared by third-party consultant/s, their respective contact details should also be provided.

Below is the sample entry in presenting the Company Information:

Name(s) and Contact Details of the Contractor/Permit Holder/Permittee

Name:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Project Site Office:	Barangay Rizal, Lemery, Batangas
Telephone:	(+63) 02-8667-6700

Email Address:	info@maharlika.ph

Name(s) and Contact Details of person/s authorized to act/represent the company/operator and consultant (if applicable)

Contact Person

Name:	Engr. Juan Dela Cruz
Designation:	President
Company:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Telephone:	(+63) 02-8667-6700
Email Address:	juandelacruz@maharlika.ph

Operator

Name:	Engr. Juana Velasco
Designation:	CEO
Company:	JV Company
Main Office:	CSA Towers Alabang, Muntinlupa City
Telephone:	(+63) 02-8667-6700
Email Address:	juanavelasco@jvc.com

Consultant

Name:	Engr. Maria Reyes
Designation:	Project Manager
Company:	ProEnvi Consulting
Main Office:	ABC Building Paseo de Roxas, Makati City
Telephone:	(+63) 02-8667-6700
Email Address:	maria.reyes@proenvi.com

3.0. Introduction

3.1. Legal Description of the Project

Discuss all the agreements/permits covering the project including the date of issuance, areas covered, grantee, and the issuing office. Discuss also the history and status of the agreements/permits. Tabulate if necessary.

Provide discussion on the approved/registered Operating Agreement (OA), Deed of Transfer (Deed), etc. that were executed by the company. Copy of the approved pertinent documents should be attached in the annex such as MPSA, OA, Deed, etc. Tabulate if necessary.

Contract/Permit	
Contract/Permit Number	
Contractor/Permit Holder/Permittee	
Status of MA/FTAA/MPP/EP	
Date Approved	
Date of Expiration	
Total Area Covered	
Location of Contract/Permit Area	
Issuing Office	
Operating Agreement	
Name of Authorized Operator, if any	
Date of Execution of the OA	
Deed of Assignment	
Name of Assignee, if any	
Date of Execution of the Deed	

3.2. Organizational Structure

Present the organizational set-up of the company during exploration.

4.0 Brief Description of the Existing Environment where Exploration Work is Proposed to be Undertaken

The required description of the existing environment or baseline data can be acquired from existing literature or secondary data. In case there is no available data, the proponent should provide the timeframe on the submission

of the required information, preferably prior to the 2nd year of the Exploration Permit/Period.

4.1. Land resource

4.1.1. Topography

Discuss the general topography of the area. Identify if the area is generally flat (0-3%), gently sloping to rolling (3-18%), or steep (>18%).

4.1.2. Land use/capability

- Indicate the land use presented in the existing LGU zoning ordinance, legal land classification, and/or Comprehensive Land Use Plan (CLUP) of the area covered by the Application/Permit/Contract.

- Indicate the actual land use as per observation (e.g. residential, commercial/institutional, industrial, agricultural/ recreational, protected area, small scale mining activities, etc.)

4.1.3. Pedology

Indicate the soil type/s present in the area based on the Soil Map of the Philippines (Bureau of Soils and Water Management) with emphasis on areas to be affected by exploration.

4.1.4. Geological/geomorphological environment

Discuss the general geology and geomorphology of the area.

Discuss if the site is within geologic hazard (e.g., seismicity, mass movement including landslide, erosion and sedimentation, etc.) prone areas.

4.2. Water resource

4.2.1. Hydrology/hydrogeology

Discuss the following:

- Drainage pattern and systems in the area;
- Water source to be utilized during the conduct of exploration;
- Nearest/receiving major water body; and
- Approximate distance of the exploration site to the nearest/receiving major water body and deep wells.
- Provide NAMRIA topographic maps covering the Contract/Permit area.

4.2.2. Water quality

Discuss the following:

- Current water classification of the major water body as declared by the DENR – Environmental Management Bureau within the area covered by the application/Contract/Permit, if any;
- Actual use of the nearest/receiving water body (e.g. fishery, tourist zone/ park, recreational, industrial, agricultural) and the approximate size of the population using the said water body; and
- Actual use of the nearest deep well (e.g. drinking, domestic, industrial, agricultural), if any.

For exploration which will involve sulphide and oxide mineralization, water quality analysis results of the water body and deep wells within the exploration area shall be presented using the water quality parameters prescribed under DENR Administrative Order No. 2016-08 in re: *Water Quality Guidelines and General Effluent Standards of 2016*.

4.3. Climatology/meteorology

Discussion on climatology shall focus the following:

- Climate type (using the Climate Map of the Philippines based on the Modified Corona's Classification)
- Rainfall intensity
- Temperature
- Humidity
- Tropical cyclones
- Wind pattern

For air quality, discuss level of particulates, odor, gases (e.g., sulfur dioxide and nitrogen oxides, etc.) and the approximate distance of the site to the nearest community. Air quality analysis results shall be presented using air quality parameters stipulated in DAO No. 2000-81, the Implementing Rules and Regulations for Republic Act No. 8749.

4.4. Biological environment

4.4.1. Terrestrial flora and fauna (include native, indigenous and exotic species present)

4.4.2. Aquatic flora and fauna (include native, indigenous and exotic species present)

4.5. Socio-economic environment – demographic characteristics/features, economic activities in the area including those adjacent to the site and those located downstream that will be affected by the exploration activities.

5.0 Description of Exploration Work

5.1. Description of exploration method(s) and equipment to be used

5.1.1. Geological mapping

5.1.2. Geophysical methods

5.1.3. Geochemical methods

5.1.4. Sampling and evaluation (trenching, test pitting, rotary drilling, core drilling, tunnel-shaft work, mineral dressing tests, economic evaluation)

Indicate number, dimension and approximate location of excavations (e.g. trenches, test pits, drill holes, drill pads) to be used or established

5.1.5. Other associated activities/equipment

- Mode of access
- Mobility of equipment
- Provision for fly camps/base camps/power supply/sample preparation/makeshift laboratory
- Drill additives to be used
- Fuel storage

5.2. Preliminary processing of samples

Discuss the type of processes to be involved, presence of on-site or off-site laboratories, etc.

5.3. Location of the proposed exploration area

NAMRIA map showing the location of the proposed exploration area in relation to readily identified geographic and environmental features.

5.4. Estimated exploration costs

The cost presented should conform with the cost presented in the Exploration Work Program.

6.0 Identification of Potential Environmental Impacts

6.1. On land resource

6.1.1. Surface disturbance outside the exploration area such as road access construction, etc.

6.1.2. Surface disturbance inside the exploration area such as, but not limited to, the following:

- Changes in land forms due to excavations (settling ponds, road access construction, drilling sites, trenches, campsite, test pits)
- Changes in rate of erosion
- Others

6.1.3. Soil/land contamination due to improper solid/hazardous waste and chemical management

6.1.4. Other impacts on land resource

6.2. On water resource

6.2.1. Siltation and pollution of surface waters (acid mine drainage/acid rock drainage, surface run off, erosion, drilling additives/chemicals, reagents for sample analysis)

6.2.2. Changes in hydrology (water availability and quality and drainage patterns due to the construction of water storage areas, and other related structures)

6.2.3. Other impacts on water resource

6.3. On air quality

6.3.1. Air quality degradation due to emission of dust and other air pollutants

6.3.2. Other impacts on air quality

6.4. On the biological environment

6.4.1. Effects on ecosystem, particularly on flora and fauna, of site preparation, alternation of land form and natural drainage, and noise, etc.

6.4.2. Other impacts on biological environment

6.5. On socioeconomic environment (to include among others impact of exploration activities on the communities, and indigenous/ethnic communities, where applicable – culture, tradition and lifestyle, livelihood, and community health and safety)

7.0 Environmental Management Measures

Discuss all necessary measures to be undertaken to ensure effective protection of the environment and adjoining areas from the exploration activities. The following items should be given emphasis in addressing environmental impacts:

7.1. On land resource

7.1.1. Progressive rehabilitation/restoration of exploration area by reforestation or by undertaking civil structure programs such as rip rap, retaining walls, etc., to prevent erosion and siltation

7.1.2. Management of stockpile of excavated and removed earth, if any, to prevent land degradation (e.g., revegetation of disposal areas) and reduce the impact of topographical changes

7.1.3. Handling of toxic and hazardous materials used in the explorations activities (e.g. provision of proper storage areas, provision of natural/artificial containment of drilling fluids, etc.)

7.1.4. Other environmental management measures to address impact to land

7.2. On water resource

7.2.1. Management of stockpile of excavated and removed earth, if any, to prevent siltation problems (e.g. provision of siltation ponds, sumps, etc.)

7.2.2. Other environmental management measures to address impact to water

7.3. On air quality

7.3.1. Maintenance of roads to minimize dust

7.3.2. Establishment of natural and/or artificial barriers for noise and dust

7.3.3. Other environmental management measures to address impact to air

7.4. On biological environment

7.4.1. Alternative plans if special habitat of flora and fauna are affected

7.4.2. Other environmental management measures to address impact to ecology

7.5. On socioeconomic environment

7.5.1. Accommodation of other economic activities in the area related to environmental management (e.g. establishment of local seedlings production facility, etc.)

7.5.2. Plans for information and education campaign and dialogue between the company and community regarding projects/plans including compensation measures, if necessary. The discussion should be based on the

Community Development Program (CDP) to be implemented alongside with the ExWP and EWP. Appropriation of funds for the activities shall be addressed in the CDP.

It is also suggested to encourage participation of the community in environmental enhancement activities such as tree planting, clean-up drives, etc.

7.5.3. Working environment and protection measures for employees

Identification of appropriate Personal Protective Equipment (PPE) to be used by the workers/employees. Appropriation of funds for the provision of PPE shall be addressed in the Safety and Health Program.

7.6. Environmental Monitoring – monitoring of the environmental management measures to be implemented (parameters to be monitored, monitoring methods, monitoring frequency, monitoring stations)

Provide a summary matrix of the environmental monitoring activities to be conducted vis-à-vis potential environmental impacts following the format shown in **Annex A**.

7.7. Final rehabilitation of exploration area – measures and procedures to be undertaken after the conduct of exploration with cost estimate including, but not limited to the following:

7.7.1. Decommissioning of equipment and facilities (e.g. drilling equipment, bunk houses, makeshift laboratories, etc.)
7.7.2. Rehabilitation of the area by plugging of drill holes, backfilling of excavation, replanting, reforestation programs, etc.
7.7.3. Restoration of the original flow of river system that was diverted/altered with emphasis on quality
7.7.4. Control measures for acid mine drainage/acid rock drainage, the generation of which is not only limited to the period of exploration but also after exploration
7.7.5. Other measures

7.8. Summary Matrix of Environmental Management Measures

Provide a summary of the identified impacts and mitigating measures vis-à-vis exploration activities using the format shown in **Annex B**.

In relation to the above-mentioned summary, provide a matrix of the environmental management measures to be implemented using the format shown in **Annex C.** The matrix shall include the environmental management activities, the corresponding unit of measure, physical targets, schedule of implementation and costing.

Note: *To assist the proponent in the preparation of the EWP, sample information on the identification of impacts and mitigating measures is provided in* ***Annex D.***

8.0 Name and Signature of the Preparer/s

Name and Signature of Applicant or Person(s) preparing the EWP (specify PRC and PTR numbers), duly noted by the President of the company. The EWP shall bear the seal of the company.

9.0 NAMRIA topographic map/s

NAMRIA topographic map/s of the proposed project showing location of area(s) subject of exploration, access to property, location of works and roads, water courses, working areas, proposed grid layouts, camps and other surface facilities

10.0 Bibliography

ANNEX A: ENVIRONMENTAL MONITORING MATRIX

Sources of Environmental Impacts	Parameters Considered	DENR Limit/ Standard, if applicable	Monitoring Method/s	Monitoring Locations	Monitoring Schedule/ Frequency	Monitoring Cost
On land resource						
On water resource						
1. Ambient water quality monitoring	pH, TSS, temperature, heavy metals	pH: 6.5-9.0; temp: 25-31C; Cu: 0.02mg/L	In-situ sampling and laboratory testing	Creek – Station 1; Calmay River – Station 1; Calmay River – Station 2	Every 1st Monday of the 3rd Month (Quarterly)	**PhP 90,000.00**
On air quality						
On biological environment						
On socio-economic environment						

Note: All information in the table, highlighted in red, are for illustration purposes only.

ANNEX B: SUMMARY OF IDENTIFIED IMPACTS AND MITIGATING MEASURES

EXPLORATION ACTIVITIES	IMPACTS (LAND, WATER, AIR AND NOISE)	MITIGATING MEASURES
Excavations (test pitting, trenching)	Land: Loss of vegetation, erosion	Immediate backfilling of excavation Planting of native species
	Water: Siltation	Construction of sumps
Construction of access routes from the main highway	Land: Loss of vegetation	Use of existing access tracks as much as possible.
	Water: Siltation/turbidity	Construction of settling ponds and/or sediment traps where it is deemed necessary.

Note: All information in the table, highlighted in red, are for illustration purposes only.

ANNEX C: MATRIX OF ENVIRONMENTAL MANAGEMENT MEASURES

I. Physical Targets

ACTIVITIES	UNIT OF MEASURE	TARGET (Year 1)				Target (Year 2)				Total Target
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
A. On land resource										
1. Progressive rehabilitation	No. of seedlings planted	20	20	20	20			50	50	180
B. On water resource										
1. Construction of Settling Ponds/ Sediment Traps/ Drainage Channels and Canals	No. of settlings ponds/traps constructed	5				5				10
2. Maintenance of Settling Ponds/ Sediment Traps/ Drainage Channels and Canals	No. of settlings ponds/traps maintained		5	5	5	10	10	10	10	10
C. On air quality										
1. Water sprinkling/spraying	Frequency of water sprinkling	As the need arises				As the need arises				As the need arises
D. On biological environment										

ACTIVITIES	UNIT OF MEASURE	TARGET (Year 1)				Target (Year 2)				Total Target
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
1. Establishment of artificial habitats	No. of artificial habitats established	1		1		1		1		4
E. On socio-economic environment										
1. IEC activities re: environment	No. of activities conducted	1	1	1	1	1	1	1	1	8
F. Environmental Monitoring										
1. Ambient water quality monitoring	No. of samples	3	3	3	3	3	3	3	3	24
G. Baseline Data Gathering										
1. Data gathering on baseline ambient air quality	No. of activities conducted	1								1
H. Others										

Note: All the information in the table, highlighted in red, are for illustration purposes only. The timeframe can be modified as per preference (i.e. quarterly, monthly, weekly, etc.).

II. Financial Requirements

ACTIVITIES	UNIT OF MEASURE	BUDGET (Year 1)				BUDGET (Year 2)				Total Budget
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
A. On land resource										
1. Progressive rehabilitation	PhP/seedlings planted	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	80,000.00
B. On water resource										
1. Construction of Settling Ponds/ Sediment Traps/ Drainage Channels and Canals	PhP/settlings ponds and traps constructed	50,000.00				50,000.00				100,000.00
2. Maintenance of Settling Ponds/ Sediment Traps/ Drainage Channels and Canals	PhP/traps maintained		20,000.00	20,000.00	20,000.00	40,000.00	40,000.00	40,000.00	40,000.00	220,000.00
C. On air quality										
1. Water sprinkling/spraying	PhP/water sprinkling	as the need arises				as the need arises				50,000.00
D. On biological environment										
1. Establishment of artificial habitats	PhP/artificial habitats established	10,000.00		10,000.00		10,000.00		10,000.00		40,000.00

ACTIVITIES	UNIT OF MEASURE	BUDGET (Year 1)				BUDGET (Year 2)				Total Budget
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
E. On socio-economic environment										
1. IEC activities re: environment	PhP/IEC activity conducted	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	120,000.00
F. Environmental Monitoring										
1. Ambient water quality monitoring	PhP/sample collected and analyzed	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	240,000.00
G. Baseline Data Gathering										
1. Data gathering on baseline ambient air quality	PhP/activity conducted	25,000.00								25,000.00
H. Others										
									Total EWP Cost	875,000.00

Note: All the information in the table, highlighted in red, are for illustration purposes only. The timeframe can be modified as per preference (i.e. quarterly, monthly, weekly, etc.).

ANNEX D: SAMPLE INFORMATION ON THE IDENTIFICATION OF IMPACTS AND MITIGATING MEASURES

AREA	SOURCE	POTENTIAL IMPACT/ EFFECT	MITIGATING MEASURES (COMMITMENT)
Outside the Project Area	Construction, restoration or upgrading of access routes from the main highway or Barangay site	Loss of vegetation	Use of existing access tracks as much as possible.
		Siltation/turbidity	Construction of settling ponds and/or sediment traps where it is deemed necessary.
		Erosion	Minimize height of muck stockpile/s along slopes. Provision of proper drain channels to direct the flow to siltation/sediment traps. Minimize stockpiling and accumulation of unwanted debris or waste. Promotion of the growth of grasses/shrubs along roadsides and over the stockpiles to prevent it from erosion. Conduct of regular road maintenance.
	Provision of basecamp/ make shift laboratory outside the project area	Domestic and laboratory waste generation	Implementation of waste segregation scheme to encourage recycling and to lessen the volume of waste generation. Use of pits as dumping site for biodegradable waste. The said pits shall be covered with soil

			and shall be revegetated before site abandonment.
On the Project Area	Excavations (for settling ponds, camp construction, test pits, trenches, auger drilling, drill pad preparation)	Depression of selected areas due to excavations	Immediate backfilling of excavations upon completion of work. Conduct of ripping at compacted areas. Conduct of progressive rehabilitation, or revegetation/reforestation after project completion but before abandonment to give ample time for rehabilitation measures maintenance.
		Proliferation of insects particularly mosquitoes	Provision of drainage to prevent accumulation of water in any excavation.
		Entrapment of stray animals or accident to passers-by	Fencing of excavations using ropes and twigs. Provision of warning device and safety signs to as safety reminders to by-passers. Immediate backfilling upon work completion.
		Erosion	Separate stockpiling of topsoil and subsoil for proper backfilling and revegetation. Maintenance of considerable heights and low angles for stockpiles. Stockpiles or erosion prone areas shall be provided with drain channels to prevent erosion.

			Stockpile shall be placed at the low-prone erosion areas or at the upper side of the excavations to prevent further material erosion. Enclosure of stockpile using tarpaulins or other materials.
		Soil compaction	Ripping the contour to promote natural plant growth. Use of half-moon ditches for slope stabilization, prevention of erosion, and loss of vegetation.
		Loss of vegetation	Encourage the growth of natural vegetation by using stockpiled topsoil. Establishment of a nursery during the exploration period for progressive rehabilitation. The said nursery shall cater native/indigenous species. Maintenance of the natural species in the area is required. Use of invasive species is strictly prohibited.
	Reconnaissance, and other geological survey activities	Disturbance of the critical wildlife habitats in the area Displacement/loss of flora and fauna species	Conduct rapid assessment to validate critical habitats, areas which are critical for ecosystem services and wildlife habitats, both terrestrial and aquatic, e.g. nesting sites, roosting sites, feeding and breeding grounds. In case that caves are identified and located within the tenement/permit area, assessment

			shall be conducted together with the DENR following the procedures prescribed in DENR AO 2007-04: Guidelines for Cave Classification. Strict enforcement of the provisions of the Wildlife Act on hunting, collection or injuring wildlife species should be observed. Use less invasive and advanced technologies such as but not limited to unmanned aerial vehicle (UAV) or drone, electrical resistivity and Ground Penetrating Radar (GPR).
Hydrology and Water Quality	Excavation	Siltation	Immediate backfilling of test pits and trenches. Plugging of drill holes after the desired samples are taken or after the study are completed. Provision of canvass roofing for active exploration excavation (i.e. test pits and trenches) to prevent water ponding in the excavation.
	Use of drilling chemicals	Water and soil contamination	Use of biodegradable drilling fluids. Provision of bunds and impervious linings in re-fuelling areas to prevent soil contamination in case of spillage.

			Water recycling will be implemented through provision of water tanks/ponds in each drill site.
	Clearing of vegetation	Siltation/turbidity	Provide silt/sediment traps. Provide temporary silt ponds, if possible. Regular conduct of desiltation. Stockpiling or mixing of silt materials to be utilized in the progressive rehabilitation.
	Camping	Contamination of river water due to generation of human related waste	Campsites will be located at least 100 meters away from creeks and/or river system and it will be provided with proper latrine facilities. Implementation of waste segregation scheme to encourage recycling and to decrease volume of waste generated. Biodegradable waste shall be buried in pits while non-recyclable non-biodegradable waste shall be brought out of the site for disposal at the Municipality's designated dumpsite.
	Clearing of vegetation and noise generation	Displacement/loss of flora and fauna	Vegetation clearing will be avoided as much as possible and noise generation will be kept to its barest minimum.
		Loss of rare species of flora and fauna	Avoidance of identified as special habitat of flora and fauna. Reporting to government agencies of sightings of special habitat of flora and fauna.

	Waste segregation	Foul odor, health problem, water pollution, visual nuisance, displacement of sensitive flora and fauna	Proper segregation of waste generated in the site. Provision of a waste pit, which should not be near water sources, for organic wastes; Collection of inorganic waste for possible recycling or disposal to LGU-designated dumpsite.
Socio-economic Effects	Project implementation	Displacement of socio-economic activities	Provision of just compensation to private property owners that may be disturbed/affected by the project
	Misinformation on project implementation	Disharmonious relationship between the residents and the Contractor/Permittee	Conduct of IEC activities prior to the project implementation to keep the personnel, residents and the LGU well-informed of the programs of the company Keep an open communication with the community through conduct of regular meetings to provide update on the status of the project Meet the community after the project has been complete to provide information with regard to the accomplishment and future plans involving the area, if there is any.
	Movement of vehicles	Dust generation	Vehicular traffic shall be restricted to existing roads as much as possible. Regulation of vehicular speed especially at populated areas.

			Water spraying of roads during summer period. Conduct of regular maintenance of roads. Provision of table drains at water prone areas. Ensure growth of vegetation prevent erosion. Planting of trees at roadsides if deemed essential even after the life of the project.
	Unsafe working condition	Health hazards to workers	Provision of personal protective equipment and medical benefits (shall be covered by SHP). Require the submission of medical certification of all workers prior to hiring (shall be covered by SHP). Provision of training on safety and proper equipment handling for all personnel (shall be covered by SHP).
	Increase of migration	Disharmonious relationship with residents and loss of traditions/culture	Limit hiring of non-resident workers as technical personnel. Prioritize residents of the concerned Municipality/ Province.

Note: All the information in the table, highlighted in red, are for guidance only.

ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM

Table of Contents

GUIDELINES FOR THE IMPLEMENTATION OF ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM

I. Rationale

The Environmental Protection and Enhancement Program (EPEP) is a comprehensive and strategic environmental management plan prepared by the Contractor/Permit Holder which shall provide a description of the expected and considered acceptable impacts and shall set out the life-of-mine environmental protection and enhancement strategies based on best practice in environmental management in mining during development and utilization stages. The activities under the EPEP shall aim to protect the land, water, air, and other natural resources from the adverse effects of mining/mineral processing. It also intends to develop the affected area towards a self-sustaining environment. Through this, Contractors and Permit Holders are expected to ensure that the potential negative impacts of their mining/mineral processing projects are regulated based on the concept of "Mitigation Hierarchy," which includes avoidance, minimization and mitigation of identified negative impacts of mining/mineral processing, as a compliance with the existing laws, rules and regulations. In addition, when the proposed practices are unproven, a research program to prove the impact control and rehabilitation technology shall be required.

II. Legal Basis

The following are the legal bases for the preparation, submission, and implementation of EPEP:

1. Section 69 of Republic Act (RA) No. 7942, the Philippine Mining Act of 1995;
2. Sections 167, 169, and 178 of the DENR Administrative Order (DAO) No. 2010-21, as amended, *"Providing for a Consolidated Department of Environment and Natural Resources Administrative Order for the Implementing Rules and Regulations of Republic Act No. 7942, Otherwise Known as the Philippine Mining Act of 1995;"*
3. DAO No. 2018-19, the Guidelines for Additional Environmental Measures for Operating Surface Metallic Mines;
4. Presidential Decree No. 1586, the Philippine Environmental Impact Statement System (PEISS) and its Implementing Rules and Regulations (IRR), DAO No. 2003-30;
5. DAO No. 2015-02, the *Harmonization of the Implementation of the PEISS and the Philippine Mining Act of 1995 in Relation to Mining Projects*; and

6. Other environmental laws, rules and regulations such as RA No. 8749 (Philippine Clean Air Act of 1999), RA No. 9275 (Philippine Clean Water Act of 2004) and Presidential Decree (PD) No. 705 (Revised Forestry Code).

III. Scope

All Contractors and Permit Holders are required to implement an EPEP during the development and utilization stages of mining/mineral processing operation.

The EPEP shall cover all activities related to environmental protection and enhancement as mitigating measures on the identified possible environmental impacts on land, water, air and noise caused by mining/mineral processing operations. To be able to provide operational link between the environmental management and mining operations/mineral processing; and to attain the approved post-mining land use, the EPEP shall be harmonized with the mine/mineral processing plan/program (i.e. 3-Year Development and Utilization Work Program for mining, 5-Year Development and Utilization Work Program for mineral processing) and the Final Mine Rehabilitation and/or Decommissioning Plan.

These guidelines provide a blueprint for the Contractors and Permit Holders in the preparation and implementation of the EPEP; and for the Mines and Geosciences Bureau (MGB) Central Office (CO) and Regional Office (RO) in the review, evaluation, monitoring and audit of the implementation of the EPEP.

IV. Guiding Principles

The implementation of the EPEP shall adhere to the principles of sustainable development in environmental management for the protection of the environment and other natural resources. Moreover, to ensure the elimination, reduction and mitigation of the effects of the development and utilization of mineral resources to the environment, the formulation and implementation of the EPEP shall be in accordance with the governing principles stated in DAO No. 2010-21.

Consequently, mining and mineral processing operations shall be guided by the following principles:

1. Principles of Sustainable Development and Sustainability

Sustainable development is defined as the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs *(Brundtland, 1987).*

Sustainability, on the other hand, entails a systems-based approach of understanding the interactions among environmental, social and economic pillars (Figure No. 1).

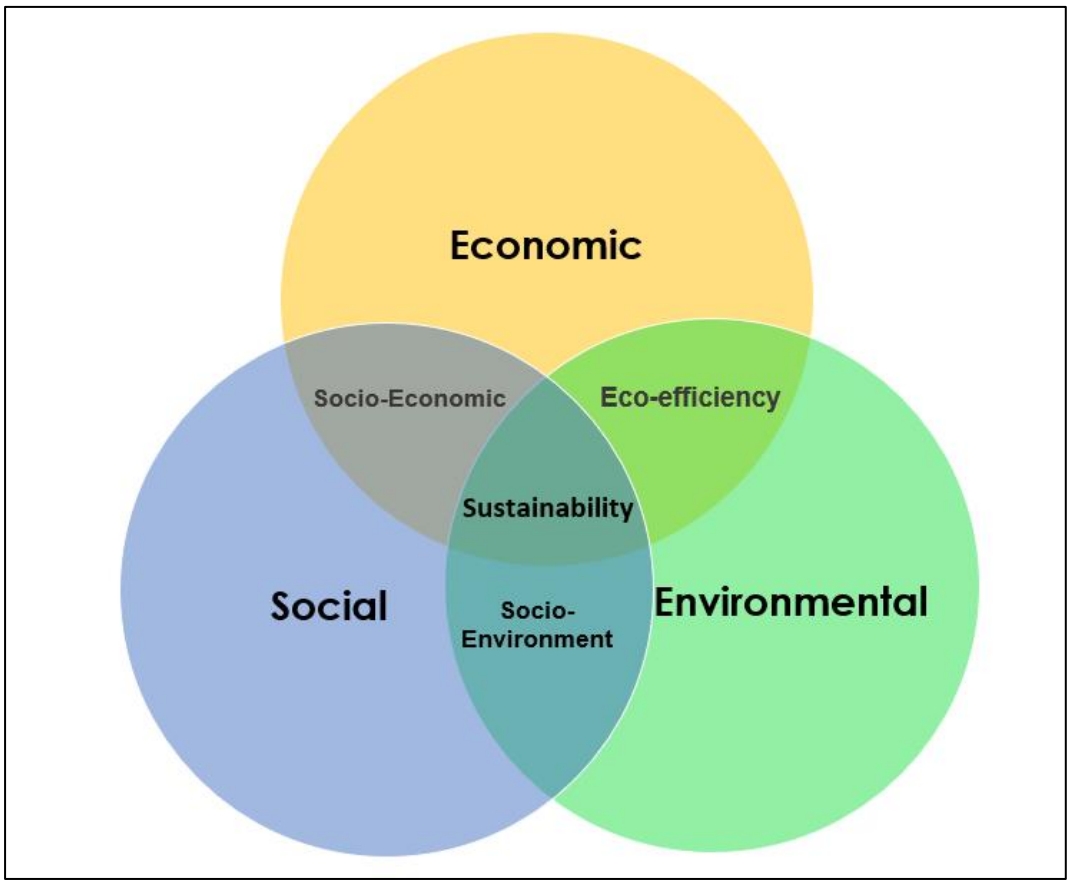

Figure No. 1. Three Pillars of Sustainability *(United Nations World Summit on Sustainable Development, 2002)*

Mining and mineral processing activities shall be conducted in a manner that contributes to the *Sustainable Development Goals* - the universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone. In general, the following aspects in relation to SDGs shall be highlighted in the conduct of mining and mineral processing and in the implementation of the EPEP: protection and conservation of life on land, provision of clean water and sanitation, use of energy efficient activities/processes, implementation of measures that will address climate-related environmental impacts, and creation of jobs and economic growth.

2. Mitigation Hierarchy and Precautionary Principle

The mitigation hierarchy (Figure No. 2) is a tool for managing risks and potential impacts mainly to biodiversity and ecosystem services which involves three key actions – avoid, minimize and restore *(The Biodiversity Consultancy, 2015).* In relation to the concept of mitigation, the Precautionary Principle implies that in case of threats of serious or irreversible damage to the environment, absence of scientific certainty shall not result in lenient implementation of cost-effective measures *(United Nations Rio Declaration, 1992).*

Figure No. 2. Mitigation Hierarchy *(The Biodiversity Consultancy, 2015)*

Contractors/Permit Holders shall consider the three key actions during planning and implementation of activities that will address proven and hypothetical/possible effects of mining and mineral processing to the biodiversity and ecosystem services. Areas to be affected by mining and mineral processing activities shall be subjected to *progressive rehabilitation* - a cost-effective engineering and biological measures of rehabilitating mined-out areas, during utilization stage, in accordance to the approved post-mining land use.

3. Principle of Effectiveness and Efficiency

The Principle of Effectiveness and Efficiency implies that the use of natural resources and the processes involved should be effective and efficient to minimize environmental costs *(United Nations Rio Declaration, 1992).*

Mining and mineral processing activities shall be based on best available technology/technique (BAT) to prevent and control pollution. BATs are developed to ensure that activities implemented are cost-effective, i.e. operating costs are optimized while environmental costs are reduced. In the minerals industry, BATs include recycling of tails and other wastes, treatment of wastes and emissions, establishment of an environmental management system, etc.

4. Principle of Participation

The Principle of Participation entails that all stakeholders should have the opportunity to participate in decision-making processes to address environmental problems. In addition, they should have access to all information that deals with the environment *(United Nations Rio Declaration, 1992)*.

The Contractor/Permit Holder shall allow the participation of its stakeholders, such as government, private, non-government, and community organizations, from the preparation and processing of the EPEP until its implementation. Consultations with stakeholders shall be regularly conducted, in coordination with the Community Relations Office. The Mine Rehabilitation Fund Committee (MRFC) and the Contingent Liability and Rehabilitation Fund Steering Committee (CLRFSC), which are composed of various stakeholders, are involved during the processing and implementation of the EPEP. Further, the Multipartite Monitoring Team which is also composed of various stakeholders shall be the monitoring arm of the MRFC during the EPEP implementation.

5. Polluter Pays Principle

The Polluter Pays Principle states that the polluter shall bear the corresponding fines for the pollution generated as well as the cost of the measures to be adopted to address environmental degradation *(Council of the Organization for Economic Cooperation and Development, 1972).*

Environmental measures to be implemented shall conform with the existing environmental laws, rules and regulations, particularly on the provisions regarding allowable emissions/discharges. In addition to the funds for the implementation of environmental measures, Contractors/Permit Holders shall also allot funds for environmental fees, environmental surety bonds and possible fines/penalties to be imposed, among others.

6. Principle of Connectivity

The Principle of Connectivity for biodiversity explains that all ecosystems, living organisms, including humans, are dependent on each other. This concept states that the degree of connectivity or fragmentation between ecosystems is essential to support the movement and adaptation of species. Human-induced activities can

impact connectivity and may result to fragmentation that can adversely affect biodiversity *(Vold and Buffett, 2008)*.

To address the effects of developmental activities, such as mining and mineral processing, environmental measures related to conservation of remnant biodiversity, ecosystem restoration, and building of connectivity shall be applied.

V. Goal and Objectives

The goal of the implementation of EPEP is to effectively safeguard the environment during the development and utilization of the mineral resources.

To achieve this goal, the following are the objectives:

1. Prevent pollution and reduce, if not eliminate, the negative impacts caused by mining and mineral processing to the environment through the implementation of mitigating measures;
2. Conserve the biodiversity, including natural habitats and ecosystems, by practicing environmental protection and sustainable use of natural resources;
3. Protect the communities and Indigenous Cultural Communities (ICCs)/Indigenous Peoples (IPs), if any, including their ancestral lands from environmental degradation and respect their traditional and/or sustainable management strategies concerning natural resources;
4. Comply with the existing environmental laws, rules and regulations;
5. Develop a functional post-mining land use that is in conjunction with the Comprehensive Land Use Plan of the Local Government Unit and is compatible with the surrounding area through progressive and/or engineered mine rehabilitation; and
6. Adopt BAT and promote best practices in protecting the environment.

VI. Framework for the Formulation of EPEP

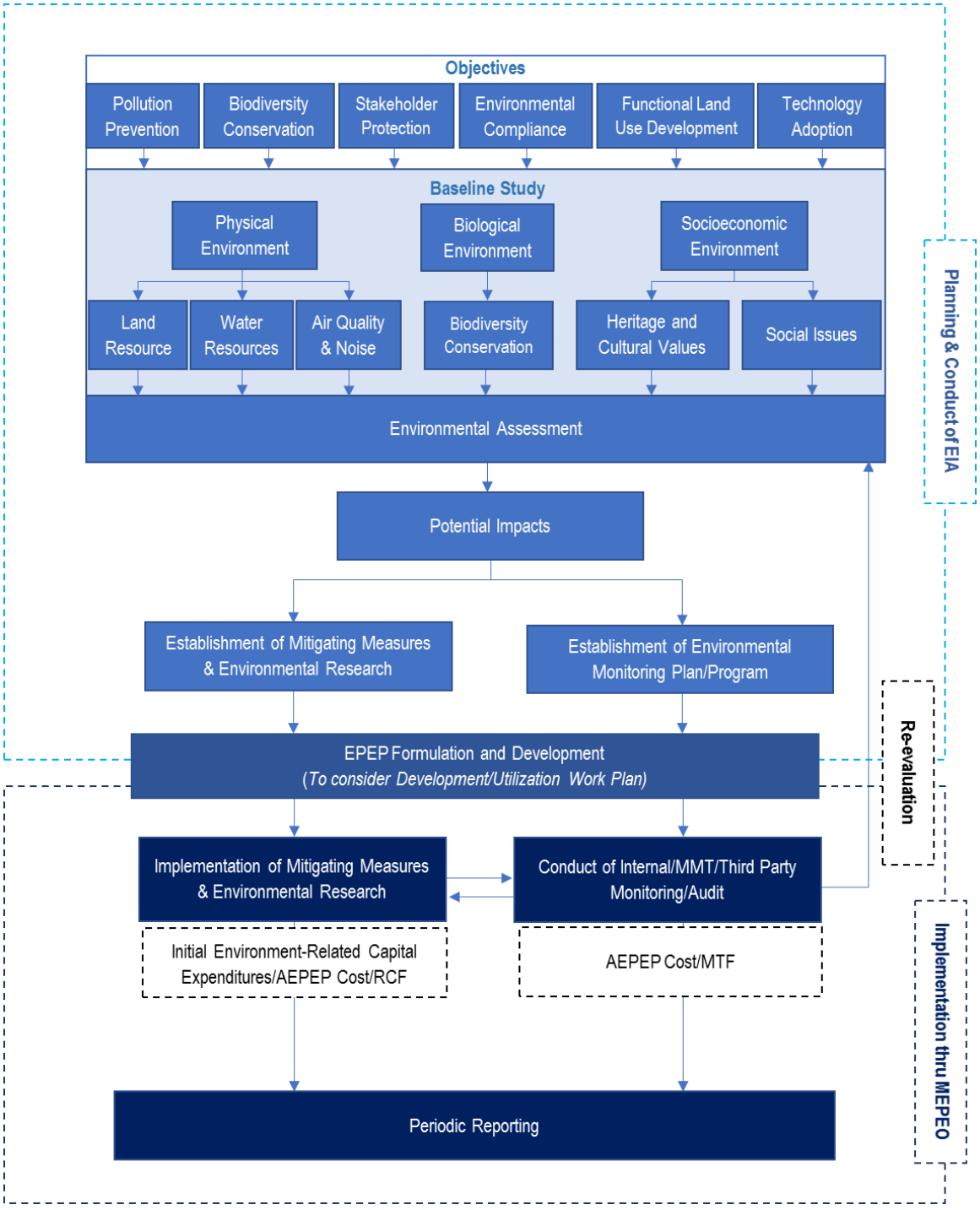

Figure No. 3. Conceptual Framework of EPEP Formulation and Implementation

A. Identification of Potential Environmental Impacts and Mitigating Measures

Baseline Study and Environmental Assessment (BSEA) are vital in the development of EPEP. Through the conduct of the said activities, the environmental impacts can be accurately identified and proper mitigating measures can be implemented thus lowering environmental-related risks.

The BSEA are undertaken during the conduct of EIA, which is defined under the DAO No. 2003-30, *"Implementing Rules and Regulations (IRR) for the Philippine Environmental Impact Statement (EIS) System,"* as a "*process that involves evaluating and predicting the likely impacts of a project (including cumulative impacts) on the environment during construction, commissioning, operation and abandonment. It also includes designing appropriate preventive, mitigating and enhancement measures addressing these consequences to protect the environment and the community's welfare."*

EIA is a prerequisite for the issuance of ECC for extractive industries, as stipulated under Section 4 of DAO No. 2003-30.

A.1. Baseline Study

The Contractor/Permit Holder or its Operator/s shall establish an environmental baseline to record the environmental conditions of the mining/ mineral processing area prior to development. This should be done to assess potential impacts of every aspect of the mining operation and to provide a baseline in order to monitor future changes.

The baseline study shall cover these three (3) environmental components:

1. Physical Environment – the non-living or abiotic aspects of the environment. These include the following:

    a. Land Resource – physiography; geology and soils; and the existing land use within the project area and its vicinity.
    b. Water Resource – hydrology; hydrogeology; and ground and surface water quality.
    c. Air Quality and Noise – climatology; meteorology; and status of air quality and noise level before project development/ implementation.

2. Biological Environment – the living or biotic aspects of the environment. These include data on the local biodiversity resources particularly the terrestrial and aquatic ecology (through detailed inventory/assessment); and various nature issues.

3. Socio-Economic Environment – existing social and economic aspects that affect the environment. These include the following:

    a. Heritage and Cultural Values – pertains to existing cultural/historic resources and ICCs/IPs, if any.
    b. Social Issues – baseline data pertaining to demographics, infrastructure, employment, income, skills and education, and public health.

A.2. Environmental Assessment

The Contractor/Permit Holder or its Operator/s shall undertake Environmental Assessment to provide technical detail on the impacts of the mining/mineral processing project using the baseline study as reference. Environmental Assessment will further result to the determination of the appropriate control/mitigation measures to address the identified potential impacts.

The Contractor/Permit Holder or its Operator shall utilize Mitigation Hierarchy and other environmental risk assessment tools in the identification and analysis of impacts and determination of mitigating measures. All types of impacts namely, direct and indirect; temporary and permanent; and reversible and irreversible, shall be considered during the conduct of the Environmental Assessment.

The following shall be undertaken during Environmental Assessment:

1. Identification, description and assessment of alternatives in relation to site selection of environmentally critical project components such as tailings storage facilities and mine waste disposal areas; alternative mining and processing methods; and transportation handling and use of substitution for hazardous chemical substances.

2. Assessment of the potential physical impacts of the development and operation phases of the mining/mineral processing project that include the following:

a. Land Resource – potential impacts of the operations to soil and topography; and compatibility with the existing land use.
b. Water Resource – potential impacts of the operations to the existing hydrology and to the ground and surface water quality. Chemical and physical characteristics of the runoff, leachate and discharge from tailings and/or mine wastes must be considered.
c. Air Quality and Noise – potential impacts of the operations to the air quality and noise. Effects of air pollution sources must be quantified using models (especially for mineral processing projects).

3. Assessment of the potential biological impacts of the development and operation phases of the project, to include possible effects of land disturbance; and heavy metals and/or chemical contamination to the existing rare, endangered, and endemic species of flora and fauna.

4. Assessment of the potential socio-economic impacts of the development and operation phases of the mining/mineral processing project, to include the potential impacts to cultural and/or historic resources and ICCs/IPs, if any.

5. Detailed information and assessment of control/mitigation measures that the contractor/permit holder intends to use in order to address the potential adverse effects of the project. The use of cost/benefit analysis and detailed implementation strategy are recommended.

   Best practices on progressive rehabilitation, including the lessons learned during previous rehabilitations, must be considered in the preparation of mitigating measures for land resource.

Results of the Environmental Assessment shall be the basis for the formulation of the Environmental Monitoring Program.

A.3. Environmental Research

Research is an essential component for the development of the mining industry. It is the systematic investigation into a specific problem, concern, or issue using scientific methods. In selecting research topics, the unique features and characteristics of the mine must be considered to ensure that the outcomes of the research will be gearing towards mine rehabilitation. Companies are advised to refrain from choosing

research topics that deals on the problems that may be addressed by the conduct of environmental monitoring programs.

A.4. Harmonization of the EPEP with the Development/Utilization Plan

Identified/formulated environmental mitigating measures during the environmental assessment shall be fully implemented throughout the life of the mine or within the period of the Mineral Agreement/Permit. The harmonization between EPEP with the mining/mineral processing project's Development/Utilization Work Plan shall be based on the Principles of Sustainable Development and Sustainability.

Harmonization between the EPEP and the Development/Utilization Work Plan shall be done during the planning stage to ensure efficient and effective implementation of the EPEP. Furthermore, regular joint review must be undertaken by the Top Management, the Mine Environmental Protection and Enhancement Office (MEPEO), and the Mine Operations/Mineral Processing Team/Group to evaluate the harmonization between the EPEP/ Annual EPEP (AEPEP) and the Development/Utilization Work Plan to ensure that all the scheduled EPEP/AEPEP activities are incorporated in the Development/Utilization Work Plan and vice versa.

B. Establishment of the Mine Environmental Protection and Enhancement Office

B.1. Mine Environmental Protection and Enhancement Office

In accordance with Section 173 of DAO No. 2010-21, all Contractors/Permit Holders shall incorporate in their respective organizations a MEPEO. It shall set the level of priorities and shall marshal the resources needed to implement environmental management programs.

The MEPEO is specifically tasked to implement the mitigating measures and monitoring program indicated in the EPEP/AEPEP as a result of the conducted Environmental Assessment. This Office is also responsible for the updating of the EPEP/AEPEP, if the declared measures and monitoring protocols are observed to be ineffective/inefficient or if major changes in the process/operation occurred that leads to possible change of perceived environmental impacts.

B.2. MEPEO Head

The MEPEO head shall be reporting directly to the highest company on-site official and shall be responsible for addressing the environmental concerns of the Contractor/Permit Holder through adequate sustainable programs. The MEPE Officer shall either be a licensed mining engineer, metallurgical engineer, or geologist with at least one (1) year experience in actual mining environmental work; other licensed engineers or natural-science professional with three (3) year experience in actual mining environmental work; or natural-science graduate or other licensed professional with five (5) year experience in actual mining environmental work.

C. Source of Fund for Environmental Measures

C.1. EPEP cost

Funding for the EPEP of Contractors/Permit Holders under DAO No. 2010-21 is guided by the "Polluter Pays Principle" which stipulates that the Contractor/Permit Holder shall bear the cost of the measures to be implemented in order to address the environmental degradation that may cause from its operations. EPEP cost estimates can be calculated by:

1. Defining elements to be rehabilitated over the life of the mine (tailings dams, waste dumps, etc.);
2. Defining the maximum area of land for each type of elements during the life of the mine;
3. Defining the agreed rehabilitation standards and/or activities (re-profiling, sealing, re-vegetation, etc.);
4. Quantifying the rehabilitation activities (slope depth of cover, seed mix, etc.);
5. Establishing a unit cost for each activity;
6. Applying the established unit costs to each activity for each area of disturbance; and
7. Summing the area costs for the whole site.

C.2. Funds for Initial Environment-Related Capital Expenditures

In accordance with Section 169 of DAO No. 2010-21, Contractors/Permit Holders shall *"allocate for its initial environment-related capital expenditures an amount that shall approximate ten percent (10%) of the total capital/project cost or such other amount depending on the*

environmental/ geological condition, nature and scale of operations and technology employed."

The following may be included in the initial environment-related capital expenditures:

a) Environmental studies and design cost;
b) Waste area preparation;
c) Tailings/slime containment/disposal system;
d) Mine waste disposal system;
e) Wastewater/acid mine drainage treatment plants;
f) Dust control equipment;
g) Air pollution control facilities;
h) Drainage system; and
i) Other environmental-related mitigating measures and capital expenditures.

C.3. Fund for Annual EPEP

Contractors/Permit Holders shall allocate a minimum of three percent (3.0%) of its operating cost for its annual environment-related expense.

C.4. Mine Rehabilitation Fund

As provided for in Section 181 of DAO No. 2010-21, the Mine Rehabilitation Fund (MRF) shall be established and maintained to ensure the compliance of the Contractors/Permit Holders with the commitments and activities stipulated in the EPEP/AEPEP during specific project phase. The said section further stipulates that the "*MRF shall be deposited as a Trust Fund in a Government Depository Bank and shall be used for physical and social rehabilitation of areas and communities affected by mining activities and for research on the social, technical and preventive aspects of rehabilitation."*

The MRF shall be in two (2) forms, namely, the Monitoring Trust Fund (MTF) and the Rehabilitation Cash Fund (RCF).

1. Monitoring Trust Fund

The Contractor/Permit Holder shall establish an MTF to cover the monitoring-related expenses of the EPEP/ AEPEP. These are, but not limited to, the following:

a. Transportation and travel expenses;
b. Cost of laboratory analysis;
c. Cost of supplies and materials;
d. Cost of communication services;
e. Cost of consultancy work; and
f. Other reasonable expenses incurred by the monitoring team.

The amount of MTF shall be determined by the MRF Committee which shall not be less than One Hundred Fifty Thousand Pesos (PhP150,000.00).

2. Rehabilitation Cash Fund

The RCF shall be established to ensure compliance with the approved rehabilitation activities and schedules, including research programs, as defined in the EPEP/AEPEP.

The amount of RCF shall be equivalent to ten percent (10%) of the total amount needed to implement the EPEP or Five Million Pesos (PhP5,000,000.00), whichever is lower.

D. Self-Monitoring/Audit of Environmental Compliance

As required under Item 9.2, *"Self-monitoring and Third Party Audit,"* Section 9, *"Monitoring of Projects with ECCs,"* of DAO No. 2003-30 and Section 174, *"Environmental Monitoring and Audit,"* of DAO No. 2010-21, the Contractor/Permit Holder shall conduct regular monitoring/audit of all its environmental programs, researches and status/quality of affected environmental components using the parameters, monitoring stations, and frequency stipulated in the Environmental Monitoring Plan/Program indicated in the EIS and EPEP as a result of environmental assessment during the conduct of EIA.

E. Periodic Reporting

Pursuant to Item b, Section 5 of DAO No. 2015-02, all Contractors/Permit Holders *"shall submit Modules 1 to 6 of the Self-Monitoring Reports (SMRs) to the Environmental Management Bureau Regional Office (RO) concerned and Module 7 of the SMRs to the MGB RO concerned quarterly."*

Module 7 of the SMRs covers the reporting of the compliance of Contractors/ Permit Holders or its Operator with RA No. 7942. This includes the reporting of the status of the EPEP/FMR/DP Implementation.

Table No. 1 presents the summary of the environmental management reporting requirements during the implementation of the EPEP/AEPEP pursuant to existing rules and regulations:

Table No.1: Reporting Requirements

REPORTING REQUIREMENTS	DATE OF SUBMISSION
8. Annual Report of AEPEP Accomplishment	Within 30 days from the end of the calendar year
9. Notarized Semestral Report on Mine Wastes and Tailings generated	Within 45 days from the end of each semester
10. Quarterly Compliance Monitoring Report (Module No. 7)	Within 15 days from the end of each quarter
11. Semestral Report on Mining Forest Program Accomplishment	Within 15 days from the end of each quarter
12. Quarterly Report on National Greening Program Accomplishment	Within 15 days from the end of each quarter

VII. Submission, Processing and Approval of EPEP and AEPEP

As per Section 170 of DAO No. 2010-21, the Contractor/Permit Holder shall submit at least ten (10) hard copies and a complete electronic file of the EPEP to the MRF Committee (MRFC) through the MGB RO concerned for review. The MRFC shall conduct a preliminary evaluation on the EPEP as to its form and substance and may require additional information and documents. The evaluation and processing by the MRFC shall be completed within thirty (30) calendar days upon receipt of the document. The MRFC shall be created in regions where active mining and mineral processing activities exist and is composed of the following:

a. MGB Regional Director as Chair;
b. DENR Regional Executive Director as Co-Chair;
c. EMB Regional Director as Member;
d. Representative of the Autonomous Regional Government, where this is applicable, as Member;
e. Representative from the LGU as Member;

f. Representative from the local NGOs and community organizations, including People's Organizations, church or civic organizations, as Member; and
g. Representative of the Contractor/Permit Holder as Member.

Upon evaluation, the MRFC shall forward the EPEP including the preliminary evaluations to the CLRFSC through the MGB CO for final evaluation and approval (refer to Annex No. 1) and shall be acted upon within thirty (30) calendar days. The CLRFSC is composed of the following officials or their duly authorized representatives:

a. MGB Director as Chair;
b. EMB Director as Vice-Chair;
c. Director of Lands Management Bureau as Member;
d. Director of Forest Management Bureau as Member;
e. Director of Bureau of Soils and Water Management as Member;
f. Director of Bureau of Plant Industry as Member;
g. Director of Bureau of Fisheries and Aquatic Resources as Member;
h. Administrator of the National Irrigation Administration as Member; and
i. MGB Assistant Director as Committee Coordinator.

For holders of Industrial Sand and Gravel Permit, Quarry Permit, and RO-issued Mineral Processing Permit, the EPEP/FMR/DP shall be evaluated and approved by the MRFC concerned (refer to Annex No. 2). Likewise, the AEPEP of all Contractors/Permit Holders shall be evaluated and approved by the MRFC within twenty (20) working days. upon receipt (refer to Annex No. 3).

VIII. Monitoring and Audit of EPEP Implementation

The conduct of environmental monitoring by the Multipartite Monitoring Team (MMT) is stipulated under Section 174 of DAO No. 2010-21. This is to ensure and check the performance of and compliance with the approved EPEP/AEPEP of the Contractors/Permit Holders. The MMT shall monitor the project quarterly or more frequently as may be deemed necessary. The MMT, which shall be deputized by the MRFC, shall be formed immediately after the issuance of the ECC and is composed of the following:

a. Representative from MGB RO as Head;
b. Representative from DENR RO as Member;
c. Representative from EMB RO as Member;
d. Representative from Contractor/Permit Holder as Member;
e. Representative from the Affected Community(ies) as Member;
f. Representative from the Affected ICCs, if any, as Member; and

g. Representative from an Environmental NGO.

MGB Regional Offices, as mandated by DAO No. 2015-06, *"Providing for the Revised Organizational Structure and Functions of the Mines and Geosciences Bureau Pursuant to its Approved Rationalization Plan,"* shall monitor the implementation of environmental management programs of Contractors/Permit Holders as well as their compliance with other environmental laws, rules and regulations. MGB Memorandum Circular No. 2018-02, *"Guidelines for Compliance Monitoring and Rating/Scorecard of Mining Permits/Contracts,"* provides standardized monitoring and performance rating system, using checklist and scorecard, for the compliance of Contractors/Permit Holders with the terms and conditions of the Mineral Agreements/FTAA/Permit, mining laws, rules and regulations.

As per DAO No. 2015-06, the Mine Safety, Environment, and Social Development Division of the MGB CO shall conduct an audit of the implementation of environmental management programs. Moreover, Sections 174 and 196 of DAO No. 2010-21 states that the CLRFSC and its Technical Working Group (TWG) shall conduct an annual environmental audit to Contractors/Permit Holders to ensure that the approved EPEPs and AEPEPs are implemented and other environmental requirements are complied.

Pursuant to DAO No. 2015-07, *"Mandating Mining Contractors to Secure ISO 14001 Certification,"* the metallic mines are required to secure ISO 14001 Environmental Management System. Hence, monitoring and audit scheme to be established shall also consider the regular surveillance audits by the respective ISO Certifying Bodies to ensure proper and effective implementation of their Environmental Management System.

IX. Review and Evaluation of the Approved EPEP

The approved EPEP shall be reviewed by the Contractor/Permit Holder to ensure applicability of existing environmental measures with the status/progress of the mining/mineral processing operations.

As stipulated in Section 170 of DAO No. 2010-21, changes in the approved environmental protection, enhancement and rehabilitation strategies, which entails a positive or negative variance of 20% of the financial requirements, shall require a submission of a revised EPEP. Moreover, amendment of the Contract/Permit and/or ECC covering the project including additional tenement area and/or ECC entails revision of the EPEP.

Review and evaluation of the EPEP shall also be done during the formulation of the AEPEP. According to Section 171 of DAO No. 2010-21, to effectively implement the approved EPEP, an AEPEP shall be formulated which shall be based on the former.

X. Penalties

Contractors/Permit Holders found operating without an approved EPEP or revised EPEP shall be penalized as prescribed in the Penal Provisions of RA No. 7942 as per Section 172 of DAO No. 2010-21.

Non-implementation of the approved EPEP is a violation of the terms and conditions of Mineral Agreement/FTAA/Permit, and including violation of existing laws, policies, and rules and regulations, shall be sufficient ground for the cancellation, revocation and termination of Mineral Agreement/FTAA/Permit pursuant to Section 96 of RA No. 7942 and Section 230 of DAO No. 2010-21. Penalties provided for by other laws, rules and regulations shall also apply.

XI. References

1. Brundtland, G. H. (1987). Report of the World Commission on Environment and Development: Our Common Future.

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3. Department of Environment and Natural Resources. (2018, August 17). DENR Administrative Order No. 2018-19, the Guidelines for Additional Environmental Measures for Operating Surface Metallic Mines.

4. Department of Environment and Natural Resources. (2015, March 10). DENR Administrative Order No. 2015-02, Harmonization of the Implementation of the Philippine Environmental Impact Statement System and the Philippine Mining Act of 1995 in Relation to Mining Projects.

5. Department of Environment and Natural Resources. (2003, June 30). DENR Administrative Order No. 2003-30, the Implementing Rules and Regulations for the Philippine Environmental Impact Statement System.

6. Department of Environment and Natural Resources. (2010, June 28). DENR Administrative Order No. No. 2010-21, the Revised Implementing Rules and Regulations of R.A. 7942, otherwise known as the Philippine Mining Act of 1995.

7. Department of Environment and Natural Resources. (2015, April 30). DENR Administrative Order No. 2015-07, Mandating Mining Contractors to Secure ISO 14001 Certification.

8. Environmental Management Bureau- Environmental Impact Assessment and Management Division. (2007, August). Revised Procedural Manual for DENR Administrative Order No. 03 Series of 2003 (DAO 03-30).

9. Environmental Protection Agency/ Environmental Assessment Board - Guyana. (2000, August). Environmental Impact Assessment Guidelines Volume 3 – Mining.

10. Organisation for Economic Cooperation and Development. (2017). Report on OECD Project on Best Available Techniques for Preventing and Controlling Industrial Chemical Pollution.

11. Republic of the Philippines. (1978, June 11). Presidential Decree No. 1586, Establishing an Environmental Impact Statement including Other Environmental Management Related Measures and for Other Purposes

12. Republic of the Philippines. (1995, March 03). Republic Act No. 7942, the Philippine Mining Act of 1995.

13. The Biodiversity Consultancy. (2015). A cross-sector guide for implementing the Mitigation Hierarchy. The Biodiversity Consultancy Ltd.

14. United Nations Development Programme and National Environmental Commission of the Royal Government of Bhutan. (2011). Environmental Management Tools and Techniques - A Learning Material.

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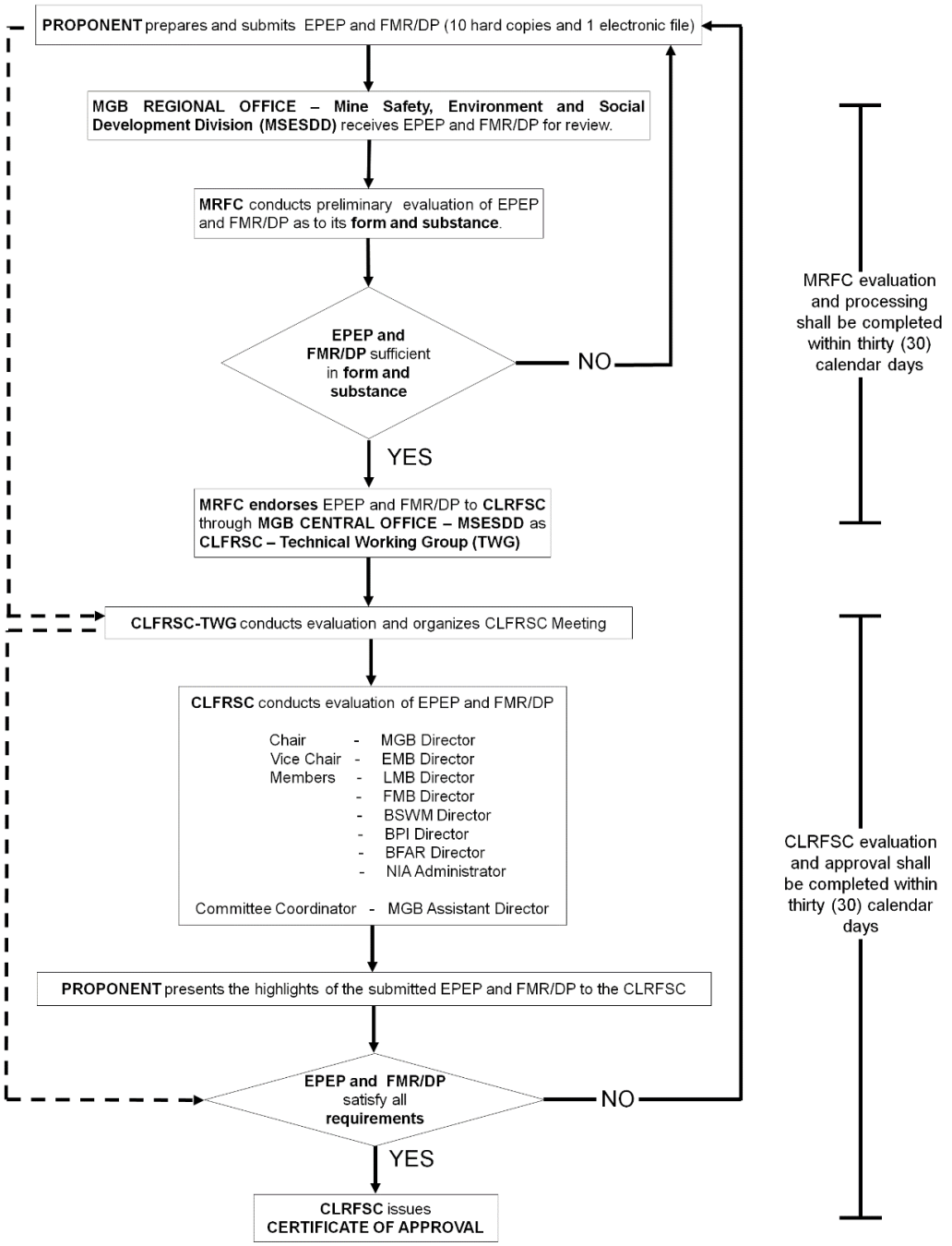
16. United States Environmental Protection Agency (2005). Sustainability Primer.

17. Vold, T. and D.A. Buffett (2008, July). Ecological Concepts, Principles and Application to Conservation, BC.

XII. Annexes

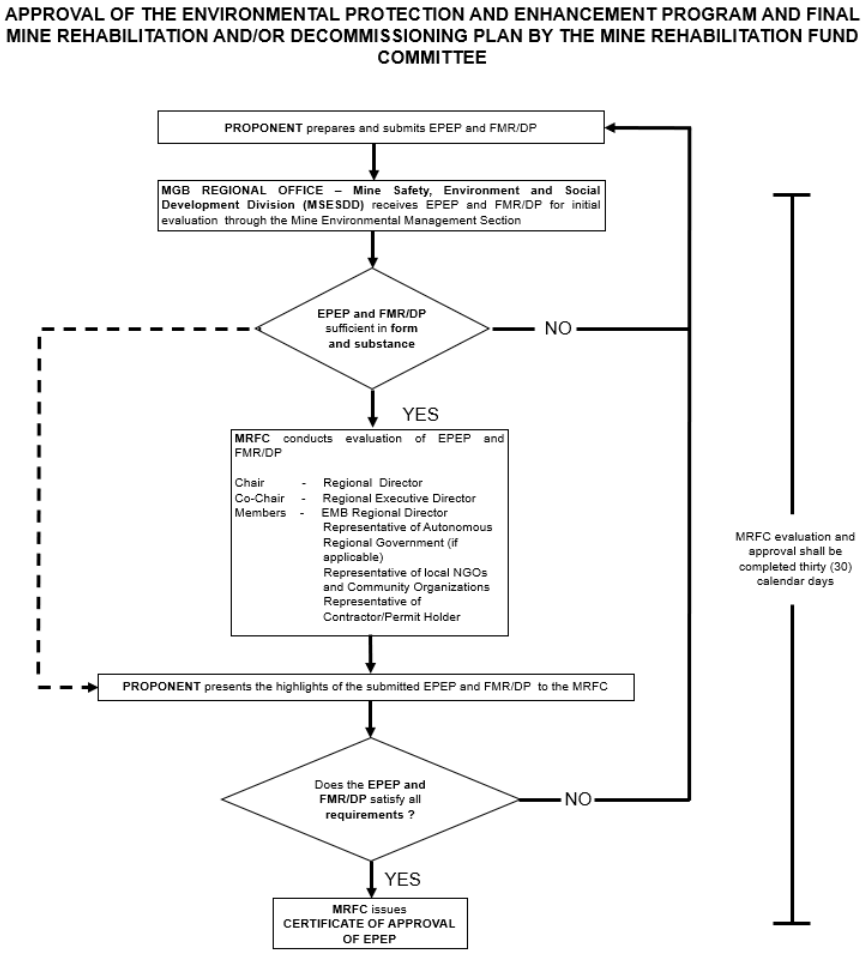
Annex No. 1. Flowchart for the Approval of the EPEP/FMR/DP of Contractors/Permit Holders

APPROVAL OF THE ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM AND FINAL MINE REHABILITATION AND/OR DECOMMISSIONING PLAN BY THE CONTINGENT LIABILITY AND REHABILITATION FUND STEERING COMMITTEE



Note: Dashed lines shall be followed after the documents have been returned to the proponent for revision

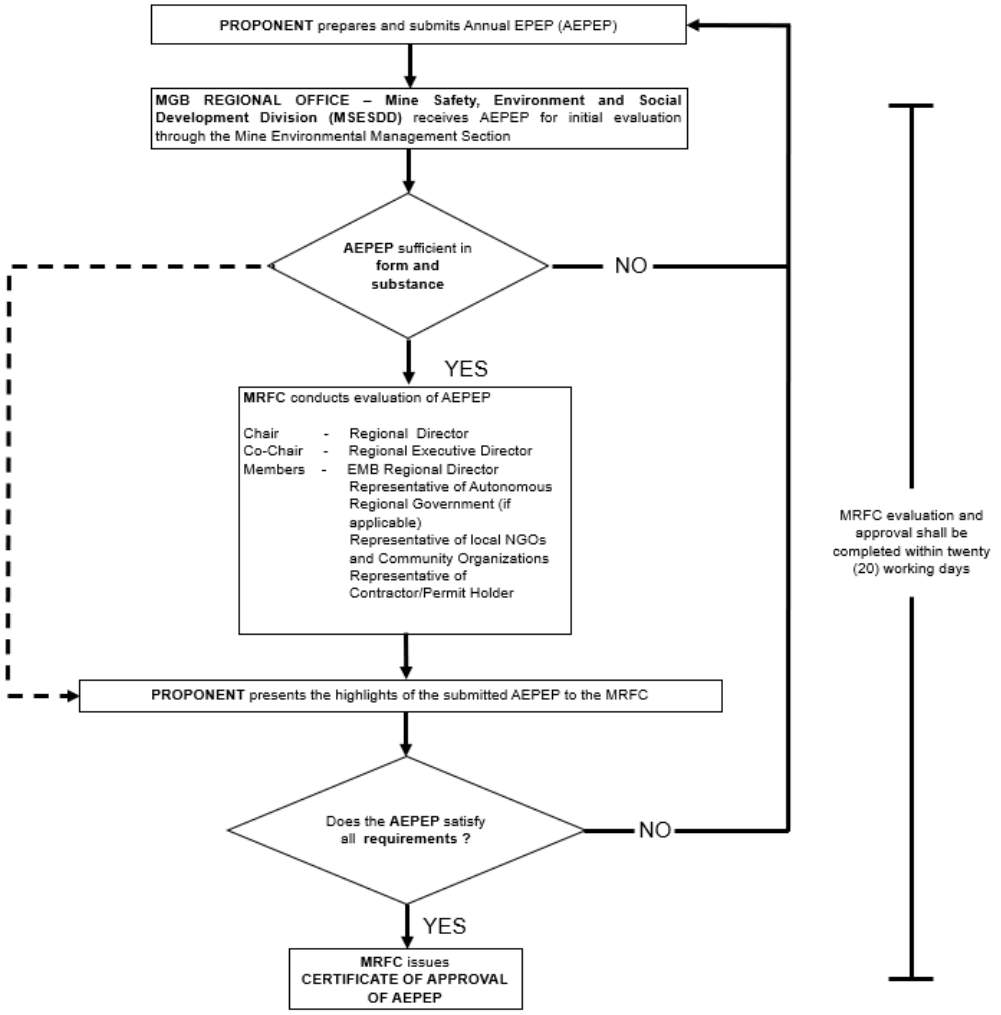
Annex No. 2. Flowchart for the Approval of the EPEP of ISAG Permit/Quarry Permit/ MGB RO-issued MPP Holders



Note: Dashed lines shall be followed after the documents have been returned to the proponent for revision

Annex No. 3. Flowchart for the Approval of the Annual EPEP of Contractors/Permit Holders

APPROVAL OF THE ANNUAL ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM BY THE MINE REHABILITATION FUND COMMITTEE



Note: Dashed lines shall be followed after the documents have been returned to the proponent for revision

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ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM

1.0. Executive Summary

The Executive Summary shall briefly discuss the details of the mining/mineral processing project; the background of the Contractor/Permit Holder; contract/s and/or permit/s granted; environmental impacts identified; mitigating measures to be implemented; monitoring and research activities that will be conducted; and the projected EPEP cost.

2.0. Company Background

This section provides the complete information of the mining company/mineral processing company/operator or even the consultants commissioned (if applicable) to prepare the EPEP.

Briefly discuss the following:

1. Company profile which includes but not limited to history, ownership, business, etc.
2. Official name of the proponent/company including the address of the main and field offices.
3. Name and designation of the personnel the DENR-MGB must contact regarding the program/plan such as the President, Resident Mine Manager, MEPE Officer, Environmental Officer, whichever is applicable.
4. If the proponent/company has an authorized operator and/or the EPEP was prepared by third-party consultant/s, their respective contact details should also be provided.

Below is the sample entry in presenting the Company Information:

Name(s) and Contact Details of the Contractor/Permit Holder/Permittee

Name:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Project Site Office:	Barangay Rizal, Lemery, Batangas
Telephone:	(+63) 02-8667-6700
Email Address:	info@maharlika.ph

Name(s) and Contact Details of person/s authorized to act/represent the company/operator and consultant (if applicable)

Contact Person

Name:	Engr. Juan Dela Cruz
Designation:	President
Company:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Telephone:	(+63) 02-8667-6700
Email Address:	juandelacruz@maharlika.ph

Operator

Name:	Engr. Juana Aquino
Designation:	CEO
Company:	JV Company
Main Office:	CSA Towers Alabang, Muntinlupa City
Telephone:	(+63) 02-8667-6700
Email Address:	juanavelasco@jvc.com

Consultant

Name:	Engr. Maria Reyes
Designation:	Project Manager
Company:	ProEnvi Consulting
Main Office:	ABC Building Paseo de Roxas, Makati City
Telephone:	(+63) 02-8667-6700
Email Address:	maria.reyes@proenvi.com

3.0. Introduction

Discuss all the agreements/permits covering the project including the date of issuance, areas covered, grantee, and the issuing office. Discuss also the history and status of the agreements/permits. Tabulate if necessary.

Provide discussion on the approved/registered Operating Agreement (OA), Deed of Transfer (Deed), etc. that were executed by the company. Copy of the approved pertinent documents should be attached in the Annex such as MPSA, OA, Deed, etc.

For Mineral Processing Permit (MPP), the supply agreement between the

MPP holder and a Mining Right Holder should be likewise discussed as this will provide the source of the material that will be fed to the mineral processing operation.

Contract/Permit	
Contract/Permit Number	
Contractor/Permit Holder	
Status of MA/FTAA/MPP	
Date Approved	
Date of Expiration	
Total Area Covered	
Location of Contract/Permit Area	
Issuing Office	
Operating Agreement	
Name of Authorized Operator, if any	
Date of Execution of the OA	
Deed of Assignment	
Name of Assignee, if any	
Date of Execution of the Deed	
Environmental Compliance Certificate	
ECC Reference Number	
Date of Issuance	
Total Area Covered	
Location of the Project	
Issuing Office	
Ore Supply Agreement (for MPP)	
Contracted Ore Supplier	
Details of Mining Rights of Ore Supplier	

Provide the name of the project as stated in the approved Environmental Compliance Certificate (ECC). Include the date of the issuance of the ECC, control number, grantee, and the issuing office. Also, discuss the other ECCs issued that are related to the project (e.g. ancillary facilities). Tabulate if necessary. Copy of the approved ECC/s should be attached in the annex.

4.0. Project Description

4.1. Project Details

4.1.1. Project Location

a. Project location/s, coordinates, technical description of the project area and area covered by the EPEP in relation to the ECC issued
b. Legal land classification and current land use of the area
c. Maps with appropriate scale in A3 paper

- Map/s indicating the project facilities (mining area, processing plant, settling and treatment ponds, access roads, stockpile areas, support facilities, etc.) that could easily be pinpointed in relation to easily recognizable geographic features and existing transport systems and built-up areas within the project area; and

- Topographic map.

d. At least four (4) geotagged photographs of the project area

4.1.2. Estimated Project Cost

a. Estimated Capital Cost
b. Estimated total Operating Cost for the entire period of the project
c. Mining and Milling Cost, Tabulated activity for mining (e.g. site preparation, drilling, blasting, loading, hauling, crushing, sizing, etc.), Cost/metric ton

4.1.3. Types of Minerals and Ores

Primary and secondary minerals to be mined including the chemical composition.

4.1.4. Mining Method/s

a. Surface mining (open pit, open cast, strip, quarry, etc.) - total area to be affected, initial elevation, final elevation, bench height, bench width, bench slope, pit slope, final pit slope, etc.

b. Underground Mining - method of extraction, openings, levels, mining direction/progression, support system, filling materials, materials handling, ventilation, etc.

4.1.5. Estimated Production (daily or annual production of mine and output of mill) as per approved ECC

Present in a table the estimated annual mine production schedule for life of mine (ore and waste) and estimated annual mill production schedule (concentrate and tailings).

4.1.6. Mill/Processing Plant

Site location, area covered, type of process, plant capacity, process, waste and/or tailings disposal, water management,

hazardous materials management, concentrate stockpile, etc.

Location map, process flow sheet must also be included; as per approved ECC.

4.1.7. Proposed mine life (in years)

4.2. Mineral Resources and Ore Reserves

4.2.1. Resources (MT in each category)
4.2.2. Reserves (MT in each category)
4.2.3. Average Grade of Ore (each mineral commodity)
4.2.4. Cut-off Grade (cost per ton)
4.2.5. Potential for additional resource and reserve

4.3. Access/Transportation

4.3.1. Road (preference and alternates, road network within the project)
4.3.2. Air access (origin and destination points)
4.3.3. Shipping (preferred port facilities, alternates)

4.4. Power Supply

4.4.1. Requirements
4.4.2. Source of power supply
4.4.3. Supply alternatives

4.5. Equipment to be used

4.5.1. Advance exploration activities
4.5.2. Construction/Development stage
4.5.3. Mining
4.5.4. Milling/Processing
4.5.5. Laboratory
4.5.6. Motorpool
4.5.7. Others

4.6. Workforce Information

4.6.1. Total operational workforce

Discuss workforce needed (during development stage, operation period), work schedule, MEPEO set-up. Provide a Table of Organization including the MEPEO.

4.6.2. Housing options (camp, new town, neighboring communities)

Discuss location, facilities/amenities, capacity, disturbed area, source of domestic water, waste disposal, etc.

4.7. Development/Utilization schedule

Discuss the activities under development stage such as stripping and stockpiling of topsoil, construction and grading of access roads, development of mining area, earthmoving, construction of processing plant and ancillary facilities, etc. Ancillary facilities include, but not limited to: stockyard area, waste dump, TSF, settling pond, wash bays, buildings, port and pier.

For surface mines, provide discussion for the following developments: benches, berms, drainage, sediment/siltation control infrastructure, etc.

For underground mines, provide discussion for the following developments: openings, levels, power distribution, ventilation, dewatering, drainage, hoisting, etc.

For mineral processing plants, provide discussion on the following: processing operation; operating parameters (feed size; ore grade; material and water balance; fresh water requirement for wet process; products, by-products and mill tailings, including the volume/tonnage and its specifications; pollution control devices such as electrostatic precipitators, filters, etc.;); process flowchart.

Discuss also the activities under utilization stage such as ore extraction, loading, hauling, hoisting, dumping, stockpiling, shipping, etc. Provide a Gantt chart showing the schedule of development and utilization activities.

Present a table showing the area to be developed/disturbed based on the projected Three-Year Development/Utilization Work Program and the area to be progressively rehabilitated annually.

Table 1: Disturbed areas vs. rehabilitated areas

Year	Developed/Disturbed Area		Progressively Rehabilitated/*Backfilled Area*	
	Project Component/ Area Name/ *Level*	**Area (ha) or *Dimensions of Void (m)****	**Project Component/ Area Name/ *Level***	**Area (ha) or *Dimensions of Void (m)****
Development Stage (Note: The duration of Development Stage should be based on the approved Feasibility Study)				
1	Access Roads Area 1 Settling Pond 1-1 Settling Pond 1-2 Settling Pond 1-3 Ore Stockpile Topsoil Stockpile Waste Dump Offices and Buildings	3.0 12.0 2.0 2.0 2.0 5.0 3.5 1.0 1.0	-	-
Operating Stage				
2	Area 1	(12.0)	-	-
3	Area 1	(12.0)	-	-
4	Area 2 Settling Pond 2-1 Settling Pond 2-2	8.0 3.0 1.5	Area 1 Settling Pond 1-1 Settling Pond 1-2	10.0 2.0 2.0
5	Area 3 Settling Pond 3	4.0 1.0	Area 1 Settling Pond 1-2 Area 2 Settling Pond 2-1 Settling Pond 2-2	2.0 2.0 8.0 3.0 1.5
Total		**49.0 ha**		**30.5 ha**

**Area (ha) for surface mining; dimensions of void (m) for underground mining.*

Note: All information in the table highlighted in red, are for illustration purposes only.

Provide maps showing the annual developed/disturbed and progressively rehabilitated areas as well as the project components such as processing plant, road network, and all ancillary facilities.

5.0. Baseline and/or Current Information

Discuss the baseline/current information (refer to Chapter VI of EPEP Procedural Guidelines) of the following:

5.1. Land Resource

- Land Use/Land Cover and legal land classification

  - Presence of unique landforms, landscape waterbodies and seascape, watershed area, wetlands, etc.
  - Define built-areas, nearest community/city and population density
  - Importance of land resource to livelihood of community
  - Existing industries (agriculture, fishing, mining, etc.)
  - Others

- Geological and Soil Resources

  - Geology (regional to local – tectonic, stratigraphy, geomorphology etc.)
  - Geological hazard (including risk to community and industry)
  - Soil type and characteristics (thickness, permeability, hydraulic conductivity, diagnostic horizons or properties)
  - Pedology and edaphology (physical)
  - Soil chemistry and fertility (chemical)
  - Soil microbiology (biological)
  - Others

Note: description of the above (land resource) may be derived from topographic map interpretation, field mapping or remote sensing using aerial photos, Google Earth, Lidar, drone shots and others.

- Others

5.2. Water Resource and Quality

Brief description of the physical, chemical, biological, and hydrological characteristics, and location of all surface and subsurface water resources in the project area and in the area of influence (including seasonal variations).

- Hydrology

  - Maps, location and characterization of river basins, wetlands, lakes and streams and other surrounding water bodies
  - Identification of existing water pollution sources, location, volume flows, minimum flow

- Watershed characteristics (area, source or headwaters, drainage systems and receiving body)
- Water balance
- Rainfall data (25-50 yr.) [precipitation, rainfall-run-off relationships]
- Current utilization of surface water
- Meteorological hazards (flooding, flashflood, etc.)
- Others

- Hydrogeology/Groundwater

  - Aquifer characteristics (aquifer host rock, confining material, extent, depth of aquifer, hydraulic conductivity conditions, geology and locations of aquifers, thickness and hydraulic conductivity ranges, flow direction, locations of springs and seeps, discharge locations in streams, and its uses)
  - Water chemistry; baseline water quality data (surface and groundwater); define how many samples are need to establish baseline based on how big or small the study area
  - Water classification
  - Current utilization of groundwater
  - Groundwater recharge from rainfall
  - Brief description of existing groundwater quantity (depth of groundwater under different seasonal conditions)
  - Others

- Others

5.3. Air Quality

- Baseline air quality data (include historical trends, identified air basin and sensitive receptors, conclusions of modeling conducted during the EIA on extent of physical and chemical dispersion/trajectory)
- Climatology/Meteorology (climate type, seasons, rainfall profile, wind roses/patterns, and climatological extremes that latter pose environmental hazards)
- Presence of buffer zone or wind barriers (e.g. topography)
- Presence of other activities/industries that may affect air quality
- Others

5.4. Noise and Vibration

- Baseline noise and vibration levels
- Presence of other sources of noise and vibration (proximity to roads, residential areas, establishments, other industries, etc.)
- Others

5.5. Biodiversity Resource/Information

Brief description of the local biodiversity resource to include terrestrial species (migration routes, breeding grounds, nesting sites, wildlife corridors) and aquatic species (data on abundance and distribution of fisheries).

- Terrestrial resource
  - Presence of all existing terrestrial flora and fauna species and their International Union for Conservation of Nature (IUCN) classification (i.e., critically endangered, endangered, vulnerable)
  - Presence of nearby protected areas/locally conserved areas
  - Presence of significant watershed areas
  - Others
- Aquatic resource
  - Presence of all existing aquatic flora and fauna species and their IUCN classification (i.e., critically endangered, endangered, vulnerable)
  - Importance or relied on for sustenance, migratory aquatic species
  - Presence of nearby protected areas/locally conserved areas
  - Presence of potential buffer zones
  - Others
- Others

5.6. Heritage and Cultural Values

- Presence of indigenous peoples/indigenous cultural communities, historical landmarks, archaeological sites, etc.
- Others

5.7. Social Issues

- Presence of community in relation to the proposed project including livelihood such as farming, ecotourism and recreational activities that may be affected by the project
- Identify social services in the area; municipality class
- Presence of organized groups that support or oppose the project
- Attitude towards the project
- Status of public health and safety
- Others

6.0. Environmental Impacts and Mitigating Measures

Acceptable levels of impacts to the surrounding environment resulting from activities associated with mining are to be presented in this section as commitments. These commitments are expected to bring impacts to acceptable levels.

In order to establish accurate and appropriate control strategies, it is necessary to go through a rigorous process of itemizing and detailing all elements of the mining operations that are predicted/expected to result in acceptable impacts. Discuss in details all those identified impacts and the corresponding measures to mitigate them.

Listed below are **examples** of environmental impacts and mitigating measures. Impacts, sources, and measures that are not mentioned but are applicable to the Company should be discussed.

6.1. Land Resource

The acceptable levels of impact on the land resource of the area must be identified. Discussions should include all the possible impacts that may be caused by the various facilities/areas during the construction, development, and operating stage of the project. The corresponding measures to mitigate those identified impacts must also be presented.

6.1.1. Loss of Vegetation

Sources of Impact:

- Stripping activities
- Development of mining area/s
- Construction of hauling and access roads
- Construction of mineral processing plant
- Construction of Tailings Storage Facility
- Construction waste dump
- Construction of ancillary facilities (e.g. office buildings, stockpile area, bunk houses, etc.,)
- Others

Mitigating Measures:

- Production of native trees thru the establishment of nursery
- Collection of wildlings
- Establishment of buffer zone (20 meters per DAO No. 2018-19) as sourced planting materials
- Offsetting
- Progressive rehabilitation of mined-out area to establish land cover

- Others

6.1.2. Removal of Topsoil/Subsoil

Sources of Impact:

- Stripping activities
- Development of mining area/s
- Construction of hauling and access roads
- Construction of mineral processing plant
- Construction of Tailings Storage Facility
- Others

Mitigating Measures:

- Implementation of topsoil management plan (DAO No. 2018-19)
- Establishment of topsoil storage facility/waste dump
- Immediate backfilling of topsoil during progressive rehabilitation
- Others

6.1.3. Land Erosion

Sources of Impact:

- Stripping activities
- Development of mining area/s
- Construction of hauling and access roads
- Construction of mineral processing plant
- Construction of Tailings Storage Facility
- Other earthmoving activities within the project area
- Failure of slopes (benches, stockpiles, dumps, roads)
- Others

Mitigating Measures:

- Construction of settling ponds
- Construction of silt boxes along hauling/access roads
- Installation of geo-textile materials in open slopes
- Implementation of hydro-seeding in open slopes
- Planting of grasses in certain areas
- Implementation of soil conservation measures
- Maintenance and monitoring of slopes
- Other erosion control measures
- Implementation of well-planned final landform design during progressive rehabilitation

- Others

6.1.4. Change in soil properties including contamination

Sources of Impact:

- Soil compaction
- Soil reaction due to exposure
- Loss of nutrients due to erosion and leaching
- Spillage of chemicals from processing plant
- Soil contamination due to TSF failure and spillage of hazardous materials from mill and processing plant
- Production of acid mines
- Others

Mitigating Measures:

- Implementation of topsoil management plan
- Application of soil amelioration
- Implementation of soil conditioning activities
- Construction of diversion canals within the waste rock disposal area and mine surface to contain possible AMD
- Installation of bund walls within the perimeter of the processing plant
- Regular monitoring of TSF embankment
- Regular monitoring of hazardous material within mill and processing plant
- Others

6.1.5. Change in Landforms and Topography

Sources of Impact:

- Development of mining area/s
- Construction of hauling and access roads
- Construction of mineral processing plant
- Construction of Tailings Storage Facility
- Others

Mitigating Measures:

- Implementation of well-planned final landform design
- Implementation of well-planned decommissioning of mineral processing facilities
- Others

6.1.6. Other identified impacts, if any

6.2. Water Resource and Quality

The acceptable levels of impact on the water resource of the area must be identified. Discussions should include all the possible impacts that may be caused by the various facilities/areas during the construction, development, and operating stage of the project. The corresponding measures to mitigate those identified impacts must also be presented.

6.2.1. Change in Drainage Pattern

Sources of impact:

- Development of mining area/s
- Construction of haul roads
- Construction of silt traps/settling ponds
- Construction of mineral processing plant
- Construction of Tailings Storage Facility
- Construction of other ancillary infrastructures
- Others

Mitigating measures:

- Design and maintenance of road gradient
- Construction of drainage canals along haulroads
- Construction of drainage canals inside the mine pit/active mining areas
- Construction of drainage canals leading to settling ponds/TSF
- Construction of drainage/diversion channels leading to tributaries
- Regular monitoring of water quality
- Others

6.2.2. Water contamination

Sources of impact:

- During the operation of the following facilities:
  - Processing Plant
  - Laboratory
  - Tailings Storage Facility
  - Sewerage lines for domestic wastes
  - Solid Waste Disposal Areas/Sanitary Landfills
  - Hazardous Waste Storage
  - Chemicals and Fuel Storage Areas
  - Causeway/Pieryard

- Others

Mitigating measures:

- Proper engineering design and construction of concrete containment walls and floors around the facilities
- Proper engineering design of waterways
- Construction of Oil and Water Separators
- Construction of treatment plants before channeling to final containment facility
- Installation of bund walls within the perimeter of the mineral processing plant
- Construction of containment berms along pipelines
- Provision of leachate linings on constructed landfills
- Regular monitoring of water quality
- Others

6.2.3. Erosion, Sedimentation and Siltation

Sources of impact:

- Runoff water from the following areas:
  - Active mining areas
  - Haul roads
  - Overburden/Topsoil stockpile areas
  - Causeway/Pieryard
  - Ore stockyard
  - Mine buildings and infrastructures
  - Mineral Processing plant
  - Other denuded areas
  - Others

Mitigating measures:

- Design and maintenance of road gradient
- Construction of drainage canals along haulroads
- Construction of drainage canals inside the mine pit/active mining areas/mineral processing plant
- Construction of drainage canals leading to settling ponds
- Regular monitoring of water quality
- Others

6.2.4. Water Usage/Balance

Sources of impact:

- Water requirement for domestic use (mine camp and

community)
- Water requirement for mine operations
- Water requirement for processing plant operation
- Others

Mitigating measures:

- Implementation of water recycling for mine and plant operations
- Construction of water containment facility
- Provision of deep wells as alternative source of water either for the community or for the operation
- Provision of potable water treatment facility
- Regular monitoring of water quality
- Others

6.2.5. Other identified impacts, if any

6.3. Air Quality

The acceptable levels of impact on the air quality of the area must be identified. Discussions should include all the possible impacts that may be caused by the various facilities/areas during the construction, development, and operating stage of the project. The corresponding measures to mitigate those identified impacts must also be presented.

6.3.1. Dust generation

Sources of impact:

- Site clearing/stripping
- Excavation
- Development of mining area
- Construction of access roads and infrastructures
- Loading and dumping of materials
- Drilling and blasting
- Crushing and grinding of ore
- Vehicular movement
- Others

Mitigating measures:

- Road watering
- Installation of sprinklers
- Use of dust collectors
- Installation of filters
- Implementation of speed limit

- Progressive rehabilitation for dust containment and wind speed reduction
- Use of safety nets during blasting
- Monitoring of dust generated
- Others

6.3.2. Gases and fumes emission

Sources of impact:

- Vehicular movement
- Blasting, if any
- Equipment operation (heavy equipment, generator sets, processing plant facilities)
- Chemical reactions from processing plant, laboratory and smelting operations
- Others

Mitigating measures:

- Maintenance of vehicles and equipment
- Installation of ventilation system
- Installation of scrubbing system
- Installation of electrostatic precipitators
- Use of alternative fuel
- Progressive rehabilitation for carbon sequestration
- Monitoring of gases and fumes
- Provision of PPE
- Others

6.3.3. Other identified impacts, if any

6.4. Noise and Vibration

The acceptable levels of impact on noise and vibration of the area must be identified. Discussions should include all the possible impacts that may be caused by the various facilities/areas during the construction, development, and operating stage of the project. The corresponding measures to mitigate those identified impacts must also be presented.

6.4.1. Noise generation

Sources of impact:

- Development of mining area
- Construction of access roads and infrastructures
- Construction of mineral processing facilities

- Vehicular movement
- Drilling and blasting
- Equipment operation (heavy equipment, generator sets, processing plant facilities, ventilation system)
- Machine shop/motorpool
- Others

Mitigating measures:

- Construction of sound barriers
- Progressive rehabilitation for sound absorption and deflection
- Restriction of hours of activity
- Maintenance of vehicles and equipment
- Use of noise abatement accessories (hoods, mufflers)
- Soundproofing of residences
- Relocation of residential areas affected
- Provision of PPE
- Monitoring of noise levels
- Others

6.4.2. Vibration

Sources of impact:

- Drilling and blasting
- Crushing and grinding
- Others

Mitigating measures:

- Application of effective blasting design
- Monitoring of vibration levels
- Relocation of residential areas affected
- Provision of PPE
- Others

6.4.3. Other identified impacts, if any

6.5. Biodiversity Conservation/Consideration

The acceptable levels of impact on the local biodiversity and natural landscape of the area must be identified. Discussions should include all the possible impacts that the project may cause on the terrestrial, freshwater and marine ecologies in the area. The corresponding measures to mitigate those identified impacts must also be presented.

6.5.1. Disturbance / Loss of Biodiversity

Sources of Impact:

- Land-clearing/stripping activities
- Development of mining area/s
- Construction of access roads and infrastructures
- Construction of mineral processing facilities
- Spillage of chemicals from mineral processing plants
- Improper waste disposal
- Acid mine drainage
- Heavy metals contamination
- Increase in suspended and dissolved solids
- Others

Mitigating Measures:

- Progressive rehabilitation to enhance/promote local biodiversity
- Regular flora and fauna species monitoring program
- Separation of contiguous area for wildlife and watershed protection
- Toxic and hazardous wastes management
- Water quality monitoring program
- Tailings detoxification and tailings containment facility
- Sediment monitoring program
- IEC campaign on wildlife protection
- Others

6.5.2. Change in Landscape / View

Sources of Impact:

- Land-clearing/stripping activities
- Development of the mining area/s
- Others

Mitigating Measures:

- Progressive rehabilitation to enhance overall landscape appearance
- Mine reclamation activities
- Mineral processing plant decommissioning
- Reforestation
- Others

6.5.3 Other identified impacts, if any

6.6. Heritage and Cultural Values

The acceptable levels of impact on the existing cultural/historic resources and Indigenous Cultural Communities (ICCs) in the area must be identified. The corresponding measures to preserve, protect and promote these values must also be presented.

6.6.1. Disturbance of historical, archaeological and cultural sites / resources

Sources of Impact:

- Development of the mining area/s
- Others

Mitigating Measures:

- Conduct of an Archaeological Impact Assessment
- Implementation of Indigenous People Development Plan
- Formulation of Ancestral Domain Development Sustainable Protection Plan
- Others

6.6.2. Cultural Change

Sources of Impact:

- Influx of workers from outside the host and neighboring communities
- Others

Mitigating Measures:

- Prioritization of local citizens in employment opportunities
- Implementation of cultural development and enrichment programs
- Others

6.6.3. Other identified impacts, if any

6.7. Social Issues

The acceptable levels of impact on the socio-economic environment of the area must be identified. Discussions should include all the positive and negative effects of the presence of the mining operation in the community. The corresponding measures to mitigate those negative impacts must also be presented.

6.7.1. Displacement of Communities

Sources of Impact:

- Land-clearing/stripping activities
- Development of the mining area/s
- Others

Mitigating Measures:

- Permanent relocation of affected communities
- Implementation of the Social Development and Management Program
- Others

6.7.2. Impact to Livelihood and Social Services

Sources of Impact:

- Development of the mining area/s
- Others

Positive Impacts:

- Increase in jobs directly / indirectly generated by mining operations
- Increase in social services such as healthcare, safety, job training, housing subsidies, transportation, etc.
- Others

Negative Impacts:

- Loss of jobs especially on the agriculture / fishing / tourism sector affected by the commencement of mining operations
- Others

Mitigating Measures:

- Prioritization of local citizens in employment opportunities
- Livelihood training programs
- Implementation of the Social Development and Management Program
- Others

6.7.3. Impact to Recreation and Education

Sources of Impact:

- Construction/development stage of the mine
- Others

Positive Impacts:

- Educational assistance (scholarship grants, books and school supplies donations)
- Construction of school buildings and school facilities
- Construction of recreational and sports facilities
- Others

Negative Impacts:

- Disturbance / loss of recreational and educational sites
- Loss of recreational and educational activities
- Others

Mitigating Measures:

- Funding or construction of recreational and educational sites
- Initiating educational activities in the community
- Conducting sports and other recreational activities
- Others

6.7.4. Other identified impacts, if any

7.0. Research Proposals at the Mine

Identify/enumerate research proposals and provide brief discussion.

The research proposal/s of the company must be attached as Annex/es and must follow the following outline.

I. Title

- Brief but comprehensive enough to indicate the nature of the proposed research

II. Introduction

- Necessary background / context of the project
- Statement of the problem
- Significance of the research

III. Goal and Objectives

- Goal and objectives to be achieved by conducting the research

IV. Scope and limitations

- Sets the parameters where the research will be operating/conducted

V. Review of related literature

- Detailed review of existing literature related to the topic of research

VI. Methodology

- Methods that are going to be used in order to address the research objectives
- Includes research design, sampling method, data collection, data analysis, etc.

VII. Timeline

- Chronological order of events on the implementation of the research
- Can be presented through tables or charts (Gantt chart)

VIII. Budget

- Financial allocation for the project and should accurately reflect the costs of the proposed research
- Categorical list of all anticipated direct and indirect costs of the research
- Discuss the funding source of the research (i.e. EPEP Cost, DMTG Cost, etc.)

8.0. Approach and Scope of Environmental Monitoring Program

All mitigating measures to be implemented shall be monitored to ensure that the significant impacts identified are prevented/minimized. To provide an effective monitoring program, the following shall be discussed for every aspect (i.e., Land Resource, Water Resource and Quality, Air Quality, Noise and Vibration, Biodiversity Conservation/Consideration, Heritage and Cultural Values, Social Issues, and Research):

8.1. Significant impacts

Briefly discuss the environmental impacts identified in Item 6 (Environmental Impacts and Mitigating Measures) and the corresponding measures to be implemented in relation to the Monitoring Program.

8.2. Parameters to be monitored and standards to be used

For every activity, identify the parameters to be monitored and provide discussion on the standards to be used, if applicable, in compliance with existing laws, rules and regulations.

8.3. Purposes of monitoring

Discuss the purpose of monitoring, e.g. for evaluation, compliance, research, record, etc.

8.4. Monitoring methods

Discuss how the monitoring activity will be conducted. Indicate the specific methods and equipment/instrument/materials to be used.

8.5. Monitoring locations

Describe the location of the monitoring stations. Indicate if these are near traffic, industrial or residential sites that may affect monitoring results. Provide a map, in A3 paper; complete with map details, showing the locations of the monitoring stations.

8.6. Monitoring frequency

Discuss the frequency of conducting monitoring activities per activity.

Provide table showing the following:

Table 2: Environmental Monitoring Program

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
A. Land Resource							
Loss of Vegetation	Production of native trees thru the establishment of nursery	No. of seedlings produced	Records validation	Central nursery	Quarterly		
	Collection of wildlings	No. of wildlings collected	Records validation	Central nursery	Quarterly		
	Establishment of buffer zone as sourced planting materials	Area (in hectares) maintained as buffer zone	Maps and field validation	Mt. Bulanjao	Annually		
	Offsetting	No. of hectares planted with planting density of 500 seedlings per hectare	Maps and field validation	Mt. Bulanjao	Semi-annually		

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
	Progressive rehabilitation of mined-out area to establish land cover	No. of hectares of rehabilitated mined-out area	Maps and field validation	Block A	Quarterly		
B. Water Resource and Quality							
Change in Drainage Pattern	Design and maintenance of road gradient Construction of drainage canals along haul roads Construction of drainage canals inside the mine pit/active mining areas Construction of drainage canals leading to settling ponds/TSF Construction of drainage/diversion channels leading to tributaries Regular monitoring of water quality	Structural integrity of environmental structures to be established	Maps and field validation	Active mining area/s Haul roads Silt traps/settling ponds TSF Processing Plant Other ancillary infrastructure	Daily/Weekly		
Water contamination	Proper engineering design and construction of concrete containment walls and floors around the facilities	Structural integrity of environmental structures to be established	Field validation and Assessment	Processing Plant Laboratory	Weekly/ Quarterly		

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
	Proper engineering design of waterways Construction of Oil and Water Separators Construction of treatment plants before channeling to final containment facility Construction of containment berms along pipelines Provision of leachate linings on constructed landfills Regular monitoring of water quality	Quality of water discharge		Tailings Storage Facility Sewerage lines for domestic wastes Solid Waste Disposal Areas/ Sanitary Landfills Hazardous Waste Storage areas Chemicals and Fuel Storage Areas Motorpool Causeway/ Pier yard			
Erosion, Sedimentation and Siltation	Design and maintenance of road gradient Construction of drainage canals along haul roads Construction of drainage canals inside the mine pit/active mining areas Construction of drainage	Volume of surface run-off water TSS	Field validation and Assessment	Active mining areas Haul roads Overburden/Topsoil stockpile areas Causeway/ Pier yard Ore stockyard	Daily/ Weekly		

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
	canals leading to settling ponds Regular monitoring of water quality			Mine buildings and infrastructure Other denuded areas			
Water Resource Usage and Competition	Implementation of water recycling for mine and plant operations Construction of water containment facility Provision of deep wells as alternative source of water either for the community or for the operation Provision of potable water treatment facility Regular monitoring of water quality	Water requirements and consumption of the operation and the nearby community	Records and Field Assessment	Camp site Mine buildings Processing Plant	Daily/ Weekly/ Monthly		
C. Air Quality							
Dust generation	Road watering	No. of hectares	Records and field validation	· Mining area · crushing plant	Daily		
D. Noise and Vibration							

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
Noise generation	Construction and maintenance of sound barriers	Area (in m^2) constructed and maintained	Records and field validation	· Mining area · crushing plant	Quarterly		
E. Biodiversity Conservation/Consideration							
Disturbance / Loss of Biodiversity	Progressive Rehabilitation	No. of seedlings planted	Records and Field Validation	Mined out areas	Quarterly		
	Wildlife Monitoring Program	No. of existing flora / fauna species	Records and Field Validation	Project area	Every two years		
	Water Quality Monitoring	Water quality parameters (pH, BOD, color, etc.)	In-situ measurement of water quality parameters	Nearest waterbodies	Quarterly		
Change in Landscape	Progressive Rehabilitation	Areas planted along buffer zones and other areas	Records and Field Validation	Mined out areas	Quarterly		
	Reforestation	No. of trees planted	Records and Field Validation	Mined out areas / Project area	Quarterly		
F. Heritage and Cultural Values							

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
Disturbance /Loss of historical, archaeological and cultural sites / resources	Conduct of Archaeological Impact Assessment	Presence of archaeological sites in the area	Conducted before the commencement of mining operations	MPSA area			
Cultural Change due to influx of outside workers	Prioritization of local citizens in employment opportunities	No. of jobs created for local people	Measurement of proportion of directly employed residents to total direct employment of the project	Host and neighboring community	Annually		
G. Social Issues							
Displacement of Communities	Relocation of affected communities	No. of individual / families relocated	Coordination of COMREL to the host/ neighboring community	Host and neighboring community	Displacement of Communities		
Impact to Livelihood	Hiring of displaced workers for the company	No. of jobs created	Measurement of proportion of directly employed residents to total direct employment of the project	Host and neighboring community	Semi-annually		
Impact to Recreation and Education	Educational Assistance	No. of company scholars	Records Validation	Host and neighboring community	Annually		

Impacts	Mitigating Measures	Parameters Considered	Monitoring Method/s	Monitoring Location/s	Monitoring Frequency	Responsible Person	Remarks
	Conduct of educational / recreational programs	No. of programs conducted	Records Validation	Host and neighboring community	Annually		

H. Research Proposals/Activities

Activity	Details		Remarks
Research No. 1			
Meetings / Management Planning	Meetings to be conducted (subject of meeting, frequency, and people to be involved)		
Activity and Financial Progress	Present the itemized activity and total amount that the company will spend on research activities (quarterly). Present in a Gantt chart.		
Manpower Progress	Discuss the manpower involved in the conduct of the different phases of the research		
Deviations from the submitted research proposal	Discuss if there were any deviations made from the submitted proposal (e.g. change in objectives, methodology, costs, etc.)		
Others			
Research No. 2			
Research No. 3			

Note: All information in the table highlighted in red, are for illustration purposes only.

9.0. Total Cost of EPEP

Provide an estimate of the total cost of the EPEP based on the commitments presented in the program. Such estimate shall serve as the basis in the determination of a Mine Rehabilitation Fund (MRF) as required under Section 181 of DAO 2010-21. It is therefore important that estimates are as accurate and comprehensive as possible.

The cost should be based on a comprehensive Schedule of Rehabilitation (Gantt chart), covering the life of the mine. In this Schedule, each area of disturbed land; the nature and extent of disturbance; and the estimated annual cost per unit area of rehabilitation works necessary to achieve the standards suitable for agreed post mining land use have to be identified and described.

Table 3 shows a sample EPEP Cost Matrix. All activities/items under each component must be completely listed.

Table 3: EPEP Cost

Activity	Unit Cost (PhP)	Year 1		Year 2		Year n (until end of mine life)		Total Cost (PhP)
		Developing Stage (Note: The duration of Development Stage should be based on the approved Feasibility Study)		Operating Stage				
		No. of Units to Complete	Cost (PhP)	No. of Units to Complete	Cost (PhP)	No. of Units to Complete	Cost (PhP)	
A. Land Resource								
Seedling Production Material Costs								
1. Seedling	10/seedling	1,000	10,000	1,000	10,000	1,000	10,000	30,000
2. Seedling bags	5/pot	2,000	10,000	2,000	10,000	2,000	10,000	30,000
3. Fertilizer	50/kg	100	5,000	100	5,000	100	5,000	15,000
4. Tools	1,000/tool	5	5,000	5	5,000	5	5,000	15,000
Nursery Operations – Labor Cost								
1. Nursery bed preparation (1,000sqm/day)	350/day	2	700	2	700	2	700	2,100
2. Sowing of seed (10 beds/day)	350/day	2	700	2	700	2	700	2,100

3. Potting (1,000 holes/day)	350/day	10	3,500	10	3,500	10	3,500	10,500
4. Watering (1,000 seedlings/day)	350/day	5	1,750	5	1,750	5	1,750	5,250
Planting Costs	20,450/hectare	10	204,500	10	204,500	10	204,500	613,500
Maintenance Cost	17,800/hectare	10	178,000	10	178,000	10	178,000	534,000
B. Water Resource and Quality								
Maintenance of Settling Ponds	30/m^3	20,000 m^3	600,000	20,000 m^3	600,000	20,000 m^3	600,000	1,800,000
Water Quality Assessment and Monitoring	2000/ sampling point	10 sampling points	20,000	10 sampling points	20,000	10 sampling points	20,000	60,000
C. Air Quality								
Road watering								
1. Fuel	45/L	5L/day for 300 days and 2 trucks	67,500	5L/day for 300 days and 2 trucks	67,500	5L/day for 300 days	67,500	202,500
2. Maintenance	5,000/truck/ month	2 trucks for 12 months	120,000	2 trucks for 12 months	120,000	2 trucks for 12 months	120,000	360,000

D. Noise and Vibration								
Construction and maintenance of sound barriers 1. Materials 2. Maintenance	 3,000/m 1,000/m	 100 m 100 m	 300,000 100,000	 - 100 m	 - 100,000	 - 100 m	 - 100,000	 300,000 300,000
E. Biodiversity Conservation/Consideration								
Reforestation	70,000 / hectare	1 hectare	70,000	1 hectare	70,000	1 hectare	70,000	21,000
Wildlife Monitoring program	150,000 / monitoring program	1 program	150,000	1 program	150,000	1 program	150,000	450,000
F. Heritage and Cultural Values								
Implementation of cultural development and enrichment programs	100,000 / program	2 programs / activities	200,000	2 programs / activities	200,000	2 programs / activities	200,000	600,000
G. Social Issues								
Implementation of recreational/ educational activities	70,000 / activity	2 activities	70,000	2 activities	70,000	2 activities	70,000	210,000
H. Research								
Consultation with field experts for the conduct of the research	10,000 / consultation	2 consultations	20,000	2 consultations	20,000	2 consultations	20,000	60,000
I. Contingency (%)								
GRAND TOTAL								

Refer to Annex __ for the derivation of unit costs.

Note: All information in the table highlighted in red, are for illustration purposes only.
Attach the unit cost derivation as annexes.
The contingency shall be a percentage of the overall direct costs (manpower/labor, equipment, supplies and materials).

10.0. Name and Signature of Applicant or Person(s) preparing the EPEP (Specify PRC and PTR numbers), duly noted by the President.

11.0. Plan(s)/Map(s) of the Proposed Operations showing location of area(s) subject of operations, access to property, location of works and roads, water courses, working areas, camps and other surface facilities.

12.0. Bibliography

Annex _. Unit Cost Derivation for EPEP Activities

Manpower – Itemize all activities that require manual labor.
Equipment – Itemize all activities that require the acquisition and use of equipment. Indicate if the equipment will be provided by the mining operations or rented from a third-party contractor.
Supplies and materials – Itemize all activities that require the purchase and use of tools and consumable items.

Nursery Operations Cost

Activity	Unit of Measure	No. of Units to Complete	Output per Man-day	Man-days Required	Cost per Man-day or Unit	Cost	Remarks
Manpower/Labor							
Nursery bed preparation	square meters	1,000	500	2	350	700	
Sowing	bed	10	5	2	350	700	
Potting	hole	1,000	100	10	350	3,500	
Watering	seedling	1,000	200	5	350	1,750	
Subtotal						6,650	
Equipment							
Subtotal						N/A	
Supplies and materials							
Seedling	seedling	1,000	-	-	20	10,000	
Seedling bags	bag	2,000	-	-	10	10,000	
Fertilizer	kg	100	-	-	50	5,000	
Tools	lot	5	-	-	1,000	5,000	
Subtotal						30,000	
Others							
Subtotal						N/A	
Grand Total						**32,700**	

Planting Cost

Activity	Unit of Measure	No. of Units to Complete per Hectare	Output per Man-day	Man-days Required	Cost per Man-day or Unit	Cost	Remarks
Manpower/Labor							
Brushing	square meters	1,000	500	2	350	700	
Staking	stake	1,000	200	5	350	1,750	
Hole digging	hole	1,000	100	10	350	3,500	
Planting	seedling	1,000	200	5	350	1,750	
Fertilizer application	kg	1,000	200	5	350	1,750	
Subtotal						9,450	
Equipment							
Grading	square meters	10,000	2,000	5	-	-	Equipment will be provided by the mining operations
Seedling transport	seedling	1,500	500	3	1,000	3,000	Truck will be rented
Subtotal						3,000	
Supplies and materials							
Planting	seedling	1,000	-	-	-	-	Sourced from nursery
Staking	stake	1,000	-	-	1	1,000	
Fertilizer application	kg	100	-	-	50	5,000	
Tools	lot	2	-	-	1,000	2,000	
Subtotal						18,000	
Others							
Subtotal						N/A	
Grand Total						**20,450**	

Plantation Maintenance Cost

Activity	Unit of Measure	No. of Units to Complete per Hectare	Output per Man-day	Man-days Required	Cost per Man-day or Unit	Cost	Remarks
Manpower/Labor							
Weeding	hectare	1	0.5	2	350	700	
Replanting	hectare	1	0.5	2	350	700	
Fertilizer application	hectare	1	0.5	2	350	700	
Watering	hectare	1	1	1	350	350	
Patrol work	hectare	1	1	1	350	350	
Subtotal						2,800	
Equipment							
Watering	hectare	1	1	1	10,000	10,000	
Subtotal						10,000	
Supplies and materials							
Fertilizer application	kg	100	-	-	50	5,000	
Subtotal						5,000	
Others							
Subtotal						N/A	
Grand Total						**17,800**	

Note: All information in the table highlighted in red, are for illustration purposes only.
The table format is not fixed for all identified activities. The preparer may adopt different format depending on the nature of activities, provided that the format includes all necessary information.

FINAL MINE REHABILITATION AND/OR DECOMMISSIONING PLAN

Table of Contents

GUIDELINES FOR THE IMPLEMENTATION OF THE FINAL MINE REHABILITATION AND/OR DECOMMISSIONING PLAN

I. Rationale

The Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP), also known as the Mine Closure Plan, is a plan for returning the mine sites and mining affected areas to viable and, whenever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities.

The FMR/DP is composed of the following: final mine rehabilitation and/or decommissioning plan, social plan, and maintenance and monitoring plans which shall be implemented during the cessation of the mining operation. Further, the FMR/DP is a guarantee that the most appropriate science-based mine rehabilitation/decommissioning measures will be implemented with financial surety upon closure of the mine.

II. Legal Basis

The following are the legal bases for the preparation, submission and implementation of the FMR/DP:

1. Section 69 of Republic Act (RA) No. 7942, *the Philippine Mining Act of 1995*

2. Section 167 and 187 of Chapter XVI of the Consolidated Department of Environment and Natural Resources Administrative Order (DAO) No. 2010-21, *the Revised Implementing Rules and Regulations RA No. 7942, the Philippine Mining Act of 1995*

3. Executive Order (EO) No. 270-A in re: *Amending EO No. 270, National Policy Agenda on Revitalizing Mining in the Philippines*

4. Section 7 of the DENR Memorandum Order No. 99-32, *Policy Guidelines and Standards for Mine Wastes and Mill Tailings Management*

III. Scope

All Contractors/Permit Holders including those whose contracts/permits are revoked/cancelled/terminated shall be covered by these guidelines.

These guidelines provide a blueprint for the Contractors/Permit Holders in the implementation of the FMR/DP; and the Mines and Geosciences Bureau Central/Regional Office in the review, evaluation, monitoring and audit of the FMR/DP implementation.

IV. Guiding Principles

The preparation and implementation of the FMR/DP shall be guided by the following principles:

1. Principles of Sustainable Development and Sustainability

Sustainable development is defined as the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (*Brundtland, 1987*). Sustainability, on the other hand, entails a systems-based approach of understanding the interactions among environmental, social and economic pillars (Figure No. 1).

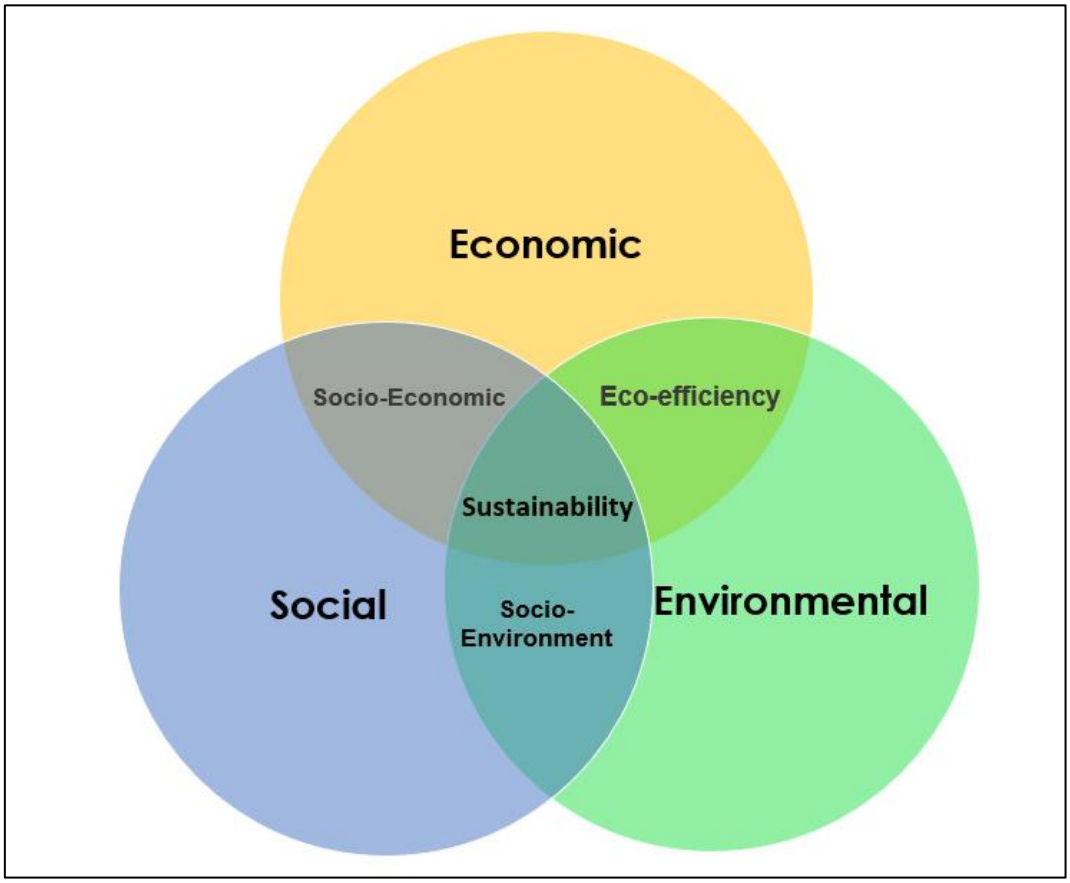


Figure No. 1. Three Pillars of Sustainability (*United Nations World Summit on Sustainable Development, 2002*)

Mine closure activities shall be conducted in a manner that contributes to the *Sustainable Development Goals* (SDGs) - the universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone. In general, the following aspects in relation to SDGs shall be highlighted in the conduct of the implementation of the FMR/DP: protection and conservation of life on land, provision of clean water and sanitation, use of energy-efficient

activities/processes, implementation of measures that will address climate-related environmental impacts, and creation of jobs and economic growth.

The preparation and implementation of the FMR/DP shall also be guided by the following:

1. Preparation should be in consultation with the communities, local government units (LGUs), and government agencies concerned in accordance with the existing rules and regulations of the government;

2. Cost-effective transformation of mined-out areas into a physically and chemically stable, visually acceptable, and self-sustaining ecosystem in consonance with regulatory standards;

3. Consideration of all mine closure scenarios with cost estimates for its implementation, taking in consideration expected inflation, technological advances, the unique circumstances faced by the mining operation using risk-based methodologies/approaches; and

4. Establishment of a final mine land use that is functional and proximate to the land use prior to the disturbance of the mine area, unless more beneficial land uses are predetermined and agreed in partnership with local communities and LGUs.

V. Goal and Objectives

The goal of the FMR/DP is to safeguard the life of the people and the environment upon mine closure.

Enshrined in the guiding principles of the FMR/DP, these guidelines aim to ensure that the mine closure objectives will achieve the following conditions based on the hierarchy of mine closure needs (Figure 1):

1. Physical Stability – The ability of the project to withstand failure or physical deterioration and not to pose hazard to public health and safety. Upon mine closure, the risk of the failure of the project and the required level of maintenance is acceptably low.

2. Chemical Stability – The ability of the project to prevent the release of chemicals or contaminants into the environment. During mine closure, activities may be enhanced by providing a system of containment, collection and treatment systems using proven techniques.

3. Socio-economically prepared community – The ability of the community to have a positive transition on being responsible, self-reliant, self-managed and resource-based communities upon mine closure.

4. Visual Acceptability – The ability of the project component to blend with the surroundings. The footprint of previous mining/mineral processing operations shall be rehabilitated or decommissioned into a land use beneficial to the environment and the community.

5. Productive or self-sustaining ecosystem – The ability of the rehabilitated areas to transform into productive ecosystems thereby achieving ecosystem services. Self-sustaining ecosystem shall mean that the final use can be sustained by natural processes and will not require actions by man.

6. Conformity with Development Goals – The Mine Closure Plan shall be holistic in terms of mobilization of human, physical, technological and financial resources to achieve the sustainable development goals of mining industry.

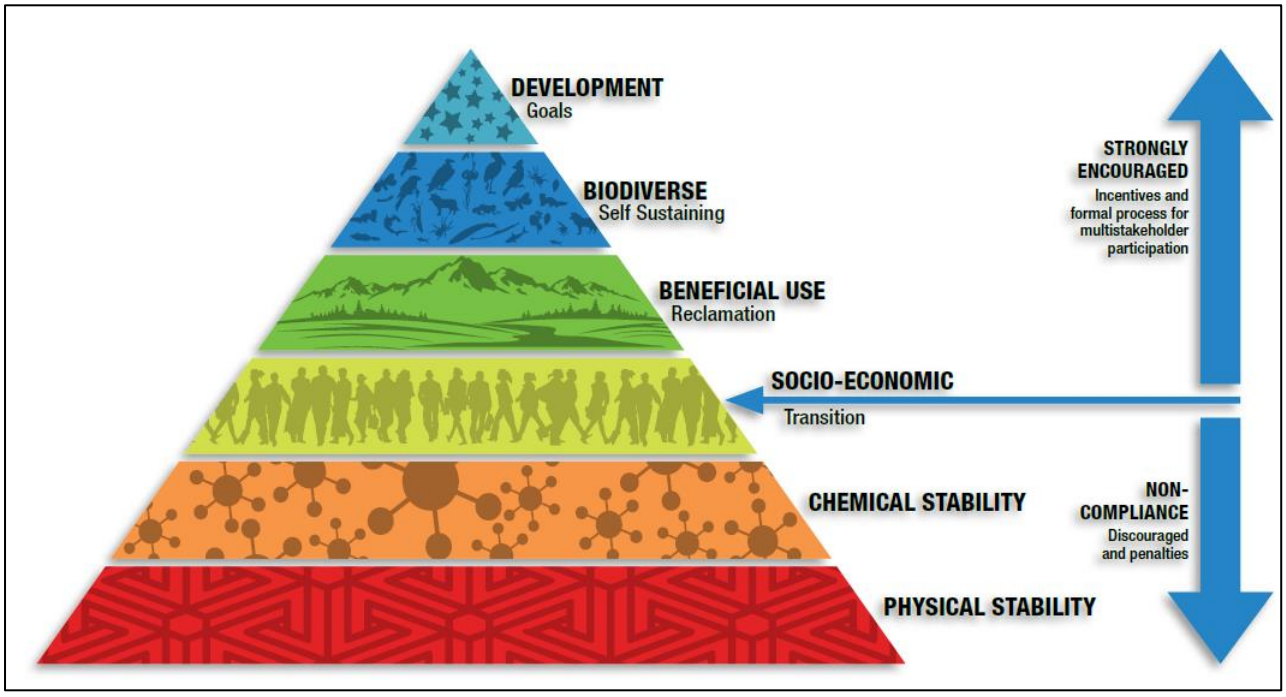


Figure 1. Hierarchy of Mine Closure Needs. Source: APEC Mine Closure Task Force, 2018

VI. Framework for the Formulation of the Final Mine Rehabilitation and/or Decommissioning Plan

The conceptual framework on the preparation and implementation of the FMR/DP is shown in Figure 2.

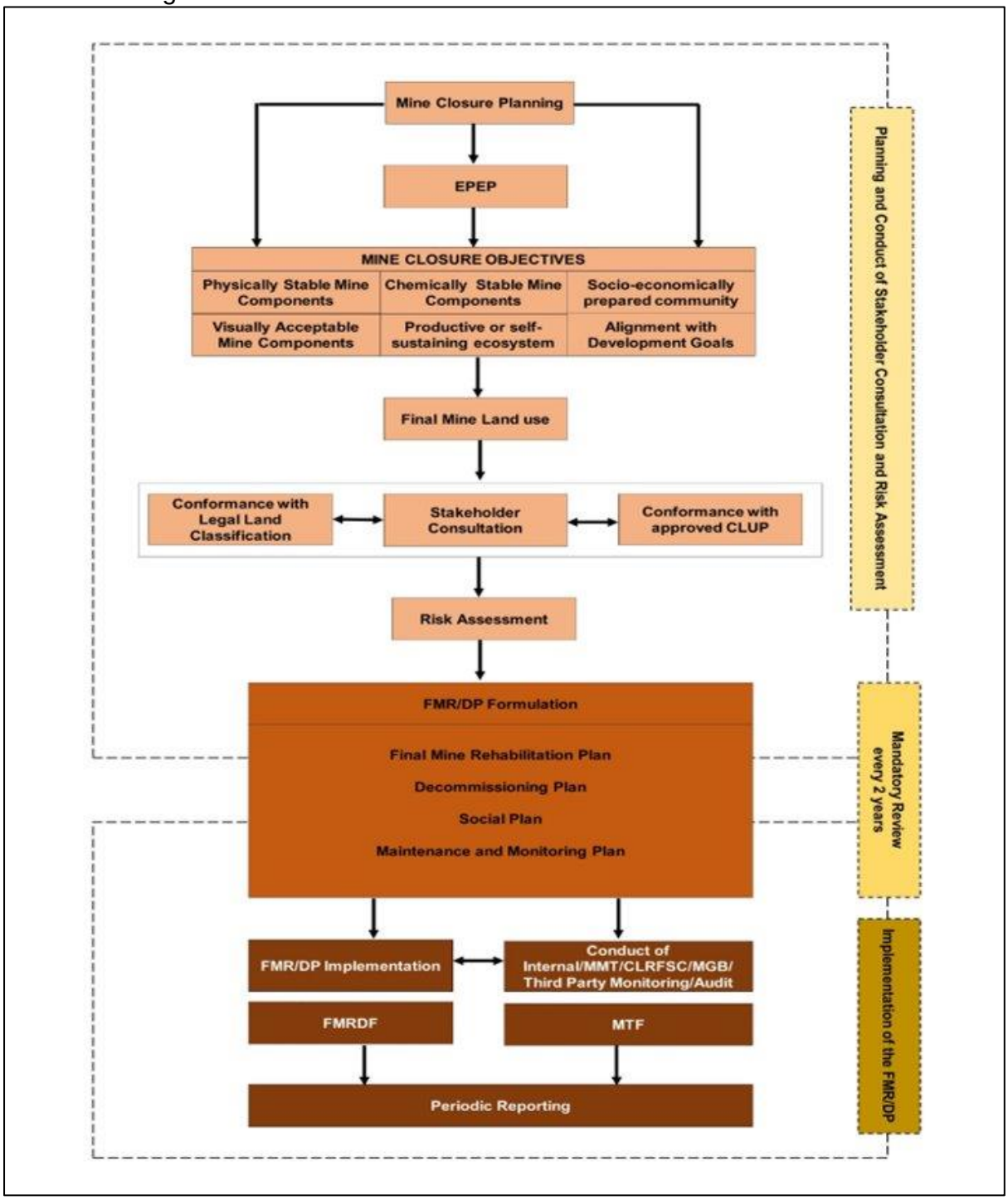


Figure 2. Conceptual Framework for FMR/DP Implementation

A. FMR/DP Formulation and Development

A.1. Planning for Mine Closure

Planning and preparation of the FMR/DP requires the integration of the mine safety and health, environmental and social considerations in the following:

1. project planning phase i.e. during the preparation of the Feasibility Study and the Environmental Impact Statement; and

2. operating phase i.e. during the preparation of Safety and Health Program (SHP); Environmental Protection and Enhancement Program (EPEP); and Social Development and Management Program (SDMP)

A prescribed annotated outline containing the key elements of the FMR/DP should be followed strictly, as provided in this manual.

A.2. Roles and Responsibilities of the Contractor/Permit Holder

For smooth implementation of the FMR/DP, it is essential for the Contractor/Permit Holder to obtain all the available information to effectively plan and design the activities for operation, decommissioning, rehabilitation and post-closure, and to ensure that the standard regulatory requirements are achieved.

The Contractor/Permit Holder should implement systems-oriented and integrated approach in preparing the FMR/DP by considering the following:

1. Knowledge of relevant factors concerning the impacts of the mining operation to the workforce, environment and the communities;

2. Stakeholders involvement to identify option selection and design objectives;

3. Well-documented methods, procedures and criteria to provide a transparent view of the process to the stakeholders and public concerned; and

4. Capability to monitor the performance and take corrective action if necessary.

Specifically, the Contractor/Permit Holder should:

1. **Establish FMR/DP early in the life of the project**

   Prior to the conception of FMR/DP, the project's final land use will be subjected to review over time. Hence, involvement of stakeholders and regulatory agencies in determining the final land use will increase its probability of determining the most appropriate and cost-effective final land use.

2. **Establish success indicators for mine closure**

   Ideally, participative engagement with the stakeholders and regulatory agencies should be considered in determining the success indicators for mine closure.

3. **Initiate a review of the FMR/DP**

   This review is essential for any changes in mining activities or in the rehabilitation measures chosen to justify the modification of the FMR/DP.

4. **Establish a mechanism for independent technical review**

   Independent technical review and audit should be part of the entire mine development, operation and closure process. Key focus areas in mine closure include, among others:

   a. Adequacy of plans for closure;
   b. Adequacy of success indicators;
   c. Appraising if conditions for satisfactory closure have been met; and
   d. Identifying residual commitments and planning how to deal with them;

5. **Be prepared for residual care**

   Residual care may be needed in some cases (i.e., acid mine drainage, TSF, etc). As such, the mining Contractor/Permit Holder should be prepared to educate stakeholders about such possibility;

6. **Avoid creating a culture of dependency** where most community services and economic activities are dependent on the mine;

7. **Build local capacity** so that communities are better able to plan and manage themselves;

8. **Facilitate the participation** of other development players, NGOs and community-based organizations in the area; and

9. **Develop mine-generated benefits and compensation packages**, with the long-term view of saving and investing for the post-closure period.

A.3. Stakeholder Involvement

The primary objective of stakeholder involvement is to ensure that the interests and concerns of stakeholders are considered during the development of the FMR/DP.

Early identification of stakeholders is important. As a matter of practice, stakeholders that will be directly affected by the mining operation and by the eventual closure of the mine should be involved throughout the process. They should be considered in the final decision of the Contractor/Permit Holder with regard to final land use and strategies to be used in the rehabilitation of disturbed areas.

The number of stakeholders involved, however, should be relatively minimal to remain focused and effective, and may include representation from the following groups as appropriate:

1. Community – host and neighboring communities that may be affected by mine closure, representative/s of indigenous people, if present;

2. Government Agencies – MGB, DENR – Environmental Management Bureau, different levels of local government and other government agencies involved in planning, welfare, education and employment representatives, as necessary;

3. Non-government organizations – local environmental/conservation group, tourism industry (if current or future development potential exists) or other industries, as necessary; and

4. Committees or organizations – committee or group should be established and draw membership from other stakeholder committees (e.g., Community Technical Working Group, Multi-partite Monitoring Team, and Mine Rehabilitation Fund Committee) which are involved in the monitoring or resolution of issues throughout the life of the mine.

The Contractor/Permit Holder shall document all the stakeholder consultations conducted with the identified stakeholders related to mine closure. The minutes of meeting, photo documentation and attendance sheet during the conduct of stakeholder's consultation shall be kept on file.

A.4. Final Land Use Determination

1. Procedures on the Determination of the Final Land Use

1.1. Legal land classification based on the 1987 Philippine Constitution and other applicable laws and policies

The legal land classification are the following:

1.1.1. Forest Lands or Timber Lands include the public forest, the permanent forest or forest reserves, and forest reservations.

a. **Public forest** is the mass of lands of the public domain which has not been the subject of the present system of classification for the determination of which lands are needed for forest purposes and which are not (Presidential Decree (PD) No. 705)
b. **Permanent forest or forest reserves** refer to those lands of the public domain which have been the subject of the present system of classification declared as not needed for forest purposes (PD No. 705)
c. **Forest reservations** refer to forest lands which have been reserved by the President of the Philippines for any specific purpose or purposes (PD No. 705)

1.1.2. Agricultural Lands (Alienable and Disposable Lands, commercial, industrial) refer to land devoted to any growth, including but not limited to crop lands, salt beds, fish ponds, idle land and abandoned land (RA No. 3844)

1.1.3. Mineral Lands refer to those lands of the public domain which have been classified as such by the Secretary of Natural Resources in accordance with prescribed and approved criteria, guidelines and procedure (PD No.705)

1.1.4. National Parks refer to forest reservations essentially of natural wilderness character which have been withdrawn from settlement, occupancy or any form of exploitation except in conformity with approved management plan and set aside as such exclusively to conserve the area or preserve the scenery, the natural and historic objects, wild animals and plants therein and to provide enjoyment of these features in such areas (RA No. 7586).

The Contractor/Permit Holder shall secure a certification from the CENRO concerned regarding the legal land classification of the project.

d. Determine the project area's land use classification based on the existing Comprehensive Land Use Plan (CLUP) of the LGU concerned

The CLUP shall be considered in the preparation of the FMR/DP.

In the absence of approved CLUP, the Contractor/Permit Holder shall perform the following steps to determine an appropriate post-mining land use based on set standards and acceptable land use:

1.2.1. Consult with appropriate land use planning and government agencies concerned, if any, to determine if the proposed final land use satisfies the following criteria:

a. Secure social acceptability;
b. Provide livelihood;
c. Promote environmental protection; and
d. Provide equal or better socio-economic benefits, as compared with the pre-mining use.

1.2.2. Prepare and present specific plans for the proposed final land use during the stakeholder consultation.

1.2.3. Ensure that the proposed final land use will be:

a. Economically, environmentally and socially feasible;
b. Compatible with adjacent land uses;
c. Obtainable according to data regarding expected need and market;
d. Assured of investment in necessary public facilities;
e. Supported by commitments from government agencies concerned;
f. Practicable with respect to private financial capability for completion of the proposed use;
g. Planned pursuant to approved life of the mine so as to integrate the mining operation and rehabilitation with the post-mining land use; and
h. Designed professionally in conformance with professional standards established to assure the

stability, drainage, and configuration necessary for the intended use.

2. Role of Local Government Unit/s concerned in developing or revising the CLUP based on the outcome of determination of final mine land use

The Contractor/Permit Holder shall coordinate with LGU/s concerned to develop or, whenever necessary, to revise an existing CLUP taking into consideration the outcome of final mine land use determination. The LGU/s concerned together with other local government sectors shall validate the said outcome before finalizing and approving the new CLUP.

All progressive rehabilitation activities under the EPEP of Contractor/Permit Holder shall conform with the approved final land use. It must be noted that the Contractor/Permit Holder shall only prepare/rehabilitate the affected land for the intended final land use. In case of private land subjected to mining activities, the activities for the implementation of its FMR/DP must conform with the preparation of the preferred final land use of the land owner.

A.5. Risk Assessment and Management

The conduct of risk assessment aims to identify the probability of occurrence and its probable consequence relating to safety and health, environmental, social and economic risks that could affect or disrupt the mine closure activities. Hence, risk assessment enables the Contractor/Permit Holder to provide detailed measures on how to avoid, mitigate and manage the site-specific identified risks cost-effectively.

In this context, risk is defined as the likelihood or probability that an event (outcome or consequence) will occur. Risk is being measured in terms of its consequences and likelihoods, or simply:

Risk = Consequence x Likelihood.

Following a sample Risk Matrix adopted by most mining countries around the world, it is recommended to use the Risk Matrix in Table 1 to assess the likelihood and severity or consequence on the occurrence of such risks. The Risk Matrix uses a semi-quantitative approach to assess and rank the identified risks, wherein, the horizontal axis represents the consequence level that ranges from insignificant to catastrophic events, while the vertical axis represents the likelihood event that ranges from rare to almost certain.

Table 1. Risk Matrix

		Consequence Level (C)					
Likelihood Level (L)	**Descriptor**	**Insignificant (1)**	**Minor (2)**	**Moderate (3)**	**Significant (4)**	**Catastrophic (5)**	**Risk Rating (C x L)**
	Almost Certain (5)	5	10	15	20	25	**Extreme ≥ 15**
	Likely (4)	4	8	12	16	20	**High >10- ≤14**
	Possible (3)	3	6	9	12	15	**Medium ≥5 - ≤9**
	Unlikely (2)	2	4	6	8	10	**Low ≤ 4**
	Rare (1)	1	2	3	4	5	

(Based on AS/NZS 4360: 1999)

Table 2 and 3 present the considerations in determining the likelihood and consequence level, respectively:

Table 2. Likelihood Level

Level	Descriptor	Description
1	Rare	May occur only in exceptional circumstances
2	Unlikely	Not expected to occur; and/or no recorded incidents
3	Possible	May occur at some time; and/or few, infrequent, random recorded incidents
4	Likely	Likely to or may occur; regular recorded incidents and strong anecdotal evidence and will probably occur in many circumstances.
5	Almost Certain	Likely to or may occur; high level of recorded incidents and/or strong anecdotal evidence.

Table 3. Consequence Level

Level	Descriptor	Categories Consequence	Description of Consequence
1	Insignificant	Human Welfare	No fatalities, injuries or impact on health. No persons displaced - No damage to properties. No disruption to community services
		Environment	No impact to environment
2	Minor	Human Welfare	Small number of people affected (<10), no fatalities, and small number of minor injuries with first aid treatment. Minor displacement of people for <6 hours Minor localized disruption to community services or infrastructure <6 hours.
		Environment	Minor impact on environment with no lasting effects

3	Moderate	Human Welfare	Limited number of people affected (11 - 50), no fatalities, but some hospitalization and medical treatment required. Localized displacement of small number of people for 6 – 24 hours. Localized damage that is rectified by routine arrangements. Normal community functioning with some inconvenience.
		Environment	Some impact on environment with short-term effects or small impact on environment with long-term effects.
4	Significant	Human Welfare	Significant number of people (51-100) in affected area impacted with multiple fatalities, multiple serious or extensive injuries, significant hospitalization. Large number of people displaced for 6 - 24 hours or possibly beyond. Significant damage that requires external resources. Community only partially functioning, some services unavailable.
		Environment	Significant impact on environment with medium to long-term effects
5	Catastrophic	Human Welfare	Very large number of people (>100) in affected area(s) impacted with significant numbers of fatalities, large number of people requiring hospitalization with serious injuries with long-term effects. General and widespread displacement for prolonged duration Extensive damage to properties in affected area requiring major demolition. Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support
		Environment	Significant long-term impact on environment and/or permanent damage.

Table 4 presents the definitions on the results of the Risk Rating:

Table 4. Risk Rating

Risk Rating	Definition
Extreme	These risks are classified as critical risks that require immediate attention. They may have a high or probable likelihood of occurrence and their potential consequences must be treated as a high priority.
High	These risks are classified as significant. They may have high or low likelihood of occurrence; however, their potential consequences are sufficiently serious to warrant appropriate consideration.
Moderate or Medium	These risks are less significant, however, may cause upset and inconvenience in the short-term
Low	These risks are both unlikely to occur and not significant in their impact

Sample template in presenting the Risk Rating for Safety, Social and Environment is provided in the FMR/DP Annotated Outline.

B. Regulatory Requirements relevant to the implementation of the FMR/DP

Pursuant to relevant rules and regulations, the mining company/operator shall conform to the following regulatory requirements relevant to the implementation of the FMR/DP:

Table 5. Safety and Health Management Regulatory Requirements during FMR/DP Implementation.

Safety and Health Management Regulatory Requirements	Legal Basis
1. With Safety and Health Office (SHO)	Section 3, Rule 12 of DAO No. 2000-98
2. With Safety Engineer/Inspector	Section 2, Rule 8-11 of DAO No. 2000-98
3. With Central Safety and Health Committee (CSHC)	Section 5, Rule **21.7** or Rule 27 of DAO No. 2000-98

4. Strict Implementation of Mine Labor Age Limit (18 y/o for Surface and Underground)	Section 163 of DAO No. 2010-21

Table 6. Environmental Management Regulatory Requirements during FMR/DP Implementation

Environmental Management Regulatory and Reporting Requirements	**Legal Basis**
1. Annual EPEP (AEPEP), if necessary **For unimplemented activities during the progressive rehabilitation*	Approved EPEP
2. Establishment of Monitoring Trust Fund (MTF)	Section 181.a of DAO No. 2010-21
3. Establishment of Mine Environmental Protection and Enhancement Office (MEPEO)	Section 173 of DAO No. 2010-21
4. Mine Environmental Protection and Enhancement Officer (MEPEO)/ Pollution Control Officer	Section 173 of DAO No. 2010-21
5. Self-Monitoring Reports (SMR)	DAO No. 2003-27
6. Multi-partite Monitoring Team (MMT)	Section 184 of DAO No. 2010-21
7. Semestral Report on Mining Forest Program Accomplishment	DAO No. 1989-22
8. Quarterly Report on National Greening Program Accomplishment	MGB Memorandum Order No. 2012-01
9. Quarterly Compliance Monitoring Report	Section 5.b of DAO No. 2015-02
10. Discharge Permit	DAO No. 2005-10
11. Water Permit	PD No. 1067
12. Sanitary Permit	PD No. 856
13. DENR Registry ID (Hazardous Wastes)	DAO No. 2013-22
14. Permit to Operate (Emission-generating Equipment)	DAO 2004-26

Table 7. Social Development Management Regulatory Requirements during FMR/DP Implementation

Social Development Management Regulatory and Reporting Requirements	Legal Basis
1. Social Development and Management Program, if necessary ** For unimplemented activities in the approved SDMP*	Section 134-136 of DAO No. 2015-02
2. Social Plan and IEC Plan	Approved FMR/DP

C. Final Mine Rehabilitation and Decommissioning Fund

Section 187-B of the DAO No. 2010-21 stipulates that the Final Mine Rehabilitation and Decommissioning Fund (FMRDF) "*shall be established by each operating Contractor/Permit Holder to ensure that the full cost of the approved FMR/DP is accrued before the end of the operating life of the mine. The FMRDF shall be deposited as a trust fund in a Government depository bank and shall be used solely for the implementation of the approved FMR/DP.*"

Annual cash provisions shall be made by Contractors/Permit Holders to the FMRDF based on the formula:

Annual Provision = Cost of Implementing the Approved FMR/DP x Percentage Required Per Annex 1

Based on the expected mine life, the initial annual cash provision shall be made to the MRFC within sixty (60) days from the date of the FMR/DP's approval and every anniversary date thereafter.

C.1. Withdrawal and Disbursement from the FMRDF

As per Section 187-C of the DAO No. 2010-21, withdrawal from the FMRDF shall be approved by the CLRFSC upon recommendation by the MRFC based on the approved Work and Financial Plan (WFP): *Provided*, That amounts incurred by the Contractor/Permit Holder for progressive rehabilitation/annual environmental and enhancement programs pursuant to its EPEP/AEPEP cannot be reimbursed or credited to the FMRDF and shall continue to be governed by relevant provisions of these IRRs.

The following are the detailed guidelines for the withdrawal from the FMRDF:

a. The Contractor/Permit Holder shall submit to the MRFC an annual WFP not later than sixty (60) days prior to the implementation of the approved FMR/DP, for evaluation;

b. The MRFC shall endorse the evaluated/revised annual WFP to the CLRFSC not later than thirty (30) days prior to the implementation of the approved FMR/DP, for review and approval;

   Upon approval of the annual WFP, the CLRFSC shall prepare and forward a written instruction to the Government depository bank where the FMRDF is deposited, giving authority to the Contractor/Permit Holder and the MRFC Chair to withdraw from the FMRDF on a quarterly basis the amount needed for the implementation of the said approved annual WFP.

c. Any one of the following shall be authorized to issue the instruction to the bank on behalf of the CLRFSC:

   i. The Chair,
   ii. The Co-Chair or
   iii. The designated representative of either (i) or (ii);

d. The Contractor/Permit Holder shall submit quarterly accomplishment reports to the MRFC, copy furnished the CLRFSC, relative to the implementation of the approved annual WFP;

e. The Multipartite Monitoring Team (MMT) shall conduct quarterly field validations of the accomplishments of the Contractor/Permit Holder with regard to the implementation of the approved annual WFP; and

f. The Contractor/Permit Holder shall submit an annual accomplishment report to the CLRFSC, through the MRFC. The said report, together with the MRFC-endorsed MMT Validation Report on the implementation of the approved annual WFP, may be subject to validation by the CLRFSC to serve as its basis for the approval of the succeeding annual WFP.

D. Closure Management Team

The Contractor/Permit Holder shall prepare the organizational set-up of the mining company/mineral processing plant upon closure, such as but not limited to the following composition of the Closure Management Team (CMT):

- Administration and Human Resource Team
- Environmental Management Team
- Safety and Health Management Team
- Emergency Response Team
- Community Relations Officer

The composition of the CMT shall serve as basis in determining estimated labor cost (salaries and wages) over the period of FMR/DP implementation.

VII. Submission, Processing and Approval of FMR/DP

As per Section 187 of DAO No. 2010-21, the FMR/DP is integrated with the EPEP, hence, the Contractor/Permit Holder shall follow the procedural flow in the submission, processing, and approval of the EPEP. Annexes 2 and 3 present the flowchart for the approval of EPEP/FMR/DP.

As per Section 170 of DAO No. 2010-21, the Contractor/Permit Holder shall submit at least ten (10) copies and a complete electronic file of the EPEP/FMR/DP to the MRF Committee (MRFC) through the MGB Regional Office concerned for review. The MRFC shall conduct a preliminary evaluation on the EPEP/ FMR/DP as to its form and substance and may require additional information and documents. The evaluation and processing by the MRFC shall be completed within thirty (30) calendar days upon receipt of the document.

Upon evaluation, the MRFC shall forward the documents including the preliminary evaluations to the CLRFSC through the MGB Central Office for final evaluation and approval. The EPEP/FMR/DP shall be acted upon within thirty (30) calendar days.

Likewise, Section 187-A of DAO No. 2010-21 further states that the submission and approval of the FMR/DP, in lieu of the Abandonment/Decommissioning Plan under Section 9.4 of DAO No. 2003-30, the IRR of Presidential Decree 1586 in re: Establishing the Philippine Environmental Impact Statement System, shall be incorporated as a mandatory requirement in the Environmental Compliance Certificate being issued by the DENR Secretary, Environmental Management Bureau (EMB) Director, or EMB Regional Director to Contractors/Permit Holders.

VIII. Progress Reporting of the Implementation of the FMR/DP

Section 187-D of DAO No. 2010-21 states "*the Contractor/Permit Holder shall submit a progress report, if applicable, containing details of fully, partially, and on-going rehabilitation activities relative to the implementation of the FMR/DP*."

The following are the reporting requirements and schedule of submission during the implementation of the FMR/DP pursuant to existing rules and regulations:

Table 8. Reporting Requirements during FMR/DP Implementation.

REPORTING REQUIREMENTS	DATE OF SUBMISSION	SUBMITTED TO
1. Annual Work and Financial Plan (WFP)	Sixty (60) days prior to the implementation of the approved FMR/DP	MRFC
2. Quarterly Accomplishment Report on the Approved WFP	Within 15 days from the end of each quarter	MRFC and CLRFSC
3. Annual Accomplishment Report on the Approved WFP	Within 15 working days before the start of the calendar year	MRFC and CLRFSC
4. Safety and Health Program	Within 15 working days before the start of the calendar year	MGB ROs concerned
5. Monthly General Accident Report	Within 15 calendar days from the end of the month	MGB ROs concerned
6. Monthly Employer's Report of Accident/Sickness	Within 15 calendar days from the end of the month	MGB ROs concerned
7. Annual Medical Report	Within 15 calendar days after the end of the year	MGB ROs concerned
8. Explosives Transaction Report *(if applicable)*	Within 15 calendar days from the end of the month	MGB ROs concerned
9. Explosives Accessories Consumption Report *(if applicable)*	Within 15 calendar days from the end of the month	MGB ROs concerned
10. Minutes of Central Safety and Health Committee Meetings	Within 15 calendar days from the end of the month	MGB ROs concerned
11. Quarterly Drill Reports	Within 15 days from the end of each quarter	MGB ROs concerned
12. Semestral Report on Mining Forest Program Accomplishment	Within 15 days from the end of each semester	MGB ROs concerned

13. Quarterly Report on National Greening Program Accomplishment	Within 15 days from the end of each quarter	MGB ROs concerned
14. Quarterly Self-Monitoring Report Monitoring Report	Within 15 days from the end of each quarter	MGB and EMB ROs concerned

In addition, the MGB Regional Office concerned shall submit the updated database on the standardized SHES Reporting Forms such as the status of the physical and financial accomplishment on the implementation of the FMR/DP and status of deposition and withdrawal from the FMRDF (Annex 4 to 6).

IX. Monitoring and Audit of the FMR/DP Implementation

The Contractor/Permit Holder shall conduct an internal monitoring of the implementation of its FMR/DP to ensure that the approved physical activities and its corresponding expenditures are achieved as planned. The CMT shall facilitate the conduct of internal monitoring of the implementation of the FMR/DP.

Pursuant to Sections 182 and 193 of DAO No. 2010-21, the following shall facilitate the monitoring and audit of the implementation of FMR/DP, respectively

1. MRFC

The MRFC, through its MMT, shall conduct quarterly monitoring on the implementation of the FMR/DP. The MMT shall use the Standardized Monitoring Checklist based on the approved WFP as shown in Annex 7.

2. CLRFSC

The CLRFSC, through its TWG, shall conduct assessment/audit on the implementation of the FMR/DP.

X. Review and Evaluation of the FMR/DP and Approved Programs

Section 187-E of DAO No. 2010-21 states that the FMR/DP shall be reviewed and/or revised at a date not exceeding two (2) years after its approval and every two (2) years thereafter, or as deemed necessary by the CLRFSC. The FMR/DP may also be reviewed and/or revised whenever amendments are justified by changes in mining activities; the review and/or revision may be made on the Contractor's/Permit Holder's initiative or at the request of the Director/Regional Director concerned.

In conjunction with the review and/or revision of the FMR/DP, annual provisions to the FMRDF may be increased or decreased based on the following:

a. To credit progressive rehabilitation works undertaken by the Contractor/Permit Holder; and

b. To account for changes in the nature or cost of work to be done pursuant to the approved FMR/DP.

In case the review and/or revision of the FMR/DP results in a decrease in the FMRDF, withdrawal of the excess amount by the Contractor/Permit Holder shall not be allowed. The excess amount shall be released back to the Contractor/Permit Holder after the issuance of a Certificate of Final Relinquishment.

XI. Costs

A. Formulation and Processing of the FMR/DP

The initial cost of the formulation and processing of the FMR/DP shall be shouldered by the Contractor/Permit Holder, such as the following: commissioning of third-party consultant (if necessary), stakeholder consultation, logistics, etc. The said expenses shall be chargeable against the Administrative Cost or Environmental Management Cost, whichever is applicable, of the Contractor/Permit Holder during its operating stage.

The cost of the implementation of the FMR/DP pursuant to its approved WFP shall be chargeable against its deposited FMRDF by the Contractor/Permit Holder.

The FMR/DP shall consider estimates based on the cost of having the decommissioning and/or rehabilitation works done by third party contractors, *Provided*, that the estimates, on a per year basis, shall cover the full extent of work necessary to achieve the objectives of mine closure such as, but shall not be limited to, decommissioning, rehabilitation, maintenance and monitoring and administrative, employee and other social costs, including residual care, if necessary, over a ten-year period (Section 187 of DAO No. 2010-21)

The evaluation of the FMR/DP by the MGB entails a payment as specified in DAO No. 2005-08, *"Providing for New Fees and Charges for Various Services of the Mines and Geosciences Bureau*." Costs incurred for the evaluation of the program by the MRFC and CLRFSC shall also be shouldered by the Contractor/Permit Holder.

B. Monitoring and Audit of FMR/DP Implementation

The expenses of the MMT during the conduct of its quarterly monitoring of the implementation of the FMR/DP shall be chargeable against its Monitoring Trust Fund (MTF).

The expenses of the CLRFSC during the conduct of audit of the FMR/DP implementation shall be covered by the CLRFSC Administrative Fund as per Section 197 of DAO 2010-21 which states that the MGB Director shall ensure that adequate budget shall be allocated every year from its regular appropriation for the CLRF Steering Committee and shall include sufficient maintenance and operating budgets for actual field and travel expenses needed during mine site inspections, cost of in-house and external training, monthly honoraria for members of said Committee

XII. Final Relinquishment of Rehabilitated Areas

Section 187-F of DAO No. 2010-21 states that the Contractor/Permit Holder shall prepare and submit a Final Rehabilitation Report with third party Environmental Audit (FRR with EA) for pre-evaluation by the MRFC and final approval by the CLRFSC, if, based on the assessment of the Contractor/Permit Holder, that the objectives of mine closure, as contained in the approved FMR/DP, have been achieved.

The MRFC concerned shall endorse to the CLRF Steering Committee the selected third party who will conduct the Environmental Audit (EA) on the implementation of the FMR/DP. The consulting firm of the third party EA shall be composed of, but not limited to the following expertise and disciplines:

1. Geology/Geotechnical/Geological Engineering
2. Civil/Structural Engineering/Mining Engineering
3. Hydrology/Hydrogeology/Hydraulics
4. Forestry and Environment
5. Contaminated Site Remediation
6. Mine Closure Rehabilitation/Reclamation
7. Rehabilitation and Decommissioning Costing
8. Socio-economic Dimensions

The MRFC and/or CLRFSC may, after due review and evaluation of the FRR with EA, conduct field validation of the reported accomplishments, recommend revision/s to the submitted report, and/or require additional rehabilitation works to be undertaken. If residual care is still needed, the Contractor/Permit Holder shall

submit a Site Management Plan detailing how the identified residual rehabilitation commitments are to be managed. The CLRFSC shall issue a Certificate of Final Relinquishment to the Contractor/Permit Holder signifying approval of the FRR with EA and freeing the Contractor/Permit Holder from any further obligations insofar as the rehabilitated area/s are concerned.

Any remaining amount, based on the Contractor's/Permit Holder's total FMRDF annual provisions, shall be released back to the Contractor/Permit Holder. Any shortfall in the amount needed to achieve the objectives of mine closure pursuant to the approved FMR/DP and to implement the Site Management Plan, shall be shouldered by the Contractor/Permit Holder.

Annex 7 presents the flowchart in the issuance of the Certificate of Final Relinquishment.

XIII. Penalties

Contractor/Permit Holder found operating without an approved FMR/DP or revised FMR/DP shall suffer the penalty prescribed in the Penal Provisions of R.A No. 7942. Likewise, failure of the Contractor/Permit Holder to establish an FMRDF shall be sufficient ground to suspend or cancel the mining operations in the areas under contracts (Section 188 of DAO No. 2010-21).

Non-implementation of the approved FMR/DP is a violation of the terms and conditions of Mineral Agreement or FTAA. This violation including violation of existing laws, policies, and rules and regulations, shall be sufficient ground for the cancellation, revocation and termination of Mineral Agreement or FTAA pursuant to Section 96 of RA No. 7942 and Section 230 of DAO No. 2010-21.

Penalties provided for by other laws, rules and regulations shall also apply.

XIV. References

1. Act No. 2874. (1919). The Public Land Act. Title and Application of the Act, Lands to which it Refers, and Classification, Delimitation and Survey.

2. Asia Pacific Economic Cooperation. (2018, February). Mine Closure Checklist For Governments. APEC Mining Task Force.

3. Banaag, M. A. (2006, June). Guideline in the Preparation of Final Mine Rehabilitation and/or Decommissioning Plan and in the Establishment of Final Mine Rehabilitation and Decommissioning Fund Pursuant to DAO No. 96-40.

4. Cabalda, M.V., Banaag, M.A., Tidalgo, P.N.T. and Garces, R.B. (2002). Sustainable Development in The Philippine Minerals Industry: A Baseline Study. International Institute for Environment and Development and World Business Council for Sustainable Development.

5. Constitution of the Republic of the Philippines. (1987).

6. Department of Environment and Natural Resources. (2018, August 17). DENR Administrative Order No. 2018-19, Guidelines for Additional Environmental Measures for Operating Surface Metallic Mines.

7. Department of Environment and Natural Resources. (2015, March 10). DENR Administrative Order No. 2015-02, Harmonization of the Implementation of the Philippine Environmental Impact Statement System and the Philippine Mining Act of 1995 in Relation to Mining Projects.

8. Department of Environment and Natural Resources. (2003, June 30). DENR Administrative Order No. 2003-30, Implementing Rules and Regulations for the Philippine Environmental Impact Statement System.

9. Department of Environment and Natural Resources. (2015, April 29). DENR Administrative Order No. 2015-06, Providing for Revised Organizational Structure and Functions of the Mines and Geosciences Bureau Pursuant to its Approved Rationalization Plan.

10. Department of Environment and Natural Resources. (2010, June 28). DENR Administrative Order No. 2010-21, Revised Implementing Rules and Regulations of R.A. 7942, otherwise known as the Philippine Mining Act of 1995.

11. Department of Environment and Natural Resources. (2015, April 30). DENR Administrative Order No. 2015-07, Mandating Mining Contractors to Secure ISO 14001 Certification.

12. Department of Interior and Local Government. Bureau of Local Government Development (2008). Rationalizing the Local Planning System: A Source Book.

13. Department of Mines and Petroleum and Environmental Protection Authority. (2015, May). Guidelines for Preparing Mince Closure Plans.

14. Environmental Management Bureau- Environmental Impact Assessment and Management Division. (2007, August). Revised Procedural Manual for DENR Administrative Order No. 03 Series of 2003 (DAO 03-30).

15. Office of Surface Mining Reclamation and Enforcement – US Department of Interior. (2000). Post-Mining Land Use. Exceptions to Approximate Original Contour Requirements for Mountaintop Removal Operations and Step Slope Mining Operations.

16. Republic of the Philippines. (1975, May 19). Presidential Decree No. 705. Revising Presidential Decree No. 389, Otherwise Known as the Forestry Reform Code of the Philippines.

17. Republic of the Philippines. (1978, June 11). Presidential Decree No. 1586, Establishing an Environmental Impact Statement including Other Environmental Management Related Measures and for Other Purposes.

18. Republic of the Philippines. (1995, March 03). Republic Act No. 7942, the Philippine Mining Act of 1995.

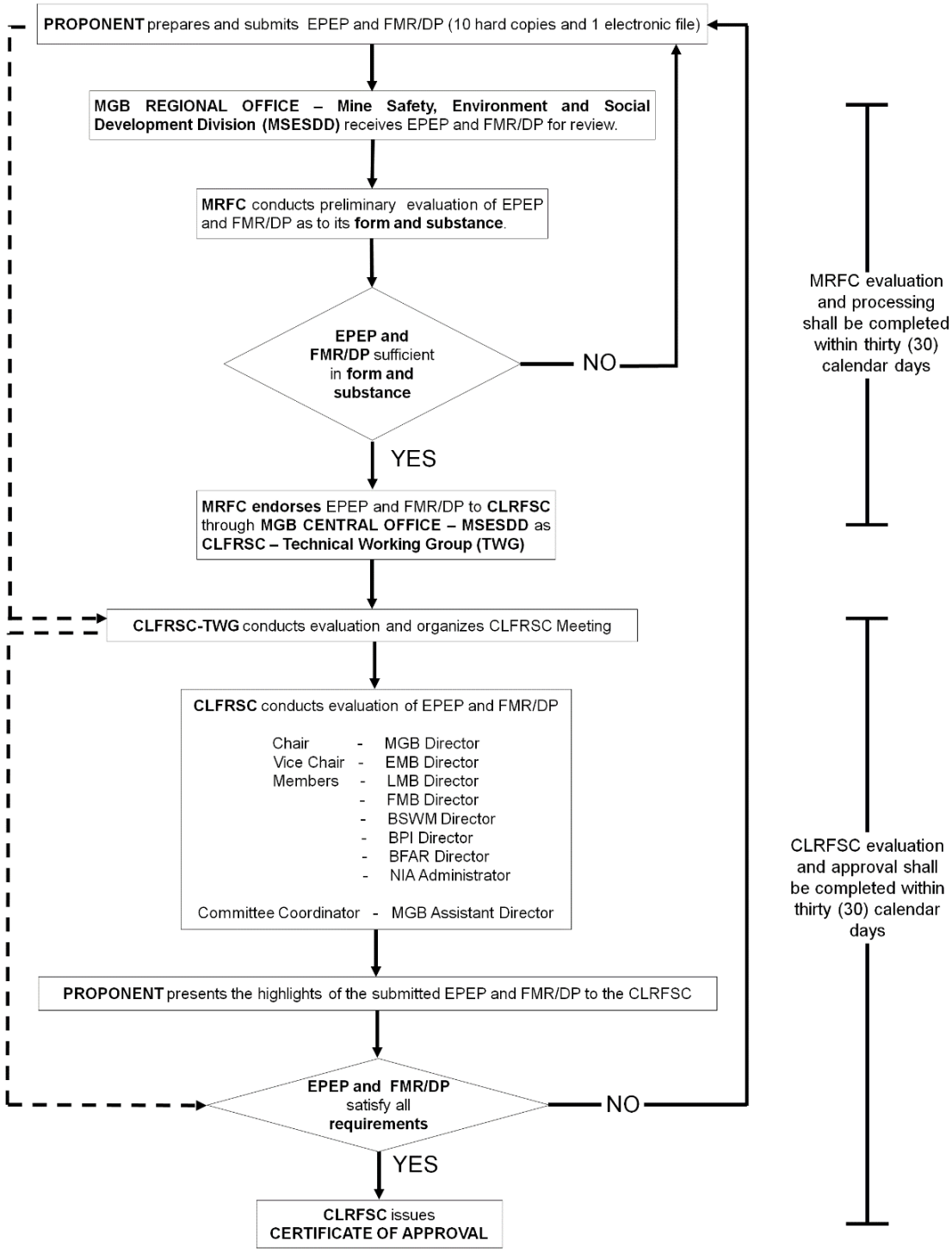
XV. Annexes

Annex No. 1: Schedule on the deposition of the FMRDF

Mine Life \ Years to Lodge FMRDF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	1.000																								
2	1.000																								
3	0.667	0.333																							
4	0.500	0.333	0.167																						
5	0.400	0.300	0.200	0.100																					
6	0.333	0.267	0.200	0.133	0.067																				
7	0.286	0.238	0.190	0.143	0.095	0.048																			
8	0.250	0.214	0.179	0.143	0.107	0.071	0.036																		
9	0.222	0.194	0.167	0.139	0.111	0.083	0.056	0.028																	
10	0.200	0.178	0.156	0.133	0.111	0.089	0.067	0.044	0.022																
11	0.182	0.164	0.145	0.127	0.109	0.091	0.073	0.055	0.036	0.018															
12	0.167	0.152	0.136	0.121	0.106	0.091	0.076	0.061	0.045	0.030	0.015														
13	0.154	0.141	0.128	0.115	0.103	0.090	0.077	0.064	0.051	0.038	0.026	0.013													
14	0.143	0.132	0.121	0.110	0.099	0.088	0.077	0.066	0.055	0.044	0.033	0.022	0.011												
15	0.133	0.124	0.114	0.105	0.095	0.086	0.076	0.067	0.057	0.048	0.038	0.029	0.019	0.010											
16	0.125	0.117	0.108	0.100	0.092	0.083	0.075	0.067	0.058	0.050	0.042	0.033	0.025	0.017	0.008										
17	0.118	0.110	0.103	0.096	0.088	0.081	0.074	0.066	0.059	0.051	0.044	0.037	0.029	0.022	0.015	0.007									
18	0.111	0.105	0.098	0.092	0.085	0.078	0.072	0.065	0.059	0.052	0.046	0.039	0.033	0.026	0.020	0.013	0.007								
19	0.105	0.099	0.094	0.088	0.082	0.076	0.070	0.064	0.058	0.053	0.047	0.041	0.035	0.029	0.023	0.018	0.012	0.006							
20	0.100	0.095	0.089	0.084	0.079	0.074	0.068	0.063	0.058	0.053	0.047	0.042	0.037	0.032	0.026	0.021	0.016	0.011	0.005						
21	0.095	0.090	0.086	0.081	0.076	0.071	0.067	0.062	0.057	0.052	0.048	0.043	0.038	0.033	0.029	0.024	0.019	0.014	0.010	0.005					
22	0.091	0.087	0.082	0.078	0.074	0.069	0.065	0.061	0.056	0.052	0.048	0.043	0.039	0.035	0.030	0.026	0.022	0.017	0.013	0.009	0.004				
23	0.087	0.083	0.079	0.075	0.071	0.067	0.063	0.059	0.055	0.051	0.047	0.043	0.040	0.036	0.032	0.028	0.024	0.020	0.016	0.012	0.008	0.004			
24	0.083	0.080	0.076	0.072	0.069	0.065	0.062	0.058	0.054	0.051	0.047	0.043	0.040	0.036	0.033	0.029	0.025	0.022	0.018	0.014	0.011	0.007	0.004		
25	0.080	0.077	0.073	0.070	0.067	0.063	0.060	0.057	0.053	0.050	0.047	0.043	0.040	0.037	0.033	0.030	0.027	0.023	0.020	0.017	0.013	0.010	0.007	0.003	

Annex No. 2. Flowchart for the approval of EPEP and FMR/DP of Contractors/Permit Holders

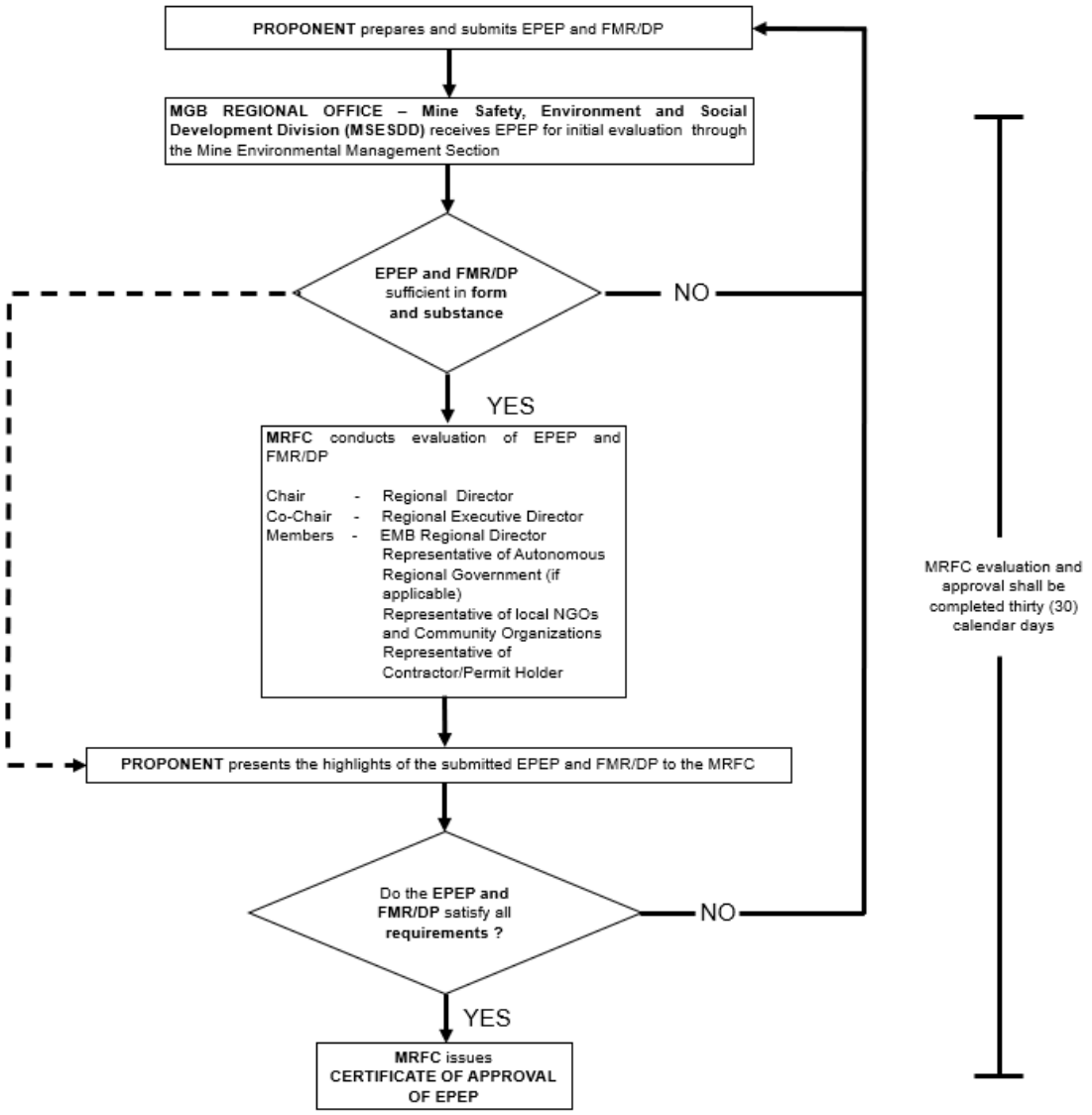
APPROVAL OF THE ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM AND FINAL MINE REHABILITATION AND/OR DECOMMISSIONING PLAN BY THE CONTINGENT LIABILITY AND REHABILITATION FUND STEERING COMMITTEE



Note: Dashed lines shall be followed after the documents have been returned to the proponent for revision

Annex No. 3. Flowchart for the Approval of the EPEP and FMR/DP of ISAG Permit/Quarry Permit/ MGB RO-issued MPP Holders

APPROVAL OF THE ENVIRONMENTAL PROTECTION AND ENHANCEMENT PROGRAM AND FINAL MINE REHABILITATION AND/OR DECOMMISSIONING PLAN BY THE MINE REHABILITATION FUND COMMITTEE



Note: Dashed lines shall be followed after the documents have been returned to the proponent for revision

Annex No. 4. Database for Work and Financial Plan Status (Quarterly)

[First][1] Year Work and Financial Plan									
Name of Contractor/Permit Holder: **ABC Mining Co.**									
Structures/Facilities to be rehabilitated/ decommissioned	Activities[2]	Unit of Measure	Physical Target and Accomplishment			Financial Target and Accomplishment			Remarks
			Annual Target	Total Accomplishment to date	% Physical Accomplishment to date[3]	Annual Budget	Total Expenditure to date	% Financial Accomplishment To date[4]	
1. Open Pit	1.1 Grading of open-pit slope								
	a. Excavation of Soil	cu m	128,892.00	128,892.00	100%	8,329,015.00	8,329,015.00	100%	
	b. Excavation of Riprap	cu m	160,777.00	160,777.00	100%	12,862,165.00	12,862,165.00	100%	
1. Upper TSF									
	2.1 Banking								
	a. Berm - Soil	cu m	1,015.00	500.00	49.26%	164,610.23	80,000.00	48.60%	
	2.2. Drainage & Drops								
	a. Excavation of Ditch (Soil)	cu m	619.00	619.00	100%	26,985.86	26,985.86	100%	
	b. Removal of Surplus Soil	cu m	6,419.00	6,419.00	100%	223,756.00	223,756.00	100%	
	c. Channel work	m	939.90	939.90	100%	3,581,958.90	3,581,958.90	100%	

Note: All information in the table highlighted in red, are for illustration purposes only.

[1] Indicate the year of the Annual Work and Financial Plan to be implemented.
[2] Indicate and categorize the activities based on the approved Annual Work and Financial Plan considering the materials, labor and operating cost.
[3] % Physical Accomplishment to date = (Total Accomplishment to date / Annual Target) x 100
[4] % Financial Accomplishment to date = (Total Expenditure to date / Annual Budget) x 100

Annex No. 5. FMRDF Cash Deposition (Annual)

Contractor/Permit Holder	Tenement No.	Location	Date of Approval of FMR/DP	Approved FMR/DP Cost (PhP)	Bank Name	Account No.	Schedule of Deposition			Life of the Mine (Years)												Cumulative of Amount Deposited (PhP)	Remarks
							Year	Amount (PhP)	Cumulative Amount (PhP)	2020 (March 1, 2020)	2021 (March 1, 2021)	2022 (March 1, 2022)	2023 (March 1, 2023)	2024 (March 1, 2024)	2025 (March 1, 2025)	2026 (March 1, 2026)	2027 (March 1, 2027)	2028 (March 1, 2028)	2029 (March 1, 2029)	2030 (March 1, 2030)		
ABC Corporation	XXX		January 01, 2020	32,500,000.00			2020	2,000,000.00	2,000,000.00	2,000,000.00											2,000,000.00	
							2021	3,000,000.00	5,000,000.00		3,000,000.00										5,000,000.00	
							2022	5,000,000.00	10,000,000.00			5,000,000.00									10,000,000.00	
							2023	4,500,000.00	14,500,000.00				4,500,000.00								14,500,000.00	
							2024	4,000,000.00	18,500,000.00					4,000,000.00							18,500,000.00	
							2025	4,000,000.00	22,500,000.00						4,000,000.00						22,500,000.00	
							2026	3,500,000.00	26,000,000.00							3,500,000.00					26,000,000.00	
							2027	3,000,000.00	29,000,000.00								3,000,000.00				29,000,000.00	
							2028	2,000,000.00	31,000,000.00									2,000,000.00			31,000,000.00	
							2029	1,000,000.00	32,000,000.00										1,000,000.00		32,000,000.00	
							2030	500,000.00	32,500,000.00											500,000.00	32,500,000.00	
							Total	32,500,000.00	32,500,000.00												32,500,000.00	

Annex No. 6. Status of Withdrawal from the FMRDF (Quarterly)

Contractor/ Permit Holder	Tenement No.	CLRFSC Resolution No.	Approved FMRDF	First Year Work and Financial Plan							Remarks
				Structures/ Facilities	Approved Amount for Withdrawal	Amount Withdrawn				Total Amount Withdrawn As of (MM/DD/YY)	
						Q1	Q2	Q3	Q4		
ABC Mining Co.	MPSA No. 001-2018-CAR	CLRFSC Resolution No. 2018-01	2,000,000.00	Open Pit	500,000.00	200,000.00	50,000.00	150,000.00	100,000.00	500,000.00	
				Lower TSF	500,000.00	200,000.00	50,000.00	100,000.00	150,000.00	500,000.00	
				Upper TSF	500,000.00	200,000.00	150,000.00	150,000.00	-	500,000.00	
				Processing Plant	500,000.00	200,000.00	150,000.00	150,000.00	-	500,000.00	
				TOTAL	**2,000,000.00**	**200,000.00**	**400,000.00**	**550,000.00**	**250,000.00**	**2,000,000.00**	

Note: All information in the table highlighted in red, are for illustration purposes only.

Annex No. 7. Flowchart for the issuance of the Certificate of Final Relinquishment.

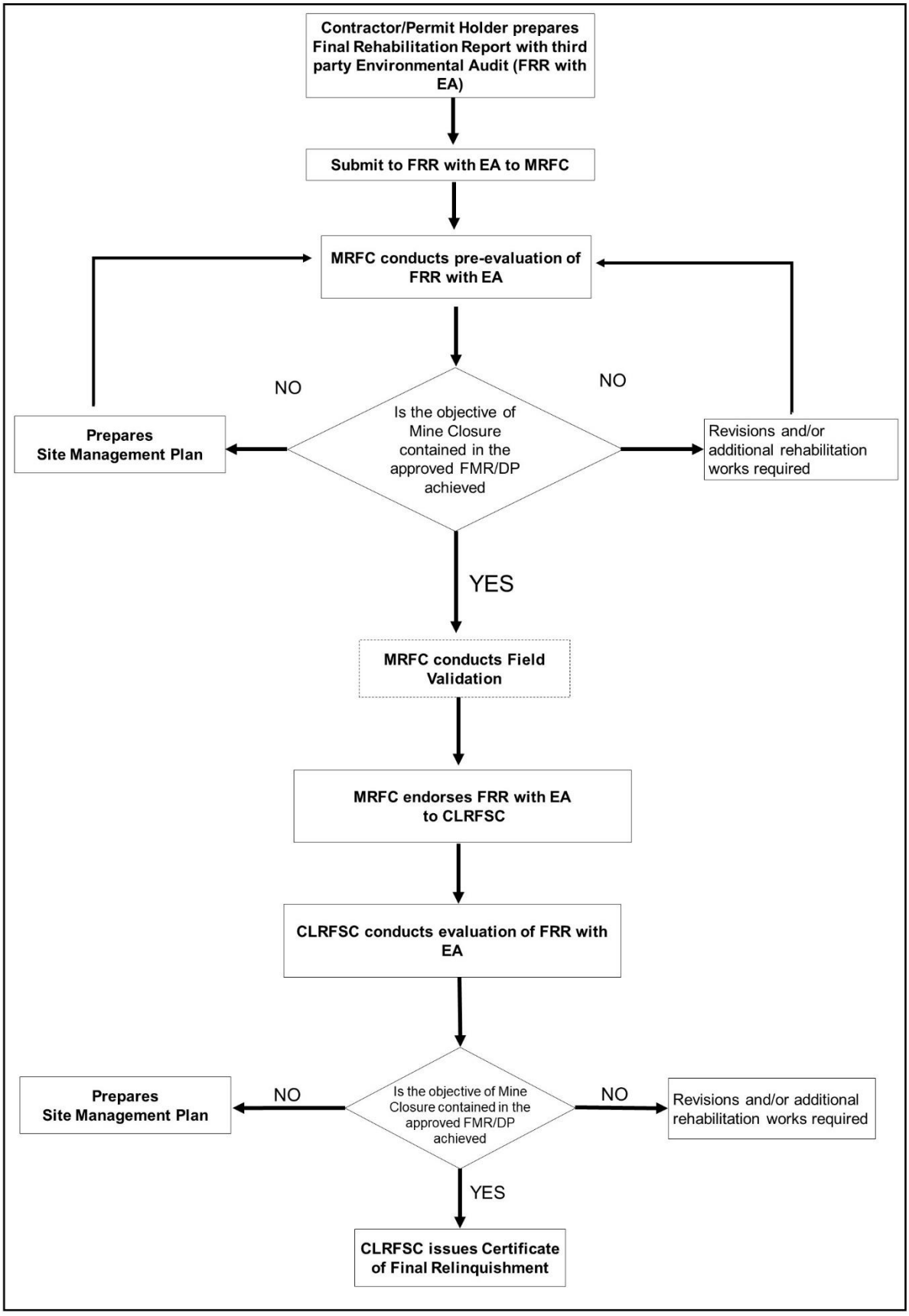


Table of Contents

FINAL MINE REHABILITATION AND/OR DECOMMISSIONING PLAN

1.0. Executive Summary

The Executive Summary shall briefly discuss the details of the mining/mineral processing project; background of the contractor/permit holder; contract/s and permit/s granted; land classification; existing land uses of the project area; proposed final land use; risk assessment; Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP); Social Plan; Maintenance and Monitoring Plan; and the proposed FMRDF.

2.0. Company Background

This section provides the complete information of the mining company/mineral processing company/operator or even the consultants commissioned (if applicable) to prepare the FMR/DP.

Briefly discuss the following:

1. Company profile which includes but not limited to history, ownership, business, etc.
2. Official name of the proponent/company including the address of the main and field offices.
3. Name and designation of the personnel whom the Department of Environment and Natural Resources (DENR) – Mines and Geosciences Bureau (MGB) must contact regarding the program/plan such as the President, Resident Mine Manager, MEPE Officer, Environmental Officer, whichever is applicable.
4. If the proponent/company has an authorized operator and/or the FMR/DP was prepared by third-party consultant/s, their respective contact details should also be provided.

Below is the sample entry in presenting the Company Information:

Name(s) and Contact Details of the Contractor/Permit Holder/Permittee

Name:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Project Site Office:	Barangay Rizal, Lemery, Batangas

Telephone: (+63) 02-8667-6700

Email Address: info@maharlika.ph

Name(s) and Contact Details of person/s authorized to act/represent the company/operator and consultant (if applicable)

Contact Person

Name: Engr. Juan Dela Cruz

Designation: President

Company: Maharlika Mining Corporation

Main Office: Minas Building
North Avenue, Diliman
Quezon City, Philippines

Telephone: (+63) 02-8667-6700

Email Address: juandelacruz@maharlika.ph

Operator

Name: Engr. Juana Velasco

Designation: CEO

Company: JV Company

Main Office: CSA Towers
Alabang, Muntinlupa City

Telephone: (+63) 02-8667-6700

Email Address: juanavelasco@jvc.com

Consultant

Name: Engr. Maria Reyes

Designation: Project Manager

Company: ProEnvi Consulting

Main Office: ABC Building
Paseo de Roxas, Makati City

Telephone: (+63) 02-8667-6700

Email Address: maria.reyes@proenvi.com

3.0. Introduction

3.1. Legal Description of the Project

Discuss all the agreements/permits covering the project including the date of issuance, areas covered, grantee, and the issuing office. Discuss also the history and status of the agreements/permits. Tabulate if necessary.

Provide discussion on the approved/registered Operating Agreement (OA), Deed of Transfer (Deed), etc. that were executed by the company. Copy of the approved pertinent documents should be attached in the annex such as MPSA, OA, Deed, etc. Tabulate if necessary.

Contract/Permit	
Contract/Permit Number	
Contractor/Permit Holder/Permittee	
Status of MA/FTAA/MPP/EP	
Date Approved	
Date of Expiration	
Total Area Covered	
Location of Contract/Permit Area	
Issuing Office	
Operating Agreement	
Name of Authorized Operator, if any	
Date of Execution of the OA	
Deed of Assignment	
Name of Assignee, if any	
Date of Execution of the Deed	

3.2. Organizational Structure

Present the applicable organizational set-up of the company including the environmental management team, safety and health team, emergency response team, community relations team, and mine closure team.

4.0. Background Information

4.1 Detailed history of the mining/mineral processing operation and implications to mine closure

4.2 Objectives of mine closure/decommissioning plan and how these relate to the mine and its environmental and social setting

4.3 Results/lessons learnt from completed progressive rehabilitation (if applicable)

4.4 Mine/Plant Closure Policy that will provide a framework for mine/plant closure planning which clearly states the intentions of the contractors/permit holders in relation to mine/plant closure planning, as well as a framework for setting the appropriate actions and objectives. It can be a stand-alone policy or part of the company's broader Environmental Policy.

5.0. Stakeholder Information and Involvement

5.1. Geographical Location

5.1.1. Location Map

5.2. Climate

5.2.1. Modified Coronas System (PAGASA)

5.3. Demography

5.3.1. Population and Density
5.3.2. Age and Sex Profile
5.3.3. Income and Poverty
5.3.4. Employment
5.3.5. Educational Attainment

5.4. Summary of stakeholder involvement/consultation activities and other community interaction conducted including stakeholder expectations in relation to the mine closure objectives and strategies as well as agreement/s reached, if any.

5.5. Copy of the minutes of meeting, photo documentation and attendance sheet during the conduct of stakeholder's consultation

6.0. Risk Assessment and Management

6.1. Sources of risk during the implementation of the FMR/DP

6.1.1. Safety
6.1.2. Environmental
6.1.3. Social
6.1.4. Others

6.2. Methodology employed in Risk Assessment (Refer to Procedural Guideline)

6.3. Results of Risk Assessment

6.3.1. Safety

Table 1: Risk Rating for Safety

Source of Risk	Receptor	Consequence	Risk Rating	Likelihood Rating	Risk Ranking
Falling from high places/facilities that are being decommissioned	Personnel/ contractors	Body injury or death	5	Rare	High
Dust Exposure	Personnel/ contractors	Shortness of breath, respiratory illness, eye injury	2	Likely	Low

Note: All information in the table highlighted in red, are for illustration purposes only.

6.3.2. Environmental

Table 2. Risk Rating for Environment

Source of Risk	Receptor	Consequence	Risk Rating	Likelihood Rating	Risk Ranking
Spillage of hazardous wastes	Nearby water bodies; Terrestrial and freshwater flora and fauna	Pollution of water bodies; Threat to the existence of flora and fauna	4	Likely	High
Excessive dust generation	Nearby community; Vegetation	Impact on the visual amenity, safety of personnel and health of community; "smothering" of vegetation	2	Possible	High

Note: All information in the table highlighted in red, are for illustration purposes only.

6.3.3. Social

Table 3. Risk Rating for Social

Source of Risk	Receptor	Consequence	Risk Rating	Likelihood Rating	Risk Ranking
Increase in anti-project sentiments	Community; Company	Unfavorable movements from the community that would cause delays in the decommissioning	3	Likely	Moderate
Strained relationship with the LGUs	Community; Company	Unfavorable movements from the community that would cause delays in the decommissioning	3	Likely	Moderate

Note: All information in the table highlighted in red, are for illustration purposes only.

6.3.4. Others (Specify)

7.0. Land Classification and Land Use

7.1. Legal Land Classification (1987 Philippine Constitution and other applicable laws and policies)

7.1.1. Forestland or Timber Lands
7.1.2. Agricultural Lands
7.1.3. Mineral Lands
7.1.4. National Parks

7.2. Land Use

7.2.1. CLUP (if available)
7.2.2. Municipal/Provincial

7.3. Proposed Final Land Use

Table 4. Proposed Final Land Use

Project Structure/Facility	Area (ha)	Pre-project Land Use	Final Land Use
TSF	30	Shrubland, Mined-out Area	Agroforestry
Warehouses and Offices	0.5	Mined-out area	For donation to the community
Laboratory	0.025	Mined-out area	For decommissioning
Mining Area 1	60	Mined-out area	Forest Plantation
Siltation Ponds	0.025	Shrubland, Mined-out Area	Aquaculture

Note: All information in the table highlighted in red, are for illustration purposes only.

8.0. Mine/Plant Closure Scenarios

Discuss the mine closure scenario in the event of the following:

8.1. Planned Closure

Planned closure occurs when the mining and/or processing operations cease due to economic or operational requirements or when the ore reserve is exhausted. In this scenario, the FMR/DP, which has been developed and updated over the life of the mine, should now be systematically implemented.

8.2. Temporary Closure

Temporary Closure (Care and Maintenance Program) occurs when operations temporarily cease due to economic or operational constraints. Temporary closure is normally planned and should entail the immediate preparation and implementation of a Care and Maintenance Program (CMP) pursuant to MGB Memorandum Order No. 20-001 (Guidelines for CMP for Mining Projects), taking into account the potential for future operations of the site.

The CMP should contain key mine components that need continuous monitoring including maintenance of on-going environmental and social programs. A temporary closure should always trigger a review of the FMR/DP, which will be required to be implemented if circumstances remain averse to the re-opening of the operation.

8.3. Sudden or Unplanned Closure

Sudden or Unplanned Closure occurs when mining and/or processing operations suddenly cease due to financial constraints (or similar economic imperatives), or if the operation is instructed to close due to non-conformance/s with regulatory requirements.

This scenario would involve the immediate preparation and implementation of a decommissioning plan, based on pre-existing FMR/DP, aimed at keeping the site in a safe and environmentally acceptable condition and taking into account the site's non-operational status.

9.0. Mine/Plant Closure Criteria

The closure criteria shall be guided by the following mine closure objectives of the FMR/DP:

- Physical Stability
- Chemical Stability
- Visual Acceptability
- Socio-economically prepared community
- Productive or self-sustaining ecosystem
- Conformity with Development Goals

Sample template in presenting mine/plant closure criteria is shown in Table 5:

Table 5. Mine/Plant Closure Criteria

Project Structure/Facility	Final Land Use	Indicator	Criteria
TSF	Agroforestry	Survival Rate	80% survival rate and self-thriving plants
		Production System (vegetation, annual crops, livestock)	Production System tested and validated
Mining Area 1	Forest Plantation	Species Composition	80% of species present from the reference ecosystem

		Survival Rate	80% survival rate and self-thriving plants
Siltation Ponds	Aquaculture	Production System (fish culture)	Production System tested and validated

Note: All information in the table highlighted in red, are for illustration purposes only.

10.0. Final Mine Rehabilitation and/or Decommissioning Plan

The following are the components of the Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP):

10.1. Final Mine Rehabilitation Plan

The Final Mine Rehabilitation Plan identifies the activities and research required to address on-going physical rehabilitation, and includes strategies to address long-term stability and sustainability and timeframes for the assessment of rehabilitation activities. The following should be discussed:

10.1.1. Rehabilitation strategy and techniques chosen to meet the rehabilitation success and closure criteria

10.1.2. Special procedures or precautions to be used to ensure safety during mine rehabilitation

10.1.3. Description of biodiversity conservation measures

10.1.4. Maps detailing planned topography, hydrology and biological information at closure

10.1.5. Description of the objectives and methodology of any research or rehabilitation trials to be conducted

10.2. Decommissioning Plan

The Decommissioning Plan prescribes the activities during the transitional stage period between cessation of operations and

actual closure that begins near, or at, the cessation of production and ends with the removal of all unwanted infrastructures. The following should be discussed:

10.1.6. List of Structures/facilities and equipment that require decommissioning

Table 6. List of Structures/facilities and equipment that require decommissioning

Project Structure/Facility	Area (ha)
TSF 2	30
Warehouses and Offices	0.5
Laboratory	0.025
Total	**30.525**

Note: All information in the table highlighted in red, are for illustration purposes only.

10.1.7. List of equipment that require decommissioning

Table 7. List of equipment that require decommissioning

Equipment	Area (ha)
Volvo FMX 420 Dump trucks	10
Komatsu PC200-8 Excavator	5
CAT 962H Wheel Loader	2
Fuel Truck	2
Water Truck	2
Land Rover Defender 90 MT Diesel (service vehicle)	4
Total	**30.525**

Note: All information in the table highlighted in red, are for illustration purposes only.

10.1.8. Decommissioning strategy and techniques chosen for each component/facility including mitigation measures to minimize potential adverse environmental impact/s

10.1.9. Special procedures or precautions to be used to ensure safety during decommissioning

10.1.10. Description of the objectives and methodology of any research or decommissioning trials to be conducted

10.3. Social Plan

The Social Plan prescribes the activities both for the workforce and impacted communities upon mine closure. The following should be discussed:

10.1.11. Retrenchment Package

This should be in compliance with the retirement/retrenchment package stipulated in Article 287 of the Labor Code of the Philippines (Presidential Decree No. 442) as amended by Republic Act No. 7614 (Retirement Pay Law).

10.1.12. Labor Support Policies and Program

This includes broad range of placement services designed to improve capacity of workers or “add value” to the human capital to help workers make the transition to alternative jobs or in becoming self-employed.

10.1.13. Transfer of Social Assets and Services

This includes listing of social assets and services that could be transferred to the community after the mine closure, i.e., buildings, residential houses, water supply, electricity and telecommunication network and medical services. The Contractor/Permit Holder shall enter into a Memorandum of Agreement or Deed of Transfer with the community concerned to ensure the sustainability of social assets and services transferred.

10.1.14. Information, Education and Communication (IEC) Plan

This plan aims to disseminate the accomplishment of the Contractor/ Permit Holder regarding the ongoing implementation of FMR/DP to the stakeholders concerned.

10.4. Maintenance and Monitoring Plan

The Maintenance and Monitoring Plan guarantees that the developed and designed completion criteria will be met, and must include plans for remedial action/s where monitoring demonstrates that the completion criteria are unlikely to be met. In addition, this plan should identify key aspects of the closure process to be monitored.

10.1.15. Maintenance and monitoring program and procedures to ensure that closure objectives are being achieved and to evaluate success against the agreed completion criteria. The sample template is presented below:

Mine Component/ Facility	Final Land use	Parameter/ Indicator	Sampling/Monitoring Method	Frequency of Sampling/ Monitoring Method
TSF	Agroforestry	Survival Rate	Flora Survey	Semi-annual
Mining Area 1	Forest Plantation	Species Composition	Flora Survey	Semi-annual

Note: All information in the table highlighted in red, are for illustration purposes only.

10.1.16. Any long-term management and maintenance expected including arrangements on their management and people/s responsible for managing residual commitment

10.1.17. Any Remedial action plans when monitoring demonstrates that closure objectives are unlikely to be completed

11.0. Detailed Costs and Schedule of Implementation

This Section presents the detailed program of work, including activity schedules/timelines, rehabilitation and decommissioning procedures and protocols, labor release program, health and safety measures, emergency response and preparedness plan and milestones.

11.1 Detailed budgets/costs to implement the proposed activities

11.1.1. Cost projection should be based on third-party contractor

11.1.2. Basis on the derivation of the indicated rehabilitation/decommissioning cost per unit

11.1.3. Inclusion of, but not limited to the following items:

a. Monitoring Trust Fund over a ten-year period monitoring;
b. Budget for the conduct of a third-party environmental audit;
c. Administrative cost;
d. Labor Cost (Salaries and wages);
e. Rental/purchase of heavy equipment/vehicle;
f. Fuel and maintenance cost;
g. Hiring of professional services;
h. Contingency Cost;
i. Value Added Tax;
j. Other Taxes (Real Property Tax, Excise tax, etc.); and
k. Others

Table 8 presents a sample matrix for the estimation of rehabilitation/decommissioning cost:

Table No. 8: Summary of FMR/DP Cost

Components	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
1. Rehabilitation	PhP	9,423,127.04	1,561,671.70	156,168.37	156,168.37	42,165.14	-	99,946.99	-	-	2,002,063.10	13,441,310.71
2. Decommissioning	PhP	24,909,900.00	2,168,000.00	500,000.00	240,000.00	161,500.00	-	128,000.00	-	-	2,258,000.00	30,365,400.00
3. Monitoring	PhP	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000
4. Laboratory Analysis	PhP	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	2,400,000
5. Personnel	PhP	3,447,600.00	3,482,076.00	3,516,896.76	3,552,065.73	3,587,586.38	3,623,462.25	3,659,696.87	3,696,293.84	3,733,256.78	3,770,589.35	36,069,524
6. Admin and OPEX	PhP	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	2,103,000.00	21,030,000.00
7. SHP	PhP	134,000.00	109,000.00	109,000.00	109,000.00	109,000.00	134,000.00	109,000.00	109,000.00	109,000.00	109,000.00	1,140,000.00
8. Social Plan	PhP	3,550,000.00	3,550,000.00	3,550,000.00	3,550,000.00	3,550,000.00	3,550,000.00	3,550,000.00	3,550,000.00	3,550,000.00	9,000,000.00	40,950,000.00
9. Maintenance Cost	PhP	1,433,652.00	1,217,652.00	1,217,652.00	586,212.00	586,212.00	375,732.00	375,732.00	375,732.00	375,732.00	375,732.00	6,920,040.00
10. Final Relinquishment Report	PhP										5,000,000	5,000,000
11. Contingency (5%)	PhP	2,277,286	734,992	602,472	554,659	544,214	527,960	530,351	532,199	532,199	1,260,591	8,104,442
Total	PhP	**47,823,008**	**15,766,392**	**12,595,189**	**11,691,105**	**11,523,678**	**11,154,154**	**11,395,727**	**11,206,225**	**11,243,188**	**26,718,975**	**171,420,717**

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 9: Detailed Breakdown of Rehabilitation Cost

Components	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
I. Revegetation Cost/ha	PhP											
Spacing	PhP	2m x 3m	2m x 3m	2m x 3m	2m x 3m	2m x 3m	2m x 3m	2m x 3m	2m x 3m	2m x 3m	2m x 3m	
A. Seedling Production Costs - Labor	PhP	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	11,250.00	112500.00
B. Seedling Production Costs - Materials	PhP	21,200.00	21,200.00	21,200.00	21,200.00	21,200.00	21,200.00	21,200.00	21,200.00	21,200.00	21,200.00	212000.00
C. Planting Costs	PhP	18,366.67	18,366.67	18,366.67	18,366.67	18,366.67	18,366.67	18,366.67	18,366.67	18,366.67	18,366.67	183,666.70
D. Maintenance Costs	PhP	105,350.50	105,350.50	105,350.50	105,350.50	105,350.50	105,350.50	105,350.50	105,350.50	105,350.50	105,350.50	1,053,505.80
Total	PhP	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**156,167.17**	**1,561,671.70**

Components	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
II. Areas for Revegetation												
A. MINING AREAS	ha	43.00										
Revegetation Costs	PhP	6,715,188.31										6,715,188.31
B. WASTE DUMP AREAS	ha											
Revegetation Costs	PhP											
C. STOCK YARD AREAS	ha		10.00									
Revegetation Costs	PhP		1,561,671.70									1,561,671.70
D. MINE HAUL ROAD	ha	10.00									12.52	
Revegetation Costs	PhP	1,561,671.70									1,955,212.97	3,516,884.67
E. INDUSTRIAL MOTOR POOL	ha	1.52										
Revegetation Costs	PhP	237,374.10										
F. CAMP FACILITIES	ha	5.00									0.53	

Revegetation Costs	PhP	780,835.85									82,768.56	863,604.41
G. NURSERY	ha							0.64				
Revegetation Costs	PhP							99,946.99				99,946.99
H. BARRACKS	ha				1.20							
Revegetation Costs	PhP				156,168.37							156,168.37
I. LABORATORY	ha	0.82										
Revegetation Costs	PhP	128,057.08										128,057.08
J. SETTLING PONDS	ha			1.20		0.27						
Revegetation Costs	PhP			156,168.37		42,165.14						198,313.51
K. MRF	ha										0.30	
Revegetation Costs	PhP										46,850.13	46,850.13
Total	PhP	**9,423,127.04**	**1,561,671.70**	**156,168.37**	**156,168.37**	**42,165.14**	-	**99,946.99**	-	-	**2,002,063.10**	**13,441,310.71**

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 10: Detailed Breakdown of Decommissioning Cost

Components	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
A. MINING AREAS	ha	43.00										43.00
B. WASTE DUMP AREAS	ha											-
C. STOCK YARD AREAS	ha		6.86									6.86
D. MINE HAUL ROAD	ha	10.00	10.00								12.52	32.52
E. INDUSTRIAL MOTOR POOL	ha	1.52										1.52
F. CAMP FACILITIES	ha	5.00									0.53	5.53
G. NURSERY	ha							0.64				0.64
H. BARRACKS	ha				1.20							1.20
I. LABORATORY	ha	0.82										0.82
J. SETTLING PONDS	ha			1.20		0.27						1.47
K. MRF	ha										0.30	0.30
Total	PhP	**60.34**	**16.86**	**1.20**	**1.20**	**0.27**	**-**	**0.64**	**-**	**-**	**13.35**	93.86

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 11: Detailed Breakdown of Rehabilitation Cost

Components	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
A. MINING AREAS	390,000.00											-
Area (ha)	43.00	16,770,000.00										16,770,000.00
B. WASTE DUMP AREAS												-
Area (ha)	-	-										-
C. STOCK YARD AREAS	390,000.00											-
Area (ha)	6.86	2,675,400.00										2,675,400.00
D. MINE HAUL ROAD	200,000.00											-
Area (ha)	32.52	2,168,000.00	2,168,000.00								2,168,000.00	6,504,000.00
E. INDUSTRIAL MOTOR POOL	450,000.00											-
Area (ha)	1.52	684,000.00										684,000.00
F. CAMP FACILITIES	450,000.00											-
Area (ha)	5.53	2,448,500.00										2,448,500.00
G. NURSERY	200,000.00											-
Area (ha)	0.64							128,000.00				128,000.00
H. BARRACKS	200,000.00											-
Area (ha)	1.20				240,000.00							240,000.00
I. LABORATORY	200,000.00											-
Area (ha)	0.82	164,000.00										164,000.00
J. SETTLING PONDS	450,000.00											-
Area (ha)	1.47			500,000.00		161,500.00						661,500.00
K. MRF	300,000.00											-
Area (ha)	0.30										90,000.00	90,000.00
Total (PhP)		**24,909,900.00**	**2,168,000.00**	**500,000.00**	**240,000.00**	**161,500.00**	**-**	**128,000.00**	**-**	**-**	**2,258,000.00**	**30,365,400.00**

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 12: Detailed Breakdown of Personnel Requirement

Components	Pax	PhP/Month	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Project Manager/MEPEO	1	60,000.00	811,200.00	819,312.00	827,505.12	835,780.17	844,137.97	852,579.35	861,105.15	869,716.20	878,413.36	887,197.49	8,486,946.81
Forester	1	40,000.00	540,800.00	546,208.00	551,670.08	557,186.78	562,758.65	568,386.24	574,070.10	579,810.80	585,608.91	591,465.00	5,657,964.54
Safety Officer	1	30,000.00	405,600.00	409,656.00	413,752.56	417,890.09	422,068.99	426,289.68	430,552.57	434,858.10	439,206.68	443,598.75	4,243,473.41
Accountant	1	30,000.00	405,600.00	409,656.00	413,752.56	417,890.09	422,068.99	426,289.68	430,552.57	434,858.10	439,206.68	443,598.75	4,243,473.41
ComRel Officer	1	30,000.00	405,600.00	409,656.00	413,752.56	417,890.09	422,068.99	426,289.68	430,552.57	434,858.10	439,206.68	443,598.75	4,243,473.41
Support Staff/Secretary	2	13,000.00	351,520.00	355,035.20	358,585.55	362,171.41	365,793.12	369,451.05	373,145.56	376,877.02	380,645.79	384,452.25	3,677,676.95
Security	3	13,000.00	527,280.00	532,552.80	537,878.33	543,257.11	548,689.68	554,176.58	559,718.35	565,315.53	570,968.68	576,678.37	5,516,515.43
Total	PhP		**3,447,600.00**	**3,482,076.00**	**3,516,896.76**	**3,552,065.73**	**3,587,586.38**	**3,623,462.25**	**3,659,696.87**	**3,696,293.84**	**3,733,256.78**	**3,770,589.35**	36,069,523.96

*per month x 13 month + 4% for SSS, PAG-IBIG, Phil Health, etc.
1% increase per year

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 13: Detailed Breakdown of Admin and OPEX

Components	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
A. Field Office (including maintenance)	PhP	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	5,000,000.00
B. Office Utilities	PhP	151,250.00	151,250.00	151,250.00	151,250.00	151,250.00	151,250.00	151,250.00	151,250.00	151,250.00	151,250.00	1,440,000.00
C. Supplies and Materials	PhP	26,000.00	26,000.00	26,000.00	26,000.00	26,000.00	26,000.00	26,000.00	26,000.00	26,000.00	26,000.00	240,000.00
D. Vehicle, fuel, repair and Maintenance	PhP											
a. Rental Rate	PhP	950,000.00	950,000.00	950,000.00	950,000.00	950,000.00	950,000.00	950,000.00	950,000.00	950,000.00	950,000.00	9,000,000.00
b. Fuel	PhP	410,000.00	410,000.00	410,000.00	410,000.00	410,000.00	410,000.00	410,000.00	410,000.00	410,000.00	410,000.00	4,050,000.00
c. Lubrication, maintenance, repair	PhP	65,750.00	65,750.00	65,750.00	65,750.00	65,750.00	65,750.00	65,750.00	65,750.00	65,750.00	65,750.00	607,500.00
Total	PhP	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	**2,103,000.00**	21,030,000.00

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 14: Detailed Breakdown of SHP

Components	Unit of Work Measurement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
A. Updating of Safety & Health Policies	Safety and Health Policies Updated	5,000.00					5,000.00					10,000.00
B. Updating of Rules and Regulations	Rules & Regulations Updated	5,000.00					5,000.00					10,000.00
C. Updating of SOPs	SOPs Updated	5,000.00					5,000.00					10,000.00
D. CSHC Meetings	CSHC Meetings Conducted	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	70,000.00
E. Monitoring of Working Environment	Working Environment Monitored	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	70,000.00
F. Provision of Medical Examination for Employees	Medical Examination Provided	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	400,000.00
G. Updating of Emergency Response Preparedness Program	Emergency Response Preparedness Program Updated	5,000.00					5,000.00					10,000.00
H. Purchasing of Fire Extinguishers	Fire Extinguishers Purchased	10,000.00					10,000.00					20,000.00
I. Maintenance of fire extinguishers	Fire Extinguishers Maintained (refill)		5,000.00	5,000.00	5,000.00	5,000.00		5,000.00	5,000.00	5,000.00	5,000.00	40,000.00
J. Procurement/ Issuance/Replacement of PPE	PPE Procured/Issued/replaced	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	150,000.00
K. Incentives	Incentives	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	100,000.00
L. Signages	Signages prepared and installed	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	200,000.00
M. Program consultation/ dissemination	Program consulted/dessiminated	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	50,000.00
Total	PhP	**134,000.00**	**109,000.00**	**109,000.00**	**109,000.00**	**109,000.00**	**134,000.00**	**109,000.00**	**109,000.00**	**109,000.00**	**109,000.00**	1,140,000.00

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 15: Detailed Breakdown of Maintenance Cost

Components	Unit of Work Measurement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
A. Road Maintenance	Length (m)	20,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	
	Grader (250m/hr) (ILO)	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	
	Grader Rental Rate/hr (ACEL Ed 24)*	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	
	Subtotal	443,232.00	227,232.00	227,232.00	227,232.00	227,232.00	227,232.00	227,232.00	227,232.00	227,232.00	227,232.00	2,488,320.00
B. Siltation Ponds	Total Area (sq.m.)	14,700.00	14,700.00	14,700.00	2,700.00	2,700.00						
	Depth of Silt (m)	2.00	2.00	2.00	2.00	2.00						
	Volume (cu.m.)	29,400.00	29,400.00	29,400.00	5,400.00	5,400.00						
	No of Days	20.00	20.00	20.00	5.00	5.00						
	Working Hours per day	8.00	8.00	8.00	8.00	8.00						
PC 200-3	Excavator Rental Rate/Hr (ACEL 24 Ed)*	1,994.00	1,994.00	1,994.00	1,994.00	1,994.00						
DT (10-12cu.m.)	Dump Trucks Rental Rate/Hr (ACEL 24 Ed)*	1,634.00	1,634.00	1,634.00	1,634.00	1,634.00						
	Costs for Siltation Ponds Desiltation											-
	1. Excavator	319,040.00	319,040.00	319,040.00	79,760.00	79,760.00						
	2. Dump trucks	522,880.00	522,880.00	522,880.00	130,720.00	130,720.00						
	Subtotal	841,920.00	841,920.00	841,920.00	210,480.00	210,480.00						2,946,720.00
C. Dust Control	Water Trucks	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
	Fuel 10 L Day 150 days	135,000.00	135,000.00	135,000.00	135,000.00	135,000.00	135,000.00	135,000.00	135,000.00	135,000.00	135,000.00	
	Lubrication, oil, maintenance (10%)	13,500.00	13,500.00	13,500.00	13,500.00	13,500.00	13,500.00	13,500.00	13,500.00	13,500.00	13,500.00	
	Subtotal	148,500.00	148,500.00	148,500.00	148,500.00	148,500.00	148,500.00	148,500.00	148,500.00	148,500.00	148,500.00	1,485,000.00
Total	PhP	**1,433,652.00**	**1,217,652.00**	**1,217,652.00**	**586,212.00**	**586,212.00**	**375,732.00**	**375,732.00**	**375,732.00**	**375,732.00**	**375,732.00**	6,920,040.00

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 16: Detailed Breakdown of Social Plan

Components	Unit of Work Measurement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Labor Support and Policies and Programs	Skills Trainings and livelihood programs	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	15,000,000.00
Retrenchment Packges	Given prior to closure. Separate budget											-
Transfer of Social Assets	Deed of Donation, maintenance and final repairs of facilities to be donated	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	2,000,000.00	6,500,000.00
Community Relation Plans and Activities	ComRel Team Activities	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	2,000,000.00	7,400,000.00
IEC Plans and Activities	IEC Activities and Center	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	600,000.00	2,000,000.00	7,400,000.00
Other unprogramed activities		350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	1,500,000.00	4,650,000.00
Total	PhP	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**3,550,000.00**	**9,000,000.00**	40,950,000.00

Note: All information in the table highlighted in red, are for illustration purposes only.

Table No. 17: Unit Cost Derivation for FMR/DP Activities

Manpower – Itemize all activities that require manual labor.
Equipment – Itemize all activities that require the acquisition and use of equipment. Indicate if the equipment will be provided by the mining operations or rented from a third-party contractor.
Supplies and materials – Itemize all activities that require the purchase and use of tools and consumable items.

17.1 Nursery Operations Cost

Activity	Unit of Measure	No. of Units to Complete	Output per Man-day	Man-days Required	Cost per Man-day or Unit	Cost	Remarks
Manpower/Labor							
Nursery bed preparation	square meters	1,000	500	2	350	700	
Sowing	bed	10	5	2	350	700	
Potting	hole	1,000	100	10	350	3,500	
Watering	seedling	1,000	200	5	350	1,750	
Subtotal						6,650	
Equipment							
Subtotal						N/A	
Supplies and materials							
Seedling	seedling	1,000	-	-	20	10,000	
Seedling bags	bag	2,000	-	-	10	10,000	
Fertilizer	kg	100	-	-	50	5,000	
Tools	lot	5	-	-	1,000	5,000	
Subtotal						30,000	
Others							
Subtotal						N/A	
Grand Total						**32,700**	

Note: All information in the table highlighted in red, are for illustration purposes only. The table format is not fixed for all identified activities. The preparer may adopt different format depending on the nature of activities, provided that the format includes all necessary information.

17.2 Planting Cost

Activity	Unit of Measure	No. of Units to Complete per Hectare	Output per Man-day	Man-days Required	Cost per Man-day or Unit	Cost	Remarks
Manpower/Labor							
Brushing	square meters	1,000	500	2	350	700	
Staking	stake	1,000	200	5	350	1,750	
Hole digging	hole	1,000	100	10	350	3,500	
Planting	seedling	1,000	200	5	350	1,750	
Fertilizer application	kg	1,000	200	5	350	1,750	
Subtotal						9,450	
Equipment							
Grading	square meters	10,000	2,000	5	-	-	Equipment will be provided by the mining operations
Seedling transport	seedling	1,500	500	3	1,000	3,000	Truck will be rented
Subtotal						3,000	
Supplies and materials							
Planting	seedling	1,000	-	-	-	-	Sourced from nursery
Staking	stake	1,000	-	-	1	1,000	
Fertilizer application	kg	100	-	-	50	5,000	
Tools	lot	2	-	-	1,000	2,000	
Subtotal						18,000	
Others							
Subtotal						N/A	
Grand Total						**20,450**	

Note: All information in the table highlighted in red, are for illustration purposes only. The table format is not fixed for all identified activities. The preparer may adopt different format depending on the nature of activities, provided that the format includes all necessary information.

17.3 Maintenance Cost

Activity	Unit of Measure	No. of Units to Complete per Hectare	Output per Man-day	Man-days Required	Cost per Man-day or Unit	Cost	Remarks
Manpower/Labor							
Weeding	hectare	1	0.5	2	350	700	
Replanting	hectare	1	0.5	2	350	700	
Fertilizer application	hectare	1	0.5	2	350	700	
Watering	hectare	1	1	1	350	350	
Patrol work	hectare	1	1	1	350	350	
Subtotal						2,800	
Equipment							
Watering	hectare	1	1	1	10,000	10,000	
Subtotal						10,000	
Supplies and materials							
Fertilizer application	kg	100	-	-	50	5,000	
Subtotal						5,000	
Others							
Subtotal						N/A	
Grand Total						**17,800**	

Note: All information in the table highlighted in red, are for illustration purposes only. The table format is not fixed for all identified activities. The preparer may adopt a different format depending on the nature of activities, provided that the format used will include all necessary information.

11.1.4. Schedule of FMR/DP Implementation (Gantt Chart)

The schedule of final mine rehabilitation/decommissioning plans shall be based on the sample Gantt Chart:

Table 18. Gantt Chart

Activity	Years Before and After Cessation of Mine Operations													
	Closure Planning					Decommissioning, Rehabilitation and Socio-economic					Maintenance and Monitoring			Relinquishment
	-5	-4	-3	-2	-1	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10
MINE CLOSURE PLANNING • Review/update FMR/DP as necessary • Agree on detailed plan															
UNDERGROUND FACILITIES • Remove fixed plant, etc. • Seal openings, etc…															
SURFACE FACILITIES • Remove fixed plant • Demolish buildings • Remove infrastructure • Treat/dispose of all materials and residues															
SOCIO-ECONOMIC • Re-employment counseling • Transfer of Social Assets and Services, etc…															
SITE REHABILITATION • Re-profile site • Cultivate/ameliorate planting areas • Seeding/planting • Monitor plant growth • Research tailings revegetation • Tailings revegetation trials • Plant tailings surface, etc…															
MAINTENANCE AND MONITORING • Monitor surface run-off • Monitor mine flooding • Monitor mine water discharge • Monitor run-off from tailings • Monitor plant growth, etc…															
FINAL RELINQUISHMENT • Preparation of FRR with EA • Issuance of Certificate of Final Relinquishment • Implement Site Management Plan for residual commitments															

Note: All information in the table highlighted in red are for illustration purposes only.

12.0. 3-D Artist Perspective of the Proposed Final Land Use

This Section presents the technical plans at appropriate scales and in appropriate details so that the proposed final land use will be clearly visualized (3-Dimensional Artist's Perspective).

13.0. Schedule of Lodging of the Final Mine Rehabilitation and Decommissioning Fund

13.1. Deposition Schedule (Refer to Guidelines in the Implementation of the FMR/DP)

Table 19. FMRDF Deposition Schedule

Year	Factor	Amount Deposited	Cumulative Amount
2019	0.207	34,983,000.00	34,983,000.00
2020	0.180	30,420,000.00	65,403,000.00
2021	0.150	25,350,000.00	90,753,000.00
2022	0.130	21,970,000.00	112,723,000.00
2023	0.100	16,900,000.00	129,623,000.00
2024	0.080	13,520,000.00	143,143,000.00
2025	0.063	10,647,000.00	153,790,000.00
2026	0.050	8,450,000.00	162,240,000.00
2027	0.020	1,380,000.00	165,620,000.00
2028	0.010	1,690,000.00	167,310,000.00
2029	0.010	1,690,000.00	169,000,000.00
2030	-	-	169,000,000.00
2031	-	-	169,000,000.00
2032	-	-	169,000,000.00
Total	**1.000**	**169,000,000.00**	**169,000,000.00**

Note: All information in the table highlighted in red are for illustration purposes only.

14.0. Technical Appendices

14.1. Details of any expert investigations, techniques, methods or innovative research undertaken or proposed

14.2. Baseline data lifted from the Environmental Impact Statement

14.3. Pertinent maps, copy of permits/clearances (including LGU/s concerned, government agencies issued permits/clearances agreements, photo documentation, etc.

15.0. Name and Signature of Preparer of the FMR/DP

Name and Signature of Applicant or Person(s) preparing the FMR/DP (specify PRC and PTR numbers), duly noted by the President of the company. The FMR/DP must also bear the seal of the company.

Note: For a FMRD/P subject to the mandatory 2-year review which requires modifications on its content, the revised document to be submitted by the Contractor/Permit Holder shall conform with this outline.

16.0. References

SOCIAL DEVELOPMENT AND MANAGEMENT PROGRAM

Table of Contents

GUIDELINES FOR THE IMPLEMENTATION OF THE SOCIAL DEVELOPMENT AND MANAGEMENT PROGRAM

I. Rationale

The Social Development and Management Program (SDMP) is a tool for the development and implementation of community programs and projects. It is a five (5)-year plan prepared by the Contractor/Permit Holder in consultation and partnership with the host and neighboring communities in a mining area. The goal of the SDMP is to help create responsible, self-reliant, and resource-based communities capable of developing, implementing, and managing community development programs, projects and activities in a manner consistent with the principles of people empowerment and sustainable development.

II. Legal Basis

The following are the legal bases for the preparation, submission, and implementation of SDMP:

1. Chapter X of Republic Act (RA) No. 7942 or the Philippine Mining Act of 1995; and Chapter XIV of the Department of Environment and Natural Resources (DENR) Administrative Order (DAO) No. 2010-21, the Consolidated DAO (CDAO) for the Implementing Rules and Regulations of RA No. 7942;

2. Executive Order (EO) No. 443, signed on September 24, 1997. This EO provided for the adoption of the Comprehensive and Integrated Delivery of Social Services (CIDSS) as the national delivery mechanism for the minimum basic needs approach; and

3. United Nation's Summit Report in New York on September 25-27, 2015, adopted the "Seventeen (17) Sustainable Development Goals as The New Global Goals for Sustainable Development from 2016 to 2030". The Executive Summary of the Report stated the mapping of the linkages between mining and the Sustainable Development Goals (SDG) and identified its contributions in all 17 goals to varying degrees but most directly, on the following:

    - SDG 1- End Poverty
    - SDG 5- Gender Equality
    - SDG 6- Clean Water and Sanitation
    - SDG 7- Energy Access and Sustainability

- SDG 8- Decent Work and Economic Growth
- SDG 9- Infrastructure, Innovation, and Industrialization
- SDG 10- Reduced Inequalities

III. Scope

As a participatory approach and strategy in project implementation, SDMP shall cover and include all Programs/Projects/Activities (P/P/As) identified by the Contractor/Permit Holder together with the host and neighboring communities in all phases of the mining operation.

To meet the changing needs and demands of the communities, the Contractor/Permit Holder shall prepare SDMP for implementation within a five (5)-year period. Commencement shall start from the development and construction stage and for effective implementation of the same, Annual SDMP shall be submitted, at least thirty (30) calendar days before the beginning of every calendar year, to the Mines and Geosciences Bureau Regional Office (MGB RO) concerned, for approval and implementation the following year. When a mining company suddenly ceases operation, it shall continue implementing its SDMP under the Care and Maintenance Program.

IV. Guiding Principles

In implementing the guidelines, the SDMP shall adhere to the principle of people empowerment to create responsible, self-reliant, and resource-based communities as stated in CDAO 2010-21. The formulation of the SDMP is guided by the following principles:

1. Coordinate with proper authorities in the provision and implementation of development plans for the host and neighboring communities. Promote partnerships with similar government, private, non-government, and community organizations to bring different skills and resources but shared interests and objectives. Formal and informal partnerships will reduce costs, avoid duplication of existing initiatives, and reduce dependency on the mining operation.

2. Promote community service and volunteerism by encouraging members of the host and neighboring communities to impart time, knowledge, skills, and talents in the development and implementation of P/P/As as a way of instilling ownership and achieving a more cohesive and stronger community.

3. Conduct strong stakeholder participation through consultation and active involvement of the community in all stages of the program: from planning, implementation to the monitoring of the projects and activities.

4. Encourage the full use of indigenous resources to minimize dependency on outside resources when it comes to the development of the host and neighboring communities.

5. Create self-sustaining income-generating activities such as, but not limited to, reforestation and production of goods and services needed by the mine and the community. Where traditional self-sustaining income-generating activities are identified to be present within the host and/or neighboring communities, the Contractor/Permit Holder shall work with such towards the preservation and/or enhancement of said activities.

6. Plan development programs and projects in such a way that it will stem directly to the people who will be affected by the mining operation. It shall work on the community's varied problems through short and long-term bases since some problems and needs can be solved immediately while problems like poverty and attitudinal change have to be worked out over a longer period. Long-term and strategic program objectives shall be aligned with existing development plans of the local and national government.

7. Analyze baseline data on the community problems, and needs that will require widespread participation and involvement of all stakeholders. The activities shall establish, build, and strengthen linkages and partnerships with and among various sectors/groups involved. The cyclic helping process starts from the stage of problem/need identification, planning solutions, implementation of plans, and will continue to monitoring and evaluation, and so on.

8. Undertake the processes, techniques, and strategies with an indigenized community organization method since the process of development and problem solving does not constitute trial and error approaches nor through the traditional way of solving palliatives.

9. Give preference to qualified Filipino citizens in the hiring of personnel for its mining operations, the majority of which shall originate according to priority from the host and neighboring communities, the host municipality and province where mine is located: Provided, that it shall organize, at its own expense, skills enhancement programs in the absence of the needed skills:

Provided, further, that it shall give its firm commitment to skills re-formation and entrepreneurship development for people in the mining communities as an integral part of the mine closure process.

V. Goal and Objectives

The goal of the SDMP is to uplift the quality of life of the people towards the end of mine life and even long after the mining company ceases operation.

To achieve this goal, the following are the objectives:

1. Help meet the minimum basic needs (health, food and nutrition, water and environmental sanitation, income security, decent housing, education, and functional literacy, peace and order, participation in governance, family care and social integrity of the primary stakeholders) of the mining communities and enhance human welfare and prevent/reduce social ills;

2. Optimize the advancement of human resources, which includes grassroots development and people empowerment to attain a self-reliant and self-managed community, building local capacities and strengthening local organizations;

3. Provide opportunities for a sustainable livelihood thus decreasing dependency on the benefits derived from the mining companies;

4. Promote conservation and intellectual use/management of the environment vis-à-vis community and mining activities;

5. Protect the socio-cultural values and local patterns amidst improved economic condition and human advancement; and

6. Improve the economic and social empowerment of women, as well as to improve the well-being, safety, and security of women and children.

VI. Framework for the Formulation of the Social Development and Management Program

SDMP development shall undertake the following activities (refer to Figure No.1 Framework for the Formulation of the Social Development and Management Program):

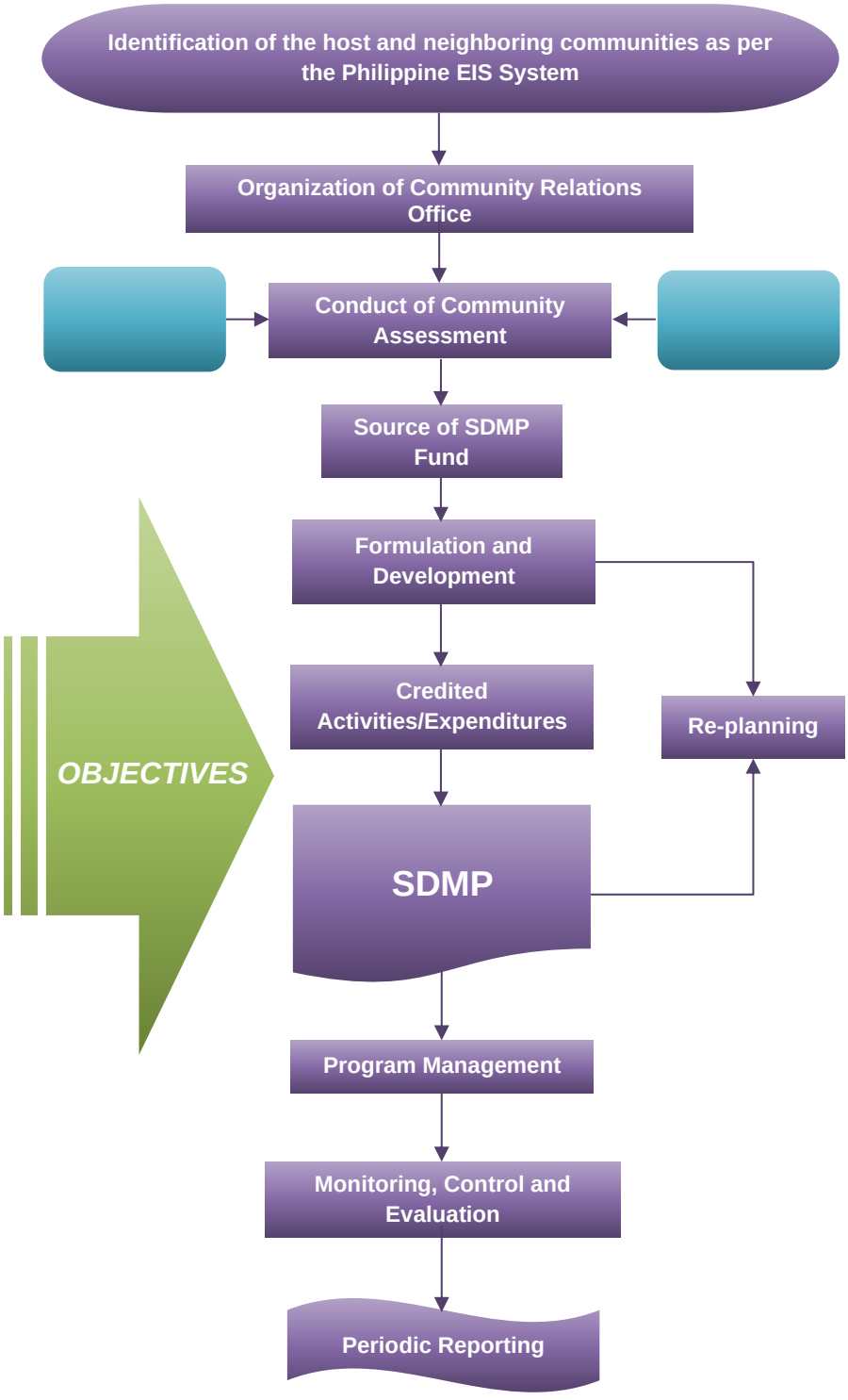
A. Identification of the Host and Neighboring Communities as per the Philippine Environmental Impact Statement System (EIS)

The identification of host and neighboring communities is vital in the formulation and implementation of the SDMP. The SDMP aims for sustainable improvement in the living standards of the host and neighboring communities. Section 134 of DAO No. 2010-21 defined host communities as *"barangay(s) where the mining area is located"* and neighboring communities as *"barangay(s) adjacent to the host community."*

To delineate communities that will benefit from the SDMP, the identification of the host and neighboring communities shall adhere to the Presidential Decree No. 1586 or the Philippine Environmental Impact Statement System and its Implementing Rules and Regulations, DAO No. 2003-30.

The Environmental Impact Assessment (EIA) allows the determination of the area to be considered as direct and indirect impact areas of a project, which vary according to project type and location. As stated in Annex 2-2 of the Revised Procedural Manual of DAO No. 2003-30, the direct and indirect impact areas shall serve as the main reference in the determination of the stakeholders to be possibly affected by the project. Moreover, Annex 2-3 of the said Revised Procedural Manual provides the Guidelines on Stakeholder Identification during various EIA Stages.

Figure No. 1. Framework for the Formulation of the Social Development and Management Program.



During the pre-EIA Study stage, the communities located in the Direct Impact Area (DIA) or the area where project facilities are to be constructed/located and where all operations are to be undertaken shall be considered as the **direct/primary stakeholders**. Similarly, the communities located in the Indirect Impact Area (IIA) or those immediate to the DIA and *"those within the next level of local government unit where the project is to be sited"* may be considered as the **stakeholders of the IIA**. The exact areas to be determined as DIA and IIA are to be indicated in the project's EIS. Such areas are based on the environmental assessment (e.g. dispersion/transport modeling studies).

For the SDMP, the identified direct/primary stakeholders shall be considered as the **host community/ies**. Moreover, the stakeholders of the IIA shall be considered as the **neighboring community/ies.** In the case of offshore mining operations, the **host community/ies** refers to the municipality where the offshore mining operation is located.

B. Organization of a Community Relations Office

The Contractor/Permit Holder shall incorporate in its organizational structure a Community Relations Office that is primarily tasked to marshal the resources needed and serves as facilitator/coordinator for the successful implementation of the SDMP. A Community Relations Officer (CRO) shall head the Community Relations Office and shall be reporting directly to the highest company on-site official. The CRO must be a graduate of any social science course, or any person with experience and training on community development work and, preferably, with strong knowledge of the local culture.

The CRO shall represent the Contractor/Permit Holder in dealing with the host and neighboring communities and shall directly address communities' concerns.

B.1. The CRO shall act as:

1. *Facilitator*	♦ facilitates group activities so that meetings are heightened; ♦ helps enhance individual/group strengths and helps minimize weaknesses and conflicts; ♦ heightens group unity; ♦ assists individual/groups respond to common interests; ♦ acts as a consensus builder, so that the group can easily respond to community needs and problems.
2. *Trainor*	♦ assesses training needs of local leaders;

	♦ helps plan and conduct educational programs to strengthen individual/group capabilities; ♦ assists key leaders in training others; ♦ engages in continuous dialogue and consultation with people; ♦ helps in remolding the leaders and members in terms of skills and attitudes towards self-determination.
3. *Advocate*	♦ helps analyze and articulate critical issues; ♦ assists others to understand and reflect upon the issues; ♦ evokes and provokes meaningful discussions and actions; ♦ advocates the right of the marginalized sectors of the community(ies) as well as Indigenous Peoples (IPs).
4. *Researcher*	♦ engages in participatory research wherein people become co-investigator; ♦ simplifies/enriches appropriate research concepts and skills to make these functions for the people's interests; ♦ engages in social integration to understand the social phenomenon from the people's point of view.
5. *Planner*	♦ conducts the initial analysis of area resources and potentials; ♦ assists local groups in planning for their common good, including appropriate strategies and alternative actions; ♦ helps systematize group actions to attain the desired goal;
6. *Catalyst*	♦ initiates, debates, and actions regarding critical problems; ♦ monitors and nurtures the growth of individuals/groups to facilitate long-term structural transformation for the people's welfare.

B.2. The CRO shall have the following duties and responsibilities:

1. Manages/participates in the conduct of community assessment if such a task is contracted through an independent consulting firm;
2. Assesses the needs and opportunities of the community;
3. Formulates and develops P/P/As in coordination with the host and neighboring communities;
4. Prepares the SDMP in conformity with the SDMP provisions, guidelines and outline;
5. Presents the SDMP to MGB RO concerned during the conduct of a Technical Conference;

6. Implements P/P/As in coordination with the host and neighboring communities;
7. Monitors and evaluates the implemented P/P/As in coordination with the host and neighboring communities as an internal activity;
8. Updates/revise the P/P/As with the host and neighboring communities to improve said undertakings; and
9. Resolves issues/concerns that may arise during implementation, if applicable.

The same tasks/roles can also be carried out, if possible, by the Contractor/Permit Holder's corporate social responsibility arm and in partnership or coordination with other local government units such as the Department of Social Welfare and Development (DSWD), Department of Agriculture (DA), Department of Agrarian Reform (DAR), Department of Health (DOH), Department of Education (DepEd), Department of Labor and Employment (DOLE), Department of Interior and Local Government (DILG), Department of Trade and Industry (DTI) and with other government agencies and non-governmental organization on social development.

B.3. Employment Status

The Contractor/Permit Holder shall employ a CRO on a full-time basis during development and construction, production, and closure and rehabilitation stages. The salary/remuneration of the designated/appointed CRO shall not be included in the budgetary allocation of the SDMP.

C. Conduct of Social Assessment Methods

The Contractor/Permit Holder shall be guided by the conduct of the following social assessment methods, but not limited to:

C.1. Participatory Rapid Appraisal (PRA)

It is a method of site assessment undertaken to gain a better understanding of the community. As a method, it has the following characteristics:

1. *Rapid* - can be done in a short duration of time.

2. *Flexible* - makes use of a variety of other methods for data gathering (such as secondary data, semi-structured interviews, and direct observation).

3. *Systems-oriented* - communities are analyzed as a whole system instead of a separate component like environment, technology, etc.

4. *Participatory* - *i*nformation is derived from the people themselves validated by the community and participated by key informants and leaders of the community.

5. *Interdisciplinary and cost-effective* - it is composed of two (2) members of an interdisciplinary team (social and natural scientists) and it entails lesser costs since it is short and rapid.

C.1.1. Significance of PRA

Many development programs need to be based on relevant, timely, and usable information. Many programs fail because the projects where it is incorporated do not fit the site conditions and culture of the said communities. Moreover, PRA is viewed as a middle ground research method, that is, rapid, reliable, and cost-effective.

C.1.2. Uses of PRA

PRA is a diagnostic, design, and monitoring and evaluation tool. In the context of the SDMP, PRA appears specifically relevant for the identification of problems and opportunities that become the basis for program design, implementation, and validation. It is also relevant in program monitoring and evaluation by showing more quickly and clearly what is happening with the program.

C.2. Social Impact Assessment (SIA)

C.2.1. Nature and Scope of SIA

SIA is a social science discipline that seeks to assess the type, extent, and duration of effects of proposed social interventions on communities. It uses several social science techniques such as perception survey, focus group discussion, cost-benefit and reliability analyses to identify data requirements and collect

baseline information and to interpret such data so that it can identify primary and secondary impact areas, on the values, attitudes, and preferences of people concerning resource-use and assess their capacity to respond to, accept and cope with change.

Like other social sciences (e.g. anthropology, sociology), SIA may consist of the following variables but are not limited to:

a. Socio-Economic Profile (demographic characteristics);
b. External/Incidental Resources (community and institutional structure, political and social structure); and
c. Endemic Resources (individual/family factors, community resources).

C.2.2. Identification and Evaluation of Impacts

SIA shall be conducted and results shall be the basis of Contractor/Permit Holder in the valuation of the current 5-Year SDMP. This shall involve the identification of the needs of members of the community through the conduct of secondary data gathering.

D. Source of SDMP Fund

A minimum of one and a half percent (1.5%) of the Operating Costs shall be allotted annually for the development of the mining community, mining technology and geosciences, and institutionalization of public awareness and education on mining and geosciences. From this amount, 1.125% (75% of 1.5%) shall be allotted to for the development of the host and neighboring communities, 0.150% (10% of 1.50%) for the Development of Mining Technology and Geosciences Program, and 0.225% (15% of 1.50%) for the implementation of Information, Education and Communication Program.

The term Operating Cost shall mean the specific costs of producing a saleable product on a commercial scale incurred in the calculation of the net income before tax, as confirmed by the MGB Central Office (CO)/RO. This shall include all costs and expenditures related to mining/extraction and treatment/processing (inclusive of depreciation, depletion, and amortization), exploration activities during the operation stage, power, maintenance, administration, excise tax, royalties, transport and marketing, and annual progressive/environmental management.

The Contractor/Permit Holder shall submit to the MGB RO concerned a sworn statement of its previous operating costs within sixty (60) days after the end of each calendar year as the basis for the implementation of the Program.

In the case of new mining/quarrying/mineral processing operations, the Contractor/Permit Holder shall implement the SDMP during the development/construction stage. The budget allocation shall be based on the projected operating costs in the projected income statement contained in the approved Mining Project Feasibility Study until such time that the actual operating costs can be determined. Provided further, that the SDMP cost during the development/construction stage shall be part of the pre-operation expenses.

The funds for the Annual SDMP (ASDMP) shall be deposited in a Government depository bank in the name of the Contractor/Permit Holder within thirty (30) calendar days from the approval of the ASDMP.

Withdrawal from the ASDMP fund shall be made as the need arises by the Contractor/Permit Holder only with a written instruction issued to the bank by the Regional Director to withdraw the amount from the ASDMP fund: Provided, that said amount shall be based on the quarterly budget as reflected in the approved ASDMP.

Expenditures utilized for P/P/As for the mining camp for the benefit of the Contractor/Permit Holders' employees and their families shall not be included in the computation of the cost of the SDMP. In addition, expenditures for the implementation of ASDMP shall not be credited to the royalty payment for IPs/ICCs per Section 16 of DAO No. 2010-21.

E. SDMP Formulation and Development

The Contractor/Permit Holder shall prepare the SDMP/ASDMP, in consultation and partnership with the host and neighboring communities. Program planning should be conducted together with the residents, non-government organizations, local government and government agencies, and disadvantaged groups. The SDMP should be aligned with the existing development plans of the local government. Identification of priority P/P/As should be based on the results of SIA, PRA or any similar social assessment methods used.

Project formulation and development shall contain the following primary areas of concern as specified in Item "F" of this Guidelines:

a. Human resource development and institution building;
b. Enterprise development and networking;
c. Assistance to infrastructure development and support services;
d. Access to education and educational support programs;
e. Access to health services, health facilities and health professionals; and
f. Protection and respect of socio-cultural values.

In areas where Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) exist, SDMP shall conform to the provisions of Republic Act No. 8371 or the 'Indigenous Peoples Rights Act of 1997'.

F. Credited Activities or Expenditures

There are three (3) components for the SDMP, as discussed in Item "D" (Source of Funds) hereof, and are presented in the following:

F.1. Development of the Host and Neighboring Communities

P/P/As that can be considered as creditable activities/expenditures for the development of the host and neighboring communities shall include the following:

1. *Human Resource Development and Institution Building* – P/P/As geared towards strengthening existing local institutions, fostering the creation of new community organizations, and providing marginalized/disadvantaged groups the opportunity to participate fully in the development of their communities. These shall include but are not limited to, capacity and capability building on project management, organizational development, entrepreneurship, and skills development/training.

2. *Enterprise Development and Networking* – P/P/As geared towards the development and promotion of economically viable community enterprises by providing members of the community access to capital and thereby enhance and stimulate existing livelihood industries and other income-generating activities, help create new ones, and develop market diversification. These shall include income-generating activities, such as animal husbandry, provision of farm implements, the establishment of small/microbusinesses, such as household-based food processing, horticulture, and agronomy, traditional handicrafts, support to small local businesses through preferential procurement of goods and services from

local sources, as well as cooperative development, market linkages, and networking, among others.

3. *Assistance to Infrastructure Development and Support Services* – P/P/As geared towards stimulating and facilitating other forms of economic activity, such as the development, construction, improvement, and/or maintenance of farm-to-market roads, water systems, post-harvest facilities, bridges, and electric power, among others;

4. *Access to Education and Educational Support Programs* – P/P/As geared towards providing educational opportunities to members of the community, including scholarships from primary to tertiary education, technical/vocational education, provision of apprenticeship programs, construction/repair/ improvement of school buildings and related facilities, provision of school furniture and fixtures, and subsidy to teachers, among others;

5. *Access to Health Services, Health Facilities, and Health Professionals* – P/P/As geared towards achieving an overall improvement in the living conditions and health of the host and neighboring communities, such as the provision of health facilities, access to health services, medicines and professionals, health education and preventive measures, training of health paraprofessionals, maternal-child health care and family planning, provision of health insurance, the establishment of nutrition and immunization programs, access to clean and potable water, and provision of waste and sewage disposal facilities, among others;

6. *Protection and Respect of Socio-Cultural Values* – P/P/As geared towards safeguarding the existing socio-cultural values of the host and neighboring communities to promote social cohesion and cultural awareness, and to instill community pride; and

7. Use of facilities/services within the mining camp or plant site, such as hospitals, schools, among others, by members of the host and neighboring communities, the expenditures of which shall be apportioned pro-rata according to the number of people from said communities accommodated in such facilities.

Expenditures for the above-mentioned P/P/As shall be credited to the 75% of the one and a half percent (1.5%) of the Operating Costs allotted to implement the SDMP.

F.2. Development of Mining Technology and Geosciences

P/P/As that can be considered as creditable activities/expenditures for the development of mining technology and geosciences shall include the following:

1. Basic and applied research on mining technology, geosciences, and related subjects such as, but not limited to, the socioeconomics related to mining operations, environmental protection, mineral economics, among others;

2. Advanced studies, related to mining which are conducted by qualified researchers who are not employees of the mine, following current guidelines by the Department of Science and Technology, including the cost of publication thereof in refereed technical journals or monographs accessible to the local scientific community;

3. Expenditures for scholars, fellows and trainees including grants for dissertations on mining technology and geosciences and related subjects; and

4. Expenditures on equipment and capital outlay as assistance for research and/or educational institutions that serve as a venue for developing mining technology and geosciences.

Further, the Contractor/Permit Holder shall include in the Program at least one (1) study/research based on sub-sections F.2.1 and F.2.2.

The Provincial and Municipal Governments concerned shall be consulted in the determination of beneficiaries of scholarships and training, as well as the subject of researches and training programs.

Expenditures for the above-mentioned P/P/As shall be credited to the 10% of the one and a half percent (1.5%) of the Operating Costs allotted to implement the SDMP.

F.3. Public Awareness and Education on Mining Technology and Geosciences

P/P/As that can be considered as creditable activities/expenditures for the promotion of public awareness and education on mining technology and geosciences shall include the following:

1. Establishment/enhancement/maintenance of information and publicity centers where stakeholders can access information on the performance of a mining project;

2. Publication of Information, Education and Communication (IEC) materials on social, environmental and other issues/concerns relative to mineral resources development and responsible mining operations;

3. Expenditures for continuing public awareness and education campaigns such as radio and web-based broadcasts, publications, and other forms of mass communication on mining-related information, issues and concerns on a local and national scale; and

4. Expenditures on equipment and capital outlay as assistance to the institutionalization of public awareness and education on mining technology and geosciences.

Expenditures for the above-mentioned P/P/As shall be credited to the 15% of the one and a half percent (1.5%) of the Operating Costs allotted to implement the SDMP.

G. Program Management

Program Management shall include the application of planning, organizing, directing, and controlling functions of all community P/P/As of the mining companies. This shall follow three (3) major stages in the life span of the community project:

a. Planning

The Contractor/Permit Holder shall plan and identify priority P/P/As in partnership with and in consultation with the host and neighboring communities. This should be based on the results from the social impact assessment conducted and harmonized with the Barangay Development Plans (if applicable), and if there are ICCs/IPs present, from their Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) prescribed under the National Commission on Indigenous Peoples (NCIP) Administrative Order No. 1, Series of 2004, "*Guidelines on the Formulation of the Ancestral Domain Sustainable Development and Protection Plan (ADSDPP)*."

b. Scheduling

This shall constitute P/P/As that have a definite period and shall be based on the five (5)-year SDMP. However, a specific program or project can exceed or go beyond the expected project duration subject to the completion of the activities comprising the program/project.

c. Role of the Local Government Units (LGUs)

The LGUs shall participate in the different stages of the SDMP process that shall constitute the following:

1. Participation in the survey of identifying the gaps and needs, problems and opportunities;
2. Formulation and development of P/P/As to be undertaken by the host and neighboring communities;
3. Implementation of the identified programs/projects/activities; and
4. Participation in the internal monitoring and re-evaluation of the P/P/As being implemented around the host and neighboring communities.

H. Monitoring, Control, and Evaluation

The Contractor/Permit Holder shall conduct monthly internal monitoring of the ASDMP together with the representatives of the host and neighboring communities to determine the level of implementation of the P/P/As following the approved Programs.

Together with the stakeholders, it shall develop a project monitoring and evaluation system, which is acceptable to all stakeholders. This is to ensure that P/P/As are geared towards the realization of the goals and objectives including potential strengths and weaknesses.

The Contractor/Permit Holder shall establish a system that shall undertake the identification and resolution of any related complaints against the implementation of the SDMP and its ASDMP. It shall be composed of the following: narrative process, including the department/units that shall undertake each process, and the corresponding timeline for accomplishment, flow chart and the complaint form/template to be used.

I. Periodic Reporting

The Contractor/Permit Holder shall submit to MGB RO concerned quarterly reports of accomplishments on the implementation of ASDMP and establish and continuously update a database following the template as presented in Annex 1, Quarterly Monitoring Report, and Annex 2, SDMP Database. It shall likewise prepare and submit an annual report to the MGB RO concerned; copy furnished the MGB Central Office (CO).

The MGB RO concerned shall conduct semi-annual monitoring of the implementation of the approved programs and submit its monitoring reports together with the updated SDMP database to the Bureau within thirty (30) calendar days after the conduct of monitoring as a basis for periodic audits.

For the CRO to effectively and efficiently carry out his/her functions, the MGB RO concerned, in coordination with other relevant government and non-government agencies, shall conduct from time to time appropriate orientation and/or training courses to keep them abreast with recent practices on community organization and development, rules and regulations, policies and programs.

VII. Submission, Processing, and Approval of SDMP/ASDMP

The Contractor/Permit Holder shall submit three (3) legible hard copies and a complete electronic file of the SDMP.

Within twenty (20) calendar days upon receipt thereof, the MGB RO concerned shall evaluate the submitted programs as to its form, substance, and completeness. Additional documents or information which are deemed necessary to supplement the programs may be required by the MGB RO concerned.

A technical conference shall be held among the Contractor/Permit Holder, MGB RO concerned and appropriate experts, if deemed necessary, for the final evaluation of the programs. During the technical conference, the Contractor/Permit Holder shall present the highlights of its programs, while the MGB RO concerned and the concerned experts shall present their comments on the submitted programs. If the proposed programs conform to the standards, these shall be duly approved by the MGB RO concerned through the issuance of a Certificate of Approval (Annex 3). The MGB RO shall provide the MGB CO with a hard copy and an electronic copy of the approved SDMP and the Certificates of Approval, within seven (7) days upon approval.

If the Programs require some revisions/additional information, the Contractor/Permit Holder/Lessee shall be required to address the deficiencies within ten (10) days from the date of the technical conference. Should the Contractor/Permit Holder fail to address the deficiencies within the prescribed period, the Programs shall be returned to the proponent for revision/rectification and resubmission.

Within thirty (30) days from the approval of the SDMP, the Contractor/Permit Holder shall enter into a Memorandum of Agreement (MOA) with the host and neighboring communities as represented by the Barangay(s)/Municipality(ies) concerned and shall register the same in the MGB RO concerned, to ensure the annual implementation of the Programs.

The Contractor/Permit Holder shall provide each of the LGUs concerned with a copy of the approved SDMP within five (5) days after the registration of the approved Contract/Permit, as presented in Figure No. 2 Procedural Flow on the Submission, Processing and Approval of SDMP/ASDMP.

The succeeding 5-year SDMP shall be submitted to the MGB RO concerned not later than thirty (30) days from the completion of the preceding 5-year Programs.

A copy of each of the succeeding approved Programs shall be provided to the LGUs concerned within five (5) days from its approval.

The MGB CO shall have an oversight function over the evaluation, approval, and implementation of the Programs.

Based on the approved Programs and for effective implementation of the same, Annual Programs shall be submitted at least thirty (30) calendar days before the beginning of every calendar year, to the MGB RO concerned, for approval and implementation of the following year. The MGB RO concerned shall furnish the MGB CO with the approved annual Programs within seven (7) days from its approval.

VIII. Monitoring and Auditing of Annual SDMP

Monthly internal monitoring of the ASDMP shall be conducted jointly by the CRO and representatives of the host and neighboring communities to determine the level of implementation of the P/P/As following the ASDMP.

The Contractor/Permit Holder shall provide the MGB RO concerned with the quarterly report of accomplishments on the implementation of its ASDMP, including the detailed database established.

The MGB RO concerned shall conduct semi-annual monitoring of the implementation of the approved programs and submit its monitoring reports together with the consolidated SDMP database to the Bureau within thirty (30) calendar days after the conduct of monitoring as a basis for periodic audits (refer to Figure No. 3 Monitoring and Auditing of Annual SDMP).

IX. Review and Evaluation of the Approved Programs

The approved SDMP can be reviewed and/or revised during its period of coverage to account for changes in the nature and cost of activities: Provided, that before the end of the five (5)-year term of the approved Programs, they shall be subject to performance review by MGB CO or Social Impact Assessment by a Third Party Consultant to determine and measure the impact of the various programs, the results of which shall serve as an integral guide in the preparation of the new Programs as presented in Figure No. 4 Review and Evaluation of the Approved Programs.

X. Costs for Processing, Review and Site Visit

The Contractor/Permit Holder shall shoulder all reasonable incidental expenses to be incurred during the conduct of community assessment and presentation of the SDMP including additional costs related to the evaluation process, site visit expenses, and logistical support to invited groups of professionals/experts.

XI. Penalties

Under Section 136-F of the CDAO 2010-21, Contractor/Permit Holder found not implementing its approved SDMP, or operating without such approved Programs shall, on the first offense, be liable to a fine not exceeding Five Thousand Pesos (PhP5,000.00). A succeeding offense shall be sufficient ground to suspend its mining/milling operations in the mining areas, in addition to a fine not exceeding Five Thousand Pesos (PhP5,000.00).

Figure No. 2. Procedural Flow on the Submission, Processing, and Approval of SDMP/ASDMP.

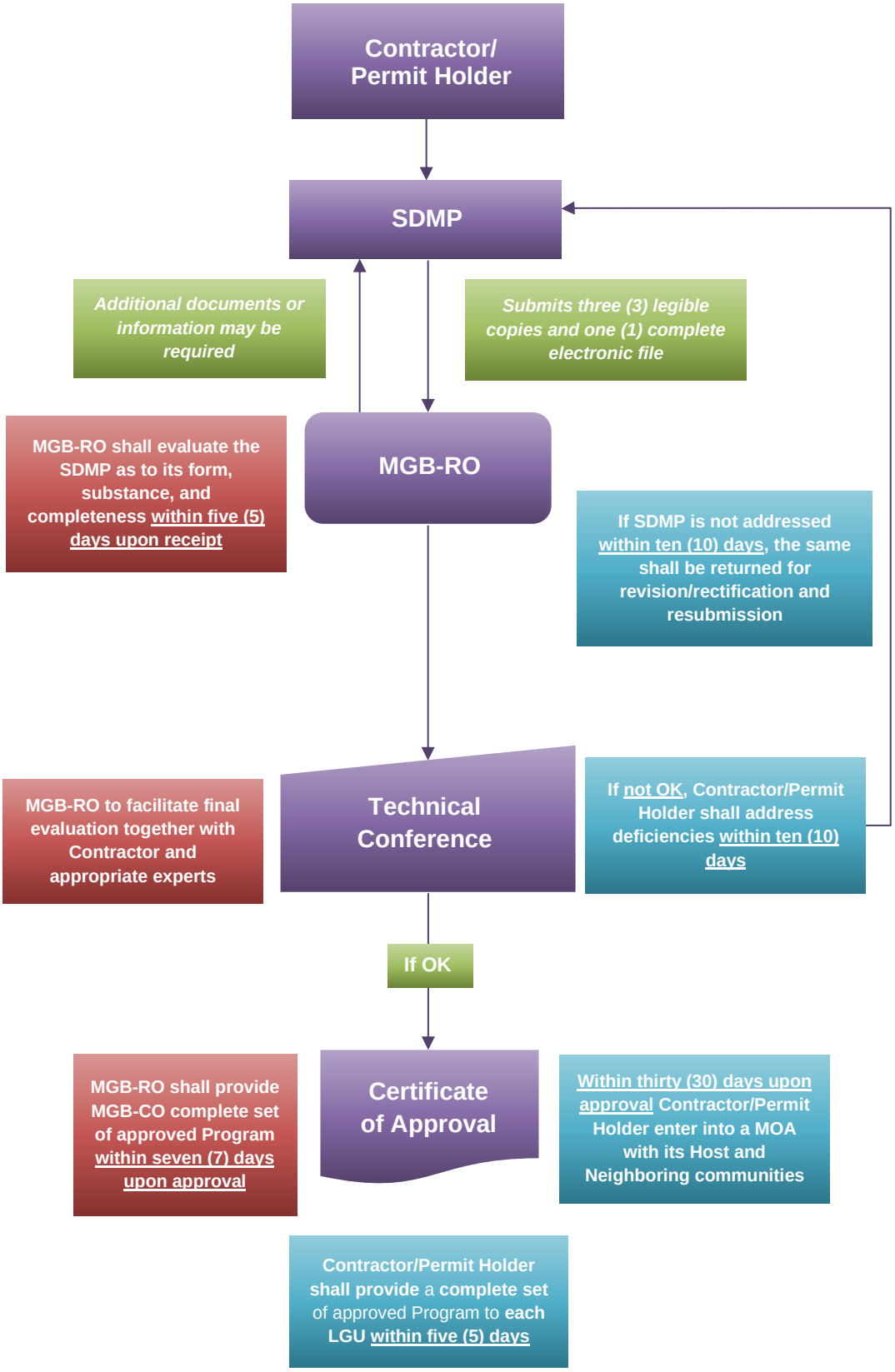


Figure No. 3. Monitoring and Auditing of Annual SDMP.

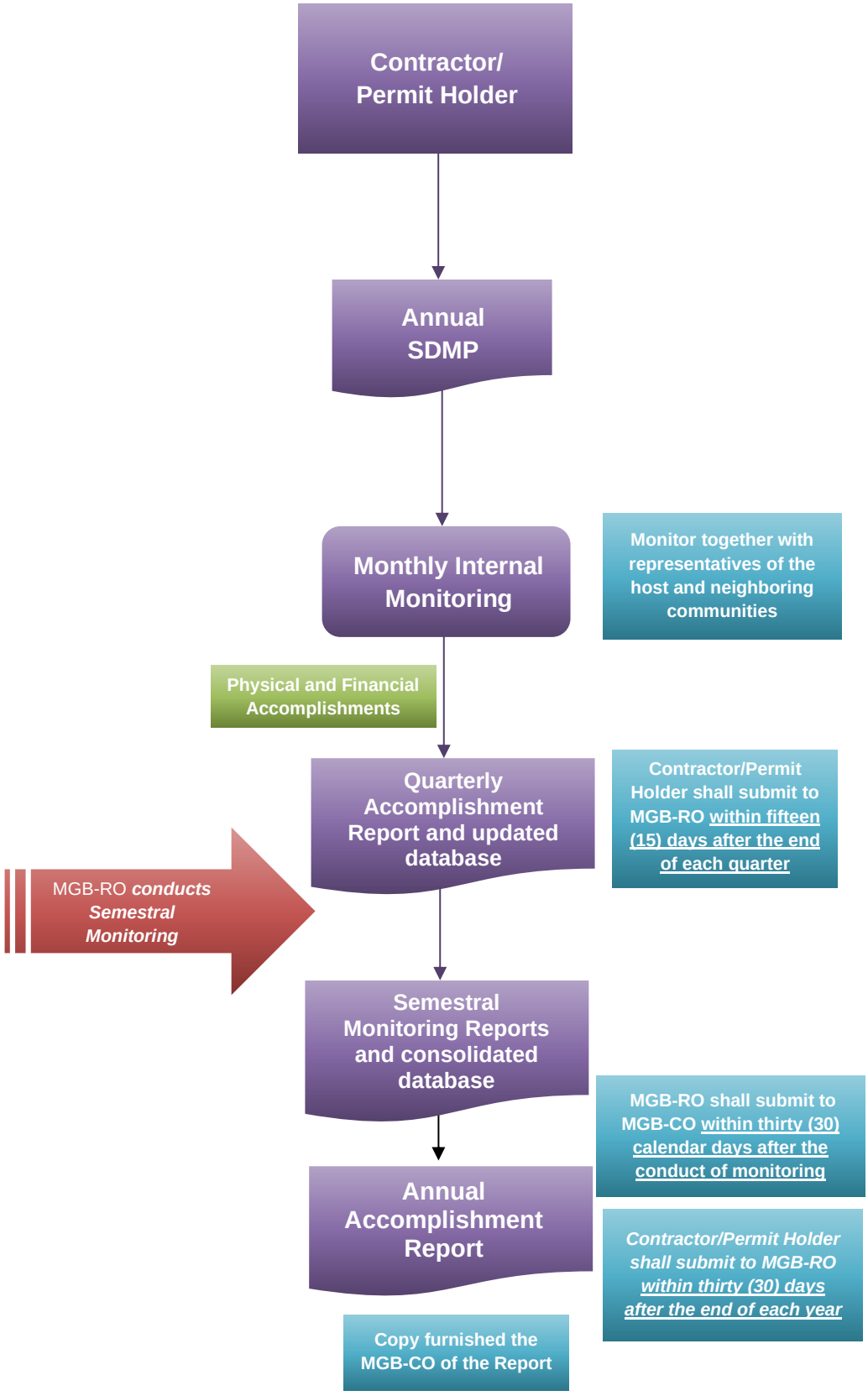
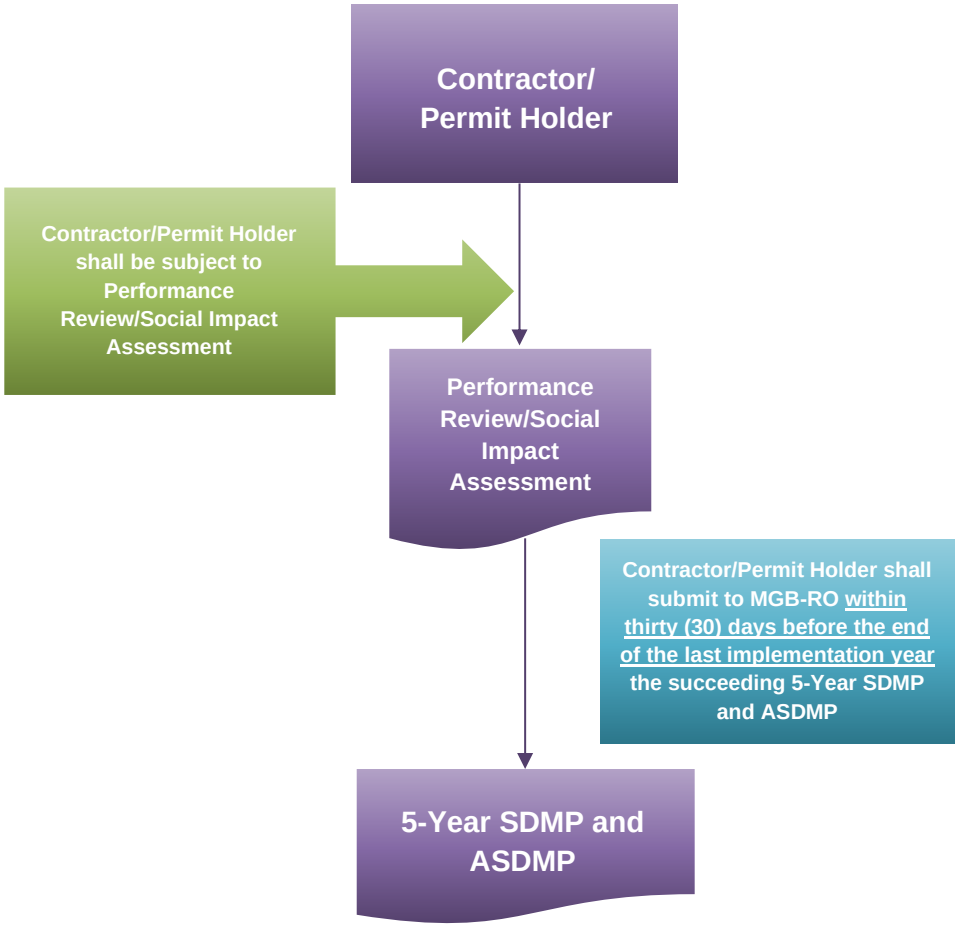


Figure No. 4. Review and Evaluation of the Approved Programs.



XII. Annexes

Annex No. 1. Quarterly Monitoring Report.

5-Yr SDMP CoA No. (Phase)		ASDMP CoA No.	
Date of Approval		Date of Approval	
Period of Coverage		Period of Coverage	
Term	☐ 1st ☐ 2nd ☐ 3rd ☐ 4th ☐ 5th	Operating Cost	
Total Commitment (PhP)		Total Allocation for the Year (PhP)	
DHNC Commitment (PhP)		DHNC Allocation (PhP)	
IEC Commitment (PhP)		IEC Allocation (PhP)	
DMTG Commitment (PhP)		DMTG Allocation (PhP)	
Total Balance of Commitment (PhP)		Total Unspent from previous ASDMP (if any) (PhP)	
DHNC Balance of Commitment (PhP)		DHNC Balance (PhP)	
IEC Balance of Commitment (PhP)		IEC Balance (PhP)	
DMTG Balance of Commitment (PhP)		DMTG Balance (PhP)	

Impact Communities	
Host Barangays [Name of Barangay], [City/ Municipality], [Province]	
Neighboring Barangays [Name of Barangay], [City/ Municipality], [Province]	
ICC/IPs (If applicable)	

A. Physical Accomplishments

PROJECT/PROGRAM/ ACTIVITY (PPA)	UNIT OF WORK MEASURE	TARGET					ACCOMPLISHMENT						PPA STATUS/REMARKS (Indicate # of beneficiaries)
		1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
DEVELOPMENT OF THE HOST AND NEIGHBORING COMMUNITIES													
a. Access to Education and Educational Support Program													
1.													
2.													
3.													
4.													
5.													
Sub-Total													
b. Access to Health and Services, Health Facilities and Professionals													
1.													
2.													
3.													
4.													
5.													
Sub-Total													
c. Enterprise Development and Networking													
1.													
2.													
3.													
4.													
5.													

PROJECT/PROGRAM/ ACTIVITY (PPA)	UNIT OF WORK MEASURE	TARGET					ACCOMPLISHMENT						PPA STATUS/REMARKS (Indicate # of beneficiaries)
		1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
Sub-Total													
d. Assistance to Infrastructure Development and Support Services													
1.													
2.													
3.													
4.													
5.													
Sub-Total													
e. Others													
1.													
2.													
3.													
4.													
5.													
Sub-Total													
Total for Development of Host and Neighboring Communities													
INFORMATION, EDUCATION AND COMMUNICATION (IEC) CAMPAIGN - PROMOTION OF PUBLIC AWARENESS AND EDUCATION ON MINING TECHNOLOGY AND GEOSCIENCES													
1.													
2.													
3.													
4.													

PROJECT/PROGRAM/ ACTIVITY (PPA)	UNIT OF WORK MEASURE	TARGET					ACCOMPLISHMENT						PPA STATUS/REMARKS (Indicate # of beneficiaries)
		1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
5.													
Total for IEC Campaign													
DEVELOPMENT OF MINING TECHNOLOGY AND GEOSCIENCES													
1.													
2.													
3.													
4.													
5.													
Total for DMTG													

B. Financial Accomplishment

PROJECT/PROGRAM/ ACTIVITY (PPA)	ALLOTMENT/BUDGET (PhP)					ACTUAL EXPENDITURES (PhP)						PPA STATUS/ REMARKS
	1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
DEVELOPMENT OF THE HOST AND NEIGHBORING COMMUNITIES (DHNC)												
a. Access to Education and Educational Support Program												
1.												
2.												
3.												
4.												
5.												
Sub-Total												
Current Allotment												
Unspent Allotment (Previous Year/s)												
b. Access to Health and Services, Health Facilities and Professionals												
1.												
2.												
3.												
4.												
5.												
Sub-Total												
Current Allotment												
Unspent Allotment (Previous Year/s)												

PROJECT/PROGRAM/ ACTIVITY (PPA)	ALLOTMENT/BUDGET (PhP)					ACTUAL EXPENDITURES (PhP)						PPA STATUS/ REMARKS
	1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
c. Enterprise Development and Networking												
1.												
2.												
3.												
4.												
5.												
Sub-Total												
Current Allotment												
Unspent Allotment (Previous Year/s)												
d. Assistance to Infrastructure Development and Support Services												
1.												
2.												
3.												
4.												
5.												
Sub-Total												
Current Allotment												
Unspent Allotment (Previous Year/s)												
e. Others												
1.												

PROJECT/PROGRAM/ ACTIVITY (PPA)	ALLOTMENT/BUDGET (PhP)					ACTUAL EXPENDITURES (PhP)						PPA STATUS/ REMARKS
	1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
2.												
3.												
4.												
5.												
Sub-Total												
Current Allotment												
Unspent Allotment (Previous Year/s)												
TOTAL FOR DHNC												
Current Allotment												
Unspent Allotment (Previous Year/s)												
INFORMATION, EDUCATION AND COMMUNICATION (IEC) CAMPAIGN - PROMOTION OF PUBLIC AWARENESS AND EDUCATION ON MINING TECHNOLOGY AND GEOSCIENCES												
1.												
2.												
3.												
4.												
5.												
TOTAL FOR IEC												
Current Allotment												
Unspent Allotment (Previous Year/s)												

PROJECT/PROGRAM/ ACTIVITY (PPA)	ALLOTMENT/BUDGET (PhP)					ACTUAL EXPENDITURES (PhP)						PPA STATUS/ REMARKS
	1ST Q	2ND Q	3RD Q	4TH Q	ANNUAL	1ST Q	2ND Q	3RD Q	4TH Q	TOTAL TO DATE	% TO DATE	
DEVELOPMENT OF MINING TECHNOLOGY AND GEOSCIENCES												
1.												
2.												
3.												
4.												
5.												
TOTAL FOR DMTG												
Unspent Allotment (Previous Year/s)												

Annex No. 2. SDMP Database.

SDMP FINANCIAL AND PHYSICAL ACCOMPLISHMENT

NAME OF COMPANY _____

No. of Barangay Beneficiaries _____

No. of Residents _____

No. of Households _____

SDMP COMMITMENT AND EXPENDITURE:

Total Approved 5-Yr SDMP Commitment.

PHASE	COVERAGE	TOTAL COMMITMENT	DHNC							IEC	DMTG
			HEALTH	*EDUCATION*	*LIVELIHOOD*	*INFRASTRUCTURE*	*SOCIO-CULTURAL*	*OTHERS*	TOTAL DHNC		
1st 5-Yr SDMP		0							0		
2nd 5-Yr SDMP		0							0		
3rd 5-Yr SDMP		0							0		
4th 5-Yr SDMP		0							0		
5th 5-Yr SDMP		0							0		

Annual SDMP Allotment.

YEAR	TOTAL ALLOTMENT	DHNC							IEC	DMTG
		HEALTH	*EDUCATION*	*LIVELIHOOD*	*INFRASTRUCTURE*	*SOCIO-CULTURAL*	*OTHERS*	TOTAL DHNC		
1998	0							0		
1999	0							0		
2000	0							0		
2001	0							0		
2002	0							0		
2003	0							0		
2004	0							0		
2005	0							0		
2006	0							0		
2007	0							0		
2008	0							0		
2009	0							0		
2010	0							0		
2011	0							0		
2012	0							0		
2013	0							0		
2014	0							0		
2015	0							0		
2016	0							0		
2017	0							0		
2018	0							0		
2019	0							0		
2020	0							0		

Actual Annual SDMP Expenditure.

YEAR	TOTAL EXPENDITURE	DHNC							IEC	DMTG
		HEALTH	*EDUCATION*	*LIVELIHOOD*	*INFRASTRUCTURE*	*SOCIO-CULTURAL*	*OTHERS*	TOTAL DHNC		
1998	0							0		
1999	0							0		
2000	0							0		
2001	0							0		
2002	0							0		
2003	0							0		
2004	0							0		
2005	0							0		
2006	0							0		
2007	0							0		
2008	0							0		
2009	0							0		
2010	0							0		
2011	0							0		
2012	0							0		
2013	0							0		
2014	0							0		
2015	0							0		
2016	0							0		
2017	0							0		
2018	0							0		
2019	0							0		
2020	0							0		

SDMP PHYSICAL ACCOMPLISHMENT:

Access to Health Services, Health Facilities and Health Professionals.

INDICATORS	GRAND TOTAL	YEAR																						
		2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Total No. of Beneficiaries under the **HEALTH** component	0																							
Male	0																							
Female	0																							
No. of Individuals/Patients who Received Medical Assistance thru SDMP	0																							
Male	0																							
Female	0																							
No. of Individuals/Patients who Received Medical Assistance thru SDMP	0																							
Children	0																							
IPs	0																							
Senior Citizen	0																							
No. of Health Centers and Buildings Contructed/Renovated	0																							
No. of Birthing Clinics Constructed/Renovated	0																							
No. of Comfort Rooms Constructed/Renovated	0																							
No. of Transport Vehicle/ Ambulance Provided	0																							
No. of Medical Supplies Provided (in sets)	0																							
No. of Health Facilities Provided (in units)	0																							
No. of Medical and Dental Missions Supported	0																							
No. of Feeding Programs Supported	0																							
No. of Medicines Provided thru SDMP (in sets)	0																							
No. of Health Personnel Subsidized (includes doctors, BHW, CHW, BNS, midwives, nurses, etc.)	0																							
No. of Health-Related Activities/ Events Sponsored by SDMP	0																							
No. of Individuals who Received SDMP-Supported Trainings	0																							
Male	0																							
Female	0																							

Access to Education and Educational Support Services

INDICATORS			GRAND TOTAL	YEAR																						
				2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Total No. of Beneficiaries under the **EDUCATION** component			0																							
No. of Students who Received Financial and School Program Assistance from SDMP			0																							
		Male	0																							
		Female	0																							
No. of Scholars thru SDMP			0																							
		Male	0																							
		Female	0																							
No. of Classrooms and School Buildings Constructed/Renovated			0																							
No. of Day Care Centers Constructed/Renovated			0																							
No. of School Supplies and Learning Materials Distributed (in sets)			0																							
No. of Equipment/Fixtures/ Furniture Provided to Schools			0																							
No. of School Personnel Subsidized - includes teachers, day care workers, school guards, school nurses, etc.			0																							
No. of Individuals who received SDMP-Supported Trainings			0																							
		Male	0																							
		Female	0																							

Enterprise Development and Networking.

INDICATORS			GRAND TOTAL	YEAR																						
				2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Total No. of Beneficiaries under the **LIVELIHOOD** component			0																							
No. of Livelihood Commercial Buildings Constructed/Renovated			0																							
No. of Associations/Cooperatives who Received Assistance thru SDMP			0																							
No. of Individuals who Received Assistance thru SDMP			0																							
		Male	0																							
		Female	0																							
No. of Equipment and facilities Provided thru SDMP (in units)			0																							
No. of Individuals who received SDMP-Supported Trainings			0																							
		Male	0																							
		Female	0																							

Assistance to Infrastructure Development and Support Services.

INDICATORS	GRAND TOTAL	YEAR																						
		2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
No. of Residents who Benefited from Infrastructure Projects of SDMP	0																							
No. of Water Systems Constructed/Improved	0																							
No. of Bridges/Footbridges/ Hanging Bridges Constructed/ Repaired	0																							
No. of Roads/Pathways Concreted	0																							
No. of Barangays Provided with Electrification	0																							
No. of Buildings/Facilities Constructed	0																							
No. of Farm-to-Market Roads Constructed	0																							
No. of Equipment Purchased (in units)	0																							

Protection and Respect of Socio-Cultural Values.

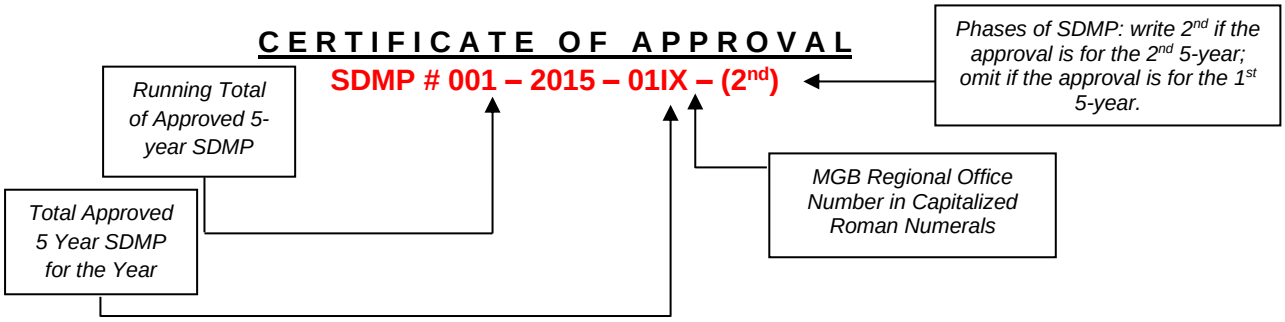
INDICATORS	GRAND TOTAL	YEAR																						
		2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
No. of Residents who Benefited from the SDMP Programs for the Protection of Socio-Cultural Values	0																							
No. of Fiesta and Araw ng Barangay Celebrations Supported by SDMP	0																							
No. of Churches Assisted/Supported by SDMP	0																							
No. of Other Socio-Cultural Activities/Events Supported by SDMP	0																							
No. of Tribal Halls Constructed	0																							
No. of Equipment Provided to Communities thru SDMP	0																							
No. of Farm-to-Market Roads Constructed	0																							

Others

INDICATORS	GRAND TOTAL	YEAR																						
		2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
	0																							
	0																							
	0																							
	0																							
	0																							
	0																							
	0																							

Annex No. 3. Certificate of Approval.

FIVE (5) YEAR SOCIAL DEVELOPMENT AND MANAGEMENT PROGRAM (SDMP)



The Mines and Geosciences Bureau (MGB) Regional Office No. ___ (MGB R.O. No. ___) having evaluated the Five (5) Year Social Development and Management Program (SDMP) Coverage Period, hereby grants this Certificate of Approval to **NAME OF COMPANY** for its *Type of Project* *Project* located at Brgy./ Municipality of/ Province of/ under the Type of Permit/Tenement No. after substantially complying with the requirements as mandated under DENR Administrative Order (D.A.O.) No. 2010-21. The Project covers No. host barangays namely: Name of barangay/s and No. neighboring barangays namely: Name of barangay/s.

This Certificate is being issued subject to the pertinent provisions of the above-mentioned D.A.O. and to the following conditions:

1. This Certificate is valid only for the Programs/Projects/Activities (P/P/As) stipulated in the submitted 5-Year SDMP;

2. This Certificate approves a total budget to implement the 5-year SDMP amounting to amount in words and XX/100 (PhP amount in figures), which is equivalent to the 1.5% of the projected/operating (***which is applicable***) cost to implement the P/P/As stipulated in the Program which is broken down as follows:

Basis of Allocation	The amount for [X] Phase 5-Year SDMP
(75%) Development of the Host and Neighboring Communities	
Balance	
(15%) Information Education Campaign	
Balance	
(10%) Development of Mining Technology and Geosciences	
Balance	
Sub-total	
Sub-total (*Balance*)	
GRAND TOTAL	

3. The Company shall include the remaining amount (balance) from its previous 5-Year SDMP ***after*** determination of the 1.5% projected/operating cost to implement P/P/As

stipulated in the Program. Said balance shall be treated separately from accomplishment/monitoring reports;

4. The Company shall annually submit a sworn statement of the 1.5% Operating Cost (OC) within sixty (60) days after the end of each calendar year to the MGB Regional Office (RO) No. __;

5. The Company shall submit its Annual Social Development and Management Program (ASDMP) thirty (30) calendar days before the beginning of every calendar year. Likewise, it shall also submit a quarterly monitoring report fifteen (15) calendar days after the end of each quarter to MGB RO. The Annual accomplishment report shall be submitted thirty (30) calendar days after the end of each calendar year to MGB RO, copy furnished MGB CO;

6. The Company shall notify the MGB RO, copy furnished the MGB CO, of any alterations from the approved SDMP. Provided that, any alterations and changes are the results of consultation with its host and neighboring communities;

7. Additional conditions may be imposed to effectively and efficiently implement the approved SDMP should the results of monitoring by the MGB RO or audit by the MGB CO warrant them;

8. Transfer of ownership or assignment of the Project carries with it the same conditions as contained in this Certificate for which written notification shall be made by the Company to the MGB RO, copy furnished the MGB CO, within fifteen (15) days from such transfer; and

9. This Certificate shall be considered automatically revoked if the project/operation is suspended or stopped for more than two (2) years.

Non-compliance with the above conditions shall be sufficient ground for the cancellation, revocation, or termination of this Certificate or suffer the penalty prescribed in the Penal Provisions of Republic Act No. 7942, the Philippine Mining Act of 1995.
Given this____ day of [Month] [Year] at [Location], Philippines.

NAME
Regional Director
MGB Regional Office No. [ ]

ANNUAL SOCIAL DEVELOPMENT AND MANAGEMENT PROGRAM (ASDMP)

CERTIFICATE OF APPROVAL

ASDMP # 2016-01-V (2nd)

Number of ASDMP for the given 5-Year SDMP

Year of implementation

MGB Regional Office # in capitalized Roman Numerals

Running Total of the Approved ASDMP for the current year

The Mines and Geosciences Bureau (MGB) Regional Office No. __ (MGB R.O. No. __) having evaluated the Year Annual Social Development and Management Program (ASDMP), hereby grants this Certificate of Approval to **NAME OF COMPANY** for its *Type of Project Project* located at Brgy./ Municipality of/ Province of/ under the Type of Permit/Tenement # after substantially complying with the requirements as mandated under DENR Administrative Order (D.A.O.) No. 2010-21.

This Certificate is being issued subject to the pertinent provisions of the above-mentioned D.A.O. and to the following conditions:

1. This Certificate is valid only for the Programs/Projects/Activities (P/P/As) stipulated in the submitted Year ASDMP;

2. The budget allocation for this ASDMP amounts to amount in words and XX/100 (PhP amount in figures), which is equivalent to the 1.5% of the previous years' operating cost as declared in its Affidavit to implement the P/P/As stipulated in the Program which is broken down as follows:

[Previous Year] Operating Cost	Basis of Allocation	The amount for Year ASDMP
	(75%) Development of Host and Neighboring Communities	
	Balance	
	(15%) Information Education Campaign	
	Balance	
	(10%) Development of Mining Technology and Geosciences	
	Balance	
	Sub-Total	
	Sub-total (*Balance from previous ASDMP*)	
	GRAND TOTAL	

3. The Company shall include the remaining amount (balance) (*If there is any*) from its previous ASDMP ***after*** determination of the 1.5% projected/operating cost to implement the P/P/As stipulated in the Program. Said balance shall be treated separately on accomplishment/monitoring reports;

4. The Company may incorporate any alterations and/or re-alignment of P/P/As and funds from the approved ASDMP. Provided that, such changes are the result of consultations with its host and neighboring communities, accompanied by supporting documents such as resolutions, and approved by the MGB RO;

5. The Company shall submit a quarterly monitoring report fifteen (15) calendar days after the end of each quarter to MGB RO. Likewise, the annual accomplishment report shall be submitted thirty (30) calendar days after the end of each calendar year to the MGB RO, copy furnished the MGB Central Office (CO); and

6. Additional conditions may be imposed to effectively and efficiently implement the approved SDMP should the results of monitoring by the MGB RO or audit by the MGB CO warrant them.

Non-compliance with the above conditions shall be sufficient ground for the cancellation, revocation, or termination of this Certificate or suffer the penalty prescribed in the Penal Provisions of Republic Act No. 7942, the Philippine Mining Act of 1995.
Given this __ day of Month Year at Location, Philippines.

NAME
Regional Director
MGB Regional Office No. ___

Table of Contents

5-YEAR SOCIAL DEVELOPMENT AND MANAGEMENT PROGRAM

1.0. Executive Summary

Briefly describe the SDMP with a focus on the Programs/Projects/Activities (P/P/As) including the costs, methodology, a period of implementation, and results of community assessment conducted.

2.0. Company Background

Provide the complete information of the mining company/mineral processing company/operator or even the consultants commissioned (if applicable) to prepare the SDMP.

Briefly discuss the following:

1. Company profile which includes but not limited to history, ownership, business, others;
2. The official name of the proponent/company including the address of the main and field offices;
3. Name and designation of the personnel that DENR-MGB must contact regarding the program/plan such as the President, Resident Mine Manager, Community Relations Officer;
4. If the proponent/company has an authorized operator and/or the SDMP was prepared by third-party consultant/s, their respective contact details should also be provided.

Below is the sample entry in presenting the Company Information:

Name(s) and Contact Details of the Contractor/Permit Holder/Permittee

Name:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Project Site Office:	Barangay Rizal, Lemery, Batangas
Telephone:	(+63) 02-8667-6700
Email Address:	info@maharlika.ph

Name(s) and Contact Details of person/s authorized to act/represent the company/operator and consultant (if applicable)

Contact Person

Name:	Engr. Juan Dela Cruz
Designation:	President
Company:	Maharlika Mining Corporation
Main Office:	Minas Building North Avenue, Diliman Quezon City, Philippines
Telephone:	(+63) 02-8667-6700
Email Address:	juandelacruz@maharlika.ph

Operator

Name:	Engr. Juana Perez
Designation:	CEO
Company:	JV Company
Main Office:	CSA Towers Alabang, Muntinlupa City
Telephone:	(+63) 02-8667-6700
Email Address:	juanaperez@jvc.com

3.0. Introduction

3.1. Legal Description of the Project

Discuss all the agreements/permits covering the project including the date of issuance, areas covered, grantee, and the issuing office. Discuss also the history and status of the agreements/permits. Tabulate if necessary.

Provide a discussion on the approved/registered Operating Agreement (OA), Deed of Transfer (Deed), etc. that were executed by the company. Copy of the approved pertinent documents should be attached in the annex such as MPSA, OA, Deed, others.

Provide the name of the project as stated in the approved Environmental Compliance Certificate (ECC). Include the date of the issuance of the ECC, control number, grantee, and the issuing office. Also, discuss the other ECCs issued that are related to the project (e.g. ancillary facilities). Tabulate if necessary. Copy of the approved ECC/s should be attached in the Annex.

Contract/Permit	
Contract/Permit Number	
Contractor/Permit Holder/Permittee	
Status of MA/FTAA/MPP/EP	
Date Approved	
Date of Expiration	
Total Area Covered	
Location of Contract/Permit Area	
Issuing Office	
Operating Agreement	
Name of Authorized Operator, if any	
Date of Execution of the OA	
Deed of Assignment	
Name of Assignee, if any	
Date of Execution of the Deed	
Environmental Compliance Certificate	
ECC Reference Number	
Date of Issuance	
Total Area Covered	
Location of the Project	
Issuing Office	

3.2. Type and Description of the Project

Discuss all applicable aspects and information about the mining/mineral processing project to include but not be limited to project location, mining method and milling process, mineral/s to be extracted/processed, estimated extraction/production rate, the life of the mine, others.

3.3. Organizational Structure

Present the organizational set-up of the company including the community relations team.

3.4. Overview of the SDMP

3.4.1 Rationale

Discuss the purpose and importance of SDMP concerning the overall development of the community/municipality where the

mining/processing project is located.

3.4.2 Goal and Objectives

Goal-*What the community and the company want to achieve in a given period (e.g. 5-year-SDMP).*

Objectives-*Activities that shall be achieved to help realize the goal for the implementation of the SDMP.*

3.5. SDMP Methodology

Discuss the general process in the conduct of community assessment to gather/update of data for site profile and general description of socio-economic/cultural and environmental conditions of the host and neighboring communities. The proponent may use any of the following methods or a combination of both:

3.5.1. Participatory Rapid Appraisal (PRA)

3.5.2. Social Impact Assessment (SIA) (Should be used for the renewal of the Proponent 5-Year SDMP)

4.0. Site Profile (*Supported by maps and figures*)

4.1. Geographical Location - Land area, boundaries, etc.
4.2. Physiography - Slope, elevation, and terrain characteristics, etc.
4.3. Natural Drainage System - Rivers and other water bodies.
4.4. Climate Type - Climatic conditions prevailing in the area.
4.5. Rainfall Pattern - Duration and magnitude of rainy/dry season.

5.0. General Description of Environmental/Socio-Economic and Cultural Conditions

5.1. Environmental Conditions

1. *Land-use pattern* (Existing land uses of the project area and immediate vicinities (e.g. agricultural, residential, industrial, soil profile and fertility, etc.)
2. *Availability and source of water supply* (Domestic and industrial water sources)

3. *Natural Calamities and Disasters* (Historical occurrence of natural calamities and disasters (typhoon, earthquake, tidal wave, etc.)

5.2. Socio-Economic Conditions *(include the following but not limited to):*

1. *Demographic information* - Population density and characteristics (distribution by age, sex, ethnic groups, education, etc.);
2. *Income sources* - During the lean month/s in the community and coping mechanisms.
3. *Labor availability and distribution* - During the busiest month/s in the community
4. *Transport, market, and credit facilities* - Product destinations and available transport and credit facilities.
5. *Cooperatives and other organizations* - Existing cooperatives and organizations in the community, their roles, and their impact.
6. *Access, control, and land ownership* - Description of land ownership and security of land tenure that may affect income generation.
7. *Social services and support programs* - List of social services of government agencies.

5.3. Cultural Conditions

1. *History of the area/s* - Legend and historical background of community formation.
2. *Migration and ethnic groupings* - Patterns of an influx of individuals and identification of indigenous peoples' other ethnical groups.
3. *Leadership patterns* - Identification of traditional community leaders.
4. *Social structures related to decision-making and conflict resolution*- Identified forms of conflict and settlement procedures.
5. *Customs/beliefs/traditions/practices* - Identified practices specifically related to livelihood activities of the community.
6. *Peace and Order* - Describe the situation in the area.

6.0. Discussion of the Result of Community Assessment

6.1. Community Issues/Problems/Concerns

The analysis of the data gathered from the abovementioned parameters (site profile, general description of the environmental/socio-economic and cultural conditions) shall lead to the identification of the community's issues/problems and concerns related to the attainment of the goals. It must

include the following:

1. Identify major problems and why;
2. Identify the causes of the major problems;
3. From a list of causes, trace secondary and tertiary causes; and
4. Prioritize secondary/causes and problems.

For the renewal of the SDMP, the discussion shall focus on the highlights of the result of the Social Impact Assessment (SIA) conducted.

7.0. SDMP Development Framework

7.1. Development Strategies

This is the discussion of the company's P/P/As to be implemented, or the possible initiatives or interventions available that will address the communities' identified needs, problems, or concerns. This also includes project objectives, major and sub-activities, time frame, responsible persons (who will perform the task), target stakeholders (who will benefit from the P/P/A), and identification and mobilization of resources needed.

The following are the credited activities or expenditures:

1. For the Development of Host and Neighboring Communities

    a. Human Resource Development and Institution Building
    b. Enterprise Development and Networking
    c. Assistance to Infrastructure Development and Support Services
    d. Access to Education and Educational Support Programs
    e. Access to Health Services, Health Facilities, and Health Professionals
    f. Protection and Respect of Socio-Cultural Values
    g. Use of facilities/services within the mining camp or plant site

2. For the Development of Mining Technology and Geosciences

    a. Basic and applied research on mining technology, geosciences, and related subjects.
    b. Advanced studies, related to mining which are conducted by qualified researchers who are not employees of the mine, following current guidelines by the Department of Science and Technology.

c. Expenditures for scholars, fellows and trainees including grants for dissertations on mining technology and geosciences and related subjects.
d. Expenditures on equipment and capital outlay as assistance for research and/or educational institutions that serve as a venue for developing mining technology and geosciences.

3. For the Information, Education and Communication

a. Establishment/enhancement/maintenance of information and publicity centers where stakeholders can access information on the performance of a mining project.
b. Publication of Information, Education and Communication (IEC) materials on social, environmental and other issues/concerns relative to mineral resources development and responsible mining operations.
c. Expenditures for continuing public awareness and education campaigns such as radio and web-based broadcasts, publications, and other forms of mass communication on mining-related information, issues and concerns on a local and national scale.
d. Expenditures on equipment and capital outlay as assistance to the institutionalization of public awareness and education on mining technology and geosciences.

7.2. Program/ Project/Activity Implementation

Guide in managing projects to be conducted/implemented, which is directed towards the attainment of its objectives. This section includes the following:

7.2.1. Setting up systems, policies, and procedures that will guide the community and the company in all activities to be undertaken. Some of the system, policies, and procedures are the following:

1. Election/appointment of a person who will manage the project;
2. Safekeeping and disbursement of funds;
3. Election/appointment of a person responsible for the safekeeping and disbursement of funds for each project; and
4. Duties and responsibilities of those who are involved in each project.

7.2.2. Program/Project/Activity Monitoring and Evaluation System

The community and the company must agree on the monitoring

system that includes: data to be monitored and its source; frequency of monitoring; methodology in obtaining data; and the report to be accomplished (should adhere to the mandate of the law).

The evaluation system will appraise the performance level (status) of the program/ project/activity implemented. A brief discussion on the methodology or process of evaluation procedure and data to be evaluated is included in this section. The evaluation of the project must indicate problems encountered and how they address such problems.

7.2.3. Grievance Mechanism

The Proponent shall establish a system that shall undertake the identification and resolution of any related complaints against the implementation of the SDMP. The section shall discuss the following:

- Narrative Process (Includes identified department/units to undertake each process and timeline for each process)
- Process Flow Chart
- Complaint Form/Template

8.0. Matrix Presentation of Programs/Projects/Activities (Year)

8.1. Development of Host and Neighboring Communities

Project/Program/ Activity[1] (P/P/A)	**Location[2]**	**Stakeholders Involved[3]**	**Specific Activity[4]**	**Cost**	**Timeframe[5]**					**Expected Results/Outcome of the P/P/A[6]**	**Notes/Remarks[7]**
					Y1	Y2	Y3	Y4	Y5		
			Sub-Total								

[1]Name of the P/P/A.
[2]Where the P/P/A is being implemented (sitio or barangay).
[3]Beneficiaries/recipients of the P/P/A within the host and neighboring communities.
[4]Sub-activities that contributes to the achievement of the P/P/A.
[5]Length of time/period of implementation
[6]Anticipated impact of the P/P/A to the community
[7]Limitations of the P/P/A, difficulties encountered and lessons learned or the critical factors for the success of the P/P/A

8.2. Information, Education and Communication

Project/Program/Activity (P/P/A)	Stakeholders Involved	Timeframe					Cost	Notes/Remarks
		Y1	Y2	Y3	Y4	Y5		
	Sub-Total							

8.3. Development of Mining Technology and Geosciences

Project/Program/Activity (P/P/A)	Stakeholders Involved	Timeframe					Cost	Notes/Remarks
		Y1	Y2	Y3	Y4	Y5		
	Sub-Total							
	DHNC (75%)							
	IEC (15%)							
	DMTG (10%)							

9.0. Bibliography (List of references/related literature used in the document)

10.0. Annexes (Invitation Letters, Attendance Sheets, Planning Photo Documentation and other related documents/files used for the document)

11.0. Acknowledgements (List of individuals that helped in the successful creation of the document)

12.0. Name and Signature of Preparer of the SDMP, duly noted by the President (or highest Company official on-site)